



HIGH-PRESSURE CONNECTORS AND PBOF ASSEMBLIES

MARINE/SUBSEA

DEEP WATER • DOWNHOLE • TOPSIDE

APRIL 2017



MARINE/SUBSEA INTERCONNECT SOLUTIONS FROM GLENNAIR

- High-pressure, 10K psi open-face subsea
- Ruggedized serial and high-speed electrical connectors
- Glass-sealed high-pressure bulkhead feed-thrus
- Fiber optic and opto-electronic solutions
- Hazardous zone ATEX explosion-proof
- Commercial Oil & Gas and defense industry solutions

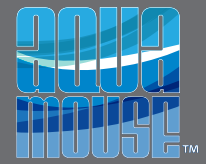


High-performance, high-pressure interconnect technologies with proven sealing performance in shipboard, downhole and subsea applications

Cover photo: Deep Sea Systems Max Rover ROV returning from the deep Canada Basin, NOAA



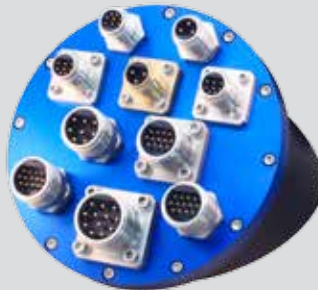
Crew aboard the M/V Independence prepare to launch a Remotely Operated Vehicle (ROV).



DEEP WATER SUBSEA, HIGH-PRESSURE 10K PSI / 700 BAR / 7000M CONNECTORS



SeaKing™ 10K PSI open-face high-density subsea connectors and cables



SuperG55™ dry-mate 10K PSI subsea electrical connectors



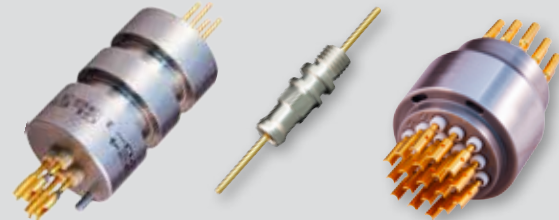
Economical Marine Molded cable-to-cable and cable-to-panel interconnects



DOWNHOLE HIGH-TEMPERATURE / HIGH PRESSURE CONNECTORS



Well-Master® high temperature Micro-D connectors



Single- and multi-pin High Temperature/High Pressure (HTHP) Glass sealed penetrators and feedthroughs



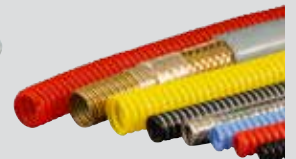
TOPSIDE OR SHIPBOARD CONNECTORS



ITS-Ex ATEX-qualified and approved explosive zone connectors



Seacrow™ rugged Marine Bronze environmental connectors



Corrosion-resistant composite junction boxes, cable bays, and wire protection conduit



SHALLOW WATER SUBSEA CONNECTORS



Geo-Marine® 5000 PSI connectors and overmolded cables



AquaMouse™ 3500 PSI miniature connectors and overmolded cables





**DEEP
WATER**

Photo: NOAA

HIGH-PRESSURE

10K PSI Open-Face Deep Water Connectors, Cables, and PBOF Assemblies

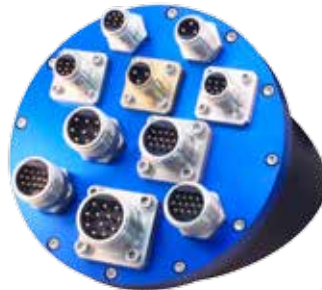
Next-generation high-speed, signal, and power connectors for mission-critical applications—from submarines and ROVs to seafloor oil and gas production platforms



DEEP WATER SUBSEA, HIGH-PRESSURE 10K PSI / 700 BAR / 7000M CONNECTORS



SeaKing™ - Page 1



SuperG55™ - Page 20



Marine Molded - Page 36



SERIES 70 10K PSI / 700 BAR / 7000 M

SeaKing™ High-Pressure Subsea Connectors, Cables, and PBOF Assemblies

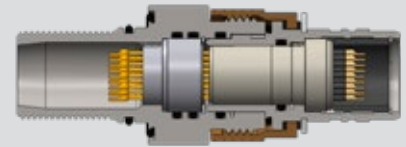


Product selection guide

REFERENCE INFORMATION

Materials, contact arrangements, and performance specifications

pg. 2



700-001

SeaKing™ Cable Connector Plug (CCP), 10,000 psi rated (mated condition), subsea environment, solder termination

pg. 8



700-006

SeaKing™ Flange Connector Receptacle (FCR), 10,000 psi rated (open face and mated), subsea environment, solder termination, indexable flange

pg. 9



700-007

SeaKing™ Bulkhead Connector Receptacle (BCR), 10,000 psi rated (open face and mated), subsea environment, solder termination

pg. 10



PBOF Assembly System Fittings and Accessories

pg. 11



Overmolded and repairable cable capabilities, tools and accessories

pg. 16



SUBSEA/DEEPWATER: SEAKING™



SERIES 70 SeaKing™

10K PSI / 700 Bar / 7000m open-face or mated, dual O-ring equipped, high-density, high-voltage, fiber optic and hybrid electrical/optical subsea connectors

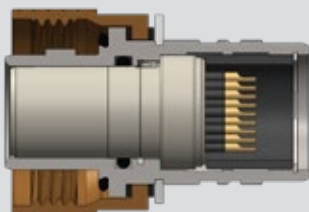
SeaKing is an innovative new connector series that eliminates a broad range of mechanical design weaknesses found in many of today's high-pressure subsea connector families. From its double O-ring seals and retractable engaging nut, to its multi-keyed mating interface, the SeaKing represents a bold new approach to subsea power and signal connectivity.

Ideally suited for offshore oil & gas, military/defense, oceanographic research, and other harsh-environment subsea applications, the dry-mate connector series is built for optimal durability and reliability. Tested to 15,000 PSI (open face and mated), and equipped with integrated dual O-ring seals, marine bronze coupling nuts, corrosion-resistant stainless steel shells and high-pressure contact inserts with gold-plated signal contacts, special RF and fiber optic solutions, the Series 70 SeaKing is today's most advanced high-density signal and standard-density power subsea connector available.

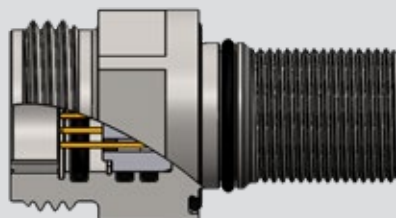


- High density, small form-factor connector
- For every leak path dual O-ring seals ensure high-pressure performance
- Signal, power, RF and optical contact arrangements
- Stainless steel construction with anti-galling marine bronze engaging nut
- Full-mate inspection ports
- Easy O-ring replacement
- Key and keyway polarization

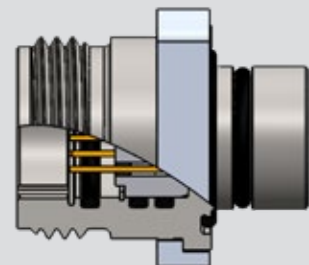
STANDARD CONFIGURATIONS



Cable Connector Plug (CCP)



Bulkhead Connector Receptacle (BCR)



Flange Connector Receptacle (FCR)



SERIES 70 10K PSI / 700 BAR / 7000 M SeaKing™ High-Pressure Subsea Connectors, Cables, and PBOF Assemblies

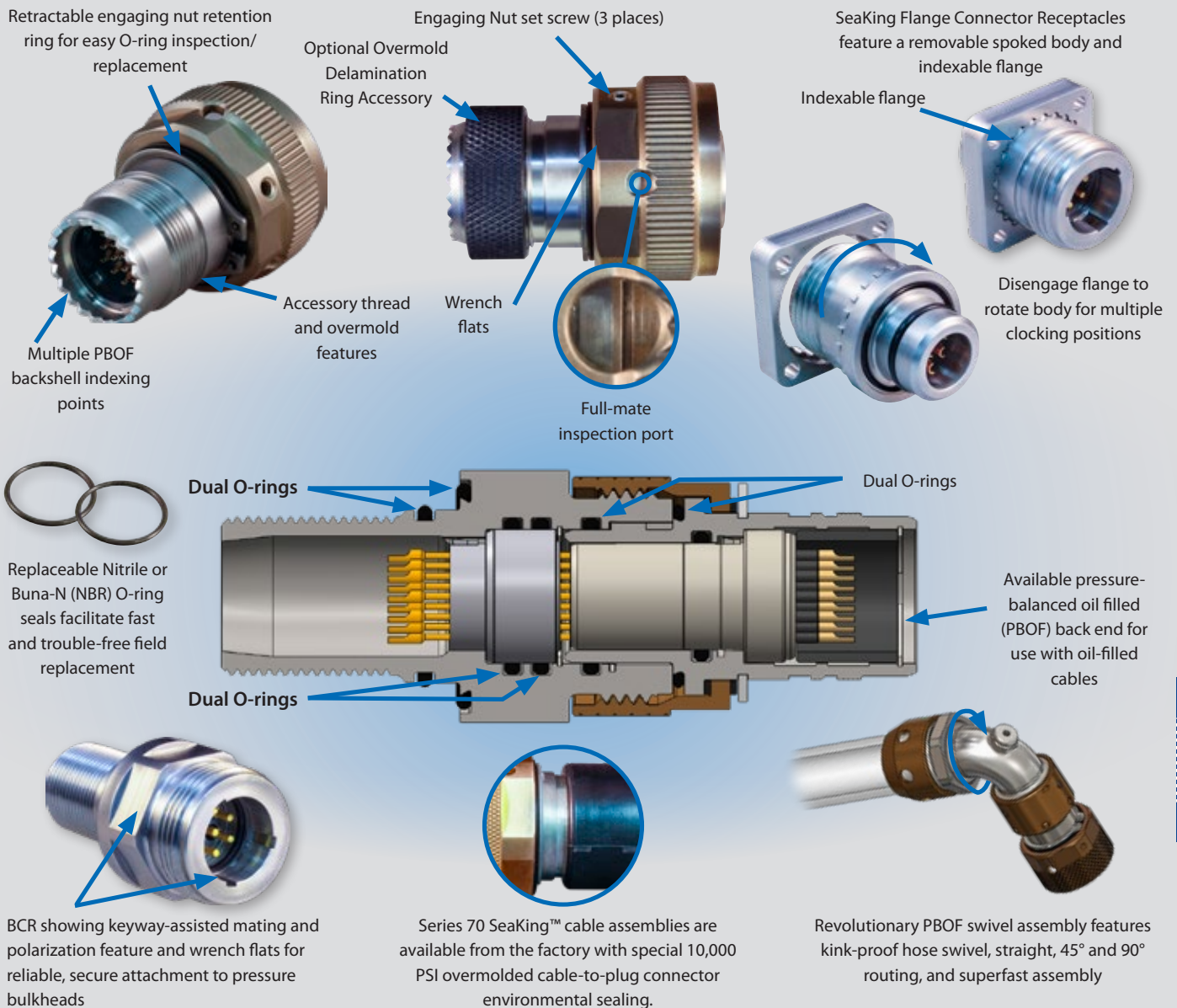
Key mechanical and environmental features



Sealing: The Series 70 SeaKing™ is the best sealed subsea connector on the market. All critical interfaces, including bulkhead seals, glass-to-metal insert seals, mating interface bore seals, and face seals are fully redundant ensuring 10K PSI protection, even in the event of a single-seal failure.

Mating: SeaKing™ utilizes a modified UNC (coarse) mating interface with added clearance to reduce bio-fouling and facilitate rapid-advance mating. The marine bronze engaging nut on the plug is equipped with wrench flats as well as knurling and is less susceptible to galling than standard steel engaging nuts. Polarized keys and keyways prevent both thread damage and mismatching.

Ease-of-Use: Multiple PBOF backshell indexing points, indexable flange FCRs, full-mate inspection ports, retractable engaging nuts, and other features make SeaKing™ the most user-friendly subsea connector on the market.



SUBSEA/DEEPWATER: SEAKING™



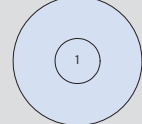
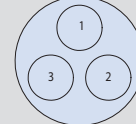
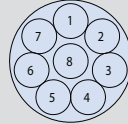
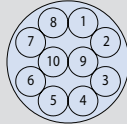
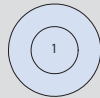
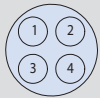


SERIES 70 10K PSI / 700 BAR / 7000 M SeaKing™ High-Pressure Subsea Connectors, Cables, and PBOF Assemblies

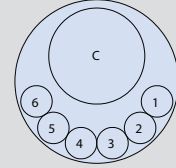
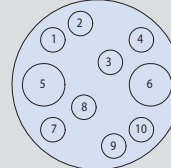
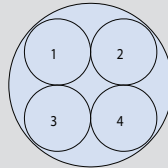
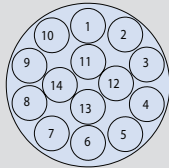
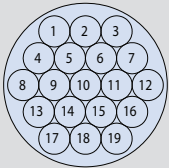
Contact arrangements and specifications



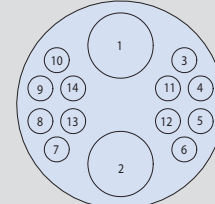
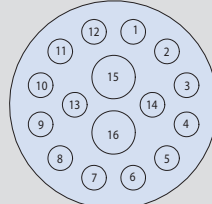
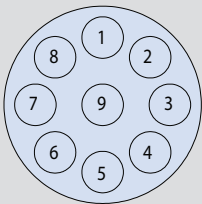
SEAKING™ CONTACT ARRANGEMENTS Mating face view of pin insert (socket insert IDs are reversed)



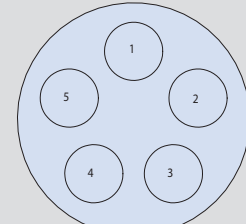
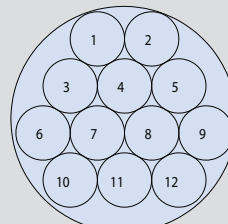
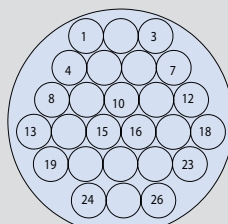
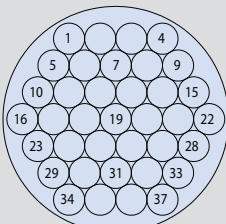
Size E		Size G			
E4	E1	G10	G8	G3	GC
4 Size #22 Contacts	1 Size #16 Contact	10 Size #22 Contacts	8 Size #20 Contacts	3 #16 Contacts	1 Coax Contact



Size K				
K19	K14	K4	KX10	KC6
19 Size #22 Contacts	14 Size #20 Contacts	4 Size #16 Contacts	2 #16 Contacts, 8 #22 Contacts	Single 75 Ohm Coax, 6 #22 Contacts



Size L		
L9	LX16	LX14
9 Size #16 Contacts	14 #22 Contacts 2 #16 Contacts	2 #12 Contacts 12 #22 Contacts



Size M			
M37	M26	M12	M5
37 Size #22 Contacts	26 Size #20 Contacts	12 Size #16 Contacts	5 #12 Contacts 850VDC / 600VAC

SUBSEA/DEEPWATER: SEAKING™





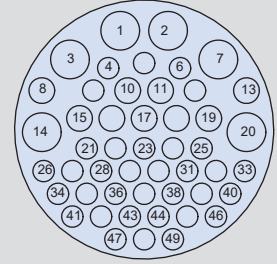
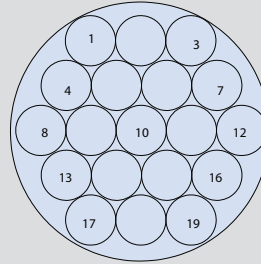
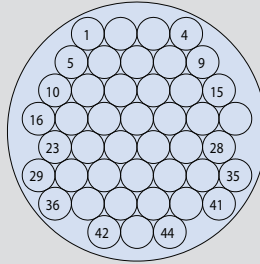
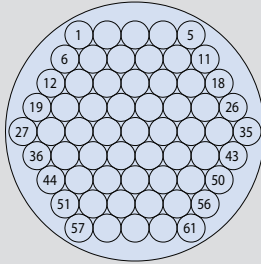
SERIES 70 10K PSI / 700 BAR / 7000 M

SeaKing™ High-Pressure Subsea Connectors, Cables, and PBOF Assemblies



Contact arrangements and specifications

Consult factory for custom insert arrangements including a wide range of shielded RF microwave and high frequency contact configurations



Size O

O61

61 Size #22
Contacts

O44

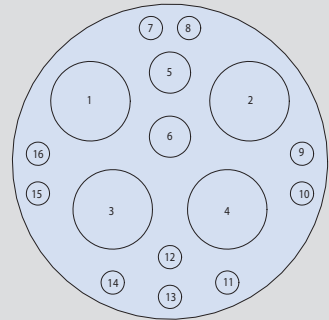
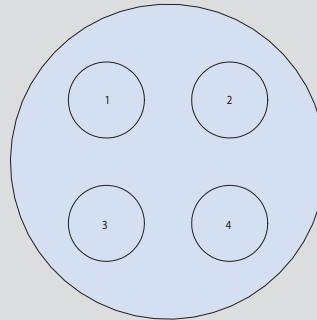
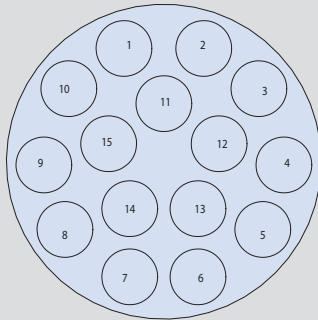
44 Size #20
Contacts

O19

19 Size #16
Contacts

OX49

49 Contacts
6 #16 • 9 #20 • 34 #22



Size P

P15

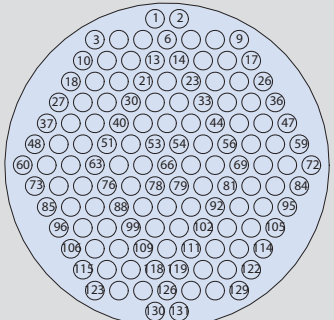
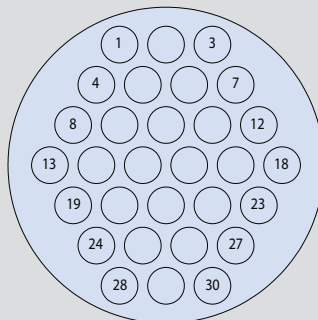
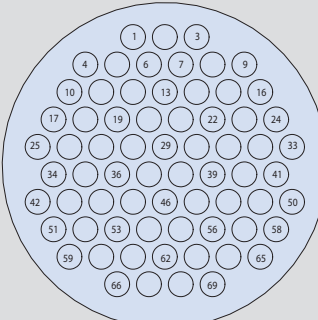
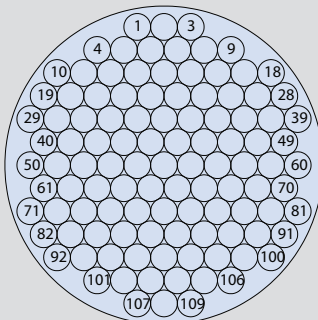
15 Size #12
Contacts

P4

4 Size #8 Contacts
1kV

PX16

16 Contacts
4 #8 • 2 #16 • 10 #22



Size Q

Q109

109 Size #22
Contacts

Q69

69 Size #20
Contacts

Q30

30 Size #16
Contacts

Size R

R131

131 Size #22
Contacts

SUBSEA/DEEPWATER: SEAKING™





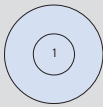
SERIES 70 10K PSI / 700 BAR / 7000 M

SeaKing™ High-Pressure Subsea Connectors, Cables, and PBOF Assemblies



Contact arrangements and specifications

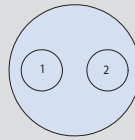
SEAKING™ FIBER OPTIC AND HYBRID FIBER-ELECTRICAL ARRANGEMENTS Mating face view of pin insert (socket insert IDs are reversed)



Size E

EF1

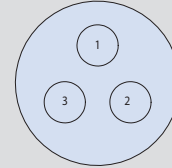
1 Fiber Termini



Size K

KF2

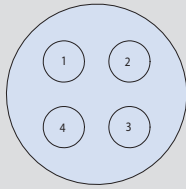
2 Fiber Termini



Size L

LF3

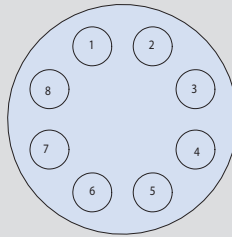
3 Fiber Termini



Size M

MF4

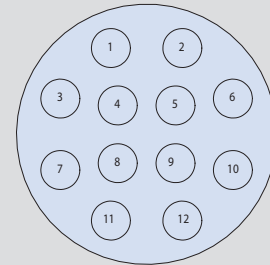
4 Fiber Termini



Size O

OF8

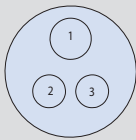
8 Fiber Termini



Size P

PF12

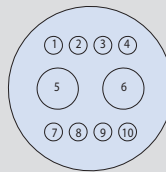
12 Fiber Termini



Size K

KH12

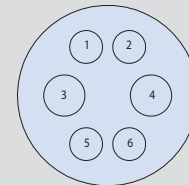
1 Fiber Terminus
2 #16 Contacts



Size L

LH28

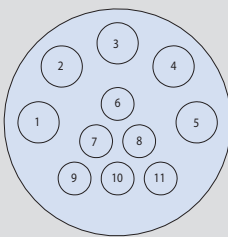
2 Fiber Termini
8 #22 Contacts



Size M

MH24

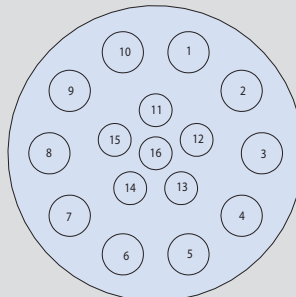
2 Fiber Termini
4 #16 Contacts



Size O

OH56

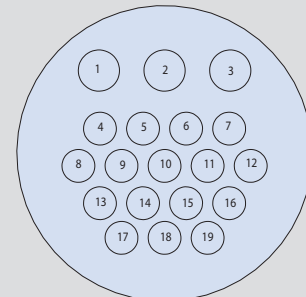
5 Fiber Termini
6 #16 Contacts



Size Q

QH106

10 Fiber Termini
6 #16 Contacts



QH316

3 Fiber Termini
16 #16 Contacts

SUBSEA/DEEPWATER: SEAKING™





SERIES 70 10K PSI / 700 BAR / 7000 M

SeaKing™ High-Pressure Subsea Connectors, Cables, and PBOF Assemblies



Contact arrangements and specifications

Consult factory for custom insert arrangements including a wide range of shielded RF microwave and high frequency contact configurations

All high-density signal and standard-density power contact arrangements are available across the complete range of connector styles (CCP, FCR, and BCR). High-speed Ethernet inserts as well as Pressure Balanced Oil Filled (PBOF) configurations and a purpose-designed family of pressure caps, accessories and backshells are also available, please consult the factory.

SeaKing™ bulkhead connector receptacles (BCR) and flange connector receptacles (FCR) are equipped with high-pressure glass-to-metal sealed inserts with solder contact wire termination and 10K psi open-face rating. Cable connector plugs (CCP) utilize environmental O-ring sealed inserts and are rated to 10K psi in the mated condition.

Contact Arrangement Table							
Shell Size	Contact Size						
	#22	#20	#16	#12	#8	Fiber Optic	Hybrid
E	4		1			1	
G	10	8	3				1 Coax (only)
K	19	14	4			2	1 Coax • 6 #22 8 #22 • 2 #16 1 F/O • 2 #16
L			9			3	12 #22 • 2 #12 8 #22 • 2 #16 2 F/O • 8 #22
M	37	26	12	5		4	2 F/O • 4 #16
O	61	44	19			8	6 #16 • 9 #20 • 34 #22 5 F/O • 6 #16
P				15	4 (1kV)	12	4 #8 • 2 #16 • 10 #22
Q	109	69	30				10 F/O • 6 #16 3 F/O • 16 #16
R	131						

Current Rating (Amps)		
Contact Size	GRE Molded Inserts	Glass-to-Metal Sealed Inserts
#22	5 Amps	3 Amps
#20	7.5 Amps	5 Amps
#16	13 Amps	10 Amps
#12	23 Amps	17 Amps
#8	50 Amps	35 Amps

All contact arrangements are rated for 600 VDC / 400 VAC unless otherwise specified.
Solder cups are sized to accept maximum wire gauge according to the contact size

SeaKing™ Performance Specifications		
Pressure Rating	Plug: 10,000 psi, mated condition Receptacles: 10,000 psi mated and open face	per ISO 13628-6
Electrical	600 V typical 5 GOhm insulation resistance at 500 VDC	per MIL-STD-202, Method 301 per MIL-STD-202, Method 302
Materials	Salt Spray (corrosion) Humidity (steady state) Thermal Cycle	MIL-STD-202, Method 101 MIL-STD-202, Method 103 ISO 13628-6

SUBSEA/DEEPWATER: SEAKING™





SERIES 70 10K PSI / 700 BAR / 7000 M

SeaKing™ High-Pressure Subsea Connectors, Cables, and PBOF Assemblies



Qualification test plan - selected data

2 APPLICABLE DOCUMENTS

2.1 Government Documents.

The following government documents form a part of this specification to the extent specified herein. Unless otherwise indicated in the listing the issue in effect on the day release of this specification shall apply.

MIL-DTL-38999	Connectors Electrical, Circular, Miniature, High Density, Quick Disconnect Bayonet, Threaded and Breech Coupling, Environment Resistant, Removable Crimp and Hermetic Solder Contacts, General Specification for
MIL-DTL-38999/23	Connectors, Electrical, Circular, Threaded, Receptacle, Jam-Nut Mounting, Hermetic, Solder Contacts, Series III, Metric
MIL-DTL-38999/28	Connectors, Electrical, Circular Nut, Hexagon, Connector Mounting Series III and IV Metric
MIL-STD-202	Test Method Standard Electronic and Electrical Component Parts
MIL-STD-810	Environmental Engineering Considerations and Laboratory Tests

2.2 Non-Government Documents

- ISO-13628-6 Hydrostatic Pressure Test Procedure for Electrical Connector
- EIA-364 Electrical Connectors and Sockets Test Procedures Including Environmental Classification
- EIA-364-20 Withstanding Voltage Test Procedure for Electrical Connectors, Sockets Coaxial Contacts
- EIA-364-21 Insulation Resistance Test Procedure for Electrical Connectors Sockets and Coaxial Contacts
- EIA-364-26 Salt Spray Test Procedure for Electrical Connectors and Sockets
- EIA-364-32 Thermal Shock (Temperature Cycling) Test Procedure for Electrical Connectors and Sockets

7 VERIFICATION

- 7.6 Dielectric Withstanding Voltage. (All Parts) **PASSED**
 Connectors shall be tested in accordance with test procedure EIA-364-20 Method C and Condition I, at 1200 VAC ± 10% 60 second and there shall be no evidence of electric breakdown or flashover.
- 7.7 Insulation Resistance. (All Parts) **PASSED**
 Connectors shall be tested in accordance with test procedure EIA-364-21
 Connector contacts shall be tested 5 GΩ at 500 VDC ±10% voltage source at room temperature
- 7.8 Durability. **PASSED**
 Connectors shall be tested in accordance with EIA-364-9, IEC-60512-5 Test 9a.
 The wired, assembled plugs and receptacles shall be mated and unmated 300 cycles.
 The mating and unmating shall be accomplished so that the plug and receptacle are completely separated during each cycle. After the durability test is completed a pass 5 GΩ at 500 VDC insulation resistance test from each contact to every other contact and the shell.

SUBSEA/DEEPWATER: SEAKING™





SERIES 70 10K PSI / 700 BAR / 7000 M

SeaKing™ High-Pressure Subsea Connectors, Cables, and PBOF Assemblies



Qualification test plan - selected data

7.9 Thermal Shock. (All Parts)

PASSED

Test in accordance with test procedure EIA-364-32 Method A

Unmated connectors shall be subjected to 5 cycles at temperature of -20°C to 105°C ± 5°C

There shall be no evidence of cracking, breaking or loosening.

After the thermal shock test is completed a pass 5 GΩ at 500 VDC insulation resistance test from each contact to every other contact and the shell.

7.10 Salt Spray. (Group 2 only)

PASSED

Connectors shall be tested in accordance with test procedure EIA-364-26 Condition C

The connectors shall be fully populated and immersion time 500 hours.

At the end of the immersion duration while still immersed, insulation resistance 5 GΩ at 500 VDC test shall be completed from each contact to every other contact and the shell.

7.11 Hydrostatic Pressure.

PASSED

Connectors shall be test in accordance with procedure per ISO-13628-6 except the minimum

Period of measurement shall be three minutes. Replace Interface O-rings before pressure testing

- Hydrostatic Pressure Testing – Open Face – BCR Individual
- Hydrostatic Pressure Testing – Mated Condition – Mated Pair
- Hydrostatic Pressure Testing – Glass sealed Inserts

8 cycles – 3X 5min-dwell @ 11,000 + 4X 5min-dwell @ 15,000 + 1 X 1hr-dwell @ 15,000psi

Ramp 3,000psi/min – Reference

SUBSEA/DEEPWATER: SEAKING™





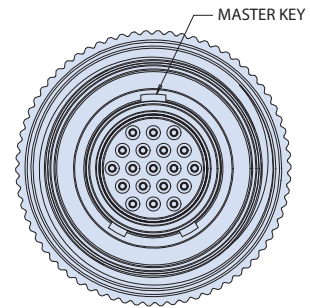
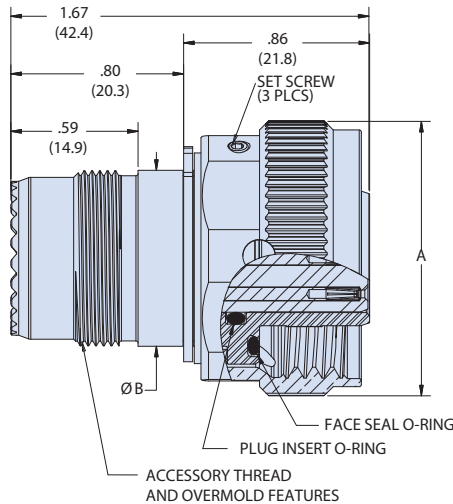
SERIES 70 10K PSI / 700 BAR / 7000 M SeaKing™ High-Pressure Subsea Connectors, Cables, and PBOF Assemblies 700-001 cable connector plug (CCP)



SeaKing Plug - How To Order						
Sample Part Number	700	-001-	K19	-Z1	S	N
Product Series	700 = SeaKing™					
Connector Style	001 = Cable connector plug					
Shell Size-Contact Arrangement	See SeaKing contact arrangements table (pgs. 4-5)					
Barrel Material	Z1 = 316 Stainless steel TC = Titanium					
Contact Style	S = Socket					
Alternate Key Position	A, B, C, N = Normal (see alternate key positions table)					

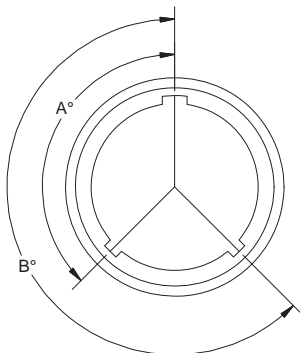
NOTES

1. Double O-ring sealing in mated condition
2. Mates with 700-006 / -007 series SeaKing receptacles of the same size and polarization
3. Retractable coupling nut facilitates O-ring servicing
4. Material/Finish
 - Barrel: 316 stainless steel or titanium
 - Coupling nut: marine bronze
 - Contacts: Copper alloy, gold plated
 - Insulator: Composite thermoplastic
 - Set screw: 316 stainless steel
 - O-ring: Nitrile (NBR)



SUBSEA/DEEPWATER: SEAKING™

Alternate Key Positions



Position	A°	B°
N	150°	210°
A	75°	210°
B	95°	230°
C	140°	275°

Dimensions

Shell Size	Ø A	Ø B	Face seal O-ring	Plug insert O-ring	Accessory Thread	Set Screw	Mating Torque
G	1.15 (29.21)	0.69 (17.53)	015	012	1 1/16-28 UN-2A	4-40 x 3/32	10 ft/lbs
K	1.27 (32.26)	0.81 (20.57)	017	014	1 3/16-28 UN-2A		12 ft/lbs
L	1.38 (35.05)	0.94 (23.88)	019	016	1 5/16-28 UN-2A		12 ft/lbs
M	1.51 (38.35)	1.06 (26.92)	020	017	1 1/2-28 UN-2A		12 ft/lbs
O	1.74 (44.20)	1.31 (33.27)	024	020	1 5/8-28 UN-2A		15 ft/lbs
Q	2.01 (51.05)	1.56 (39.62)	028	024	1 3/4-20 UN-2A		15 ft/lbs
R	2.14 (54.36)	1.69 (42.93)	029	026	1 7/8-20 UN-2A		15 ft/lbs



SERIES 70 10K PSI / 700 BAR / 7000 M SeaKing™ High-Pressure Subsea Connectors, Cables, and PBOF Assemblies

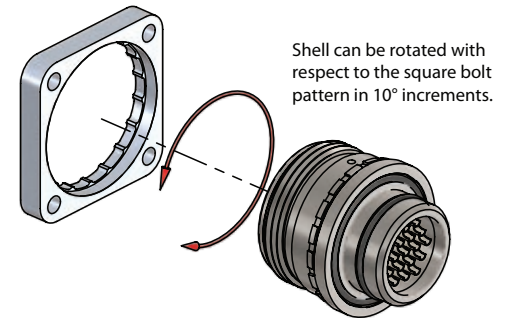
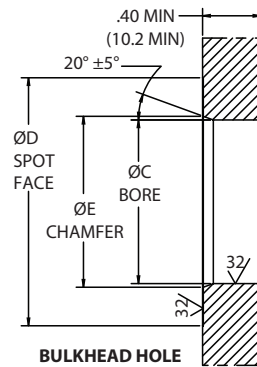
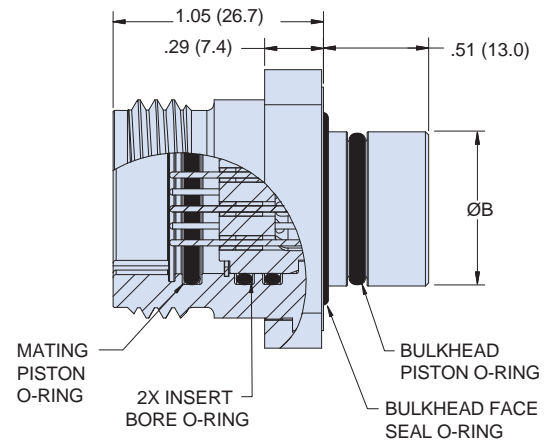
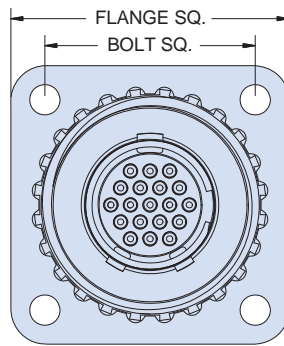
700-006 flange connector receptacle (FCR)



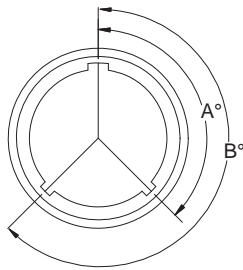
SeaKing FCR - How To Order						
Sample Part Number	700	-006-	O19	-Z1	P	N
Product Series	700 = SeaKing™					
Connector Style	006 = Flange connector receptacle					
Shell Size-Contact Arrangement	See SeaKing contact arrangements table (pgs. 4-5)					
Shell Material	Z1 = 316 Stainless steel TC = Titanium					
Contact Style	P = Pin					
Alternate Key Position	A, B, C, N = Normal (see alternate key positions table)					

NOTES

- Double O-ring sealing:
 - Flange and piston O-rings to bulkhead
 - Dual piston O-rings at insert
 - Flange and piston O-rings in mated condition
- Mates with 700-001 series SeaKing
- Material/Finish
 - Shell: 316 stainless steel or titanium
 - Contacts: Inconel X750, gold plated
 - Insert: Inconel X750
 - Insulator: Fused vitreous glass
 - O-ring: Nitrile (NBR)



Alternate Key Positions



Position	A°	B°
N	150°	210°
A	75°	210°
B	95°	230°
C	140°	275°

Dimensions

Shell Size	Flange Sq.	Bolt Sq.	Bulkhead face seal O-ring	Bulkhead piston O-ring	Mating Piston & Insert O-ring	Retaining Ring	Ø B	Ø C +.002(+.05) -.000(-.00)	Ø D Min. Spotface ≤.005 ▽	Ø D Min Spotface > .005 ▽	Ø E	Flange Screws
G	1.20 (30.48)	.906 (23.01)	2-018	2-015	2-014	VH-50-S02	.685 (17.40)	.687 (17.45)	1.080 (27.43)	1.600 (40.64)	.737 (18.72)	#4-40
K	1.35 (34.29)	1.020 (25.91)	2-019	2-016	2-016	VH-62-S02	.748 (19.00)	.750 (19.05)	1.205 (30.61)	1.795 (45.59)	.800 (20.3)	#6-32
L	1.47 (37.34)	1.124 (28.55)	2-021	2-018	2-018	VH-75-S02	.873 (22.17)	.875 (22.23)	1.330 (33.78)	1.960 (49.78)	.925 (23.50)	#6-32
M	1.60 (40.64)	1.186 (30.12)	2-022	2-020	2-019	VH-81-S02	.998 (25.35)	1.000 (25.40)	1.465 (37.21)	2.115 (53.72)	1.050 (26.67)	#8-32
O	1.87 (47.50)	1.446 (36.73)	2-026	2-022	2-023	VH-106-S02	1.123 (28.52)	1.125 (28.58)	1.705 (43.31)	2.660 (67.56)	1.175 (29.85)	#8-32
Q	2.18 (55.37)	1.662 (42.21)	2-029	2-026	2-028	VH-137-S02	1.373 (34.87)	1.375 (34.92)	1.955 (49.66)	2.890 (73.41)	1.425 (36.20)	#10-24
R	2.30 (58.42)	1.768 (44.91)	2-030	2-028	2-029	VH-150-S02	1.498 (38.05)	1.500 (38.10)	2.080 (52.83)	3.050 (77.47)	1.550 (39.37)	#10-24





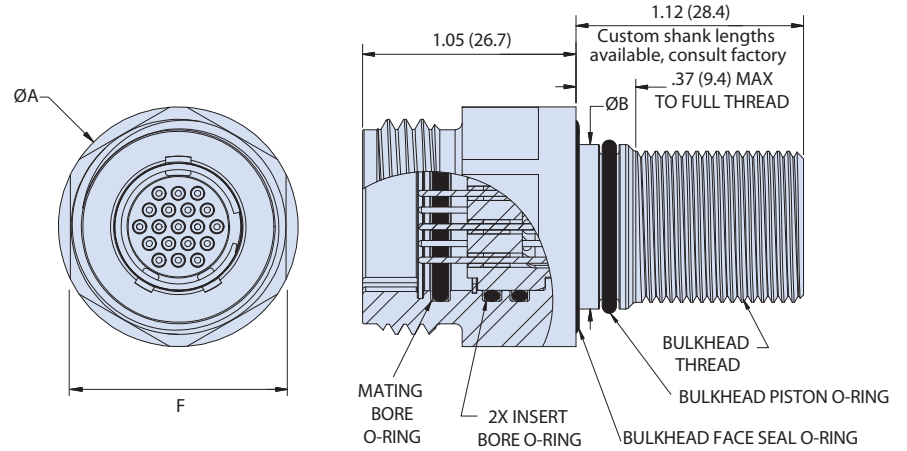
SERIES 70 10K PSI / 700 BAR / 7000 M SeaKing™ High-Pressure Subsea Connectors, Cables, and PBOF Assemblies 700-007 bulkhead connector receptacle (BCR)



SeaKing BCR - How To Order						
Sample Part Number	700	-007-	K19	-Z1	P	N
Product Series	700 = SeaKing™					
Connector Style	007 = Bulkhead connector					
Shell Size-Contact Arrangement	See SeaKing contact arrangements table (pgs. 4-5)					
Shell Material	Z1 = 316 Stainless steel TC = Titanium					
Contact Style	P = Pin					
Alternate Key Position	A, B, C, N = Normal (see alternate key positions table)					

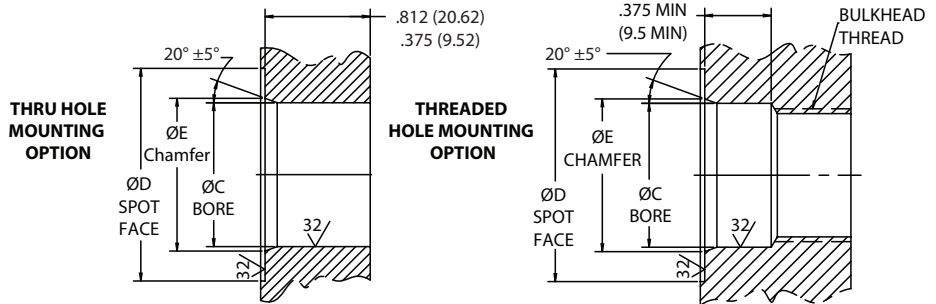
NOTES

- Double O-ring sealing:
 - Flange and piston O-rings to bulkhead
 - Dual piston O-rings at insert
 - Flange and piston O-rings in mated condition
- Mates with 700-001 series SeaKing plugs of the same size and polarization
- Material/Finish
 - Shell: 316 stainless steel shell
 - Contacts: Inconel X750, gold plated
 - Insert: Inconel X750
 - Insulator: Fused vitreous glass
 - O-ring: Nitrile



SUBSEA/DEEPWATER: SEAKING™

Alternate Key Positions		
	A°	B°
Position	A°	B°
N	150°	210°
A	75°	210°
B	95°	230°
C	140°	275°



Dimensions												
Shell Size	Ø A	Ø B	Hex Flats F	Bulkhead Face Seal O-Ring	Bulkhead Piston O-Ring	Mating Piston and Insert O-Ring	Retaining Ring	Ø C +.002 (+.05) -.000 (-.00)	Ø D Min	Ø E ±.010 (±.25)	Bulkhead Thread Male: Class 2A Female: Class 2B	Bulkhead Mounting Torque (Dry Threads)
G	1.06 (26.9)	.685 (17.40)	.938 (23.83)	2-019	2-015	2-014	VH-50-S02	.687 (17.45)	1.08 (27.4)	.737 (18.72)	5/8-24 UNEF	30 ft/lbs
K	1.18 (30.0)	.810 (20.57)	1.063 (27.00)	2-020	2-017	2-016	VH-62-S02	.812 (20.62)	1.20 (30.5)	.862 (21.89)	3/4-20 UNEF	35 ft/lbs
L	1.31 (33.3)	.935 (23.75)	1.188 (30.18)	2-022	2-019	2-018	VH-75-S02	.937 (23.80)	1.33 (33.8)	.987 (25.07)	7/8-20 UNEF	35 ft/lbs
M	1.43 (36.3)	1.060 (26.92)	1.313 (33.35)	2-024	2-021	2-019	VH-81-S02	1.062 (26.97)	1.45 (36.8)	1.112 (28.24)	1-20 UNEF	35 ft/lbs
O	1.68 (42.7)	1.185 (30.10)	1.563 (39.70)	2-027	2-023	2-023	VH-106-S02	1.187 (30.15)	1.70 (43.2)	1.237 (31.42)	1 1/8-16 UN	50 ft/lbs
Q	1.93 (49.0)	1.435 (36.45)	1.813 (46.05)	2-030	2-027	2-028	VH-137-S02	1.437 (36.50)	1.95 (49.5)	1.487 (37.77)	1 3/8-16 UN	50 ft/lbs
R	2.06 (52.3)	1.623 (41.22)	1.938 (49.23)	2-031	2-029	2-029	VH-150-S02	1.625 (41.28)	2.08 (52.8)	1.675 (42.55)	1 1/2-16 UN	60 ft/lbs



SERIES 70 10K PSI / 700 BAR / 7000 M

SeaKing™ High-Pressure Subsea Connectors, Cables, and PBOF Assemblies

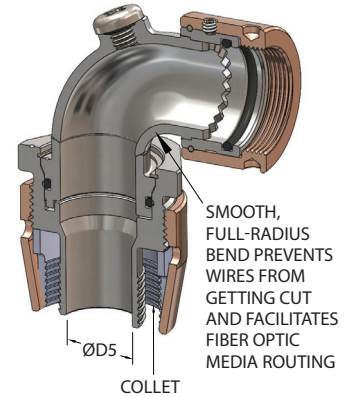


PBOF assembly fittings and accessories

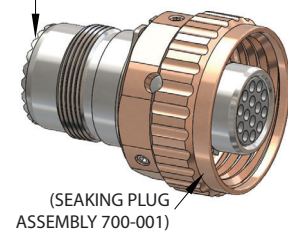
REVOLUTIONARY PBOF SWIVEL HOSE ATTACHMENT ACCESSORIES

Hose barb fittings for PBOF assemblies are the perennial weak link in subsea oil & gas applications. Kinked and twisted hoses, leaky fittings, corroded hose clamps, and general poor performance characterize most existing solutions. The Glenair PBOF swivel hose attachment for SeaKing™ connectors solves these problems and more. Designed from the sea floor up to perform flawlessly and reliably, this revolutionary attachment puts an end to the long list of field maintenance problems associated with oil-filled cable applications.

- Straight, 45°, and 90° “full radius” angle and profile hose routing
- Hose angle adjustment feature eliminates risk of oil leakage
- Corrosion-resistant materials used throughout
- Threaded couplers with safety set-screws for fail-safe leak and decoupling protection—no special tools required for assembly
- Compact PBOF compression fitting with 340° hose swivel action
- Support for the broad range of hose diameters and wall thicknesses

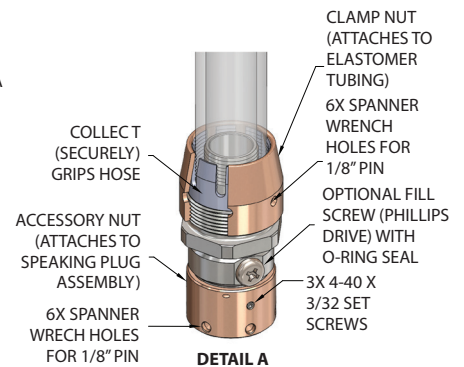
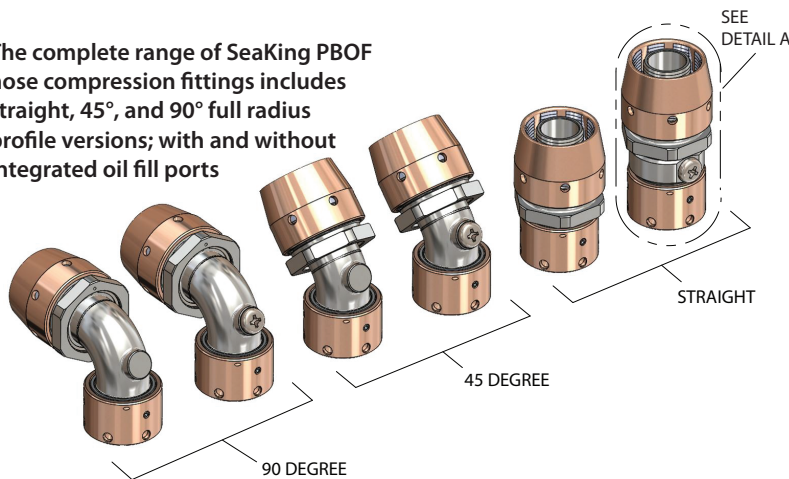


ACCESSORY TEETH MESH WITH TEETH ON BACK END OF PLUG ASSEMBLY, ALLOWING TUBING END OF PBOF TO BE CLOCKED IN DESIRED DIRECTION



SeaKing PBOF Attachment Accessory Kits - How To Order					
Sample Part Number	709-123	K	-L	1	S
Product Series	709-123 = SeaKing™ PBOF accessory				
Shell Size	G, K, M, O, Q				
Angular Function	L = Straight M = 45° N = 90°				
Fill Port Option	0 = No fill port 1 = With fill port				
Swivel/Fixed Option	S = Swivel F = Fixed				

The complete range of SeaKing PBOF hose compression fittings includes straight, 45°, and 90° full radius profile versions; with and without integrated oil fill ports



SUBSEA/DEEPWATER: SEAKING™

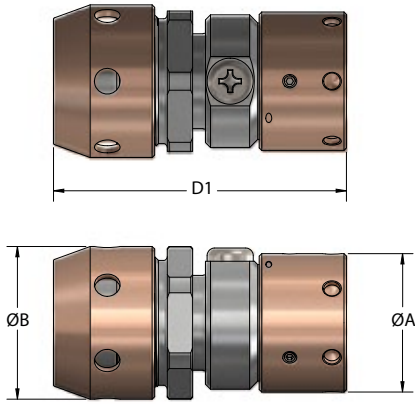


SERIES 70 10K PSI / 700 BAR / 7000 M

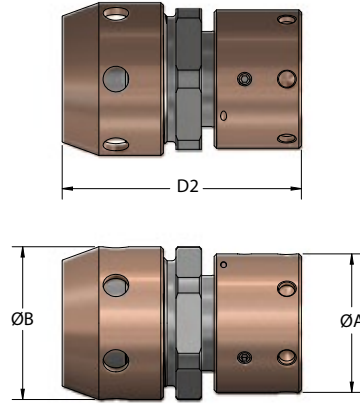
SeaKing™ High-Pressure Subsea Connectors, Cables, and PBOF Assemblies



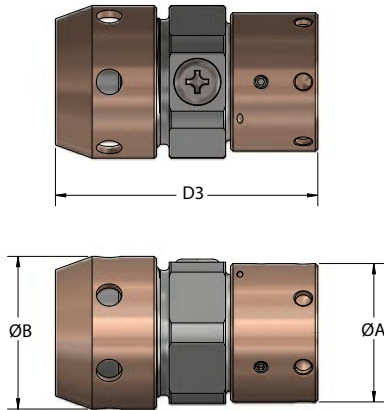
PBOF fitting: straight with fill port and swivel



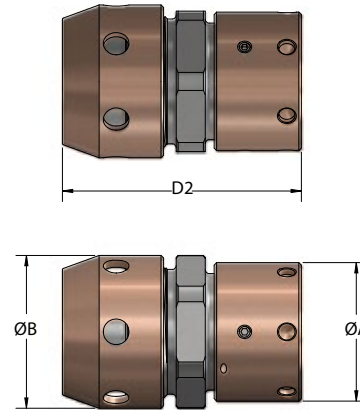
709-003-L15
STRAIGHT, WITH FILL PORT, SWIVEL



709-003-L05
STRAIGHT, WITHOUT FILL PORT, SWIVEL



709-003-L1F
STRAIGHT, WITH FILL PORT, FIXED



709-003-L0F
STRAIGHT, WITHOUT FILL PORT, FIXED

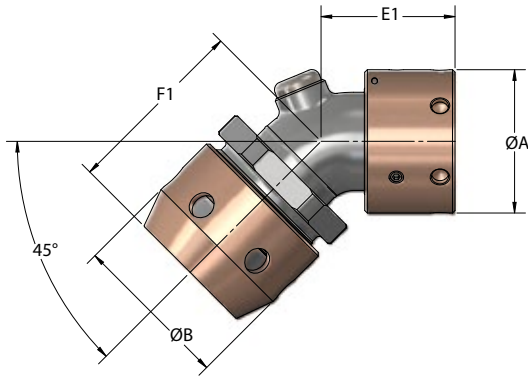
SUBSEA/DEEPWATER: SEAKING™



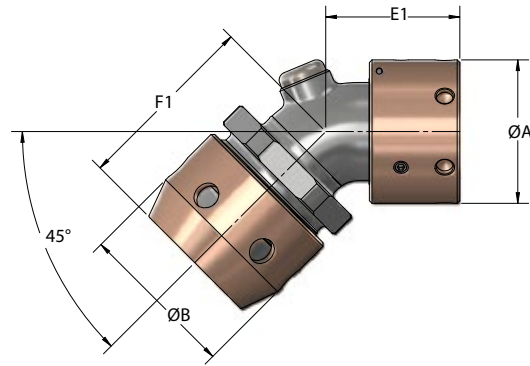
Dimensions					
Dim Callout	Shell Size				
	G	K	M	O	Q
A	0.97 (24.64)	1.10 (27.94)	1.35 (34.29)	1.60 (40.64)	1.85 (46.99)
B	1.08 (27.43)	1.21 (30.73)	1.40 (35.56)	1.58 (40.13)	1.83 (46.48)
C	0.99 (25.15)	1.11 (28.19)	1.30 (33.02)	1.49 (37.85)	1.80 (45.72)
D1	2.32 (58.93)	2.32 (58.93)	2.40 (60.96)	2.32 (58.93)	2.41 (61.21)
D2	1.89 (48.01)	1.89 (48.01)	1.97 (50.04)	1.89 (48.01)	1.98 (50.29)
D3	2.08 (52.83)	2.08 (52.83)	2.16 (54.86)	2.08 (52.83)	2.08 (52.83)



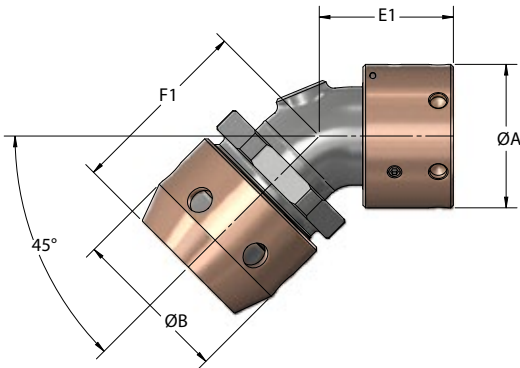
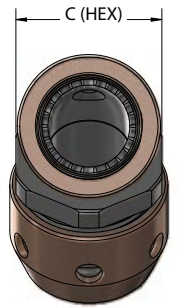
SERIES 70 10K PSI / 700 BAR / 7000 M
**SeaKing™ High-Pressure Subsea
 Connectors, Cables, and PBOF Assemblies**
 PBOF fitting: 45° with fill port and swivel



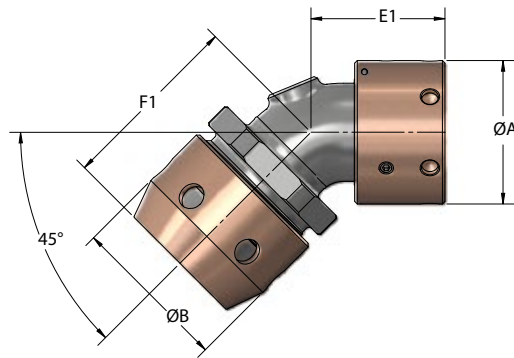
709-003 -M1S
 45°, WITH FILL PORT, SWIVEL



709-003 -M1F
 45°, WITH FILL PORT, FIXED



709-003 -M0S
 45°, WITHOUT FILL PORT, SWIVEL



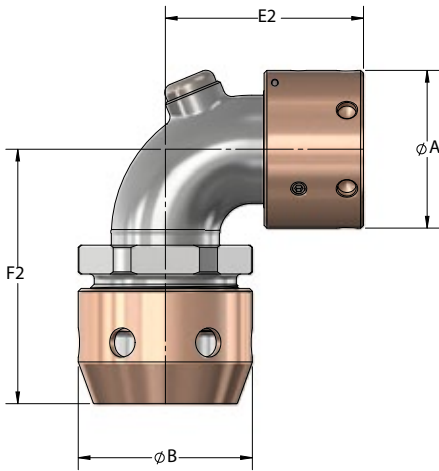
709-003 -M0F
 45°, WITHOUT FILL PORT, FIXED

SUBSEA/DEEPWATER: SEAKING™

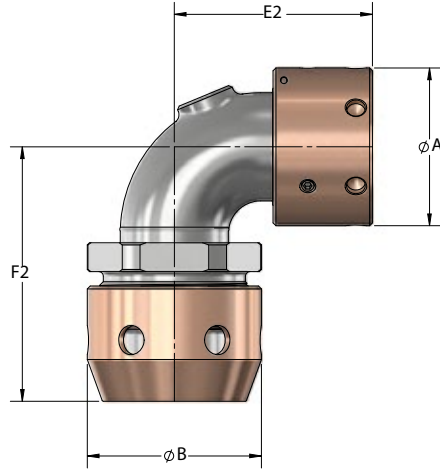
Dimensions					
Dim Callout	Shell Size				
	G	K	M	O	Q
A	0.97 (24.64)	1.10 (27.94)	1.35 (34.29)	1.60 (40.64)	1.85 (46.99)
B	1.08 (27.43)	1.21 (30.73)	1.40 (35.56)	1.58 (40.13)	1.83 (46.48)
C	0.99 (25.15)	1.11 (28.19)	1.30 (33.02)	1.49 (37.85)	1.80 (45.72)
E1	1.01 (25.65)	1.07 (27.18)	1.14 (28.96)	1.22 (30.99)	1.33 (33.78)
F1	1.42 (36.07)	1.48 (37.59)	1.63 (41.40)	1.63 (41.40)	1.83 (46.48)



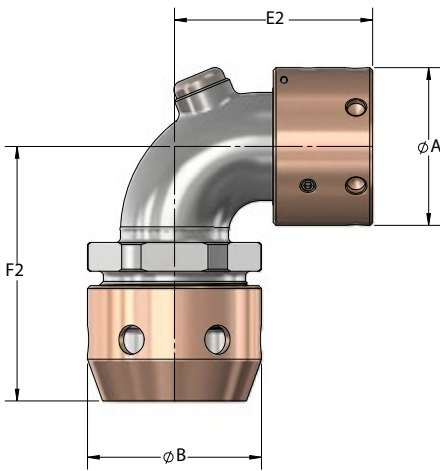
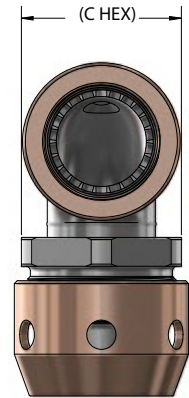
SERIES 70 10K PSI / 700 BAR / 7000 M
**SeaKing™ High-Pressure Subsea
 Connectors, Cables, and PBOF Assemblies**
 PBOF fitting: 90° with fill port and swivel



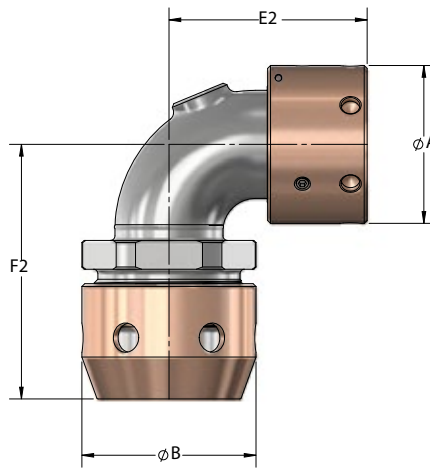
709-003 -N1S
 90°, WITH FILL PORT, SWIVEL



709-003 -N0S
 90°, WITHOUT FILL PORT, SWIVEL



709-003 -N1F
 90°, WITH FILL PORT, FIXED



709-003 -N0F
 90°, WITHOUT FILL PORT, FIXED

SUBSEA/DEEPWATER: SEAKING™



Dimensions					
Dim Callout	Shell Size				
	G	K	M	O	Q
A	0.97 (24.64)	1.10 (27.94)	1.35 (34.29)	1.60 (40.64)	1.85 (46.99)
B	1.08 (27.43)	1.21 (30.73)	1.40 (35.56)	1.58 (40.13)	1.83 (46.48)
C	0.99 (25.15)	1.11 (28.19)	1.30 (33.02)	1.49 (37.85)	1.80 (45.72)
E2	1.24 (31.50)	1.36 (34.54)	1.54 (39.12)	1.72 (43.69)	1.96 (49.78)
F2	1.65 (41.91)	1.77 (44.96)	2.03 (51.56)	2.13 (54.10)	2.46 (62.48)

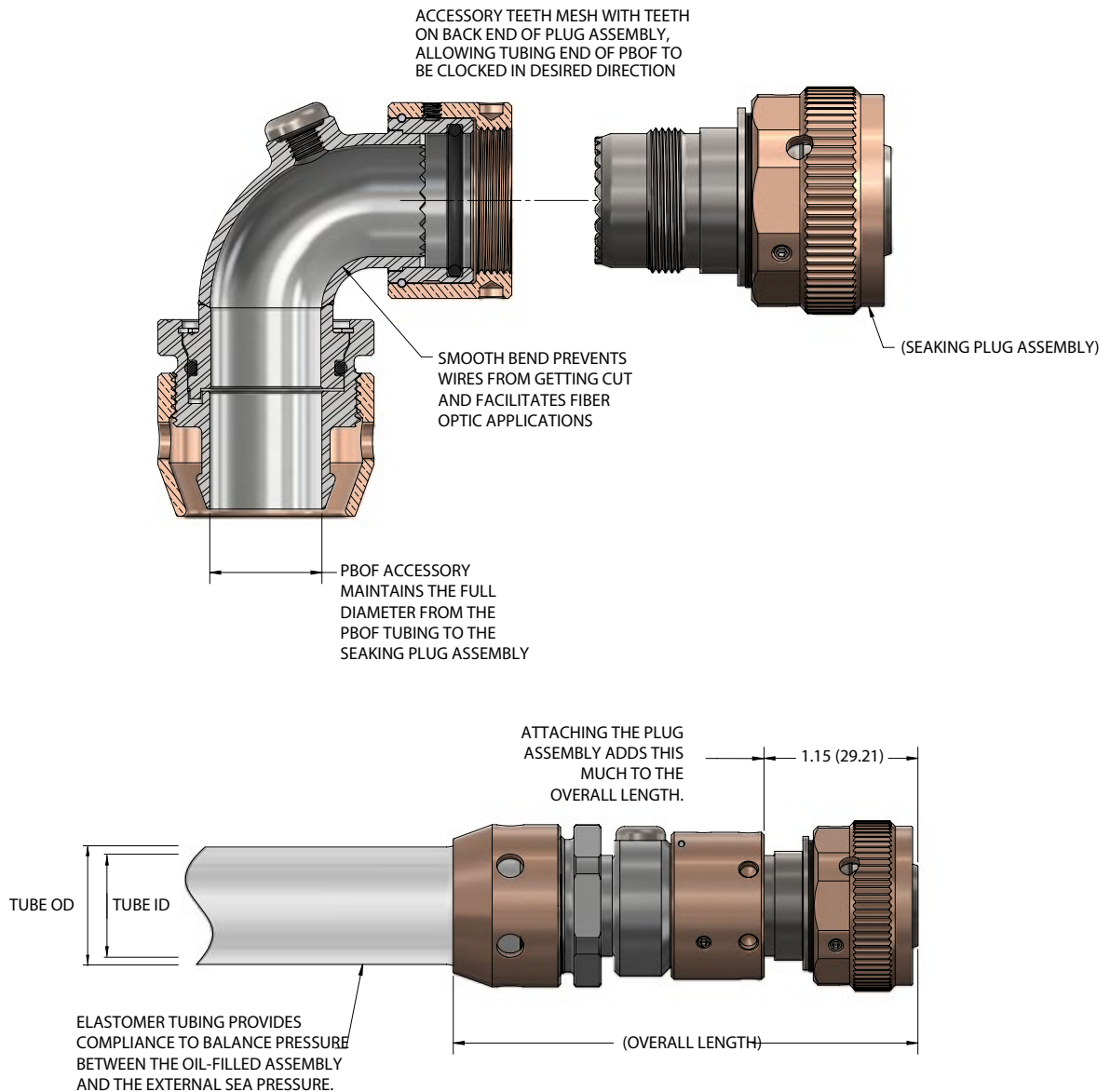


SERIES 70 10K PSI / 700 BAR / 7000 M

SeaKing™ High-Pressure Subsea Connectors, Cables, and PBOF Assemblies



PBOF tubing: flexible elastomer



SUBSEA/DEEPWATER: SEAKING™



Dimensions and Performance Data

SeaKing Shell Size	Tube I.D.	Tube O.D.	Wall Thickness	Min Bend Radius	Max Working Pressure		Vacuum Rating Inches of Mercury	
					@ 73F°	@ 180F°	@ 73F°	@ 180° F
E	3/8	5/8	1/8	1 1/2	205	115	29.9	29.9
G	1/2	3/4	1/8	2	195	110	29.9	29.9
K	5/8	7/8	1/8	3	175	105	29.9	25.0
M	3/4	1 1/16	5/32	3 1/2	150	100	29.9	25.0
O	1	1 3/8	3/16	4 3/4	120	80	29.9	15.0
Q	1 1/4	1 3/4	1/4	6	95	65	29.9	20.0



SERIES 70 10K PSI / 700 BAR / 7000 M

SeaKing™ High-Pressure Subsea Connectors, Cables, and PBOF Assemblies



Cable assembly capabilities and accessories

TURNKEY OVERMOLDED AND REPAIRABLE CABLE ASSEMBLIES AND SPECIAL CONFIGURATIONS



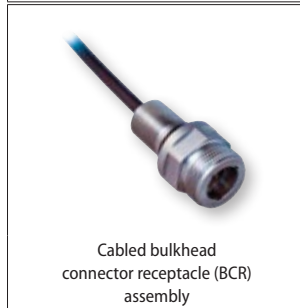
Amber overmold test sample demonstrates Glenair's harsh-environment, high-pressure cable overmolding and cable termination expertise (no voids, 360° material adhesion and cosmetic perfection)



10K psi overmolded CCP assembly



10K psi overmolded 75 Ohm Coax hybrid assembly



Cabled bulkhead connector receptacle (BCR) assembly



Special FCR assembly with additional mounting points and indexed flange



Special Oil & Gas industry NE 606 overmolded cable

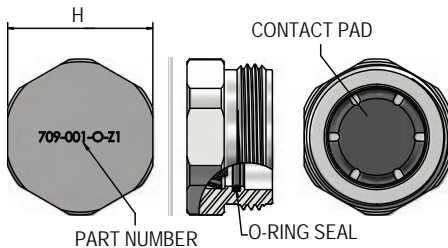
PLUG PRESSURE CAP (MATES WITH 700-006/007)



Shell Size	Face Seal O-ring	Set Screw	Mating Torque
G	015	4-40 x 3/32	10 ft/lbs
K	017		12 ft/lbs
L	019		ft/lbs
M	020		12 ft/lbs
O	024		15 ft/lbs
Q	028		15 ft/lbs
R	029		ft/lbs

Basic Part Number	Plug Size	Body Material
709-002	-K	-Z1
	G, K, L, M, M O, P, Q, R See table	Z1 Stainless Steel TC Titanium Barrel and Coupling Nut

RECEPTACLE PRESSURE CAP (MATES WITH 700-001)



Plug Size	Hex H	Thread T (UN-2A)	O-Ring Size
G	.938 (23.83)	15/16-12	2-014
K	1.063 (27.00)	1 1/16-12	2-016
L	1.188 (30.18)	1 3/16-12	2-018
M	1.313 (33.35)	1 5/16-12	2-019
O	1.563 (39.70)	1 9/16-12	2-023
Q	1.813 (46.05)	1 13/16-12	2-028
R	1.938 (49.23)	1 15/16-12	2-029



Basic Part Number	Plug Size	Body Material
709-001	-O	-Z1
	G, K, L, M, M O, P, Q, R See table	Z1 Stainless Steel* TC Titanium

*For sizes G through O: Type 316
for sizes Q and up: 2507 Super Duplex

SUBSEA/DEEPWATER: SEAKING™



SERIES 70 10K PSI / 700 BAR / 7000 M

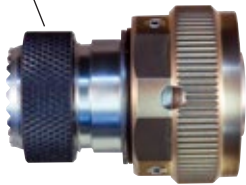
SeaKing™ High-Pressure Subsea Connectors, Cables, and PBOF Assemblies



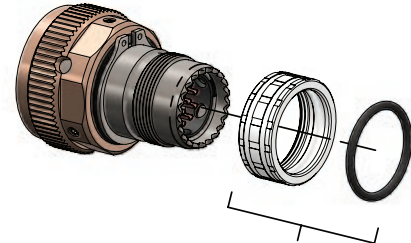
Tools and accessories

ANTI-CATHODIC DELAMINATION RING

ACD Nut made of 40% glass-filled PPS

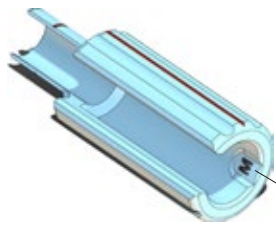


Part #
709-009-G
709-009-K
709-009-L
709-009-M
709-009-O
709-009-Q
709-009-R



ACD ring includes one nitrile o-ring.

INSERT INSTALLATION TOOL



Shell Size

For Plug and Receptacle

Part #	Description
709-004-G	Insert Installation Tool for shell size G
709-004-K	Insert Installation Tool for shell size K
709-004-L	Insert Installation Tool for shell size L
709-004-M	Insert Installation Tool for shell size M
709-004-O	Insert Installation Tool for shell size O
709-004-Q	Insert Installation Tool for shell size Q
709-004-R	Insert Installation Tool for shell size R

O-RING KITS AND O-RING LUBRICATION GREASE

O-Rings



Parker O-Lube O-ring lubricating grease

Part #	O-Ring for Bulkhead Connector Receptacle
709-005-07-G	O-Ring Kit for Size G
709-005-07-K	O-Ring Kit for Size K
709-005-07-M	O-Ring Kit for Size M
709-005-07-O	O-Ring Kit for Size O
709-005-07-Q	O-Ring Kit for Size Q

Part #	O-Ring for Cable Connector Plug
709-005-01-G	O-Ring Kit for Size G
709-005-01-K	O-Ring Kit for Size K
709-005-01-M	O-Ring Kit for Size M
709-005-01-O	O-Ring Kit for Size O
709-005-01-Q	O-Ring Kit for Size Q

Part #	O-Ring for Flange Connector Receptacle
709-005-06-G	O-Ring Kit for Size G
709-005-06-K	O-Ring Kit for Size K
709-005-06-M	O-Ring Kit for Size M
709-005-06-O	O-Ring Kit for Size O
709-005-06-Q	O-Ring Kit for Size Q

Part #	Description
884-4	Parker O-Lube O-Ring Grease, large 4 Oz. tube
884-2	Parker O-Lube O-Ring Grease, small 2 g packet

SUBSEA/DEEPWATER: SEAKING™

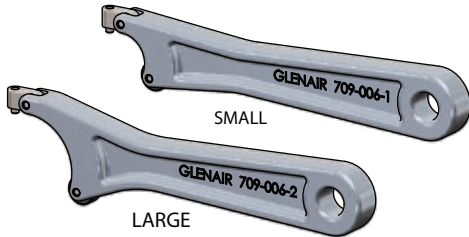




SERIES 70 10K PSI / 700 BAR / 7000 M SeaKing™ High-Pressure Subsea Connectors, Cables, and PBOF Assemblies Tools and accessories



SPANNER WRENCH



Part #	Description
709-006-1	Fits SeaKing™ accessory sizes G thru M.

Part #	Description
709-006-2	Fits SeaKing™ accessory sizes O and up.

TORQUE WRENCH ADAPTORS



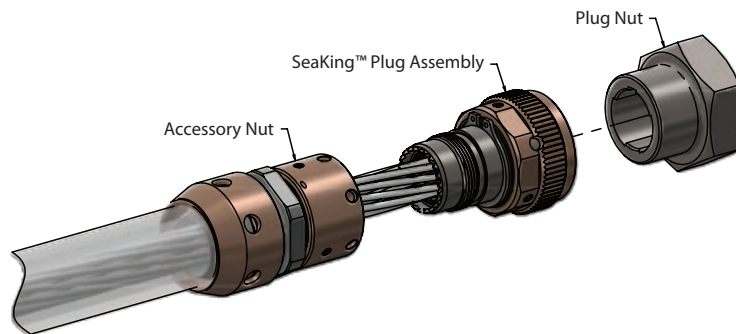
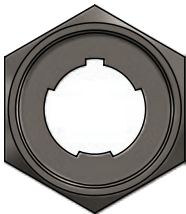
Small adaptor, order number 709-011-1 fits SeaKing accessory sizes G thru M.

Large adaptor, order number 709-011-2 fits SeaKing accessory sizes O and up.

NOTES

1. Each adaptor has a 3/8 square drive hole for adapting to a torque wrench.
2. Adaptors are made of 316 stainless steel.
3. Each adaptor has a delrin rotary pad to prevent from marring the accessory nut.

PLUG NUT



NOTES

1. The SeaKing™ plug nut is used when tightening the accessory nut onto the SeaKing™ plug assembly. The plug nut engages the plug barrel and a spanner wrench is used to tighten the accessory nut onto the back of the plug assembly
2. Plug is made of 303 stainless steel

Part #	Description
709-010-G	Plug Nut for shell size G
709-010-K	Plug Nut for shell size K
709-010-L	Plug Nut for shell size L
709-010-M	Plug Nut for shell size M
709-010-O	Plug Nut for shell size O
709-010-Q	Plug Nut for shell size Q
709-010-R	Plug Nut for shell size R

SUBSEA/DEEPWATER: SEAKING™



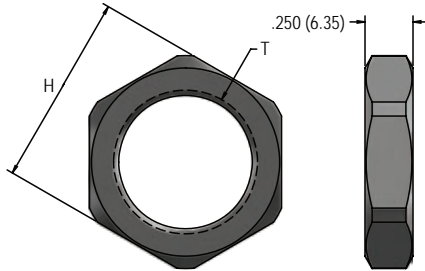
SERIES 70 10K PSI / 700 BAR / 7000 M

SeaKing™ High-Pressure Subsea Connectors, Cables, and PBOF Assemblies



Tools and accessories

REPLACEMENT HEX NUT FOR BULKHEAD CONNECTOR RECEPTACLE



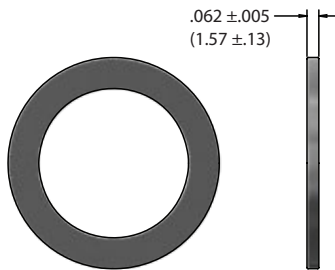
Shell Size	H ±.010 (0.25)	T
G	.875 (22.23)	5/8-24-UNEF-2B
K	1.000 (25.40)	3/4-20 UNEF -2B
L	1.125 (28.58)	7/8-20 UNEF-2B
M	1.250 (31.75)	1-20 UNEF -2B
O	1.500 (38.10)	1 1/8-16 UN-2B
P	1.625 (41.28)	1 1/4-16 UN-2B
Q	1.750 (44.45)	1 3/8-16 UN-2B
R	1.875 (47.63)	1 1/2-16 UN-2B

Basic Part Number	Plug Size	Body Material
709-012	-O	-Z1

G, K, L, M,
M, O, P,
Q, R

Z1 = Stainless Steel
TC = Titanium
BZ = Nickel Aluminum Bronze

REPLACEMENT WASHER



Basic Part Number	Plug Size	Body Material
709-013	-O	-Z1

G, K, L, M, M O, P, Q, R

Z1 = Stainless Steel
TC = Titanium
BZ = Nickel Aluminum Bronze

SNAP RING PLIERS



Part #	Description
709-008	Snap Ring Pliers - consult factory for sizing

BAND-MASTER ATS® MICRO BANDING TOOL AND BANDS



Part #	Description
601-101	Band-Master ATS® Micro Tool with Counter
601-024	Short Micro band, flat
601-025	Short Micro band, pre-coiled
601-060	Medium Micro band, flat
601-061	Medium Micro band, pre-coiled
601-064	Long Micro band, flat
601-065	Long Micro band, pre-coiled

Weights 1.3 lbs., and is designed for micro .120" width clamping bands in a tension range from 50 to 85 lbs. Calibrate at 80 lbs ±3 lbs for most shield terminations. Tool and band should never be lubricated.

SUBSEA/DEEPWATER: SEAKING™



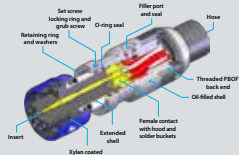


SERIES SG55 10K PSI / 700 BAR / 7000M
**SuperG55™ High-Pressure,
 Dry-Mate Subsea Connectors**
 Product selection guide



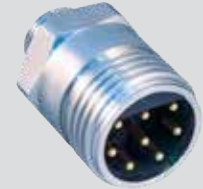
REFERENCE INFORMATION
 Materials, contact arrangements,
 and performance specifications

pg. 21



G55 07 -EL
 SuperG55™ 07 Bulkhead Connector
 Receptacle with Earth Lead /
 Ground Pin (BCR-EL)

pg. 31



G55 01
 SuperG55™ 01 Cable Connector
 Plug (CCP), pre-wired
 pg. 27



G55 A1 AND G55 OFA1
 SuperG55™ Cable Connector Plug
 (CCP) and Cable Connector Plug,
 Oil Filled (CCP-OF), Solder Cup
 Termination

pg. 32



G55 06
 SuperG55™ 06 Flange Connector
 Receptacle (FCR),
 solder cup termination
 pg. 28



G55 OF1
 SuperG55™ Cable Connector Plug,
 with Clamped Hose
 pg. 33



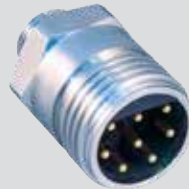
G55 06IF
 SuperG55™ 06IF Indexable Flange
 Connector Receptacle (IFCR),
 solder cup termination
 pg. 29



G55 R1
 SuperG55™ Cable Connector Plug,
 Right Angle (CCP-RA), pre-wired
 pg. 34



G55 07
 SuperG55™ 07 Bulkhead Connector
 Receptacle (BCR)
 pg. 30



G55 D1
 SuperG55™ Dummy Plug
 pg. 35



SUBSEA/ DEEPWATER: SUPERG55™





Photo: NOAA



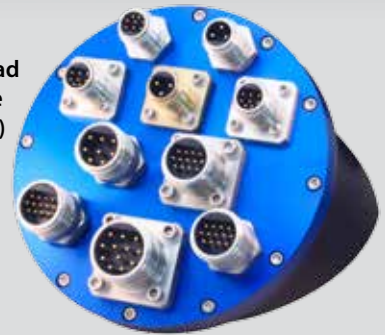
DEEP-SEA 10K PSI DRY MATE ELECTRICAL SuperG55™

The SuperG55™ family of dry-mate deep-sea-high pressure connectors are a revolutionary new design of the popular industry-standard used in countless ROV, underwater camera, diver communications, lights, pan and tilts, and other subsea applications.

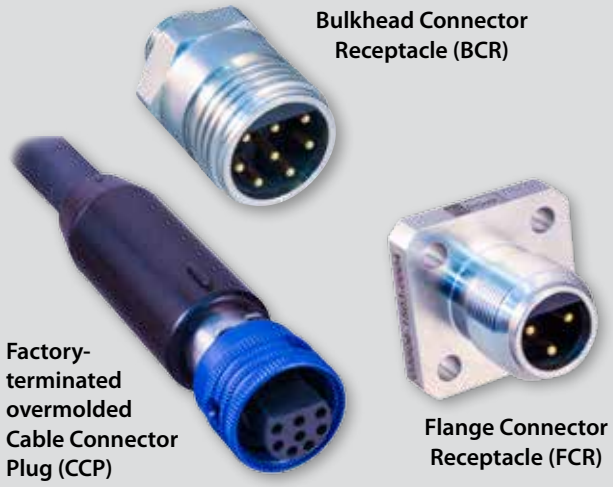
Available in multiple shell sizes, the SuperG55™ is manufactured from 316L Stainless Steel with insert molded contact assemblies designed for pressure-sealed applications up to 10K psi mated and unmated. Intermateable and intermountable with other "55" series connectors, the Glenair solution introduces a long list of product innovations designed

to improve performance and durability. Our PBOF versions, for example, utilize easy-to-assemble threaded fittings which deliver both superior sealing performance while reducing installation time. Other innovations include full-mate inspection ports, improved solder cup contact design and more. Cable plugs and receptacles available in attachable (user-terminatable) versions as well as factory overmolded single-ended whips.

High-pressure open face bulkhead (BCR) and flange receptacles (FCR)



- 10,000 psi mated/unmated (approx. 22,500ft/7,000m)
- Recessed socket contacts in plugs for electrical safety
- Intermateable and intermountable with other "55" series connectors
- 3 shell sizes — 15, 20 and 24 and 3 to 21 contacts
- PBOF versions available
- 600 VDC, 5 to 18 Amps (dependent on conductor and cable size and make-up)



Bulkhead Connector Receptacle (BCR)

Flange Connector Receptacle (FCR)

Factory-terminated overmolded Cable Connector Plug (CCP)

SUBSEA/DEEPWATER: SUPERG55™



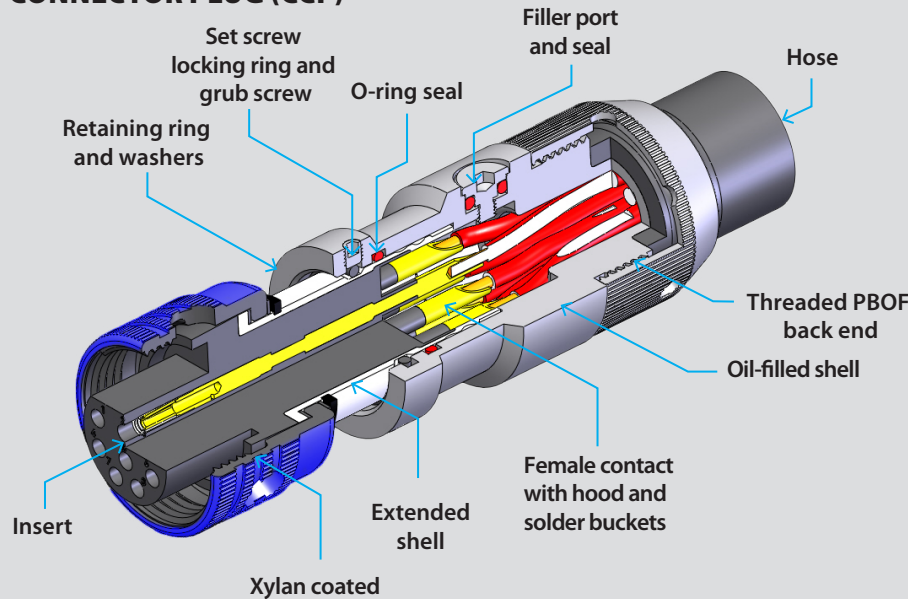


10K PSI / 700 BAR / 7000M
**SuperG55™ High-Pressure,
 Dry-Mate Subsea Connectors**



Key mechanical and environmental features

**SUPERG55™ PRESSURE-BALANCED OIL-FILLED CABLE
 CONNECTOR PLUG (CCP)**

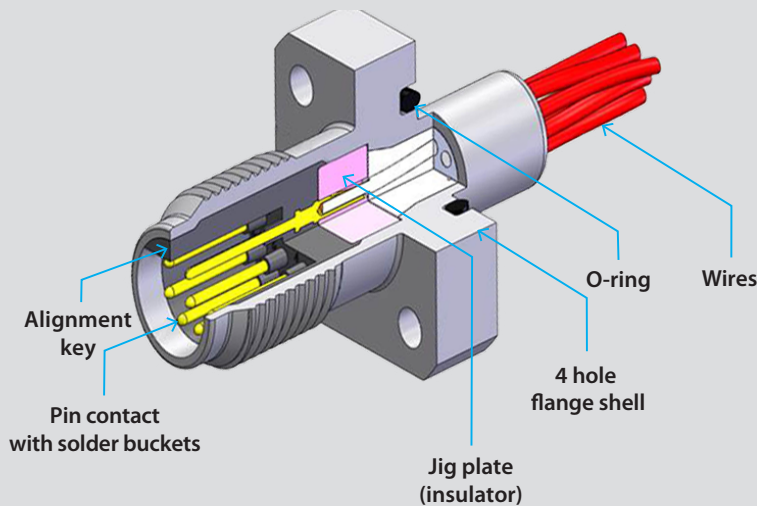


SuperG55™ Performance Specifications	
Mating Cycles	500
Pressure	689 Bar (10,000 PSI) Mated and Un-mated
Operating Temperature	-20°C to +90°C
Voltage Rating	600 VDC / 440 VAC
Current (max.)	5 to 18 Amps (dependant on contact and cable conductor sizes)

SuperG55™ Material/Finish	
Shells	316L Stainless Steel/ Passivated
Insulator	PEEK/NA
Insert	Neoprene/NA
Contacts	Copper Alloy/Gold Plated
O-rings	Nitrile/NA
Overmold and Cable	Polyurethane or Neoprene/NA
Coupling Nut	316L Stainless Steel/ Protective Coating Blue
Bulkhead Receptacle Tails	PTFE Insulated 16 AWG Wire/NA
Cable	Polyurethane or Neoprene Jacketed/NA

Bulkhead Mounting Torque	Size 15 - 14.12NM (125LB. INS.) Size 20 - 18.64NM (165LB.INS.) Size 24 - 25.42NM (225LB.INS.)
--------------------------	---

SUPERG55™ FLANGE CONNECTOR RECEPTACLE (FCR)



NON-STANDARD MATERIALS: Other material options are available as part of our non-catalog offerings including Anodized aluminium, Titanium, and Aluminium Bronze. Glenair is also able to supply SuperG55™ interconnects in composite thermoplastic (PEEK) to meet application requirements for reduced cathodic corrosion as well as weight reduction without affecting connector performance.

HIGH-SPEED ETHERNET: The SuperG55™ Ethernet option is available in the 1508, 2013 and 2021 contact configurations and provides both high speed (Up to 1GB) and power (600Volts) in a full subsea environment (10,000PSI). Gigabit speed data transfer up to a distance of 75mtrs.

SUBSEA/ DEEPWATER: SUPERG55™

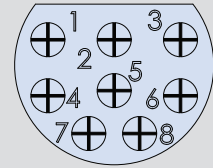
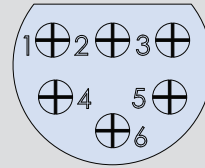
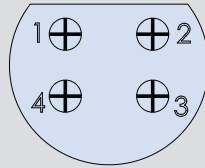
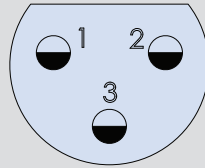
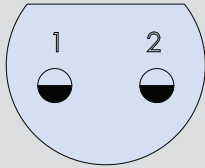




10K PSI / 700 BAR / 7000M
**SuperG55™ High-Pressure,
 Dry-Mate Subsea Connectors**
Contact Arrangements



SUPERG55™ CONTACT ARRANGEMENTS Mating face view of socket insert (pin insert IDs are reversed)



Shell Size 15

1502

2 Size #12 Contacts

1503

3 Size #12 Contacts

1504

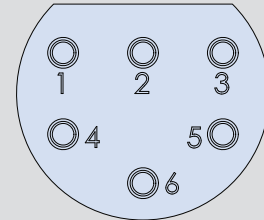
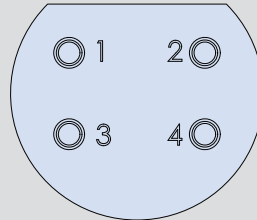
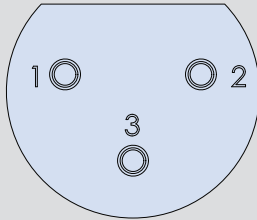
4 Size #16 Contacts

1506

6 Size #16 Contacts

1508

8 Size #16 Contacts



Shell Size 20

2003

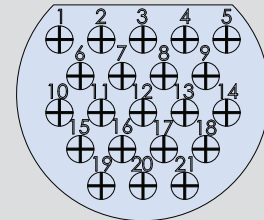
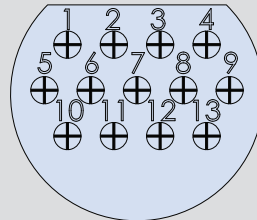
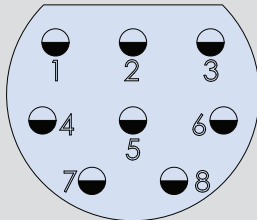
3 Size #10 Contacts

2004

4 Size #10 Contacts

2006

6 Size #10 Contacts



Shell Size 20

2008

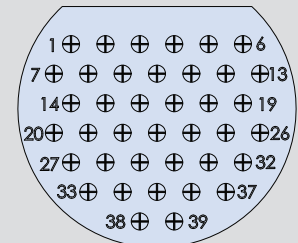
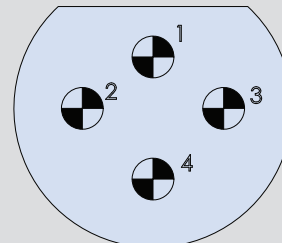
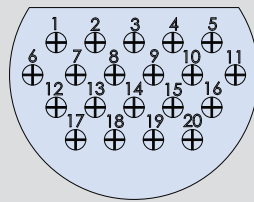
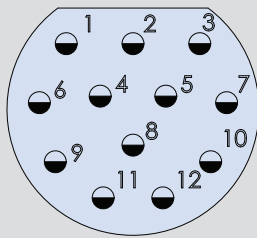
8 Size #12 Contacts

2013

13 Size #16 Contacts

2021

21 Size #16 Contacts



Shell Size 24

2412

12 Size #12 Contacts

2420

20 Size #16 Contacts

Shell Size 32

3204

4 Size #6 Contacts

3239

39 Size #16 Contacts

SUBSEA/DEEPWATER: SUPERG55™





10K PSI / 700 BAR / 7000M
**SuperG55™ High-Pressure,
 Dry-Mate Subsea Connectors**
Qualification testing



Test Sequence.

The samples were divided into 5 groups as described in GTS 4131 4.1, testing was then carried out in the following sequence as in GTS 4131

Test Description	QTP-G55	Test Group		
	Requirement	1 & 3	2 & 4	5
Product Examination.	7.1	x	x	x
Insulation Resistance	7.2	x	x	
Line Resistance	7.3	x	x	
Dielectric Withstand Voltage	7.4	x	x	
Initial Hydrostatic Pressure Test	7.8 B	x	x	
Thermal Shock Test	7.5	x	x	
Durability	7.6	x		
Salt Spray	7.7	x		
Final Hydrostatic Pressure Test	7.8 A	x	x	
Final Insulation Resistance	7.2	x	x	
Final Line Resistance	7.3	x	x	
Final Dielectric Withstand Voltage	7.4	x	x	
Final Examination.	7.1	x	x	x

x - applicable

Test Method

Examination of Product (7.1).

All test items shall be visually examined for damage, burrs, quality of finish or other imperfections that may impair function.

Insulation Resistance (7.2)

IR shall be measured in accordance with EIA-364-21

Line Resistance, Low Level Signal Current (7.3)

Line resistance shall be measured in accordance with EIA-364-23.

Dielectric Withstand Voltage (7.4)

1800V (DC) shall be applied in accordance with EIA-364-20, the maximum leakage current will be recorded.

Initial Hydrostatic Pressure Test (7.8B)

Sample shall be tested at 6,000PSI. The test duration will be 2 hours.

IR measurements will be taken between odds & even numbered contacts and shell.

SUBSEA/ DEEPWATER: SUPERG55™



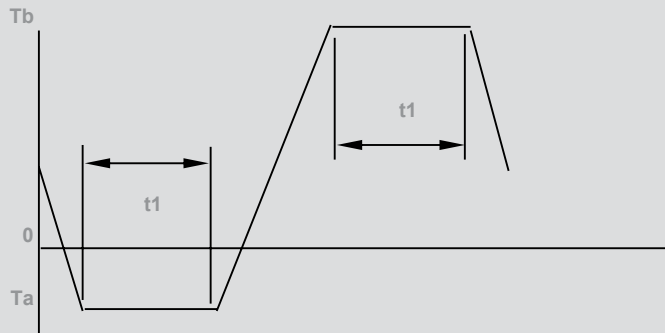


10K PSI / 700 BAR / 7000M
**SuperG55™ High-Pressure,
Dry-Mate Subsea Connectors**
Qualification testing



Test Method (continued)

Thermal Cycle(7.5)



Comments: Number of cycles:10 ,
Ta: -20c
Tb:+ 105c
Testing was performed in accordance with EIA-364-32 Method A

Durability (7.6)

Samples are to be manually mated and unmated for 500 cycles, the samples will then be mated manually. The testing shall be performed in accordance with EIA-364-26

Salt Spray (7.7)

Tested in accordance with EIA-364-26, 5% salt spray, 35°C, 500 hours duration.

Final Hydrostatic Pressure Test (7.8A)

Sample will be tested at 15,000PSI. The pressure will be increased at a steady rate, hold for 1 min at 1000PSI increments, the test duration will be 2 hours.

SUBSEA/DEEPWATER: SUPERG55™





10K PSI / 700 BAR / 7000M
**SuperG55™ High-Pressure,
 Dry-Mate Subsea Connectors**
 Qualification testing



Test Results

PROPERTY	UNIT	REQUIREMENTS	TEST METHOD	PASSED
Electrical				
Insulation Resistance (IR)	Ω	>1G Ω	EIA-364-21	☑
Dielectric Withstand Voltage (DWV) 1800v, 30 secs	mA	<2mA Leakage Current	EIA-364-20	☑
Environmental				
Thermal Shock 10 Cycles, -20°C - +105°C		The samples maintained functionality (including pressure performance)	EIA-364-32 Method A	☑
Salt Spray 500 hours, 5% salt solution		The samples showed no signs of corrosion or delamination.	EIA-364-26 condition C	☑
Durability				
500 Mating Cycles		The samples maintained functionality (including pressure performance)	EIA-364-9	☑
Subsea Performance				
Hydrostatic Pressure Test 10,000psi 2 hour duration Open face and mated		All samples showed no signs of water ingress, mated connectors maintained IR >100MΩ throughout the test. Samples showed no signs of delamination or permanent deformation.		☑

SUBSEA/ DEEPWATER: SUPERG55™



SuperG55 connector assemblies undergoing rigorous qualification testing in the salt spray chamber



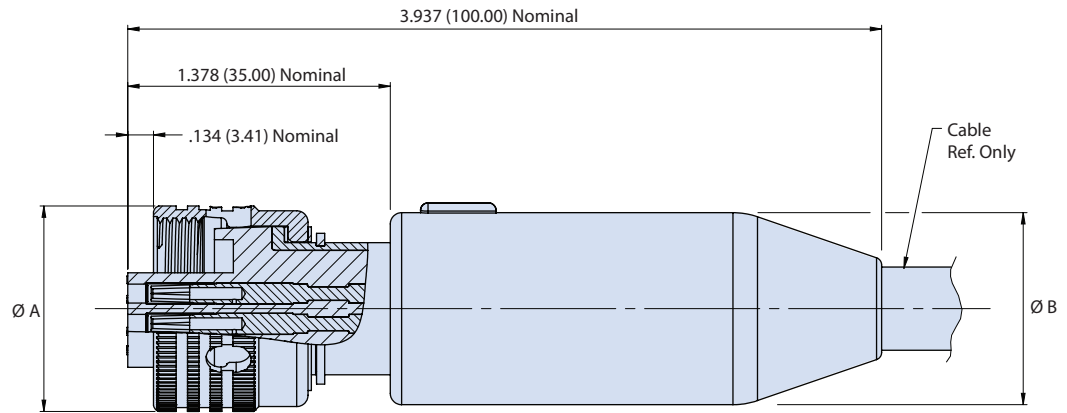
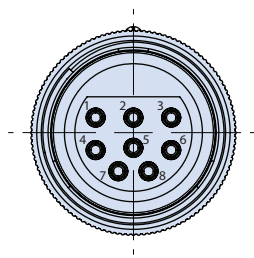
10K PSI / 700 BAR / 7000M SuperG55™ High-Pressure, Dry-Mate Subsea Connectors



G55 01 straight overmolded cable plug (CCP)



SuperG55™ CCP - How To Order					
Sample Part Number	G55	01	15	03	-0001
Series	SuperG55™ = Underwater dry-mate				
Connector Style	01 = Cable connector plug				
Shell Size	15, 20, 24				
Number of Contacts	See contact arrangements (page 23)				
Cable Length	In feet (0001 = 1 foot, 0002 = 2 feet, etc.)				



Dimensions		
Shell Size	Dim A ±.006 (.15)	Dim B ±.010 (.25)
15	1.070 (27.18)	1.000 (25.40)
20	1.450 (36.83)	1.380 (35.05)
24	1.700 (43.18)	1.640 (41.66)

NOTES

- 1508 Pin configuration shown. Other pin configurations available
- All contacts / pin configurations suit 16 AWG wire

SUBSEA/DEEPWATER: SUPERG55™





10K PSI / 700 BAR / 7000M SuperG55™ High-Pressure, Dry-Mate Subsea Connectors

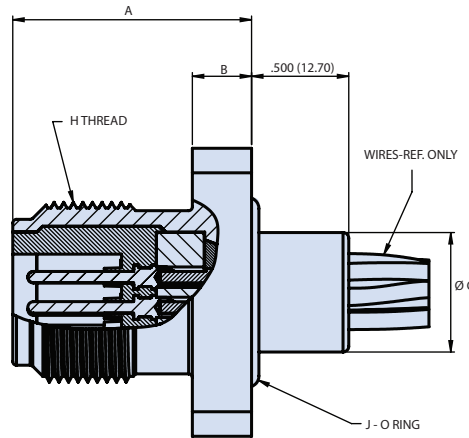
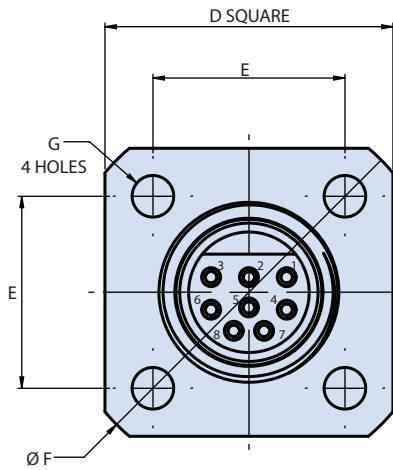


G55 06 flange connector receptacle (FCR)

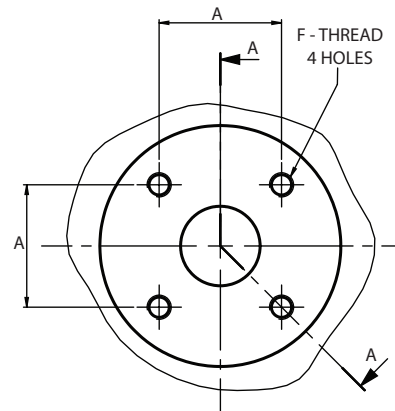


SuperG55™ FCR - How To Order					
Sample Part Number	G55	06	15	08	-0001
Series	SuperG55™ = Underwater dry-mate				
Connector Style	06 = Flange connector receptacle				
Shell Size	15, 20, 24				
Number of Contacts	See contact arrangements (page 23)				
Cable Length	In feet (0001 = 1 foot, 0002 = 2 feet, etc.)				

SUBSEA/ DEEPWATER: SUPERG55™



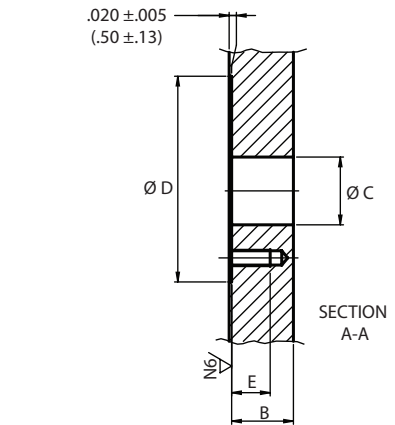
PANEL CUTOUT DIMENSIONS



Dimensions					
Shell Size	Dim A ±.010 (.26)	Dim B ±.015 (.39)	Dim C ±.002 (.05)	Dim D ±.005 (.13)	Dim E ±.002 (.05)
15	1.250 (31.75)	.314 (7.98)	.622 (15.80)	1.500 (38.10)	1.000 (25.4)
20	1.500 (38.10)	.374 (9.50)	.737 (18.73)	1.750 (44.45)	1.250 (31.75)
24	1.500 (38.10)	.374 (9.50)	.987 (25.08)	2.000 (50.80)	1.500 (38.10)

Dimensions (continued)				
Shell Size	Dim F ±.005 (.13)	Dim G +.004/-0 (+.10/-0)	H Thread	J - O Ring
15	1.949 (49.50)	.217 (5.50)	15/16"-20UNEF-2A	BS1806-116
20	2.299 (58.40)	.276 (7.00)	1 1/4"-9 STUB ACME	BS1806-118
24	2.626 (66.70)	.276 (7.00)	1 1/2"-9 STUB ACME	BS1806-122

Panel Mount Dimensions						
Shell Size	Dim A ±.004 (.10)	Dim B Min	Dim C ±.005 (.13)	Dim D ±.005 (.13)	E Thread Depth Typical	F - Thread
15	1.000 (25.40)	.525 (13.3)	.650 (16.50)	1.980 (50.30)	.315 (8.00)	M5 x 0.8-6H
20	1.250 (31.75)	.625 (15.88)	.770 (19.56)	2.33 (59.18)	.375 (9.52)	M6 x 1.0-6H
24	1.500 (38.10)	.625 (15.88)	1.020 (25.91)	2.655 (67.44)	.375 (9.52)	M6 x 1.0-6H



NOTES

- 1508 Pin configuration shown. Other pin configurations available
- All contacts / pin configurations suit 16 AWG wire



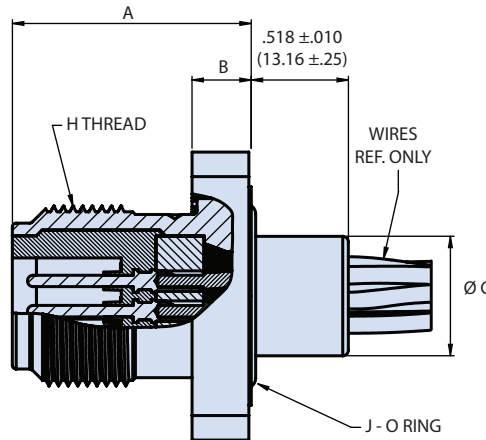
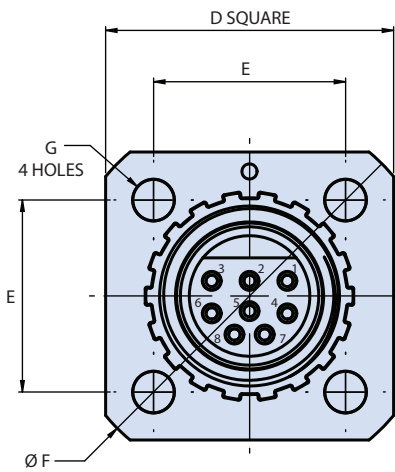
10K PSI / 700 BAR / 7000M SuperG55™ High-Pressure, Dry-Mate Subsea Connectors



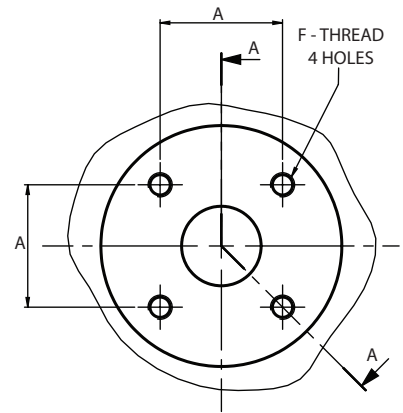
G55 06IF indexable flange connector receptacle (IFCR)



SuperG55™ IFCR - How To Order					
Sample Part Number	G55	06IF	15	03	-0001
Series	SuperG55™ = Underwater dry-mate				
Connector Style	06IF = Indexable flange receptacle connector				
Shell Size	15, 20, 24				
Number of Contacts	See contact arrangements (page 23)				
Cable Length	In feet (0001 = 1 foot, 0002 = 2 feet, etc.)				



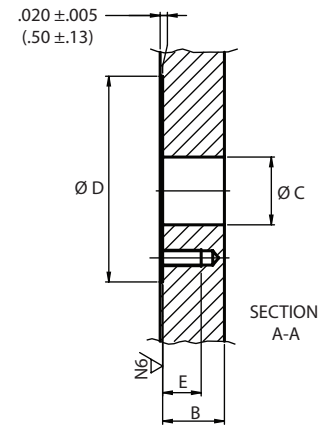
PANEL CUTOUT DIMENSIONS



Dimensions					
Shell Size	Dim A ±.007 (.18)	Dim B ±.002 (.05)	Dim C ±.002 (.05)	Dim D ±.005 (.13)	Dim E ±.002 (.05)
15	1.231 (31.27)	.296 (7.52)	.622 (15.80)	1.500 (38.10)	1.000 (25.40)
20	1.481 (37.62)	.355 (9.02)	.737 (18.73)	1.750 (44.45)	1.250 (31.75)
24	1.481 (37.62)	.355 (9.02)	.987 (25.08)	2.000 (50.80)	1.500 (38.10)

Dimensions (continued)				
Shell Size	Dim F ±.005 (.13)	Dim G +.004/-0 (+.10/-0)	H Thread	J O-Ring
15	1.949 (49.50)	.217 (5.50)	15/16"-20UNEF-2A	BS1806-116
20	2.299 (58.39)	.276 (7.00)	1 1/4"-9 STUB ACME	BS1806-118
24	2.626 (66.70)	.276 (7.00)	1 1/2"-9 STUB ACME	BS1806-122

Panel Mount Dimensions						
Shell Size	Dim A ±.004 (.10)	Dim B Min	Dim C ±.005 (.13)	Dim D ±.005 (.13)	E Thread Depth Typical	F - Thread
15	1.000 (25.40)	.525 (13.34)	.650 (16.51)	1.980 (50.29)	.315 (8.00)	M5 x 0.8-6h
20	1.250 (31.75)	.625 (15.88)	.770 (19.56)	2.33 (59.18)	.375 (9.52)	M6 x 1.0-6H
24	1.500 (38.10)	.625 (15.88)	1.020 (25.91)	2.655 (67.44)	.375 (9.52)	M6 x 1.0-6H



NOTES

- 1508 Pin configuration shown. Other pin configurations available
- All contacts / pin configurations suit 16 AWG wire

SUBSEA/DEEPWATER: SUPERG55™





10K PSI / 700 BAR / 7000M SuperG55™ High-Pressure, Dry-Mate Subsea Connectors

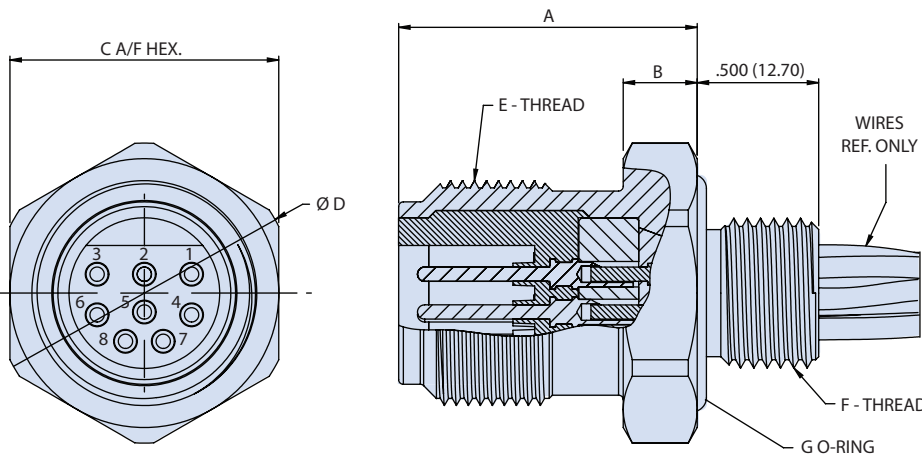


G55 07 bulkhead connector receptacle (BCR)

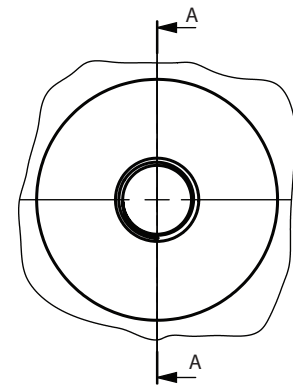


SuperG55™ BCR - How To Order					
Sample Part Number	G55	07	15	03	-0001
Series	SuperG55™ = Underwater Dry-Mate				
Connector Style	07 = Bulkhead connector receptacle				
Shell Size	15, 20, 24				
Number of Contacts	See contact arrangements (page 23)				
Cable Length	in feet (0001 = 1 foot, 0002 = 2 feet, etc.)				

SUBSEA/ DEEPWATER: SUPERG55™

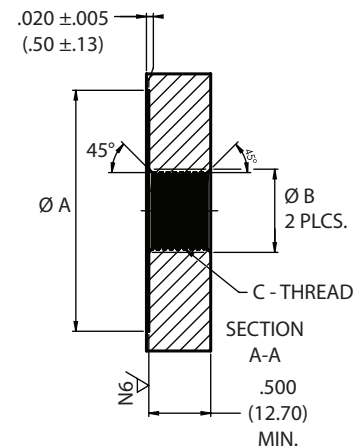


PANEL CUTOUT DIMENSIONS



Dimensions							
Shell Size	Dim A $\pm .010$ (.26)	Dim B $\pm .015$ (.39)	Dim C $\pm .005$ (.13)	Dim D $\pm .005$ (.13)	E - THREAD	F Thread	G - O RING
15	1.250 (31.75)	.314 (7.98)	1.120 (28.45)	1.250 (31.75)	15/16 - 20UNEF-02A	5/8"-UNF-2A	BS1806-116
20	1.500 (38.10)	.374 (9.50)	1.250 (31.75)	1.398 (35.51)	1 1/4"-9 STUB ACME	3/4"-16UNF-2A	BS1806-118
24	1.500 (38.10)	.374 (9.50)	1.500 (38.10)	1.700 (43.18)	1 1/2"-9 STUB ACME	1.000"-14UNS-2A	BS1806-122

Panel Mount Dimensions			
Shell Size	Dim A $\pm .005$ (.15)	Dim B $\pm .005$ (.13)	Dim C Thread
15	1.300 (33.02)	.680 (17.27)	5/8"-18UNF-28
20	1.440 (36.58)	.790 (20.07)	3/4"-16UNF-28
24	1.730 (43.94)	1.050 (26.67)	1.000"-14UNS-2B



NOTES

- 2008 Pin configuration shown. Other pin configurations available
- All contacts / pin configurations suit 16 AWG wire



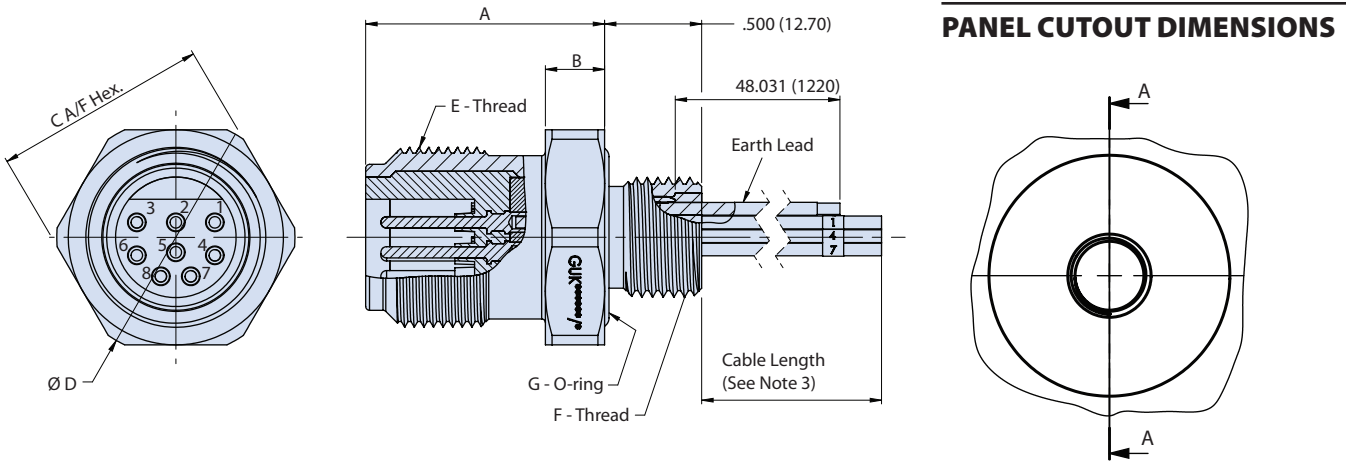
10K PSI / 700 BAR / 7000M SuperG55™ High-Pressure Subsea



G55 07 bulkhead connector receptacle with earth lead/ground pin (BCR-EL)



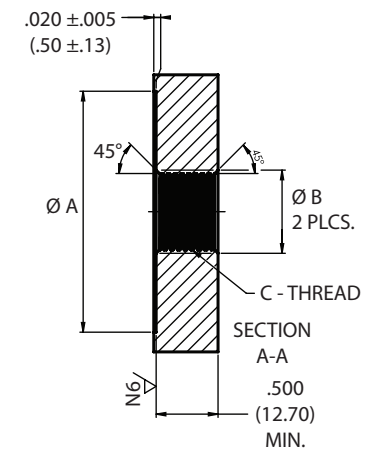
SuperG55™ BCR with Earth Lead - How To Order						
Sample Part Number	G55	07	15	08	-0001	EL
Series	SuperG55™ = Underwater dry-mate					
Connector Style	07 = Bulkhead connector receptacle					
Shell Size	15, 20, 24					
Number of Contacts	See contact arrangements (page 23)					
Cable Length	In feet (0001 = 1 foot, 0002 = 2 feet, etc.)					
Earth Lead	EL = Earth lead (ground pin)					



Dimensions							
Shell Size	Dim A 0.26 (0.010")	Dim B 0.39 (0.015")	Dim C .13 (0.005")	Dim D 0.13 (0.005")	E - Thread	F - Thread	G - O Ring
15	1.250 (31.75)	.314 (7.98)	1.120 (28.45)	1.250 (31.75)	15/16"-20 UNEF-2A	5/8"-18 UNF-2A	BS1806-116
20	1.500 (38.10)	.374 (9.50)	1.250 (31.75)	1.398 (35.51)	1 1/4"-9 STUB ACME	3/4"-16 UNF-2A	BS1806-118
24	1.500 (38.10)	.374 (9.50)	1.500 (38.10)	1.700 (43.18)	1 1/2"-9 STUB ACME	1.000"-14 UNS-2A	BS1806-122

NOTES

- 1508 Pin configuration shown. Other pin configurations available
- All contacts / pin configurations suit 16 AWG wire
- Cable length tolerance:
 - Length = ≤ 0.30M (1ft) tolerance = +25mm / -0mm (+1" / -0)
 - Length = 0.3M - 1.5M (1ft - 5ft) tolerance = +50mm / -0mm (+2" / -0)
 - Length = 1.5M - 3M (5ft - 10ft) tolerance = +100mm / -0mm (+4" / -0)
 - Length = 3M - 7.5M (10ft - 25ft) tolerance = +150mm / -0mm (+6" / -0)
 - Length = ≥ 7.5M (25ft) tolerance = +5% / -0mm



SUBSEA/DEEPWATER: SUPERG55™





10K PSI / 700 BAR / 7000M

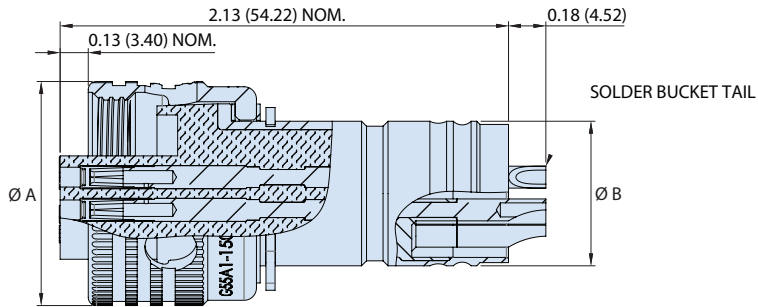
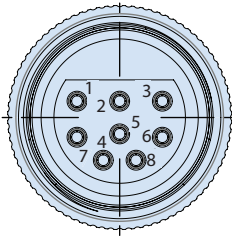
SuperG55™ High-Pressure Subsea



Attachable, G55 A1 cable connector plug (CCP-AT)



SuperG55™ CCP - How To Order					
Sample Part Number	G55	A1	15	03	-0001
Series	SuperG55™ = Underwater dry-mate				
Connector Style	A1 = Cable connector plug, attachable				
Shell Size	15, 20, 24				
Number of Contacts	See contact arrangements (page 23)				
Cable Length	In feet (0001 = 1 foot, 0002 = 2 feet, etc.)				



SUBSEA/ DEEPWATER: SUPERG55™

Dimensions			
Shell Size	Dim A ±.006 (.15)	Dim B ±.002 (.05)	Dim C ±.002 (.05)
15	1.070 (27.18)	.688 (17.48)	.681 (17.30)
20	1.450 (36.85)	1.093 (27.76)	1.073 (27.26)
24	1.700 (43.20)	1.312 (33.32)	1.288 (32.72)
32	2.350 (56.77)	1.811 (46.00)	1.783 (45.30)

NOTES

- 1508 Pin configuration shown. Other pin configurations available
- All contacts / pin configurations suit 16 AWG wire





10K PSI / 700 BAR / 7000M

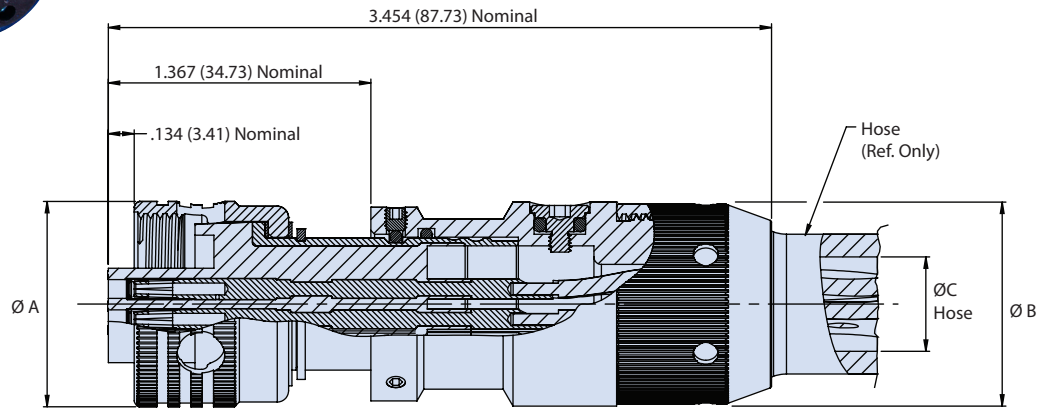
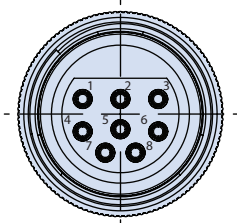
SuperG55™ High-Pressure Subsea



G55 OF1 oil filled straight cable connector plug with clamped hose (CCP-OF)



SuperG55™ CCP-OF - How To Order					
Sample Part Number	G55	OF1	15	03	-0001
Series	SuperG55™ = Underwater dry-mate				
Connector Style	OF1 = Oil filled cable connector plug				
Shell Size	15, 20, 24				
Number of Contacts	See contact arrangements (page 23)				
Cable Length	in feet (0001 = 1 foot, 0002 = 2 feet, etc.)				



Dimensions			
Shell Size	Dim A Nominal	Dim B ±.15 (.006)	Dim C ±.25 (.10)
15	1.070 (27.18)	1.063 (27.00)	.500 (12.70)
20	1.450 (36.85)	1.441 (36.60)	.750 (19.05)
24	1.700 (43.20)	1.687 (42.84)	.750 (19.05)

NOTES

- 1508 Pin configuration shown. Other pin configurations available
- All contacts / pin configurations suit 16 AWG wire

SUBSEA/DEEPWATER: SUPERG55™





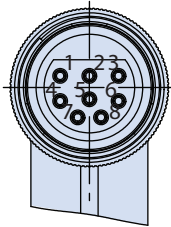
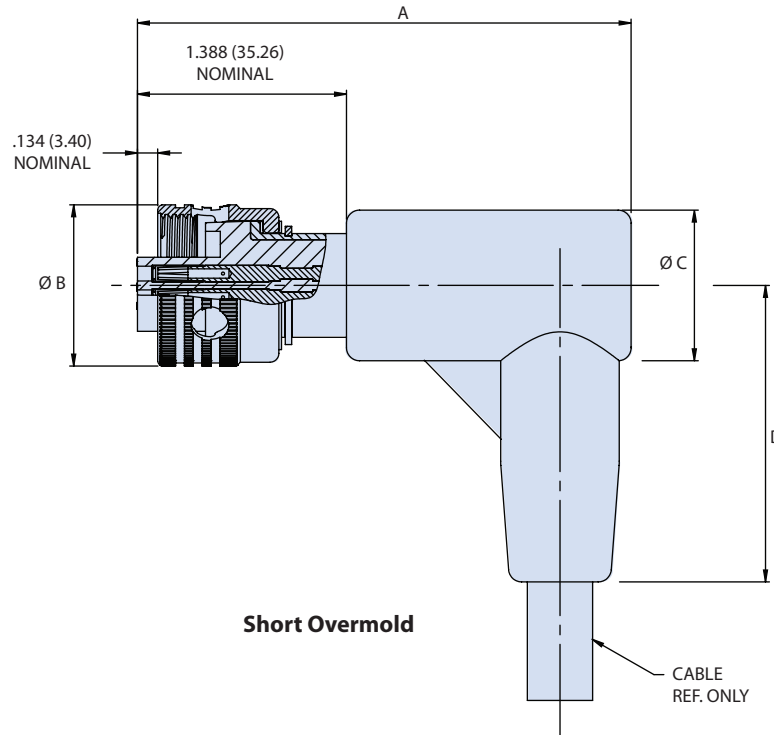
10K PSI / 700 BAR / 7000M
**SuperG55™ High-Pressure,
 Dry-Mate Subsea Connectors**



G55 R1 right angle cable connector plug



SuperG55™ CCP-RA- - How To Order					
Sample Part Number	G55	R1	15	03	-0001
Series	SuperG55™ = Underwater dry-mate				
Connector Style	R1 = Overmolded, right angle cable connector plug				
Shell Size	15, 20, 24				
Number of Contacts	See contact arrangements (page 23)				
Cable Length	in feet (0001 = 1 foot, 0002 = 2 feet, etc.)				



SUBSEA/ DEEPWATER: SUPERG55™

Dimensions				
Shell Size	Dim A Nominal	Dim B ±.15 (.006)	Dim C ±.25 (.10)	Dim D Nominal
15	3.278 (83.26)	1.070 (27.18)	1.00 (25.40)	1.968 (49.99)
20	3.518 (89.36)	1.450 (36.85)	1.380 (35.05)	2.759 (70.08)
24	3.778 (95.96)	1.700 (43.20)	1.640 (41.66)	3.179 (80.75)

NOTES

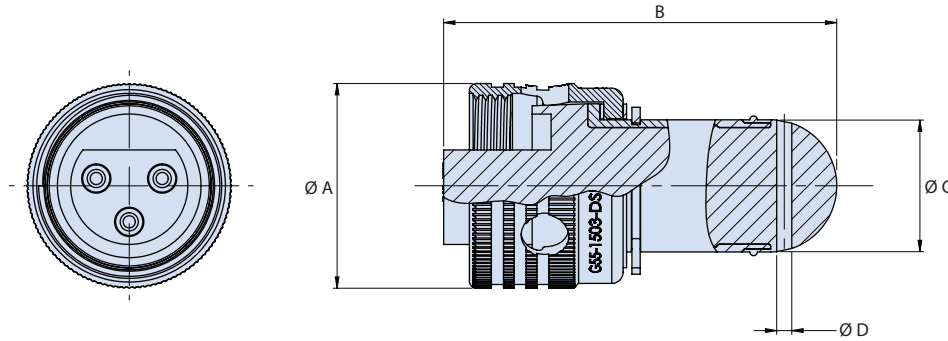
- 1508 Pin configuration shown. Other pin configurations available
- All contacts / pin configurations suit 16 AWG wire



10K PSI / 700 BAR / 7000M
**SuperG55™ High-Pressure,
 Dry-Mate Subsea Connectors**
 G55 receptacle cover



SuperG55™ Receptacle Cover - How To Order					
Sample Part Number	G55	D1	15	03	-0001
Series	SuperG55™ = Underwater dry-mate				
Connector Style	D1 = Receptacle cover				
Shell Size	15, 20, 24				
Number of Contacts	See contact arrangements (page 23)				
Cable Length	In feet (0001 = 1 foot, 0002 = 2 feet, etc.)				



Dimensions				
Contact Arrangement	Dim A ±.006 (.15)	Dim B Nominal	Dim C ±.010 (.25)	Dim D ±.005 (.13)
1503	1.070 (27.18)	2.047 (52.00)	0.688 (17.48)	.079 (2.00)
1508	1.070 (27.18)	2.047 (52.00)	0.688 (17.48)	.079 (2.00)
2008	1.450 (36.85)	2.244 (57.00)	1.093 (27.76)	.118 (3.00)
2013	1.450 (36.85)	2.244 (57.00)	1.093 (27.76)	.118 (3.00)
2021	1.450 (36.85)	2.244 (57.00)	1.093 (27.76)	.118 (3.00)
2412	1.700 (43.20)	2.362 (60.00)	1.312 (33.32)	.118 (3.00)

SUBSEA/DEEPWATER: SUPERG55™





**DOWN
HOLE**

MINIATURE HIGH-DENSITY

High Pressure / High Temperature Interconnects for Downhole LWD and MWD Applications

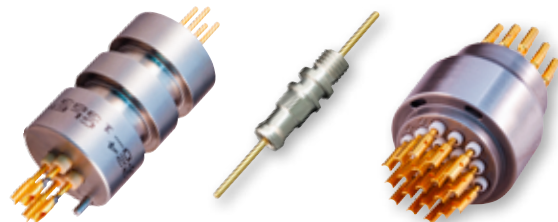
Small form-factor solutions tailored for harsh-environment geophysical downhole tooling applications—with high temperature tolerance and high pressure glass sealing



DOWNHOLE HIGH-TEMPERATURE / HIGH PRESSURE CONNECTORS



Well-Master® - Page 1



Penetrators/Feedthroughs - Page 18



SERIES GHTM WELL-MASTER 260° Downhole Micro-D Connector

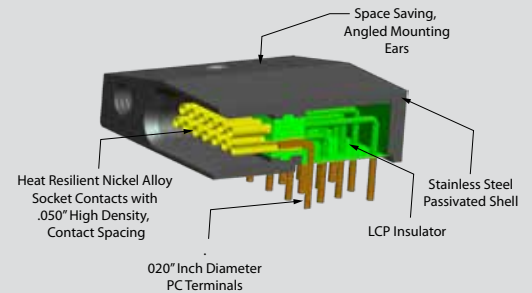


Product selection guide

REFERENCE INFORMATION

Materials, contact arrangements,
and performance specifications

pg. 2



GHTM PIN/PLUG OR SOCKET/RECEPTACLE CONNECTORS

Well-Master® 260° pre-wired connectors
with insulated, +260° C PTFE/Polyamide wire

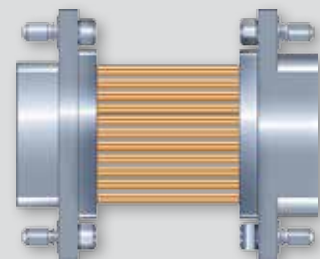
pg. 5



GHTM BACK-TO-BACK CONNECTORS

Well-Master® 260° cable assemblies available in plug-to-plug, receptacle-to-receptacle or plug-to-receptacle configurations. Made with +260° C PTFE/ Polyamide insulated wire

pg. 8



GHTM RIGHT ANGLE, PRINTED CIRCUIT BOARD

Well-Master® 260° right angle, printed circuit board connectors
with integral jackpost

pg. 11



DOWNHOLE: WELL-MASTER® 260°



DOWNHOLE: WELL-MASTER® 260°

HIGH-TEMPERATURE

Well-Master® 260°

The Micro-D connector for serious, high-temperature applications

Standard Micro-D connectors are rated for +125°C. Glenair's MWDM Micro-D can withstand +150°C continuous operating temperature and can be upgraded to +200°C if assembled with special high temperature epoxies. But oil, gas and geothermal wells can subject electronic instruments to temperatures as high as +260°C. The GHTM Series Micro-D meets the need for a high density, high performance connector capable of handling this temperature. The GHTM features contacts made from a special alloy that resists softening when exposed to temperatures up to +260°C (500° F). Rugged passivated stainless steel shells and hardware, high temperature liquid crystal polymer (LCP) insulators allow these connectors to survive the most demanding environments. Unique angled mounting ears allow the Well-Master™ 260° to fit in confined spaces.

- +260°C Operating Temperature
- Angled Mounting Ears to Fit in Small Diameter Instruments
- High Reliability TwistPin Contact System with Special High Temperature Alloy
- .050" Pitch Contact Spacing for Reduced Size
- Solder Cup, Pre-Wired or PCB

Well-Master^{260°}®



+260°C PCB Header



+260°C Cable Connector



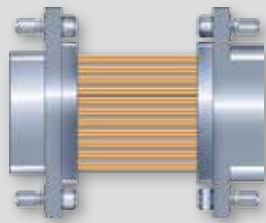
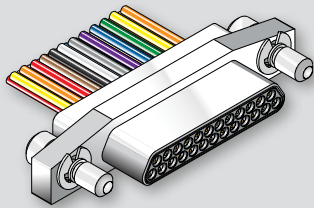
SERIES GHTM WELL-MASTER 260° Downhole Micro-D Connector



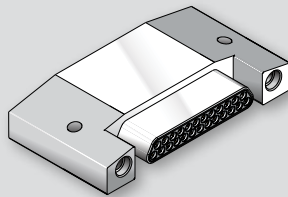
Reference information / contact arrangements

In addition to extreme high temperature tolerance, and demating resistance to vibration and shock, the Glenair Well-Master™ 260° Micro-D connector features unique shell packaging designed to conform with the cylindrical shape of instrument housings. Special angled mounting ears facilitate incorporation of the connector into available space, and the Micro-D's overall reduced size compared to other rectangular connector solutions allows for more efficient utilization.

High Temperature Micro-D with insulated Wire Pigtailed



High Temperature Back-to-Back Micro-D



High Temperature PCB Header



DOWNHOLE: WELL-MASTER® 260°

GHTM High Temperature Contact Arrangements (Pin Face View)

<p>1 2 3 4 5 6 7 8 9</p>	<p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15</p>	<p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21</p>	<p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25</p>
9	15	21	25
<p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31</p>		<p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37</p>	
31		37	
<p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51</p>			51

Mating face of pin connector. Socket connector contact numbers are reversed.





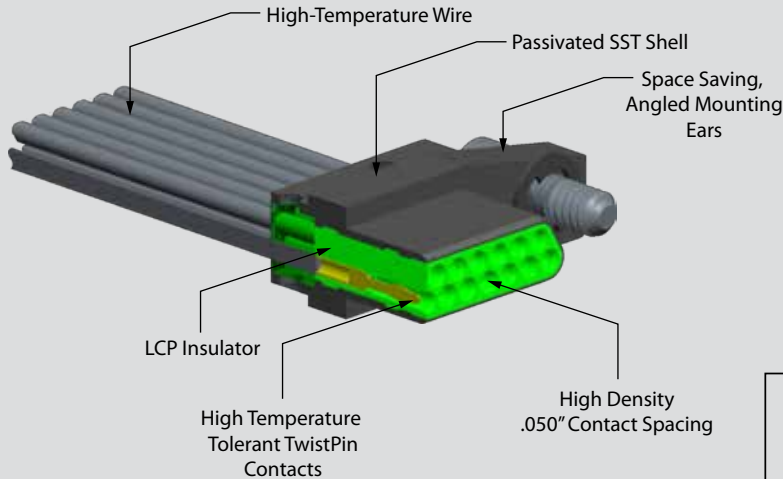
SERIES GHTM WELL-MASTER 260° Downhole Micro-D Connector



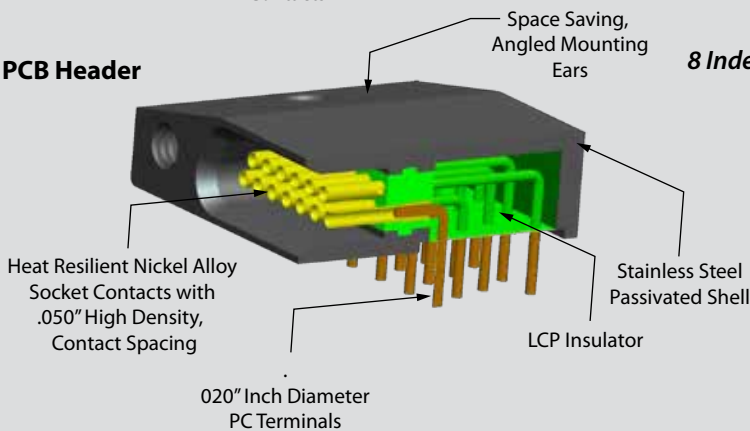
Materials and specifications

WELL-MASTER® 260° FEATURES

Cable Connector



PCB Header



What sets our pins apart

This unretouched photograph shows important differences between the TwistPin and stamped pins.

A Stronger Pin

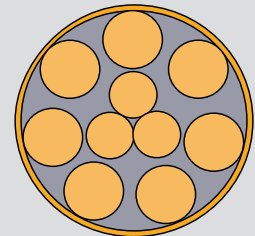
Both types of contacts meet the requirements of MIL-DTL-83513. But only the TwistPin offers a stronger pin with its seven points of contact, high normal force and better resistance to vibration.

"B" Crimp Spot Weld

8 Indent Mil Spec Crimp Joint

Seven Points of Electrical Contact

The TwistPin size #24 contact has seven strands of BeCu wire surrounding three filler strands. Each strand makes contact with the socket, assuring low resistance, plenty of contact wipe, and excellent shock and vibration performance.



A Better Crimp Joint

Micro-D connectors are factory-terminated to wire. Board mount and insulated wire pigtailed have crimp joints where the wire attaches to the contact. Micro-D GHTM crimp joints are encased with a LCP insulator. This design is unique among high reliability mil spec connectors because the mil spec allows

stamped crimp barrels and does not specify that the crimping process must use mil spec crimp tools. The thin sheet metal in the stamped pin cannot produce a satisfactory gas-tight crimp joint, so spot welding is required to reduce the chance of failure.

Materials and Finishes	
Contacts	Proprietary nickel alloy, gold plated
Insulators	Liquid crystal polymer (LCP)
Shell	Stainless steel, passivated
Mounting Hardware	Stainless Steel
Insulated Wire	Nickel-coated copper, PTFE insulation per M22759/87 (260°C)

Specifications	
Current Rating	3 Amps
Contact Resistance	8 milliohms maximum
Dielectric Withstanding Voltage	600 Vac sea level
Insulation Resistance	5000 megohms minimum
Operating Temperature	-55° C. to +260° C.
Shock	50 g.
Vibration	20 g.

DOWNHOLE: WELL-MASTER® 260°



SERIES GHTM WELL-MASTER 260° Downhole Micro-D Connector



Insulated wire connector
with pin or socket contacts

GHTM PRE-WIRED CONNECTORS WITH +260°C MIL SPEC PTFE/POLYIMIDE WIRE



GHTM Well-Master™ 260° pre-wired Micro-D connectors withstand +260°C continuous operating temperature. These .050" pitch Micro-D connectors are terminated to #24 AWG insulated wire. Nickel-coated copper wire conforms to M22759/87, PTFE/polyimide insulation. Pin contacts are gold-plated high performance twistpin type and are recessed into insulator to prevent damage. Special nickel alloy contact material resists softening in high heat. Machined passivated stainless steel shell. Glass-filled high temperature LCP thermoplastic insulators. 100% hi-pot tested. Meets performance requirements of MIL-DTL-83513. Available with 9 to 51 contacts. 3 A., 600 Vac, -55°C to +260°C.

How To Order	
Sample Part Number	GHTM -31 S -4 T 1 -18 B
Series	GHTM Glenair High Temperature Micro
Shell Size	9, 15, 21, 25, 31, 37, 51 See Table II for Thru-Hole and Jackscrew Connector Dimensions and Table III for Integral Jackpost Connector Dimensions
Contact Type	P - Pin/Plug S - Socket/Receptacle
Wire Gage (AWG)	4 - #24
Wire Type	T - PTFE/Polyimide Insulated Nickel Coated Copper
Wire Color	1 - White
Wire Length (Inches)	18 - Wire Length In Inches. "18" Specifies 18 Inches.
Mounting Hardware	B - Std. Thru-Hole (Ø.089/.095) M - Hex Head Jackscrew S - Slot Head Jackscrew P - Integral Jackpost See Mounting Hardware Table

GHTM Mounting Hardware		
B Std. Thru-Hole Mounting .096/.088 (2.43/2.23) Dia. (For dimensions see Table II)	M and S #2-56 Jackscrews Slot head (S), Hex Head (M) (For dimensions see Table II)	P Integral Jackpost #2-56 (For dimensions see Table III)
Pin	Pin	Pin
Socket	Socket	Socket

DOWNHOLE: WELL-MASTER® 260°



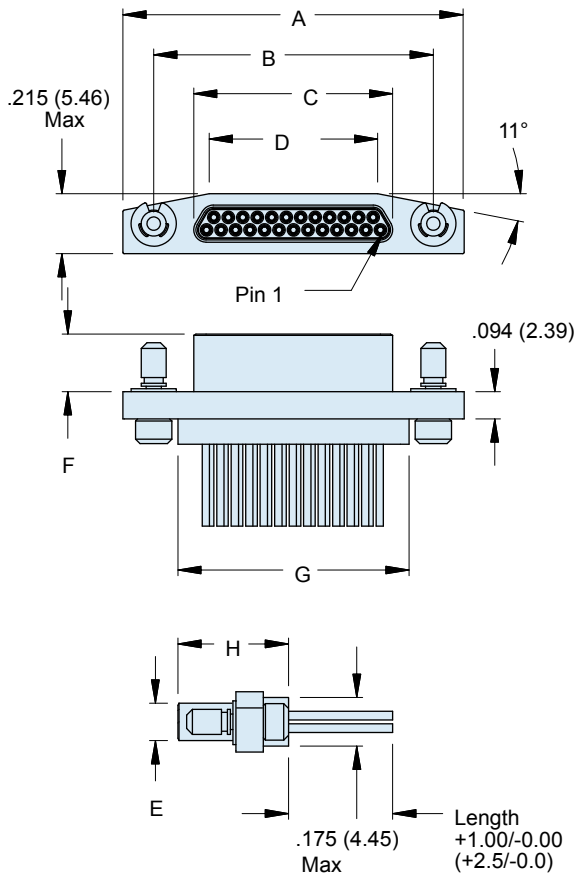


SERIES GHTM WELL-MASTER 260° Downhole Micro-D Connector

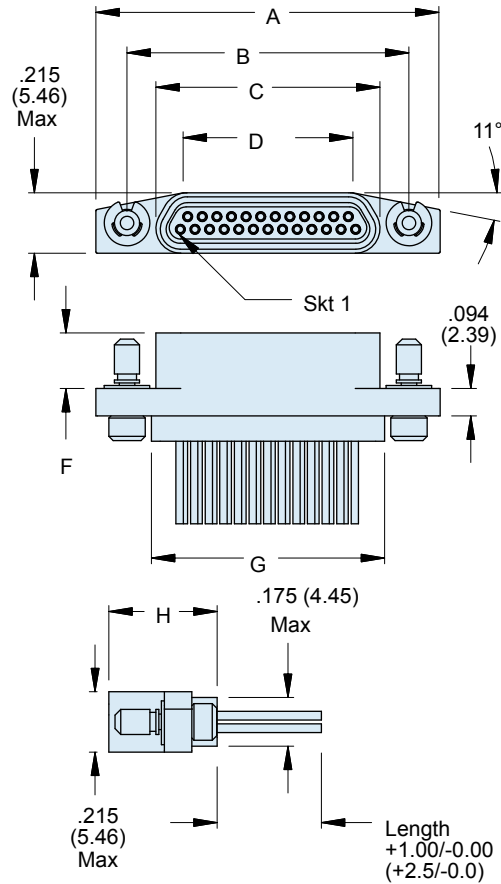


Well-Master Insulated wire plug (pin) or receptacle (socket) connector, thru-hole or jackscrew - dimensions

Pin (Plug) Connector



Socket (Receptacle) Connector



DOWNHOLE: WELL-MASTER® 260°

GHTM Insulated Pre-Wired Dimensions for Thru-Hole or Jackscrew Version

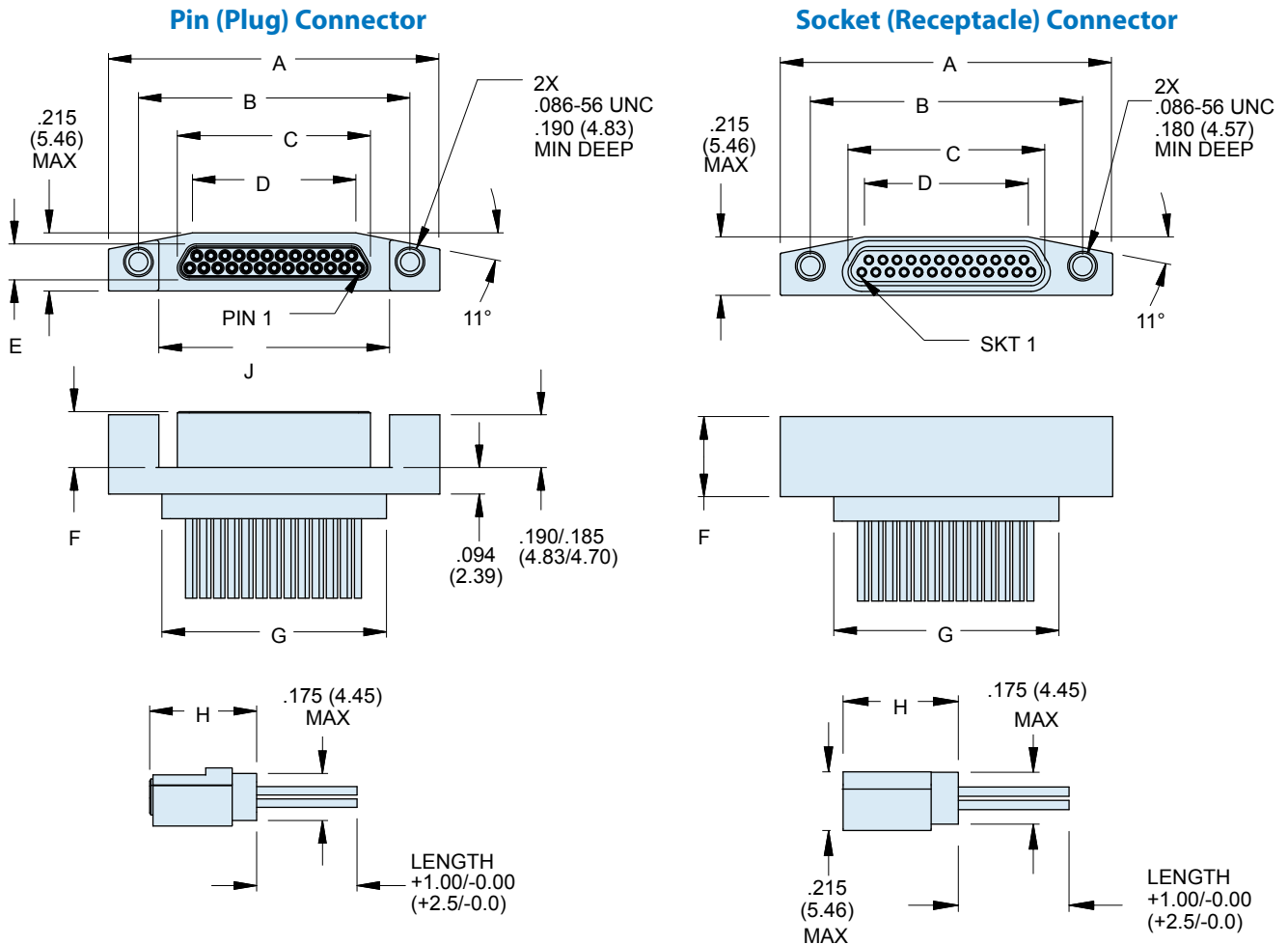
Layout	A Max.	B ± .003 (.08)	C Max.	D	E Max.	F ± .003 (.08)	G Max.	H Max.
9P	.785 (19.94)	.565 (14.35)	.290 (7.37)	.181 (4.60)	.131 (3.33)	.199 (5.05)	.405 (10.29)	.390 (9.91)
9S	.785 (19.94)	.565 (14.35)	.371 (9.42)	.181 (4.60)	.215 (5.46)	.191 (4.85)	.405 (10.29)	.377 (9.58)
15P	.935 (23.75)	.715 (18.16)	.440 (11.18)	.331 (8.41)	.131 (3.33)	.199 (5.05)	.555 (14.10)	.390 (9.91)
15S	.935 (23.75)	.715 (18.16)	.521 (13.23)	.331 (8.41)	.215 (5.46)	.191 (4.85)	.555 (14.10)	.377 (9.58)
21P	1.085 (27.56)	.865 (21.97)	.590 (14.99)	.481 (12.22)	.131 (3.33)	.199 (5.05)	.705 (17.91)	.390 (9.91)
21S	1.085 (27.56)	.865 (21.97)	.671 (17.04)	.481 (12.22)	.215 (5.46)	.191 (4.85)	.705 (17.91)	.377 (9.58)
25P	1.185 (30.10)	.965 (24.51)	.690 (17.53)	.581 (14.76)	.131 (3.33)	.199 (5.05)	.805 (20.45)	.390 (9.91)
25S	1.185 (30.10)	.965 (24.51)	.771 (19.58)	.581 (14.76)	.215 (5.46)	.191 (4.85)	.805 (20.45)	.377 (9.58)
31P	1.335 (33.91)	1.115 (28.32)	.840 (21.34)	.731 (18.57)	.131 (3.33)	.199 (5.05)	.955 (24.26)	.390 (9.91)
31S	1.335 (33.91)	1.115	.921 (23.39)	.731 (18.57)	.215 (5.46)	.191 (4.85)	.955 (24.26)	.377 (9.58)
37P	1.485 (37.72)	1.265 (32.13)	.990 (25.15)	.881 (22.38)	.131 (3.33)	.199 (5.05)	1.105 (28.07)	.390 (9.91)
37S	1.485 (37.72)	1.265 (32.13)	1.071 (27.20)	.881 (22.38)	.215 (5.46)	.191 (4.85)	1.105 (28.07)	.377 (9.58)
51P	1.435 (36.45)	1.215 (30.86)	.940 (23.88)	.831 (21.11)	.178 (4.52)	.195 (4.95)	1.055 (26.80)	.350 (8.89)
51S	1.435 (36.45)	1.215 (30.86)	.951 (24.16)	.831 (21.11)	186 (4724.40)	.274 (6.96)	1.055 (26.80)	.377 (9.58)



SERIES GHTM WELL-MASTER 260° Downhole Micro-D Connector



Well-Master Insulated wire plug (pin) or receptacle (socket) connector, integral jackpost - dimensions



GHTM Insulated Pre-Wired Dimensions for Integral Jackpost Version

Layout	A Max.	B ± .003 (.08)	C Max.	D	E Max.	F ± .003 (.08)	G Max.	H Max.	J
9P	.785 (19.94)	.565 (14.35)	.290 (7.37)	.181 (4.60)	.131 (3.33)	.199 (5.05)	.405 (10.29)	.390 (9.91)	.420 (10.67)
9S	.785 (19.94)	.565 (14.35)	.301 (7.65)	.181 (4.60)	.215 (5.46)	.274 (6.96)	.405 (10.29)	.377 (9.58)	N/A
15P	.935 (23.75)	.715 (18.16)	.440 (11.18)	.331 (8.41)	.131 (3.33)	.199 (5.05)	.555 (14.10)	.390 (9.91)	.570 (14.48)
15S	.935 (23.75)	.715 (18.16)	.451 (11.46)	.331 (8.41)	.215 (5.46)	.274 (6.96)	.555 (14.10)	.377 (9.58)	N/A
21P	1.085 (27.56)	.865 (21.97)	.590 (14.99)	.481 (12.22)	.131 (3.33)	.199 (5.05)	.705 (17.91)	.390 (9.91)	.720 (18.29)
21S	1.085 (27.56)	.865 (21.97)	.601 (15.27)	.481 (12.22)	.215 (5.46)	.274 (6.96)	.705 (17.91)	.377 (9.58)	N/A
25P	1.185 (30.10)	.965 (24.51)	.690 (17.53)	.581 (14.76)	.131 (3.33)	.199 (5.05)	.805 (20.45)	.390 (9.91)	.820 (20.83)
25S	1.185 (30.10)	.965 (24.51)	.701 (17.81)	.581 (14.76)	.215 (5.46)	.274 (6.96)	.805 (20.45)	.377 (9.58)	N/A
31P	1.335 (33.91)	1.115 (28.32)	.840 (21.34)	.731 (18.57)	.131 (3.33)	.199 (5.05)	.955 (24.26)	.390 (9.91)	.970 (24.64)
31S	1.335 (33.91)	1.115 (28.32)	.851 (21.62)	.731 (18.57)	.215 (5.46)	.274 (6.96)	.955 (24.26)	.377 (9.58)	N/A
37P	1.485 (37.72)	1.265 (32.13)	.990 (25.15)	.881 (22.38)	.131 (3.33)	.199 (5.05)	1.11 (28.19)	.390 (9.91)	1.120 (28.45)
37S	1.485 (37.72)	1.265 (32.13)	1.001 (25.43)	.881 (22.38)	.215 (5.46)	.274 (6.96)	1.11 (28.19)	.377 (9.58)	N/A
51P	1.435 (36.45)	1.215 (30.86)	.940 (23.88)	.831 (21.11)	.178 (4.52)	.195 (4.95)	1.06 (26.92)	.350 (8.89)	1.07 (27.18)
51S	1.435 (36.45)	1.215 (30.86)	.951 (24.16)	.831 (21.11)	.186 (4.72)	.274 (6.96)	1.06 (26.92)	.377 (9.58)	N/A

DOWNHOLE: WELL-MASTER® 260°



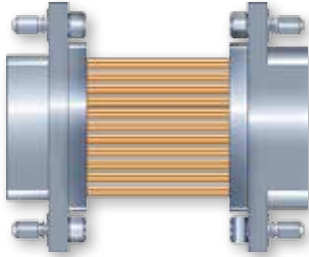


SERIES GHTM WELL-MASTER 260° Downhole Micro-D Connector

Back-to-back cable assemblies



GHTM BACK-TO-BACK CONNECTORS WITH +260°C MIL SPEC PTFE/POLYIMIDE WIRE



GHTM Well-Master® 260° back-to-back Micro-D cable assemblies withstand +260°C continuous operating temperature. These .050" pitch Micro-D connectors are terminated to #24 AWG insulated wire. Nickel-coated copper wire conforms to M22759/87, PTFE/polyimide insulation. Pin contacts are gold-plated high performance twistpin type and are recessed into insulator to prevent damage. Special nickel alloy contact material resists softening in high heat. Machined passivated stainless steel shell. Glass-filled high temperature LCP thermoplastic insulators. Meets performance requirements of MIL-DTL-83513. Available with 9 to 51 contacts. 3 A., 600 Vac, -55°C to +260°C.

DOWNHOLE: WELL-MASTER® 260°

How To Order	
Sample Part Number	GHTM -31 GS -6 T 1 -18 B
Series	GHTM Glenair High Temperature Micro-D
Shell Size	9, 15, 21, 25, 31, 37, 51 See Thru-Hole and Jackscrew Dimensions Table or Integral Jackpost Dimensions Table
Contact Type	GP - Pin Connector Both Ends GS - Socket Connector Both Ends CS - Pin Connector to Socket Connector
Wire Gage (AWG)	4 - #24
Wire Type	T - PTFE/Polyimide Insulated Nickel Coated Copper
Wire Color	1 - White
Wire Length (Inches)	18 - Wire length in Inche (2" minimum for 2 rows, 3" minimum for 3 rows)
Mounting Hardware	B - Std. Thru-Hole M - Hex Head Jackscrew S - Slot Head Jackscrew P - Integral Jackpost (See Mounting Hardware Table)

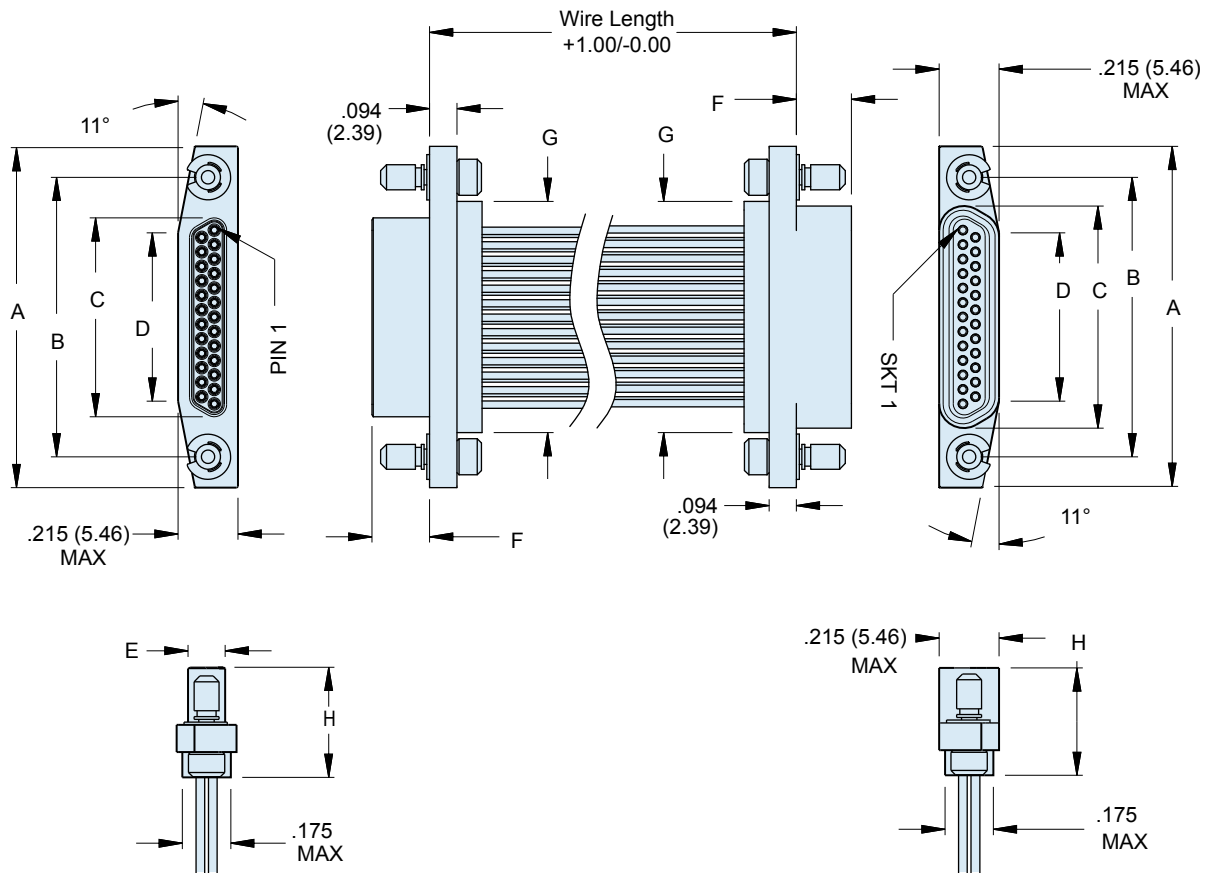
GHTM Mounting Hardware		
B Std. Thru-Hole Mounting .096/.088 (2.43/2.23) Dia. (For dimensions see Table II)	M and S #2-56 Jackscrews Slot head (S), Hex Head (M) (For dimensions see Table II)	P Integral Jackpost #2-56 (For dimensions see Table III)
Pin	Pin	Pin
Socket	Socket	Socket



SERIES GHTM WELL-MASTER 260° Downhole Micro-D Connector



Back-to-back cable assemblies, thru-hole and jackscrew - dimensions



GHTM Back-To-Back Dimensions for Thru-Hole and Jackscrew Versions

Shell Size	A Max.	B ±.003 (±.08)	C Max.	D	E Max.	F ±.003 (±.08)	G Max.	H Max.
9P	.785 (19.94)	.565 (14.35)	.290 (7.37)	.181 (4.60)	.131 (3.33)	.199 (5.05)	.405 (10.29)	.390 (9.91)
9S	.785 (19.94)	.565 (14.35)	.371 (9.42)	.181 (4.60)	.215 (5.46)	.191 (4.85)	.405 (10.29)	.377 (9.58)
15P	.935 (23.75)	.715 (18.16)	.440 (11.18)	.331 (8.41)	.131 (3.33)	.199 (5.05)	.555 (14.10)	.390 (9.91)
15S	.935 (23.75)	.715 (18.16)	.521 (13.23)	.331 (8.41)	.215 (5.46)	.191 (4.85)	.555 (14.10)	.377 (9.58)
21P	1.085 (27.56)	.865 (21.97)	.590 (14.99)	.481 (12.22)	.131 (3.33)	.199 (5.05)	.705 (17.91)	.390 (9.91)
21S	1.085 (27.56)	.865 (21.97)	.671 (17.04)	.481 (12.22)	.215 (5.46)	.191 (4.85)	.705 (17.91)	.377 (9.58)
25P	1.185 (30.10)	.965 (24.51)	.690 (17.53)	.581 (14.76)	.131 (3.33)	.199 (5.05)	.805 (20.45)	.390 (9.91)
25S	1.185 (30.10)	.965 (24.51)	.771 (19.58)	.581 (14.76)	.215 (5.46)	.191 (4.85)	.805 (20.45)	.377 (9.58)
31P	1.335 (33.91)	1.115 (28.32)	.840 (21.34)	.731 (18.57)	.131 (3.33)	.199 (5.05)	.955 (24.26)	.390 (9.91)
31S	1.335 (33.91)	1.115 (28.32)	.921 (23.39)	.731 (18.57)	.215 (5.46)	.191 (4.85)	.955 (24.26)	.377 (9.58)
37P	1.485 (37.72)	1.265 (32.13)	.990 (25.15)	.881 (22.38)	.131 (3.33)	.199 (5.05)	1.105 (28.07)	.390 (9.91)
37S	1.485 (37.72)	1.265 (32.13)	1.071 (27.20)	.881 (22.38)	.215 (5.46)	.191 (4.85)	1.105 (28.07)	.377 (9.58)
51P	1.435 (36.45)	1.215 (30.86)	.940 (23.88)	.831 (21.11)	.178 (4.52)	.195 (4.95)	1.055 (26.80)	.350 (8.89)
51S	1.435 (36.45)	1.215 (30.86)	.951 (24.16)	.831 (21.11)	.186 (4.72)	.274 (6.96)	1.055 (26.80)	.377 (9.58)

DOWNHOLE: WELL-MASTER® 260°

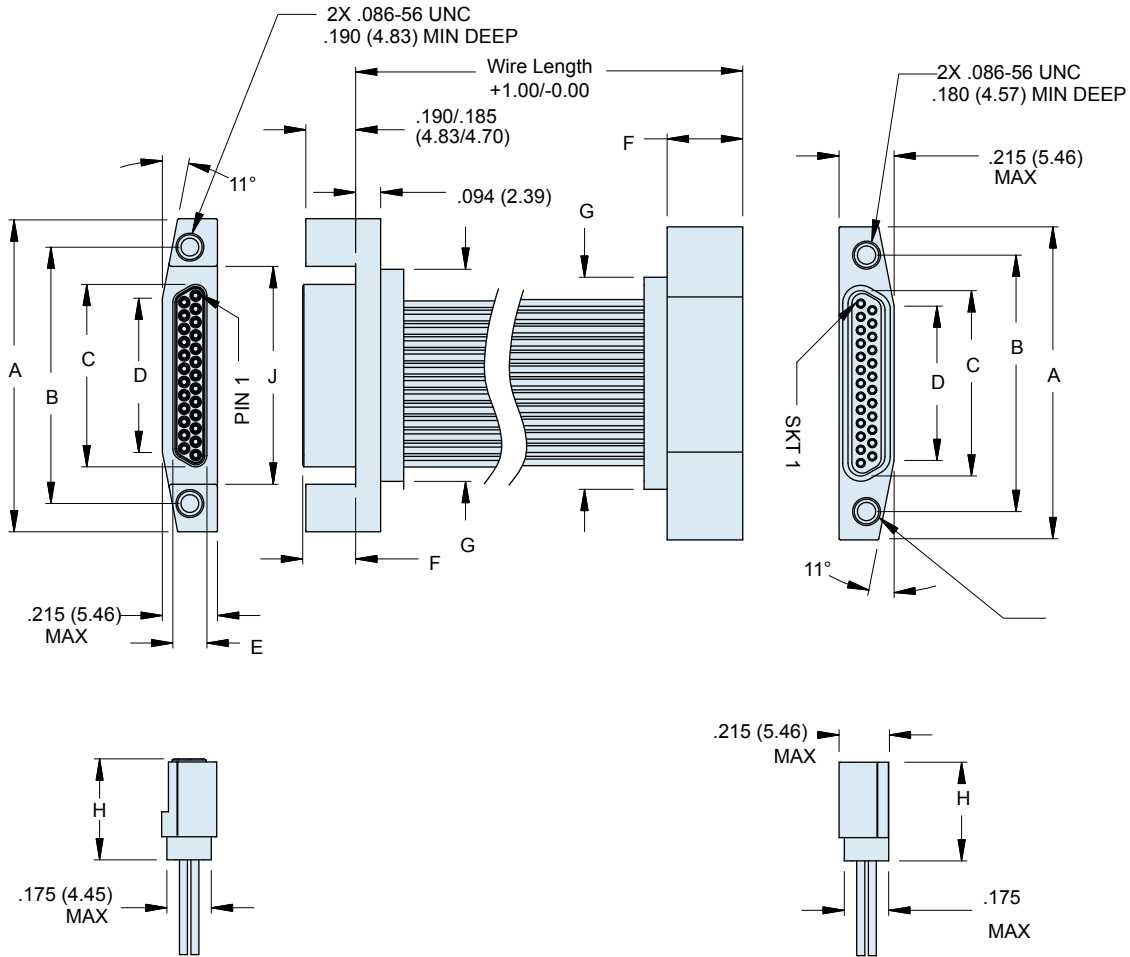




SERIES GHTM WELL-MASTER 260° Downhole Micro-D Connector



Well-Master Back-to-back cable assemblies, integral jackpost dimensions



DOWNHOLE: WELL-MASTER® 260°

GHTM Back-To-Back Dimensions for Integral Jackpost Versions

Layout	A Max.	B ± .003 (±.08)	C Max.	D	E Max.	F ± .003 (±.08)	G Max.	H Max.	J
9P	.785 (19.94)	.565 (14.35)	.290 (7.37)	.181 (4.60)	.131 (3.33)	.199 (5.05)	.405 (10.29)	.390 (9.91)	.420 (10.67)
9S	.785 (19.94)	.565 (14.35)	.301 (7.65)	.181 (4.60)	.215 (5.46)	.274 (6.96)	.405 (10.29)	.377 (9.58)	N/A
15P	.935 (23.75)	.715 (18.16)	.440 (11.18)	.331 (8.41)	.131 (3.33)	.199 (5.05)	.555 (14.10)	.390 (9.91)	.570 (14.48)
15S	.935 (23.75)	.715 (18.16)	.451 (11.46)	.331 (8.41)	.215 (5.46)	.274 (6.96)	.555 (14.10)	.377 (9.58)	N/A
21P	1.085 (27.56)	.865 (21.97)	.590 (14.99)	.481 (12.22)	.131 (3.33)	.199 (5.05)	.705 (17.91)	.390 (9.91)	.720 (18.29)
21S	1.085 (27.56)	.865 (21.97)	.601 (15.27)	.481 (12.22)	.215 (5.46)	.274 (6.96)	.705 (17.91)	.377 (9.58)	N/A
25P	1.185 (30.10)	.965 (24.51)	.690 (17.53)	.581 (14.76)	.131 (3.33)	.199 (5.05)	.805 (20.45)	.390 (9.91)	.820 (20.83)
25S	1.185 (30.10)	.965 (24.51)	.701 (17.81)	.581 (14.76)	.215 (5.46)	.274 (6.96)	.805 (20.45)	.377 (9.58)	N/A
31P	1.335 (33.91)	1.115 (28.32)	.840 (21.34)	.731 (18.57)	.131 (3.33)	.199 (5.05)	.955 (24.26)	.390 (9.91)	.970 (24.64)
31S	1.335 (33.91)	1.115 (28.32)	.851 (21.62)	.731 (18.57)	.215 (5.46)	.274 (6.96)	.955 (24.26)	.377 (9.58)	N/A
37P	1.485 (37.72)	1.265 (32.13)	.990 (25.15)	.881 (22.38)	.131 (3.33)	.199 (5.05)	1.105 (28.07)	.390 (9.91)	1.120 (28.45)
37S	1.485 (37.72)	1.265 (32.13)	1.001 (25.43)	.881 (22.38)	.215 (5.46)	.274 (6.96)	1.105 (28.07)	.377 (9.58)	N/A
51P	1.435 (36.45)	1.215 (30.86)	.940 (23.88)	.831 (21.11)	.178 (4.52)	.195 (4.95)	1.055 (26.80)	.350 (8.89)	1.07 (27.18)
51S	1.435 (36.45)	1.215 (30.86)	.951 (24.16)	.831 (21.11)	.186 (4.72)	.274 (6.96)	1.055 (26.80)	.377 (9.58)	N/A



SERIES GHTM WELL-MASTER 260° Downhole Micro-D Connector



GHTM right angle printed circuit board headers

GHTM RIGHT ANGLE PRINTED CIRCUIT BOARD HEADERS



GHTM Well-Master® 260° right angle PCB Micro-D connectors withstand +260°C continuous operating temperature. These .050" pitch Micro-D connectors have .020 inch diameter (0.51mm) gold-plated PC terminals. Terminal spacing is .100 inch by .075 inch (2.54 by 1.91mm). Pin contacts are gold-plated high performance twistpin type and are recessed into insulator to prevent damage. Special nickel alloy contact material resists softening in high heat. Machined passivated stainless steel shell with integral jackpost. Glass-filled high temperature LCP thermoplastic insulators to withstand soldering heat. Meets performance requirements of MIL-DTL-83513. Available with 9 to 51 contacts. 3 A., 600 Vac, -55°C to +260°C.

How To Order						
Sample Part Number		GHTM	-25	P	RA	P -110
Series	GHTM Glenair High Temperature Micro-D					
Shell Size	9, 15, 21, 25, 31, 37, 51 See the Thru-Hole and Jackscrew Dimensions Table or Integral Jackpost Dimensions Table					
Gender	P = Pin/Plug S = Socket/Receptacle					
Termination Type	RA = Right Angle Board Mount					
Mounting Hardware	P - Integral Jackpost; See Mounting Hardware Table					
Terminal Length	All lengths ±.015 (.38) .080, .110, .125, .140, .150, .175, .190, .205					

Dimensions for Plug (Pin) Connector								
Layout	A Max.	B ± .003	C Max.	D	E Max.	F Max.	G	H Max.
9P	.785 (19.94)	.565 (14.35)	.290 (7.37)	.181 (4.60)	.134 (3.40)	.648 (16.46)	.420 (10.67)	.215 (5.46)
15P	.935 (23.75)	.715 (18.16)	.440 (11.18)	.331 (8.41)	.134 (3.40)	.648 (16.46)	.570 (14.48)	.215 (5.46)
21P	1.085 (27.56)	.865 (21.97)	.590 (14.99)	.481 (12.22)	.134 (3.40)	.648 (16.46)	.720 (18.29)	.215 (5.46)
25P	1.185 (30.10)	.965 (24.51)	.690 (17.53)	.581 (14.76)	.134 (3.40)	.648 (16.46)	.820 (20.83)	.215 (5.46)
31P	1.335 (33.91)	1.115 (28.32)	.840 (21.34)	.731 (18.57)	.134 (3.40)	.648 (16.46)	.970 (24.64)	.215 (5.46)
37P	1.485 (37.72)	1.265 (32.13)	.990 (25.15)	.881 (22.38)	.134 (3.40)	.648 (16.46)	1.120 (28.45)	.215 (5.46)
51P	1.435 (36.45)	1.215 (30.86)	.940 (23.88)	.831 (21.11)	.178 (4.52)	.798 (20.27)	1.07 (27.18)	.258 (6.55)

Dimensions for Receptacle (Socket) Connector							
Layout	A Max.	B ± .003	C Max.	D	E Max.	F Max.	G
9S	.785 (19.94)	.565 (14.35)	.301 (7.65)	.181 (4.60)	.142 (3.61)	.629 (15.98)	.215 (5.46)
15S	.935 (23.75)	.715 (18.16)	.451 (11.46)	.331 (8.41)	.142 (3.61)	.629 (15.98)	.215 (5.46)
21S	1.085 (27.56)	.865 (21.97)	.601 (15.27)	.481 (12.22)	.142 (3.61)	.629 (15.98)	.215 (5.46)
25S	1.185 (30.10)	.965 (24.51)	.701 (17.81)	.581 (14.76)	.142 (3.61)	.629 (15.98)	.215 (5.46)
31S	1.335 (33.91)	1.115 (28.32)	.851 (21.62)	.731 (18.57)	.142 (3.61)	.629 (15.98)	.215 (5.46)
37S	1.485 (37.72)	1.265 (32.13)	1.001 (25.43)	.881 (22.38)	.142 (3.61)	.629 (15.98)	.215 (5.46)
51S	1.435 (36.45)	1.215 (30.86)	.951 (24.16)	.831 (21.11)	.186 (4.72)	.779 (19.79)	.258 (6.55)

DOWNHOLE: WELL-MASTER® 260°



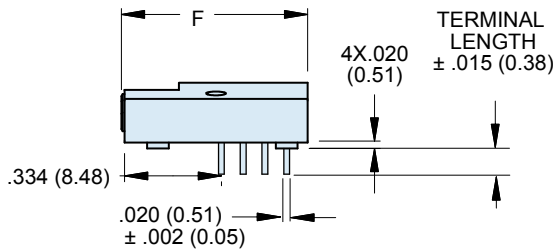


SERIES GHTM WELL-MASTER 260° Downhole Micro-D Connector

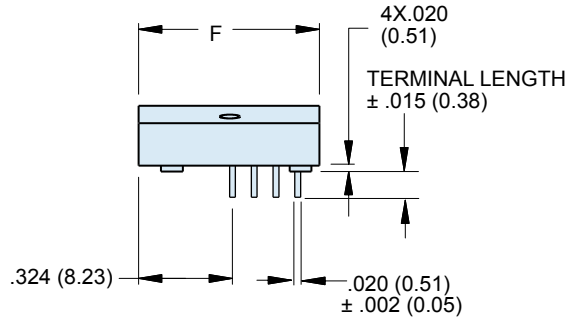


GHTM right angle printed circuit board Well-Master header, plug and receptacle - dimensions

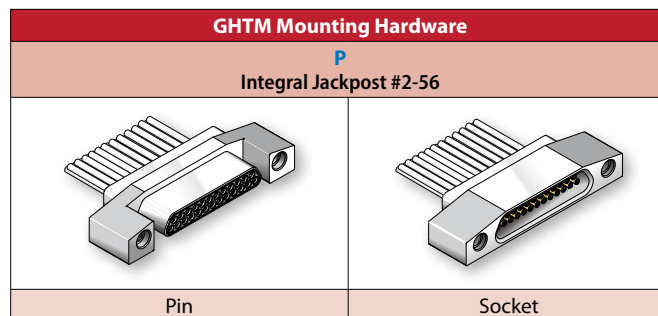
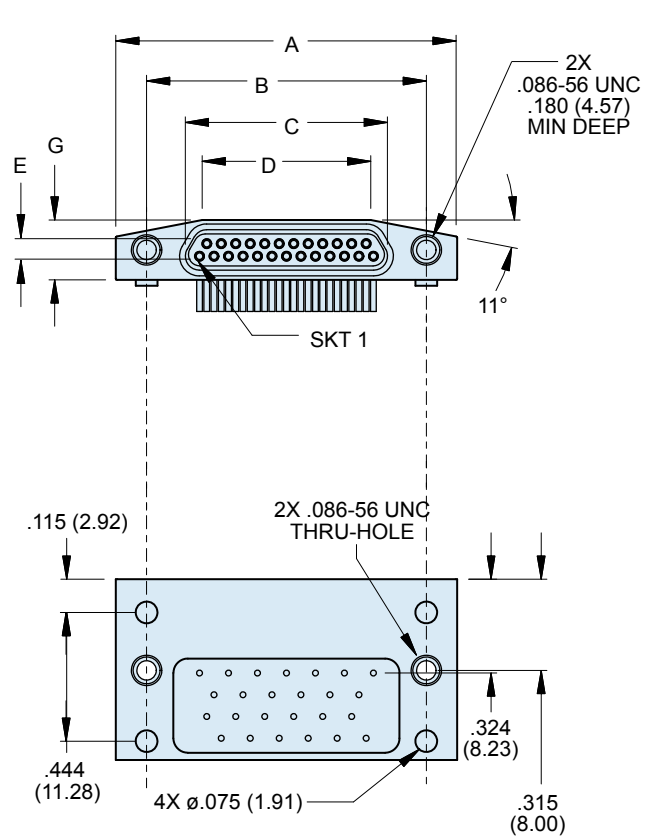
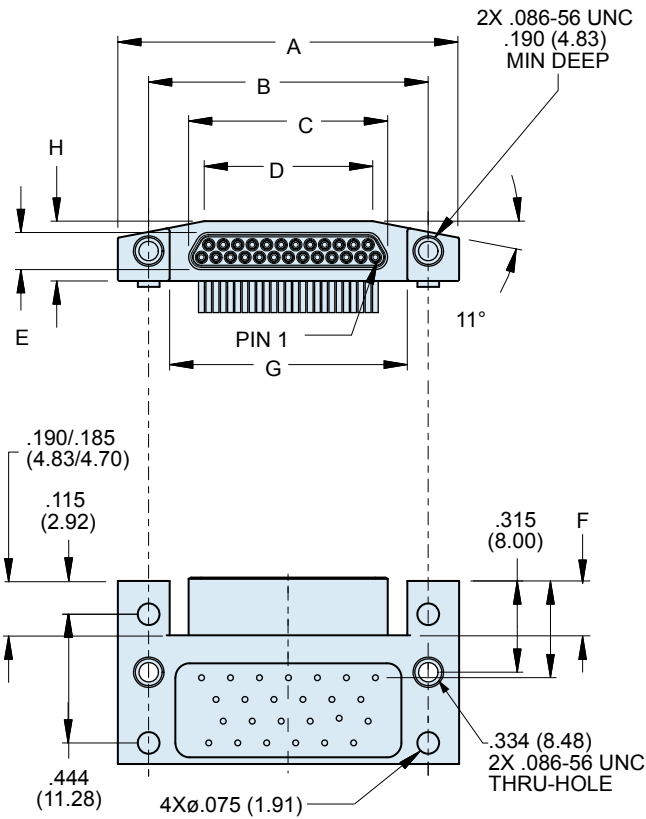
PCB Header Plug (Pin)



PCB Header Receptacle (Socket)



DOWNHOLE: WELL-MASTER® 260°



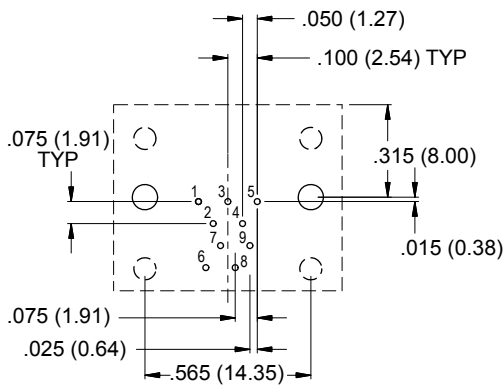


SERIES GHTM WELL-MASTER 260° Downhole Micro-D Connector

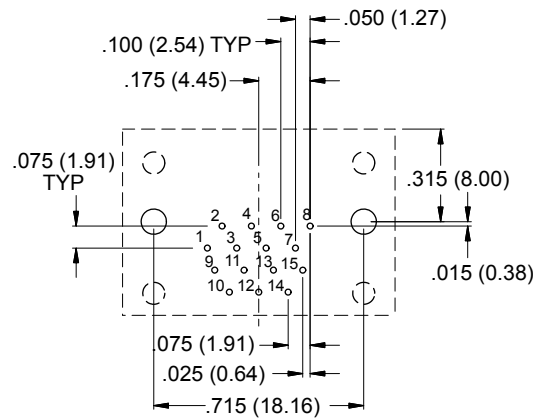


Well-Master GHTM right angle printed circuit board header, plug (pin) - PCB layout

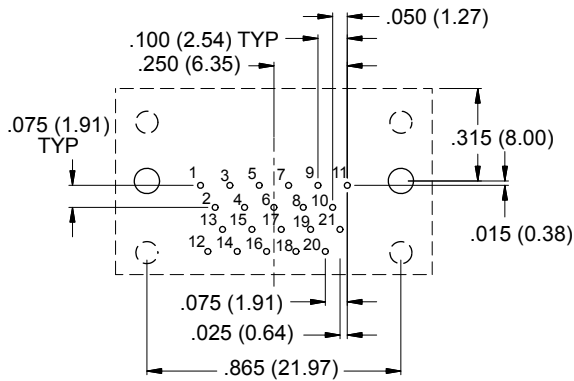
Patterns shown are for component mounting side of PCB. Terminals are .022 (0.56) max. diameter, mounting holes are .093 (2.36) diameter. Segmented lines represent connector body envelope and integral standoff locations.



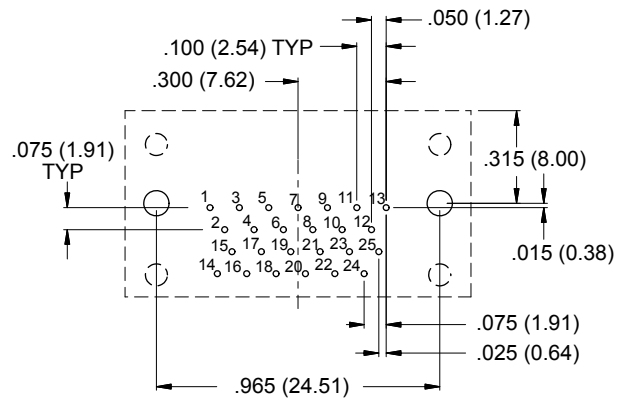
9 PIN



15 PIN



21 PIN



25 PIN

DOWNHOLE: WELL-MASTER® 260°





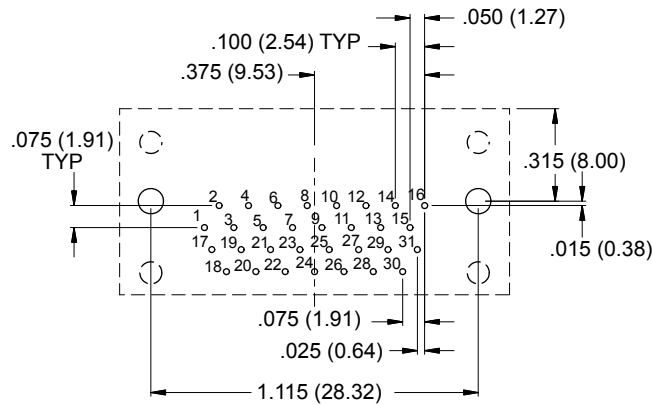
Well-Master

SERIES GHTM WELL-MASTER 260° Downhole Micro-D Connector

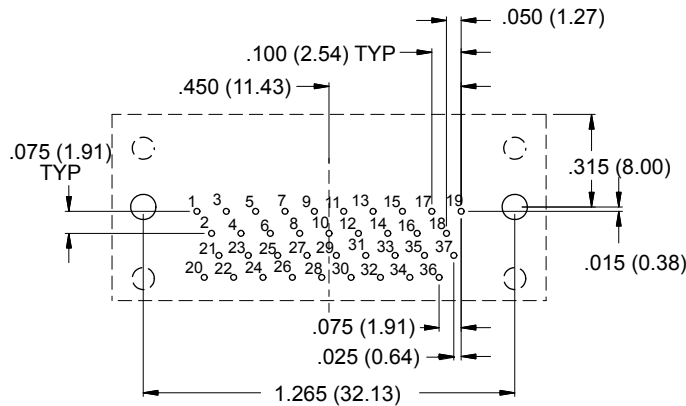


GHTM right angle printed circuit board header, plug (pin) - PCB layout

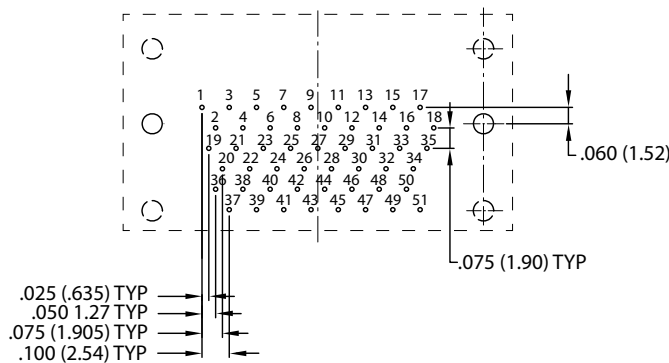
Patterns shown are for component mounting side of PCB. Terminals are .022 (0.56) max. diameter, mounting holes are .093 (2.36) diameter. Segmented lines represent connector body envelope and integral standoff locations.



31 PIN



37 PIN



51 PIN

DOWNHOLE: WELL-MASTER® 260°



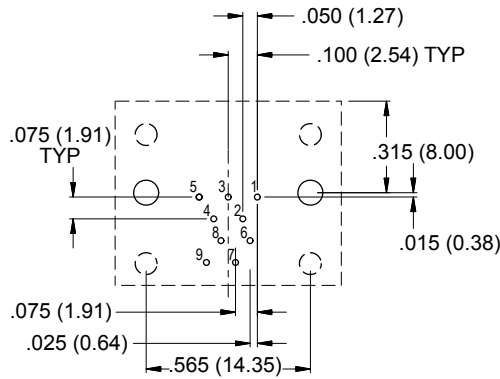


SERIES GHTM WELL-MASTER 260° Downhole Micro-D Connector

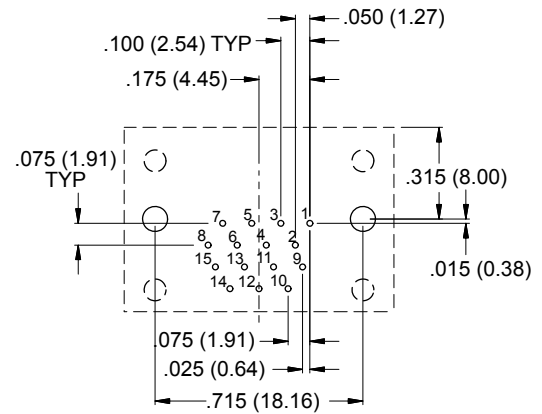


GHTM right angle printed circuit board header, receptacle (socket) - PCB layout

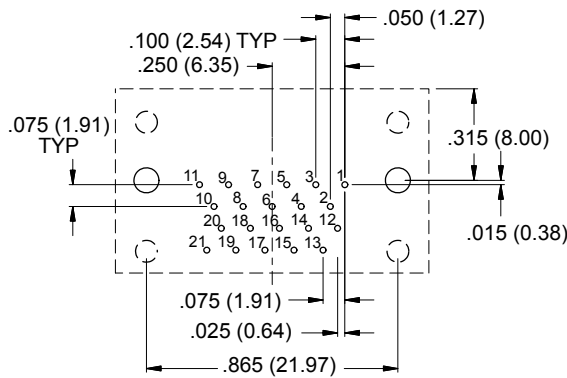
Patterns shown are for component mounting side of PCB. Terminals are .022 (0.56) max. diameter, mounting holes are .093 (2.36) diameter. Segmented lines represent connector body envelope and integral standoff locations.



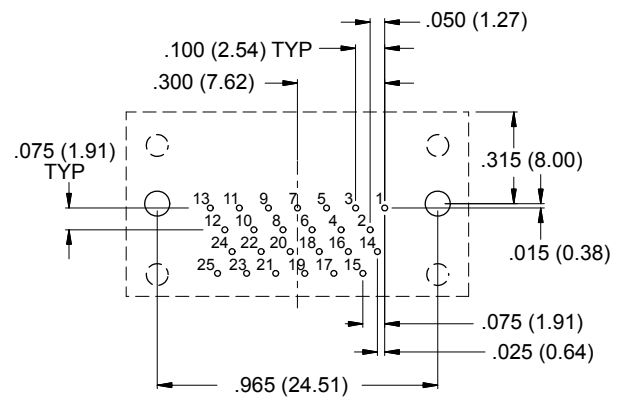
9 SOCKET



15 SOCKET



21 SOCKET



25 SOCKET

DOWNHOLE: WELL-MASTER® 260°



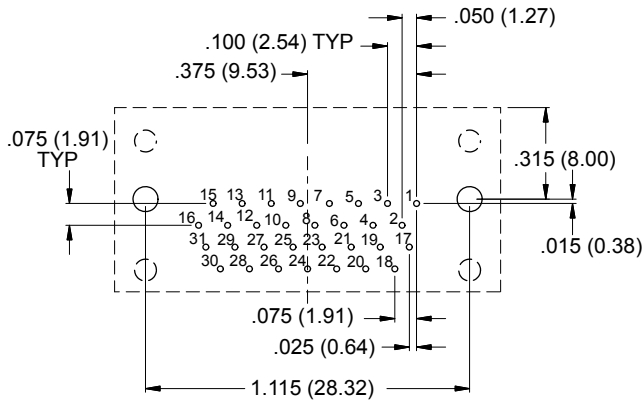


SERIES GHTM WELL-MASTER 260° Downhole Micro-D Connector

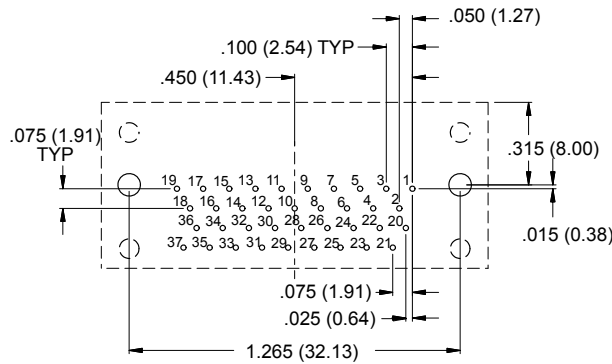


GHTM right angle printed circuit board header, receptacle (socket) - PCB layout

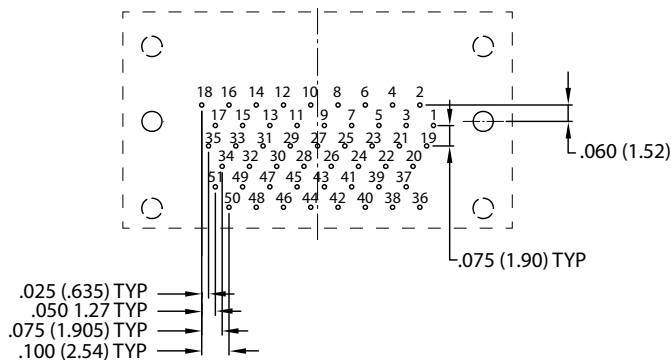
Patterns shown are for component mounting side of PCB. Terminals are .022 (0.56) max. diameter, mounting holes are .093 (2.36) diameter. Segmented lines represent connector body envelope and integral standoff locations.



31 SOCKET



37 SOCKET



51 SOCKET

DOWNHOLE: WELL-MASTER® 260°





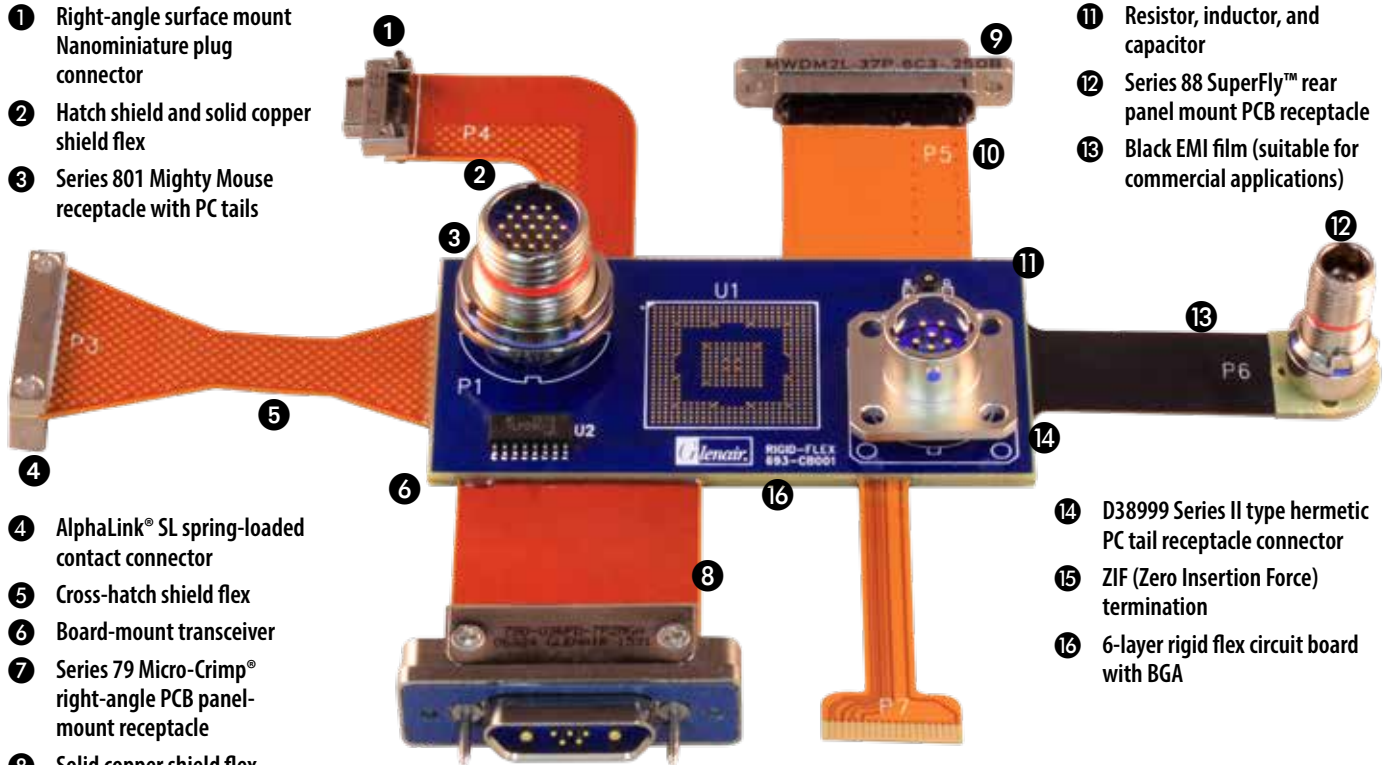
SERIES GHTM WELL-MASTER 260° Downhole Micro-D Connector



Available connectorized flex and rigid flex design,
Well-Master fabrication, assembly, and test services

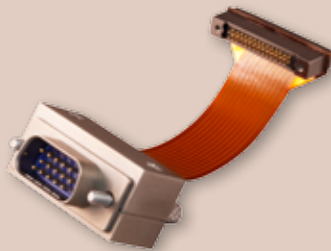
STANDARD DESIGN OPTIONS FOR INTEGRATED (CONNECTORIZED) FLEX/RIGID FLEX ASSEMBLIES

- 1 Right-angle surface mount Nanominiature plug connector
- 2 Hatch shield and solid copper shield flex
- 3 Series 801 Mighty Mouse receptacle with PC tails
- 4 AlphaLink® SL spring-loaded contact connector
- 5 Cross-hatch shield flex
- 6 Board-mount transceiver
- 7 Series 79 Micro-Crimp® right-angle PCB panel-mount receptacle
- 8 Solid copper shield flex



- 9 Micro-D 37-pin connector
- 10 Silver paste shield flex
- 11 Resistor, inductor, and capacitor
- 12 Series 88 SuperFly™ rear panel mount PCB receptacle
- 13 Black EMI film (suitable for commercial applications)
- 14 D38999 Series II type hermetic PC tail receptacle connector
- 15 ZIF (Zero Insertion Force) termination
- 16 6-layer rigid flex circuit board with BGA

CONNECTORIZED FLEX ASSEMBLIES



- Point-to-point or multibranch connectorized jumpers
- Flexible, repeatable routing for complex 3-dimensional installations
- Save size, weight, and improve density compared to wire bundles
- Broadest range of high-performance I/O and board connectors
- Optimized reliability: high-speed, high temp, high shock and vibrate

RIGID FLEX ASSEMBLIES



- "Best of both worlds" combines durable rigid-board architecture with flex circuitry for double-sided component mounting and easy/flexible circuit routing
- 3-D vibration-resistant flex routing advantage plus hard mount points and stiffeners as required
- Integration of active componentry with flex circuitry

DOWNHOLE: WELL-MASTER® 260°



DOWNHOLE HTHP High Pressure/High Temperature Connectors



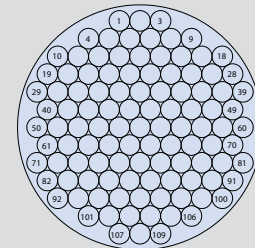
Feedthrus and Penetrators Product Selection Guide

DOWNHOLE: HIGH PRESSURE/HIGH TEMPERATURE

REFERENCE INFORMATION

Materials, contact arrangements,
and performance specifications

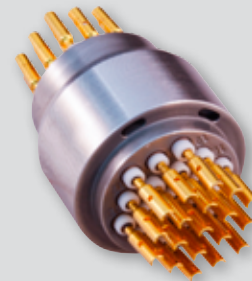
pg. 19



707-00015

High Temperature/High Pressure Glass Sealed Penetrator

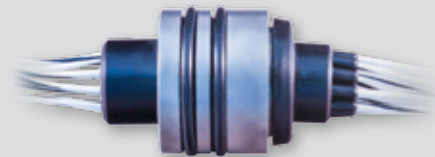
pg. 22



707-00030

High Temperature/High Pressure Glass Sealed Receptacle

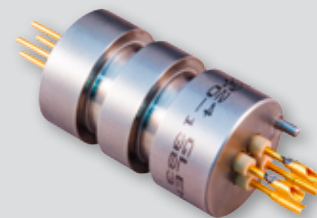
pg. 23



2570-1383

4 Pin High Temperature/High Pressure Glass Sealed Feedthrough

pg. 24



2570-1364

Single pin Glas Sealed Feedthrough

pg. 25



**DOWNHOLE: HIGH PRESSURE/HIGH TEMPERATURE**

HIGH TEMPERATURE HIGH PRESSURE Glass Sealed Penetrators and Feedthroughs



- Available in 7 shell sizes and 17 insert arrangements
- Standard penetrators with hermeticity of $<1 \times 10^{-7}$ sccHe/sec @ 1 atmosphere differential and rated to 10,000 PSI
- High pressure penetrators rated to 25,000 PSI and hermeticity of $<1 \times 10^{-8}$ sccHe/sec @ 1 atmosphere differential



Glass sealed penetrators and feedthroughs provide sealed interconnect solutions for downhole applications such as logging while drilling (LWD) and measurement while drilling (MWD) applying methods such as near-balanced, underbalanced and overbalanced drilling. In these environments, conditions can reach temperatures approaching 300°C while experiencing elevated shock and vibration, downhole fluids and a confined environment. Glenair SeaKing™ penetrators are typically used where a waterproof seal is needed but separation from equipment is not.

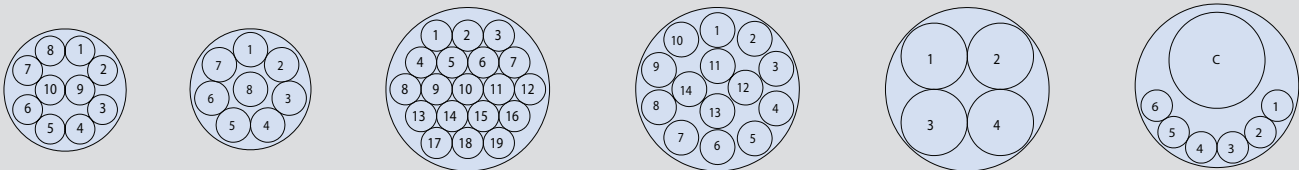
DOWNHOLE HTHP High Pressure/High Temperature Connectors



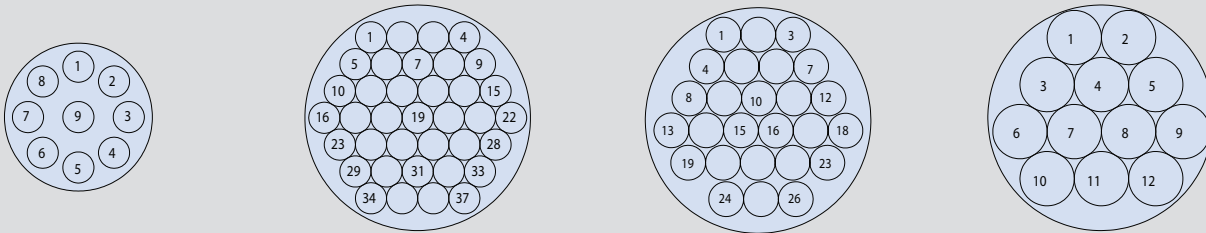
Feedthrus and penetrators
Glass sealed insert - contact arrangements

DOWNHOLE: HIGH PRESSURE/HIGH TEMPERATURE

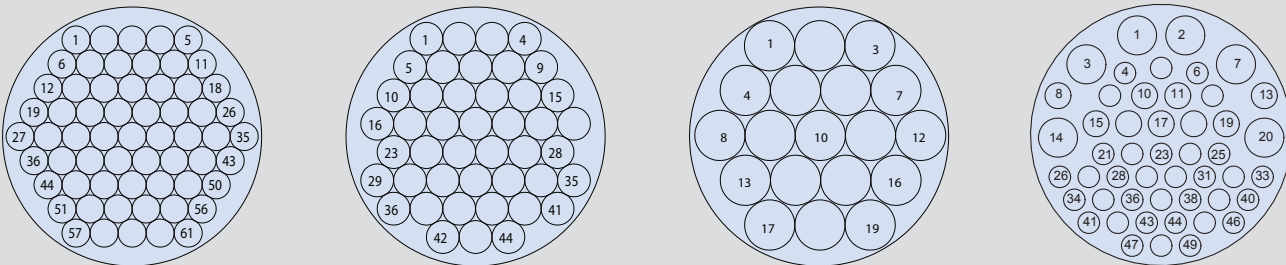
HTHP CONTACT ARRANGEMENTS Mating face view of pin insert (socket insert IDs are reversed)



Size G		Size K			
G10	G8	K19	K14	K4	KC6
10 Size #22 Contacts	8 Size #20 Contacts	19 Size #22 Contacts	14 Size #20 Contacts	4 Size #16 Contacts	Single 75 Ohm Coax, 6 #22 Contacts



Size L	Size M		
L9	M37	M26	M12
9 Size #16 Contacts	37 Size #22 Contacts	26 Size #20 Contacts	12 Size #16 Contacts



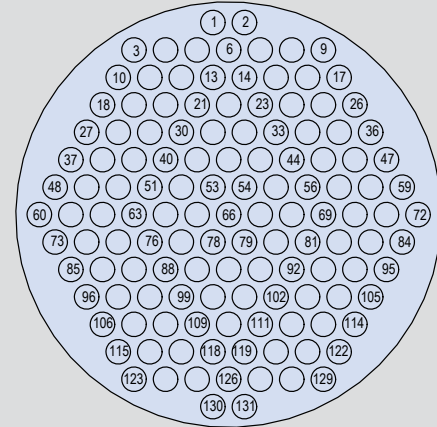
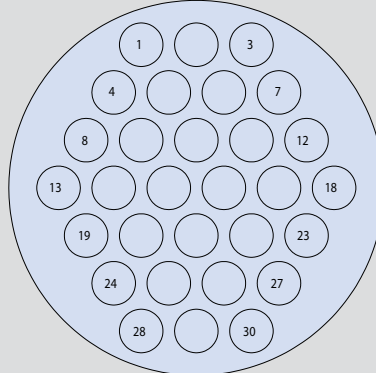
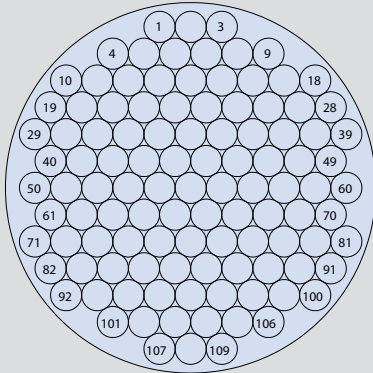
Size O			
O61	O44	O19	OX49
61 Size #22 Contacts	44 Size #20 Contacts	19 Size #16 Contacts	49 Contacts 6 #16 • 9 #20 • 34 #22

Consult factory for custom insert arrangements including a wide range of shielded RF microwave and high frequency contact configurations



Feedthrus and penetrators

Glass sealed insert - contact arrangements



Size Q		Size R
Q109	Q30	Q131
109 Size #22 Contacts	30 Size #16 Contacts	129 Size #22 Contacts

Consult factory for custom insert arrangements including a wide range of shielded RF microwave and high frequency contact configurations

All high-density signal and standard-density power contact arrangements are available across the complete range of connector styles (CCP, FCR, and BCR). High-speed Ethernet inserts as well as Pressure Balanced Oil Filled (PBOF) configurations and a purpose-designed family of pressure caps, accessories and backshells are also available, please consult the factory.

HTHP bulkhead connector receptacles (BCR) and flange connector receptacles (FCR) are equipped with high-pressure glass-to-metal sealed inserts with solder contact wire termination and 10K psi open-face rating. Cable connector plugs (CCP) utilize environmental O-ring sealed inserts and are rated to 10K psi in the mated condition.

Contact Arrangement Table				
Shell Size	Contact Size			
	#22	#20	#16	Hybrid
G	10	8		
K	19		4	One 75 Ohm Coax • Six #22
L			9	
M	37	26	12	
O	61	44	19	6 #16, 9 #20, 29 #22
Q	109		30	
R	129			
Current Rating (Amps)				
	3	5	10	

HTHP Performance Specifications		
Pressure Rating	Plug: 10,000 psi, mated condition Receptacles: 10,000 psi mated and open face	per ISO 13628-6
Electrical	600 V typical 5 GOhm insulation resistance at 500 VDC	per MIL-STD-202, Method 301 per MIL-STD-202, Method 302
Materials	Salt Spray (corrosion) Humidity (steady state) Thermal Cycle	MIL-STD-202, Method 101 MIL-STD-202, Method 103 ISO 13628-6

DOWNHOLE: HIGH PRESSURE/HIGH TEMPERATURE

DOWNHOLE HTHP High Pressure/High Temperature Connectors

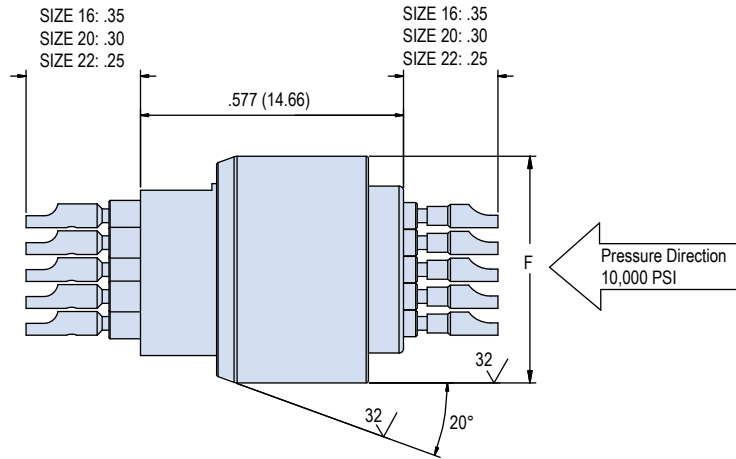
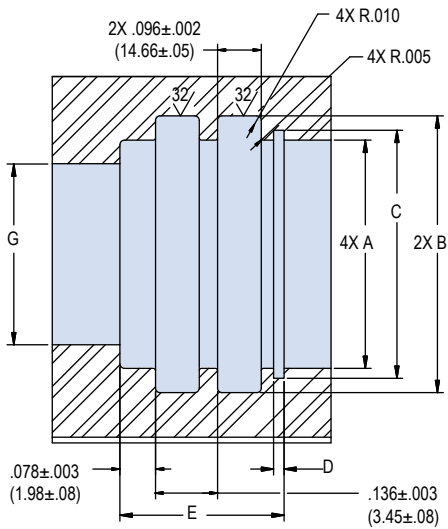


707-0015 glass sealed penetrator with solder cup to solder cup contacts

DOWNHOLE: HIGH PRESSURE/HIGH TEMPERATURE



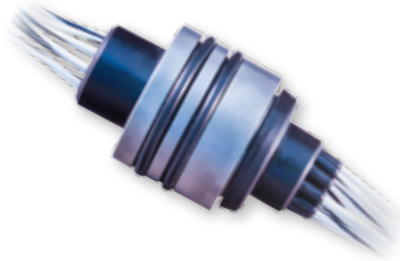
How To Order		
Sample Part Number	707-0015	-M37
Series	707-0015	
Shell Size/ Insert Arrangement	See page 20 and 21	



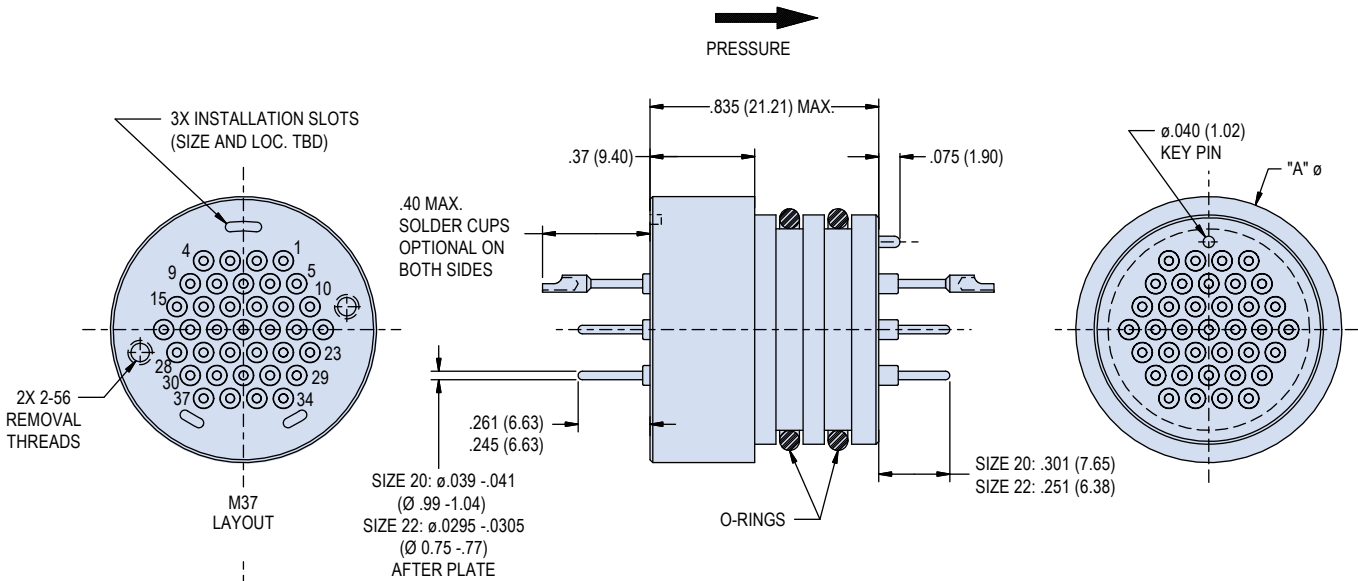
Dimensions										
Shell Size	Ø A Bore Dia.	Ø B Bore O-Ring Groove Dia.	Ø C Retaining Ring Groove Dia.	Ø D Retaining Ring Groove Width	Ø E Retaining Ring Groove Location	Bore O-ring	Retaining Ring	Insertion Tool	Ø F Feedthru Dia.	G (Clearance Diameter)
G	.5005 ±.0008 (12.71 ±.02)	.607 ±.001 (15.42 ±.03)	.528 ±.002 (13.41 ±.05)	.023 +.002/- .001 (.58 +.05/- .03)	.3600 ±.0025 (9.14 ±.06)	2-014	VH-50-S16	709-004-G	.497 (12.62)	Ø.3865 ±.025 (Ø.9.82 ± 0.64)
K	.6255 ±.0008 (15.88 ±.02)	.732 ±.001 (18.59 ±.03)	.635 ±.002 (16.13 ±.05)	.023 +.002/- .001 (.58 +.05/- .03)	.3600 ±.0025 (9.14 ±.06)	2-016	VH-62-S16	709-004-K	.622 (15.80)	Ø.5115 ±.0025 (Ø12.99 ± 0.06)
M	.8125 ±.0008 (20.64 ±.02)	.919 ±.001 (23.34 ±.03)	.854 ±.002 (21.69 ±.05)	.027 +.002/- .001 (.69 +.05/- .03)	.3640 ±.0025 (9.25 ±.06)	2-019	VH-81-S16	709-004-M	.809 (20.55)	Ø.6985 ±.0025 (Ø17.74 ± 0.06)
O	1.0625 ±.0008 (26.99 ±.02)	1.169 ±.001 (29.69 ±.03)	1.106 ±.002 (28.09 ±.05)	.032 +.002/- .001 (.81 +.05/- .03)	.3690 ±.0025 (9.37 ±.06)	2-023	VH-106-S16	709-004-O	1.059 (26.90)	Ø.8865 ±.0025 (22.52 ± 0.06)
Q	1.3755 ±.0008 (34.94 ±.02)	1.482 ±.001 (37.64 ±.03)	1.419 ±.002 (36.04 ±.05)	.032 +.002/- .001 (.81 +.05/- .03)	.3690 ±.0025 (9.37 ±.06)	2-028	VH-137-S16	709-004-Q	1.372 (34.85)	Ø1.11365 ±.0025 (2.89 ± 0.06)

NOTES

- Environmental ratings:
 - Pressure - open face - 10,000 psi (uni-directional as shown)
 - Pressure tested to 15,000 PSI per ISO 13628-6
 - Dielectric withstand voltage: 1200VAC per EIA-364-20
 - Insulation resistance: 5,000 megohms (test) @ 500Vdc per EIA-364-21
 - Operating temperature: -55°C to +125°C
 - Hermeticity - 1×10^{-7} sccHe/sec @ 1 atmosphere differential
- Material
 - Glass seal insert: Inconel® X-750 per AMS 5667
 - O-ring: nitrile - 90 duro



How To Order				
Sample Part Number	707-0030	-M	37	P
Series	707-0030			
Shell Size	G = Shell Size G M = Shell Size M See dimensions table			
Insert Arrangement	See page 20 and 21			
Pin Termination	P = Pin S = Solder Cup			



Dimensions			
Part No.	Contacts	"A" Ø	O-Ring
707-0030-G8*	8#20	.635 (16.13)	2-012
707-0030-M37*	37#22	.940 (23.88)	2-017

NOTES

- Dielectric withstand voltage: 1200VAC at sea level
- Insulation resistance: 5,000 megohms min @ 500 Vdc
- Operating temperature: -60°C to +260°C
- Hermeticity - $< 1 \times 10^{-7}$ sccHe/sec @ 1 atmosphere differential
- Pressure: 0 to 12,000 PSI



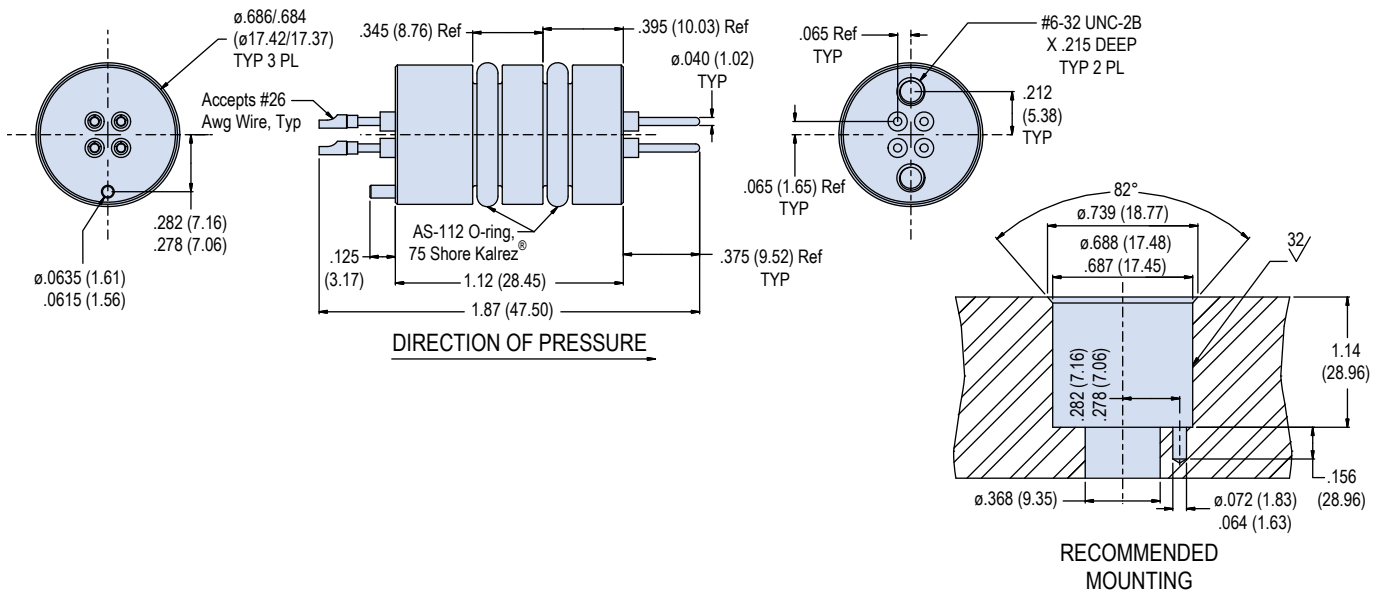
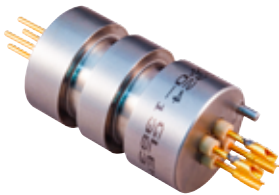
DOWNHOLE HTHP High Pressure/High Temperature Connectors



4 Pin, high pressure
glass sealed feedthrough

4 PIN, 25,000 PSI MAX HIGH PRESSURE, GLASS SEALED FEEDTHROUGH

DOWNHOLE: HIGH PRESSURE/HIGH TEMPERATURE

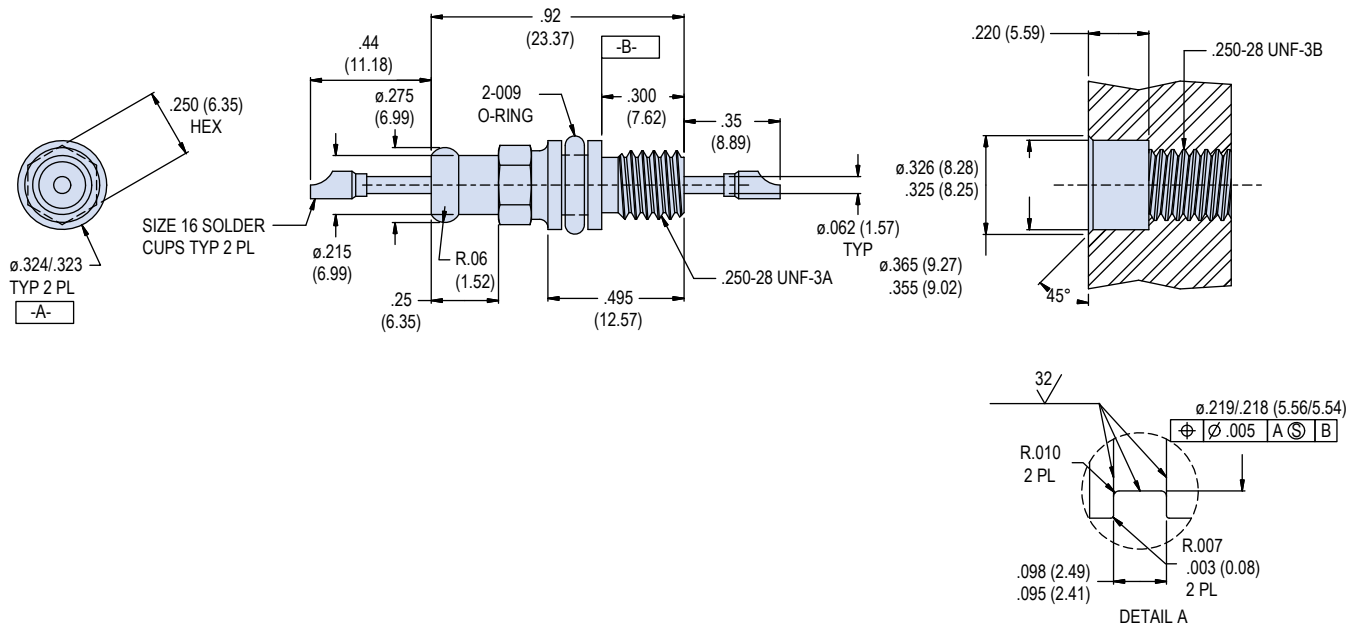


NOTES

- Performance specifications:
 - Hermeticity: $< 1 \times 10^{-8}$ sccHe/sec @ 1 atm diff
 - Maximum voltage: 500 Vdc
 - Operating voltage: 250 Vdc
 - Temperature: -76°F (-60°C) to 500°F (260°C)
 - Current capacity:
 - 3.3 Amps @ ambient
 - 2.5 Amps @ 500°F (260°C)
 - Pressure: 25,000 psi max in direction indicated
- Material / finish:
 - Body: Inconel[®] X-750 / none
 - Pins: Inconel[®] X-750 / gold plate .00005 Min thick
 - Insulators: vitreous glass / N.A. peek / N.A.
 - O-rings: Kalrez[®] (ffkm) / N.A.

Single-pin pin tool joint glass-sealed feedthrough

SINGLE PIN, TOOL JOINT GLASS SEALED FEEDTHROUGH



NOTES

1. Performance:

- Hermeticity: $<1 \times 10^{-10}$ sccHe/sec @ 1 atm diff
- D.W.V.: 1000 Vdc pin to shell without breakdown
- I.R.: 5000 Megohms min @ 500 Vdc (ambient)
- Current: 7 amps
- Temperature: -5°C to 50°C (23° to 122°F)

2. Material / finish:

- Body: Inconel® X-750 / none
- Pin: Inconel® X-750 / gold plate .00005 min thick
- Solder cups: 52 alloy / gold plate .00005 min thick
- Insulator: vitreous glass / N.A.
- O-ring: fluorocarbon (viton) (FKM®) / N.A.





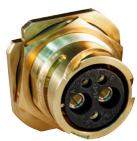
HARSH-ENVIRONMENT

Special-Purpose Shipboard and Topside Interconnects and Cable Routing Technologies

Composite thermoplastic, marine bronze, and stainless steel interconnect wire system components for ruggedized salt spray and explosive zone applications



TOPSIDE OR SHIPBOARD CONNECTORS



Seacrow
Page 1

ITS-Ex
Page 54

Composite Boxes
Page 104

Conduit Systems
Page 124



SEACROW MARINE BRONZE
 Topside / Shipboard
 Environmental Connectors
 Product selection guide



REFERENCE INFORMATION
 Connector Line Application and Features
 pg. 2



ITS-MB MARINE BRONZE REVERSE-BAYONET CONNECTORS
 MIL-C-5015 type / VG95234 equivalent environmental series
 pg. 4



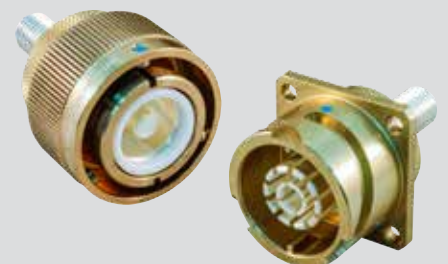
IT-MB MARINE BRONZE UN THREADED CONNECTORS
 MIL-C-5015 type environmental series
 pg. 19



IPT-MB MARINE BRONZE BAYONET CONNECTORS
 MIL-DTL-26482 type / VG95328 equivalent environmental series
 pg. 31



IGE-MB MARINE BRONZE REVERSE-BAYONET SINGLE-POLE POWER CONNECTORS
 MIL-C-5015 type / VG96929 equivalent environmental series
 pg. 44



TOPSIDE: SEACROW™





MARINE BRONZE Seacrow Connectors

For geophysical/offshore and other harsh-environment applications

Glenair manufactures connectors qualified to VG96929, VG95234 and VG95328 standards. These connectors are mostly used in harsh-environment military applications for ground vehicles and ground systems. Our new Marine Bronze version increases the level of robustness of these connectors to be successfully used in all severe environment navy installations, as well as off-shore platforms, sea ports, geological and oceanographic applications.



TOPSIDE: SEACROW™



- Marine bronze alloy for superior corrosion resistance in seawater and other harsh environments
- Ideal for shipboard and offshore drilling applications
- Available in Series ITS (5015 reverse-bayonet), Series IPT (26482), Series IGE (Single-pole high-power VG96929) and Series IT (5015 threaded)
- IP67 environmental sealing in mated condition; IP68 available
- Hundreds of available contact arrangements for both power and signal as well as hybrid applications



SEACROW MARINE BRONZE Topside / Shipboard Environmental Connectors

Series overview



ITS-MB MIL-C-5015 TYPE REVERSE-BAYONET CONNECTORS



VG95234 Equivalent Marine Bronze Series

ITS-MB connectors are compliant with VG95234, using all the same insert arrangements available in the standard ITS Reverse Bayonet Connectors catalog. Typically they are used for power and signal transmission, with wires from 26 AWG to 4/0. A wide variety of backshells allow the ITS-MB to accept jacketed cables, single or multi-poles, with or without RFI/EMI shielding, conduits with PG or metric thread. IP67 protection is the standard performance. IP68 on request.

IT-MB MIL-C-5015G TYPE THREADED CONNECTORS



MIL-C-5015 Compliant Marine Bronze Series

IT-MB is a threaded connector compliant with the MIL-DTL-5015 standard. All the electrical characteristics are available in the IT standard catalog. IT-MB family is a threaded version mostly used for power and signal, with IP67 standard performance sealing.

IPT-MB MIL-DTL-26482 TYPE HIGH DENSITY BAYONET CONNECTORS

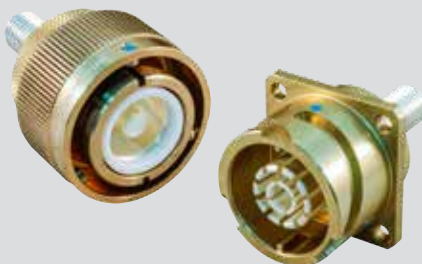


VG95328 Equivalent Marine Bronze Series

IPT-MB connectors are the choice for reliability when 20-16 AWG signal cables are used. The insert arrangements as well as the electrical characteristics are detailed in the IPT IPT-SE catalog. Backshells suitable for EMI shield terminations and heat shrink boots are also available.

The receptacle is also available with PCB contacts. IP67 protection is the standard performance. IP68 on request.

IGE-MB MIL-C-5015 TYPE REVERSE-BAYONET SINGLE-POLE POWER CONNECTORS



VG96929 Equivalent Marine Bronze Series

IGE-MB High Power Single Pole Connectors are used with cables from 16 to 240 mmq.

These connectors achieve high-performance working current and peak current, and are ideal for engines, power supplies, and power distribution boxes. Several backshells are available, either straight or 90° elbows for the most reliable cable accommodation. See the VG96929 catalog for detailed electrical characteristics. IP67 protection is the standard performance. IP68 on request.





SEACROW MARINE BRONZE Topside / Shipboard Environmental Connectors



ITS-MB with solder cup or crimp contacts

ITS-MB REVERSE-BAYONET MIL-C-5015 TYPE / VG95234 EQUIVALENT MARINE BRONZE SERIES



ITS-MB connectors are compliant with VG95234, using all the same insert arrangements available in the standard ITS Reverse Bayonet Receptacles and ITB Reverse Bayonet Plugs. Typically they are used for power and signal transmission, with wires from 32 AWG to 4/0. A wide variety of backshells allow the ITS-MB to accept jacketed cables, single or multi-poles, with or without RFI/EMI shielding, conduits with PG or metric thread. IP67 protection is the standard performance. IP68 on request.

ITS-MB How To Order									
Sample Part Number	ITB	G	31	06	A	20-27	P	Y	MB
Series	ITS = Reverse bayonet coupling receptacle ITB = Reverse bayonet coupling plug								
Plug Grounding Fingers	G = Grounding fingers; omit for none (plug only)								
Contact Type	31 = Solder cup 41 = Crimp								
Shell Style	See shell style table								
Environmental Class	See environmental class table; backshell determined by class (see note 1 and 2)								
Shell Size/Insert Arrangement	See insert arrangement tables								
Contact Gender	P = Pin S = Socket								
Alternate Insert Rotation	See insert rotation positions table (pg 8-9)								
Material Option	MB = Marine bronze								

ITS or ITB Connector Shell Styles	
ITS Receptacle	
Code	Description
00	Front panel mount square flange receptacle with accessory threads
01	In-line cylindrical receptacle with accessory threads
02	Front panel mount square flange receptacle—no accessory threads
03	Rear panel mount square flange receptacle—no accessory threads
030	Rear panel mount square flange receptacle with accessory threads
038	Rear panel mount square flange receptacle with 90° backshell
07	Rear panel mount jam nut receptacle—no accessory threads
070	Rear panel mount jam nut receptacle with accessory threads
078	Rear panel mount jam nut receptacle with 90° backshell
ITB Plug	
Code	Description
06	Straight cylindrical plug connector with accessory threads
08	Cylindrical plug connector with 90° backshell
26	Square flange panel mount plug

Environmental Class	
Code	Description
A	Non-environmental
G, GR, SP	Environmental (with wire sealing grommet)
GS	Environmental (wire sealing grommet and shrink boot)
F, R, RS	Environmental (wire sealing grommet and compression ring)

SHELL STYLE / ENVIRONMENTAL CLASS MATRIX

Shell Style	Environmental Class								
	A	F	G	GR	GS	SP	R	RS	SP
ITS 00	✓	✓	✓	✓			✓	✓	✓
ITS 01	✓	✓	✓	✓			✓	✓	✓
ITS 02	✓						✓		
ITS 03	✓						✓		
ITS 030	✓	✓	✓	✓			✓	✓	✓
ITS 038	✓						✓		
ITS 07	✓						✓		
ITS 070	✓						✓		
ITS 078	✓						✓		
ITB 26	✓						✓		
ITB 06	✓	✓	✓	✓		✓	✓	✓	✓
ITB 08	✓	✓	✓	✓	✓	✓	✓	✓	✓

NOTES

1. See pages 16 and 17 for connector/backshell configurations.
2. See page 18 for overall length of specific connector/backshell configurations.

TOPSIDE: SEACROW™





SEACROW MARINE BRONZE
 Topside / Shipboard
 Environmental Connectors



ITS-MB marine bronze insert arrangements

Arrangement	Rating	Contact Number	Contact Size							
			4/0	0	4	8	12	16	18	20
10SL-3	A	3						3		
10SL-4	A	2						2		
14S-1	A	3						3		
14S-2	I	4						4		
14S-5	I	5						5		
14S-6	I	6						6		
14S-7	A	3						3		
14S-9	A	2						2		
14S-07	I	7						7		
16S-1	A	7						7		
16S-4	D	2						2		
16S-5	A	3						3		
16S-8	A	5						5		
16-2	E	1					1			
16-7	A	3			1			2		
16-9	A	4					2	2		
16-10	A	3					3			
16-11	A	2					2			
16-12	A	1		1						
16-A10*	I	10							10	
18-1	I	10						10		
18-3	D	2					2			
18-4	D	4						4		
18-5	D	3					2	1		
18-6	D	1		1						
18-06	A	6					4	2		
18-7	B	1			1					
18-8	A	8					1	7		
18-9	I	7					2	5		
18-10	A	4					4			
18-10S MT	A	4					4			
18-11	A	5					5			
18-12	A	6						6		
18-13	A	4			1		3			
18-16	C	1					1			
18-19	A	10						10		
18-20	A	5						5		
18-22	D	3						3		
18-30 (18-20x110°)	A	5						5		
20-2	D	1	1							
20-3	D	3					3			
20-4	D	4					4			
20-6	D	3						3		
20-7	A	8						8		
20-8	I	6			2			4		

Arrangement	Rating	Contact Number	Contact Size							
			4/0	0	4	8	12	16	18	20
20-9	A	8					1	7		
20-11	I	13							13	
20-14	A	5				2	3			
20-15	A	7					7			
20-16	A	9					2	7		
20-17	A	6						5	1	
20-18	A	9						3	6	
20-19	A	3				3				
20-21	A	9					1	8		
20-22	A	6				3			3	
20-23	A	2				2				
20-24	A	4				2			2	
20-A24	A	4				2			2	
20-25 (20-11x100°)	I	13							13	
20-27	A	14							14	
20-29	A	17							17	
20-30 (20-11x250°)	I	13							13	
20-33	A	11							11	
20-A8	I	8				2			6	
20-A9	A	9						9		
20-A48	I	19							19	
20-B8	A	8					4	4		
22-1	D	2				2				
22-2	D	3				3				
22-4	A	4				2	2			
22-5	D	6						2	4	
22-7	E	1		1						
22-9	E	3						3		
22-10	E	4							4	
22-11	B	2							2	
22-12	D	5				2			3	
22-14	A	19							19	
22-15	A	6						5	1	
22-17	A	9						1	8	
22-18	A	8							8	
22-19	A	14							14	
22-20	A	9							9	
22-21	A	3		1					2	
22-22	A	4				4				
22-23	A	8						8		
22-27	A	9					1		8	
22-28	A	7						7		
22-34	D	5						3	2	
22-82	A	10					2		8	

* Only Crimp Contact Version





SEACROW MARINE BRONZE Topside / Shipboard Environmental Connectors



ITS-MB marine bronze insert arrangements

TOPSIDE: SEACROW™

Arrangement	Rating	Contact Number	Contact Size							
			4/0	0	4	8	12	16	18	20
22-A10	A	10						10		
22-A37*	A	37							37	
22-22S MT	A	4			4					
24-2	D	7				7				
24-3	A	7				2	5			
24-4	D	4	1					3		
24-5	A	16						16		
24-06	D	6			4			2		
24-6	A	8				8				
24-07	D	7				7				
24-7	A	16				2	14			
24-9	A	2		2						
24-10	A	7			7					
24-11	A	9			3	6				
24-12	A	5		2		3				
24-013	A	13				6	7			
24-19	A	12					12			
24-20	D	11				2	9			
24-22	D	4			4					
24-27	E	7					7			
24-28	I	24					24			
24-67	A	19				19				
24-A1	B	1	1							
24-A8	A	8			5	3				
24-A11	A	11			2		9			
24-A12	A	12		2			10			
24-A25	A	25					25			
24-A28	I	28					28			
24-A55*	I	55							55	
24-G5	A	5			5					
28-1	A	9			3	6				
28-2	D	14				2	12			
28-3	E	3			3					
28-6	D	3		3						
28-09	A	9		4			5			
28-9	D	12				6	6			
28-10	A	7		2	2	3				
28-11	A	22				4	18			
28-12	A	26					26			
28-13 (28-12x100°)	A	26					26			
28-15	A	35					35			
28-16	A	20					20			
28-17	A	15					15			
28-18	I	12					12			
28-19	A	10				4	6			

Arrangement	Rating	Contact Number	Contact Size							
			4/0	0	4	8	12	16	18	20
28-20	A	14					10	4		
28-21	A	37						37		
28-22	D	6			3			3		
28-51	D	12					12			
28-59	A	17					7	10		
28-70	A	7				7				
28-72*	I	72								72
28-84	A	9				9				
28-124	A	16				4		12		
28-A29	A	29				2		27		
28-A31*	A	31				6				25
28-A35	A	35						35		
28-A63	I	28					9	19		
28-B1	B	1		1						
28-B2	E	2				2				
32-1	D	5		2			3			
32-2	E	5			3			2		
32-3	D	9		1	2		2	4		
32-5	D	2		2						
32-6	A	23			2	3	2	16		
32-7	I	35					7	28		
32-8	A	30					6	24		
32-9	D	14			2			12		
32-013	D	13					13			
32-13	D	23					5	18		
32-15	D	8		2			6			
32-17	D	4			4					
32-22	A	54						54		
32-31	A	31						31		
32-59	A	42				2		40		
32-68	A	16			4			12		
32-689	A	9			3			6		
32-A5 GM	A	5			5					
32-76	A	19					19			
32-79	D	5			4	1				
32-88	A	54						54		
32-A1	A	1	1							
32-A3	E	3			3					
32-A8	A	8				8				
32-A25	A	25					25			
32-A27	A	27					10	17		
32-A30	A	30					10	20		
32-A40	A	40						40		
32-A48	I	48						48		
32-A55	A	55						55		
32-B22	A	22			2			20		

* Only Crimp Contact Version



SEACROW MARINE BRONZE Topside / Shipboard Environmental Connectors



ITS-MB marine bronze insert arrangements

Arrangement	Rating	Contact Number	Contact Size									
			4/0	0	4	8	12	16	18	20		
36-01	C	1	1									
36-3	D	6		3			3					
36-4	A	3		3								
36-5	A	4		4								
36-6	A	6		2	4							
36-7	A	47					7	40				
36-8	A	47					1	46				
36-9	A	31			1	2	14	14				
36-10	A	48						48				
36-14	D	16				5	5	6				
36-15	A	35						35				
36-18 (36-9x100°)	A	31			1	2	14	14				
36-22	D	22					22					
36-35	A	36				4		32				
36-54= 36-B39	A	39				8		31				
36-66	A	56					4	52				
36-74	A	44				1		43				
36-77	D	7			7							
36-A7	A	7		3	2		2					
36-A10	A	10			2	8						
36-A35	A	8		4				4				
36-A51	D	6		3	2			1				
36-A72*	I	72					4	16	52			
36-A99*	A	65						15	50			
36-B78	D	14				12		2				
36-B90	D	1	n.1** Special Contact									
36-D78	D	14				10		4				
40-1	D	30					6	24				
40-9	A	47				1	22	24				
40-10	A	29			4	9		16				
40-26	A	26				7	19					
40-31	D	31					31					
40-35	D	35					35					
40-47	A	47				1	22	24				
40-53	A	60						60				
40-56	A	85						85				
40-62	A	60						60				
40-63	A	61						61				
40-67	A	11			10			1				
40-100*	A	100							100			
40-150*	I	150							150			
40-951	A	51					25	26				
40-A3	A	5		3			2					
40-A4	A	6		4			2					
40-A5	A	5		3	1		1					

Arrangement	Rating	Contact Number	Contact Size							
			4/0	0	4	8	12	16	18	20
40-A5GM	A	5		5						
40-A6	B	6					6			
40-A8	E	8		4					4	
40-A9	A	9		3		6				
40-A10	D	8			4				4	
40-A14	A	14			8		6			
40-A20	D	20				2	18			
40-A24	D	24				8	16			
40-A38	A	38					38			
40-A51	A	31				15		16		
40-A55	A	5		5						
40-A56	A	85						85		
40-A62	A	62				2	60			
40-A65	A	65						65		
40-A70	A	70						70		
40-B4	E	4		4						
40-B19	A	19				19				
40-B25	A	29		4				25		
40-B37	A	37					37			
40-D4	C	4					4			
40-G4	E	4					4			

* Only Crimp Contact Version
Special Contact

TOPSIDE: SEACROW™





SEACROW MARINE BRONZE Topside / Shipboard Environmental Connectors



ITS-MB marine bronze insert rotation

TOPSIDE: SEACROW™

Arrangement	a ± 2°			
	W	X	Y	Z
10SL-3				
10SL-4				
14S-1	90	180	270	
14S-2		120	240	
14S-5		110		
14S-6	90			
14S-7	90	180	270	
14S-9	70	145	215	290
14S-07				
16S-1	80			280
16S-4	35	110	250	325
16S-5	70	145	215	290
16S-8		170	265	
16-2				
16-7	80	110	250	280
16-9	35	110	250	325
16-10	90	180	270	
16-11	35	110	250	325
16-12				
16A-10	35	112	235	315
18-1	70	145	215	290
18-3	35	110	250	325
18-4	35	110	250	325
18-5	80	110	250	280
18-6				
18-06	180			
18-7				
18-8	70			290
18-9	80	110	250	280
18-10		120	240	
18-10S MT				
18-11		170	265	
18-12	80			280
18-13	80	110	250	280
18-16				
18-19		120	240	
18-20	90	180	270	
18-22	70	145	215	290
18-29	90	180	270	
18-30				
20-2				
20-3	70	145	215	290
20-4	45	110	250	
20-6	70	145	215	290
20-7	80	110	250	280
20-8	80	110	250	280
20-9	80	110	250	280

Arrangement	a ± 2°			
	W	X	Y	Z
20-11				
20-14	80	110	250	280
20-15	80			280
20-16	80	110	250	280
20-17	90	180	270	
20-18	35	110	250	325
20-19	90	180	270	
20-21	35	110	250	325
20-22	80	110	250	280
20-23	35	110	250	325
20-24	35	110	250	325
20-A24	55	125	200	340
20-25				
20-27	35	110	250	325
20-29	80			280
20-30				
20-33				280
20-A8				
20-A9		110	250	
20-A48		80	280	
20-B8	80	110	250	280
22-1	35	110	250	325
22-2	70	145	215	290
22-4	35	110	250	325
22-5	35	110	250	325
22-7				
22-9	70	145	215	290
22-10	35	110	250	325
22-11	35	110	250	325
22-12	80	110	250	280
22-14	80	110	250	280
22-15	80	110	250	280
22-17	80	110	250	280
22-18	80	110	250	280
22-19	80	110	250	280
22-20	35	110	250	325
22-21	80	110	250	280
22-22		110	250	
22-23	35		250	
22-27	80		250	280
22-28	80			280
22-34	80	110	250	280
22-82	80	110	250	280
22A-10		120	240	
22-A37	80	112	250	280
22-22S MT				
24-2	80			280

Arrangement	a ± 2°			
	W	X	Y	Z
24-3	80	110	250	280
24-4	80	110	250	280
24-5	80	110	250	280
24-06	40			320
24-6	80	110	250	280
24-07	80			280
24-7	80	110	250	280
24-9	35	110	250	325
24-10	80			280
24-11	35	110	250	325
24-12	80	110	250	280
24-013				
24-19				
24-20	80	110	250	280
24-22	45	110	250	
24-27	80			280
24-28	80	110	250	280
24-67	80			335
24-A1				
24-A8				
24-A11	35	110	250	325
24-A12				
24-A25	80	110	250	280
24-A28	65	146	235	
24-A55	80	110	250	280
24-G5	70	110	240	270
28-1	80	110	250	280
28-2	35	110	250	325
28-3	70	145	215	290
28-6	70	145	215	290
28-09	110	250	260	280
28-9	80	110	250	280
28-10	80	110	250	280
28-11	80	110	250	280
28-12	90	180	270	
28-13				
28-15	80	110	250	280
28-16	80	110	250	280
28-17	80	110	250	280
28-18	70	145	215	290
28-19	80	110	250	280
28-20	80	110	250	280
28-21	80	110	250	280
28-22	70	145	215	290
28-51	80	135	190	
28-59	35	110	250	325
28-70	80			280



SEACROW MARINE BRONZE Topside / Shipboard Environmental Connectors



ITS-MB marine bronze insert rotation

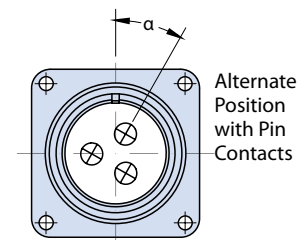
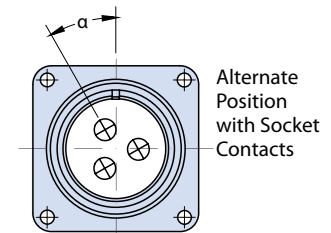
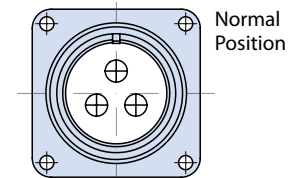
Arrangement	a ± 2°			
	W	X	Y	Z
28-72**	72	144	216	288
28-84	45	157	90	135
28-124	80	110	250	280
28A-29	80	110	250	280
28A-31	35		260	310
28A-35	80	110	250	280
28A-63		100	260	
28-B1				
28-B2				
32-1	80	110	250	280
32-2	70	145	215	290
32-3	80	110	250	280
32-5	35	110	250	325
32-6	80	110	250	280
32-7	80	125	235	280
32-8	80	125	235	280
32-9	80	110	250	280
32-013	65	130	230	295
32-13	80	110	250	280
32-15	35	110	250	280
32-17	45	110	250	
32-22	80	110	250	280
32-31	80	125	215	280
32-59	36	108	252	324
32-68	65	135	225	275
32-689				
32-A5 GM				
32-76	80	110	250	280
32-79				
32-88	80	110	250	280
32-A1				
32-A3	22	44	76	98
32A-8	35	122		315
32A-25	60	120		
32-A27	30	115	285	335
32-A30				
32A-40	35	130		
32A-48	80	125	235	
32-A55	80	110	250	280
32-B22	35	110	250	325
36-01				
36-3	70	145	215	290
36-4	70	145	215	290
36-5		120	240	
36-6	35	110	250	325
36-7	80	110	250	280
36-8	80	110	250	280

Arrangement	a ± 2°			
	W	X	Y	Z
36-9	80	125	235	280
36-10	80	125	235	280
36-14	90	180	270	
36-15	60	125	245	305
36-18				
36-22	80	110	250	280
36-35				
36-54 = 36-B39	67			
36-66	110	250	260	280
36-74				
36-77	45	90		
36-A7				
36-A10	45	110	250	315
36-A35				
36-A51	45	135	225	315
36A-72		110		
36-A99	30	135		
36B-78	35	106	254	325
36B-90				
36D-78	35	106	254	325
40-1	65	130	235	300
40-9	65	125	225	310
40-10	65	125	225	310
40-26	80	110	250	280
40-31	80	110	250	280
40-35	70	130	230	290
40-47	65	125	225	310
40-53	80	110	250	280
40-56	72	144	216	288
40-62	30	130	220	290
40-63	80			280
40-67	70	110	230	280
40-100	30	105	230	315
40-150				
40-951	90	105		
40-A3	70	145	215	290
40-A4	50	120	240	325
40-A5	33			270
40-A6	35	110	250	280
40-A5GM	33			270
40-A8	35	110	250	325
40-A9				
40-A10	65			
40-A14				
40-A20	80	110	250	280
40-A24				
40-A38	37			

Arrangement	a ± 2°			
	W	X	Y	Z
40-A51				
40-A55				
40-A56	72	144	216	288
40-A62	80	130	230	280
40-A65	70	145	215	285
40-A70	80	110	250	280
40-B4	45	110	215	300
40-B19	35	105	255	325
40-B25				
40-B37				
40-D4				
40-G4				

** Class A Only - Only Crimp Contacts

Insert Rotation (front view)



TOPSIDE: SEACROW™



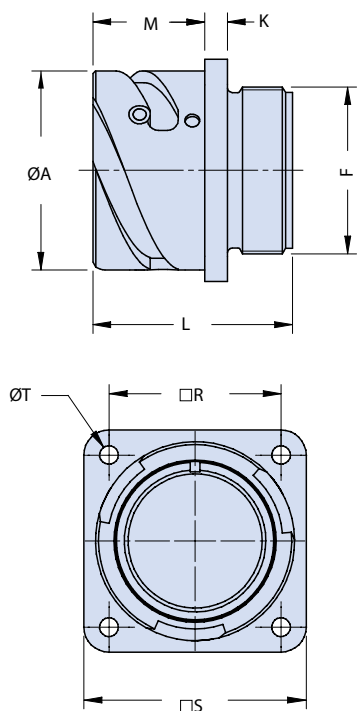


SEACROW MARINE BRONZE
 Topside / Shipboard
 Environmental Connectors



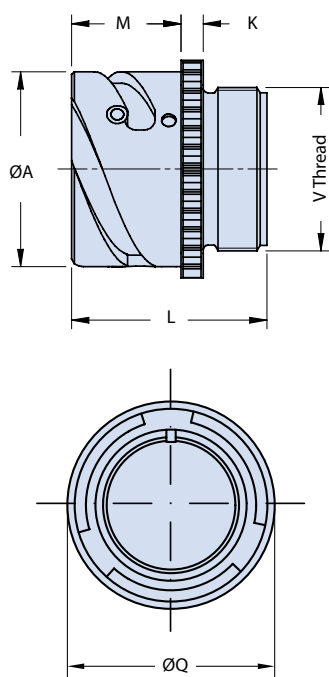
ITS-MB with Solder Cup or Crimp Contacts

ITS 00 FRONT WALL MOUNT RECEPTACLE WITH THROUGH HOLES AND ACCESSORY THREADS



Dimensions								
Shell Size	ØA +0.2 [.01]- 0.1 [.00]	K ±0.2 [.01]	L Max.	M +0.4 [.02] -0 [0.00]	R ±0.2 [.01]	S ±0.2 [.01]	ØT +0.1 [0.00] -0 [0.00]	F Thread
10 SL	18.2 [0.72]	2.8 [0.11]	24.7 [0.97]	14.2 [0.56]	18.25 [0.72]	25.4 [1.00]	3.2 [0.13]	0.6250 - 24UNEF
14 S	24.5 [0.96]	3.2 [0.13]	24.9 [0.98]	14.2 [0.56]	23.00 [0.91]	30.4 [1.20]	3.2 [0.13]	0.7500 - 20UNEF
16 S	27.2 [1.07]	3.2 [0.13]	24.9 [0.98]	14.2 [0.56]	24.60 [0.97]	32.5 [1.28]	3.2 [0.13]	0.8750 - 20UNEF
16	27.2 [1.07]	3.2 [0.13]	33.9 [1.33]	19.0 [0.75]	24.60 [0.97]	32.5 [1.28]	3.2 [0.13]	0.8750 - 20UNEF
18	30.7 [1.21]	4.0 [0.16]	34.3 [1.35]	19.0 [0.75]	27.00 [1.06]	35.0 [1.38]	3.2 [0.13]	1.0000 - 20UNEF
20	34.0 [1.34]	4.0 [0.16]	34.3 [1.35]	19.0 [0.75]	29.40 [1.16]	38.0 [1.50]	3.2 [0.13]	1.1250 - 18UNEF
22	37.3 [1.47]	4.0 [0.16]	34.3 [1.35]	19.0 [0.75]	31.75 [1.25]	41.0 [1.61]	3.2 [0.13]	1.2500 - 18UNEF
24	40.9 [1.61]	4.0 [0.16]	35.8 [1.41]	20.6 [0.81]	34.90 [1.37]	44.5 [1.75]	3.7 [0.15]	1.3750 - 18UNEF
28	46.7 [1.84]	4.0 [0.16]	35.8 [1.41]	20.6 [0.81]	39.70 [1.56]	50.9 [2.00]	3.7 [0.15]	1.6250 - 18UNEF
32	53.4 [2.10]	4.0 [0.16]	37.4 [1.47]	22.2 [0.87]	44.50 [1.75]	57.0 [2.24]	4.3 [0.17]	1.8750 - 16UN
36	59.6 [2.35]	4.0 [0.16]	37.4 [1.47]	22.2 [0.87]	49.20 [1.94]	63.5 [2.50]	4.3 [0.17]	2.0625 - 16UNS
40	65.5 [2.58]	4.0 [0.16]	37.4 [1.47]	22.2 [0.87]	55.55 [2.19]	69.9 [2.75]	4.3 [0.17]	2.3125 - 16UNS

ITS 01 IN-LINE RECEPTACLE WITH ACCESSORY THREADS



Dimensions						
Shell Size	ØA +0.2 [.01] -0.1 [00]	K ±0.2 [.01]	L Max.	M +0.4 [.02] -0 [0]	ØQ ±0.1 [.00]	V Thread
10 SL	18.2 [0.72]	2.8 [0.11]	24.7 [0.97]	14.2 [0.56]	21.8 [0.86]	0.6250 - 24UNEF
14 S	24.5 [0.96]	3.2 [0.13]	24.9 [0.98]	14.2 [0.56]	28.8 [1.13]	0.7500 - 20UNEF
16 S	27.2 [1.07]	3.2 [0.13]	24.9 [0.98]	14.2 [0.56]	30.5 [1.20]	0.8750 - 20UNEF
16	27.2 [1.07]	3.2 [0.13]	33.9 [1.33]	19.0 [0.75]	30.5 [1.20]	0.8750 - 20UNEF
18	30.7 [1.21]	4.0 [0.16]	34.3 [1.35]	19.0 [0.75]	33.8 [1.33]	1.0000 - 20UNEF
20	34.0 [1.34]	4.0 [0.16]	34.2 [1.35]	19.0 [0.75]	36.9 [1.45]	1.1250 - 18UNEF
22	37.3 [1.47]	4.0 [0.16]	34.3 [1.35]	19.0 [0.75]	39.5 [1.56]	1.2500 - 18UNEF
24	40.9 [1.61]	4.0 [0.16]	35.8 [1.41]	20.6 [0.81]	43.9 [1.73]	1.3750 - 18UNEF
28	46.7 [1.84]	4.0 [0.16]	35.8 [1.41]	20.6 [0.81]	48.4 [1.91]	1.6250 - 18UNEF
32	53.4 [2.10]	4.0 [0.16]	37.4 [1.47]	22.2 [0.87]	56.0 [2.20]	1.8750 - 16UN
36	59.6 [2.35]	4.0 [0.16]	37.4 [1.47]	22.2 [0.87]	62.4 [2.46]	2.0625 - 16UNS
40	65.5 [2.58]	4.0 [0.16]	37.4 [1.47]	22.2 [0.87]	68.6 [2.70]	2.3125 - 16UNS

TOPSIDE: SEACROW™



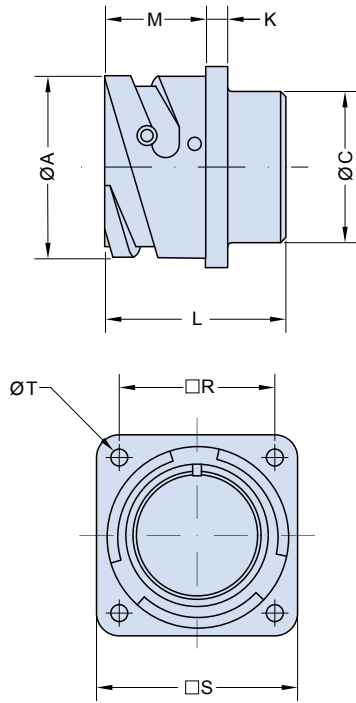


SEACROW MARINE BRONZE
Topside / Shipboard
Environmental Connectors



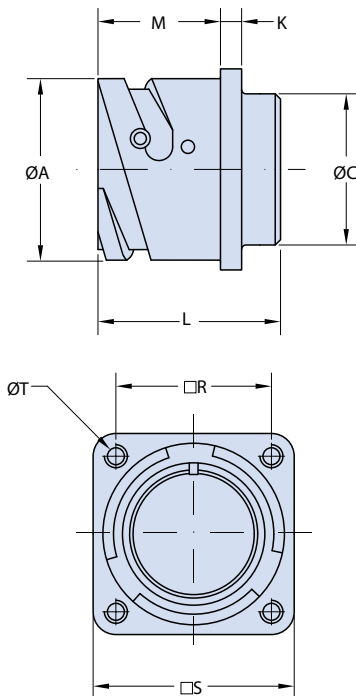
ITS Front Wall Mount (00) and In-line Rectacles (01)

ITS 02 FRONT WALL MOUNT RECEPTACLE, NO ACCESSORY THREADS



Dimensions								
Shell Size	Ø A +0.2 [.01] -0.1 [.00]	Ø C Max.	K ±0.2 [.01]	L Max	M +0.41[.02] -0 [0.00]	R ±0.2 [.01]	S ±0.2 [.01]	Ø T +0.1[.00] -0[0.00]
10 SL	18.2 [0.72]	16.2 [0.64]	2.8 [0.11]	24.7 [0.97]	14.2 [0.56]	18.25 [0.72]	25.4 [1.00]	3.2 [0.13]
14 S	24.5 [0.96]	19.2 [0.76]	3.2 [0.13]	24.9 [0.98]	14.2 [0.56]	23.00 [0.91]	30.4 [1.20]	3.2 [0.13]
16 S	27.2 [1.07]	22.4 [0.88]	3.2 [0.13]	24.9 [0.98]	14.2 [0.56]	24.60 [0.97]	32.5 [1.28]	3.2 [0.13]
16	27.2 [1.07]	22.4 [0.88]	3.2 [0.13]	33.9 [1.33]	19.0 [0.75]	24.60 [0.97]	32.5 [1.28]	3.2 [0.13]
18	30.7 [1.21]	25.6 [1.01]	4.0 [0.16]	34.3 [1.35]	19.0 [0.75]	27.00 [1.06]	35.0 [1.38]	3.2 [0.13]
20	34.0 [1.34]	29.0 [1.14]	4.0 [0.16]	34.3 [1.35]	19.0 [0.75]	29.40 [1.16]	38.0 [1.50]	3.2 [0.13]
22	37.3 [1.47]	32.2 [1.27]	4.0 [0.16]	34.3 [1.35]	19.0 [0.75]	31.75 [1.25]	41.0 [1.61]	3.2 [0.13]
24	40.9 [1.61]	35.3 [1.39]	4.0 [0.16]	35.8 [1.41]	20.6 [0.81]	34.90 [1.37]	44.5 [1.75]	3.7 [0.15]
28	46.7 [1.84]	41.4 [1.63]	4.0 [0.16]	35.8 [1.41]	20.6 [0.81]	39.70 [1.56]	50.9 [2.00]	3.7 [0.15]
32	53.4 [2.10]	47.8 [1.88]	4.0 [0.16]	37.4 [1.47]	22.2 [0.87]	44.50 [1.75]	57.0 [2.24]	4.3 [0.17]
36	59.6 [2.35]	54.1 [2.13]	4.0 [0.16]	37.4 [1.47]	22.2 [0.87]	49.20 [1.94]	63.5 [2.50]	4.3 [0.17]
40	65.5 [2.58]	59.0 [2.32]	4.0 [0.16]	37.4 [1.47]	22.2 [0.87]	55.55 [2.19]	69.9 [2.75]	4.3 [0.17]

ITS 03 REAR PANEL MOUNT SQUARE FLANGE RECEPTACLE, NO ACCESSORY THREADS



Dimensions								
Shell Size	Ø A +0.2 [.01] -0.1 [0.00]	Ø C max.	K ±0.2 [0.01]	L Max.	M +0.2 [0.01] -0 [0.00]	R ±0.2 [0.01]	S ±0.2 [0.01]	T Thd
10 SL	18.2 [0.72]	16.2 [0.64]	2.8 [0.11]	25.0 [0.98]	18.4 [0.72]	18.25 [0.72]	25.4 [1.00]	M4
14 S	24.5 [0.96]	19.2 [0.76]	3.2 [0.13]	25.0 [0.98]	18.4 [0.72]	23.00 [0.91]	30.4 [1.20]	M4
16 S	27.2 [1.07]	22.4 [0.88]	3.2 [0.13]	25.0 [0.98]	18.4 [0.72]	24.60 [0.97]	32.5 [1.28]	M4
16	27.2 [1.07]	22.4 [0.88]	3.2 [0.13]	34.5 [1.36]	23.2 [0.91]	24.60 [0.97]	32.5 [1.28]	M4
18	30.7 [1.21]	25.6 [1.01]	4.0 [0.16]	34.5 [1.36]	23.2 [0.91]	27.00 [1.06]	35.0 [1.38]	M4
20	34.0 [1.34]	29.0 [1.14]	4.0 [0.16]	34.5 [1.36]	23.2 [0.91]	29.40 [1.16]	38.0 [1.50]	M4
22	37.3 [1.47]	32.2 [1.27]	4.0 [0.16]	34.5 [1.36]	23.2 [0.91]	31.75 [1.25]	41.0 [1.61]	M4
24	40.9 [1.61]	35.3 [1.39]	4.0 [0.16]	34.5 [1.36]	23.2 [0.91]	34.90 [1.37]	44.5 [1.75]	M4
28	46.7 [1.84]	41.4 [1.63]	4.0 [0.16]	34.5 [1.36]	24.2 [0.95]	39.70 [1.56]	50.9 [2.00]	M5
32	53.4 [2.10]	47.8 [1.88]	4.0 [0.16]	34.5 [1.36]	24.2 [0.95]	44.50 [1.75]	57.0 [2.24]	M5
36	59.6 [2.35]	54.1 [2.13]	4.0 [0.16]	34.5 [1.36]	24.2 [0.95]	49.20 [1.94]	63.5 [2.50]	M5
40	65.5 [2.58]	59.0 [2.32]	4.0 [0.16]	34.5 [1.36]	24.2 [0.95]	55.55 [2.19]	69.9 [2.75]	M5

TOPSIDE: SEACROW™



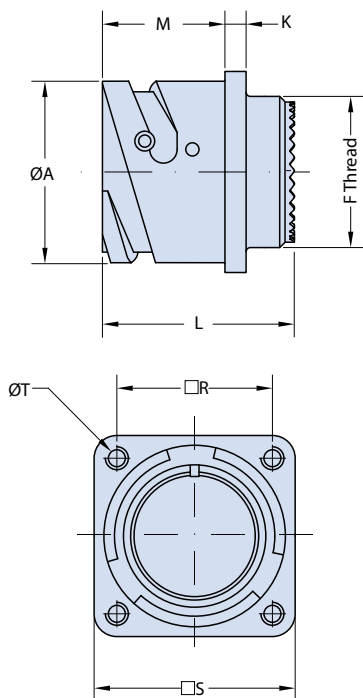


SEACROW MARINE BRONZE Topside / Shipboard Environmental Connectors



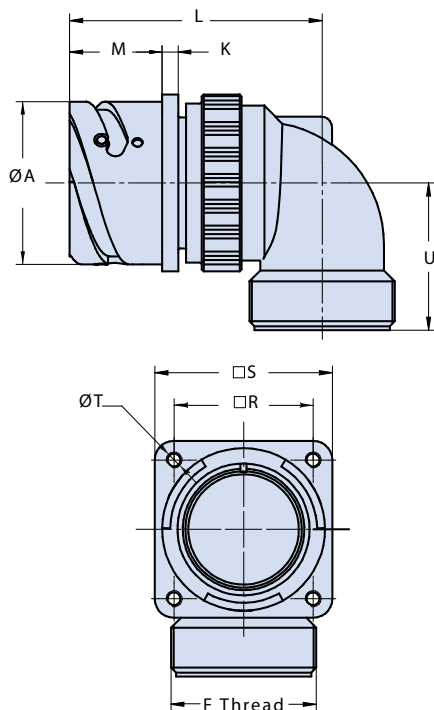
ITS-MB with solder cup or crimp contacts

ITS 030 REAR WALL MOUNT SQUARE FLANGE RECEPTACLE WITH ACCESSORY THREADS



Dimensions								
Shell Size	ØA +0.2[.01] -0.1[0.00]	K ±0.2[.01]	L ±0.2[.01]	M +0.2[.01] 0[.00]	R ±0.2[.01]	S ±0.2[.01]	T Thd	F Thread
10 SL	18.2 [0.72]	2.8 [0.11]	30.0 [1.18]	18.4 [0.72]	18.25 [0.72]	25.4 [1.00]	M4	0.6250 - 24UNEF
14 S	24.5 [0.96]	3.2 [0.13]	30.0 [1.18]	18.4 [0.72]	23.00 [0.91]	30.4 [1.20]	M4	0.7500 - 20UNEF
16 S	27.2 [1.07]	3.2 [0.13]	30.0 [1.18]	18.4 [0.72]	24.60 [0.97]	32.5 [1.28]	M4	0.8750 - 20UNEF
16	27.2 [1.07]	3.2 [0.13]	37.0 [1.46]	23.2 [0.91]	24.60 [0.97]	32.5 [1.28]	M4	0.8750 - 20UNEF
18	30.7 [1.21]	4.0 [0.16]	36.0 [1.42]	23.2 [0.91]	27.00 [1.06]	35.0 [1.38]	M4	1.0000 - 20UNEF
20	34.0 [1.34]	4.0 [0.16]	38.3 [1.51]	23.2 [0.91]	29.40 [1.16]	38.0 [1.50]	M4	1.1250 - 18UNEF
22	37.3 [1.47]	4.0 [0.16]	37.0 [1.46]	23.2 [0.91]	31.75 [1.25]	41.0 [1.61]	M4	1.2500 - 18UNEF
24	40.9 [1.61]	4.0 [0.16]	37.0 [1.46]	23.2 [0.91]	34.90 [1.37]	44.5 [1.75]	M4	1.3750 - 18UNEF
28	46.7 [1.84]	4.0 [0.16]	39.5 [1.56]	24.2 [0.95]	39.70 [1.56]	50.9 [2.00]	M5	1.6250 - 18UNEF
32	53.4 [2.10]	4.0 [0.16]	39.5 [1.56]	24.2 [0.95]	44.50 [1.75]	57.0 [2.24]	M5	1.8750 - 16UN
36	59.6 [2.35]	4.0 [0.16]	39.5 [1.56]	24.2 [0.95]	49.20 [1.94]	63.5 [2.50]	M5	2.0625 - 16UNS
40	65.5 [2.58]	4.0 [0.16]	39.5 [1.56]	24.2 [0.95]	55.55 [2.19]	69.9 [2.75]	M5	2.3125 - 16UNS

ITS 038 RPM SQUARE FLANGE RECEPTACLE AND 90° BACKSHELL ASSEMBLY WITH ACCSY THREADS



Dimensions									
Shell Size	ØA +0.2[.01] -0.1[0.00]	F Thread	K ±0.2[.01]	L Max.	U ±0.2[.01]	M +0.2[.01] -0[0.00]	R ±0.2[.01]	S ±0.2[.01]	T Thd
10 SL	18.2 [0.72]	0.6250 - 24UNEF	2.8 [0.11]	48 [1.89]	25.0 [0.98]	18.4 [0.72]	18.25 [0.72]	25.4 [1.00]	M4
14 S	24.5 [0.96]	0.7500 - 20UNEF	3.2 [0.13]	50 [1.97]	26.5 [1.04]	18.4 [0.72]	23.00 [0.91]	30.4 [1.20]	M4
16 S	27.2 [1.07]	0.8750 - 20UNEF	3.2 [0.13]	53 [2.09]	27.0 [1.06]	18.4 [0.72]	24.60 [0.97]	32.5 [1.28]	M4
16	27.2 [1.07]	0.8750 - 20UNEF	3.2 [0.13]	60 [2.36]	27.0 [1.06]	23.2 [0.91]	24.60 [0.97]	32.5 [1.28]	M4
18	30.7 [1.21]	1.0000 - 20UNEF	4.0 [0.16]	61 [2.40]	30.0 [1.18]	23.2 [0.91]	27.00 [1.06]	35.0 [1.38]	M4
20	34.0 [1.34]	1.1875 - 18UNEF	4.0 [0.16]	69 [2.72]	32.0 [1.26]	23.2 [0.91]	29.40 [1.16]	38.0 [1.50]	M4
22	37.3 [1.47]	1.1875 - 18UNEF	4.0 [0.16]	69 [2.72]	32.0 [1.26]	23.2 [0.91]	31.75 [1.25]	41.0 [1.61]	M4
24	40.9 [1.61]	1.4375 - 18UNEF	4.0 [0.16]	71 [2.80]	37.0 [1.46]	23.2 [0.91]	34.90 [1.37]	44.5 [1.75]	M4
28	46.7 [1.84]	1.4375 - 18UNEF	4.0 [0.16]	73 [2.87]	38.0 [1.50]	24.2 [0.95]	39.70 [1.56]	50.9 [2.00]	M5
32	53.4 [2.10]	1.7500 - 18UNS	4.0 [0.16]	77 [3.03]	45.5 [1.79]	24.2 [0.95]	44.50 [1.75]	57.0 [2.24]	M5
36	59.6 [2.35]	2.0000 - 18UNS	4.0 [0.16]	80 [3.15]	47.2 [1.86]	24.2 [0.95]	49.20 [1.94]	63.5 [2.50]	M5
40	65.5 [2.58]	2.2500 - 16UN	4.0 [0.16]	83 [3.27]	52.0 [2.05]	24.2 [0.95]	55.55 [2.19]	69.9 [2.75]	M5

TOPSIDE: SEACROW™



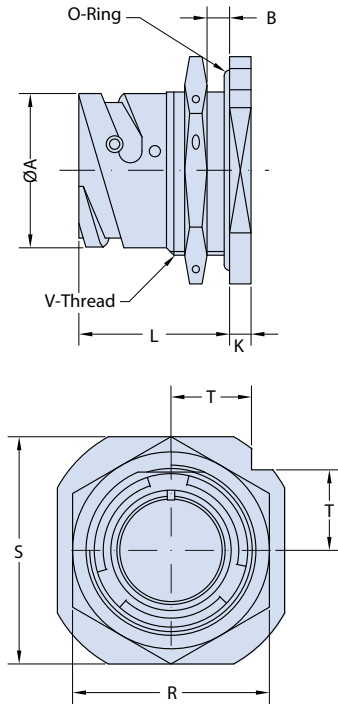


SEACROW MARINE BRONZE Topside / Shipboard Environmental Connectors



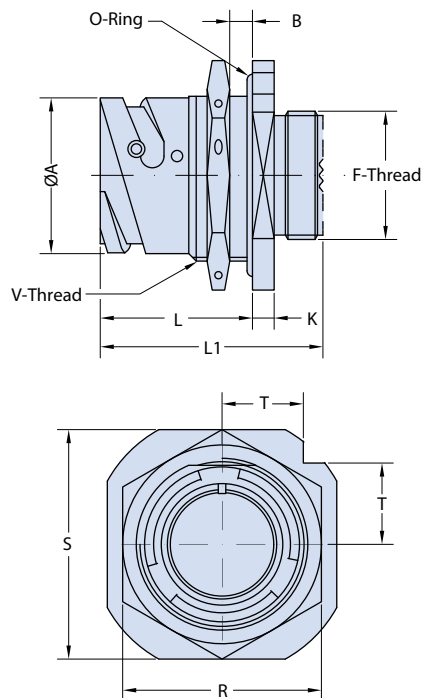
ITS-MB with solder cup or crimp contacts

ITS 07 JAM NUT RECEPTACLE, NO ACCESSORY THREADS



Shell Size	Dimensions								
	ØA +0.2[.01] -0.1[0.00]	B		K ±0.2[.01]	L ±0.1[0.00]	R Key	S ±0.2[.01]	T	V Thread
		Min.	Max.						
10 SL	18.2 [0.72]	2.4 [0.09]	5.2 [0.20]	4.0 [0.16]	24.5 [0.96]	27 [1.06]	31.8 [1.25]	11.2 [0.44]	0.8750 - 20UNEF
14 S	24.5 [0.96]	2.4 [0.09]	7.5 [0.30]	4.8 [0.19]	26.8 [1.06]	33 [1.30]	41.3 [1.63]	14.6 [0.57]	1.1250 - 18UNEF
16 S	27.2 [1.07]	2.4 [0.09]	7.5 [0.30]	4.8 [0.19]	26.8 [1.06]	38 [1.50]	44.4 [1.75]	15.7 [0.62]	1.2500 - 18UNEF
16	27.2 [1.07]	2.4 [0.09]	7.5 [0.30]	4.8 [0.19]	32.2 [1.27]	38 [1.50]	44.4 [1.75]	15.7 [0.62]	1.2500 - 18UNEF
18	30.7 [1.21]	2.4 [0.09]	9.0 [0.35]	4.8 [0.19]	33.7 [1.33]	40 [1.57]	47.6 [1.87]	16.8 [0.66]	1.3750 - 18UNEF
20	34.0 [1.34]	2.4 [0.09]	9.0 [0.35]	4.8 [0.19]	33.7 [1.33]	44 [1.73]	50.8 [2.00]	18.0 [0.71]	1.5000 - 18UNEF
22	37.3 [1.47]	2.4 [0.09]	9.1 [0.36]	4.8 [0.19]	33.7 [1.33]	46 [1.81]	54.2 [2.13]	20.2 [0.80]	1.6250 - 18UNEF
24	40.9 [1.61]	2.4 [0.09]	9.1 [0.36]	4.8 [0.19]	33.7 [1.33]	51 [2.01]	57.2 [2.25]	20.2 [0.80]	1.7500 - 18UNS
28	46.7 [1.84]	2.4 [0.09]	8.5 [0.33]	5.6 [0.22]	35.2 [1.39]	55 [2.17]	63.5 [2.50]	22.5 [0.89]	2.0000 - 18UNS
32	53.4 [2.10]	2.4 [0.09]	6.5 [0.26]	5.6 [0.22]	35.2 [1.39]	62 [2.44]	69.8 [2.75]	24.7 [0.97]	2.2500 - 16UN
36	59.6 [2.35]	2.4 [0.09]	8.3 [0.33]	5.6 [0.22]	35.2 [1.39]	71 [2.80]	76.2 [3.00]	26.9 [1.06]	2.5000 - 16UN
40	65.5 [2.58]	2.4 [0.09]	8.3 [0.33]	5.6 [0.22]	35.2 [1.39]	75 [2.95]	83.5 [3.29]	29.6 [1.17]	2.7500 - 16UN

ITS 070 JAM NUT RECEPTACLE WITH ACCESSORY THREADS



Shell Size	Dimensions									
	ØA+0.2 -0.1	B*Max	F Thread	K ±0.2	L ±0.1	L1 ±0.25	R (Key)	S ±0.2	T	V Thread
10 SL	18.2 [0.72]	5.2 [0.20]	0.6250 - 24UNEF	4.0 [0.16]	24.5 [0.96]	36.2 [1.43]	27 [1.06]	31.8 [1.25]	11.2 [0.44]	0.8750 - 20UNEF
14 S	24.5 [0.96]	7.5 [0.30]	0.7500 - 20UNEF	4.8 [0.19]	26.8 [1.06]	38.9 [1.53]	33 [1.30]	41.3 [1.63]	14.6 [0.57]	1.1250 - 18UNEF
16 S	27.2 [1.07]	7.5 [0.30]	0.8750 - 20UNEF	4.8 [0.19]	26.8 [1.06]	38.9 [1.53]	38 [1.50]	44.4 [1.75]	15.7 [0.62]	1.2500 - 18UNEF
16	27.2 [1.07]	7.5 [0.30]	0.8750 - 20UNEF	4.8 [0.19]	32.2 [1.27]	48.5 [1.91]	38 [1.50]	44.4 [1.75]	15.7 [0.62]	1.2500 - 18UNEF
18	30.7 [1.21]	9.0 [0.35]	1.0000 - 20UNEF	4.8 [0.19]	33.7 [1.33]	49.3 [1.94]	40 [1.57]	47.6 [1.87]	16.8 [0.66]	1.3750 - 18UNEF
20	34.0 [1.34]	9.0 [0.35]	1.1250 - 18UNEF	4.8 [0.19]	33.7 [1.33]	49.3 [1.94]	44 [1.73]	50.8 [2.00]	18.0 [0.71]	1.5000 - 18UNEF
22	37.3 [1.47]	9.1 [0.36]	1.2500 - 18UNEF	4.8 [0.19]	33.7 [1.33]	49.3 [1.94]	46 [1.81]	54.2 [2.13]	20.2 [0.80]	1.6250 - 18UNEF
24	40.9 [1.61]	9.1 [0.36]	1.3750 - 18UNEF	4.8 [0.19]	33.7 [1.33]	49.3 [1.94]	51 [2.01]	57.2 [2.25]	20.2 [0.80]	1.7500 - 18UNS
28	46.7 [1.84]	8.5 [0.33]	1.6250 - 18UNEF	5.6 [0.22]	35.2 [1.39]	51.9 [2.04]	55 [2.17]	63.5 [2.50]	22.5 [0.89]	2.0000 - 18UNS
32	53.4 [2.10]	6.5 [0.26]	1.8750 - 16UN	5.6 [0.22]	35.2 [1.39]	51.9 [2.04]	62 [2.44]	69.8 [2.75]	24.7 [0.97]	2.2500 - 16UN
36	59.6 [2.35]	8.3 [0.33]	2.0625 - 16UNS	5.6 [0.22]	35.2 [1.39]	51.9 [2.04]	71 [2.80]	76.2 [3.00]	26.9 [1.06]	2.5000 - 16UN
40	65.5 [2.58]	8.3 [0.33]	2.3125 - 16UNS	5.6 [0.22]	35.2 [1.39]	51.9 [2.04]	75 [2.95]	83.5 [3.29]	29.6 [1.17]	2.7500 - 16UN

*B minimum dimension is 2.4 [0.09]



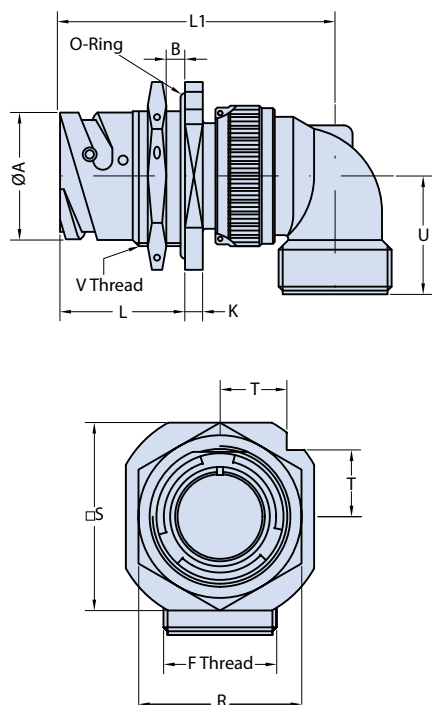


SEACROW MARINE BRONZE
 Topside / Shipboard
 Environmental Connectors



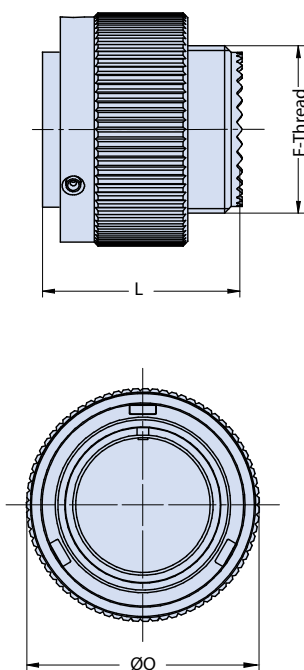
ITS-MB with solder cup or crimp contacts

ITS 078 JAM-NUT RECEPTACLE AND 90° BACKSHELL ASSEMBLY



Shell Size	Dimensions											
	ØA +0.2 [.01] -0.1 [.00]	B		F Thread	K ±0.2 [.01]	L ±0.1 [.00]	L1 Max	R Key	S ±0.2 [.01]	T	U ±0.2 [.01]	V Thread
		Min	Max									
10 SL	18.2 [0.72]	2.4 [0.09]	5.2 [0.20]	0.6250 - 24UNEF	4.0 [0.16]	24.5 [0.96]	55 [2.17]	27 [1.06]	31.8 [1.25]	11.2 [0.44]	25.0 [0.98]	0.8750 - 20UNEF
14 S	24.5 [0.96]	2.4 [0.09]	7.5 [0.30]	0.7500 - 20UNEF	4.8 [0.19]	26.8 [1.06]	60 [2.36]	33 [1.30]	41.3 [1.63]	14.6 [0.57]	26.5 [1.04]	1.1250 - 18UNEF
16 S	27.2 [1.07]	2.4 [0.09]	7.5 [0.30]	0.8750 - 20UNEF	4.8 [0.19]	26.8 [1.06]	60 [2.36]	38 [1.50]	44.4 [1.75]	15.7 [0.62]	27.0 [1.06]	1.2500 - 18UNEF
16	27.2 [1.07]	2.4 [0.09]	7.5 [0.30]	0.8750 - 20UNEF	4.8 [0.19]	32.2 [1.27]	73 [2.87]	38 [1.50]	44.4 [1.75]	15.7 [0.62]	27.0 [1.06]	1.2500 - 18UNEF
18	30.7 [1.21]	2.4 [0.09]	9.0 [0.35]	1.0000 - 20UNEF	4.8 [0.19]	33.7 [1.33]	74 [2.91]	40 [1.57]	47.6 [1.87]	16.8 [0.66]	30.0 [1.18]	1.3750 - 18UNEF
20	34.0 [1.34]	2.4 [0.09]	9.0 [0.35]	1.1875 - 18UNEF	4.8 [0.19]	33.7 [1.33]	80 [3.15]	44 [1.73]	50.8 [2.00]	18.0 [0.71]	32.0 [1.26]	1.5000 - 18UNEF
22	37.3 [1.47]	2.4 [0.09]	9.1 [0.36]	1.1875 - 18UNEF	4.8 [0.19]	33.7 [1.33]	80 [3.15]	46 [1.81]	54.2 [2.13]	20.2 [0.80]	32.0 [1.26]	1.6250 - 18UNEF
24	40.9 [1.61]	2.4 [0.09]	9.1 [0.36]	1.4375 - 18UNEF	4.8 [0.19]	33.7 [1.33]	84 [3.31]	51 [2.01]	57.2 [2.25]	20.2 [0.80]	37.0 [1.46]	1.7500 - 18UNS
28	46.7 [1.84]	2.4 [0.09]	8.5 [0.33]	1.4375 - 18UNEF	5.6 [0.22]	35.2 [1.39]	85 [3.35]	55 [2.17]	63.5 [2.50]	22.5 [0.89]	38.0 [1.50]	2.0000 - 18UNS
32	53.4 [2.10]	2.4 [0.09]	6.5 [0.26]	1.7500 - 18UNS	5.6 [0.22]	35.2 [1.39]	89 [3.50]	62 [2.44]	69.8 [2.75]	24.7 [0.97]	45.5 [1.79]	2.2500 - 16UN
36	59.6 [2.35]	2.4 [0.09]	8.3 [0.33]	2.0000 - 16UN	5.6 [0.22]	35.2 [1.39]	93 [3.66]	71 [2.80]	76.2 [3.00]	26.9 [1.06]	47.2 [1.86]	2.5000 - 16UN
40	65.5 [2.58]	2.4 [0.09]	8.3 [0.33]	2.2500 - 16UN	5.6 [0.22]	35.2 [1.39]	95 [3.74]	75 [2.95]	83.5 [3.29]	29.6 [1.17]	52.0 [2.05]	2.7500 - 16UN

ITB 06 PLUG WITH ACCESSORY THREADS



Shell Size	Dimensions		
	L ±0.1[0.00]	Ø ±0.2[.01]	F Thread
10 SL	24.6 [0.97]	22.6 [0.89]	0.6250 - 24UNEF
14 S	24.6 [0.97]	29.0 [1.14]	0.7500 - 20UNEF
16 S	24.6 [0.97]	31.6 [1.24]	0.8750 - 20UNEF
16	34.1 [1.34]	31.6 [1.24]	0.8750 - 20UNEF
18	34.1 [1.34]	36.2 [1.43]	1.0000 - 20UNEF
20	34.9 [1.37]	39.8 [1.57]	1.1250 - 18UNEF
22	34.9 [1.37]	43.0 [1.69]	1.2500 - 18UNEF
24	35.7 [1.41]	46.4 [1.83]	1.3750 - 18UNEF
28	35.7 [1.41]	53.0 [2.09]	1.6250 - 18UNEF
32	37.3 [1.47]	60.0 [2.36]	1.8750 - 16UN
36	37.3 [1.47]	66.2 [2.61]	2.0625 - 16UNS
40	37.3 [1.47]	72.3 [2.85]	2.3125 - 16UNS

TOPSIDE: SEACROW™



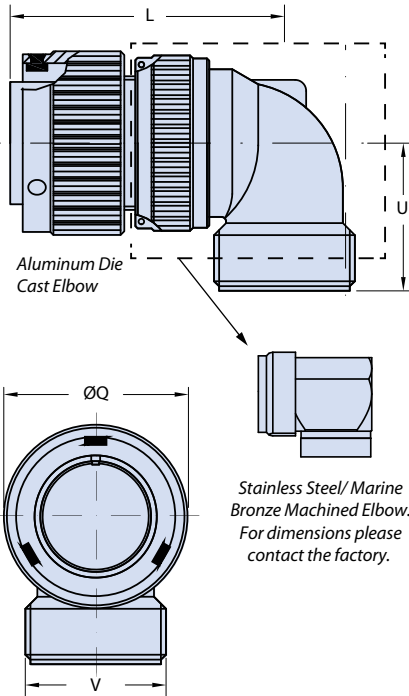


SEACROW MARINE BRONZE Topside / Shipboard Environmental Connectors



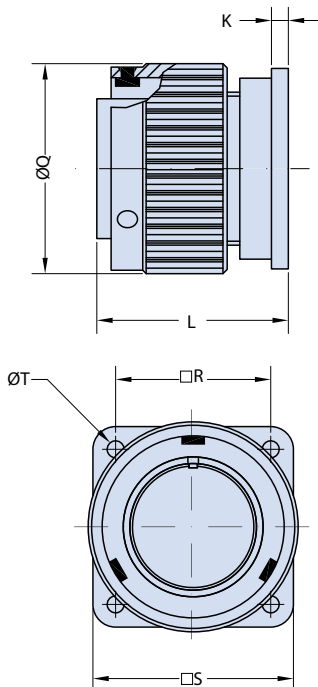
ITS-MB with solder cup or crimp contacts

ITB 08 90° PLUG ASSEMBLY WITH ACCESSORY THREADS



Dimensions				
Shell Size	V Thread	L Max.	ØQ ±0.2[.01]	U ±0.2[.01]
10 SL	0.6250 - 24UNEF	40 [1.57]	22.6 [0.89]	25.0 [0.98]
14 S	0.7500 - 20UNEF	42 [1.65]	29.0 [1.14]	26.5 [1.04]
16 S	0.8750 - 20UNEF	46 [1.81]	31.6 [1.24]	27.0 [1.06]
16	0.8750 - 20UNEF	55 [2.17]	31.6 [1.24]	27.0 [1.06]
18	1.0000 - 20UNEF	57 [2.24]	36.2 [1.43]	30.0 [1.18]
20	1.1875 - 18UNEF	62 [2.44]	39.8 [1.57]	32.0 [1.26]
22	1.1875 - 18UNEF	62 [2.44]	43.0 [1.69]	32.0 [1.26]
24	1.4375 - 18UNEF	67 [2.64]	46.4 [1.83]	37.0 [1.46]
28	1.4375 - 18UNEF	67 [2.64]	53.0 [2.09]	38.0 [1.50]
32	1.7500 - 18UNS	72 [2.83]	60.0 [2.36]	45.5 [1.79]
36	2.0000 - 18UNS	75 [2.95]	66.2 [2.61]	47.2 [1.86]
40	2.2500 - 16UN	78 [3.07]	72.3 [2.85]	52.0 [2.05]

ITB 06 SQUARE FLANGE PANEL MOUNT PLUG



Dimensions						
Shell Size	K ±0.2[.01]	L Max.	ØQ ±0.2[.01]	R ±0.2[.01]	S ±0.2[.01]	ØT +0.1[0.00] -0[0.00]
10 SL	2.8 [0.11]	29.9 [1.18]	22.6 [0.89]	18.25 [0.72]	25.4 [1.00]	3.2 [0.13]
14 S	3.2 [0.13]	29.9 [1.18]	29.0 [1.14]	23.00 [0.91]	30.4 [1.20]	3.2 [0.13]
16 S	3.2 [0.13]	35.1 [1.38]	31.6 [1.24]	24.60 [0.97]	32.5 [1.28]	3.2 [0.13]
16	3.2 [0.13]	35.1 [1.38]	31.6 [1.24]	24.60 [0.97]	32.5 [1.28]	3.2 [0.13]
18	4.0 [0.16]	40.2 [1.58]	36.2 [1.43]	27.00 [1.06]	35.0 [1.38]	3.2 [0.13]
20	4.0 [0.16]	43.8 [1.72]	39.8 [1.57]	29.40 [1.16]	38.0 [1.50]	3.2 [0.13]
22	4.0 [0.16]	43.8 [1.72]	43.0 [1.69]	31.75 [1.25]	41.0 [1.61]	3.2 [0.13]
24	4.0 [0.16]	43.8 [1.72]	46.4 [1.83]	34.90 [1.37]	44.5 [1.75]	3.7 [0.15]
28	4.0 [0.16]	44.0 [1.73]	53.0 [2.09]	39.70 [1.56]	50.9 [2.00]	3.7 [0.15]
32	4.0 [0.16]	45.1 [1.78]	60.0 [2.36]	44.50 [1.75]	57.0 [2.24]	4.3 [0.17]
36	4.0 [0.16]	45.1 [1.78]	66.2 [2.61]	49.20 [1.94]	63.5 [2.50]	4.3 [0.17]
40	4.0 [0.16]	45.1 [1.78]	72.3 [2.85]	55.55 [2.19]	69.9 [2.75]	4.3 [0.17]





SEACROW MARINE BRONZE Topside / Shipboard Environmental Connectors

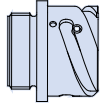


Summary of Connector Styles and Backshells

Receptacles

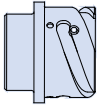
ITS 00

Front Panel Mount
Square Flange
Receptacle with
Accessory Threads



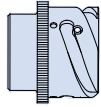
ITS 02

Front Panel Mount
Square Flange Receptacle.
No Accessory Thread



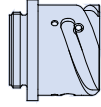
ITS 01

In Line Cylindrical
Receptacle with Accessory
Thread



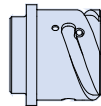
ITS 030

Rear Panel Mount Square
Flange Receptacle with
Accessory Thread



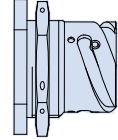
ITS 03

Rear Panel Mount Square
Flange Receptacle. No
Accessory Thread



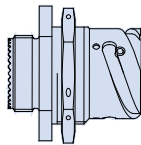
ITS 07

Rear Panel Mount Jam Nut
Receptacle. No Accessory
Thread



ITS 070

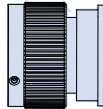
Rear Panel Mount Jam Nut
Receptacle with Accessory
Thread



Plugs

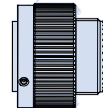
ITB 26

Panel Mounting
Plug



ITB 06

Plug with
Accessory Thread



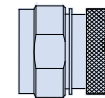
Backshells



A/R
Standard
Backshell



RS
Lipped Backshell



GR
Backshell with Rotating
Coupling Nut Shrink Boot
Adapter

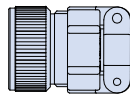
TOPSIDE: SEACROW™



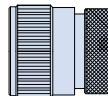
Summary of Connector Styles and Backshells

Adapters

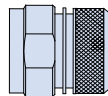
F
 Cable Clamp
 Single Wire



G
 Backshell for Heat
 Shrink Boot

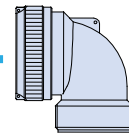


SP
 EMI/RFI Shield
 Termination Straight
 Backshell

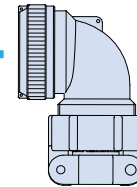


90° Plug Assemblies
 (includes 06 style plug)

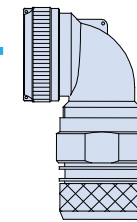
ITB 08 GS
 90° Backshell



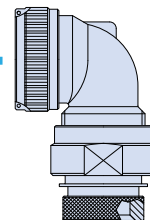
ITB 08 F
 90° Backshell with Cable
 Clamp and Bushing



ITB 08 SP
 90° Backshell EMI/RFI
 Shield Termination

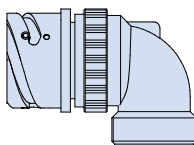


ITB 08 GR
 90° Backshell
 with Rotating Coupling
 Nut Shrink Boot
 Adapter

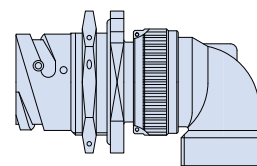


90° Receptacle Assemblies
 (includes 01 style receptacle)

ITS 038
 Rear Wall Mount
 Receptacle and 90°
 Backshell, Assembly



ITS 078
 Rear Panel Mount
 Jam Nut Receptacle
 and 90° Backshell,
 Assembly





SEACROW MARINE BRONZE Topside / Shipboard Environmental Connectors



IT Connector + Backshell Maximum Overall Lengths

Maximum Overall Lengths of Front Panel Mount Square Flange Receptacles (00) with Backshell Options						
Shell Size	Backshell Class					
	A & R	F	G	GR	RS	SP
10 SL	44.0 [1.73]	56.0 [2.20]	53.0 [2.09]	55.0 [2.17]	44.0 [1.73]	57.0 [2.24]
14 S	46.5 [1.83]	60.0 [2.36]	53.5	55.0 [2.17]	48.5 [1.91]	57.0 [2.24]
16 S	46.5 [1.83]	61.5 [2.42]	53.5 [2.11]	55.0 [2.17]	48.5 [1.91]	58.5 [2.30]
16	57.0 [2.24]	72.0 [2.83]	65.5 [2.58]	61.0 [2.40]	56.5 [2.22]	67.5 [2.66]
18	58.0 [2.28]	73.0 [2.87]	66.0 [2.60]	64.5 [2.54]	57.0 [2.24]	69.0 [2.72]
20	58.0 [2.28]	73.0 [2.87]	66.5 [2.62]	64.5 [2.54]	57.0 [2.24]	69.0 [2.72]
22	58.5 [2.30]	73.5 [2.89]	66.5 [2.62]	64.5 [2.54]	58.0 [2.28]	69.0 [2.72]
24	60.5 [2.38]	77.0 [3.03]	66.5 [2.62]	68.5 [2.70]	58.5 [2.30]	70.5 [2.78]
28	66.5 [2.62]	83.0 [3.27]	66.5 [2.62]	68.5 [2.70]	58.5 [2.30]	70.5 [2.78]
32	71.5 [2.81]	88.0 [3.46]	84.0 [3.31]	70.0 [2.76]	60.5 [2.38]	72.0 [2.83]
36	77.0 [3.03]	94.5 [3.72]	84.0 [3.31]	70.0 [2.76]	60.5 [2.38]	72.0 [2.83]
40	77.0 [3.03]	108.5 [4.27]	84.0 [3.31]	70.0 [2.76]	60.5 [2.38]	72.0 [2.83]

Maximum Overall Lengths of Front Panel Mount Square Flange Receptacle (01) with Backshell Options						
Shell Size	Backshell Class					
	A & R	F	G	GR	RS	SP
10 SL	44.0 [1.73]	56.0 [2.20]	53.0 [2.09]	55.0 [2.17]	44.0 [1.73]	57.0 [2.24]
14 S	46.5 [1.83]	60.0 [2.36]	53.5 [2.11]	55.0 [2.17]	48.5 [1.91]	57.0 [2.24]
16 S	46.5 [1.83]	61.5 [2.42]	53.5 [2.11]	55.0 [2.17]	48.5 [1.91]	58.5 [2.30]
16	57.0 [2.24]	72.0 [2.83]	65.5 [2.58]	61.0 [2.40]	56.5 [2.22]	67.5 [2.66]
18	58.0 [2.28]	73.0 [2.87]	66.0 [2.60]	64.5 [2.54]	57.0 [2.24]	69.0 [2.72]
20	58.0 [2.28]	73.0 [2.87]	66.5 [2.62]	64.5 [2.54]	57.0 [2.24]	69.0 [2.72]
22	58.5 [2.30]	73.5 [2.89]	66.5 [2.62]	64.5 [2.54]	58.0 [2.28]	69.0 [2.72]
24	60.5 [2.38]	77.0 [3.03]	66.5 [2.62]	68.5 [2.70]	58.5 [2.30]	70.5 [2.78]
28	66.5 [2.62]	83.0 [3.27]	66.5 [2.62]	68.5 [2.70]	58.5 [2.30]	70.5 [2.78]
32	71.5 [2.81]	88.0 [3.46]	84.0 [3.31]	70.0 [2.76]	60.5 [2.38]	72.0 [2.83]
36	77.0 [3.03]	94.5 [3.72]	84.0 [3.31]	70.0 [2.76]	60.5 [2.38]	72.0 [2.83]
40	77.0 [3.03]	108.5 [4.27]	84.0 [3.31]	70.0 [2.76]	60.5 [2.38]	72.0 [2.83]

4.0 Maximum Overall Lengths of Front Panel Mount Square Flange Receptacle (030) with Backshell Options						
Shell Size	Backshell Class					
	A & R	F	G	GR	RS	SP
10 SL	49.5 [1.95]	61.5 [2.42]	58.0 [2.28]	59.0 [2.32]	49.5 [1.95]	61.0 [2.40]
14 S	52.0 [2.05]	65.5 [2.58]	58.5 [2.30]	59.0 [2.32]	53.5 [2.11]	61.0 [2.40]
16 S	52.0 [2.05]	67.0 [2.64]	58.5 [2.30]	59.0 [2.32]	53.5 [2.11]	62.0 [2.44]
16	60.5 [2.38]	75.5 [2.97]	68.5 [2.70]	64.0 [2.52]	60.0 [2.36]	70.0 [2.76]
18	60.5 [2.38]	75.5 [2.97]	68.5 [2.70]	66.5 [2.62]	60.0 [2.36]	71.0 [2.80]
20	62.5 [2.46]	77.5 [3.05]	70.5 [2.78]	67.0 [2.64]	62.0 [2.44]	72.5 [2.85]
22	62.5 [2.46]	77.5 [3.05]	70.5 [2.78]	67.0 [2.64]	62.0 [2.44]	72.5 [2.85]
24	62.5 [2.46]	79.0 [3.11]	70.5 [2.78]	70.0 [2.76]	62.0 [2.44]	72.5 [2.85]
28	70.0 [2.76]	86.5 [3.41]	70.5 [2.78]	70.0 [2.76]	62.0 [2.44]	73.5 [2.89]
32	71.5 [2.81]	88.0 [3.46]	86.0 [3.39]	72.0 [2.83]	62.5 [2.46]	74.0 [2.91]
36	79.0 [3.11]	96.5 [3.80]	86.0 [3.39]	72.0 [2.83]	62.5 [2.46]	74.0 [2.91]
40	79.0 [3.11]	110.5 [4.35]	86.0 [3.39]	72.0 [2.83]	62.5 [2.46]	74.0 [2.91]

Maximum Overall Lengths of Front Panel Mount Square Flange Receptacle (070) with Backshell Options	
Shell Size	Backshell Class
	A & R
10 SL	24.5 [0.96]
14 S	26.8 [1.06]
16 S	26.8 [1.06]
16	32.2 [1.27]
18	33.7 [1.33]
20	33.7 [1.33]
22	33.7 [1.33]
24	33.7 [1.33]
28	35.2 [1.39]
32	35.2 [1.39]
36	35.2 [1.39]
40	35.2 [1.39]

Maximum Overall Lengths of Front Panel Mount Square Flange Receptacle (06) with Backshell Options						
Shell Size	Backshell Class					
	A & R	F	G	GR	RS	SP
10 SL	44.0 [1.73]	56.0 [2.20]	53.0 [2.09]	54.0 [2.13]	44.0 [1.73]	56.0 [2.20]
14 S	46.5 [1.83]	60.0 [2.36]	53.0 [2.09]	54.0 [2.13]	48.5 [1.91]	56.0 [2.20]
16 S	46.5 [1.83]	61.5 [2.42]	53.0 [2.09]	54.0 [2.13]	48.5 [1.91]	58.0 [2.28]
16	57.5 [2.26]	72.5 [2.85]	66.0 [2.60]	61.0 [2.40]	46.5 [1.83]	67.5 [2.66]
18	58.0 [2.28]	73.0 [2.87]	66.0 [2.60]	63.5 [2.50]	57.0 [2.24]	68.5 [2.70]
20	58.5 [2.30]	73.5 [2.89]	66.0 [2.60]	63.5 [2.50]	57.0 [2.24]	68.5 [2.70]
22	58.5 [2.30]	73.5 [2.89]	66.0 [2.60]	63.5 [2.50]	58.0 [2.28]	68.5 [2.70]
24	60.5 [2.38]	77.5 [3.05]	66.0 [2.60]	67.5 [2.66]	58.5 [2.30]	70.0 [2.76]
28	66.0 [2.60]	83.0 [3.27]	66.0 [2.60]	67.5 [2.66]	58.5 [2.30]	70.0 [2.76]
32	71.5 [2.81]	88.0 [3.46]	84.0 [3.31]	69.5 [2.74]	60.5 [2.38]	71.5 [2.81]
36	77.0 [3.03]	94.5 [3.72]	84.0 [3.31]	69.5 [2.74]	60.5 [2.38]	72.0 [2.83]
40	77.0 [3.03]	108.5 [4.27]	84.0 [3.31]	69.5 [2.74]	60.5 [2.38]	72.0 [2.83]

TOPSIDE: SEACROW™





SEACROW MARINE BRONZE (MB) Topside / Shipboard Environmental Connectors



IT-MB marine bronze connectors

IT-MB THREADED MIL-C-5015 TYPE MARINE BRONZE SERIES



IT-MB is a threaded connector compliant with the MIL-DTL-5015 standard. All the electrical characteristics are available in the IT standard catalogue. IT-MB family is a threaded version mostly used for power and signal, frequently utilized with high-performance IP68 sealing. IP67 is considered standard performance.

IT-MB How To Order								
Sample Part Number	IT	31	00	A	20-27	P	Y	MB
Series	IT = M5015G Threaded Coupling							
Contact Type	31 = Solder Cup 41 = Crimp							
Shell Style	See Shell Style Table							
Environmental Class	See Backshell/Adapter Class Table; backshell determined by class							
Contact Arrangement	See Shell Size and Insert Arrangements Table							
Contact Gender	P = Pin S = Socket							
Alternate Insert Rotation	See Insert Rotation Alternate Positions Table							
Material/Finish	MB = Marine Bronze							

Connector Shell Styles	
Code	Description
00	Front Panel Mount Square Flange Receptacle with Accessory Threads
01	In-Line Cylindrical Receptacle with Accessory Threads
02	Front Panel Mount Square Flange Receptacle—No Accessory Threads
06	Straight Cylindrical Plug Connector with Accessory Threads
08	Cylindrical Plug Connector with 90° Backshell

Environmental Class/Backshell	
Code	Description
A, F	Non-Environmental
G, GR, SP, Y	Environmental (includes Wire Sealing Grommet)
R	Environmental (includes Wire Sealing Grommet and Compression Ring)

SHELL STYLE AND ENVIRONMENTAL CLASS/BACKSHELLMATRIX

Shell Style	Backshell/Adapter Classes						
	A	F	G	GR	SP	Y	R
00	✓	✓					✓
01	✓	✓					✓
02	✓					✓	✓
06	✓	✓	✓	✓	✓		✓
08	✓	✓					✓

NOTES

1. See pages 29 for connector/backshell configurations.





SEACROW MARINE BRONZE (MB)

Topside / Shipboard
Environmental Connectors



IT-MB connector contact arrangements

TOPSIDE: SEACROW™

Arrangement	Rating	Contact Number	Contact Size							
			4/0	0	4	8	12	16	18	20
10SL-3	A	3						3		
10SL-4	A	2						2		
14S-1	A	3						3		
14S-2	I	4						4		
14S-5	I	5						5		
14S-6	I	6						6		
14S-7	A	3						3		
14S-9	A	2						2		
14S-07	I	7						7		
16S-1	A	7						7		
16S-4	D	2						2		
16S-5	A	3						3		
16S-8	A	5						5		
16-2	E	1					1			
16-7	A	3				1		2		
16-9	A	4					2	2		
16-10	A	3					3			
16-11	A	2					2			
16-12	A	1			1					
16-A10*	I	10							10	
18-1	I	10						10		
18-3	D	2					2			
18-4	D	4						4		
18-5	D	3					2	1		
18-6	D	1			1					
18-06	A	6					4	2		
18-7	B	1				1				
18-8	A	8					1	7		
18-9	I	7					2	5		
18-10	A	4					4			
18-10S MT	A	4					4			
18-11	A	5					5			
18-12	A	6						6		
18-13	A	4				1	3			
18-16	C	1					1			
18-19	A	10						10		
18-20	A	5						5		
18-22	D	3						3		
18-30 (18-20x110°)	A	5						5		
20-2	D	1		1						
20-3	D	3					3			
20-4	D	4					4			
20-6	D	3						3		
20-7	A	8						8		
20-8	I	6				2		4		
20-9	A	8					1	7		
20-11	I	13						13		

Arrangement	Rating	Contact Number	Contact Size							
			4/0	0	4	8	12	16	18	20
20-14	A	5				2	3			
20-15	A	7					7			
20-16	A	9					2	7		
20-17	A	6					5	1		
20-18	A	9					3	6		
20-19	A	3				3				
20-21	A	9					1	8		
20-22	A	6				3		3		
20-23	A	2				2				
20-24	A	4				2		2		
20-A24	A	4				2		2		
20-25 (20-11x100°)	I	13						13		
20-27	A	14						14		
20-29	A	17						17		
20-30 (20-11x250°)	I	13						13		
20-33	A	11						11		
20-A8	I	8				2		6		
20-A9	A	9					9			
20-A48	I	19						19		
20-B8	A	8					4	4		
22-1	D	2				2				
22-2	D	3				3				
22-4	A	4				2	2			
22-5	D	6					2	4		
22-7	E	1		1						
22-9	E	3					3			
22-10	E	4						4		
22-11	B	2						2		
22-12	D	5				2		3		
22-14	A	19						19		
22-15*	A	6					5	1		
22-17	A	9					1	8		
22-18	A	8						8		
22-19	A	14						14		
22-20	A	9						9		
22-21	A	3		1				2		
22-22	A	4				4				
22-23	A	8					8			
22-27	A	9				1		8		
22-28	A	7					7			
22-34	D	5					3	2		
22-82	A	10				2		8		
22-A10	A	10						10		
22-A37*	A	37							37	
22-22S MT	A					4				

* Only Crimp Contact Version



SEACROW MARINE BRONZE (MB)

**Topside / Shipboard
Environmental Connectors**



IT-MB connector contact arrangements

Arrangement	Rating	Contact Number	Contact Size							
			4/0	0	4	8	12	16	18	20
24-2	D	7					7			
24-3	A	7					2	5		
24-4	D	4		1				3		
24-5	A	16						16		
24-06	D	6				4		2		
24-6	A	8					8			
24-07	D	7					7			
24-7	A	16					2	14		
24-9	A	2			2					
24-10	A	7				7				
24-11	A	9				3	6			
24-12	A	5			2		3			
24-013	A	13					6	7		
24-19	A	12						12		
24-20	D	11					2	9		
24-22	D	4				4				
24-27	E	7						7		
24-28	I	24						24		
24-67*	A	19						19		
24-A1	B	1		1						
24-A8	A	8				5	3			
24-A11	A	11				2		9		
24-A12	A	12			2			10		
24-A25	A	25						25		
24-A28	I	28						28		
24-A55*	I	55							55	
24-G5	A	5				5				
28-1	A	9				3	6			
28-2	D	14					2	12		
28-3	E	3				3				
28-6	D	3			3					
28-09	A	9			4			5		
28-9	D	12					6	6		
28-10	A	7			2	2	3			
28-11	A	22					4	18		
28-12	A	26						26		
28-13 (28-12x100°)	A	26						26		
28-15	A	35						35		
28-16	A	20						20		
28-17	A	15						15		
28-18	I	12						12		
28-19	A	10					4	6		
28-20	A	14					10	4		
28-21	A	37						37		
28-22	D	6			3			3		
28-51	D	12						12		
28-59	A	17					7	10		

Arrangement	Rating	Contact Number	Contact Size							
			4/0	0	4	8	12	16	18	20
28-70	A	7					7			
28-72**	I	72							72	
28-84	A	9					9			
28-124	A	16					4	12		
28-A29	A	29					2	27		
28-A31	A	31					6		25	
28-A35	A	35						35		
28-A63	I	28					9	19		
28-B1	B	1			1					
28-B2	E	2					2			
32-1	D	5			2			3		
32-2	E	5				3		2		
32-3	D	9			1	2		2	4	
32-5	D	2			2					
32-6	A	23				2	3	2	16	
32-7	I	35						7	28	
32-8	A	30						6	24	
32-9	D	14				2			12	
32-013	D	13						13		
32-13	D	23						5	18	
32-15	D	8			2			6		
32-17	D	4				4				
32-22	A	54							54	
32-31	A	31							31	
32-59	A	42					2		40	
32-68	A	16				4			12	
32-689	A	9				3			6	
32-A5 GM	A	5				5				
32-76	A	19						19		
32-79	D	5				4	1			
32-88	A	54							54	
32-A1	A	1			1					
32-A3	E	3				3				
32-A8	A	8					8			
32-A25	A	25						25		
32-A27	A	27						10	17	
32-A30	A	30						10	20	
32-A40	A	40							40	
32-A48	I	48							48	
32-A55	A	55							55	
32-B22	A	22				2			20	
36-01	C	1			1					
36-3	D	6				3			3	
36-4	A	3				3				
36-5	A	4				4				
36-6	A	6			2	4				

* Only Crimp Contact Version

TOPSIDE: SEACROW™





SEACROW MARINE BRONZE (MB)

Topside / Shipboard Environmental Connectors



IT-MB connector contact arrangements

Arrangement	Rating	Contact Number	Contact Size									
			4/0	0	4	8	12	16	18	20		
36-7	A	47					7	40				
36-8	A	47					1	46				
36-9	A	31			1	2	14	14				
36-10	A	48						48				
36-14	D	16				5	5	6				
36-15	A	35							35			
36-18 (36-9x100°)	A	31			1	2	14	14				
36-22	D	22						22				
36-35	A	36				4		32				
36-54=36-B39	A	39				8		31				
36-66	A	56					4	52				
36-74	A	44				1		43				
36-77	D	7			7							
36-A7	A	7		3	2		2					
36-A10	A	10			2	8						
36-A35	A	8		4				4				
36-A51	D	6		3	2			1				
36-A72**	I	72					4	16	52			
36-A99*	A	65						15		50		
36-B78	D	14				12		2				
36-B90	D	1	n.1 Special Contact									
36-D78	D	14				10		4				
40-1	D	30					6	24				
40-9	A	47				1	22	24				
40-10	A	29			4	9		16				
40-26	A	26				7	19					
40-31	D	31					31					
40-35	D	35					35					
40-47	A	47				1	22	24				
40-53	A	60						60				
40-56	A	85						85				
40-62	A	60						60				
40-63	A	61						61				
40-67	A	11			10			1				
40-100**	A	100							100			
40-150**	I	150							150			
40-951	A	51					25	26				
40-A3	A	5		3			2					
40-A4	A	6		4			2					
40-A5	A	5		3	1		1					
40-A5GM	A	5		5								
40-A6	B	6					6					
40-A8	E	8		4				4				
40-A9	A	9		3		6						
40-A10	D	8			4			4				
40-A14	A	14			8		6					

Arrangement	Rating	Contact Number	Contact Size							
			4/0	0	4	8	12	16	18	20
40-A20	D	20					2	18		
40-A24	D	24					8	16		
40-A38	A	38						38		
40-A51	A	31					15		16	
40-A55	A	5			5					
40-A56	A	85							85	
40-A62	A	62					2		60	
40-A65	A	65							65	
40-A70	A	70							70	
40-B4	E	4			4					
40-B19	A	19					19			
40-B25	A	29			4				25	
40-B37	A	37						37		
40-D4	C	4					4			

* Only Crimp Contact Version

** Class A Only - Only Crimp Contacts

TOPSIDE: SEACROW™



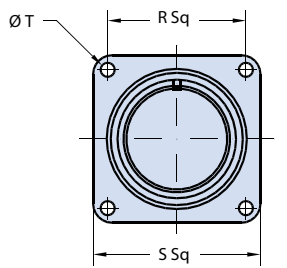
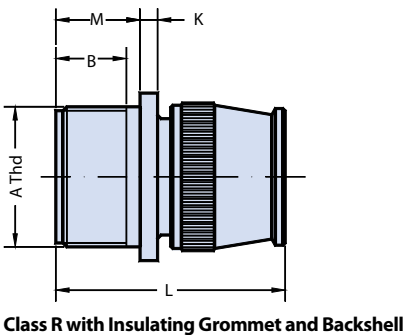
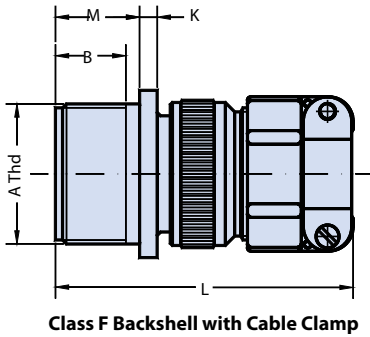
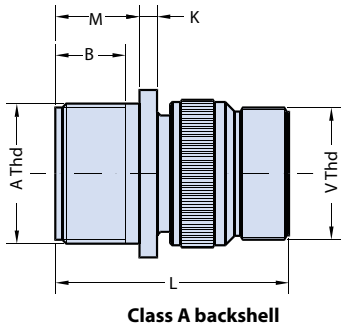


SEACROW MARINE BRONZE (MB) Topside / Shipboard Environmental Connectors



IT-MB wall-mount receptacle (00) - Dimensions

IT 00 WALL MOUNT RECEPTACLE, ENVIRONMENTAL CLASS A, F, AND R



Dimensions								
Shell Size	A Thread	B Min	K ±0.25 [.01]	M ±0.2[.01] -0[0.00]	R Sq. ±0.1[0.00]	S Sq. ±0.2[.01]	ØT +0.1[0.00]	V Thread
10 SL	0.6250 - 24UNEF	11 [0.43]	2.8 [0.11]	14.3 [0.56]	18.25 [0.72]	25.4 [1.00]	3.2 [0.13]	0.6250 - 24UNEF
12 S	0.7500 - 20UNEF	11 [0.43]	2.8 [0.11]	14.3 [0.56]	20.60 [0.81]	27.8 [1.09]	3.2 [0.13]	0.6250 - 24UNEF
12	0.7500 - 20UNEF	16 [0.63]	2.8 [0.11]	19.1 [0.75]	20.60 [0.81]	27.8 [1.09]	3.2 [0.13]	0.6250 - 24UNEF
14 S	0.8750 - 20UNEF	11 [0.43]	3.3 [0.13]	14.5 [0.57]	23.00 [0.91]	30.0 [1.18]	3.2 [0.13]	0.7500 - 20UNEF
14	0.8750 - 20UNEF	16 [0.63]	3.3 [0.13]	19.1 [0.75]	23.00 [0.91]	30.0 [1.18]	3.2 [0.13]	0.7500 - 20UNEF
16 S	1.0000 - 20UNEF	11 [0.43]	3.3 [0.13]	14.5 [0.57]	24.60 [0.97]	32.5 [1.28]	3.2 [0.13]	0.8750 - 20UNEF
16	1.0000 - 20UNEF	16 [0.63]	3.3 [0.13]	19.1 [0.75]	24.60 [0.97]	32.5 [1.28]	3.2 [0.13]	0.8750 - 20UNEF
18	1.1250 - 18UNEF	16 [0.63]	4.0 [0.16]	19.1 [0.75]	27.00 [1.06]	35.0 [1.38]	3.2 [0.13]	1.0000 - 20UNEF
20	1.2500 - 18UNEF	16 [0.63]	4.0 [0.16]	19.1 [0.75]	29.40 [1.16]	38.0 [1.50]	3.2 [0.13]	1.1875 - 18UNEF
22	1.3750 - 18UNEF	16 [0.63]	4.0 [0.16]	19.6 [0.77]	31.75 [1.25]	41.0 [1.61]	3.2 [0.13]	1.1875 - 18UNEF
24	1.5000 - 18UNEF	17 [0.67]	4.0 [0.16]	20.6 [0.81]	34.90 [1.37]	44.5 [1.75]	3.7 [0.15]	1.4375 - 18UNEF
28	1.7500 - 18UNS	17 [0.67]	4.0 [0.16]	20.0 [0.79]	39.70 [1.56]	50.9 [2.00]	3.7 [0.15]	1.4375 - 18UNEF
32	2.0000 - 18UNS	17 [0.67]	4.0 [0.16]	22.3 [0.88]	44.45 [1.75]	57.0 [2.24]	4.3 [0.17]	1.7500 - 18UNS
36	2.2500 - 16UN	17 [0.67]	4.0 [0.16]	22.3 [0.88]	49.20 [1.94]	63.5 [2.50]	4.3 [0.17]	2.0000 - 18UNS
40	2.5000 - 16UN	17 [0.67]	4.0 [0.16]	22.3 [0.88]	55.55 [2.19]	69.9 [2.75]	4.3 [0.17]	2.2500 - 16UN

Overall Lengths for Wall Mount Connector (00) and Environmental Class/Backshell															
Envir. Class	Shell Size														
	10SL	12 S	12	14 S	14	16 S	16	18	20	22	24	28	32	36	40
A	44.0 [1.73]	44.0 [1.73]	51.5 [2.03]	46.4 [1.83]	53.0 [2.09]	46.4 [1.83]	57.8 [2.28]	57.8 [2.28]	58.1 [2.29]	58.1 [2.29]	59.7 [2.35]	66.2 [2.61]	71.3 [2.81]	76.8 [3.02]	76.8 [3.02]
F	55.0 [2.17]	55.0 [2.17]	62.5 [2.46]	58.4 [2.30]	65.0 [2.56]	60.4 [2.38]	71.8 [2.83]	77.8 [3.06]	74.0 [2.91]	74.0 [2.91]	76.7 [3.02]	83.2 [3.28]	90.3 [3.56]	96.8 [3.81]	115.8 [4.56]
R	38.0 [1.50]	38.0 [1.50]	45.5 [1.79]	47.5 [1.87]	52.5 [2.07]	45.5 [1.79]	55.5 [2.19]	55.5 [2.19]	55.5 [2.19]	55.5 [2.19]	58.5 [2.30]	58.5 [2.30]	58.5 [2.30]	58.5 [2.30]	58.5 [2.30]

TOPSIDE: SEACROW™





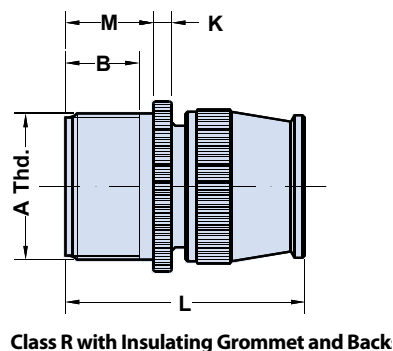
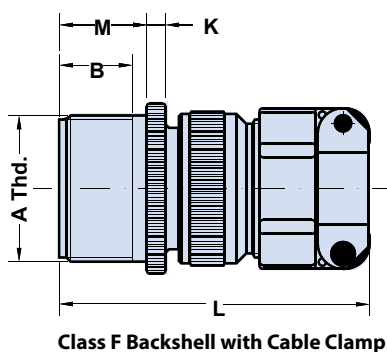
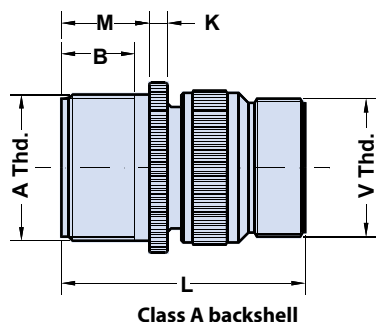
SEACROW MARINE BRONZE (MB)

Topside / Shipboard
Environmental Connectors



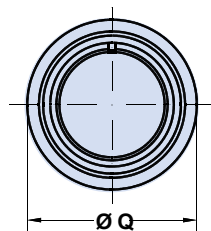
IT-MB in-line receptacle (01) - Dimensions

IT 01 IN-LINE RECEPTACLE, ENVIRONMENTAL CLASS A, F OR R



Dimensions						
Shell Size	A Thread	B Min.	K ±0.2[.01]	M +0.2[.01] -0[0.00]	Ø Q ±0.2[.01]	V Thread
10 SL	0.6250 - 24UNEF	11 [0.43]	2.8 [0.11]	14.3 [0.56]	21.6 [0.85]	0.6250 - 24UNEF
12 S	0.7500 - 20UNEF	11 [0.43]	2.8 [0.11]	14.3 [0.56]	24.9 [0.98]	0.6250 - 24UNEF
12	0.7500 - 20UNEF	16 [0.63]	2.8 [0.11]	19.1 [0.75]	24.9 [0.98]	0.6250 - 24UNEF
14 S	0.8750 - 20UNEF	11 [0.43]	3.3 [0.13]	14.5 [0.57]	28.8 [1.13]	0.7500 - 20UNEF
14	0.8750 - 20UNEF	16 [0.63]	3.3 [0.13]	19.1 [0.75]	28.8 [1.13]	0.7500 - 20UNEF
16 S	1.0000 - 20UNEF	11 [0.43]	3.3 [0.13]	14.5 [0.57]	30.6 [1.20]	0.8750 - 20UNEF
16	1.0000 - 20UNEF	16 [0.63]	3.3 [0.13]	19.1 [0.75]	30.6 [1.20]	0.8750 - 20UNEF
18	1.1250 - 18UNEF	16 [0.63]	4.0 [0.16]	19.1 [0.75]	33.7 [1.33]	1.0000 - 20UNEF
20	1.2500 - 18UNEF	16 [0.63]	4.0 [0.16]	19.1 [0.75]	36.9 [1.45]	1.1875 - 18UNEF
22	1.3750 - 18UNEF	16 [0.63]	4.0 [0.16]	19.6 [0.77]	39.5 [1.56]	1.1875 - 18UNEF
24	1.5000 - 18UNEF	17 [0.67]	4.0 [0.16]	20.6 [0.81]	43.9 [1.73]	1.4375 - 18UNEF
28	1.7500 - 18UNS	17 [0.67]	4.0 [0.16]	20.0 [0.79]	49.2 [1.94]	1.4375 - 18UNEF
32	2.0000 - 18UNS	17 [0.67]	4.0 [0.16]	22.3 [0.88]	55.8 [2.20]	1.7500 - 18UNS
36	2.2500 - 16UN	17 [0.67]	4.0 [0.16]	22.3 [0.88]	62.3 [2.45]	2.0000 - 18UNS
40	2.5000 - 16UN	17 [0.67]	4.0 [0.16]	22.3 [0.88]	68.5 [2.70]	2.2500 - 16UN

Overall Lengths for In-Line Receptacle (01) and Backshell Styles															
Envir. Class	Shell Size														
	10SL	12 S	12	14 S	14	16 S	16	18	20	22	24	28	32	36	40
A	44.0 [1.73]	44.0 [1.73]	51.5 [2.03]	46.4 [1.83]	53.0 [2.09]	46.4 [1.83]	57.8 [2.28]	57.8 [2.28]	58.1 [2.29]	58.1 [2.29]	59.7 [2.35]	66.2 [2.61]	71.3 [2.81]	76.8 [3.02]	76.8 [3.02]
F	55.0 [2.17]	55.0 [2.17]	62.5 [2.46]	58.4 [2.30]	65.0 [2.56]	60.4 [2.38]	71.8 [2.83]	77.8 [3.06]	74.0 [2.91]	74.0 [2.91]	76.7 [3.02]	83.2 [3.28]	90.3 [3.56]	96.8 [3.81]	115.8 [4.56]
R	38.0 [1.50]	38.0 [1.50]	45.5 [1.79]	47.5 [1.87]	52.5 [2.07]	45.5 [1.79]	55.5 [2.19]	55.5 [2.19]	55.5 [2.19]	55.5 [2.19]	58.5 [2.30]	58.5 [2.30]	58.5 [2.30]	58.5 [2.30]	58.5 [2.30]



TOPSIDE: SEACROW™

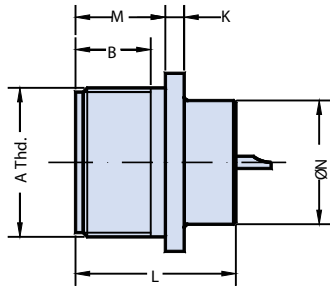


SEACROW MARINE BRONZE (MB) Topside / Shipboard Environmental Connectors

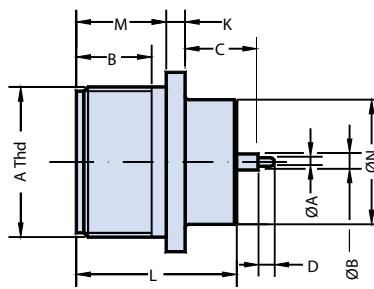


IT-MB box mount receptacle (02) - Dimensions

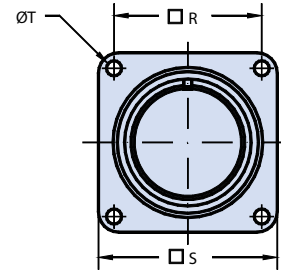
IT 02 BOX MOUNT RECEPTACLE, ENVIRONMENTAL CLASS A OR R



Box Mount Receptacle with Solder Cups



Box Mount Receptacle with PC Tails



Box Mount Receptacle, Face View

Dimensions									
Shell Size	A Thread	B Min	K ±0.2 [.01]	L ±0.2 [.01]	M +0.2 [.01] 0 [0.00]	N +0.2 [.01] -0 [0.00]	R ±0.1 [0.00]	S ±0.2 [.01]	T +0.1 [0.00]
10 SL	0.6250 - 24UNEF	11 [0.43]	2.8 [0.11]	24.6 [0.97]	14.3 [0.56]	15.9 [0.63]	18.25 [0.72]	25.4 [1.00]	3.2 [0.13]
12 S	0.7500 - 20UNEF	11 [0.43]	2.8 [0.11]	24.6 [0.97]	14.3 [0.56]	15.9 [0.63]	20.60 [0.81]	27.8 [1.09]	3.2 [0.13]
12	0.7500 - 20UNEF	16 [0.63]	2.8 [0.11]	34.5 [1.36]	19.1 [0.75]	15.9 [0.63]	20.60 [0.81]	27.8 [1.09]	3.2 [0.13]
14 S	0.8750 - 20UNEF	11 [0.43]	3.3 [0.13]	24.8 [0.98]	14.5 [0.57]	19.0 [0.75]	23.00 [0.91]	30.0 [1.18]	3.2 [0.13]
14	0.8750 - 20UNEF	16 [0.63]	3.3 [0.13]	34.5 [1.36]	19.1 [0.75]	19.0 [0.75]	23.00 [0.91]	30.0 [1.18]	3.2 [0.13]
16 S	1.0000 - 20UNEF	11 [0.43]	3.3 [0.13]	24.8 [0.98]	14.5 [0.57]	22.2 [0.87]	24.60 [0.97]	32.5 [1.28]	3.2 [0.13]
16	1.0000 - 20UNEF	16 [0.63]	3.3 [0.13]	34.5 [1.36]	19.1 [0.75]	22.2 [0.87]	24.60 [0.97]	32.5 [1.28]	3.2 [0.13]
18	1.1250 - 18UNEF	16 [0.63]	4.0 [0.16]	34.2 [1.35]	19.1 [0.75]	25.5 [1.00]	27.00 [1.06]	35.0 [1.38]	3.2 [0.13]
20	1.2500 - 18UNEF	16 [0.63]	4.0 [0.16]	34.2 [1.35]	19.1 [0.75]	28.5 [1.12]	29.40 [1.16]	38.0 [1.50]	3.2 [0.13]
22	1.3750 - 18UNEF	16 [0.63]	4.0 [0.16]	34.2 [1.35]	19.6 [0.77]	31.7 [1.25]	31.75 [1.25]	41.0 [1.61]	3.2 [0.13]
24	1.5000 - 18UNEF	17 [0.67]	4.0 [0.16]	35.7 [1.41]	20.6 [0.81]	34.9 [1.37]	34.90 [1.37]	44.5 [1.75]	3.7 [0.15]
28	1.7500 - 18UNS	17 [0.67]	4.0 [0.16]	35.7 [1.41]	20.0 [0.79]	41.4 [1.63]	39.70 [1.56]	50.9 [2.00]	3.7 [0.15]
32	2.0000 - 18UNS	17 [0.67]	4.0 [0.16]	37.3 [1.47]	22.3 [0.88]	47.6 [1.87]	44.45 [1.75]	57.0 [2.24]	4.3 [0.17]
36	2.2500 - 16UN	17 [0.67]	4.0 [0.16]	37.3 [1.47]	22.3 [0.88]	52.4 [2.06]	49.20 [1.94]	63.5 [2.50]	4.3 [0.17]
40	2.5000 - 16UN	17 [0.67]	4.0 [0.16]	37.3 [1.47]	22.3 [0.88]	58.7 [2.31]	55.55 [2.19]	69.9 [2.75]	4.3 [0.17]

PC Tail Dimensions (Fig. 1)																
Shell Size	DS 1				Y # 16				Y # 12				YL5			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
10 SL	0.8 [0.03]	1.8 [0.07]	13.80 [0.54]	3.6 [0.14]	-	-	-	-	-	-	-	-	-	-	-	-
12 S	0.8 [0.03]	1.8 [0.07]	12.90 [0.51]	3.6 [0.14]	-	-	-	-	-	-	-	-	-	-	-	-
12	0.8 [0.03]	1.8 [0.07]	-	3.6 [0.14]	-	-	-	-	1.8 [0.07]	3.4 [0.13]	18.30 [0.72]	3.5 [0.14]	-	-	-	-
14 S	0.8 [0.03]	1.8 [0.07]	12.40 [0.49]	3.6 [0.14]	-	-	-	-	-	-	-	-	-	-	-	-
14	0.8 [0.03]	1.8 [0.07]	14.60 [0.57]	3.6 [0.14]	-	-	-	-	-	-	-	-	-	-	-	-
16 S	0.8 [0.03]	1.8 [0.07]	12.40 [0.49]	3.6 [0.14]	-	-	-	-	-	-	-	-	-	-	-	-
16	0.8 [0.03]	1.8 [0.07]	14.60 [0.57]	3.6 [0.14]	0.8 [0.03]	1.8 [0.07]	17.85 [0.70]	3.5 [0.14]	1.8 [0.07]	3.4 [0.13]	17.85 [0.70]	3.5 [0.14]	0.8 [0.03]	1.8 [0.07]	17.85 [0.70]	5 [0.20]
18	0.8 [0.03]	1.8 [0.07]	13.80 [0.54]	3.6 [0.14]	0.8 [0.03]	1.8 [0.07]	17.05 [0.67]	3.5 [0.14]	1.8 [0.07]	3.4 [0.13]	17.05 [0.67]	3.5 [0.14]	0.8 [0.03]	1.8 [0.07]	17.05 [0.67]	5 [0.20]
20	0.8 [0.03]	1.8 [0.07]	13.80 [0.54]	3.6 [0.14]	0.8 [0.03]	1.8 [0.07]	17.05 [0.67]	3.5 [0.14]	1.8 [0.07]	3.4 [0.13]	17.05 [0.67]	3.5 [0.14]	0.8 [0.03]	1.8 [0.07]	17.05 [0.67]	5 [0.20]
22	0.8 [0.03]	1.8 [0.07]	13.30 [0.52]	3.6 [0.14]	0.8 [0.03]	1.8 [0.07]	16.55 [0.65]	3.5 [0.14]	1.8 [0.07]	3.4 [0.13]	16.55 [0.65]	3.5 [0.14]	0.8 [0.03]	1.8 [0.07]	16.55 [0.65]	5 [0.20]
24	0.8 [0.03]	1.8 [0.07]	12.20 [0.48]	3.6 [0.14]	0.8 [0.03]	1.8 [0.07]	15.45 [0.61]	3.5 [0.14]	1.8 [0.07]	3.4 [0.13]	15.45 [0.61]	3.5 [0.14]	0.8 [0.03]	1.8 [0.07]	15.45 [0.61]	5 [0.20]
28	0.8 [0.03]	1.8 [0.07]	13.00 [0.51]	3.6 [0.14]	0.8 [0.03]	1.8 [0.07]	16.25 [0.64]	3.5 [0.14]	1.8 [0.07]	3.4 [0.13]	16.25 [0.64]	3.5 [0.14]	0.8 [0.03]	1.8 [0.07]	16.25 [0.64]	5 [0.20]
32	-	-	-	-	0.8 [0.03]	1.8 [0.07]	13.85 [0.55]	3.5 [0.14]	1.8 [0.07]	3.4 [0.13]	13.85 [0.55]	3.5 [0.14]	0.8 [0.03]	1.8 [0.07]	16.70 [0.66]	5 [0.20]
36	-	-	-	-	0.8 [0.03]	1.8 [0.07]	13.85 [0.55]	3.5 [0.14]	1.8 [0.07]	3.4 [0.13]	13.85 [0.55]	3.5 [0.14]	0.8 [0.03]	1.8 [0.07]	16.70 [0.66]	5 [0.20]
40	-	-	-	-	0.8 [0.03]	1.8 [0.07]	13.85 [0.55]	3.5 [0.14]	1.8 [0.07]	3.4 [0.13]	13.85 [0.55]	3.5 [0.14]	0.8 [0.03]	1.8 [0.07]	16.70 [0.66]	5 [0.20]

TOPSIDE: SEACROW™





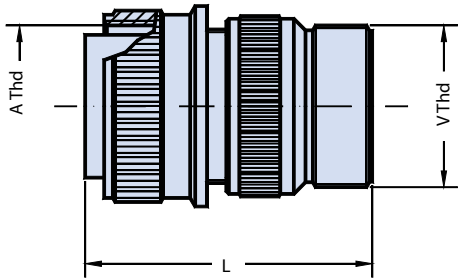
SEACROW MARINE BRONZE (MB)

Topside / Shipboard
Environmental Connectors

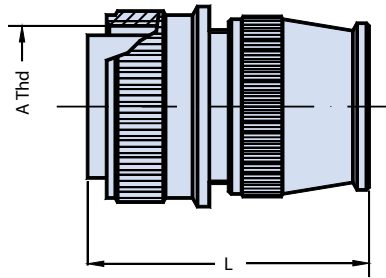


IT-MB in-line plug (06) - Dimensions

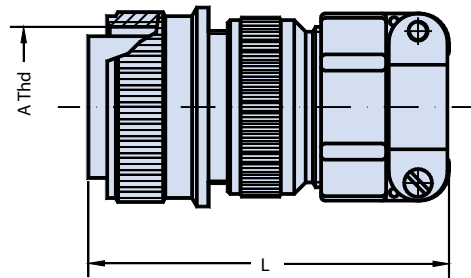
IT 06 PLUG, ENVIRONMENTAL CLASS A, F, G, GR, R OR SP



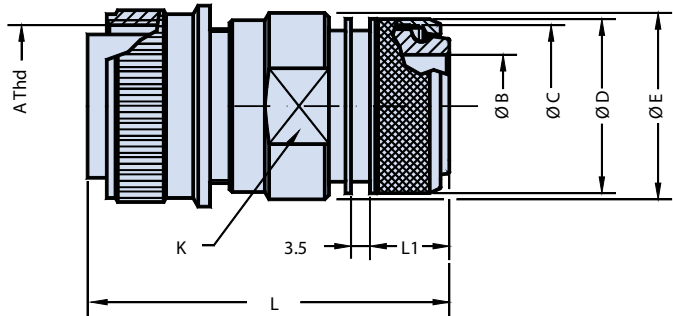
Class A - Backshell



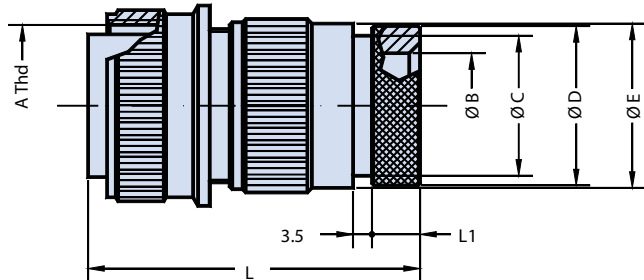
Class R - Wire Sealing Grommet and Backshell



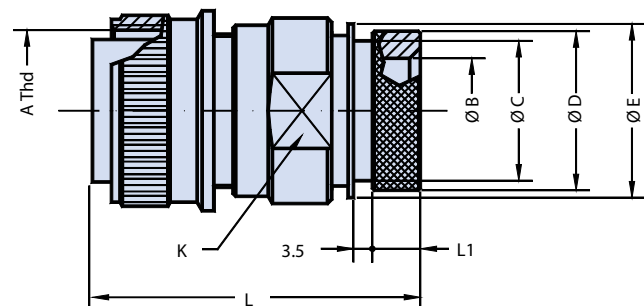
Class F - Backshell with Insulating Grommet, Backshell and Cable Clamp



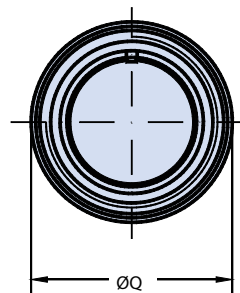
Class SP - Insulating Grommet and Backshell



Class G - Backshell with Wire Sealing Grommet and Backshell



Class GR - Backshell with Rotating Clamp Nut



Plug Face - Dimensions Apply to All Classes

TOPSIDE: SEACROW™





SEACROW MARINE BRONZE (MB)

**Topside / Shipboard
Environmental Connectors**



IT-MB in-line plug (06) - Dimensions

Dimensions for Class A, F and R Only							
Shell Size	A Thread	Q ±0.2 [.01]	V Thread	L Max Dimension by Environmental Class			
				A	F	R	G, GR, SP
10 SL	0.6250 - 24UNEF	24.1 [0.95]	0.6250 - 24UNEF	44.0 [1.73]	55.0 [2.17]	38.0 [1.50]	52.7 [2.07]
12 S	0.7500 - 20UNEF	25.0 [0.98]	0.6250 - 24UNEF	44.0 [1.73]	55.0 [2.17]	38.0 [1.50]	52.7 [2.07]
12	0.7500 - 20UNEF	25.0 [0.98]	0.6250 - 24UNEF	51.5 [2.03]	62.5 [2.46]	45.5 [1.79]	57.5 [2.26]
14 S	0.8750 - 20UNEF	28.0 [1.10]	0.7500 - 20UNEF	46.4 [1.83]	58.4 [2.30]	47.5 [1.87]	53.4 [2.10]
14	0.8750 - 20UNEF	28.0 [1.10]	0.7500 - 20UNEF	53.0 [2.09]	65.0 [2.56]	52.5 [2.07]	55.0 [2.17]
16 S	1.0000 - 20UNEF	31.5 [1.24]	0.8750 - 20UNEF	46.4 [1.83]	60.4 [2.38]	45.5 [1.79]	53.4 [2.10]
16	1.0000 - 20UNEF	31.5 [1.24]	0.8750 - 20UNEF	57.8 [2.28]	71.8 [2.83]	55.5 [2.19]	65.8 [2.59]
18	1.1250 - 18UNEF	34.0 [1.34]	1.0000 - 20UNEF	57.8 [2.28]	77.8 [3.06]	55.5 [2.19]	65.8 [2.59]
20	1.2500 - 18UNEF	37.2 [1.46]	1.1875 - 18UNEF	58.1 [2.29]	74.0 [2.91]	55.5 [2.19]	66.1 [2.60]
22	1.3750 - 18UNEF	40.4 [1.59]	1.1875 - 18UNEF	58.1 [2.29]	74.0 [2.91]	55.5 [2.19]	66.1 [2.60]
24	1.5000 - 18UNEF	43.5 [1.71]	1.4375 - 18UNEF	59.7 [2.35]	76.7 [3.02]	58.5 [2.30]	65.7 [2.59]
28	1.7500 - 18UNS	49.9 [1.96]	1.4375 - 18UNEF	66.2 [2.61]	83.2 [3.28]	58.5 [2.30]	66.2 [2.61]
32	2.0000 - 18UNS	56.0 [2.20]	1.7500 - 18UNS	71.3 [2.81]	56.0 [2.20]	58.5 [2.30]	73.8 [2.91]
36	2.2500 - 16UN	62.5 [2.46]	2.0000 - 18UNS	76.8 [3.02]	62.5 [2.46]	58.5 [2.30]	83.8 [3.30]
40	2.5000 - 16UN	69.0 [2.72]	2.2500 - 16UN	76.8 [3.02]	69.0 [2.72]	58.5 [2.30]	83.8 [3.30]

Dimensions for Class G, GR and SP Only									
Shell Size	A Thread	B Min	C ±0.1[0.00]	D ±0.2[.01]	E ±0.2[.01]	Ch. K K Key *	L Max	Li ±0.1[0.00]	Q ±0.2[0.1]
10 SL	0.6250 - 24UNEF	8.5 [0.33]	13.0 [0.51]	15.5 [0.61]	17.0 [0.67]	20 [0.79]	52.7 [2.07]	8.2 [0.32]	24.1 [0.95]
12 S	0.7500 - 20UNEF	8.5 [0.33]	13.0 [0.51]	15.5 [0.61]	17.0 [0.67]	20 [0.79]	52.7 [2.07]	8.2 [0.32]	25.0 [0.98]
12	0.7500 - 20UNEF	8.5 [0.33]	13.0 [0.51]	15.5 [0.61]	17.0 [0.67]	20 [0.79]	57.5 [2.26]	8.2 [0.32]	25.0 [0.98]
14 S	0.8750 - 20UNEF	12.0 [0.47]	16.5 [0.65]	19.1 [0.75]	20.1 [0.79]	23 [0.91]	53.4 [2.10]	8.2 [0.32]	28.0 [1.10]
14	0.8750 - 20UNEF	12.0 [0.47]	16.5 [0.65]	19.1 [0.75]	20.1 [0.79]	23 [0.91]	55.0 [2.17]	8.2 [0.32]	28.0 [1.10]
16 S	1.0000 - 20UNEF	14.5 [0.57]	21.5 [0.85]	23.9 [0.94]	23.5 [0.93]	26 [1.02]	53.4 [2.10]	8.2 [0.32]	31.5 [1.24]
16	1.0000 - 20UNEF	14.5 [0.57]	21.5 [0.85]	23.9 [0.94]	23.5 [0.93]	26 [1.02]	65.8 [2.59]	8.0 [0.31]	31.5 [1.24]
18	1.1250 - 18UNEF	17.5 [0.69]	21.7 [0.85]	23.9 [0.94]	26.5 [1.04]	28 [1.10]	65.8 [2.59]	8.0 [0.31]	34.0 [1.34]
20	1.2500 - 18UNEF	19.5 [0.77]	26.0 [1.02]	29.6 [1.17]	30.5 [1.20]	32 [1.26]	66.1 [2.60]	8.9 [0.35]	37.2 [1.46]
22	1.3750 - 18UNEF	22.0 [0.87]	26.0 [1.02]	29.6 [1.17]	33.6 [1.32]	36 [1.42]	66.1 [2.60]	8.9 [0.35]	40.4 [1.59]
24	1.5000 - 18UNEF	25.0 [0.98]	34.5 [1.36]	37.8 [1.49]	36.1 [1.42]	39 [1.54]	65.7 [2.59]	9.2 [0.36]	43.5 [1.71]
28	1.7500 - 18UNS	29.0 [1.14]	34.3 [1.35]	37.8 [1.49]	41.4 [1.63]	46 [1.81]	66.2 [2.61]	9.2 [0.36]	49.9 [1.96]
32	2.0000 - 18UNS	34.0 [1.34]	43.6 [1.72]	47.8 [1.88]	48.6 [1.91]	52 [2.05]	73.8 [2.91]	11.7 [0.46]	56.0 [2.20]
36	2.2500 - 16UN	38.5 [1.52]	43.6 [1.72]	47.8 [1.88]	54.8 [2.16]	58 [2.28]	83.8 [3.30]	11.7 [0.46]	62.5 [2.46]
40	2.5000 - 16UN	48.0 [1.89]	52.6 [2.07]	57.8 [2.28]	60.9 [2.40]	65 [2.56]	83.8 [3.30]	11.7 [0.46]	69.0 [2.72]

* Applies to styles GR and SP only

TOPSIDE: SEACROW™





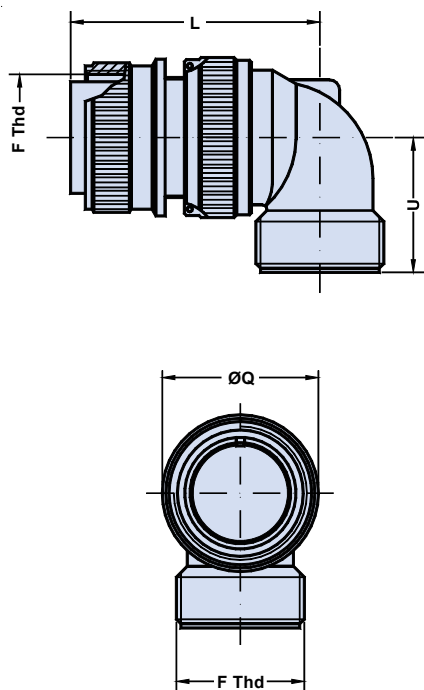
SEACROW MARINE BRONZE (MB)

Topside / Shipboard
Environmental Connectors



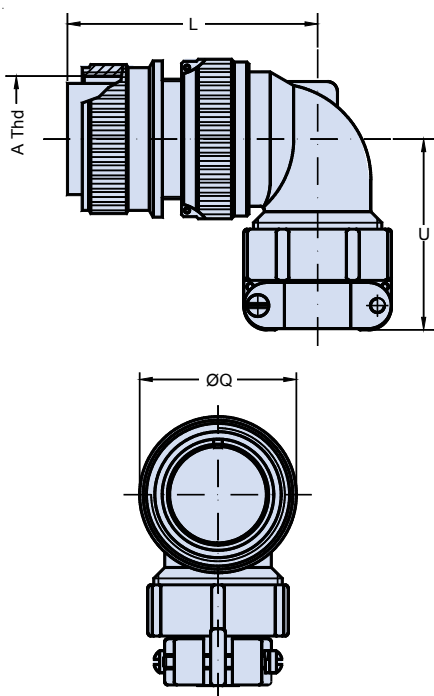
IT-MB 90° plug assembly (08) - Dimensions

IT 08 PLUG AND 90° BACKSHELL ASSEMBLY, ENVIRONMENTAL CLASS A AND R



Dimensions					
Shell Size	A Thread	F Thread	L Max	Q ±0.2	U ±0.2
10 SL	0.6250 - 24UNEF	0.6250 - 24UNEF	40 [1.57]	24.1 [0.95]	25.0 [0.98]
12 S	0.7500 - 20UNEF	0.6250 - 24UNEF	40 [1.57]	25.0 [0.98]	25.0 [0.98]
12	0.7500 - 20UNEF	0.6250 - 24UNEF	50 [1.97]	25.0 [0.98]	25.0 [0.98]
14 S	0.8750 - 20UNEF	0.7500 - 20UNEF	42 [1.65]	28.0 [1.10]	26.5 [1.04]
14	0.8750 - 20UNEF	0.7500 - 20UNEF	52 [2.05]	28.0 [1.10]	26.5 [1.04]
16 S	1.0000 - 20UNEF	0.8750 - 20UNEF	46 [1.81]	31.5 [1.24]	27.0 [1.06]
16	1.0000 - 20UNEF	0.8750 - 20UNEF	55 [2.17]	31.5 [1.24]	27.0 [1.06]
18	1.1250 - 18UNEF	1.0000 - 20UNEF	57 [2.24]	34.0 [1.34]	30.0 [1.18]
20	1.2500 - 18UNEF	1.1875 - 18UNEF	62 [2.44]	37.2 [1.46]	32.0 [1.26]
22	1.3750 - 18UNEF	1.1875 - 18UNEF	62 [2.44]	40.4 [1.59]	32.0 [1.26]
24	1.5000 - 18UNEF	1.4375 - 18UNEF	67 [2.64]	43.5 [1.71]	37.0 [1.46]
28	1.7500 - 18UNS	1.4375 - 18UNEF	67 [2.64]	49.9 [1.96]	38.0 [1.50]
32	2.0000 - 18UNS	1.7500 - 18UNS	72 [2.83]	56.0 [2.20]	45.5 [1.79]
36	2.2500 - 16UN	2.0000 - 18UNS	75 [2.95]	62.5 [2.46]	47.2 [1.86]
40	2.5000 - 16UN	2.2500 - 16UN	78 [3.07]	69.0 [2.72]	52.0 [2.05]

IT 08 PLUG AND 90° BACKSHELL ASSEMBLY WITH CABLE CLAMP, ENVIRONMENTAL CLASS F



Dimensions				
Shell Size	A Thread	L Max	Q ±0.2	U Max.
10 SL	0.6250 - 24UNEF	40 [1.57]	24.1 [0.95]	36.0 [1.42]
12 S	0.7500 - 20UNEF	40 [1.57]	25.0 [0.98]	36.0 [1.42]
12	0.7500 - 20UNEF	50 [1.97]	25.0 [0.98]	36.0 [1.42]
14 S	0.8750 - 20UNEF	42 [1.65]	28.0 [1.10]	38.5 [1.52]
14	0.8750 - 20UNEF	52 [2.05]	28.0 [1.10]	38.5 [1.52]
16 S	1.0000 - 20UNEF	46 [1.81]	31.5 [1.24]	41.0 [1.61]
16	1.0000 - 20UNEF	55 [2.17]	31.5 [1.24]	41.0 [1.61]
18	1.1250 - 18UNEF	57 [2.24]	34.0 [1.34]	50.0 [1.97]
20	1.2500 - 18UNEF	62 [2.44]	37.2 [1.46]	48.0 [1.89]
22	1.3750 - 18UNEF	62 [2.44]	40.4 [1.59]	48.0 [1.89]
24	1.5000 - 18UNEF	67 [2.64]	43.5 [1.71]	54.0 [2.13]
28	1.7500 - 18UNS	67 [2.64]	49.9 [1.96]	55.0 [2.17]
32	2.0000 - 18UNS	72 [2.83]	56.0 [2.20]	64.5 [2.54]
36	2.2500 - 16UN	75 [2.95]	62.5 [2.46]	67.2 [2.65]
40	2.5000 - 16UN	78 [3.07]	69.0 [2.72]	91.0 [3.58]

TOPSIDE: SEACROW™





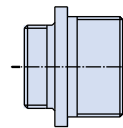
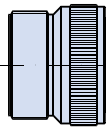
SEACROW MARINE BRONZE (MB)
 Topside / Shipboard
 Environmental Connectors
 Style and Class Configurations



Class

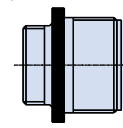
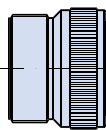
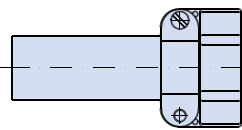
Style

A



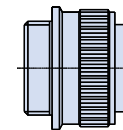
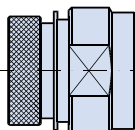
IT 00

F



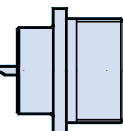
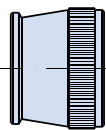
IT 01

GR



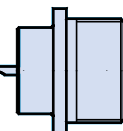
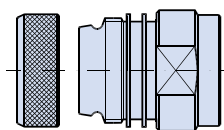
IT 06

R

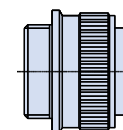
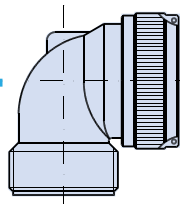
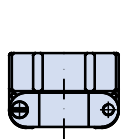


IT 02

SP



90° Plug Assemblies



IT 08

Cable clamp
Class F

Backshell
Class R

Compression
Ring

Grommet

Shell

TOPSIDE: SEACROW™

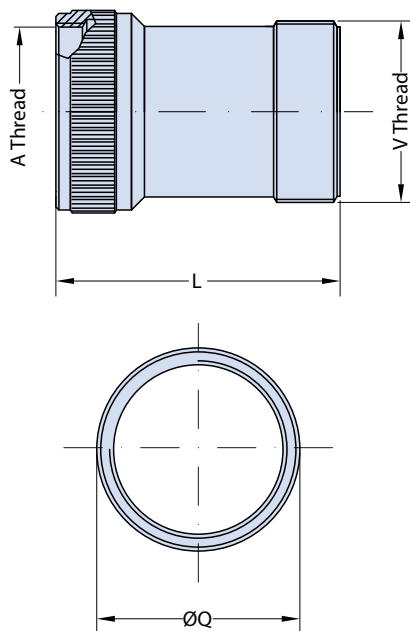




SEACROW MARINE BRONZE
 Topside / Shipboard
 Environmental Connectors
 IT-MB Accessories



IT 101393 EXTENDER BACKSHELL FOR PLUG CONNECTORS



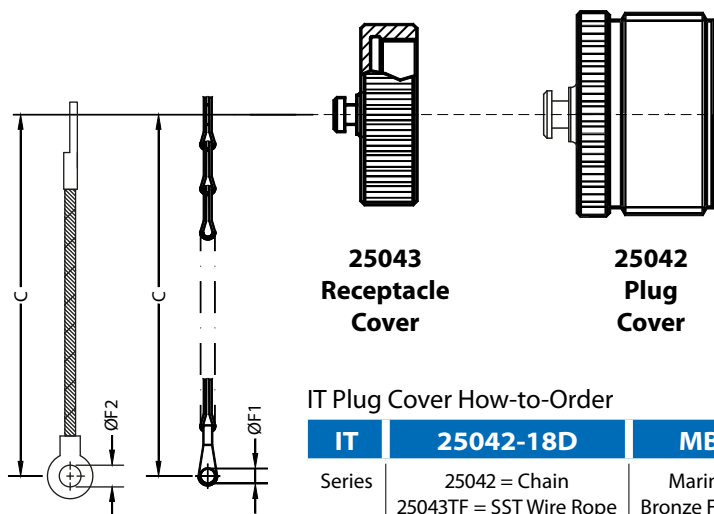
Dimensions					
Part Number	Shell Size	A Thread	L Max	Q ±0.2	V Thread
IT 101393-123	10 SL	0.6250 - 24UNEF	36.0 [1.42]	20.0 [0.79]	0.6250 - 24UNEF
IT 101393-143	14 S	0.7500 - 20UNEF	50.0 [1.97]	23.0 [0.91]	0.7500 - 20UNEF
IT 101393-163	16 S	0.8750 - 20UNEF	50.0 [1.97]	25.0 [0.98]	0.8750 - 20UNEF
IT 101393-173	16	0.8750 - 20UNEF	54.0 [2.13]	25.0 [0.98]	0.8750 - 20UNEF
IT 101393-183	18	1.0000 - 20UNEF	56.0 [2.20]	29.5 [1.16]	1.0000 - 20UNEF
IT 101393-203	20	1.1250 - 18UNEF	56.0 [2.20]	32.0 [1.26]	1.1875 - 18UNEF
IT 101393-223	22	1.2500 - 18UNEF	56.0 [2.20]	35.0 [1.38]	1.1875 - 18UNEF
IT 101393-243	24	1.3750 - 18UNEF	56.0 [2.20]	38.5 [1.52]	1.4375 - 18UNEF
IT 101393-283	28	1.6250 - 18UNEF	61.0 [2.40]	45.0 [1.77]	1.4375 - 18UNEF
IT 101393-323	32	1.8750 - 16UN	61.0 [2.40]	53.2 [2.09]	1.7500 - 18UNS
IT 101393-363	36	2.0625 - 16UN	61.0 [2.40]	57.4 [2.26]	2.0000 - 18UNS
IT 101393-403	40	2.3125 - 16UN	61.0 [2.40]	63.2 [2.49]	2.2500 - 16UN

How-To-Order

IT	101393-323	MB
Series	Basic Part Number and Shell Size Designator See Dimensions Table	Marine Bronze Finish

TOPSIDE: SEACROW™

IT 25042 PLUG COVER OR IT 25043 RECEPTACLECOVER



25042 Plug Cover

25043 Receptacle Cover

IT Plug Cover How-to-Order

IT	25042-18D	MB
Series	25042 = Chain 25043TF = SST Wire Rope	Marine Bronze Finish

Dimensions					
Part Number	Shell Size	C1 Min (Chain)	C2 Min (Wire Rope)	ØF1 * +0.25 -0.13	ØF2** +0.25 -0.13
IT 25043-10D	10S - 10SL	102 [4.02]	193 [7.60]	3.55 [0.14]	4.30
IT 25043-12D	12 - 12S	115 [4.53]	193 [7.60]	3.55 [0.14]	4.30
IT 25043-14D	14 - 14S	115 [4.53]	193 [7.60]	3.55 [0.14]	4.30
IT 25043-16D	16 - 16S	115 [4.53]	193 [7.60]	3.55 [0.14]	4.30
IT 25043-18D	18	115 [4.53]	193 [7.60]	3.55 [0.14]	4.30
IT 25043-20D	20	127 [5.00]	193 [7.60]	3.55 [0.14]	4.30
IT 25043-22D	22	127 [5.00]	193 [7.60]	3.55 [0.14]	4.30
IT 25043-24D	24	140 [5.51]	193 [7.60]	4.30 [0.17]	4.30
IT 25043-28D	28	197 [7.76]	193 [7.60]	4.30 [0.17]	5.30
IT 25043-32D	32	197 [7.76]	193 [7.60]	4.80 [0.19]	5.30
IT 25043-36D	36	197 [7.76]	193 [7.60]	4.80 [0.19]	5.30
IT 25043-40D	40	197 [7.76]	193 [7.60]	4.80 [0.19]	5.30

IT Receptacle Cover, How-to-Order

IT	25043-18D	MB
Series	25043 = Chain 25043TF = SST Wire Rope	Marine Bronze Finish

* Chain Eyelet ** Wire Rope Eyelet

Lanyard Options

TF Wire Rope

Omit Chain (Standard)



SEACROW MARINE BRONZE Topside / Shipboard Environmental Connectors



IPT-MB marine bronze connectors

IPT-MB MIL-C-26482 BAYONET TYPE / VG95328 COMPLIANT MARINE BRONZE SERIES



IPT-MB connectors are the choice for reliability when 20-16 AWG signal cables are used. The insert arrangements as well as the electrical characteristics are detailed in the IPT IPT-SE Catalogue. Backshells suitable for EMI shield terminations and heat shrink boots are also available. The receptacle is also available with PCB contacts. IP67 protection is standard, IP68 upon request.

IPT-MB How To Order									
Sample Part Number	IPT	G	06	A	18-11	P	X	C	MB
Series	IPT = MIL-C-26482 Ser. I, bayonet-lock with polychloroprene insert								
Plug Grounding Fingers	G = Grounding fingers; omit for none (Plug Only)								
Shell Style	See shell style table								
Environmental Class	See environmental class table								
Shell Size / Arrangement	See insert arrangement table								
Contact Gender	P = Pin S = Socket								
Alternate Rotation	See alternate positions table								
Contact Type	C = Crimp; omit for solder cup								
Material/Finish	MB = Marine Bronze								

Shell Styles			
Code	Receptacle Descriptions	Code	Plug Descriptions
00	Front panel mount square flange receptacle with accessory threads	06	Straight cylindrical plug connector with accessory threads
01	In-line cylindrical receptacle with accessory threads	08	Cylindrical plug connector with 90° backshell
02	Front panel mount square flange receptacle—no accessory threads		
07	Rear panel mount jam nut receptacle—no accessory threads		

Environmental Class	
A	Connector/backshell assembly does not include a wire sealing grommet
E, G, M	Connector/backshell assembly includes a wire sealing grommet
W, J	Connector backshell assembly includes an overall cable sealing gland

SHELL STYLE AND ENVIRONMENTAL CLASS MATRIX

Shell Style	Environmental Classes					
	A	E	G	M	W	J
00	✓	✓	✓	✓	✓	✓
01	✓	✓	✓	✓	✓	✓
02				Not Applicable		
07				Not Applicable		
06	✓	✓	✓	✓	✓	✓
08				✓		





SEACROW MARINE BRONZE (MB)

Topside / Shipboard Environmental Connectors



Insert arrangements and alternate insert positions

Insert Arrangement Table							
Shell Size/ Arrangement	Cl. Isol. Rating	Contact Size					
		20S	20	16S	16	12S	12
8-2	I	2					
8-3	I	3					
8-3A	I	3					
8-4	I	4					
8-33	I	3					
10-2	II			2			
10-6	I	6					
10-7	I	7					
10-8	I	8					
10-98	I	6					
12-3	II			3			
12-4	I			4			
12-8	I	8					
12-10	I	10					
12-14	I	14					
12-A6	I			6			
14-4	I					4	
14-5	II			5			
14-12	I	8		4			
14-12/3	II			12			
14-14*	I	14					
14-15	I	14		1			
14-18	I	18					
14-19	I	19					
16-2**	I				2x16-2.5		
16-8	II			8			
16-23	I	22		1			
16-26	I	26					
16-99	I	21		2			
18-11	II			11			
18-32	I	32					
20-16	II				16		
20-39*	I		37		2		
20-41	I		41				
22-21*	II				21		
22-36	I		36				
22-41	I		27		14		
22-55	I		55				
22-95	I		26				6
24-61	I		61				

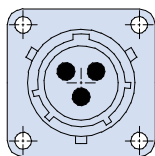
Alternate Positions				
Shell Size/ Arrangement	Degrees			
	W	X	Y	Z
8-2	58	122		
8-3	60	210		
8-3A		60		
8-4	45			
8-33	90			
10-2				
10-6	90			
10-7	90			
10-8				
10-98	90	180	240	270
12-3			180	
12-4	38			
12-8	90	112	203	292
12-10	60	155	270	295
12-14	60	155	270	295
12-A6				
14-4	45			
14-5	40	92	184	273
14-12	43	90		
14-12/3				
14-14	17	110	155	234
14-15	17	110	155	234
14-18	15	90	180	270
14-19	30	165	315	
16-2**				
16-8	54	152	180	331
16-23	158	270		
16-26	60		275	338
16-99	66	156	223	340
18-11	62	119	241	340
18-32	85	138	222	265
20-16	238	318	333	347
20-39	63	144	252	333
20-41	45	126	225	
22-21	16	135	175	349
22-36	72	144	216	288
22-41	39	135	264	
22-55	30	142	226	314
22-95	26	180	266	
24-61	90	180	270	324

TOPSIDE: SEACROW™

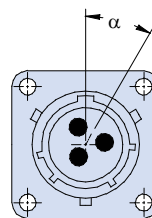
* Consult Factory

** Supplied only for classes without grommet

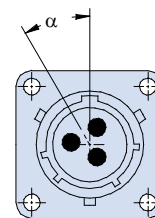
The 3 mating pins are 120° spaced.
All pictures show a receptacle connector.
The key orientation on plug connectors is clockwise.
IAW BS9522 F0017.



Normal Position



Alternate Insert Position with Pin Contacts



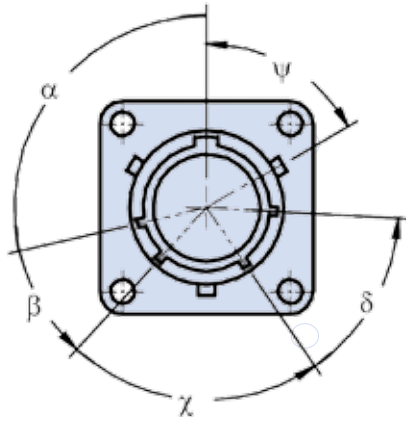
Alternate Insert Position with Socket Contacts



SEACROW MARINE BRONZE (MB)
 Topside / Shipboard
 Environmental Connectors



IPT Series Alternate Keyway Positions



Shell size	N Polarization				
	α	β	γ	δ	ψ
8	105	35	75	50	60
10	105	35	75	50	60
12	105	35	75	50	60
14	105	35	75	50	60
16	105	35	75	50	60
18	105	35	75	50	60
20	105	35	75	50	60
22	105	35	75	50	60
24	105	35	75	50	60

Shell size	B Polarization				
	α	β	γ	δ	ψ
8	-	-	-	-	-
10	85	35	75	50	40
12	89	35	75	50	44
14	91	35	75	50	46
16	93	35	75	50	48
18	95	35	75	50	50
20	95	35	75	50	50
22	97	35	75	50	52
24	97	35	75	50	52

Shell size	C Polarization				
	α	β	γ	δ	ψ
8	-	-	-	-	-
10	125	35	75	50	80
12	121	35	75	50	76
14	119	35	75	50	74
16	117	35	75	50	72
18	115	35	75	50	70
20	115	35	75	50	70
22	113	35	100	50	68
24	113	35	75	50	68

Shell size	E Polarization				
	α	β	γ	δ	ψ
8	118	30	100	30	73
10	115	30	100	30	70
12	115	30	100	30	70
14	75	30	100	30	30
16	75	30	100	30	30
18	75	30	100	30	30
20	75	30	100	30	30
22	75	30	75	30	30
24	75	30	100	30	30

Shell size	F Polarization				
	α	β	γ	δ	ψ
8	82	50	75	45	47
10	85	50	75	45	50
12	85	50	75	45	50
14	120	50	75	35	75
16	120	50	75	35	75
18	120	50	75	35	75
20	120	50	75	35	75
22	120	50	75	35	75
24	120	50	75	35	75

Mating Pins are spaced 120°.
 Picture Shows a receptacle connector.
 Key orientation on plug connectors is clockwise.
 IAW BS9522 F0017

TOPSIDE: SEACROW™





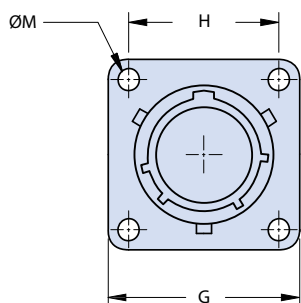
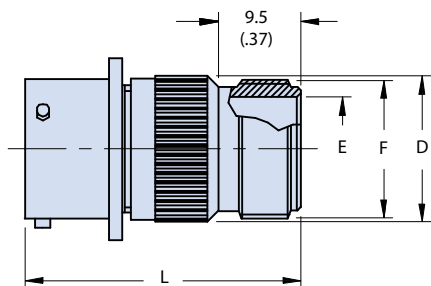
SEACROW MARINE BRONZE (MB)

Topside / Shipboard
Environmental Connectors



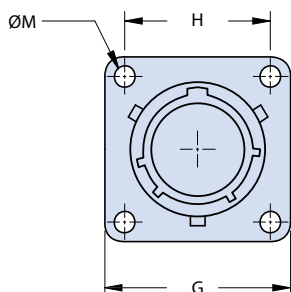
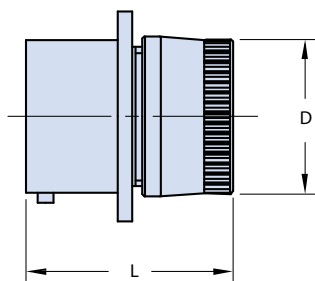
IPT 00 wall mount receptacle - Dimensions

IPT 00 WITH CLASS A BACKSHELL



Dimensions							
Shell Size	D Max.	E Min.	F Thread	G ±0.4[.02]	H ±0.1[0.00]	Ø M +0.1[0.00] 0[0.00]	L Max
8	15.00 [0.59]	7.55 [0.30]	.5000 - 28 UNEF	20.6 [0.81]	15.10 [0.59]	3.04 [0.12]	45.9 [1.81]
10	18.20 [0.72]	10.70 [0.42]	.6250 - 24 UNEF	23.8 [0.94]	18.25 [0.72]	3.04 [0.12]	45.9 [1.81]
12	21.20 [0.83]	13.85 [0.55]	.7500 - 20 UNEF	26.2 [1.03]	20.60 [0.81]	3.04 [0.12]	45.9 [1.81]
14	24.60 [0.97]	16.85 [0.66]	.8750 - 20 UNEF	28.6 [1.13]	23.00 [0.91]	3.04 [0.12]	45.9 [1.81]
16	27.60 [1.09]	20.00 [0.79]	1.0000 - 20 UNEF	31.0 [1.22]	24.60 [0.97]	3.04 [0.12]	45.9 [1.81]
18	30.90 [1.22]	22.30 [0.88]	1.1875 - 18 UNEF	33.3 [1.31]	27.00 [1.06]	3.04 [0.12]	45.9 [1.81]
20	33.80 [1.33]	25.75 [1.01]	1.1875 - 18 UNEF	36.5 [1.44]	29.40 [1.16]	3.04 [0.12]	50.0 [1.97]
22	37.10 [1.46]	28.80 [1.13]	1.4375 - 18 UNEF	39.7 [1.56]	31.75 [1.25]	3.04 [0.12]	50.0 [1.97]
24	40.25 [1.58]	32.00 [1.26]	1.4375 - 18 UNEF	42.8 [1.69]	34.92 [1.37]	3.73 [0.15]	50.0 [1.97]

IPT 00 WITH CLASS E BACKSHELL



Dimensions					
Shell Size	D Max	G ±0.4[.02]	H ±0.1	Ø M +0.1[0.00] 0[0.00]	L Max
8	14.20 [0.56]	20.6 [0.81]	15.10 [0.59]	3.04 [0.12]	32.15 [1.27]
10	17.40 [0.69]	23.8 [0.94]	18.25 [0.72]	3.04 [0.12]	32.15 [1.27]
12	20.65 [0.81]	26.2 [1.03]	20.60 [0.81]	3.04 [0.12]	32.15 [1.27]
14	23.60 [0.93]	28.6 [1.13]	23.00 [0.91]	3.04 [0.12]	32.15 [1.27]
16	26.85 [1.06]	31.0 [1.22]	24.60 [0.97]	3.04 [0.12]	32.15 [1.27]
18	29.85 [1.18]	33.3 [1.31]	27.00 [1.06]	3.04 [0.12]	32.15 [1.27]
20	33.00 [1.30]	36.5 [1.44]	29.40 [1.16]	3.04 [0.12]	38.50 [1.52]
22	36.30 [1.43]	39.7 [1.56]	31.75 [1.25]	3.04 [0.12]	38.50 [1.52]
24	39.50 [1.56]	42.8 [1.69]	34.92 [1.37]	3.73 [0.15]	40.10 [1.58]

TOPSIDE: SEACROW™



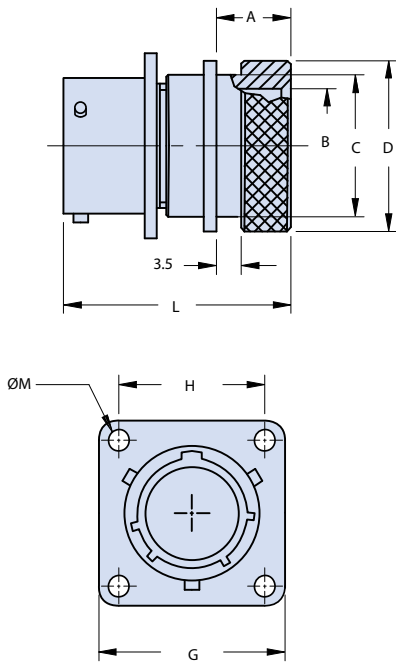


SEACROW MARINE BRONZE (MB)
Topside / Shipboard
Environmental Connectors



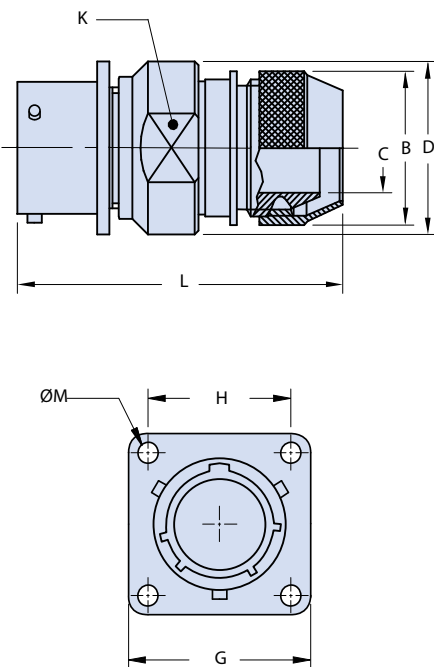
IPT 00 wall mount receptacle - Dimensions

IPT 00 WITH CLASS G BACKSHELL



Dimensions								
Shell Size	A ±0.1	B +0.1 -0	C +0 -0.1	D +0 -0.3	G ±0.4	H ±0.1	ØM +0.1 0	L Max
8	12.2 (0.48)	8.20 (0.32)	13.0 (0.51)	15.5 (0.61)	20.6 (0.81)	15.10 (0.59)	3.04 (0.12)	43.5 (1.71)
10	12.2 (0.48)	11.40 (0.45)	15.8 (0.62)	18.3 (0.72)	23.8 (0.94)	18.25 (0.72)	3.04 (0.12)	42.0 (1.65)
12	12.2 (0.48)	14.55 (0.57)	21.0 (0.83)	23.6 (0.93)	26.2 (1.03)	20.60 (0.81)	3.04 (0.12)	42.0 (1.65)
14	12.2 (0.48)	17.50 (0.69)	21.8 (0.86)	24.4 (0.96)	28.6 (1.13)	23.00 (0.91)	3.04 (0.12)	42.0 (1.65)
16	14.5 (0.57)	20.60 (0.81)	25.9 (1.02)	29.7 (1.17)	31.0 (1.22)	24.60 (0.97)	3.04 (0.12)	44.0 (1.73)
18	14.5 (0.57)	23.15 (0.91)	28.2 (1.11)	31.9 (1.26)	33.3 (1.31)	27.00 (1.06)	3.04 (0.12)	44.5 (1.75)
20	15.8 (0.62)	26.50 (1.04)	32.2 (1.27)	36.0 (1.42)	36.5 (1.44)	29.40 (1.16)	3.04 (0.12)	48.5 (1.91)
22	15.8 (0.62)	29.60 (1.17)	34.5 (1.36)	38.4 (1.51)	39.7 (1.56)	31.75 (1.25)	3.04 (0.12)	48.5 (1.91)
24	14.9 (0.59)	32.80 (1.29)	37.6 (1.48)	41.5 (1.63)	42.8 (1.69)	34.92 (1.37)	3.73 (0.15)	48.5 (1.91)

IPT 00 WITH CLASS M BACKSHELL



Dimensions								
Shell Size	D +0[0.00] -1[0.01]	B +0.58[0.02] 0[0.00]	C Min	G ±0.4[0.02]	H ±0.1[0.00]	ØM +0.1[0.00] 0[0.00]	L Max	K Key
8	14.0 (0.55)	16 (0.63)	6.6 (0.26)	20.6 (0.81)	15.10 (0.59)	3.04 (0.12)	52.0 (2.05)	18 (0.71)
10	16.0 (0.63)	18 (0.71)	9.2 (0.36)	23.8 (0.94)	18.25 (0.72)	3.04 (0.12)	52.0 (2.05)	21 (0.83)
12	20.0 (0.79)	22 (0.87)	12.2 (0.48)	26.2 (1.03)	20.60 (0.81)	3.04 (0.12)	52.0 (2.05)	24 (0.94)
14	23.0 (0.91)	25 (0.98)	15.2 (0.60)	28.6 (1.13)	23.00 (0.91)	3.04 (0.12)	53.0 (2.09)	28 (1.10)
16	26.0 (1.02)	28 (1.10)	18.3 (0.72)	31.0 (1.22)	24.60 (0.97)	3.04 (0.12)	53.0 (2.09)	31 (1.22)
18	28.5 (1.12)	32 (1.26)	20.0 (0.79)	33.3 (1.31)	27.00 (1.06)	3.04 (0.12)	53.0 (2.09)	34 (1.34)
20	30.5 (1.20)	34 (1.34)	23.0 (0.91)	36.5 (1.44)	29.40 (1.16)	3.04 (0.12)	57.0 (2.24)	37 (1.46)
22	34.5 (1.36)	38 (1.50)	26.0 (1.02)	39.7 (1.56)	31.75 (1.25)	3.04 (0.12)	57.0 (2.24)	41 (1.61)
24	37.5 (1.48)	41 (1.61)	28.8 (1.13)	42.8 (1.69)	34.92 (1.37)	3.73 (0.15)	58.5 (2.30)	44 (1.73)

TOPSIDE: SEACROW™





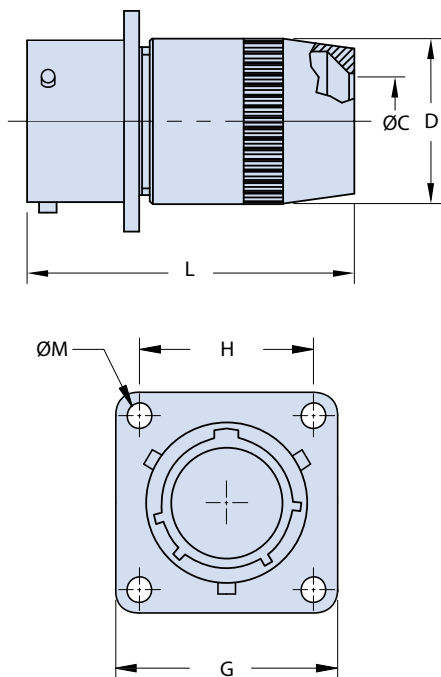
SEACROW MARINE BRONZE (MB)

Topside / Shipboard
Environmental Connectors



IPT 00 wall mount receptacle - Dimensions

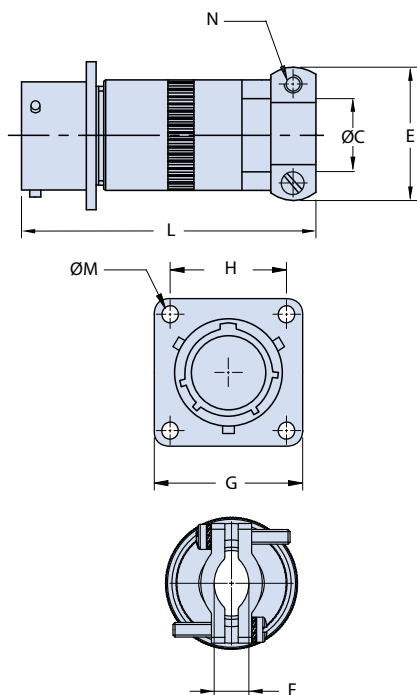
IPT 00 WITH CLASS W BACKSHELL



Shell Size	Dimensions						
	Ø C		D Max	G±0.4	H ±0.1	Ø M +0.1[0.00] 0[0.00]	L Max
	open	closed					
8	5.85 [0.23]	4.5 [0.18]	13.90 [0.55]	20.6 [0.81]	15.10 [0.59]	3.04 [0.12]	47.5 [1.87]
10	7.9 [0.31]	5.6 [0.22]	17.15 [0.68]	23.8 [0.94]	18.25 [0.72]	3.04 [0.12]	47.5 [1.87]
12	11.25 [0.44]	8.6 [0.34]	20.60 [0.81]	26.2 [1.03]	20.60 [0.81]	3.04 [0.12]	47.5 [1.87]
14	13.7 [0.54]	10.2 [0.40]	23.90 [0.94]	28.6 [1.13]	23.00 [0.91]	3.04 [0.12]	55.5 [2.19]
16	15 [0.59]	12.5 [0.49]	27.50 [1.08]	31.0 [1.22]	24.60 [0.97]	3.04 [0.12]	61.0 [2.40]
18	16.5 [0.65]	13.5 [0.53]	30.90 [1.22]	33.3 [1.31]	27.00 [1.06]	3.04 [0.12]	68.0 [2.68]
20	18.5 [0.73]	15 [0.59]	34.10 [1.34]	36.5 [1.44]	29.40 [1.16]	3.04 [0.12]	78.5 [3.09]
22	21.5 [0.85]	18 [0.71]	37.50 [1.48]	39.7 [1.56]	31.75 [1.25]	3.04 [0.12]	83.0 [3.27]
24	22.7 [0.89]*	18.8 [0.74]*	40.30 [1.59]	42.8 [1.69]	34.92 [1.37]	3.73 [0.15]	90.0 [3.54]

* Consult the factory.

IPT 00 WITH CLASS J BACKSHELL



Shell Size	Dimensions								
	ØC		F** ±0.75[.03]	E ±0.2[.01]	G ±0.2[.01]	H ±0.1[.01]	ØM +0.1[0.00] 0[0.00]	L Max.	N Thd
	Open	Closed							
8	5.85 [0.23]	4.5 [0.18]	4 [0.16]	19.10 [0.75]	20.6 [0.81]	15.10 [0.59]	3.04 [0.12]	56 [2.20]	6-32
10	7.9 [0.31]	5.6 [0.22]	4 [0.16]	20.70 [0.81]	23.8 [0.94]	18.25 [0.72]	3.04 [0.12]	56 [2.20]	6-32
12	11.25 [0.44]	8.6 [0.34]	6.4 [0.25]	23.90 [0.94]	26.2 [1.03]	20.60 [0.81]	3.04 [0.12]	59 [2.32]	6-32
14	13.7 [0.54]	10.2 [0.40]	7.5 [0.30]	27.00 [1.06]	28.6 [1.13]	23.00 [0.91]	3.04 [0.12]	66 [2.60]	6-32
16	15 [0.59]	12.5 [0.49]	8.3 [0.33]	28.60 [1.13]	31.0 [1.22]	24.60 [0.97]	3.04 [0.12]	72 [2.83]	6-32
18	16.5 [0.65]	13.5 [0.53]	11.3 [0.44]	35.00 [1.38]	33.3 [1.31]	27.00 [1.06]	3.04 [0.12]	79 [3.11]	8-32
20	18.5 [0.73]	15 [0.59]	12.7 [0.50]	35.00 [1.38]	36.5 [1.44]	29.40 [1.16]	3.04 [0.12]	90 [3.54]	8-32
22	21.5 [0.85]	18 [0.71]	16.3 [0.64]	39.75 [1.56]	39.7 [1.56]	31.75 [1.25]	3.04 [0.12]	95 [3.74]	8-32
24	22.7 [0.89]*	18.8 [0.74]*	16.3 [0.64]	42.10 [1.66]	42.8 [1.69]	34.92 [1.37]	3.73 [0.15]	102 [4.02]	8-32

* Consult the factory.

** Cable clamp cleats fully closed.

TOPSIDE: SEACROW™



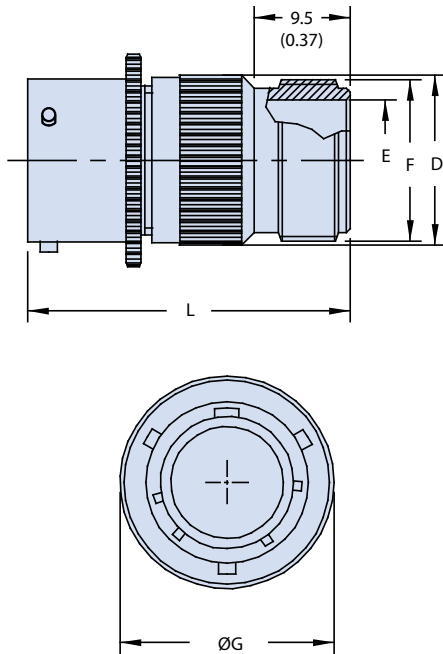


SEACROW MARINE BRONZE (MB)
Topside / Shipboard
Environmental Connectors



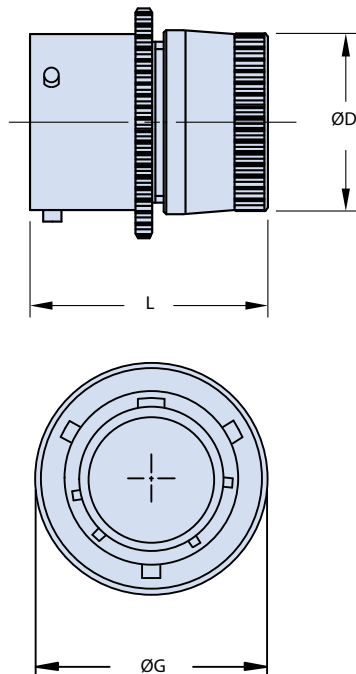
IPT 01 in-line receptacle - Dimensions

IPT 01 WITH CLASS A BACKSHELL



Dimensions					
Shell Size	D Max	E Min	F Thread (inches)	Ø G ± 0.2 [.01]	L Max
8	15.00 (0.59)	7.55 (0.30)	.5000 - 28 UNEF	17.3 (0.68)	45.9 (1.81)
10	18.20 (0.72)	10.70 (0.42)	.6250 - 24 UNEF	21.8 (0.86)	45.9 (1.81)
12	21.20 (0.83)	13.85 (0.55)	.7500 - 20 UNEF	25.1 (0.99)	45.9 (1.81)
14	24.60 (0.97)	16.85 (0.66)	.8750 - 20 UNEF	28.6 (1.13)	45.9 (1.81)
16	27.60 (1.09)	20.00 (0.79)	1.0000 - 20 UNEF	30.6 (1.20)	45.9 (1.81)
18	30.90 (1.22)	22.30 (0.88)	1.1875 - 18 UNEF	33.2 (1.31)	45.9 (1.81)
20	33.80 (1.33)	25.75 (1.01)	1.1875 - 18 UNEF	36.5 (1.44)	50.0 (1.97)
22	37.10 (1.46)	28.80 (1.13)	1.4375 - 18 UNEF	39.6 (1.56)	50.0 (1.97)
24	40.25 (1.58)	32.00 (1.26)	1.4375 - 18 UNEF	43.1 (1.70)	50.0 (1.97)

IPT 01 WITH CLASS E BACKSHELL



Dimensions			
Shell Size	Ø D Max.	Ø G ±0.2[.01]	L Max.
8	15.44 [0.61]	17.3 [0.68]	32.15 [1.27]
10	18.64 [0.73]	21.8 [0.86]	32.15 [1.27]
12	21.79 [0.86]	25.1 [0.99]	32.15 [1.27]
14	25.00 [0.98]	28.6 [1.13]	32.15 [1.27]
16	28.19 [1.11]	30.6 [1.20]	32.15 [1.27]
18	31.34 [1.23]	33.2 [1.31]	32.15 [1.27]
20	34.54 [1.36]	36.5 [1.44]	38.50 [1.52]
22	37.69 [1.48]	39.6 [1.56]	38.50 [1.52]
24	40.89 [1.61]	43.1 [1.70]	40.10 [1.58]

TOPSIDE: SEACROW™





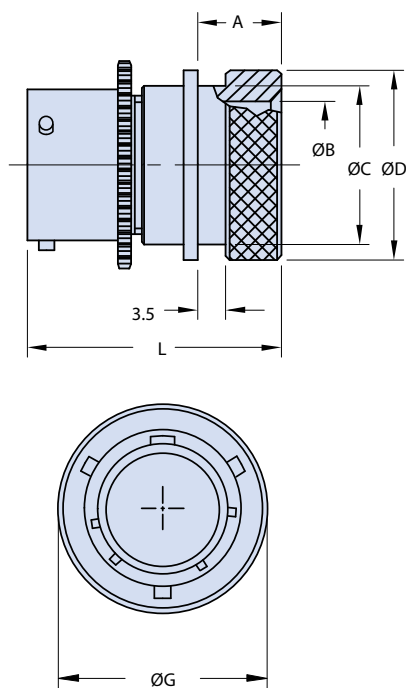
SEACROW MARINE BRONZE (MB)

Topside / Shipboard
Environmental Connectors



IPT 01 in-line receptacle - Dimensions

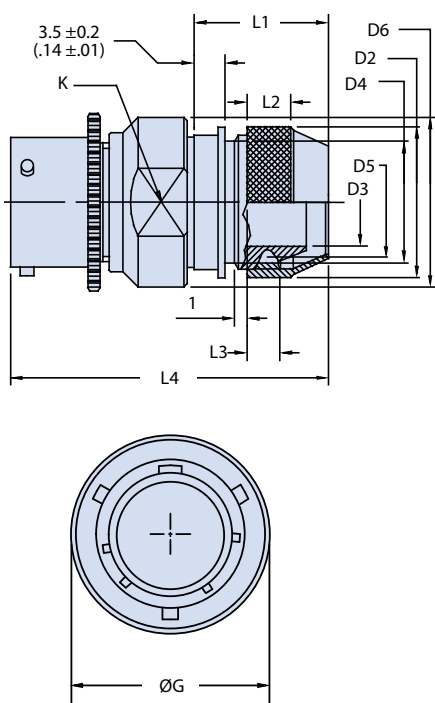
IPT 01 WITH CLASS G BACKSHELL



Dimensions						
Shell Size	A ±0.7[.03]	Ø B +0.1[0.00] -0[0.00]	ØC +0[0.00] -0.1[0.00]	ØD +0[0.00] -0.3[.01]	L Max	ØG ±0.2[.01]
8	12.2 [0.48]	8.20 [0.32]	13.0 [0.51]	15.5 [0.61]	43.5 [1.71]	17.3 [0.68]
10	12.2 [0.48]	11.40 [0.45]	15.8 [0.62]	18.3 [0.72]	42.0 [1.65]	21.8 [0.86]
12	12.2 [0.48]	14.55 [0.57]	21.0 [0.83]	23.6 [0.93]	42.0 [1.65]	25.1 [0.99]
14	12.2 [0.48]	17.50 [0.69]	21.8 [0.86]	24.4 [0.96]	42.0 [1.65]	28.6 [1.13]
16	14.5 [0.57]	20.60 [0.81]	25.9 [1.02]	29.7 [1.17]	44.0 [1.73]	30.6 [1.20]
18	14.5 [0.57]	23.15 [0.91]	28.2 [1.11]	31.9 [1.26]	44.5 [1.75]	33.2 [1.31]
20	15.8 [0.62]	26.50 [1.04]	32.2 [1.27]	36.0 [1.42]	48.5 [1.91]	36.5 [1.44]
22	15.8 [0.62]	29.60 [1.17]	34.5 [1.36]	38.4 [1.51]	48.5 [1.91]	39.6 [1.56]
24	14.9 [0.59]	32.80 [1.29]	37.6 [1.48]	41.5 [1.63]	48.5 [1.91]	43.1 [1.70]

TOPSIDE: SEACROW™

IPT 01 WITH CLASS M BACKSHELL



Dimensions											
Shell Size	K Key	ØG ±0.2 [.01]	D2 +0.5[.02] -0[0.00]	D3 Min	D4	D5	D6 Max	L1 +0[0.00] -2.5[.10]	L2 +1.5[.06] -0[0.00]	L3 Min	L4 Max
8	18 [0.71]	17.3 [0.68]	16 [0.63]	6.6 [0.26]	13.5 [0.53]	M14x1	20 [0.79]	17 [0.67]	5 [0.20]	4 [0.16]	55 [2.17]
10	21 [0.83]	21.8 [0.86]	18 [0.71]	9.2 [0.36]	16.0 [0.63]	M16x1	23 [0.91]	17 [0.67]	5 [0.20]	4 [0.16]	55 [2.17]
12	24 [0.94]	25.1 [0.99]	22 [0.87]	12.2 [0.48]	20.0 [0.79]	M20x1	27 [1.06]	17 [0.67]	7 [0.28]	5 [0.20]	55 [2.17]
14	28 [1.10]	28.6 [1.13]	25 [0.98]	15.2 [0.60]	22.0 [0.87]	M23x1	30 [1.18]	18 [0.71]	8 [0.31]	6 [0.24]	56 [2.20]
16	31 [1.22]	30.6 [1.20]	28 [1.10]	18.3 [0.72]	26.0 [1.02]	M26x1	33 [1.30]	18 [0.71]	8 [0.31]	6 [0.24]	56 [2.20]
18	34 [1.34]	33.2 [1.31]	32 [1.26]	20.0 [0.79]	28.2 [1.11]	M30x1	36 [1.42]	18 [0.71]	10 [0.39]	6 [0.24]	56 [2.20]
20	37 [1.46]	36.5 [1.44]	34 [1.34]	23.0 [0.91]	30.5 [1.20]	M32x1	40 [1.57]	18 [0.71]	10 [0.39]	6 [0.24]	62 [2.44]
22	41 [1.61]	39.6 [1.56]	38 [1.50]	26.0 [1.02]	34.5 [1.36]	M36x1	43 [1.69]	18 [0.71]	10 [0.39]	6 [0.24]	62 [2.44]
24	44 [1.73]	43.1 [1.70]	41 [1.61]	28.8 [1.13]	37.2 [1.46]	M39x1	46 [1.81]	18 [0.71]	10 [0.39]	6 [0.24]	64 [2.52]

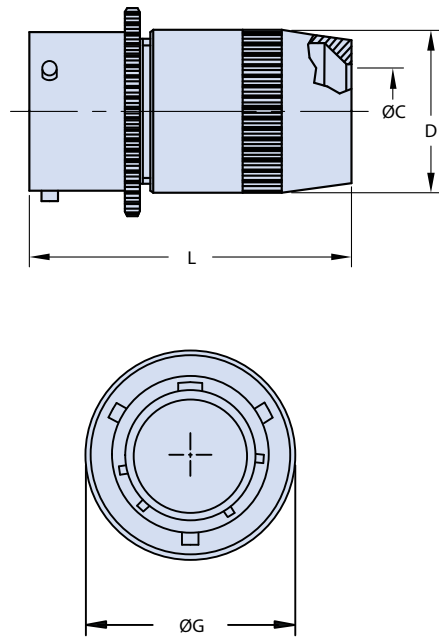


SEACROW MARINE BRONZE (MB)
 Topside / Shipboard
 Environmental Connectors



IPT 01 in-line receptacle - Dimensions

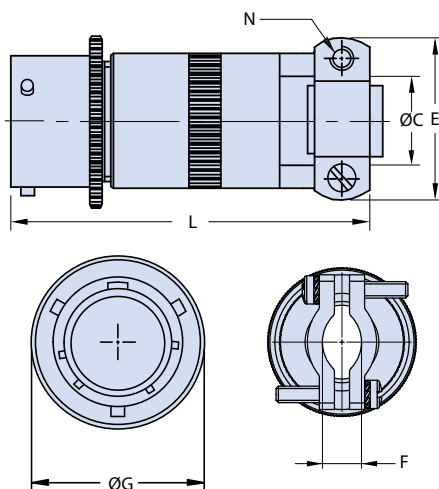
IPT 01 WITH CLASS W BACKSHELL



Shell Size	ØC		D Max	ØG ±0.2	L Max
	open	closed			
8	5.85 [0.23]	4.5 [0.18]	13.90 [0.55]	17.3 [0.68]	47.5 [1.87]
10	7.9 [0.31]	5.6 [0.22]	17.15 [0.68]	21.8 [0.86]	47.5 [1.87]
12	11.25 [0.44]	8.6 [0.34]	20.60 [0.81]	25.1 [0.99]	47.5 [1.87]
14	13.7 [0.54]	10.2 [0.40]	23.90 [0.94]	28.6 [1.13]	55.5 [2.19]
16	15 [0.59]	12.5 [0.49]	27.50 [1.08]	30.6 [1.20]	61.0 [2.40]
18	16.5 [0.65]	13.5 [0.53]	30.90 [1.22]	33.2 [1.31]	68.0 [2.68]
20	18.5 [0.73]	15 [0.59]	34.10 [1.34]	36.5 [1.44]	78.5 [3.09]
22	21.5 [0.85]	18 [0.71]	37.50 [1.48]	39.6 [1.56]	83.0 [3.27]
24	22.7* [0.89]	18.8* [0.74]	40.30 [1.59]	43.1 [1.70]	90.0 [3.54]

* Consult the factory.

IPT 01 WITH CLASS J BACKSHELL



Shell Size	ØC		F** ±0.75	E ±0.2	Ø ±0.2	L Max	N Thread
	Open	Closed					
8	5.85 [0.23]	4.5 [0.18]	4 [0.16]	19.10 [0.75]	17.3 [0.68]	56 [2.20]	6-32
10	7.9 [0.31]	5.6 [0.22]	4 [0.16]	20.70 [0.81]	21.8 [0.86]	56 [2.20]	6-32
12	11.25 [0.44]	8.6 [0.34]	6.4 [0.25]	23.90 [0.94]	25.1 [0.99]	59 [2.32]	6-32
14	13.7 [0.54]	10.2 [0.40]	7.5 [0.30]	27.00 [1.06]	28.6 [1.13]	66 [2.60]	6-32
16	15 [0.59]	12.5 [0.49]	8.3 [0.33]	28.60 [1.13]	30.6 [1.20]	72 [2.83]	6-32
18	16.5 [0.65]	13.5 [0.53]	11.3 [0.44]	35.00 [1.38]	33.2 [1.31]	79 [3.11]	8-32
20	18.5 [0.73]	15 [0.59]	12.7 [0.50]	35.00 [1.38]	36.5 [1.44]	90 [3.54]	8-32
22	21.5 [0.85]	18 [0.71]	16.3 [0.64]	39.75 [1.56]	39.6 [1.56]	95 [3.74]	8-32
24	22.7[*]	18.8[*]	16.3 [0.64]	42.10 [1.66]	43.1 [1.70]	102 [4.02]	8-32

* Consult the factory.

** Cable clamp cleats fully closed.

TOPSIDE: SEACROW™

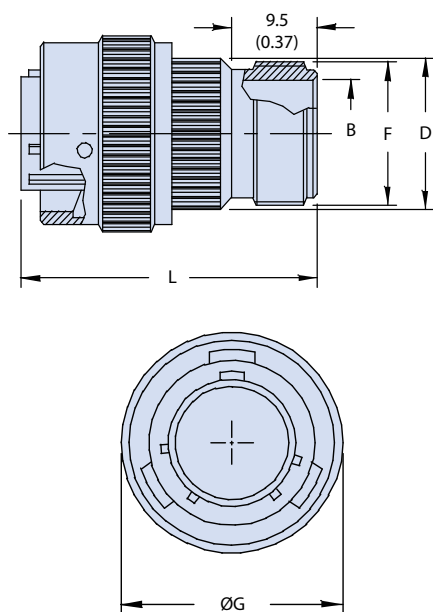




SEACROW MARINE BRONZE (MB)
 Topside / Shipboard
 Environmental Connectors
 IPT 06 plug - Dimensions



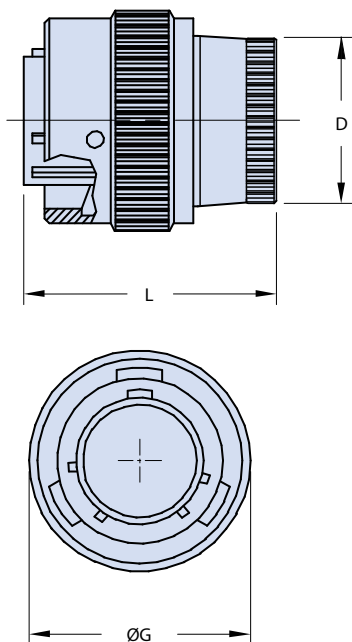
IPT 06 WITH CLASS A BACKSHELL



Dimensions					
Shell Size	B Min	D Max	F Thread in Inches	Ø G	L Max
8	6.6 [0.26]	15.00 [0.59]	.5000 - 28 UNEF	18.10 [0.71]	45.90 [1.81]
10	9.2 [0.36]	18.20 [0.72]	.6250 - 24 UNEF	21.05 [0.83]	45.90 [1.81]
12	12.2 [0.48]	21.20 [0.83]	.7500 - 20 UNEF	25.15 [0.99]	45.90 [1.81]
14	15.2 [0.60]	24.60 [0.97]	.8750 - 20 UNEF	28.40 [1.12]	45.90 [1.81]
16	18.3 [0.72]	27.60 [1.09]	1.0000 - 20 UNEF	31.60 [1.24]	45.90 [1.81]
18	20.0 [0.79]	30.90 [1.22]	1.1875 - 18 UNEF	35.00 [1.38]	45.90 [1.81]
20	23.0 [0.91]	33.80 [1.33]	1.1875 - 18 UNEF	37.70 [1.48]	50.00 [1.97]
22	26.0 [1.02]	37.10 [1.46]	1.4375 - 18 UNEF	40.20 [1.58]	50.00 [1.97]
24	28.8 [1.13]	40.25 [1.58]	1.4375 - 18 UNEF	44.00 [1.73]	50.00 [1.97]

TOPSIDE: SEACROW™

IPT 06 WITH CLASS E BACKSHELL



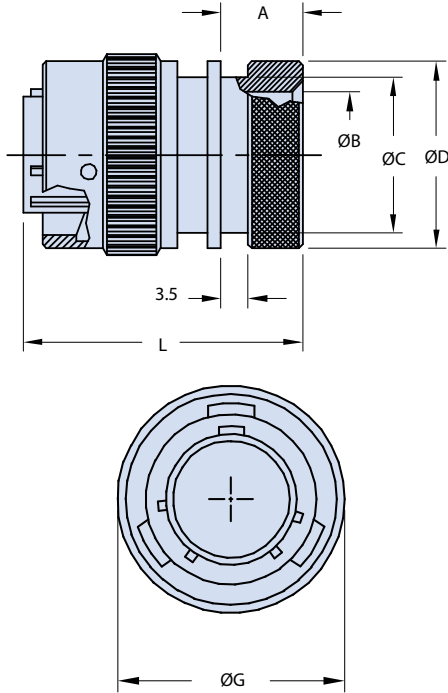
Dimensions			
Shell Size	D Max.	ØG ±0.2[.01]	L Max.
8	14.20 [0.56]	18.10 [0.71]	32.15 [1.27]
10	17.40 [0.69]	21.05 [0.83]	32.15 [1.27]
12	20.65 [0.81]	25.15 [0.99]	32.15 [1.27]
14	23.60 [0.93]	28.40 [1.12]	32.15 [1.27]
16	26.85 [1.06]	31.60 [1.24]	32.15 [1.27]
18	29.85 [1.18]	35.00 [1.38]	32.15 [1.27]
20	33.00 [1.30]	37.70 [1.48]	36.50 [1.44]
22	36.30 [1.43]	40.20 [1.58]	36.50 [1.44]
24	39.50 [1.56]	44.00 [1.73]	38.10 [1.50]



SEACROW MARINE BRONZE (MB)
Topside / Shipboard
Environmental Connectors
IPT 06 plug - Dimensions

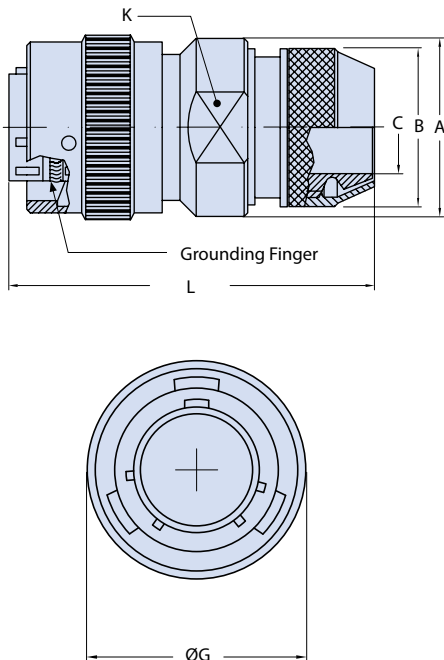


IPT 06 WITH CLASS G BACKSHELL



Dimensions						
Shell Size	A ±0.1[0.00]	Ø +0.1[0.00] -0[0.00]	ØC +0[0.00] -0.1[0.00]	ØD +0[0.00] -0.3[.01]	L Max	ØG ±0.2[.01]
8	12.2 [0.48]	8.20 [0.32]	13.0 [0.51]	15.5 [0.61]	43.5 [1.71]	18.10 [0.71]
10	12.2 [0.48]	11.40 [0.45]	15.8 [0.62]	18.3 [0.72]	42.0 [1.65]	21.05 [0.83]
12	12.2 [0.48]	14.55 [0.57]	21.0 [0.83]	23.6 [0.93]	42.0 [1.65]	25.15 [0.99]
14	12.2 [0.48]	17.50 [0.69]	21.8 [0.86]	24.4 [0.96]	42.0 [1.65]	28.40 [1.12]
16	14.5 [0.57]	20.60 [0.81]	25.9 [1.02]	29.7 [1.17]	44.0 [1.73]	31.60 [1.24]
18	14.5 [0.57]	23.15 [0.91]	28.2 [1.11]	31.9 [1.26]	44.5 [1.75]	35.00 [1.38]
20	15.8 [0.62]	26.50 [1.04]	32.2 [1.27]	36.0 [1.42]	47.0 [1.85]	37.70 [1.48]
22	15.8 [0.62]	29.60 [1.17]	34.5 [1.36]	38.4 [1.51]	47.0 [1.85]	40.20 [1.58]
24	14.9 [0.59]	32.80 [1.29]	37.6 [1.48]	41.5 [1.63]	47.0 [1.85]	44.00 [1.73]

IPT 06 WITH CLASS M BACKSHELL



Dimensions						
Shell Size	A Max	B +0.5 [.02] -0 [-0]	C Min.	K Key	L Max	ØG ±0.2 [.01]
8	20 [0.79]	16 [0.63]	6.6 [0.26]	18 [0.71]	55 [2.17]	18.10 [0.71]
10	23 [0.91]	18 [0.71]	9.2 [0.36]	21 [0.83]	55 [2.17]	21.05 [0.83]
12	27 [1.06]	22 [0.87]	12.2 [0.48]	24 [0.94]	55 [2.17]	25.15 [0.99]
14	30 [1.18]	25 [0.98]	15.2 [0.60]	28 [1.10]	56 [2.20]	28.40 [1.12]
16	33 [1.30]	28 [1.10]	18.3 [0.72]	31 [1.22]	56 [2.20]	31.60 [1.24]
18	36 [1.42]	32 [1.26]	20.0 [0.79]	34 [1.34]	56 [2.20]	35.00 [1.38]
20	40 [1.57]	34 [1.34]	23.0 [0.91]	37 [1.46]	60 [2.36]	37.70 [1.48]
22	43 [1.69]	38 [1.50]	26.0 [1.02]	41 [1.61]	60 [2.36]	40.20 [1.58]
24	46 [1.81]	41 [1.61]	28.8 [1.13]	44 [1.73]	62 [2.44]	44.00 [1.73]

TOPSIDE: SEACROW™

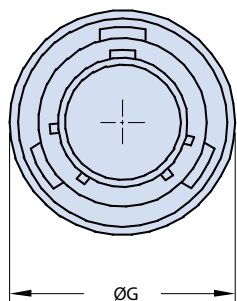
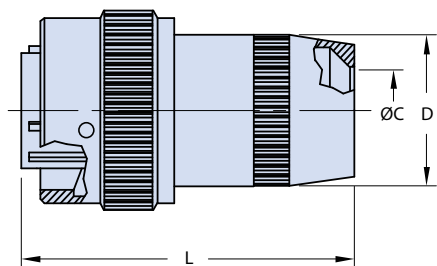




SEACROW MARINE BRONZE (MB)
**Topside / Shipboard
 Environmental Connectors**
IPT 06 plug - Dimensions



IPT 06 WITH CLASS W BACKSHELL

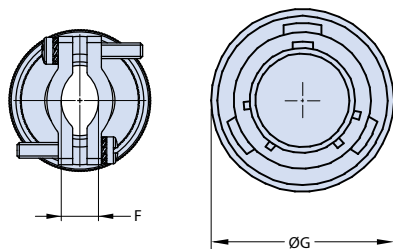
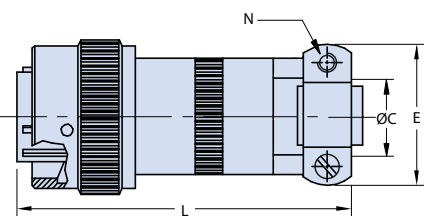


Shell Size	ØC		D Max	ØG ±0.2 [.01]	L Max
	Open	Closed			
8	5.85 [0.23]	4.5 [0.18]	13.90 [0.55]	18.10 [0.71]	47.5 [1.87]
10	7.9 [0.31]	5.6 [0.22]	17.15 [0.68]	21.05 [0.83]	47.5 [1.87]
12	11.25 [0.44]	8.6 [0.34]	20.60 [0.81]	25.15 [0.99]	47.5 [1.87]
14	13.7 [0.54]	10.2 [0.40]	23.90 [0.94]	28.40 [1.12]	55.5 [2.19]
16	15 [0.59]	12.5 [0.49]	27.50 [1.08]	31.60 [1.24]	61.0 [2.40]
18	16.5 [0.65]	13.5 [0.53]	30.90 [1.22]	35.00 [1.38]	68.0 [2.68]
20	18.5 [0.73]	15 [0.59]	34.10 [1.34]	37.70 [1.48]	78.5 [3.09]
22	21.5 [0.85]	18 [0.71]	37.50 [1.48]	40.20 [1.58]	83.0 [3.27]
24	22.7 [0.89]*	18.8 [0.74]*	40.30 [1.59]	44.00 [1.73]	90.0 [3.54]

* Consult the factory.

TOPSIDE: SEACROW™

IPT 06 WITH CLASS J BACKSHELL



Shell Size	ØC		F** ±0.75 [.03]	E ±0.2 [.01]	ØG ±0.2 [.01]	L Max	N Thd
	Open	Closed					
8	5.85 [0.23]	4.5 [0.18]	4 [0.16]	19.10 [0.75]	18.10 [0.71]	56.0 [2.20]	6-32
10	7.9 [0.31]	5.6 [0.22]	4 [0.16]	20.70 [0.81]	21.05 [0.83]	56.0 [2.20]	6-32
12	11.25 [0.44]	8.6 [0.34]	6.4 [0.25]	23.90 [0.94]	25.15 [0.99]	59.0 [2.32]	6-32
14	13.7 [0.54]	10.2 [0.40]	7.5 [0.30]	27.00 [1.06]	28.40 [1.12]	66.0 [2.60]	6-32
16	15 [0.59]	12.5 [0.49]	8.3 [0.33]	28.60 [1.13]	31.60 [1.24]	72.0 [2.83]	6-32
18	16.5 [0.65]	13.5 [0.53]	11.3 [0.44]	35.00 [1.38]	35.00 [1.38]	79.0 [3.11]	8-32
20	18.5 [0.73]	15 [0.59]	12.7 [0.50]	35.00 [1.38]	37.70 [1.48]	88.5 [3.48]	8-32
22	21.5 [0.85]	18 [0.71]	16.3 [0.64]	39.75 [1.56]	40.20 [1.58]	95.5 [3.76]	8-32
24	22.7 [0.89]	18.8 [0.74]*	16.3 [0.64]	42.10 [1.66]	44.00 [1.73]	100.0 [3.94]	8-32

* Consult the factory.

** Cable clamp cleats fully closed.

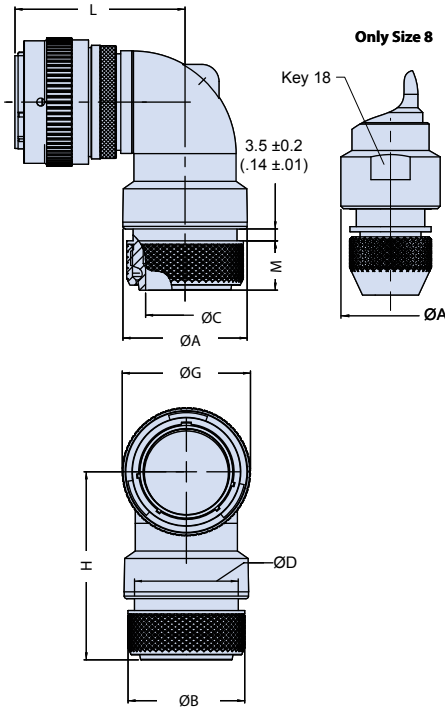


SEACROW MARINE BRONZE (MB)
 Topside / Shipboard
 Environmental Connectors



IPT 08 plug assembly - Dimensions

IPT 08 WITH CLASS M BACKSHELL



Dimensions								
Shell Size	ØA ± 0.2 [0.1]	ØB ± 0.2 [0.1]	ØC +0.1/0 [+0.00/0]	ØD 0 [0] -0.2 [0.1]	M ± 0.5 [.02]	ØG ± 0.2 [.02]	L Max	H Max
8	19.6 [0.77]	16.20 [0.64]	6.80 [0.27]	13.50 [0.53]	13.50 [0.53]	18.10 [0.71]	34.50 [1.36]	45.50 [1.79]
10	19.05 [0.75]	18.30 [0.72]	9.30 [0.37]	15.80 [0.62]	12.50 [0.49]	21.05 [0.83]	37.50 [1.48]	45.10 [1.78]
12	22.00 [0.87]	22.30 [0.88]	12.25 [0.48]	19.80 [0.78]	13.50 [0.53]	25.15 [0.99]	37.50 [1.48]	48.00 [1.89]
14	25.50 [1.00]	25.30 [1.00]	15.40 [0.61]	22.60 [0.89]	14.50 [0.57]	28.40 [1.12]	39.20 [1.54]	49.50 [1.95]
16	30.175 [1.19]	28.30 [1.11]	18.50 [0.73]	26.00 [1.02]	14.50 [0.57]	31.60 [1.24]	44.40 [1.75]	52.70 [2.07]
18	30.175 [1.19]	32.30 [1.27]	20.20 [0.80]	28.20 [1.11]	14.50 [0.57]	35.00 [1.38]	46.60 [1.83]	56.60 [2.23]
20	36.60 [1.44]	34.30 [1.35]	23.30 [0.92]	30.50 [1.20]	14.50 [0.57]	37.70 [1.48]	50.50 [1.99]	55.80 [2.20]
22	36.60 [1.44]	38.20 [1.50]	26.00 [1.02]	34.00 [1.34]	14.50 [0.57]	40.20 [1.58]	54.40 [2.14]	59.60 [2.35]
24	44.80 [1.76]	41.30 [1.63]	29.00 [1.14]	37.20 [1.46]	14.50 [0.57]	44.00 [1.73]	55.70 [2.19]	58.60 [2.31]

TOPSIDE: SEACROW™





SEACROW MARINE BRONZE (MB)

Topside / Shipboard Environmental Connectors



IGE-MB marine bronze connectors

IGE-MB MIL-C-5015 REVERSE-BAYONET TYPE / VG96929 COMPLIANT SINGLE POLE MARINE BRONZE POWER CONNECTOR SERIES



IGE-MB High Power Single Pole Connectors are used with cables from 16 to 240 mmq. These connectors achieve high-performance working current and peak current, and are ideal for engines, power supplies, and power distribution boxes. Several backshells are available, either straight or 90° elbows for the most reliable cable accommodation. See the VG96929 Catalogue for detailed electrical characteristics. IP67 protection is the standard performance. IP68 on request.

IGE-MB How To Order								
Sample Part Number	IGE	6E	22H9	Z	N	B	-14	MB
Series	IGE = VG96929 reverse bayonet single pole connectors							
Shell Style	See shell style table							
Shell Size/Contact Size	16H2, 18H5, 22H9, 28H15, 32H24; see wire accommodation table							
Contact Gender	Z = Male F = Female; omit when ordering shell style 9E							
Insert Rotation	N = Standard W = Alternate; see alternate positions; omit							
Coupling	B = Reverse bayonet							
Modification Code	See modification code table; check shell style/modification code table for available combinations							
Material/Finish	MB = Marine bronze							

Shell Style	
Code	Description
0E	RPM* Square flange receptacle with accessory threads
1E	In-line receptacle with accessory threads
2E	RPM* Square flange receptacle with threaded holes†
2EFF	RPM* Square flange receptacle with threaded holes and threaded contact
2EFP	FPM* Square flange receptacle with through holes
6E	Straight plug connector with grounding fingers and accessory threads
7E	Jam nut receptacle with threaded coupling
8E	90° Plug assembly with accessory threads
9E	RPM* sq. flange through bulkhead receptacle with threaded holes
9EFP	FPM** Sq. flange through-bulkhead receptacle with through holes

*RPM - Rear Panel Mount

**FPM - Front Panel Mount

† For IGE 2E with -16 modification only, mounting holes are through hole type and shell style is front panel mount

Modification Codes	
Code	Description
03	Shrink boot adapter
04	Crimp contact termination
14	EMI/RFI braid and shrink boot adapter
16	Threaded contact; see page 53 for dimensions
ZL	EMI/RFI braid and shrink boot adapter, no band
ZLF	Shrink boot braid adapter with band‡

‡Band-Master™ Band provided

Contact Wire Accomodation and Specifications					
Contact Size	Shell Size	Wire Size	Current Rating at 85°C		Max. Contact Resistance
H2	16	25 mm ²	225 A	750 A	0.60 mΩ
H5	18	50 mm ²	350 A	1.000 A	0.30 mΩ
H9	22	95 mm ²	570 A	2.000 A	0.15 mΩ
H15	28	150 mm ²	750 A	3.000 A	0.10 mΩ
H24	32	240 mm ²	950 A	5.000 A	0.07 mΩ

TOPSIDE: SEACROW™

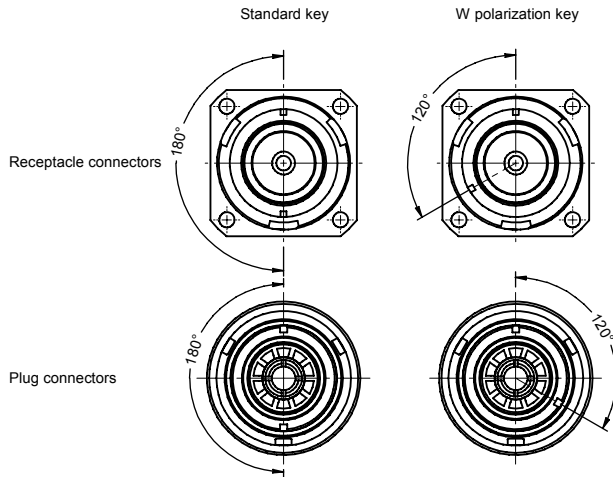


SEACROW MARINE BRONZE (MB) Topside / Shipboard Environmental Connectors



IGE-MB connectors - dimensions

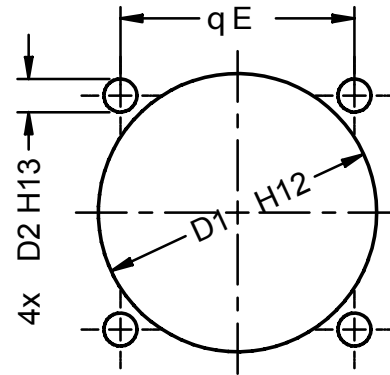
ALTERNATE POSTIONS



Alternate key and keyway positions

To avoid mismatching of similar connectors, IGE connectors are available with key and keyway in two different positions:
W: 120° N: 180°

MOUNTING DIMENSIONS FOR SQUARE FLANGE RECEPTACLES



Size	D1		D2			E
	Front	Rear	2E-16	9EFP	0E-03 9E	
16	-	27.7 [1.09]	M4	M4	4.5 [0.18]	24.6 [0.97]
18	27.4 [1.08]	31.1 [1.22]	M4	M4	4.5 [0.18]	27.0 [1.06]
22	33.7 [1.33]	37.8 [1.49]	M4	M4	4.5 [0.18]	31.8 [1.25]
28	43.3 [1.70]	47.1 [1.85]	M4	M5	5.5 [0.22]	39.7 [1.56]
32	49.7 [1.96]	53.8 [2.12]	M4	M5	5.5 [0.22]	44.5 [1.75]

CONNECTOR SHELL STYLE AND MODIFICATION CODE MATRIX

Shell Style	Modification Codes					
	03	04	14	16	ZL	ZLF
0E	✓				✓	✓
1E	✓		✓			
2E		✓		✓		
2EFP		✓				
2EFF				✓		
6E	✓		✓	✓		
7E				✓		
8E			✓			
9E						Not Applicable
9EFP						Not Applicable

TOPSIDE: SEACROW™





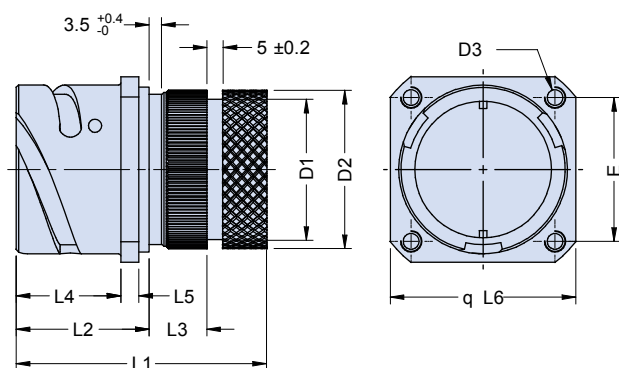
SEACROW MARINE BRONZE (MB)

Topside / Shipboard
Environmental Connectors



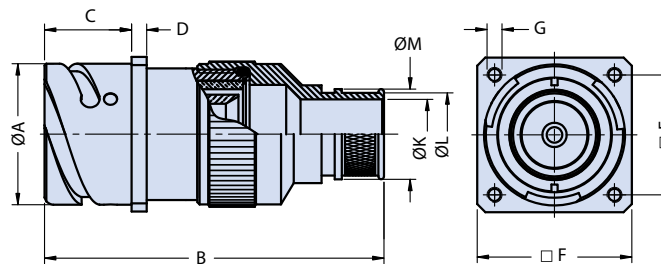
IGE-MB connectors - dimensions

**SQUARE FLANGE REAR PANEL MOUNT
RECEPTACLE WITH THREADED METRIC HOLES
AND SHRINK BOOT ADAPTER**



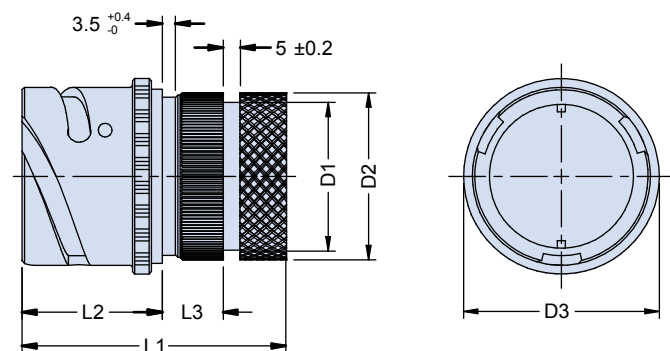
IGE	0E	22H9	Z	N	B	-03	MB
Basic P/N	Shell Style	Shell Size and Contact Size	Contacts F = Socket Z = Pin	Keyway N - Stand. W - Alt.	Bayonet Coupling	Mod. Code	Marine Bronze Finish

**SQUARE FLANGE RPM RECEPTACLE WITH
THREADED METRIC HOLES AND BACKSHELL
WITH BOOT PLATFORM AND BANDING PORCH**



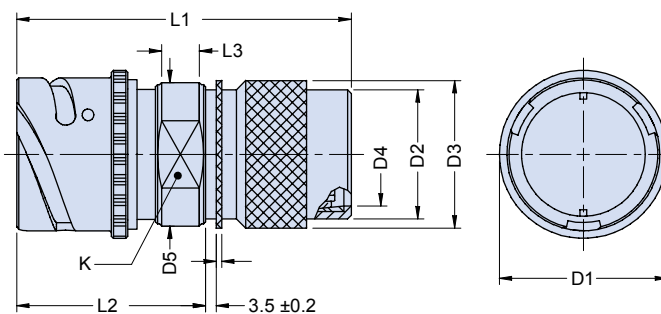
IGE	0E	22H9	Z	N	B	-ZL	MB
Basic P/N	Shell Style	Shell Size and Contact Size	Contacts F - Socket Z - Pin	Keyway N - Stand. W - Alt.	Bayonet Coupling	Mod. Code ZL - No Band ZLF - Band	Marine Bronze Finish

**IN-LINE RECEPTACLE WITH SHRINK BOOT
ADAPTER**



IGE	1E	22H9	Z	N	B	-03	MB
Basic P/N	Shell Style	Shell Size and Contact Size	Contacts F - Socket Z - Pin	Keyway N - Stand. W - Alt.	Bayonet Coupling	Mod. Code	Marine Bronze Finish

**IN-LINE RECEPTACLE WITH EMI/RFI BRAIDED
SHIELD AND SHRINK BOOT ADAPTER**



IGE	1E	22H9	Z	N	B	-14	MB
Basic P/N	Shell Style	Shell Size and Contact Size	Contacts F - Socket Z - Pin	Keyway N - Stand. W - Alt.	Bayonet Coupling	Mod. Code	Marine Bronze Finish

TOPSIDE: SEACROW™





SEACROW MARINE BRONZE (MB) Topside / Shipboard Environmental Connectors



IGE-MB connectors - dimensions

IGE 0E -03 Square Flange, Rear Panel Mount Connector with Boot Adapter - Dimensions													
Cable mm ²	Shell Size	D1 Max	D2 Max	D3	E ±0.1[0.00]	L1 ±0.4[.02]	L2 ±0.2[.01]	L3 Opt.	L4 ±0.4[.02]	L5 ±0.3[.01]	L6 ±0.3[.01]	L7 ±0.3[.01]	Weight for Alloy Ver. (gr. max)
25	16	20.3 [0.80]	22.7 [0.89]	M4	24.6 [0.97]	41.0 [1.61]	29 [1.14]	-	20.00 [0.79]	3.2 [0.13]	32.5 [1.28]	50 [1.97]	120
50	18	25.8 [1.02]	28.4 [1.12]	M4	27.0 [1.06]	50.0 [1.97]	32 [1.26]	-	23.05 [0.91]	4.0 [0.16]	35.0 [1.38]	86 [3.39]	150
95	22	33.0 [1.30]	35.3 [1.39]	M4	31.8 [1.25]	54.0 [2.13]	34 [1.34]	-	23.05 [0.91]	4.0 [0.16]	41.0 [1.61]	127 [5.00]	240
150	28	41.3 [1.63]	44.8 [1.76]	M5	39.7 [1.56]	65.3 [2.57]	38 [1.50]	18 [0.71]	24.05 [0.95]	4.0 [0.16]	50.8 [2.00]	250 [9.84]	420
240	32	46.1 [1.81]	49.6 [1.95]	M5	44.5 [1.75]	66.8 [2.63]	39 [1.54]	18 [0.71]	28.90 [1.14]	4.0 [0.16]	57.0 [2.24]	305 [12.01]	520

IGE 2E -ZL Square Flange, Front Panel Mount Connector with Threaded Contact - Dimensions												
Cable mm ²	Shell Size	ØA 0/-0.1 [0.00/-0.00]	B Max	C ±0.2[.01]	D ±0.2[.01]	□E ±0.1[0.00]	F ±0.2[.01]	G Thread	ØK ±0.1[0.00]	ØL ±0.1[0.00]	ØM ±0.1[0.00]	Weight for Alloy Version (gr. max)
95	22	37.4 [1.47]	90 [3.54]	23.05 [0.91]	4.0 [0.16]	31.8 [1.25]	41.0 [1.61]	M4	19.0 [0.75]	21.7 [0.85]	23.3 [0.92]	170

IGE 1E -03 In-Line Receptacle with Boot Adapter - Dimensions								
Cable mm ²	Shell Size	D1 Max	D2 Max	D3 ±0.3	L1 ±0.4	L2 ±2	L3 opt.	Mass g max
25	16	20.3 [0.80]	22.7 [0.89]	32.5 [1.28]	41.0 [1.61]	29 [1.14]	-	50
50	18	25.8 [1.02]	28.4 [1.12]	35.0 [1.38]	50.0 [1.97]	32 [1.26]	-	86
95	22	33.0 [1.30]	35.3 [1.39]	41.0 [1.61]	54.0 [2.13]	34 [1.34]	-	127
150	28	41.3 [1.63]	44.8 [1.76]	50.8 [2.00]	65.3 [2.57]	38 [1.50]	18 [0.71]	250
240	32	46.1 [1.81]	49.6 [1.95]	57.0 [2.24]	66.8 [2.63]	39 [1.54]	18 [0.71]	305

IGE 1E -14 In-line Receptacle with EMI/RFI Braided Shield and Shrink Boot Adapter - Dimensions												
Cable mm ²	Shell Size	D1 ±0.3[.01]	D2 max	D3 max	D4 min	D5 max	K	L1 max	L2 Max	L3 min	L4 ±0.7[.03]	Mass g max
25	16	32.5 [1.28]	24.1 [0.95]	26.0 [1.02]	15.5 [0.61]	32.0 [1.26]	26 [1.02]	70 [2.76]	45.6 [1.80]	8 [0.31]	1.0 [0.04]	80
50	18	35.0 [1.38]	28.8 [1.13]	32.0 [1.26]	20.0 [0.79]	36.5 [1.44]	32 [1.26]	76 [2.99]	51.1 [2.01]	6 [0.24]	1.0 [0.04]	156
95	22	41.0 [1.61]	34.1 [1.34]	37.0 [1.46]	25.5 [1.00]	46.0 [1.81]	38 [1.50]	86 [3.39]	61.0 [2.40]	9 [0.35]	1.0 [0.04]	204
150	28	50.8 [2.00]	40.7 [1.60]	44.0 [1.73]	32.0 [1.26]	53.0 [2.09]	50 [1.97]	98 [3.86]	71.7 [2.82]	9 [0.35]	1.0 [0.04]	300
240	32	57.0 [2.24]	47.3 [1.86]	51.6 [2.03]	38.0 [1.50]	60.0 [2.36]	52 [2.05]	98 [3.86]	70.7 [2.78]	12 [0.47]	2.0 [0.08]	450

TOPSIDE: SEACROW™





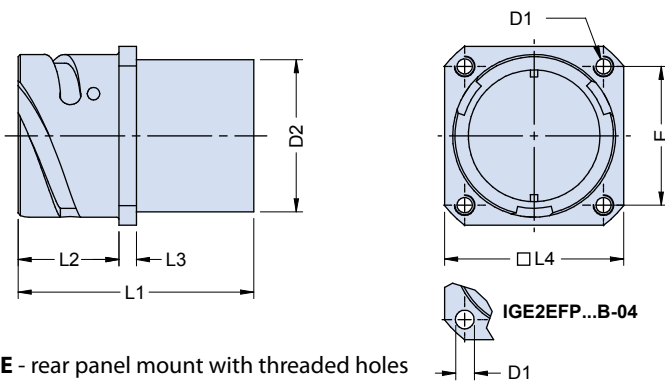
SEACROW MARINE BRONZE (MB)

Topside / Shipboard
Environmental Connectors



IGE-MB connectors - dimensions

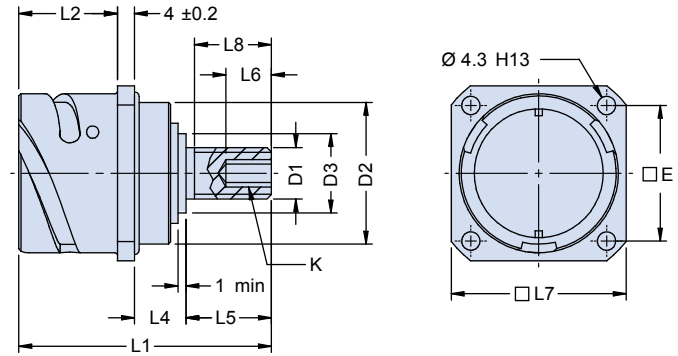
**SQUARE FLANGE REAR PANEL MOUNT
RECEPTACLE WITH THREADED OR THROUGH
MOUNTING HOLES AND CRIMP CONTACTS**



2E - rear panel mount with threaded holes
2EFP - front panel mount with through holes

IGE	2E	22H9	Z	N	B	-04	MB
Basic P/N	Shell Style 2E or 2EFP	Shell Size and Contact Size	Contacts F = Socket Z = Pin	Keyway N - Stand. W - Alt.	Bayonet Coupling	Mod. Code	Marine Bronze Finish

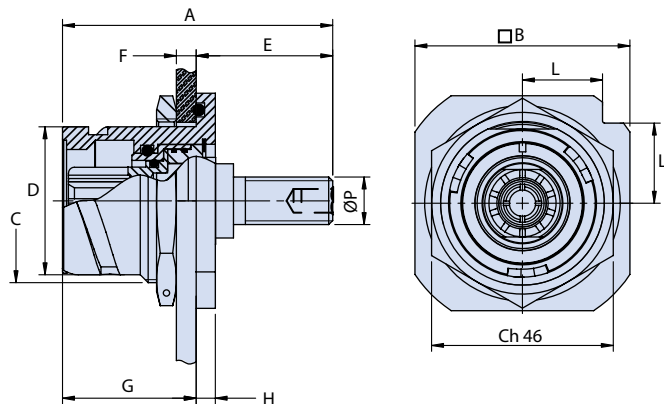
**SQUARE FLANGE FRONT PANEL MOUNT
RECEPTACLE WITH THREADED OR THROUGH
MOUNTING HOLES AND THREADED CONTACT**



2E - front panel mount with through holes
2EFF - rear panel mount with threaded holes

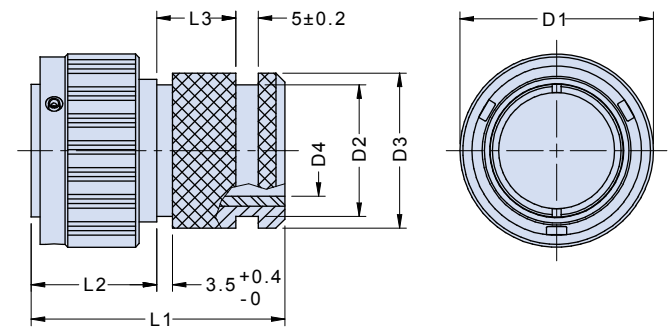
IGE	2EFF	22H9	Z	N	B	-16	MB
Basic P/N	Shell Style 2E or 2EFF	Shell Size and Contact Size	Contacts F - Socket Z - Pin	Keyway N - Stand. W - Alt.	Bayonet Coupling	Mod. Code	Marine Bronze Finish

**JAM NUT RECEPTACLE WITH THREADED
CONTACT**



IGE	7E	22H9	Z	N	B	-16	MB
Basic P/N	Shell Style	Shell Size and Contact Size	Contacts F - Socket Z - Pin	Keyway N - Stand. W - Alt.	Bayonet Coupling	Mod. Code	Marine Bronze Finish

**STRAIGHT PLUG WITH GROUNDING FINGERS
AND ADAPTER FOR ATTACHING SHIELDING
BRAID AND BOOT**



IGE	6E	22H9	Z	N	B	-03	MB
Basic P/N	Shell Style	Shell Size and Contact Size	Contacts F - Socket Z - Pin	Keyway N - Stand. W - Alt.	Bayonet Coupling	Mod. Code	Marine Bronze Finish

TOPSIDE: SEACROW™



SEACROW MARINE BRONZE (MB)
 Topside / Shipboard
 Environmental Connectors



IGE-MB connectors - dimensions

IGE 2E 04 and 2EFP -04, Rear Panel Mount Receptacle, Threaded or Through Hole Mount - Dimensions										
Cable mm ²	Shell Size	D1		D2 ±0.15[0.01]	E ±0.1[0.00]	L1 Max	L2 ±0.4[.00]	L3 ±0.3[.01]	L4 ±0.3[.01]	Mass g max
		Thd	(FP) H13							
25	16	M4	4.3 [0.17]	22.1 [0.87]	24.6 [0.97]	41.0 [1.61]	20.00 [0.79]	3.2 [0.13]	32.5 [1.28]	-
50	18	M4	4.3 [0.17]	27.0 [1.06]	27.0 [1.06]	50.0 [1.97]	23.05 [0.91]	4.0 [0.16]	35.0 [1.38]	-
95	22	M4	4.3 [0.17]	24.9 [0.98]	31.8 [1.25]	54.0 [2.13]	23.05 [0.91]	4.0 [0.16]	41.0 [1.61]	-
150	28	M5	5.3 [0.21]	42.7 [1.68]	39.7 [1.56]	66.8 [2.63]	24.05 [0.95]	4.0 [0.16]	50.8 [2.00]	-
240	32	M5	5.3 [0.21]	49.2 [1.94]	44.5 [1.75]	66.8 [2.63]	28.90 [1.14]	4.0 [0.16]	57.0 [2.24]	-

IGE 2E or 2EFP -16 Front Panel Mount Square Flange Receptacle, Threaded or Through Hole Mount																	
Cable mm ²	Shell Size	D1	D2 +0 [0.00] -0.15 [.01]	D3 +0 [0.00] -0.15 [.01]	D4 ±0.3		□ E ±0.1 [0.00]	○ K ±0.2 [.01]	L1 max	L2 +0.4 [.02] -0 [0.00]	L4 [±1.5]		L5 ±0.3 [.01]	L6 ±0.3 [.01]	L7 ±0.3 [.01]	L8 min	Weight for alloy version (gr. max)
			Thrd	(FP) H13	(F)	(Z)											
50	18	M8	26.9 [1.06]	15.0 [0.59]	M4	4.3 [0.17]	27.0 [1.06]	3 [0.12]	55 [2.17]	23.05 [0.91]	12.0 [0.47]	12.0 [0.47]	15 [0.59]	10 [0.39]	35.0 [1.38]	12 [0.47]	195
95	22	M12	33.2 [1.31]	18.7 [0.74]	M4	4.3 [0.17]	31.8 [1.25]	6 [0.24]	66 [2.60]	23.05 [0.91]	13.5 [0.53]	12.0 [0.47]	25 [0.98]	8 [0.31]	41.0 [1.61]	22 [0.87]	250
150	28	M12	42.8 [1.69]	27.0 [1.06]	M4	5.3 [0.21]	39.7 [1.56]	6 [0.24]	62 [2.44]	24.05 [0.95]	12.0 [0.47]	12.0 [0.47]	20 [0.79]	8 [0.31]	50.8 [2.00]	16 [0.63]	430
240	32	M16	49.2 [1.94]	31.7 [1.25]	M4	5.3 [0.21]	44.5 [1.75]	8 [0.31]	78 [3.07]	28.90 [1.14]	14.0 [0.55]	14.0 [0.55]	30 [1.18]	8 [0.31]	57.0 [2.24]	27 [1.06]	530

IGE 7E -16 Jam Nut Receptacle with Threaded Contact - Dimensions													
Cable mm ²	Shell Size	ØA ±0.1	B Sq ±0.2	P Metric Thread	C (inches)	ØD 0/-0.1 [0.00/-0.00]	E ±0.1[0.00]	F ±0.2 [0.1]	G ±0.2 [0.1]	H ±0.2 [0.1]	L ±0.1 [0.00]	CH	Weight for alloy version (gr. max)
95	22	68.0	54.0	M12	15/8 - 18	37.4 [1.47]	34.0 [1.34]	2.4 - 9.1	33.7 [1.33]	4.8 [0.19]	20.0 [0.79]	46	150

IGe 6E -16 Straight Plug with Grounding Fingers and Adapter for Attaching Shielding Braid and Boot									
Cable mm ²	Shell Size	D1 max	D2 max	D3 max	D4 min	L1 max	L2 max	L3 opt.	Mass g max
25	16	32.0 [1.26]	20.3 [0.80]	22.7 [0.89]	14.0 [0.55]	44 [1.73]	25 [0.98]	-	64
50	18	36.5 [1.44]	25.8 [1.02]	28.4 [1.12]	19.0 [0.75]	53 [2.09]	33 [1.30]	-	106
95	22	43.1 [1.70]	31.5 [1.24]	35.3 [1.39]	23.9 [0.94]	57 [2.24]	37 [1.46]	13.3	146
150	28	53.5 [2.11]	41.3 [1.63]	44.8 [1.76]	27.3 [1.07]	65 [2.56]	37 [1.46]	18.0	270
240	32	60.1 [2.37]	46.1 [1.81]	49.6 [1.95]	32.8 [1.29]	65 [2.56]	39 [1.54]	15.0	320

TOPSIDE: SEACROW™





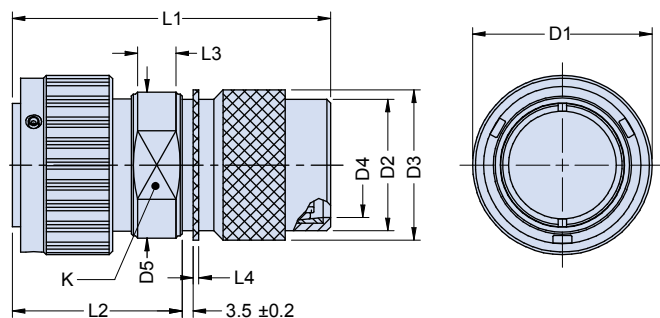
SEACROW MARINE BRONZE (MB)

Topside / Shipboard
Environmental Connectors

IGE-MB connectors - dimensions

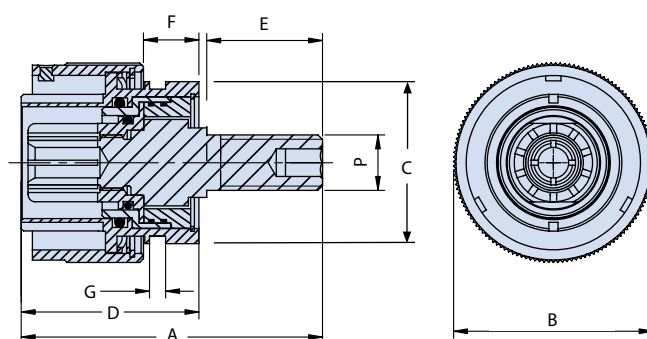


**STRAIGHT PLUG WITH GROUNDING FINGERS
AND ADAPTER FOR ATTACHING SHIELDING
BRAID AND BOOT**



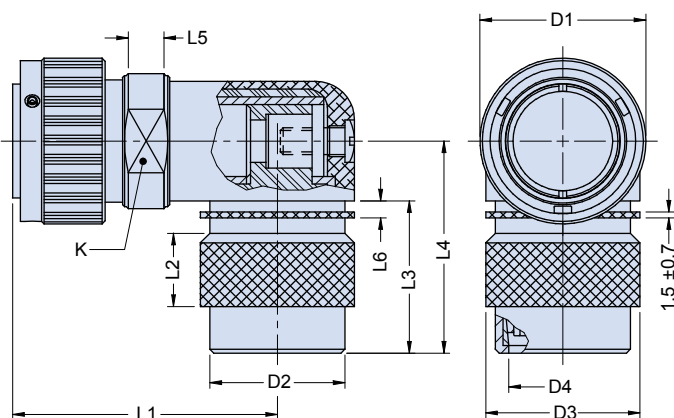
IGE	6E	22H9	Z	N	B	-14	MB
Basic P/N	Shell Style	Shell Size and Contact Size	Contacts F - Socket Z - Pin	Keyway N - Stand. W - Alt.	Bayonet Coupling	Mod. Code	Marine Bronze Finish

**STRAIGHT PLUG WITH GROUNDING FINGERS
AND ADAPTER FOR ATTACHING SHIELDING
BRAID AND BOOT**



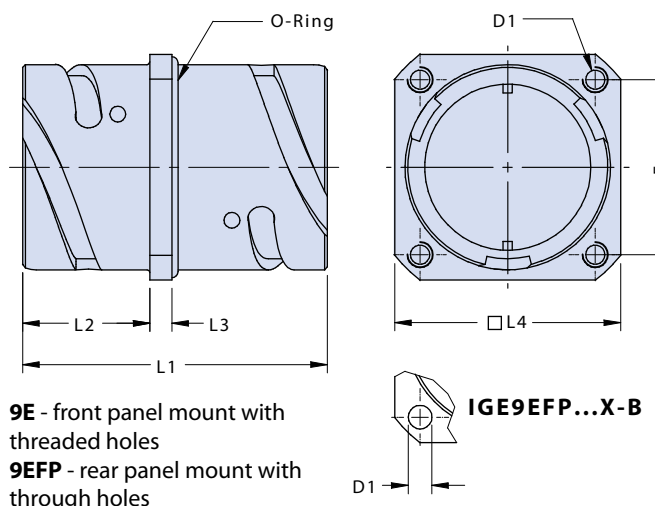
IGE	6E	22H9	Z	N	B	-16	MB
Basic P/N	Shell Style	Shell Size and Contact Size	Contacts F - Socket Z - Pin	Keyway N - Stand. W - Alt.	Bayonet Coupling	Mod. Code	Marine Bronze Finish

**RIGHT ANGLE PLUG WITH GROUNDING FINGERS
AND ADAPTER FOR ATTACHING SHIELDING
BRAID AND BOOT**



IGE	8E	22H9	Z	N	B	-14	MB
Basic P/N	Shell Style	Shell Size and Contact Size	Contacts F - Socket Z - Pin	Keyway N - Stand. W - Alt.	Bayonet Coupling	Mod. Code	Marine Bronze Finish

**REAR PANEL MOUNT, THROUGH BULKHEAD
RECEPTACLE WITH THREADED HOLES OR
THROUGH BULKHEAD WITH THROUGH HOLES**



IGE	9E	22H9	Z	N	B	-14	MB
Basic P/N	Shell Style	Shell Size and Contact Size	Contacts F - Socket Z - Pin	Keyway N - Stand. W - Alt.	Bayonet Coupling	Mod. Code	Marine Bronze Finish

TOPSIDE: SEACROW™





SEACROW MARINE BRONZE (MB) Topside / Shipboard Environmental Connectors



IGE-MB connectors - dimensions

IGE 6E 14 Straight Plug with Grounding Fingers and Adapter for Attaching Shielding Braid and Boot												
Cable mm ²	Shell Size	D1 max	D2 max	D3 max	D4 min	D5 max	K	L1 max	L2 max	L3 min	L4 ±0.7[.03]	Mass g max
25	16	32.0 [1.26]	24.1 [0.95]	26.0 [1.02]	15.5 [0.61]	32.0 [1.26]	26 [1.02]	70 [2.76]	45.6 [1.80]	8 [0.31]	1.0 [0.04]	80
50	18	36.5 [1.44]	28.8 [1.13]	32.0 [1.26]	20.0 [0.79]	36.5 [1.44]	32 [1.26]	76 [2.99]	51.1 [2.01]	6 [0.24]	1.0 [0.04]	156
95	22	43.1 [1.70]	34.1 [1.34]	37.0 [1.46]	25.5 [1.00]	46.0 [1.81]	38 [1.50]	86 [3.39]	61.0 [2.40]	9 [0.35]	1.0 [0.04]	204
150	28	53.5 [2.11]	40.7 [1.60]	44.0 [1.73]	32.0 [1.26]	53.0 [2.09]	50 [1.97]	98 [3.86]	71.7 [2.82]	9 [0.35]	1.0 [0.04]	300
240	32	60.1 [2.37]	47.3 [1.86]	51.6 [2.03]	38.0 [1.50]	60.0 [2.36]	52 [2.05]	98 [3.86]	70.7 [2.78]	12 [0.47]	2.0 [0.08]	450

IGE 6E -16 Straight Plug with Grounding fingers and Adapter for Attaching Shielding Braid and Boot - Dimensions										
Cable mm ²	Size	A ±0.5	B Max	C Max	D ±0.1[0.00]	E ±0.1	F ±0.1	G ±0.1[0.00]	P Thread	Weight for alloy version (gr. max)
95	22	65.5 [2.58]	43.2 [1.70]	36.0 [1.42]	38.5 [1.52]	25.0 [0.98]	12.0 [0.47]	3.5 [0.14]	M12	300
150	28	60.1 [2.37]	53.5 [2.11]	43.0 [1.69]	38.1 [1.50]	20.0 [0.79]	10.0 [0.39]	3.5 [0.14]	M12	450
240	32	75.0 [2.95]	60.1 [2.37]	49.5 [1.95]	42.5 [1.67]	30.0 [1.18]	11.0 [0.43]	3.5 [0.14]	M16	550

IGE 8E -14 Right Angle Plug with Grounding Fingers and Adapter for Attaching Shielding Braid and Boot														
Cable mm ²	Shell Size	D1 max	D2 max	D3 max	D3 ±0.3 [.01]	K	L1 max	L2 opt.	L3 max	L4 max	L5 min	L6		Mass g max
												tol.	±0.5 [0.02]	
95	22	43.1 [1.70]	39.0 [1.54]	42.5 [1.67]	28 [1.10]	38 [1.50]	81 [3.19]	19.0 [0.75]	41.5 [1.63]	57 [2.24]	6.0 [0.24]	2.9 [0.11]	±0.5 [0.02]	440
150	28	53.5 [2.11]	43.7 [1.72]	48.0 [1.89]	29 [1.14]	50 [1.97]	79 [3.11]	20.6 [0.81]	41.5 [1.63]	58 [2.28]	7.5 [0.30]	3.2 [0.13]	±0.2 [0.01]	690
240	32	60.1 [2.37]	48.6 [1.91]	52.5 [2.07]	42 [1.65]	52 [2.05]	84 [3.31]	22.2 [0.87]	41.5 [1.63]	65 [2.56]	6.0 [0.24]	3.2 [0.13]	±0.2 [0.01]	850

IGE 9E -14 Rear Panel Mount, Through Bulkhead Receptacle with Threaded Holes or Through Bulkhead with Through Holes Dimensions									
Size	D1		E ±0.1[0.00]	L1 max	L2		L3 ±0.2[.01]	L4 ±0.3[.01]	Mass G max
	Thrd	Thru Hole H13			min	max			
22	M4	4.3 [0.17]	31.8 [1.25]	52.1 [2.05]	16 [0.63]	24.0 [0.94]	4.0 [0.16]	41.0 [1.61]	140
28	M5	5.3 [0.21]	39.7 [1.56]	52.1 [2.05]	18 [0.71]	23.6 [0.93]	4.0 [0.16]	50.8 [2.00]	235
32	M5	5.3 [0.21]	44.5 [1.75]	60.5 [2.38]	19 [0.75]	25.2 [0.99]	4.0 [0.16]	57.0 [2.24]	300

TOPSIDE: SEACROW™





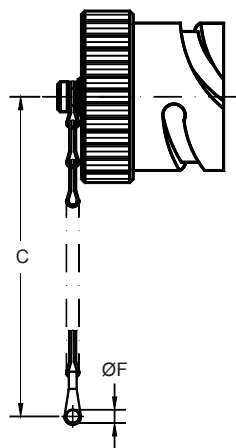
SEACROW MARINE BRONZE (MB)

Topside / Shipboard
Environmental Connectors



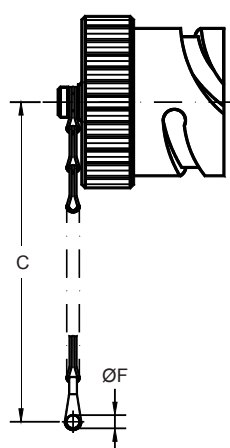
IGE-MB connectors and accessories - dimensions

ITB 06T PLUG COVER



Dimensions			
Part Number	Shell Size	C min	ØF +0.2 [.01] -0 [0.00]
ITB 06T-16	16	123 [4.84]	4.3 [0.17]
ITB 06T-18	18	123 [4.84]	4.3 [0.17]
ITB 06T-22	22	138 [5.43]	4.8 [0.19]
ITB 06T-28	28	206 [8.11]	4.8 [0.19]
ITB 06T-32	32	206 [8.11]	5.6 [0.22]

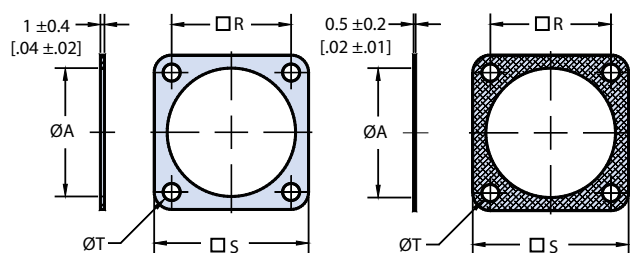
ITB 02T RECEPTACLE COVER



Dimensions			
Part Number	Shell Size	C min	ØF +0.2 [.01] -0 [0.00]
ITB 02T-16	16	108 [4.25]	4.3 [0.17]
ITB 02T-18	18	123 [4.84]	4.3 [0.17]
ITB 02T-22	22	123 [4.84]	4.3 [0.17]
ITB 02T-28	28	206 [8.11]	5.6 [0.22]
ITB 02T-32	32	206 [8.11]	5.6 [0.22]

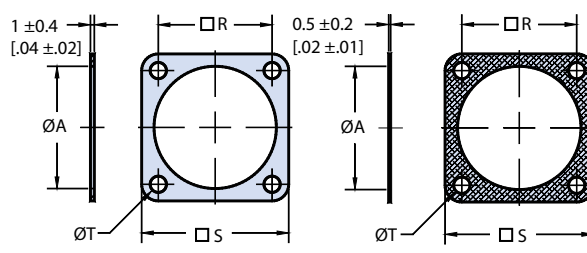
TOPSIDE: SEACROW™

IT 40450 FRONT PANEL MOUNT GASKET



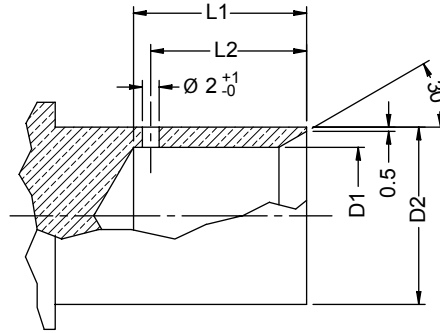
Dimensions					
Part Number	Shell Size	ØA +1 [.04]	R ±0.2 [.01]	S ±0.5 [.02]	ØT +0.5 [.02]
IT40450-16	16	25.3 [1.00]	24.6 [0.97]	32.5 [1.28]	4.2 [0.17]
IT40450-18	18	28.4 [1.12]	27.0 [1.06]	35.0 [1.38]	4.2 [0.17]
IT40450-22	22	34.8 [1.37]	31.8 [1.25]	41.0 [1.61]	4.2 [0.17]
IT40450-28	28	44.3 [1.74]	39.7 [1.56]	50.8 [2.00]	5.1 [0.20]
IT40450-32	32	50.7 [2.00]	44.5 [1.75]	57.0 [2.24]	5.1 [0.20]

IT 40460 REAR PANEL MOUNT GASKET



Dimensions					
Part Number	Shell Size	ØA +1 [.04]	R ±0.2 [.01]	S ±0.5 [.02]	ØT +0.5 [.02]
IT40460-16	16	27.4	24.6	32.5	4.2
IT40460-18	18	30.8	27.0	35.0	4.2
IT40460-22	22	37.4	31.8	41.0	4.2
IT40460-28	28	46.7	39.7	50.8	5.1
IT40460-32	32	53.4	44.5	57.0	5.1

CONTACT DIMENSIONS



Dimensions					
Size	Cable mm ²	D 1 +0.3[.01] 0[0.00]	D 2 ±0.2[.01]	L 1 ±0.2[.01]	L 2
H 2	25	7.7 (0.30)	10.9 (0.43)	14.0 (0.55)	11.0 (0.43)
H 5	50	11.2 (0.44)	16.0 (0.63)	15.0 (0.59)	13.0 (0.51)
H 9	95	16.2 (0.64)	21.0 (0.83)	20.5 (0.81)	18.5 (0.73)
H 15	150	20.9 (0.82)	27.0 (1.06)	28.0 (1.10)	25.5 (1.00)
H 24	240	26.8 (1.06)	31.6 (1.24)	30.0 (1.18)	27.0 (1.06)

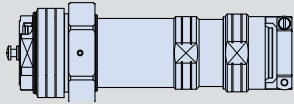
COUPLING TORQUE

Coupling Torque (VG95319-2)		
Shell Size	Opening and Closing Max	Opening Min
16	5.5 Nm	0.5 Nm
18	8.0 Nm	0.6 Nm
22	11.0 Nm	0.8 Nm
28	17.0 Nm	0.9 Nm
32	19.0 Nm	1.0 Nm





SERIES 927-072
ITS-Ex Hazardous Zone Connectors
 Product selection guide



REFERENCE INFORMATION

Materials, contact arrangements, and performance specifications

pg. 55



927-072-032

Fixed In-Line Receptacle with Basket Weave Cable Grip

Page 86



927-072-016

In-Line Plug with Mechanical Clamp

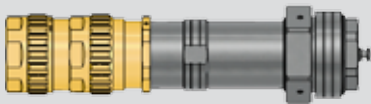
Page 76



927-072-011

In-Line Receptacle with Mechanical Clamp

Page 88



927-072-026

In-Line Plug with Ex d Cable Gland

Page 78



927-072-021

In-Line Receptacle with Ex d Cable Gland

Page 90



927-072-036

In-Line Plug with Basket Weave Cable Grip

Page 80



927-072-031

In-Line Receptacle with Basket Weave Cable Grip

Page 92



927-072-012

Fixed In-Line Receptacle with Mechanical Clamp

Page 82



927-072-003

Panel Mount Fixed Receptacle

Page 94



927-072-022

Fixed In-Line Receptacle with Ex d Cable Gland

Page 84



CONTACTS, TOOLS AND ACCESSORIES

Page 96

TOPSIDE: ITS-EX™





SERIES 927-072

ITS-Ex IECEX/ATEX Qualified Hazardous/Explosive Zone Connectors



Glenair is a qualified manufacturer of connectors for potential explosive zone use, built IAW IECEX/ATEX standards. The connectors may be used in application areas where flammable gases and vapors are present as a normal condition of operation (group IIC) and with temperature classes T6 and T5, zones 1 and 2; and for applications where potentially flammable dust is present as a normal condition of operation (group IIIC) and with temperature classes T80°C and T95°C in zone 21 and 22. The connector series design is optimized for fast and easy crimp-contact wire termination with ample wiring space in the cable housing and accessory hardware. Glenair Series ITS-Ex complies with the following standards:

- EN 60079-0 : 2012, "Explosive Atmospheres - Part 0: Equipment - General Requirements".
- EN 60079-1: 2014, "Explosive Atmospheres - Part 1: Equipment protection by flameproof enclosures 'd'".
- EN 60079-31: 2014, "Explosive Atmospheres - Part 31: Equipment Dust Ignition Protection by Enclosure 't'".
- IEC 60079-0: 2011, "Explosive Atmospheres - Part 0: Equipment - General Requirements".
- IEC 60079-1: 2014, "Explosive Atmospheres - Part 1: Equipment Protection by Flameproof Enclosures 'd'".
- IEC 60079-31: 2013, "Explosive Atmospheres - Part 31: Equipment Dust Ignition Protection by Enclosure 't'".
- For panel mount only: EN/IEC 60079-7: "Explosive Atmospheres -Part 7: Equipment protection by increased safety 'e'"

- Over 40 power and signal contact arrangements
- Full support for common armored and unarmored cable types
- MIL-DTL-5015 crimp-contact derivative solution
- Locking set screw-equipped coupling nut and protective safety covers
- Extended shell labyrinth cooling zone and potting chamber features
- Mechanical cable clamp, basket weave, and Ex d cable gland accessories
- IP68 water, vapor, moisture and dust protection in mated condition

TOPSIDE: ITS-EX™





SERIES 927-072
ITS-Ex Hazardous Zone Connectors
 Zone and category designations



ATEX EXPLOSIVE ZONES AND CATEGORIES



Explosion Triangle

Purpose of explosion zone connectors and glands

Glenair Series 927-072 ITS-Ex Hazardous Zone Connectors prevent explosions by eliminating the heat component in the explosion triangle. This is accomplished by preventing an ignition source, such as a flame or spark, from migrating through the cable or connector into a defined hazardous zone such as might be found in a petrochemical refinery or land/offshore drilling system. Hazardous zones are defined by frequency of presence of explosive gas or dust.

Hazardous Zone Fuel Types

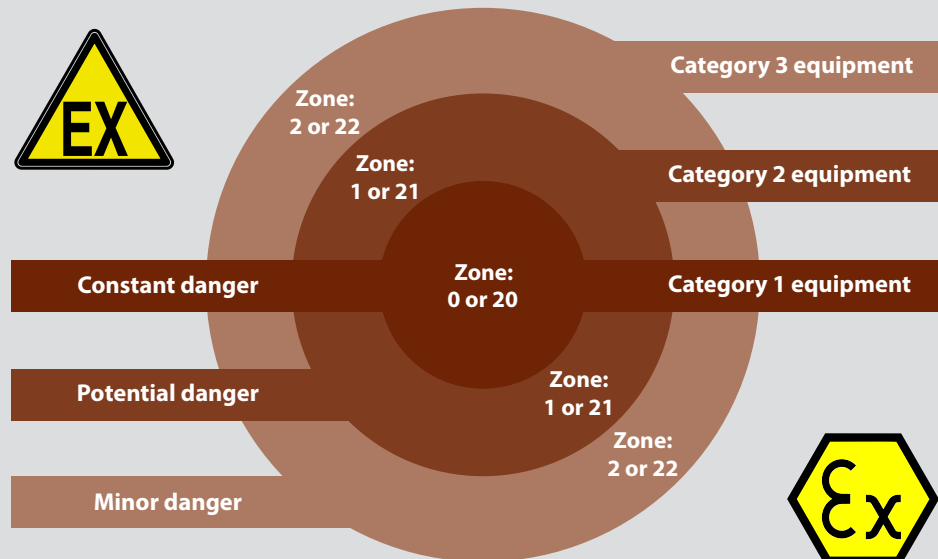
- Gas, vapor and mists : methane, butane, ethylene, hydrogen, acetylene
- Dust : aluminum, sulfur, zinc grain, coal, sugar, epoxy resin

In the ATEX 1999/92/EC directive, hazardous areas are divided into three defined zones: 0, 1, and 2. These zones are designations used to describe the likelihood that explosive mixtures of fuel and oxygen exist during normal conditions of facility operation.

Zone 0 (20)	Zone 1 (21)	Zone 2 (22)
Area in which an explosive gas (dust) atmosphere is present continuously or for long periods or frequently.	Area in which an explosive gas (dust) atmosphere is likely to occur in normal operation occasionally.	Area in which an explosive gas (dust) atmosphere is likely to occur in normal operation but, if it does occur, will persist for a short period only.

Operator

Manufacturer



TOPSIDE: ITS-EX™

Explosive area zone classifications are used by the operator to distinguish between explosive areas and their relative levels of risk. Operators use the triangular EX mark to indicate compliance with IECEx/ATEX requirements. Manufacturers however use different classifications to describe where their products may be used. The two systems generally conform in meaning but the words and symbols change.



SERIES 927-072
ITS-Ex Hazardous Zone Connectors
Zone and category designations



Glenair Connectors 927-072 are qualified for Group IIA, IIB, IIC and for Group IIIA, IIIB, IIIC, Category 2 and Category 3.

Category 2	Category 3
Place where explosive atmosphere is likely to occur. Provides the protection level in case of failure of the connector/equipment.	Place where explosive atmosphere are unlikely to occur, or if they do occur not frequently and only for a short period of time. Provides the requisite level of protection during normal operation.

GROUP II is for explosive GASES

Group II	Gases
IIA	Acetone, ethyl alcohol, ammonia, gasoline, butane, hexane, ethanol, natural gas, methanol, propane
IIB	Acetaldehyde, propane, ethylene
IIC	Hydrogen, gas mixture containing more than 25% hydrogen, acetylene, carbon disulphide

GROUP III is for explosive DUST

Group III	Dust
IIIA	Fibers
IIIB	Non-conductive dust
IIIC	Conductive dust

TEMPERATURE CLASSES

Glenair Series 927-072 ITS-Ex Hazardous Zone Connectors are qualified IAW class T6 to class T1. The temperature class identifies the hottest temperature that the equipment can reach.

Temperature Class	Permissible surface temperatures of the electrical equipment	Ignition temperature of the combustible gases
T1	450 °C	> 450 °C
T2	300 °C	300 - 450 °C
T3	200 °C	200 - 300 °C
T4	135 °C	135 - 200 °C
T5	100 °C	100 - 135 °C
T6	85 °C	85 - 100 °C





SERIES 927-072
ITS-Ex Hazardous Zone Connectors
 Zone and category designations



IEC AND ATEX

ATEX 94/9/EC directive classifies the equipment into categories 1,2,3 (Group II), based on protection level. Standard EN/IEC 60079-0 introduces EPL (Equipment Protection Level).

ATEX Group II	EPL according to IEC/EN 60079-0	
	Gas	Dust
Category 1	Ga	Da
Category 2	Gb	Db
Category 3	Gc	Dc

The relation between the ATEX 1999/92/EC and the IEC is indicated below : in the Zone 0 you could mount an equipment Ga or 1G (according to 94/9/EC ATEX).

Atmosphere	Zone	EPL	ATEX Category
Gas	0	Ga	1G
	1	Gb or Ga	2G or 1G
	2	Gc or Gb or Ga	3G or 2G or 1G
Dust	20	Da	1D
	21	Db or Da	2D or 1D
	22	Dc or Db or Da	3D or 2D or 1D

RANGE OF APPLICATIONS

- Automotive refuelling or petrol stations
- Oil & gas extraction
- Oil refineries
- Gas pipelines and distribution
- Chemical processing plants
- Aircraft refuelling and hangars
- Transportation
- Pharmaceuticals
- Food processing
- Metal surface grinding
- Sugar refineries
- Grain handling and storage
- Coal mining



Photo: Mikulova

TOPSIDE: ITS-EX™





SERIES 927-072

ITS-Ex Hazardous Zone Connectors



ITS-Ex Series labeling and materials

TECHNICAL OVERVIEW

Certified Uses:

- **With flammable gases and vapors with apparatus group IIC and with temperature classes T6 and T5 in zones 1 and 2**
- **With flammable dusts with apparatus group IIIC and with temperature classes T80°C and T95°C in zone 21 and 22**
- **The connectors are certified IP68 (tested at a depth of 10 meters for 30 minutes)**

The Glenair ITS-Ex Hazardous Zone series of connectors is comprised of metallic bodies and shells (aluminium alloy standard, optional materials available) with resilient silicone rubber inserts IAW MIL-DTL-5015. Pin or socket crimp contacts are available, and male and female inserts are reversible. Cable plugs and receptacles are available to form in-line cable connections. A fixed flange mount receptacle is available for Ex d boxes and Ex e bulkhead use. Connectors are coupled with a trapezoidal double-start threaded nut retained by grub (set) screws, and form a cylindrical flamepath when mated. When disconnected, plugs and receptacles are mated to an attached protective safety cap (or blanking cap). Absence of cap voids the Ex certification. Mate plug and receptacle caps together when not in use to prevent thread damage. Both plug and receptacle cable configurations are equipped with back-end accessory threads for the attachment of mechanical cable clamps and wire mesh Kellums grip-style attachments (potting required). A third style of rear-end accessory, an industry-standard Ex-certified explosion-proof cable gland, is also available and supplied by Glenair. The Ex certified cable gland does not require potting by the customer to achieve Ex d certified performance.

ATEX / IECEx LABELS

All Glenair ITS-Ex connectors are supplied with a non-removable label containing the following information per ATEX and IECEx directives:

ATEX Marking



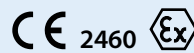
II 2 G Ex db IIC T6, T5 Gb
 II 2 D Ex tb IIIC T80°C, T95°C Db IP68
 -40°C ≤ Tamb ≤ +40°C (T6, T80°C) or +55°C (T5, T95°C)

IECEx Marking

Ex db IIC T6, T5 Gb
 Ex tb IIIC T80°C, T95°C Db IP68
 -40°C ≤ Tamb ≤ +40°C (T6, T80°C) or +55°C (T5, T95°C)

FOR PANEL MOUNT CONNECTORS ONLY:

ATEX Marking



II 2 G Ex de IIC T6, T5 Gb
 II 2 D Ex tb IIIC T80°C, T95°C Db IP68
 -40°C ≤ Tamb ≤ +40°C (T6, T80°C) or +55°C (T5, T95°C)

IECEx Marking

Ex de IIC T6, T5 Gb
 Ex tb IIIC T80°C, T95°C Db IP68
 -40°C ≤ Tamb ≤ +40°C (T6, T80°C) or +55°C (T5, T95°C)

Materials	
Item	Material
Hardware Body	Standard Base Material: aluminium alloy EN AW 6082-T6 UNI EN 573-3 (0.7÷1.3% Si, 0.6÷1.2% Mg, <0.2% Ti). All aluminium parts finished with a hard, scratch-resistant coating per MIL-A-8625, type III, class 2.
Insert	Silicone rubber
Cable Seal Glands	Silicone rubber
Grommet and Gasket	Silicone fire resistant rubber
O-Ring	Silicone MVQ / VMQ
Grub Screws (Set Screws)	UNI EN 10088-3, Alloy 316, stainless steel, passivated
Crimp Socket and Pin Contacts	Copper alloy ISO CuZn37Pb2/CuZn35Pb2 (OT61B/OT62A) for size AWG 20, 18, 16, 12 and 8 and copper alloy ISO CuTe for size 4,0 4/0. Both of them are silver plated as standard and gold plated as option.
Cement for potting	Bi-component epoxy resin (applied by the customer), flame retardant and thermally conductive, cure at room temperature for 24 hours.

TOPSIDE: ITS-EX™





SERIES 927-072
ITS-Ex Hazardous Zone Connectors
 Connector configurations

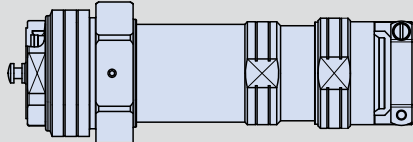


Connectors Configurations

Base Part Number and Description

Cable Plug with Mechanical Clamp and Potting Well

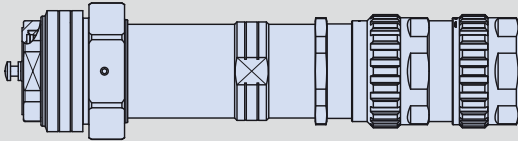
927-072-016-



Plug with mechanical cable clamp and potting well: 927-072-016 incorporates a potting well /cable adapter which must be filled with supplied 2-part epoxy for certified Ex d performance. Various cable entry sizes for popular armored and unarmored cable are supported. Protective safety cover included.

Cable Plug with Ex d Cable Gland

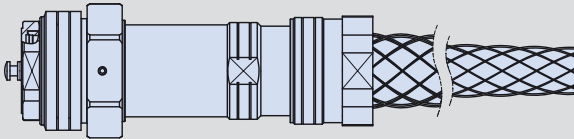
927-072-026-



Plug with "Ex d" certified cable gland (potting is not required): 927-072-026 is supplied with an industry-standard Ex d certified cable gland, ready for immediate use. Various cable entry sizes for popular armored and unarmored cable are supported. Protective safety cover included.

Cable Plug with Basket Weave Cable Grip

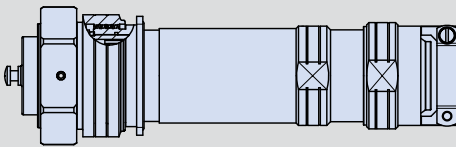
927-072-036-



Plug with basket-weave cable grip and potting well: 927-072-036 incorporates a potting well /cable adapter which must be filled with supplied 2-part epoxy for certified Ex d performance. Various cable entry sizes for popular armored and unarmored cable are supported. Protective safety cover included.

Fixed In-Line Receptacle with Mechanical Clamp

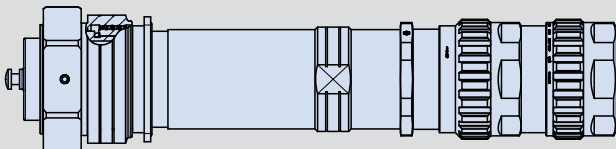
927-072-012-



Fixed in-line receptacle with mechanical cable clamp and potting well: 927-072-012 incorporates a potting well /cable adapter which must be filled with supplied 2-part epoxy for certified Ex d performance. Various cable entry sizes for popular armored and unarmored cable are supported. Protective safety cover included.

Fixed In-Line Receptacle with Ex d Cable Gland

927-072-022-



Fixed in-line receptacle with "Ex d" certified cable gland (potting is not required): 927-072-022 is supplied with an industry-standard Ex d certified cable gland, ready for immediate use. Various cable entry sizes for popular armored and unarmored cable are supported. Protective safety cover included.

TOPSIDE: ITS-EX™

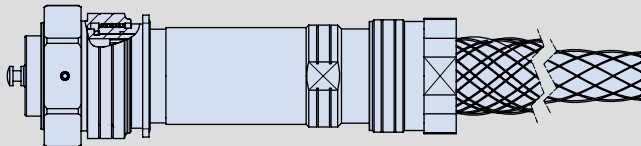


SERIES 927-072
ITS-Ex Hazardous Zone Connectors
 Connector configurations



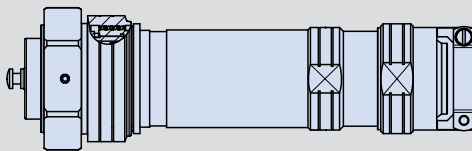
Connectors Configurations **Base Part Number and Description**

Fixed In-Line Receptacle with Cable Grip **927-072-032-**



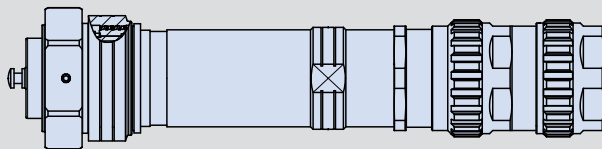
Fixed in-line receptacle with basket-weave cable grip and potting well: 927-072-032 incorporates a potting well/cable adapter which must be filled with supplied 2-part epoxy for certified Ex d performance. Various cable entry sizes for popular armored and unarmored cable are supported. Protective safety cover included.

In-Line Receptacle with Mechanical Cable Clamp **927-072-011-**



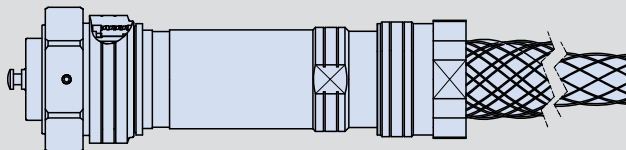
In-Line receptacle with mechanical cable clamp and potting well: 927-072-011 incorporates a potting well/cable adapter which must be filled with supplied 2-part epoxy for certified Ex d performance. Various cable entry sizes for popular armored and unarmored cable are supported. Protective safety cover included.

In-Line Receptacle with Ex d Cable Gland **927-072-021-**



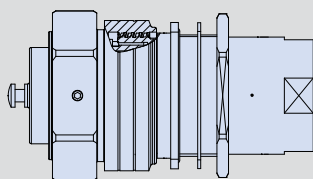
In-Line receptacle with "Ex d" certified cable gland (potting is not required): 927-072-021 is supplied with an industry-standard Ex d certified cable gland, ready for immediate use. Various cable entry sizes for popular armored and unarmored cable are supported. Protective safety cover included.

In-Line Receptacle with Basket Weave Cable Grip **927-072-031-**



Flange-mount receptacle with basket-weave cable grip and potting well: 927-072-031 incorporates a potting well/cable adapter which must be filled with supplied 2-part epoxy for certified Ex d performance. Various cable entry sizes for popular armored and unarmored cable are supported. Protective safety cover included.

Panel-Mount Fixed Receptacle* **927-072-003-**



Panel mount fixed receptacle with potting well: 927-072-003 is designed for use in certified Ex d flame-proof enclosures. An auxiliary lock nut is supplied for blowout protection in Ex e increased safety enclosures. The receptacle incorporates a potting well which must be filled with supplied 2-part epoxy for certified Ex d performance. Protective safety cover included.

*Final IEC ATEX Ex d certification pending for this configuration only. Consult factory for status

TOPSIDE: ITS-EX™

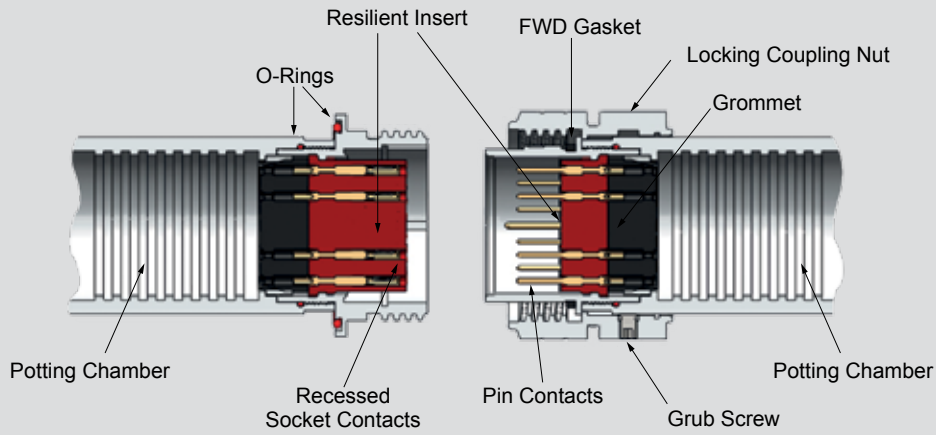




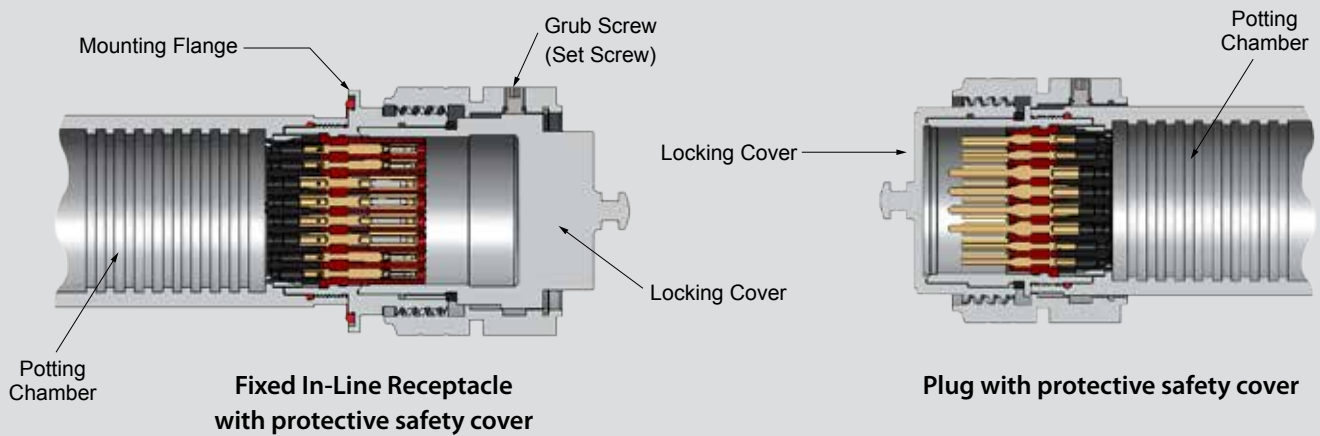
SERIES 927-072
ITS-Ex Hazardous Zone Connectors
 Cross-sectional and exploded views



CROSS-SECTIONAL VIEWS



Receptacle (left) and Plug (right) connector pair

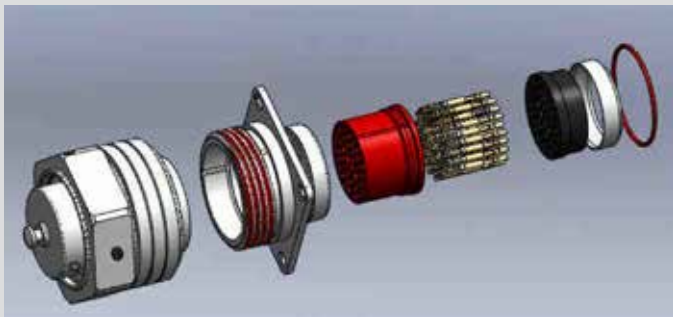


Fixed In-Line Receptacle with protective safety cover

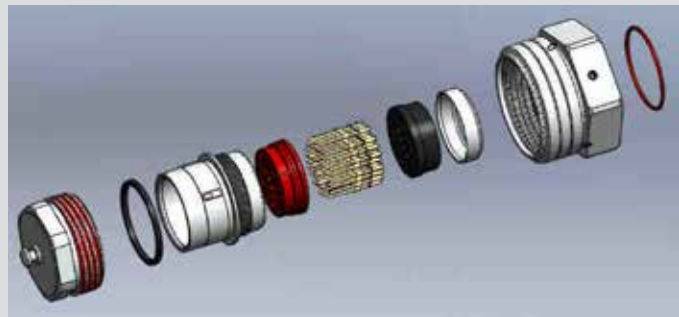
Plug with protective safety cover

TOPSIDE: ITS-EX™

EXPLODED VIEWS



Receptacle



Plug



SERIES 927-072

ITS-Ex Hazardous Zone Connectors



ITS-Ex operation best practices

SPECIAL CONDITIONS OF SAFE USE

The following conditions shall be met for safe use of Series ITS-Ex connectors.

1. Male and female connectors are considered completely mated when the plug coupling nut is fully advanced on the receptacle, and all grub screws are secured.
2. Use Loctite 242 or equivalent (medium strength threadlocker) at threaded joints between the following: plug shell and cable adapter (backshell); receptacle shell and cable adapter (backshell); cable adapter (backshell) and certified cable gland.
3. Never demate connector halves when energized or remove protective safety covers when an explosive gas or dust atmosphere is present.
4. When a connector half fitted with contact pins is not connected to an associated plug or receptacle, it shall not be energized, per IEC 60079-0, clause 20.2.
5. Use protective safety covers whenever connector halves are not mated, being careful to always advance and secure the grub screws. Flame-proof safety caps are a part of the certification, and their use is required to maintain independent flameproof worthiness of the connector halves.
6. When a connector half fitted with socket contacts is not mated to an associated plug or receptacle, it shall not be re-energized unless it is fitted with an flameproof protective safety cover.
7. Perform connector backpotting step according to Glenair instruction manual D500500000. Backpotting, or use of an Ex d certified cable gland is required for all Hazardous Zone rated equipment and shall be performed carefully and properly, using the 2-part epoxy compound supplied with each connector.
8. Always use suitable cable with a minimum rated operating temperature of 90°C when using rated current according to N.E.C. It is the responsibility of the operator to ensure selected cable is suitable for use in each specific application, including resistance to aggressive substances and caustic chemicals.
9. Always use suitable cable with a minimum rated operating temperature of 100°C when using rated current extrapolated from VG95234. It is the responsibility of the operator to ensure selected cable is suitable for use in each specific application, including resistance to aggressive substances and caustic chemicals.
10. It is not possible to connect to a battery without using a circuit breaker.
11. Series ITS-Ex connectors do not incorporate an external earth/ground. It is the responsibility of the user or installer to ensure adequate earth/ground continuity IAW Glenair instruction manual D500500000.
12. Do not remove Ex marking label and its lanyard from connector body or protective safety cover. For flange-mount receptacles mounted to a panel, attach label lanyard directly to a flange mounting hole. Label is required for identification of connector in a certified Ex d application.
13. For multi-pin connectors, calculate current load and temperature rise based on ambient temperature plus the aggregate total of the individual contacts in the insert. MIL-W-5088 specifications shall be used as reference on the subject in as much as pertinent cable de-rating data is included.

TOPSIDE: ITS-EX™





SERIES 927-072
ITS-Ex Hazardous Zone Connectors
 Cable application notes



CABLE CROSS-SECTION AND INTERNAL CONSTRUCTION

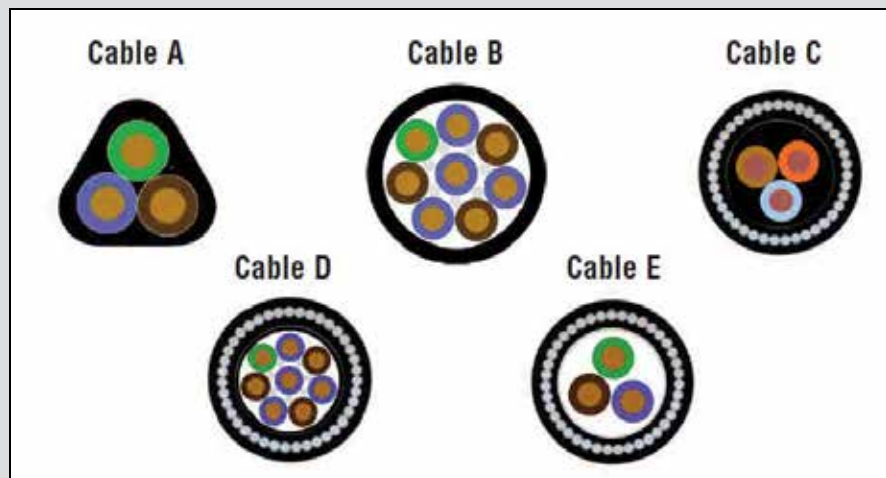
There are no IEC construction standards for the cables intended for use in flammable atmospheres, but minimum cable operating temperature shall be 90°C IAW NEC / 100°C VG95234. Gas-tight sealing of cabling for use in Ex d equipment enclosures depends heavily on cable shape and construction. Please see Glenair Instruction Manual D500500000 for complete information on cable selection, noting that any selected cable should:

1. Be substantially compact and circular (especially the part of the cable entering the enclosure),
2. Have an extruded bedding (without any gaps),
3. Only utilize fillers which are Non-Hygroscopic.

In this illustration, **Cable A** is not suitable due to its irregular shape (impossible for cylindrical sealing gasket to seal).

Cables B, D and E are not suitable due to the presence of internal voids in the cable construction (potential flame migration path between conductors).

Cable C is the only one of the five sample cables illustrated which could be selected (uniformly round with no internal voids or gaps in cable lay or construction).



GROUNDING

Glenair ITS-Ex connectors do not incorporate external grounding/earthing. It is the responsibility of the operator to effect earth continuity during the assembly process. Various methodologies, such as terminating a ground wire to a spare connector contact may be used for signal grounding and continuity. Electrical grounding of the cable armour system may be accomplished with the use of soldering, heat shrink, adhesive electrical tapes, or other methodologies to bond cable armoring to ground.

Glenair recommends that a small strip of outer jacket be cut away a reasonable distance from the entrance to the cable gland servicing the connector. A durable insulated conductor with a cross section not smaller than #14 AWG/4mm should then be bonded to the exposed armour. Protective tape, heat or cold shrink should be applied to protect and seal the bond point. The grounding conductor should be terminated at a fixed-panel receptacle. Periodic inspection of the ground attachment is recommended.

TOPSIDE: ITS-EX™



SERIES 927-072

ITS-Ex Hazardous Zone Connectors



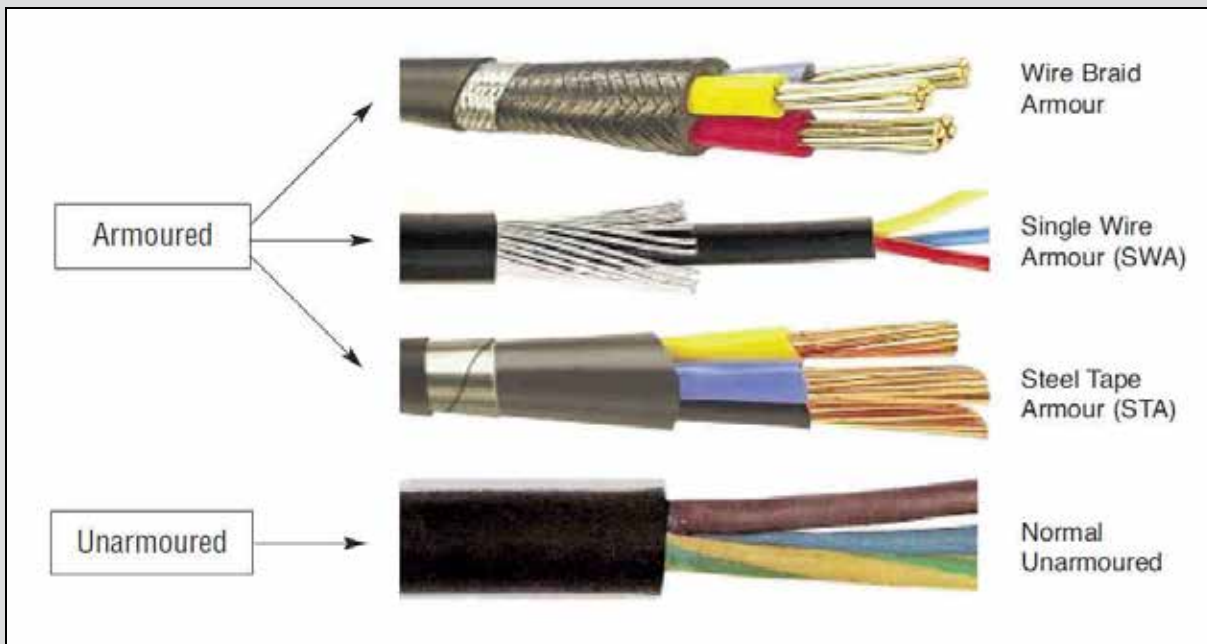
Cable application notes

ARMORED AND UNARMORED CABLE SELECTION AND USE

It is the responsibility of the operator to select appropriate cables for use in hazardous Ex zones. Glenair recommends cables optimized for flexibility (IEC class 5 or higher / ICEA type H or higher) that incorporate flexible basket weave braided shielding when armoring is required (IEC 92-3 or IEEE455 or UL1309). Cables incorporating environmental jacketing, such as those in the following list should always be specified.

1. Halogen free ethylene-propylene elastomer or similar.
2. Halogen free cross-linked polyethylene or similar.
3. Halogen free thermoplastic polyolefin or similar.
4. Halogen free cross-linked polyolefin copolymer or similar.
5. Thermosetting neoprene or similar.

Glenair ITS-Ex cable glands, mechanical grips, and basket weave assemblies support cable diameter ranges from 52mm to 3mm, depending upon shell size. Some example of types of cable jacket and insulation cores materials are as follows (typical for marine, railway, onshore and offshore applications):



In this illustration, among the three armored types shown, Glenair recommends flexible Wire Braid Armor type cables. Single Wire Armor (SWA) and Steel Tape Armor (STA) cable types are not recommended. Standard unarmoured cable is suitable for use in non-EMI/RFI applications and/or applications where risks of mechanical damage to cable conductors are minimal.





SERIES 927-072
ITS-Ex Hazardous Zone Connectors
 Potting materials and instructions

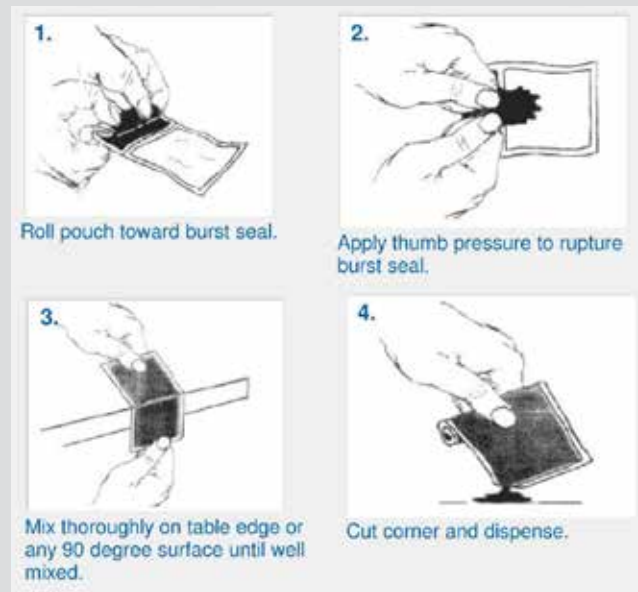


EPOXY RESIN POTTING MATERIAL

Glenair ITS-Ex series connectors equipped with an Ex barrier gland do not require potting. All other configurations, including mechanical cable clamp, basket weave backshell, and fixed flange receptacles must be potted for Ex certification. Connectors are supplied with a 2-part epoxy resin material for this purpose. This cement is both flame retardant and thermally conductive, fully cures at room temperature in 24 hours, and hardens after 4 hours. The material has a mix ratio by weight equal to 100 parts of resin to five parts of activation catalyst. The material is supplied in pre-measured burst packs. It is the operator's responsibility to evaluate whether any caustic chemicals or other aggressive substances present in the facility might damage the performance of the potting material.

MIXING INSTRUCTIONS

1. Check expiration date of potting material before proceeding
2. Wear appropriate eye protection
3. Connector and cable should be fully terminated and prepped for potting prior to material mixing
4. Follow all burst pack mixing instructions, note mixing time is approximately 5 minutes



Fill Depth Illustration and Table

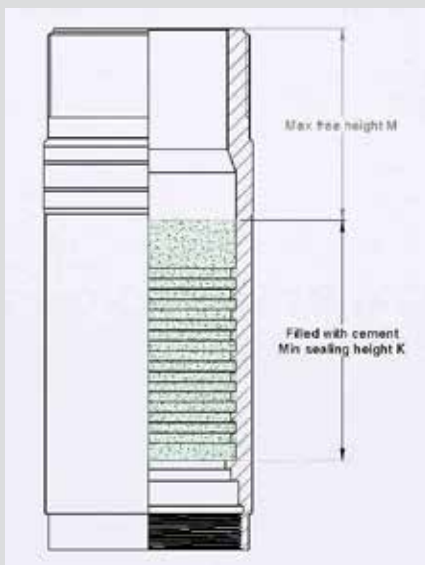
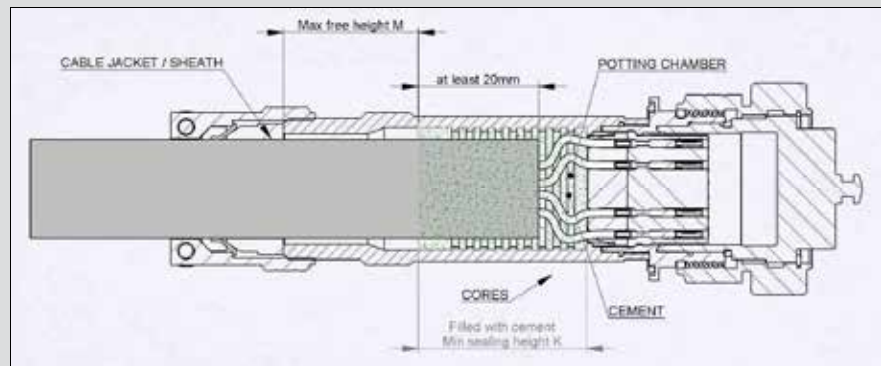


Illustration of Fill Depth in relation to Jacketed and Stripped Cable zones



Shell Size	36	18	10SL
Min sealing height K [mm]	61	57	32
Max free height M [mm]	65	23	23

Shell Size	36	18	10SL
Min sealing height K [mm]	61	57	32
Max free height M [mm]	65	23	23

TOPSIDE: ITS-EX™





SERIES 927-072

ITS-Ex Hazardous Zone Connectors



Potting materials and instructions

POTTING CHAMBER TO CONNECTOR ASSEMBLY

See ITS-Ex instruction manual D500500000 for best practice recommendations on connector termination, wiring, and assembly. Prior to completing potting step, properly assemble mechanical cable clamps, basket weave backshells, and cable glands to ITS-Ex series connectors follow these instructions.

1. Mount receptacle connector or plug body in an appropriate fixture such as a vice with smooth face or soft jaws (see illustration, right).
2. Apply thread locking compound (Loctite 242 blue or equivalent) to all backshell-to-connector threads.
3. Hand-tighten backshell accessory to connector.
4. Use a strap wrench or correctly sized flat wrench to tighten accessory fitting to connector according to torque values referenced in instruction manual D500500000 (see illustration, right).



POTTING INSTRUCTIONS

1. Use only Glenair supplied 2-part epoxy resin for potting of ITS-Ex series connectors.
2. Fill potting chamber area behind wire terminations to the volume depths recommended in the illustrations and tables on opposite page. The goal is to fill as much of the potting area as required with material but to not inhibit the action and the performance of the cable sealing gland, follower, and clamp.
3. Glenair recommends when potting mated pairs of Series ITS-Ex connectors, always pot the connector with the female (socket) insert first. Once the socket side is set, backpot the male (pin) insert connector while mated with its corresponding pair. This will ensure correct axial alignment of the pin contacts in relation to socket contacts.
4. Throughout the potting process, the receptacle flange should be rigidly fixed in a vertical position as illustrated below. The fixture must be capable of holding the mated connector pair rigidly for a minimum of 4 hours at room temperature. The exiting conductor / cable should be fixed in line above the connector pair during the entire curing process.
5. Cut a corner of the cement burst pack and completely fill a needle-equipped syringe applicator
6. Fill the potting chamber to the recommended depth, being careful to fill progressively from the wire grommet end towards the mouth of the backshell. Cement volume usage is approximated in the table below.



Shell size	Approx. cement usage in a cable adapter
10SL	14.5 grams, about 0.50 ounces
18	62.5 grams, about 2.20 ounces
36	173 grams, about 6.10 ounces





SERIES 927-072
ITS-Ex Hazardous Zone Connectors
 Electrical performance



ELECTRICAL PARAMETERS

Voltage Service Rating IAW MIL-DTL-5015 (Specifications Non-Circuit Breaking)			
Service Voltage Rating	Operating Voltage VDC [V]	Operating Voltage VAC RMS [V]	Test Voltage VAC RMS [V]
I	250	200	1000
A	700	500	2000
D	1250	900	2800
E	1750	1250	3500
B	2450	1750	4500
C	4200	3000	7000

Contact Max Current Rating IAW NEC and VG95234 (Specifications Non-Circuit Breaking)				
Contact Size AWG	Max Rated Current [A]		Max Contact Resistance [mΩ]	Wire Size AWG
	IAW N.E.C. (1) (2)	Extrapolated from VG95234 (1) (3)		
16 – 16s	16	20	6	16-18 AWG
12	30	32	3	12 AWG
8	50	60	1	8 AWG
4	90	120	0,5	4 AWG
0	155	220	0,3	0 AWG

- (1) Apply derating per contact arrangement IAW MIL-W-5088L.
- (2) Non-circuit breaking contacts rated current as per N.E.C. (National Electrical Code) based on arcing control. Use a cable of minimum rated temperature of 90°C.
- (3) Values extrapolated from rated current chart of VG95234-1, at ambient temperature of 40°C. Use a cable of minimum rated temperature of 100°C.

Shell Size	Voltage Service Rating	Insert Arrangements	Contact Size AWG	Max Theoretical Rating Current per Shell Size (A)
10SL	A	2	16	48
18	I, A, D, B, C	17	16-12-8-4	210
36	I, A, D, C	24	20-18-16-12-8-4-0-4/0	1110

WARNING

- Use suitable cable with minimum rated continuous operating temperature of 90°C with N.E.C. maximum rated current.
 - Use suitable cable with minimum rated continuous operating temperature of 100°C with VG95234 maximum rated current.
- As to derating per insert arrangement, when multiple conductors are used, the load factor and temperature rise based on ambient and total insert temperature must be taken into account.
 MIL-W-5088 specifications shall be used as reference for derating per insert arrangement.

TOPSIDE: ITS-EX™





SERIES 927-072
ITS-Ex Hazardous Zone Connectors
 Contact arrangements



CONTACT ARRANGEMENTS BY SHELL SIZE

Shell Size	Contact Arrangement	Rating	Contact Number	Contact Size				
				0	4	8	12	16
10	10SL-3	A	3					3
	10SL-4	A	2					2
18	18-1	I	10					10
	18-3	D	2				2	
	18-4	D	4					4
	18-5	D	3				2	1
	18-6	D	1		1			
	18-06	A	6				4	2
	18-7	B	1			1		
	18-8	A	8				1	7
	18-9	I	7				2	5
	18-10	A	4				4	
	18-11	A	5				5	
	18-12	A	6					6
	18-13	A	4			1	3	
	18-19	A	10					10
	18-20	A	5					5
	18-22	D	3					3
18-30 (18-20x110°)	A	5					5	
36	36-3	D	6	3			3	
	36-4	A	3	3				
	36-5	A	4	4				
	36-6	A	6	2	4			
	36-7	A	47				7	40
	36-8	A	47				1	46
	36-9	A	31		1	2	14	14
	36-10	A	48					48
	36-14	D	16			5	5	6
	36-15	A	35					35
	36-18 (36-9x100°)	A	31		1	2	14	14
	36-22	D	22				22	
	36-35	A	36			4		32
	36-54=36-B39	A	39			8		31
	36-66	A	56				4	52
	36-74	A	44			1		43
	36-77	D	7		7			
	36-A7	A	7	3	2		2	
	36-A35	A	8	4				4
	36-A51	D	6	3	2			1
36-B78	D	14			12		2	
36-D78	D	14			10		4	

* Only Crimp Contact Version





SERIES 927-072

ITS-Ex Hazardous Zone Connectors



Contact arrangements by number of contacts

1 CONTACT



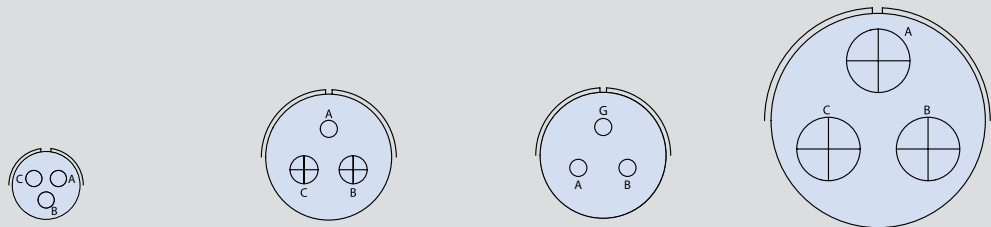
Arrangement	18-6	18-7
Quantity/Contact Size	4	8
Service Rating	D	B

2 CONTACTS



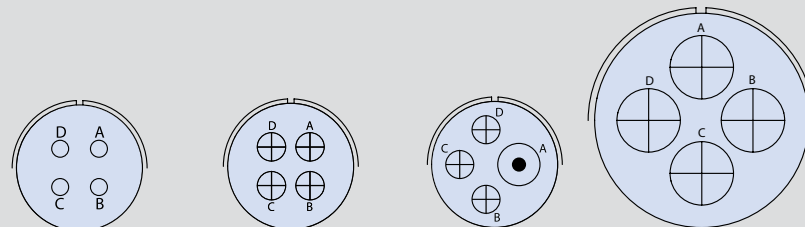
Arrangement	10SL-4	18-3
Quantity/Contact Size	16	12
Service Rating	A	D

3 CONTACTS



Arrangement	10SL-3	18-5	18-22	36-4
Quantity/Contact Size	16	2/12, 1/16	16	0
Service Rating	A	D	D	A=D; B,C=A

4 CONTACTS



Arrangement	18-4	18-10	18-13	36-5
Quantity/Contact Size	16	12	1/8, 3/12	0
Service Rating	D	A	A	A

* Contact "D": First - Mate - Last - Break Grounding Contact

CONTACT LEGEND



TOPSIDE: ITS-EX™



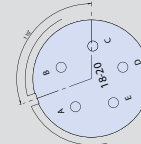
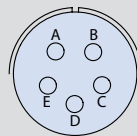
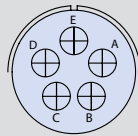
SERIES 927-072

ITS-Ex Hazardous Zone Connectors



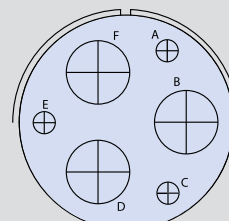
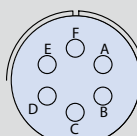
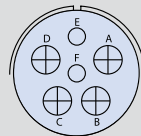
Contact arrangements by number of contacts

5 CONTACTS



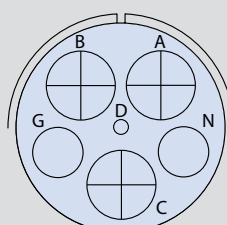
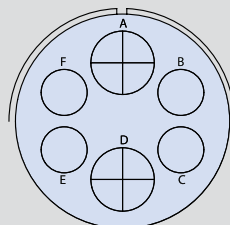
Arrangement	18-11	18-20	18-30 (18-20 x 110°)
Quantity/Contact Size	12	16	16
Service Rating	A	A	A

6 CONTACTS



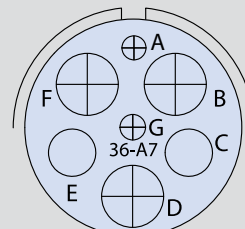
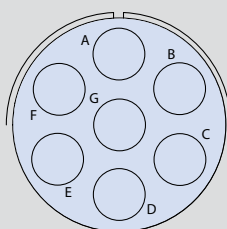
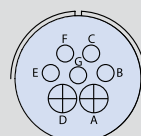
Arrangement	18-06	18-12	36-3
Quantity/Contact Size	4/12, 2/16	16	3/0, 3/12
Service Rating	A	A	D

6 CONTACTS



Arrangement	36-6	36A-51
Quantity/Contact Size	2/0, 4/4	3/0, 2/4, 1/16
Service Rating	A	D

7 CONTACTS



Arrangement	18-9	36-77	36-A7
Quantity/Contact Size	2/12, 5/16	4	3/0, 2/4, 2/12
Service Rating	I	D	A

CONTACT LEGEND



TOPSIDE: ITS-EX™





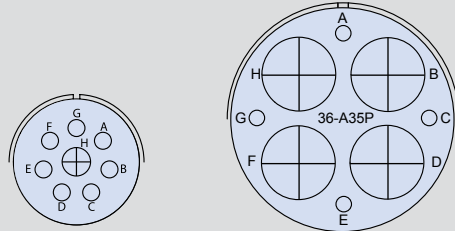
SERIES 927-072

ITS-Ex Hazardous Zone Connectors



Contact arrangements by number of contacts

8 CONTACTS



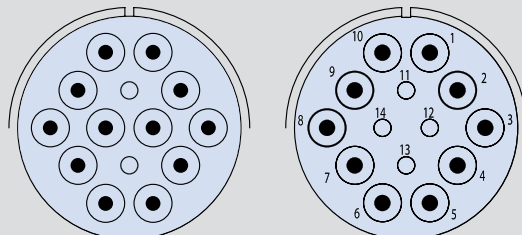
Arrangement	18-8	36-A35
Quantity/Contact Size	1/12, 7/16	4/16, 4/0
Service Rating	A	A

10 CONTACTS



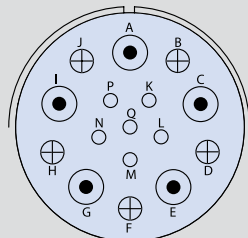
Arrangement	18-1	18-19
Quantity/Contact Size	16	16
Service Rating	B,C,F,G = A; Bal=I	A

14 CONTACTS



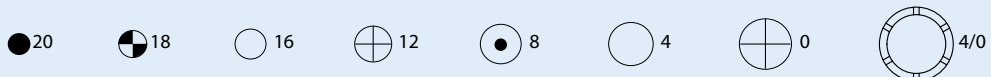
Arrangement	36-B78	36-D78
Quantity/Contact Size	12/8, 2/16	10/8, 4/16
Service Rating	D	D

16 CONTACTS



Arrangement	36-14
Quantity/Contact Size	5/8, 5/12, 6/16
Service Rating	D

CONTACT LEGEND



TOPSIDE: ITS-EX™



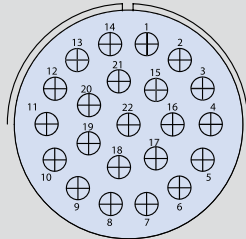
SERIES 927-072

ITS-Ex Hazardous Zone Connectors



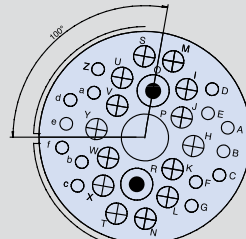
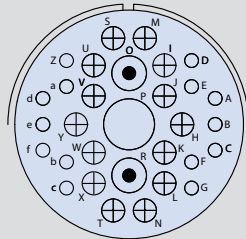
Contact arrangements by number of contacts

22 CONTACTS



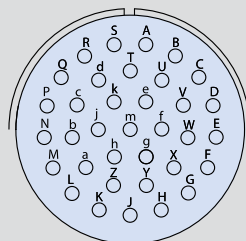
Arrangement	36-22
Quantity/Contact Size	12
Service Rating	D

31 CONTACTS



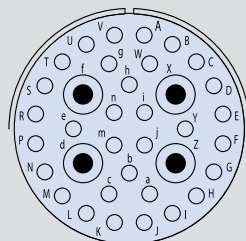
Arrangement	36-9	36-18 (36-9 x 100°)
Quantity/Contact Size	1/4, 2/8, 14/12, 14/16	1/4, 2/8, 14/12, 14/16
Service Rating	A	A

35 CONTACTS



Arrangement	36-15
Quantity/Contact Size	35/16
Service Rating	M=D; Bal=A

36 CONTACTS



Arrangement	36-35
Quantity/Contact Size	4/8, 32/16
Service Rating	A

CONTACT LEGEND

TOPSIDE: ITS-EX™





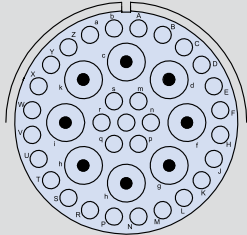
SERIES 927-072

ITS-Ex Hazardous Zone Connectors



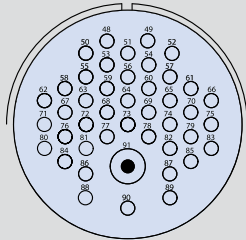
Contact arrangements by number of contacts

39 CONTACTS



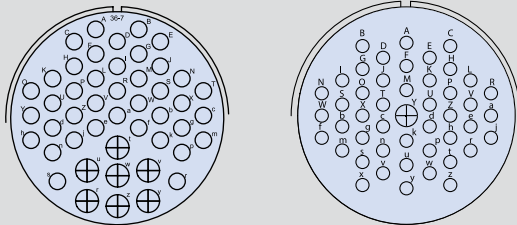
Arrangement	36-54 = 36-B39
Quantity/Contact Size	8/8, 31/16
Service Rating	A

44 CONTACTS



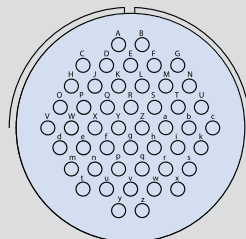
Arrangement	36-74
Quantity/Contact Size	1/8, 43/16
Service Rating	A

47 CONTACTS



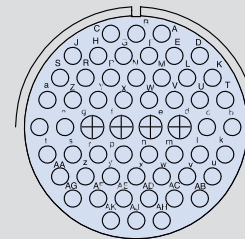
Arrangement	36-7	36-8
Quantity/Contact Size	7/12, 40/16	1/12, 46/16
Service Rating	A	A

48 CONTACTS



Arrangement	36-10
Quantity/Contact Size	16
Service Rating	A

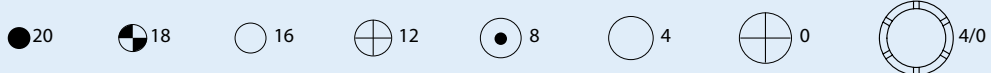
56 CONTACTS



Arrangement	36-66
Quantity/Contact Size	4/12, 52/16
Service Rating	A

TOPSIDE: ITS-EX™

CONTACT LEGEND





SERIES 927-072
ITS-Ex Hazardous Zone Connectors
 Polarization

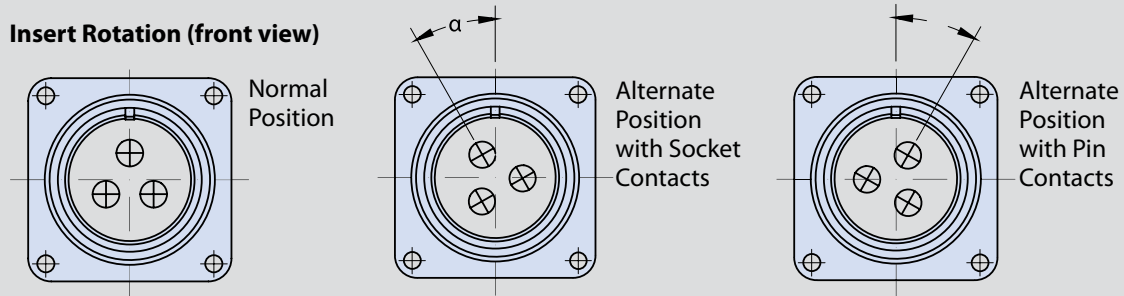


INSERT ROTATION ALTERNATE POSITIONS

Arrangement	$\alpha \pm 2^\circ$			
	W	X	Y	Z
10SL-3				
10SL-4				
18-1	70	145	215	290
18-3	35	110	250	325
18-4	35	110	250	325
18-5	80	110	250	280
18-6				
18-06	180			
18-7				
18-8	70			290
18-9	80	110	250	280
18-10		120	240	
18-11		170	265	
18-12	80			280
18-13	80	110	250	280
18-19		120	240	
18-20	90	180	270	
18-22	70	145	215	290
18-30				

Arrangement	$\alpha \pm 2^\circ$			
	W	X	Y	Z
36-3	70	145	215	290
36-4	70	145	215	290
36-5		120	240	
36-6	35	110	250	325
36-7	80	110	250	280
36-8	80	110	250	280
36-9	80	125	235	280
36-10	80	125	235	280
36-14	90	180	270	
36-15	60	125	245	305
36-18				
36-22	80	110	250	280
36-35				
36-54 = 36-B39	67			
36-66	110	250	260	280
36-74				
36-77	45	90		
36-A7				
36-A35				
36-A51	45	135	225	315
36B-78	35	106	254	325
36D-78	35	106	254	325

Insert Rotation (front view)





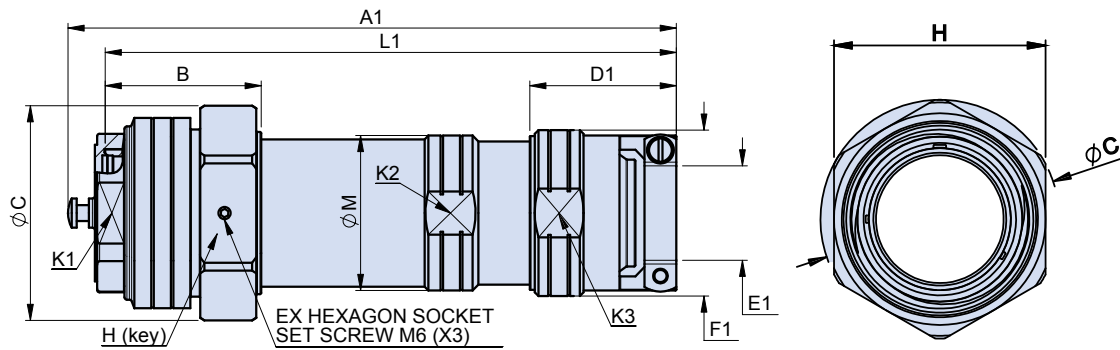
SERIES 927-072 ITS-Ex Hazardous Zone Connectors



Cable plug with mechanical cable clamp

927-072-016 CABLE PLUG WITH ENVIRONMENTAL CABLE ADAPTER AND MECHANICAL CABLE CLAMP

How To Order							
Sample Part Number	927-072	016	36-66	P1	F9	N	A
Series	927-072						
Style	016 = Mechanical Cable Clamp						
Shell Size - Insert Arrangement	See pages 69 - 74						
Contact Type and Plating	P = Pin Contact S = Socket Contact 1 = Silver Plated 2 = Gold Plated						
Shell Material and Finish	F9 = Aluminium Alloy, Anodize Hardcoat						
Alternate Key Position	N = Normal, X, Y, Z, W (See Table on page 75)						
Cable Range	A, B, C (See Table next page)						



TOPSIDE: ITS-EX™

Shell Size	Dimensions												
	A1	B	C	D1	E1		F1	H	K1	K2	K3	L1	M
					Min.	Max.							
10SL	146	2.20 (6.0)	1.81 (46)	1.60 (40.7)	0.18 (4.50)	0.44 (11.12)	1.10 (28.0)	1.61 (41)	0.94 (24)	0.87 (22)	1.06 (27)	5.20 (132)	0.98 (25)
18	185	2.52 (63.9)	2.32 (59)	1.78 (45.2)	0.38 (9.60)	0.94 (23.80)	0.85 (21.5)	2.05 (52)	1.34 (34)	1.42 (36)	1.61 (41)	6.69 (170)	1.50 (38.2)
36	250	2.52 (63.9)	3.46 (88)	2.36 (60)	0.92 (23.40)	1.62 (41.25)	2.68 (68.0)	3.07 (78)	2.36 (60)	2.40 (61)	2.48 (63)	9.25 (235)	2.50 (63.5)

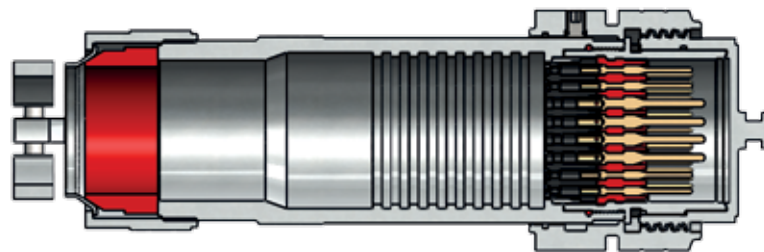


SERIES 927-072

ITS-Ex Hazardous Zone Connectors



Cable plug with mechanical cable clamp



TOPSIDE: ITS-EX™



Cable Range Dimensions for Mechanical Cable Clamp

Shell Size	Cable Range Designator	Cable Type	Cable Jacket Range [mm] (1)
36	A	Unarmored cable	29.90 to 41.25
	B	Unarmored cable	23.40 to 35.00
18	A	Unarmored cable	15.50 to 23.80
	B	Unarmored cable	11.30 to 19.00
	C	Unarmored cable	9.60 to 15.87
10SL	A	Unarmored cable	5.84 to 11.12
	B	Unarmored cable	4.50 to 7.93

(1) It is advisable to use reduction sleeves for lower values of cable diameter within cable range.

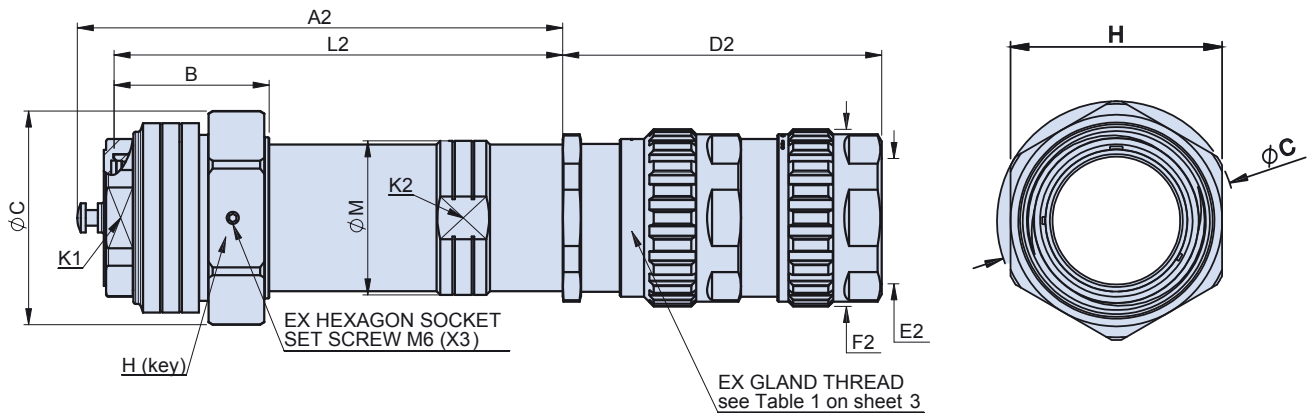


SERIES 927-072
ITS-Ex Hazardous Zone Connectors
Cable plug with Ex cable gland



927-072-026 CABLE PLUG WITH ENVIRONMENTAL CABLE ADAPTER AND EX CABLE GLAND

How To Order							
Sample Part Number	927-072	026	36-66	P1	F9	N	A
Series	927-072						
Style	026 = Ex Cable Gland						
Shell Size - Insert Arrangement	See pages 69 – 74						
Contact Type and Plating	P = Pin Contact S = Socket Contact 1 = Silver Plated 2 = Gold Plated						
Shell Material and Finish	F9 = Aluminium Alloy, Anodize Hardcoat						
Alternate Key Position	N = Normal, X, Y, Z, W (See Table on page 75)						
Cable Range	A, B, C (See Table next page)						



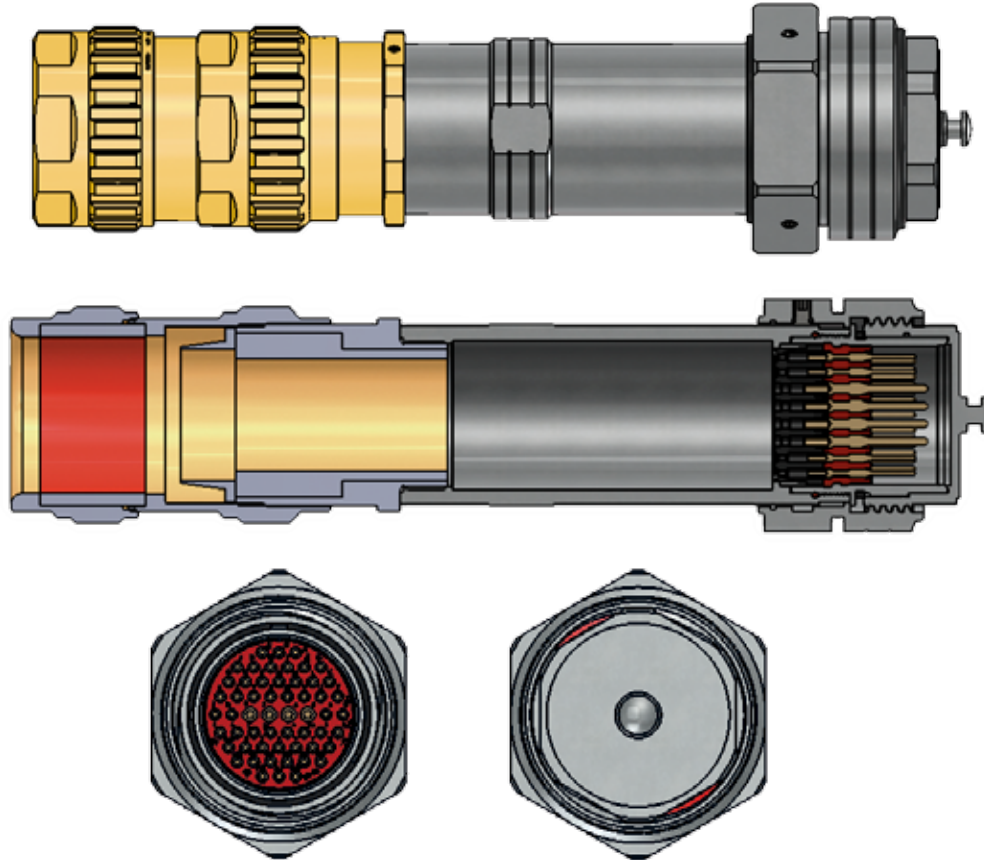
Shell Size	Dimensions												
	A2	B	C	D2	E2		Ex Gland Thread	F2	H	K1	K2	L2	M
10SL	4.13 (105)	2.20 (56.0)	1.81 (46)	*	3.0 (0.12)	20.50 (0.81)	M20x1.5 M16x1.5	*	1.61 (41)	0.94 (24)	0.87 (22)	3.58 (91)	0.98 (25)
18	5.94 (151)	2.52 (63.9)	2.32 (59)	*	6.0 (0.24)	26.0 (1.02)	M25x1.5 M20x1.5	*	2.05 (52)	1.34 (34)	1.42 (36)	5.31 (135)	1.50 (38.2)
36	7.91 (201)	2.52 (63.9)	3.46 (88)	*	22.0 (0.87)	52.60 (2.07)	M50x1.5 M40x1.5	*	3.07 (78)	2.36 (60)	2.40 (61)	7.28 (185)	2.50 (63.5)

(*) Dimension varies according to Ex Cable Gland.

TOPSIDE: ITS-EX™



SERIES 927-072
ITS-Ex Hazardous Zone Connectors
 Cable plug with Ex cable gland



Cable Range Dimensions for Ex Cable Gland

Shell Size	Cable Range Designator	Cable Type	Ex Gland Thread	Cable outer sheath range [mm]	Cable inner sheath range [mm]	Armor Range with Clamping Ring
36	A	Unarmored cable	M50x1.5	28 to 41		
	B	Unarmored cable	M40x1.5	22 to 33		
	A1	Armored Cable	M50x1.5	36 to 52.60	28.90 to 44.40	0 to 1.0 and 1.5 to 2.5
	B1	Armored Cable	M40x1.5	28 to 41	22 to 33	0 to 0.7 and 1.3 to 2.0
18	A	Unarmored cable	M25x1.5	12.50 to 20.50		
	B	Unarmored cable	M20x1.5	9 to 16		
	C	Unarmored cable	M20x1.5	6 to 12		
	A1	Armored Cable	M25x1.5	16.90 to 26	12.50 to 20.50	0 to 0.7 and 0.9 to 1.6
	B1	Armored Cable	M25x1.5	12.50 to 20.50	9 to 14	0 to 0.7 and 0.7 to 1.4
	C1	Armored Cable	M20x1.5	12.50 to 20.50	9 to 14	0 to 0.7 and 0.7 to 1.4
	D1	Armored Cable	M20x1.5	9 to 16	6 to 12	0 to 0.7 and 0.7 to 1.25
	E1	Armored Cable	M20x1.5	6 to 12	3 to 8.10	0 to 0.7 and 0.7 to 1.25
10SL	A	Unarmored cable	M20x1.5	9 to 16		
	B	Unarmored cable	M20x1.5	6 to 12		
	C	Unarmored cable	M16x1.5	6 to 12		
	A1	Armored Cable	M20x1.5	12.50 to 20.50	9 to 14	0 to 0.7 and 0.7 to 1.4
	B1	Armored Cable	M20x1.5	9 to 16	6 to 12	0 to 0.7 and 0.7 to 1.25
	C1	Armored Cable	M20x1.5	6 to 12	3 to 8.1	0 to 0.7 and 0.7 to 1.25
	D1	Armored Cable	M16x1.5	6 to 12	3 to 8.1	0 to 0.7 and 0.7 to 1.25

TOPSIDE: ITS-EX™



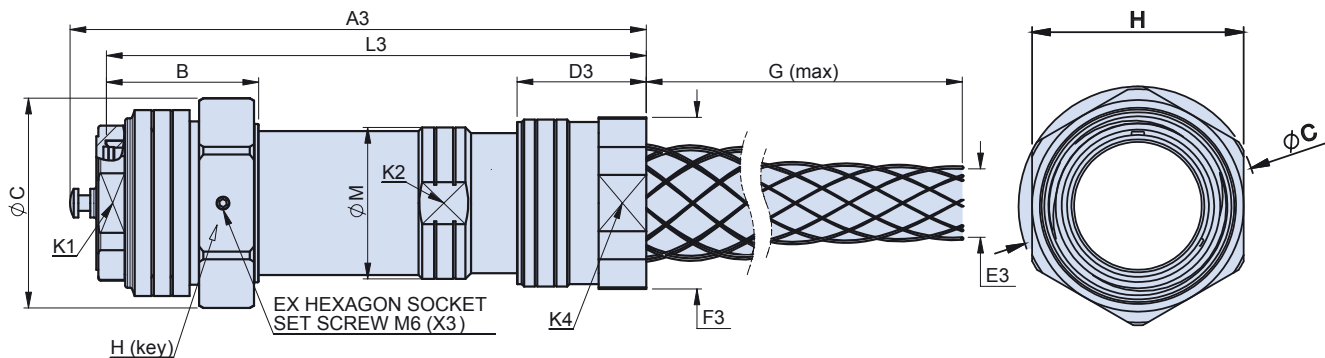


SERIES 927-072
ITS-Ex Hazardous Zone Connectors
Cable plug with basket weave cable grip



927-072-036 CABLE PLUG WITH ENVIRONMENTAL CABLE ADAPTER AND BASKET WEAVE CABLE GRIP

How To Order							
Sample Part Number	927-072	036	36-66	P1	F9	N	A
Series	927-072						
Style	036 = Basket Weave Cable Grip						
Shell Size - Insert Arrangement	See pages 69 – 74						
Contact Type and Plating	P = Pin Contact S = Socket Contact 1 = Silver Plated 2 = Gold Plated						
Shell Material and Finish	F9 = Aluminium Alloy, Anodize Hardcoat						
Alternate Key Position	N = Normal, X, Y, Z, W (See Table on page 75)						
Cable Range	A, B, C (See Table next page)						



Shell Size	Dimensions													
	A3	B	C	D3	E3		F3	G Max.	H	K1	K2	K4	L3	M
					Min.	Max.								
10SL		2.20 (56.0)	1.81 (46)						1.61 (41)	0.94 (24)	0.87 (22)			0.98 (25)
18	7.17 (182)	2.52 (63.9)	2.32 (59)	1.68 (42.7)	0.50 (12.70)	0.94 (23.80)	1.81 (46.0)	201**	2.05 (52)	1.34 (34)	1.42 (36)	1.65 (42)	6.97 (177)	1.50 (38.2)
36	9.53 (242)	2.52 (63.9)	3.46 (88)	2.06 (52.4)	1.01 (25.60)	1.62 (41.25)	2.83 (72.0)	315**	3.07 (78)	2.36 (60)	2.40 (61)	2.68 (68)	8.94 (227)	2.50 (63.5)

(**) Max overall dimension; dimension less than max one, depending on Basket Weave Cable Range.

TOPSIDE: ITS-EX™



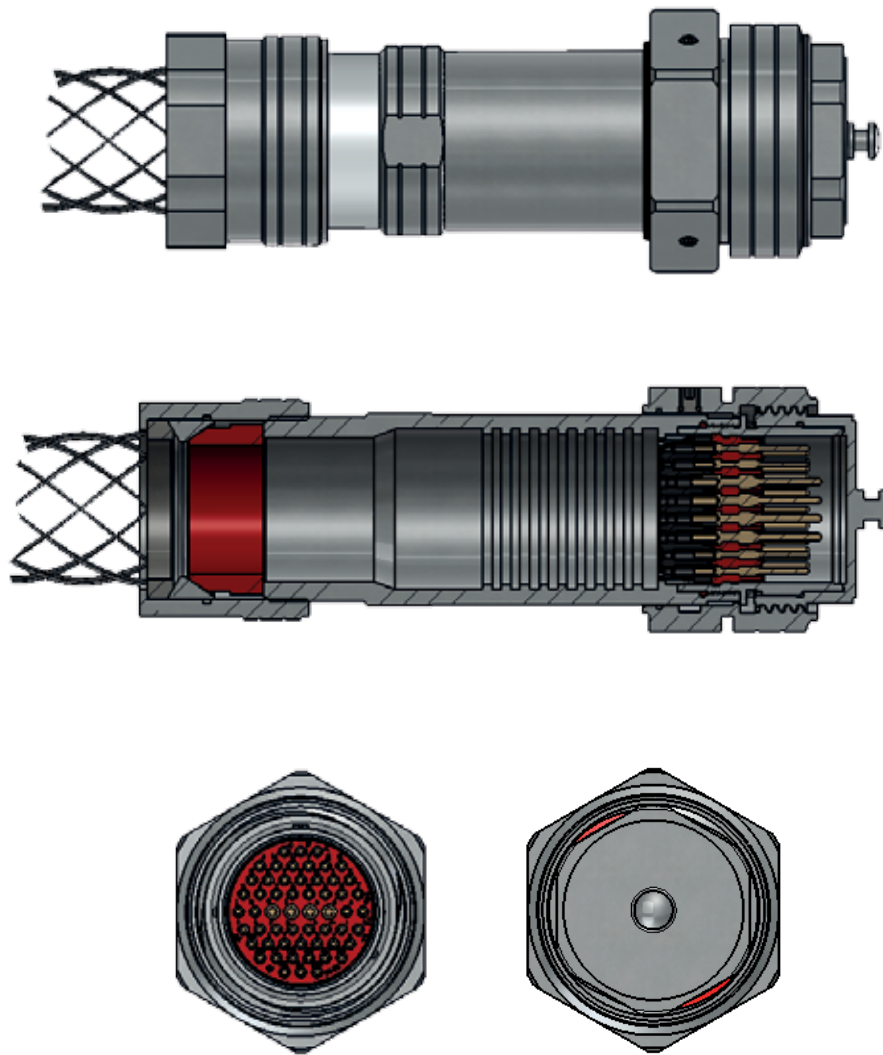


SERIES 927-072

ITS-Ex Hazardous Zone Connectors



Cable plug with basket weave cable grip



Cable Range Dimensions for Basketweave Cable Grip			
Shell Size	Cable Range Designator	Cable Type	Cable Jacket Range [mm] (1)
36	A	Unarmored cable	39,40 to 41,25
	B	Unarmored cable	38,90 to 40,50
	C	Unarmored cable	34,50 to 38,50
	D	Unarmored cable	31,00 to 34,90
	E	Unarmored cable	29,40 to 33,30
	F	Unarmored cable	25,60 to 29,50 (1)
18	A	Unarmored cable	19,60 to 23,80
	B	Unarmored cable	18,00 to 22,20 (1)
	C	Unarmored cable	15,50 to 19,10
	D	Unarmored cable	12,70 to 15,87
	E	Unarmored cable	10,40 to 12,70 (1)
10SL	Not available		

(1) It is advisable to use reduction sleeves for lower values of cable diameter within cable range.



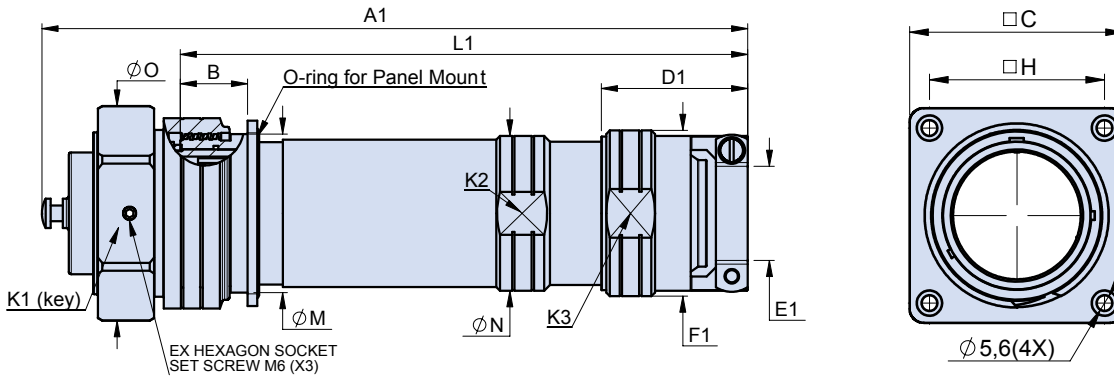


SERIES 927-072
ITS-Ex Hazardous Zone Connectors
 Fixed in-line receptacle
 with mechanical cable clamp



927-072-012 FIXED IN-LINE RECEPTACLE WITH ENVIRONMENTAL CABLE ADAPTER AND MECHANICAL CABLE CLAMP

How To Order							
Sample Part Number	927-072	012	36-66	P1	F9	N	A
Series	927-072						
Style	012 = Mechanical Cable Clamp						
Shell Size - Insert Arrangement	See pages 69 – 74						
Contact Type and Plating	P = Pin Contact S = Socket Contact 1 = Silver Plated 2 = Gold Plated						
Shell Material and Finish	F9 = Aluminium Alloy, Anodize Hardcoat						
Alternate Key Position	N = Normal, X, Y, Z, W (See Table on page 75)						
Cable Range	A, B, C (See Table next page)						



TOPSIDE: ITS-EX™

Shell Size	Dimensions														
	A1	B	C	D1	E1		F1	H	K1	K2	K3	L1	M	N	O
					Min.	Max.									
10SL	7.05 (179)	0.97 (24.7)	1.77 (45)	1.60 (40.7)	0.18 (4.50)	0.44 (11.12)	1.10 (28.0)	1.30 (33)	1.61 (41)	0.87 (22)	1.06 (27)	5.12 (130)	1.02 (26)	0.98 (25)	1.81 (46)
18	8.86 (225)	1.09 (27.6)	2.24 (57)	1.78 (45.2)	0.38 (9.60)	0.94 (23.80)	0.85 (21.5)	1.65 (42)	2.05 (52)	1.42 (36)	1.61 (41)	6.69 (170)	1.50 (38)	1.50 (38.2)	2.32 (59)
36	11.42 (290)	1.09 (27.6)	2.99 (76)	2.36 (60)	0.92 (23.40)	1.62 (41.25)	2.68 (68.0)	2.44 (62)	3.07 (78)	2.40 (61)	2.48 (63)	9.17 (233)	2.56 (65)	2.50 (63.5)	3.46 (88)

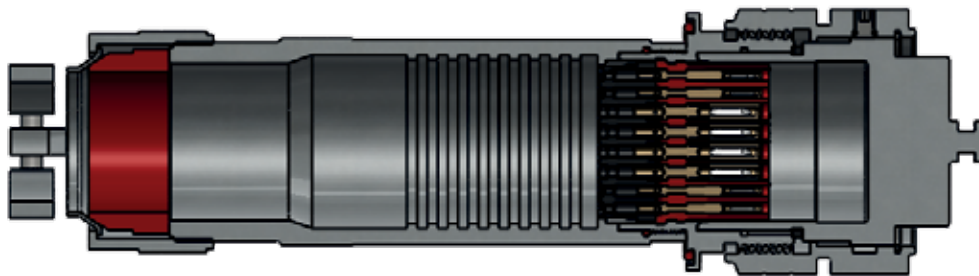


SERIES 927-072

ITS-Ex Hazardous Zone Connectors



Fixed in-line receptacle
with mechanical cable clamp



TOPSIDE: ITS-EX™



Cable Range Dimensions for Mechanical Cable Clamp

Shell Size	Cable Range Designator	Cable Type	Cable Jacket Range [mm] (1)
36	A	Unarmored cable	29,90 to 41,25
	B	Unarmored cable	23,40 to 35,00
18	A	Unarmored cable	15,50 to 23,80
	B	Unarmored cable	11,30 to 19,00
	C	Unarmored cable	9,60 to 15,87
10SL	A	Unarmored cable	5,84 to 11,12
	B	Unarmored cable	4,50 to 7,93



SERIES 927-072

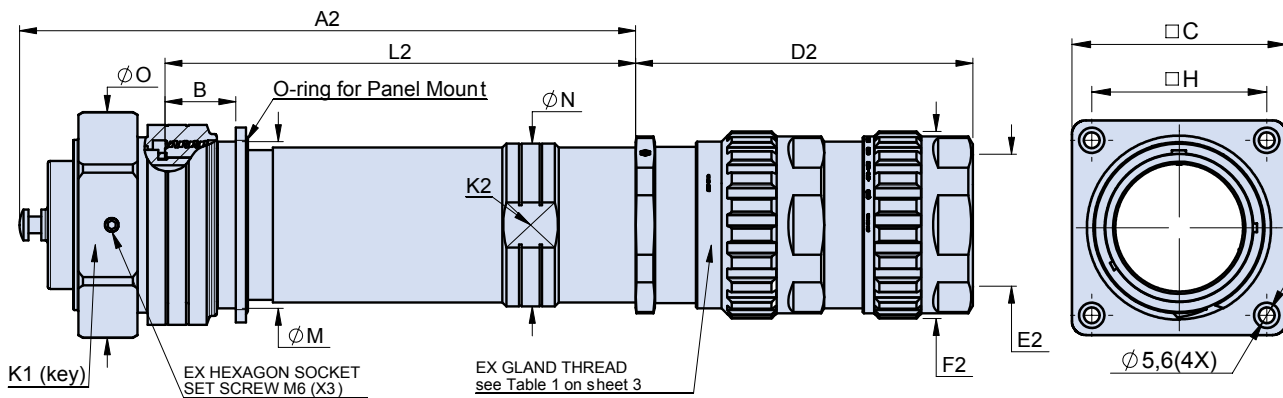
ITS-Ex Hazardous Zone Connectors



Fixed in-line receptacle with Ex cable gland

927-072-022 FIXED IN-LINE RECEPTACLE WITH ENVIRONMENTAL CABLE ADAPTER AND EX CABLE GLAND

How To Order							
Sample Part Number	927-072	022	36-66	P1	F9	N	A
Series	927-072						
Style	022 = Ex Cable Gland						
Shell Size - Insert Arrangement	See pages 69 – 74						
Contact Type and Plating	P = Pin Contact S = Socket Contact 1 = Silver Plated 2 = Gold Plated						
Shell Material and Finish	F9 = Aluminium Alloy, Anodize Hardcoat						
Alternate Key Position	N = Normal, X, Y, Z, W (See Table on page 75)						
Cable Range	A, B, C (See Table next page)						



TOPSIDE: ITS-EX™

Shell Size	Dimensions															
	A2	B	C	D2	E2		Ex Gland Thread	F2	H	K1	K2	L2	M	N	O	
					Min.	Max.										
10SL	5.43 (138)	0.97 (24.7)	1.77 (45)	*	0.12 (3.0)	0.81 (20.50)	M20x1.5 M16x1.5	*	1.30 (33)	1.61 (41)	0.87 (22)	3.50 (89)	1.02 (26)	0.98 (25)	1.81 (46)	
18	7.52 (191)	1.09 (27.6)	2.24 (57)	*	0.24 (6.0)	1.02 (26.0)	M25x1.5 M20x1.5	*	1.65 (42)	2.05 (52)	1.42 (36)	5.28 (134)	1.50 (38)	1.50 (38.2)	2.32 (59)	
36	9.49 (241)	1.09 (27.6)	2.99 (76)	*	0.87 (22.0)	2.07 (52.60)	M50x1.5 M40x1.5	*	2.44 (62)	3.07 (78)	2.40 (61)	7.24 (184)	2.56 (65)	2.50 (63.5)	3.46 (88)	

(*) Dimension varies according to Ex Cable Gland.

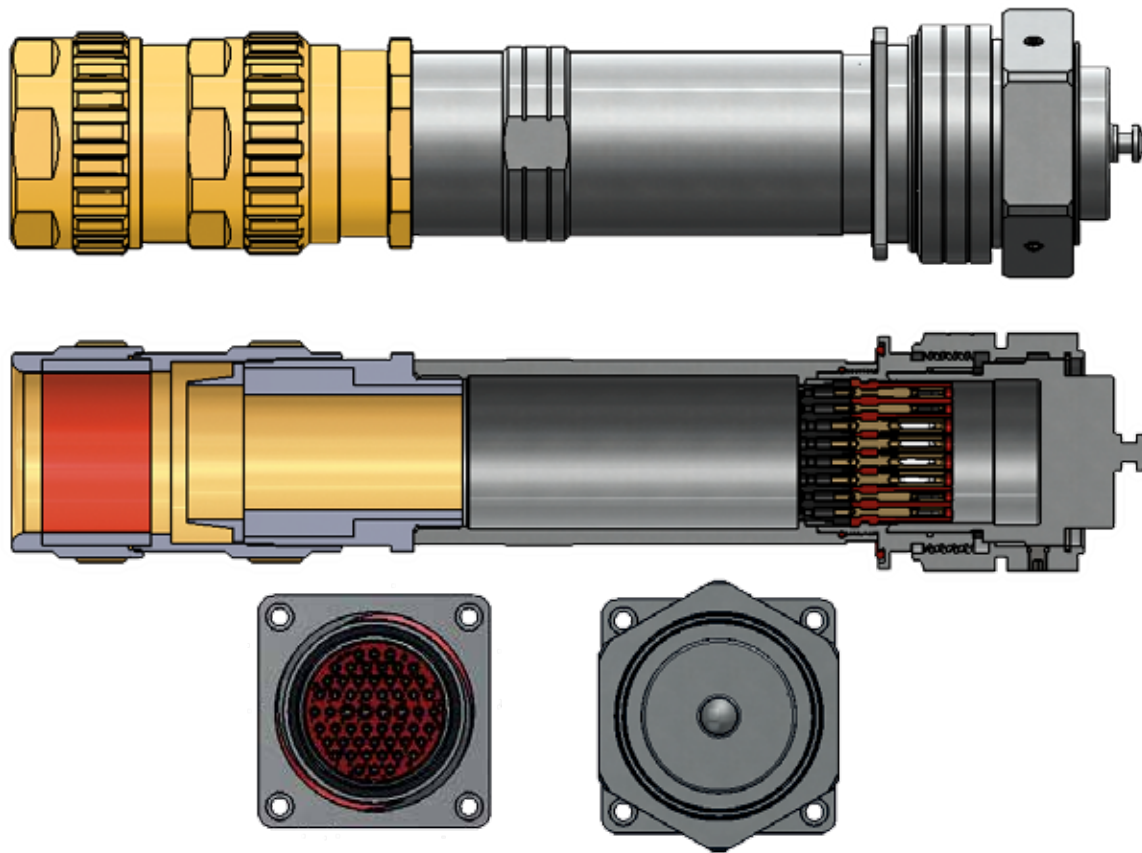


SERIES 927-072

ITS-Ex Hazardous Zone Connectors



Fixed in-line receptacle with Ex cable gland



Cable Range Dimensions for Ex Cable Gland

Shell Size	Cable Range Designator	Cable Type	Ex Gland Thread	Cable outer sheath range [mm]	Cable inner sheath range [mm]	Armor Range with Clamping Ring
36	A	Unarmored cable	M50x1.5	28 to 41		
	B	Unarmored cable	M40x1.5	22 to 33		
	A1	Armored Cable	M50x1.5	36 to 52.60	28.90 to 44.40	0 to 1.0 and 1.5 to 2.5
	B1	Armored Cable	M40x1.5	28 to 41	22 to 33	0 to 0.7 and 1.3 to 2.0
18	A	Unarmored cable	M25x1.5	12.50 to 20.50		
	B	Unarmored cable	M20x1.5	9 to 16		
	C	Unarmored cable	M20x1.5	6 to 12		
	A1	Armored Cable	M25x1.5	16.90 to 26	12.50 to 20.50	0 to 0.7 and 0.9 to 1.6
	B1	Armored Cable	M25x1.5	12.50 to 20.50	9 to 14	0 to 0.7 and 0.7 to 1.4
	C1	Armored Cable	M20x1.5	12.50 to 20.50	9 to 14	0 to 0.7 and 0.7 to 1.4
	D1	Armored Cable	M20x1.5	9 to 16	6 to 12	0 to 0.7 and 0.7 to 1.25
	E1	Armored Cable	M20x1.5	6 to 12	3 to 8.10	0 to 0.7 and 0.7 to 1.25
10SL	A	Unarmored cable	M20x1.5	9 to 16		
	B	Unarmored cable	M20x1.5	6 to 12		
	C	Unarmored cable	M16x1.5	6 to 12		
	A1	Armored Cable	M20x1.5	12.50 to 20.50	9 to 14	0 to 0.7 and 0.7 to 1.4
	B1	Armored Cable	M20x1.5	9 to 16	6 to 12	0 to 0.7 and 0.7 to 1.25
	C1	Armored Cable	M20x1.5	6 to 12	3 to 8.1	0 to 0.7 and 0.7 to 1.25
	D1	Armored Cable	M16x1.5	6 to 12	3 to 8.1	0 to 0.7 and 0.7 to 1.25

TOPSIDE: ITS-EX™





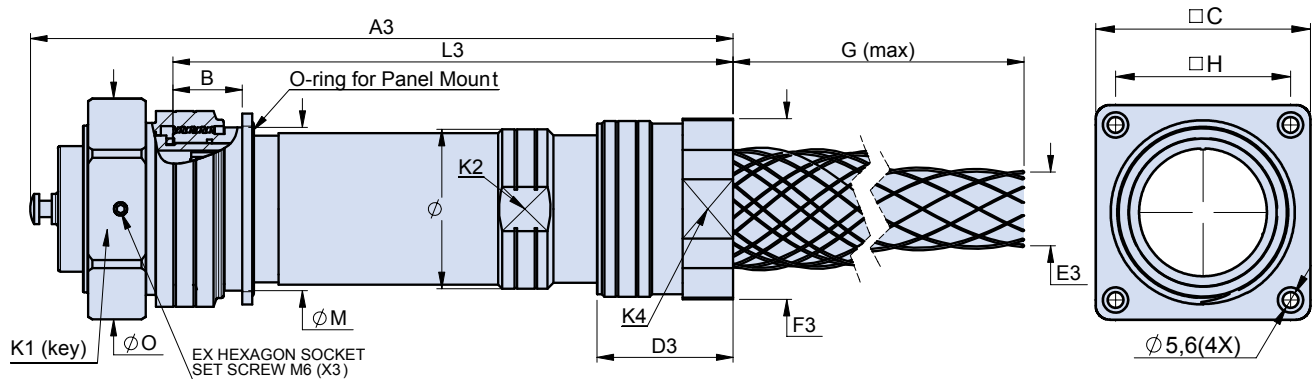
SERIES 927-072 ITS-Ex Hazardous Zone Connectors



Fixed in-line receptacle with basket weave cable grip

927-072-032 FIXED IN-LINE RECEPTACLE WITH ENVIRONMENTAL CABLE ADAPTER AND BASKET WEAVE CABLE GRIP

How To Order							
Sample Part Number	927-072	032	36-66	P1	F9	N	A
Series	927-072						
Style	032 = Basket Weave Cable Grip						
Shell Size - Insert Arrangement	See pages 69 – 74						
Contact Type and Plating	P = Pin Contact S = Socket Contact 1 = Silver Plated 2 = Gold Plated						
Shell Material and Finish	F9 = Aluminium Alloy, Anodize Hardcoat						
Alternate Key Position	N = Normal, X, Y, Z, W (See Table on page 75)						
Cable Range	A, B, C (See Table next page)						



Shell Size	Dimensions															
	A3	B	C	D3	E3		F3	G	H	K1	K2	K4	L3	M	N	O
10SL		0.97 (24.7)	1.77 (45)						1.30 (33)	1.61 (41)	0.87 (22)			1.02 (26)	0.98 (25.0)	1.81 (46)
18	8.78 (223)	1.09 (27.6)	2.24 (57)	1.68 (42.7)	0.50 (12.70)	0.94 (23.80)	1.81 (46.0)	201**	1.65 (42)	2.05 (52)	1.42 (36)	1.65 (42)	6.54 (166)	1.50 (38)	1.50 (38.2)	2.32 (59)
36	11.02 (280)	1.09 (27.6)	2.99 (76)	2.06 (52.4)	25.60 (1.01)	1.62 (41.25)	2.83 (72.0)	315**	2.44 (62)	78 (3.07)	2.40 (61)	2.68 (68)	8.82 (224)	2.56 (65)	2.50 (63.5)	3.46 (88)

(**) Max overall dimension; dimension less than max one, depending on Basket Weave Cable Range.

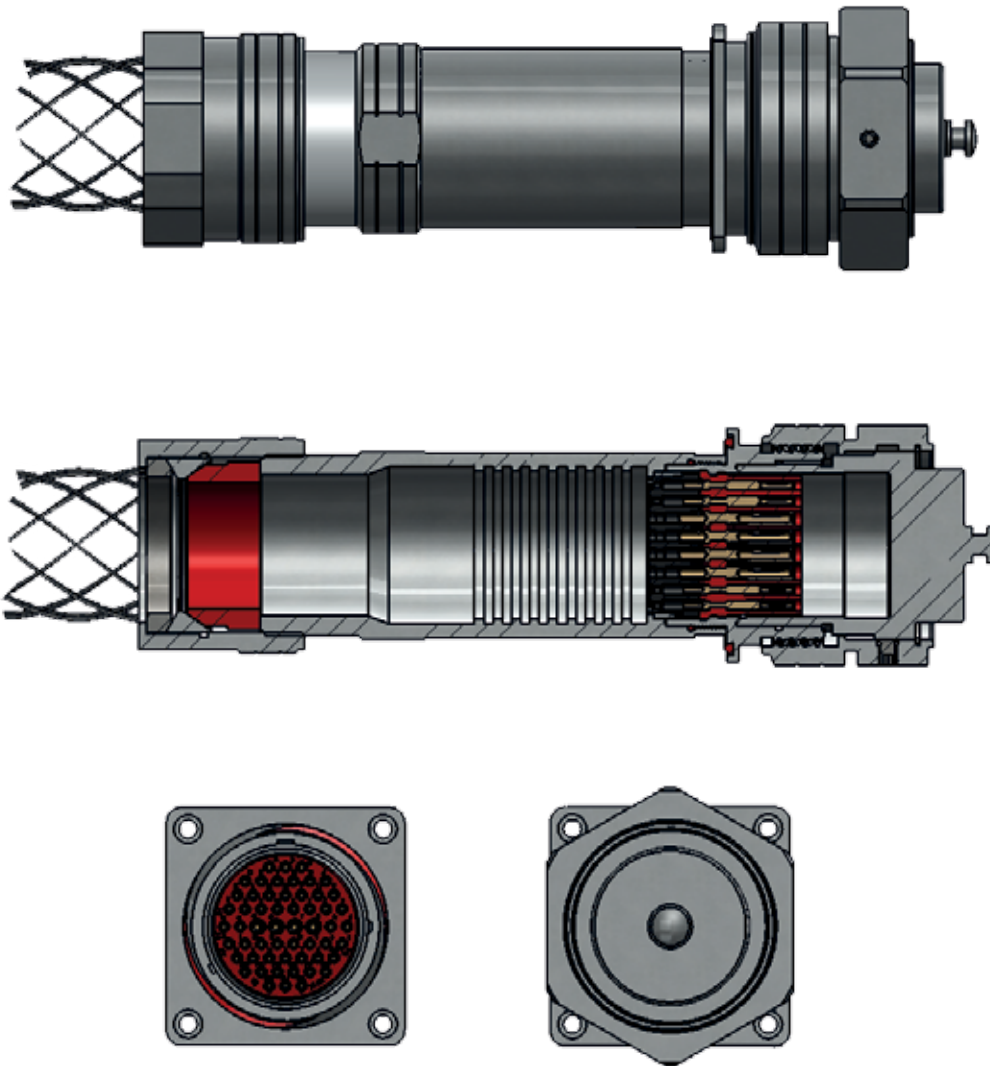


SERIES 927-072

ITS-Ex Hazardous Zone Connectors



Fixed in-line receptacle
with basket weave cable grip



Cable Range Dimensions for Basketweave Cable Grip			
Shell Size	Cable Range Designator	Cable Type	Cable Jacket Range [mm] (1)
36	A	Unarmored cable	39.40 to 41.25
	B	Unarmored cable	38.90 to 40.50
	C	Unarmored cable	34.50 to 38.50
	D	Unarmored cable	31.00 to 34.90
	E	Unarmored cable	29.40 to 33.30
	F	Unarmored cable	25.60 to 29.50 (1)
18	A	Unarmored cable	19.60 to 23.80
	B	Unarmored cable	18.00 to 22.20 (1)
	C	Unarmored cable	15.50 to 19.10
	D	Unarmored cable	12.70 to 15.87
	E	Unarmored cable	10.40 to 12.70 (1)
10SL	Not available		

(1) It is advisable to use reduction sleeves for lower values of cable diameter within cable range.

TOPSIDE: ITS-EX™





SERIES 927-072

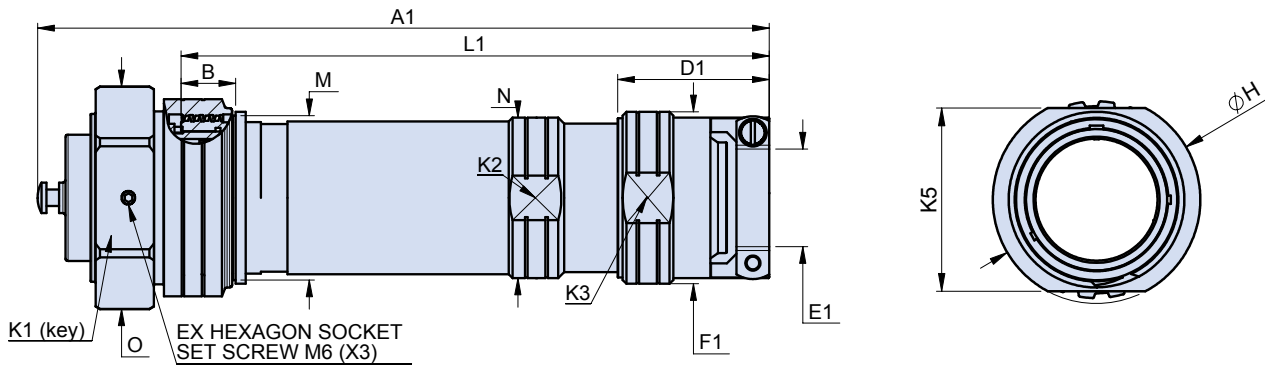
ITS-Ex Hazardous Zone Connectors



In-line receptacle with mechanical cable clamp

927-072-011 IN-LINE RECEPTACLE WITH ENVIRONMENTAL CABLE ADAPTER AND MECHANICAL CABLE CLAMP

How To Order							
Sample Part Number	927-072	011	36-66	P1	F9	N	A
Series	927-072						
Style	011 = Mechanical Cable Clamp						
Shell Size - Insert Arrangement	See pages 69 – 74						
Contact Type and Plating	P = Pin Contact S = Socket Contact 1 = Silver Plated 2 = Gold Plated						
Shell Material and Finish	F9 = Aluminium Alloy, Anodize Hardcoat						
Alternate Key Position	N = Normal, X, Y, Z, W (See Table on page 75)						
Cable Range	A, B, C (See Table next page)						



TOPSIDE: ITS-EX™

Dimensions																
SHELL SIZE	A1	B	C	D1	E1		F1	H	K1	K2	K3	K5	L1	M	N	O
					Min.	Max.										
10SL	7.05 (179)	0.90 (22.8)	1.77 (45)	1.60 (40.7)	0.18 (4.50)	0.44 (11.12)	1.10 (28.0)	1.46 (37)	1.61 (41)	0.87 (22)	27 (1.06)	34 (1.34)	5.10 (129.5)	1.02 (26)	0.98 (25)	1.81 (46)
18	8.86 (225)	0.98 (24.9)	2.24 (57)	1.78 (45.2)	0.38 (9.60)	0.94 (23.80)	0.85 (21.5)	1.95 (49.5)	2.05 (52)	1.42 (36)	41 (1.61)	40 (1.57)	6.61 (168)	1.50 (38)	1.50 (38.2)	2.32 (59)
36	11.42 (290)	0.85 (21.6)	2.99 (76)	2.36 (60)	0.92 (23.40)	1.62 (41.25)	2.68 (68.0)	3.03 (77)	3.07 (78)	2.40 (61)	2.48 (63)	68 (2.68)	9.17 (233)	2.56 (65)	2.50 (63.5)	3.46 (88)

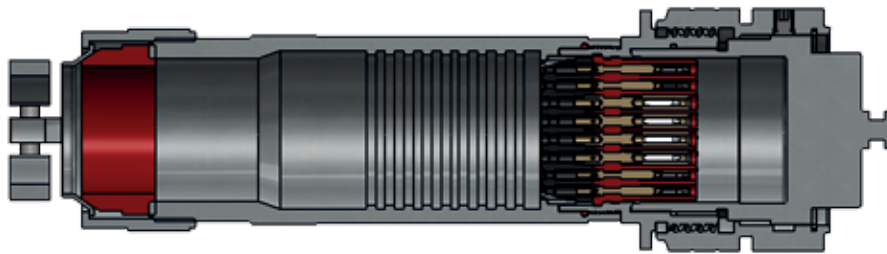


SERIES 927-072

ITS-Ex Hazardous Zone Connectors



In-line receptacle with mechanical cable clamp



TOPSIDE: ITS-EX™



Cable Range Dimensions for Mechanical Cable Clamp

Shell Size	Cable Range Designator	Cable Type	Cable Jacket Range [mm]
36	A	Unarmored cable	29.90 to 41.25
	B	Unarmored cable	23.40 to 35.00
18	A	Unarmored cable	15.50 to 23.80
	B	Unarmored cable	11.30 to 19.00
	C	Unarmored cable	9.60 to 15.87
10SL	A	Unarmored cable	5.84 to 11.12
	B	Unarmored cable	4.50 to 7.93

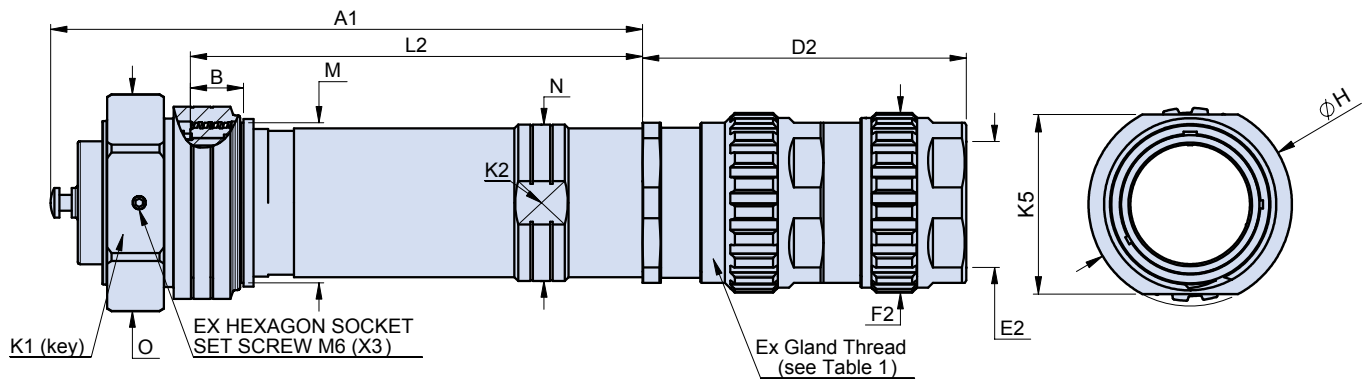


SERIES 927-072
ITS-Ex Hazardous Zone Connectors
 In-line receptacle with Ex cable gland



927-072-021 IN-LINE RECEPTACLE WITH ENVIRONMENTAL CABLE ADAPTER AND EX CABLE GLAND

How To Order							
Sample Part Number	927-072	021	36-66	P1	F9	N	A
Style	927-072						
Style	021 = Ex Cable Gland						
Shell Size - Insert Arrangement	See pages 69 – 74						
Contact Type and Plating	P = Pin Contact S = Socket Contact 1 = Silver Plated 2 = Gold Plated						
Shell Material and Finish	F9 = Aluminium Alloy, Anodize Hardcoat						
Alternate Key Position	N = Normal, X, Y, Z, W (See Table on page 75)						
Cable Range	A, B, C (See Table next page)						



TOPSIDE: ITS-EX™

Shell Size	Dimensions															
	A2	B	C	D2	E2		Ex Gland Thread	F2	H	K1	K2	K5	L2	M	N	O
10SL	5.43 (138)	0.90 (22.8)	1.77 (45)	*	0.12 (3.0)	0.81 (20.50)	M20x1.5 M16x1.5	*	1.46 (37)	1.61 (41)	0.87 (22)	1.34 (34)	3.48 (88.3)	1.02 (26)	0.98 (25)	1.81 (46)
18	7.50 (190.5)	0.98 (24.9)	2.24 (57)	*	0.24 (6.0)	1.02 (26.0)	M25x1.5 M20x1.5	*	1.95 (49.5)	2.05 (52)	1.42 (36)	1.57 (40)	5.28 (134)	1.50 (38)	1.50 (38.2)	2.32 (59)
36	9.49 (241)	0.85 (21.6)	2.99 (76)	*	0.87 (22.0)	2.07 (52.60)	M50x1.5 M40x1.5	*	3.03 (77)	3.07 (78)	2.40 (61)	2.68 (68)	7.24 (184)	2.56 (65)	2.50 (63.5)	3.46 (88)

(*) Dimension varies according to Ex Cable Gland.

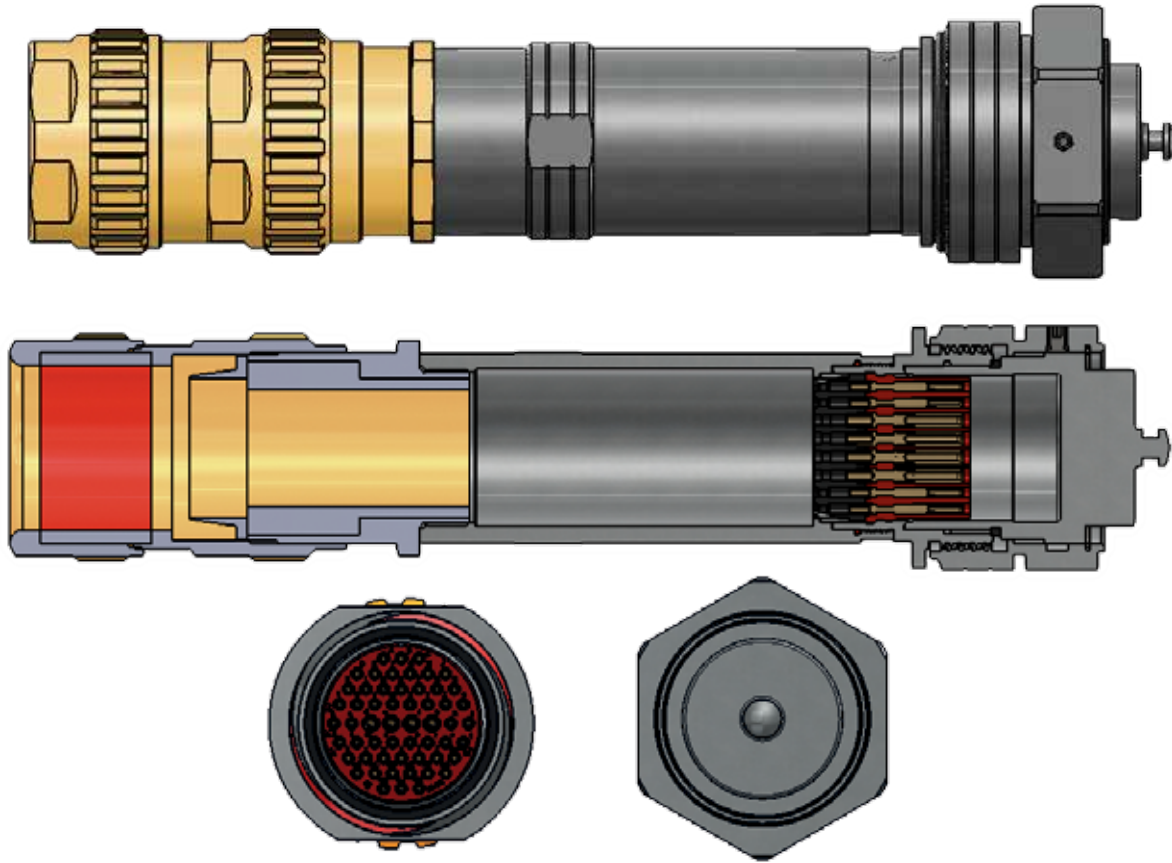


SERIES 927-072

ITS-Ex Hazardous Zone Connectors



In-line receptacle with Ex cable gland



Cable Range Dimensions for Ex Cable Gland

Shell Size	Cable Range Designator	Cable Type	Ex Gland Thread	Cable outer sheath range [mm]	Cable inner sheath range [mm]	Armor Range with Clamping Ring
36	A	Unarmored cable	M50x1.5	28 to 41		
	B	Unarmored cable	M40x1.5	22 to 33		
	A1	Armored Cable	M50x1.5	36 to 52.60	28.90 to 44.40	0 to 1.0 and 1.5 to 2.5
	B1	Armored Cable	M40x1.5	28 to 41	22 to 33	0 to 0.7 and 1.3 to 2.0
18	A	Unarmored cable	M25x1.5	12.50 to 20.50		
	B	Unarmored cable	M20x1.5	9 to 16		
	C	Unarmored cable	M20x1.5	6 to 12		
	A1	Armored Cable	M25x1.5	16.90 to 26	12.50 to 20.50	0 to 0.7 and 0.9 to 1.6
	B1	Armored Cable	M25x1.5	12.50 to 20.50	9 to 14	0 to 0.7 and 0.7 to 1.4
	C1	Armored Cable	M20x1.5	12.50 to 20.50	9 to 14	0 to 0.7 and 0.7 to 1.4
	D1	Armored Cable	M20x1.5	9 to 16	6 to 12	0 to 0.7 and 0.7 to 1.25
	E1	Armored Cable	M20x1.5	6 to 12	3 to 8.10	0 to 0.7 and 0.7 to 1.25
10SL	A	Unarmored cable	M20x1.5	9 to 16		
	B	Unarmored cable	M20x1.5	6 to 12		
	C	Unarmored cable	M16x1.5	6 to 12		
	A1	Armored Cable	M20x1.5	12.50 to 20.50	9 to 14	0 to 0.7 and 0.7 to 1.4
	B1	Armored Cable	M20x1.5	9 to 16	6 to 12	0 to 0.7 and 0.7 to 1.25
	C1	Armored Cable	M20x1.5	6 to 12	3 to 8.1	0 to 0.7 and 0.7 to 1.25
	D1	Armored Cable	M16x1.5	6 to 12	3 to 8.1	0 to 0.7 and 0.7 to 1.25

TOPSIDE: ITS-EX™





SERIES 927-072

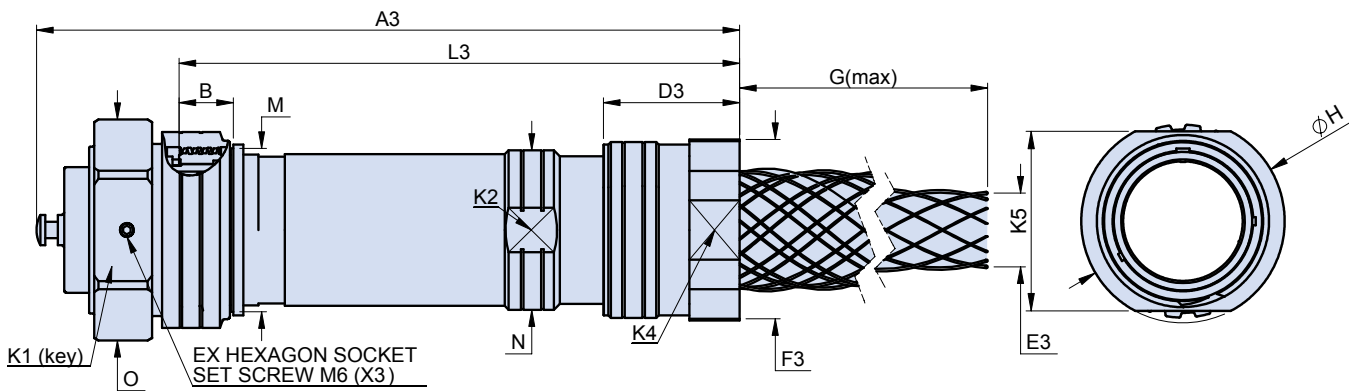
ITS-Ex Hazardous Zone Connectors



In-line receptacle with basket weave cable grip

927-072-031 IN-LINE RECEPTACLE WITH ENVIRONMENTAL CABLE ADAPTER AND BASKET WEAVE CABLE GRIP

How To Order							
Sample Part Number	927-072	031	36-66	P1	F9	N	A
Series	927-072						
Style	031 = Basket Weave Cable Grip						
Shell Size - Insert Arrangement	See pages 69 – 74						
Contact Type and Plating	P = Pin Contact S = Socket Contact 1 = Silver Plated 2 = Gold Plated						
Shell Material and Finish	F9 = Aluminium Alloy, Anodize Hardcoat						
Alternate Key Position	N = Normal, X, Y, Z, W (See Table on page 75)						
Cable Range	A, B, C (See Table next page)						



TOPSIDE: ITS-EX™

Shell Size	Dimensions																
	A3	B	C	D3	E3		F3	G Max.	H	K1	K2	K4	K5	L3	M	N	O
10SL		0.90 (22.8)	1.77 (45)						1.46 (37)	1.61 (41)	0.87 (22)		1.34 (34)		1.02 (26)	0.98 (25.0)	1.81 (46)
18	8.78 (223)	0.98 (24.9)	2.24 (57)	1.68 (42.7)	0.50 (12.70)	0.94 (23.80)	1.81 (46.0)	7.91** (201)	1.95 (49.5)	2.05 (52)	1.42 (36)	1.65 (42)	1.57 (40)	6.44 (163.5)	1.50 (38)	1.50 (38.2)	2.32 (59)
36	11.02 (280)	0.85 (21.6)	2.99 (76)	2.06 (52.4)	1.01 (25.60)	1.62 (41.25)	2.83 (72.0)	12.40** (315)	3.03 (77)	3.07 (78)	2.40 (61)	2.68 (68)	2.68 (68)	8.79 (223.2)	2.56 (65)	2.50 (63.5)	3.46 (88)

(**) Max overall dimension; dimension less than max one, depending on Basket Weave Cable Range.

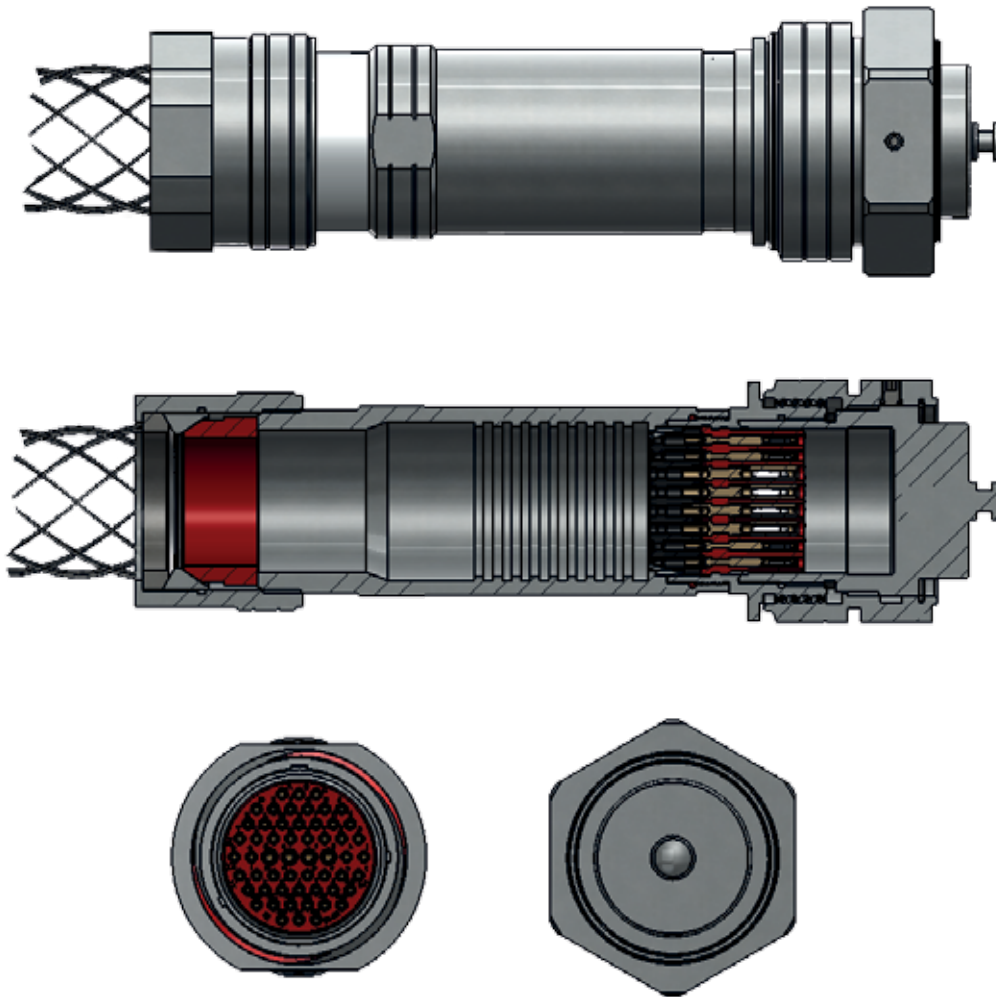


SERIES 927-072

ITS-Ex Hazardous Zone Connectors



In-line receptacle with basket weave cable grip



Cable Range Dimensions for Basketweave Cable Grip			
Shell Size	Cable Range Designator	Cable Type	Cable Jacket Range [mm] (1)
36	A	Unarmored cable	39.40 to 41.25
	B	Unarmored cable	38.90 to 40.50
	C	Unarmored cable	34.50 to 38.50
	D	Unarmored cable	31.00 to 34.90
	E	Unarmored cable	29.40 to 33.30
	F	Unarmored cable	25.60 to 29.50 (1)
18	A	Unarmored cable	19.60 to 23.80
	B	Unarmored cable	18.00 to 22.20 (1)
	C	Unarmored cable	15.50 to 19.10
	D	Unarmored cable	12.70 to 15.87
	E	Unarmored cable	10.40 to 12.70 (1)
10SL	Not available		

(1) It is advisable to use reduction sleeves for lower values of cable diameter within cable range.





SERIES 927-072 ITS-Ex Hazardous Zone Connectors

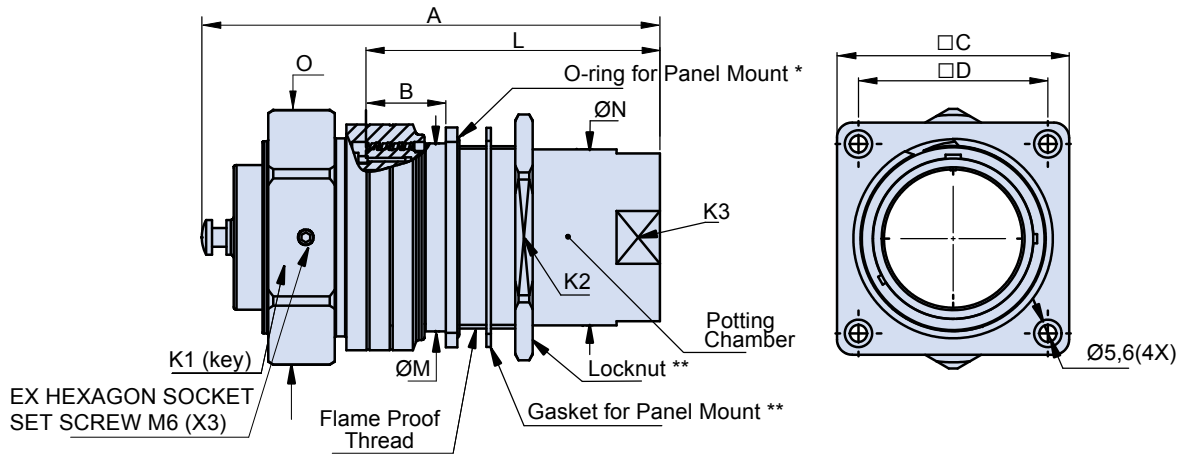


Panel-mount fixed receptacle with potting well and auxiliary lock nut

927-072-003 PANEL-MOUNT FIXED RECEPTACLE WITH POTTING WELL AND AUXILIARY LOCK NUT*

How To Order						
Sample Part Number	927-072	003	36-66	P1	F9	N
Series	927-072					
Style	003 = Panel Mount Fixed Receptacle					
Shell Size - Insert Arrangement	See pages 69 – 74					
Contact Type and Plating	P = Pin Contact S = Socket Contact 1 = Silver Plated 2 = Gold Plated					
Shell Material and Finish	F9 = Aluminium Alloy, Anodize Hardcoat					
Alternate Key Position	N = Normal, X, Y, Z, W (See Table on page 75)					

*Final IEC ATEX Ex d certification pending for this configuration only.
Consult factory for status



(*) For Mounting on Ex d enclosure: use only O-ring for Panel Mount.

(**) For Mounting on Ex e enclosure: use only Gasket for Panel Mount and Locknut.

Dimensions													
Shell Size	A	B	C	D	K1	K2	K3	L	M	N	O	Flame Proof Thread	Min Full Thread Length
10SL	5.02 (127.5)	0.97 (24.7)	1.77 (45)	1.30 (33)	1.61 (41)	1.81 (46)	0.83 (21)	3.07 (78)	1.02 (26)	0.87 (22)	1.81 (46)	M25 x 1.5 6 g	19
18	6.24 (158.5)	1.09 (27.6)	2.24 (57)	1.65 (42)	2.05 (52)	2.20 (56)	1.26 (32)	4.02 (102)	1.50 (38)	1.38 (35)	2.32 (59)	M40 x 1.5 6 g	19
36	6.24 (158.5)	1.09 (27.6)	2.99 (76)	2.44 (62)	3.07 (78)	2.95 (75)	2.28 (58)	4.02 (102)	2.56 (65)	2.39 (60.8)	3.46 (88)	M63 x 1.5 6 g	19

TOPSIDE: ITS-EX™

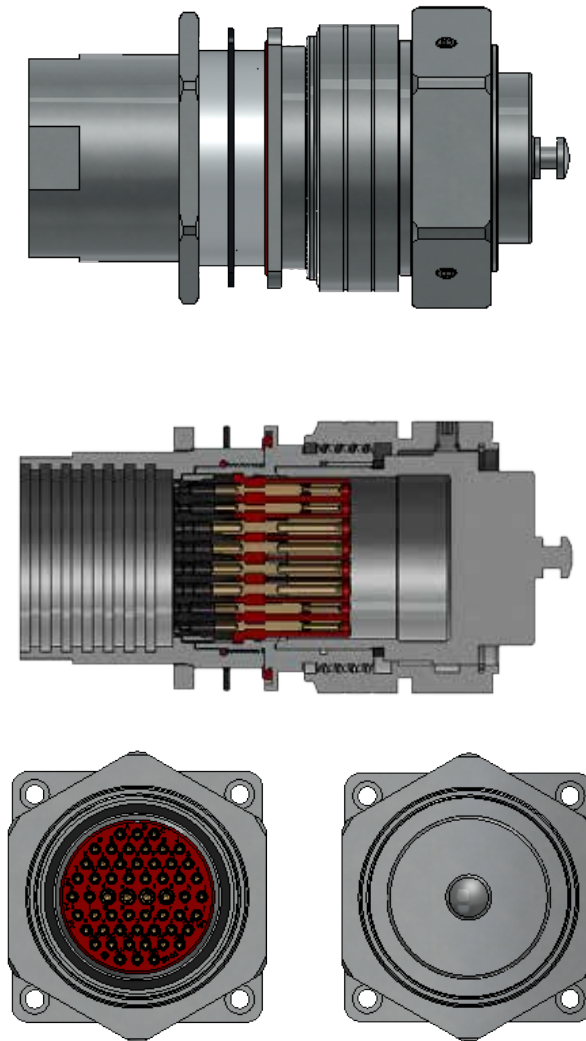


SERIES 927-072

ITS-Ex Hazardous Zone Connectors



Panel-mount fixed receptacle with potting well and auxiliary lock nut



Cable Range Dimensions for Panel Mount		
Shell Size	Cable Type	Cable Jacket Range [mm]
36	Unarmoured cable	23.4 to 41.25
18	Unarmoured cable	9.6 to 20.4
10SL	Unarmoured cable	4.5 to 11.12

TOPSIDE: ITS-EX™

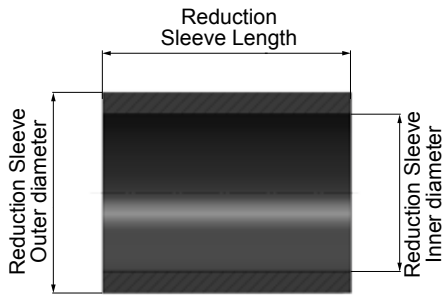




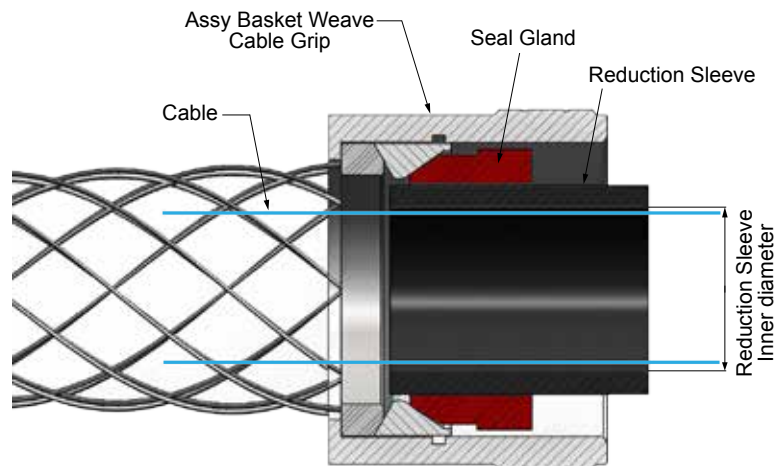
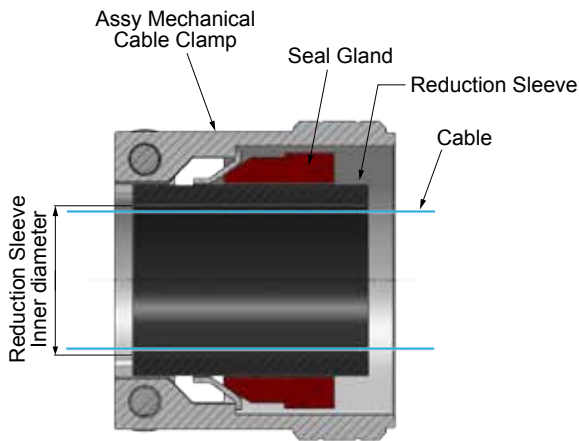
SERIES 927-072
Contacts, Tools, and Accessories
Cable reduction sleeve



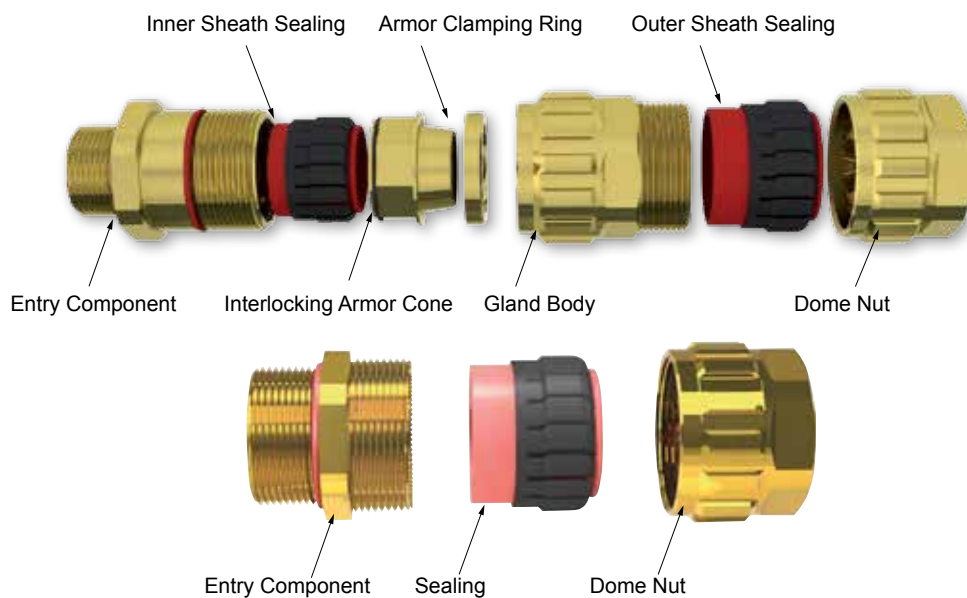
REDUCTION SLEEVES FOR CABLE



Reduction Sleeve for use with Mechanical Cable Clamp or Basketweave Cable Grip					
Shell Size	Sleeve P/N	Sleeve inner diameter [mm]	Sleeve outer diameter [mm]	Sleeve length [mm]	Use for cable range [mm]
36	D-3420-28A	31.80	40.60	50.20	29.90 to 32.00
	D-3420-24A	28.50	33.90	51.10	23.40 to 28.50
18	D-3420-16A	19.00	23.60	50.90	15.50 to 19.00
	D-3420-12A	13.74	18.50	50.90	11.30 to 13.74
	D-3420-10A	11.10	15.70	50.50	9.60 to 11.10
10SL	D-3420-6A	7.93	10.50	50.50	5.84 to 7.93
	D-3420-4A	5.56	7.63	50.50	4.50 to 5.56



Ex CABLE GLAND ASSEMBLY, EXPLODED VIEW



TOPSIDE: ITS-EX™





SERIES 927-072
Contacts, Tools, and Accessories
Pin crimp contacts



PIN CRIMP CONTACTS

Series 927-072 contacts for size #16s through size #0 wire. Copper alloy with silver or gold plating, Terminate to wire with standard crimp tools. Contacts are front-release. Use in series 927-072 connectors.



Pin contact with silver plating. For properties please consult table Materials on page 66 row Item Crimp Socket and Pin Contacts. Highly conductive silver plating is ideal for high current applications.

Pin contact with gold plating is used to improve protection from corrosive environments. For Electric properties, please consult table on page 66.



Pin Crimp Contacts Table			
Size [AWG]	Wire Size [AWG]	Finish	Pin Contact Part Number
16S*	18-16	Silver	D-20-40553
		Gold	D-21-40553
16	18-16	Silver	D-20-40557
		Gold	D-21-40557
12	12	Silver	D-20-40560
		Gold	D-21-40560
8	8	Silver	D-20-40792
4	4	Silver	D-20-113474-4P
0	0	Silver	D-20-113474-1P

* S = short (see length contacts)

Pin Contact Current Ratings and Resistance			
Contact Size AWG	Max Rated Current [A]		Max Contact Resistance [mW]
	IAW N.E.C. (1)	IAW VG95234 (2)	
16 – 16s	16	20	6
12	30	32	3
8	50	60	1
4	90	120	0.5
0	155	220	0.3

(1) Non-circuit breaking contacts rated current as per N.E.C. (National Electrical Code) based on arcing control. Use a cable of minimum rated temperature of 90°C.

(2) Values extrapolated from rated current chart of VG95234-1, at ambient temperature of 40°C.

TOPSIDE: ITS-EX™

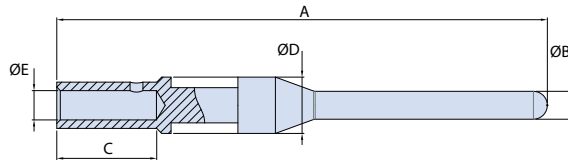




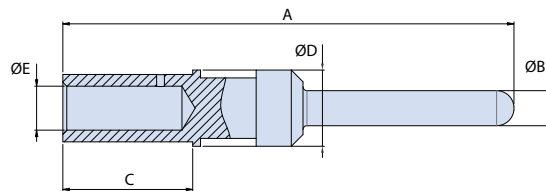
SERIES 927-072
Contacts, Tools, and Accessories
Pin crimp contacts



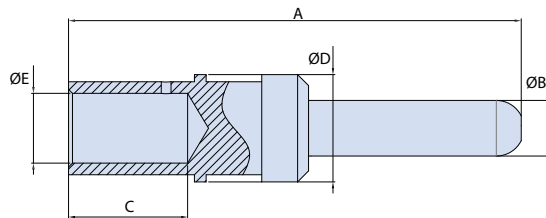
PIN CRIMP CONTACTS



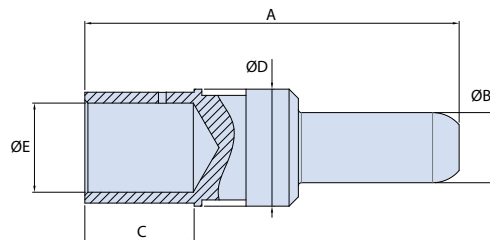
Part Number	Contact Size	A	ØB	C	ØD	ØE
D-10-40553	16S	1.23 (31.25)	0.06 (1.57)	0.29 (7.45)	0.12 (3.1)	0.07 (1.7)
D-10-40557	16	1.44 (36.65)	0.06 (1.57)	0.31 (7.75)	0.12 (3.1)	0.07 (1.7)
D-10-40560	12	1.65 (41.85)	0.09 (2.38)	0.33 (8.5)	0.19 (4.8)	0.10 (2.5)



Part Number	Contact Size	A	ØB	C	ØD	ØE
D-10-40792	8	1.82 (46.2)	0.14 (3.59)	0.52 (13.3)	0.31 (7.8)	0.18 (4.5)



Part Number	Contact Size	A	ØB	C	ØD	ØE
D-10-113474-4P	4	1.83 (46.4)	0.22 (5.7)	0.51 (12.9)	0.43 (11)	0.28 (7.15)



Part Number	Contact Size	A	ØB	C	ØD	ØE
D-10-113474-1P	0	1.90 (48.3)	0.36 (9.05)	0.56 (14.1)	0.59 (15.1)	0.45 (11.5)

TOPSIDE: ITS-EX™





SERIES 927-072
Contacts, Tools, and Accessories
Socket crimp contacts



SOCKET CRIMP CONTACTS

Series 927-072 contacts for size #16s through size #0 wire. Copper alloy with silver or gold plating, Terminate to wire with standard crimp tools. Contacts are front-release. Use in series 927-072 connectors.



Socket contact with silver plating. For properties please consult table Materials on page 66 row Item Crimp Socket and Pin Contacts. Highly conductive silver plating is ideal for high current applications.

Socket contact with gold plating is used to improve protection from corrosive environments. For Electric properties, please consult table on page 66.



Socket Crimp Contacts Table				
Size [AWG]	Wire Size [AWG]	Finish	Socket Contact Part Number	Contact type
16S*	18-16	Silver	D-20-40552	Spring clip
		Gold	D-21-40552	
16	18-16	Silver	D-20-40556	Spring clip
		Gold	D-21-40556	
12	12	Silver	D-20-40560	Spring clip
		Gold	D-21-40560	
8	8	Silver	D-21-40793	Hood
4	4	Silver	D-21-113474-4S-1	Hood
0	0	Silver	D-21-113474-1S	Hood

* S = short (see length contacts)

Other contact wire size on request.



Socket Contact Current Ratings and Resistance			
Contact Size AWG	Max Rated Current [A]		Max Contact Resistance [mW]
	IAW N.E.C. (1)	IAW VG95234 (2)	
16 – 16s	16	20	6
12	30	32	3
8	50	60	1
4	90	120	0,5
0	155	220	0,3

(1) Non-circuit breaking contacts rated current as per N.E.C. (National Electrical Code) based on arcing control. Use a cable of minimum rated temperature of 90°C.

(2) Values extrapolated from rated current chart of VG95234-1, at ambient temperature of 40°C.



TOPSIDE: ITS-EX™

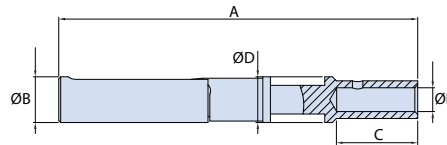




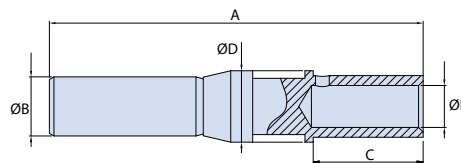
SERIES 927-072
Contacts, Tools, and Accessories
Socket crimp contacts



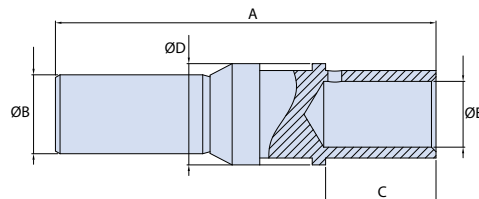
SOCKET CRIMP CONTACTS



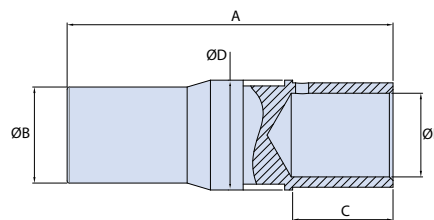
Part Number	Contact Size	A	ØB	C	ØD	ØE
D-10-40552	16S	1.05 (26.7)	0.13 (3.2)	0.30 (7.5)	0.13 (3.2)	0.07 (1.7)
D-10-40556	16	1.44 (36.5)	0.13 (3.2)	0.31 (7.8)	0.13 (3.2)	0.07 (1.7)
D-10-40560	12	1.48 (37.65)	0.19 (4.8)	0.33 (8.5)	0.19 (4.8)	0.10 (2.5)



Part Number	Contact Size	A	ØB	C	ØD	ØE
D-10-40793	8	1.61 (40.8)	0.25 (6.45)	0.47 (12)	0.31 (7.8)	0.18 (4.58)



Part Number	Contact Size	A	ØB	C	ØD	ØE
D-10-113474-4S-1	4	1.63 (41.35)	0.34 (8.57)	0.47 (12)	0.43 (11)	0.28 (7.15)



Part Number	Contact Size	A	ØB	C	ØD	ØE
D-10-113474-1S	0	1.76 (44.8)	0.52 (13.2)	0.54 (13.8)	0.59 (15.1)	0.45 (11.5)

TOPSIDE: ITS-EX™





SERIES 927-072

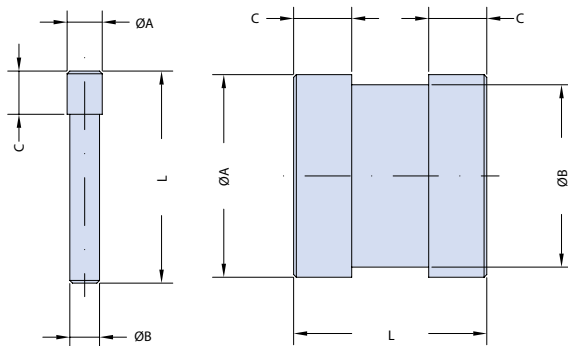
Contacts, Tools, and Accessories



Wire hole sealing plugs for contact inserts and wire sealing grommets

WIRE HOLE PLUG FOR CONTACT INSERTS

Part Number	Contact Size	ØA	ØB	C	L	Color
D-10-305045-16	16S - 16	0.10 (2.6)	0.09 (2.2)	0.13 (3.2)	0.62 (15.7)	Blue
D-10-101033-13	12	0.18 (4.6)	0.15 (3.7)	0.13 (3.2)	0.47 (11.9)	Yellow
D-10-305045-8	8	0.30 (7.6)	0.25 (6.4)	0.12 (3.1)	0.46 (11.8)	White
D-10-305045-4	4	0.43 (10.9)	0.38 (9.7)	0.12 (3.1)	0.46 (11.8)	Green
D-10-305045-0	0	0.59 (15.0)	0.53 (13.5)	0.17 (4.3)	0.56 (14.3)	Black



D-10-305045-16

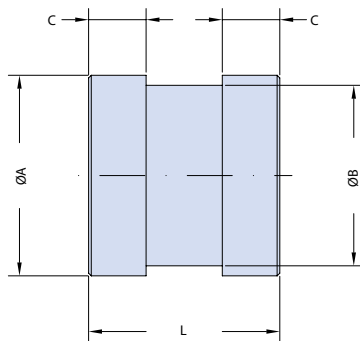
D-10-101033-13
D-10-305045-XX

NOTES

Contact Hole Plug - Insert Version.
Used to fill an insert cavity in order to maintain the environmental seal when a cavity is without contact.

WIRE HOLE PLUG FOR WIRE SEALING GROMMETS

Part Number	Contact Size	ØA	ØB	C	L	Color
D-10-101033-12	16S - 16	0.15 (3.7)	0.11 (2.8)	0.13 (3.2)	0.47 (11.9)	Blu / Blue
D-10-101033-13	12	0.18 (4.6)	0.15 (3.7)	0.13 (3.2)	0.47 (11.9)	Giallo / Yellow
D-10-101033-14	8	0.23 (5.8)	0.20 (5.0)	0.13 (3.2)	0.47 (11.9)	Bianco / White
D-10-101033-15	4	0.33 (8.5)	0.30 (7.6)	0.13 (3.2)	0.47 (11.9)	Verde / Green
D-10-101033-16	0	0.53 (13.5)	0.50 (12.8)	0.13 (3.2)	0.47 (11.9)	Nero / Black



D-10-101033-XX

NOTES

Contact Hole Plug - Grommet Version.
Used to fill a grommet cavity in order to maintain the environmental seal when a cavity is without contact.

TOPSIDE: ITS-EX™





SERIES 927-072
Contacts, Tools, and Accessories
Crimp tools



MANUAL AND PNEUMATIC CRIMP TOOLS



Manual Crimp Tool

Contact Size	Wire Size	Manual Crimp Tool			Pneumatic Crimp Tool		
		Manual Tool	Turret	Universal Locator	Type A		
					Pneumatic Tool	Turret	Universal Locator
16s	16	M.105007	M.105009*	M.105012**	M.105002	M.105009*	M.105012**
16	16	M.105007	M.105009*	M.105012**	M.105002	M.105009*	M.105012**
12	12	M.105007	M.105009*	M.105012**	M.105002	M.105009*	M.105012**
8	8	/	/	/	/	/	/
4	4	/	/	/	/	/	/
0	0	/	/	/	/	/	/

* Socket contact only
 ** Pin contact only



Turret



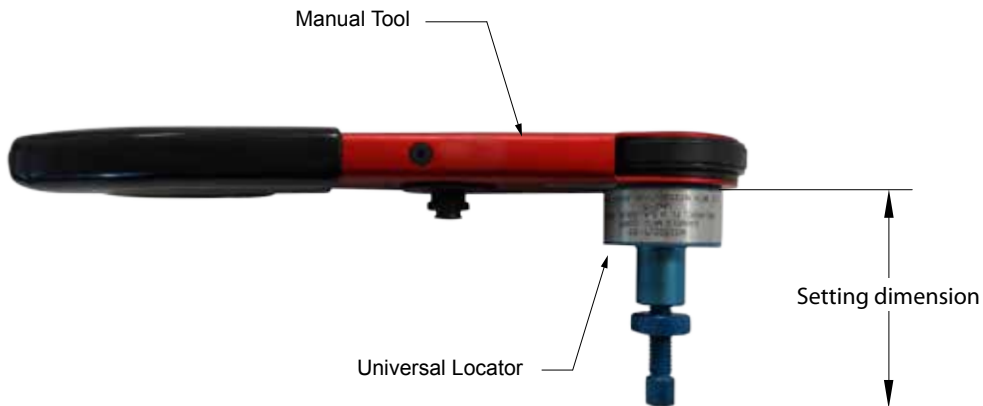
Universal Locator



Pneumatic Crimp Tool Type A



Turret for Pneumatic Crimp Tool Type A



Contact Size	Wire Size	Manual Crimp Tool		
		Manual Tool	Universal Locator	Setting dimension [mm]
16s	16	M.105007	M.105012	67.7
16	16	M.105007	M.105012	73.0
12	12	M.105007	M.105012	85.4

TOPSIDE: ITS-EX™





SERIES 927-072

Contacts, Tools, and Accessories



Crimp tools for large contacts
Contact insertion and removal tools

HYDRAULIC AND PNEUMATIC CRIMP TOOLS



Hydraulic Crimp Tool

Contact Size	Wire Size	Hydraulic Crimp Tool		Pneumatic Crimp Tool			
		Hydraulic Tool	Die	Type B			
				Pneumatic Tool	Die	Locator Pin	Locator Socket
16s	16	/	/	/	/	/	/
16	16	/	/	/	/	/	/
12	12	/	/	/	/	/	/
8	8	M.112004	M.112005	M.112000	M.112001	M.112308	M.112309
4	4	M.112004	M.112006	M.112000	M.112002	M.112307	M.112311
0	0	M.112004	M.112010	M.112000	M.112003	M.112306	M.112313

* Socket contact only ** Pin contact only



Die for Oleodynamic Crimp Tool



Pneumatic Crimp Tool Type B

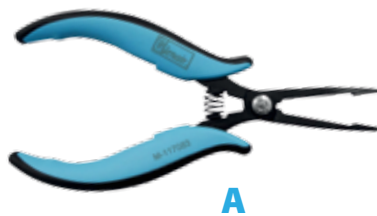


Die For Pneumatic Crimp Tool Type B



Locator for Pneumatic Crimp Tool Type B

INSERTION AND REMOVAL TOOLS



A

Contact Size	Insertion Tool	Figure	Removal Tool	Figure
16S	M.117083	A	M.118250	C
16	M.117083	A	M.118250	C
12	M.117082	A	M.118250	C
8	M.117344	B	M.118260	D
4	M.117347	B	M.118270	D
0	M.117348	B	M.118280	D



B



C



D





HIGH PERFORMANCE
**Corrosion Free Composite
Junction Boxes and Cable Bays**
Product selection guide



REFERENCE INFORMATION

Composite Box Features

pg. 105

140-060-03

48 Terminal, Grounded Composite Junction Box

pg. 114

140-060-01

10 Terminal, Grounded Composite Junction Box

pg. 106

140-060-05

4 Terminal, Hexagonal Grounded Composite Junction Box

pg. 118

140-060-02

12 Terminal, Grounded Composite Junction Box

pg. 110

147-023-02

Single Receptacle, Blade Type Composite Box

pg. 122

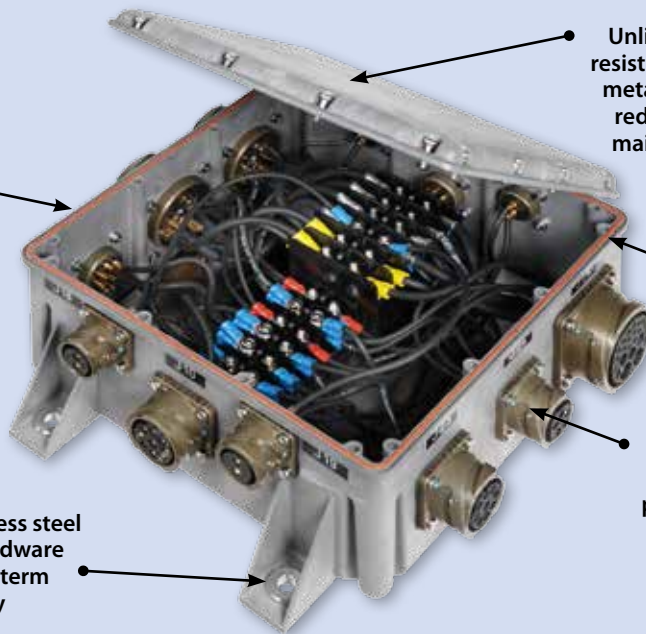
TOPSIDE: COMPOSITE BOXES

Ultra-Lightweight and Corrosion-Free Composite Boxes and Cable Bays

Glass-reinforced composite thermoplastic material is strong and durable and yet extremely lightweight.




Series 316 stainless steel inserts and hardware provide long-term durability



Unlimited corrosion resistance compared to metal junction boxes reduces repair and maintenance costs.

IP67 rated seals and gaskets protect equipment from moisture and dust

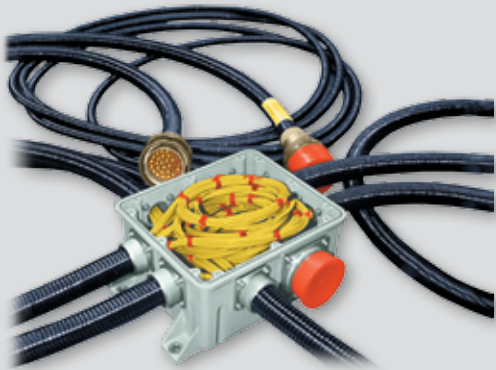
Low harmonic resonance and inherent attenuating properties reduce loosening and decoupling of feed-through fittings and accessories.



SERIES 14

Composite Junction Boxes

- 15 Ft. Submersion Composite Boxes
- Over a dozen different tooled sizes and shapes.
- Made-to-order configurations available—just ask.
- Extremely durable, corrosion-free, high temperature engineering composite thermoplastic
- Tested and qualified to U.S. Navy, UK MOD and hundreds of commercial aircraft and marine applications



Glenair EMI/RFI CostSaver Composite Junction Box application—protecting and storing fiber optic media service loops

Install it and forget it: Glenair corrosion-free EMI/RFI shielded cable junction boxes



TOPSIDE: COMPOSITE BOXES





SERIES 147

15 Ft. Submersion Composite Boxes



140-060XMS-01 (NSN: 5975-01-556-7957)

10 terminal, grounded composite junction box

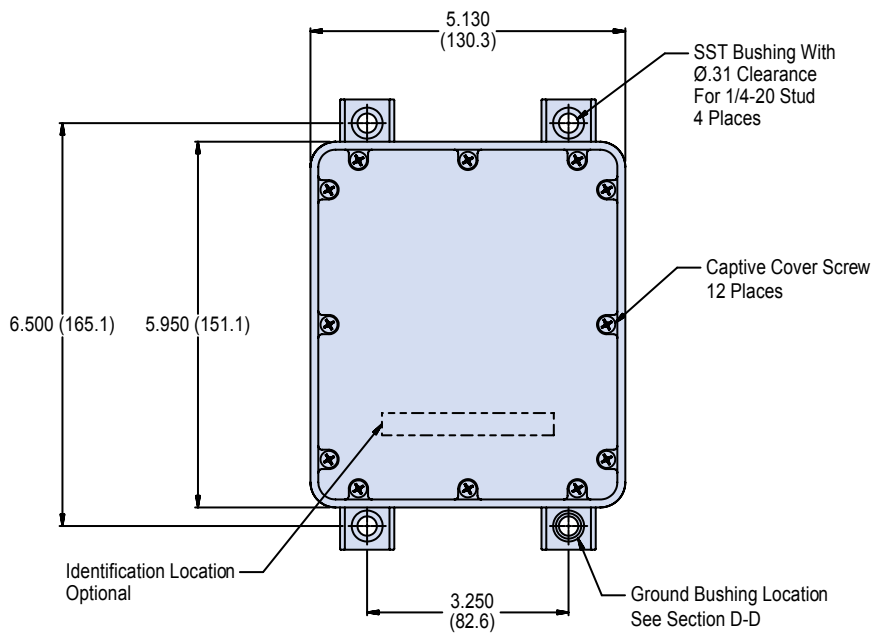
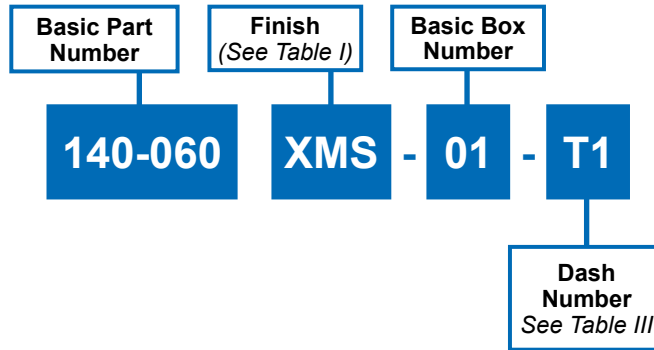
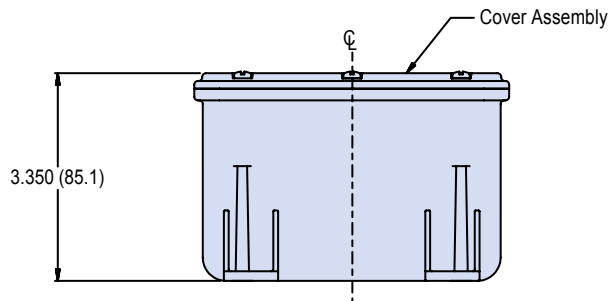


FIGURE 1 TOP VIEW



TOPSIDE: COMPOSITE BOXES





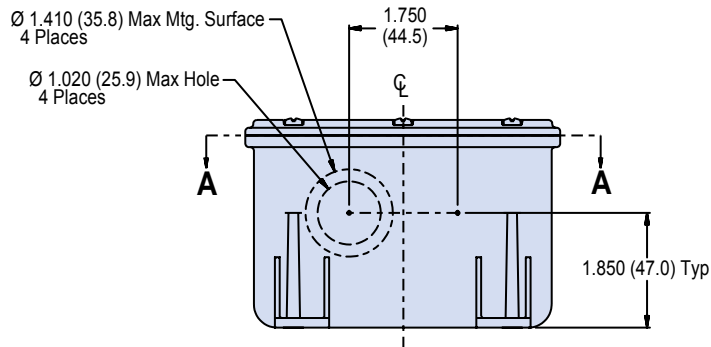
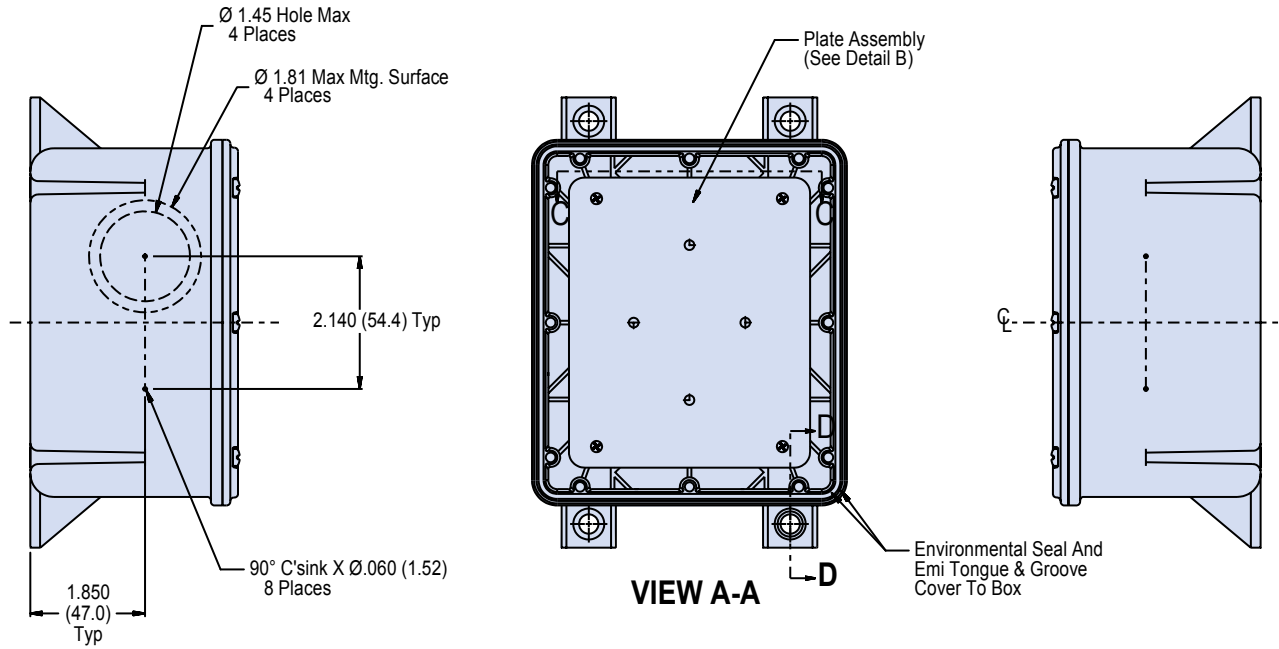
SERIES 147

15 Ft. Submersion Composite Boxes



140-060XMS-01 (NSN: 5975-01-556-7957)

10 terminal, grounded composite junction box



TOPSIDE: COMPOSITE BOXES





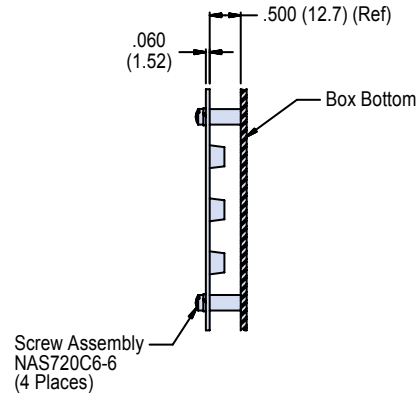
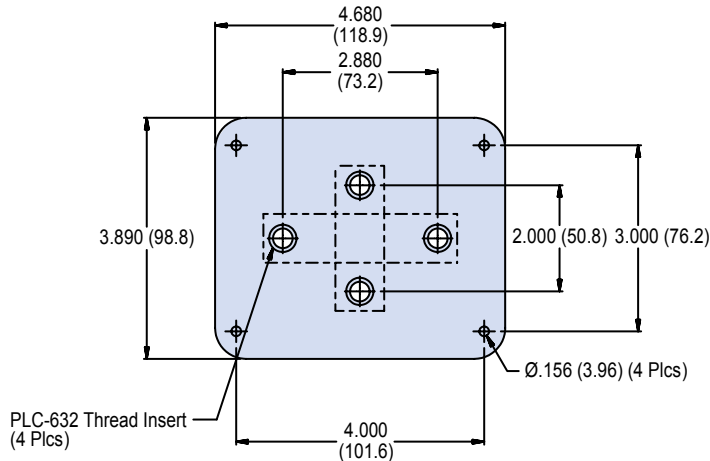
SERIES 147

15 Ft. Submersion Composite Boxes



140-060XMS-01 (NSN: 5975-01-556-7957)

10 terminal, grounded composite junction box



APPLICATION NOTES

1. Assembly identified with manufacturer's code identification number (Glenair, part number and date code).
2. Color may be subject to fading, however UV exposure will not affect material physical properties.
3. Assembly is similar to symbol part numbers and require installation in accordance with NAVSEA drawing 803-6983506.
4. Material / Finish:
 - Box, cover: Thermoplastic grey color/see Table I.
 - Hardware: 316 SST/passivate.
 - Seals and gaskets: Silicone/N.A.
 - Mounting Plate - 300 series SST/passivate.
5. Metric dimensions (mm) are indicated in parentheses.

TOPSIDE: COMPOSITE BOXES





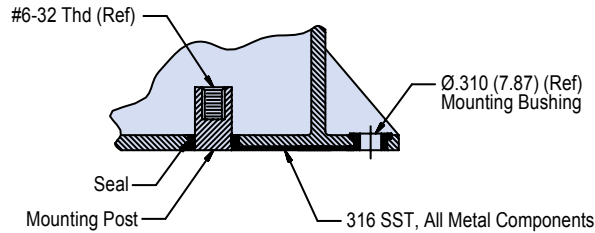
SERIES 147

15 Ft. Submersion Composite Boxes



140-060XMS-01 (NSN: 5975-01-556-7957)

10 terminal, grounded composite junction box



SECTION D-D

Electrical Ground Through Internal Mounting Post To External Mounting Bushing

TABLE I: Finish

Symbol	Description
XMS	Internal Surfaces - Electroless Nickel Exterior Surfaces - Unplated Light Grey Color
XO	No Plating

TABLE II: Replacement Parts

Item	Part Number	Description	Material
1	140-065XMS-01	Cover Assembly	Grey Thermoplastic
2	687-499-2	Cover Screw Assembly	316 SST/Passivate
3	687-305Z129	Mounting Plate Assembly	300 SST/Passivate

TABLE III: Mounting Plate Assembly

Dash No.	2.000" Mntg Holes	2.880" Mntg Holes	MIL-T-55164 A-A-59125	Number of Terminals	Max No of Wires	Recm'd Max Wire Size	Recm'd Lug MS17143	Qty Blocks per Assembly	Symbol Number	Military Specification
01T1	6TB06	-	/12	6	24	#14 AWG	-5	1	-	-
01T2	25TB05	-	/23	5	10	#14 AWG	-17	1	-	-
01T3	-	4TB085	/10	8	32	#12 AWG	-3	1	435.1	MIL-T-24588/2
01T4	-	6TB10	/12	10	30	#14 AWG	-5	1	528	MIL-T-24588/3
01T5	-	15TB10	/19	10	40	#14 AWG	-8	1	-	-
01T6	-	16TB04	/20	4	08	#12 AWG	-3	1	444	MIL-T-24588/18

TOPSIDE: COMPOSITE BOXES





SERIES 147

15 Ft. Submersion Composite Boxes



140-060XMS-02 (NSN: 5975-01-557-2672)

12 terminal, grounded composite junction box

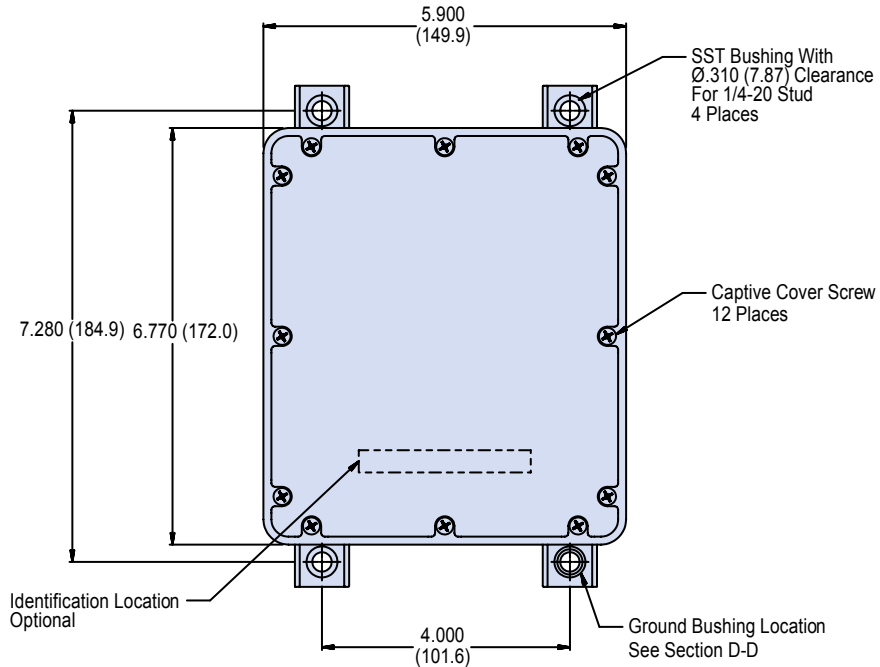
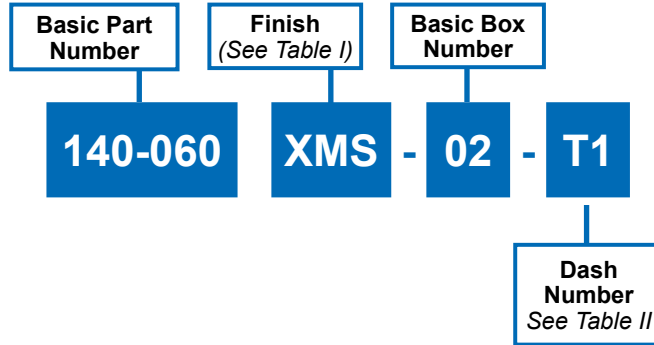
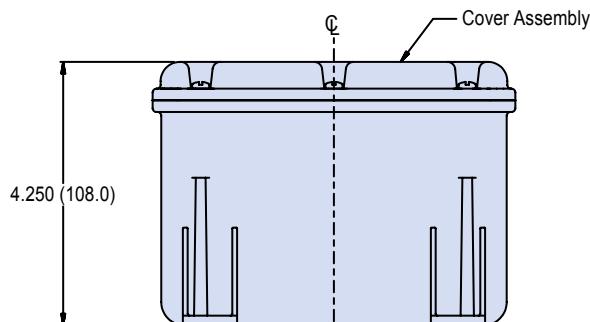


FIGURE 1 TOP VIEW



TOPSIDE: COMPOSITE BOXES





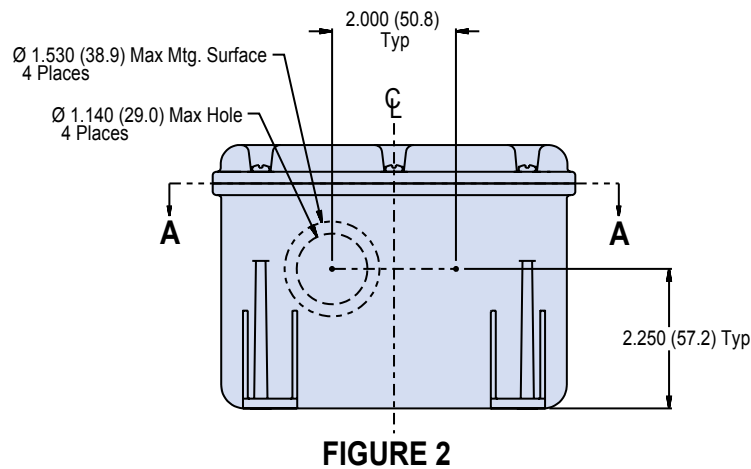
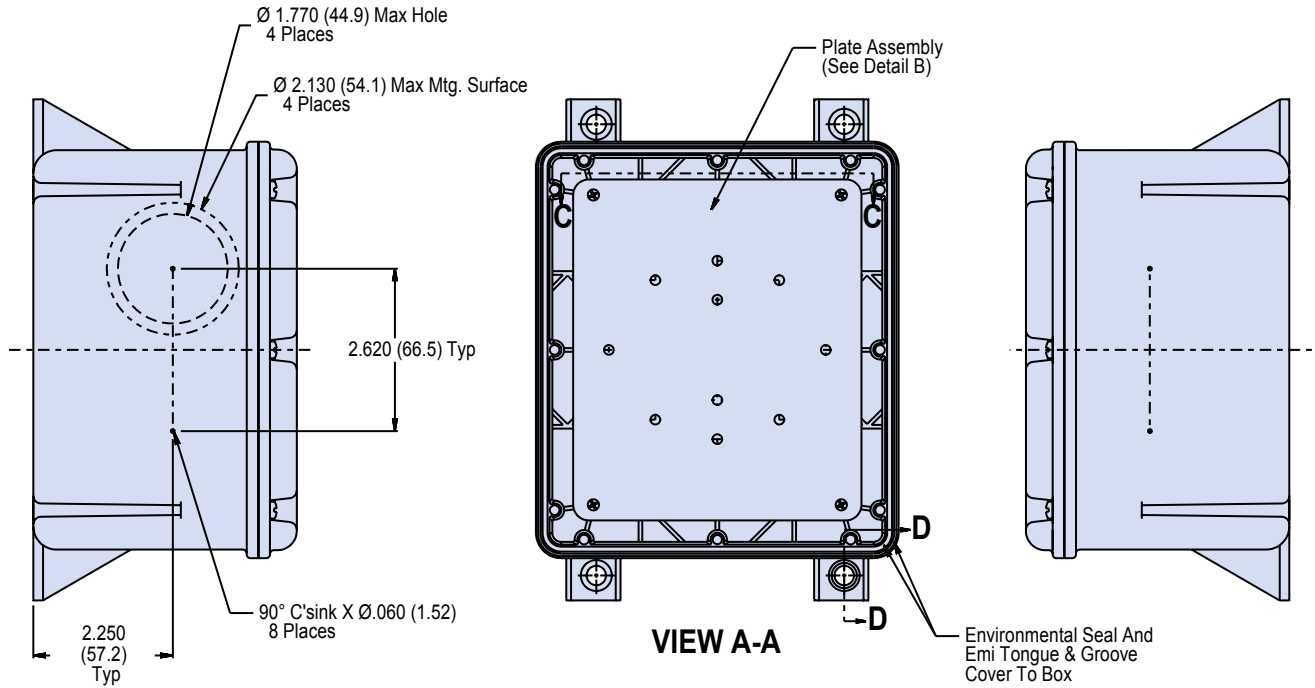
SERIES 147

15 Ft. Submersion Composite Boxes



140-060XMS-02 (NSN: 5975-01-557-2672)

12 terminal, grounded composite junction box



TOPSIDE: COMPOSITE BOXES





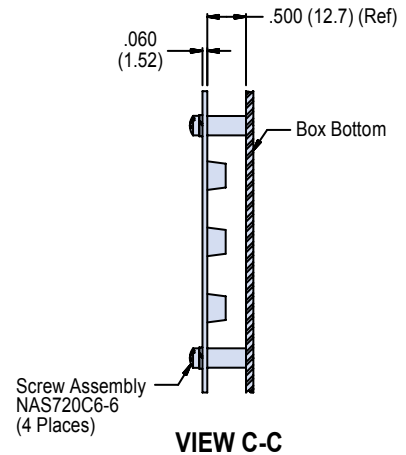
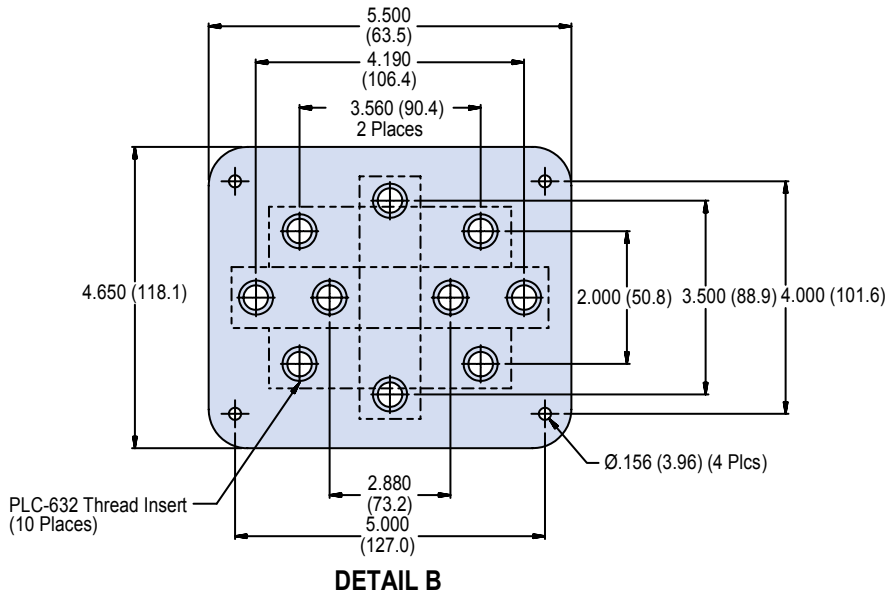
SERIES 147

15 Ft. Submersion Composite Boxes



140-060XMS-02 (NSN: 5975-01-557-2672)

12 terminal, grounded composite junction box



APPLICATION NOTES

1. Assembly identified with manufacturer's code identification number (Glenair, part number and date code).
2. Color may be subject to fading, however UV exposure will not affect material physical properties.
3. Assembly is similar to symbol part numbers and require installation in accordance with NAVSEA drawing 803-6983506.
4. Material / Finish:
 - Box, cover - Thermoplastic grey color/see Table I.
 - Hardware - 316 SST/passivate.
 - Seals and gaskets - Silicone/N.A.
 - Mounting Plate - 300 series SST/passivate.
5. Metric dimensions (mm) are indicated in parentheses.

TOPSIDE: COMPOSITE BOXES





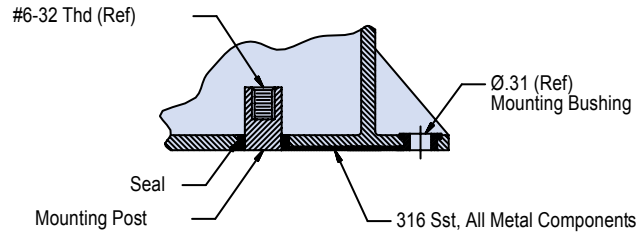
SERIES 147

15 Ft. Submersion Composite Boxes



140-060XMS-02 (NSN: 5975-01-557-2672)

12 terminal, grounded composite junction box



SECTION D-D

Electrical Ground Through Internal Mounting Post To External Mounting Bushing

TABLE I: Finish

Symbol	Description
XMS	Internal Surfaces - Electroless Nickel Exterior Surfaces - Unplated Light Grey Color
XO	No Plating

TABLE II: Replacement Parts

Item	Part Number	Description	Material
1	140-065XMS-17	Cover Assembly	Grey Thermoplastic
2	687-499-2	Cover Screw Assembly	316 SST/Passivate
3	687-305Z130	Mounting Plate Assembly	300 SST/Passivate

TABLE II: Mounting Plate Assembly

Dash No.	2.000" Mntg Holes	2.880" Mntg Holes	3.500" Mntg Holes	3.560" Mntg Holes	4.190" Mntg Holes	MIL-T-55164 A-A-59125	Number of Terminals	Max No of Wires	Recm'd Max Wire Size	Recm'd Lug MS17143	Qty Blocks per Assembly
02T1	6TB60	-	-	-	-	/12	6	40	#14 AWG	-5	2
02T2	25TB05	-	-	-	-	/23	5	20	#14 AWG	-17	2
02T3	-	4TB08	-	-	-	/10	8	32	#12 AWG	-3	1
02T4	-	5TB0	-	-	-	/12	10	30	#14 AWG	-5	1
02T5	-	15TB0	-	-	-	/19	10	40	#14 AWG	-8	1
02T6	-	16TB04	-	-	-	/20	8 W/ STUD 16 W/OW/O	8	#12 AWG	-3	1
02T7	-	-	8TB08	-	-	/14	10	32	#14 AWG	-11	1
02T8	-	-	-	25TB10	-	/23	10 W/ STUD 20 W/OW/O	40	#14 AWG	-17	2
02T9	-	-	-	26TB10	-	/24	12	80	#16 AWG	-20	2
03210	-	-	-	-	25TB12	/23	12W/ STUD 20 W/O	24	#14 AWG	-17	1
03T11	-	-	-	-	26TB12	/24		48	#16 AWG	-20	1

TOPSIDE: COMPOSITE BOXES





SERIES 147

15 Ft. Submersion Composite Boxes



140-060XMS-03 (NSN: 5975-01-557-2679)

48 terminal, grounded composite junction box

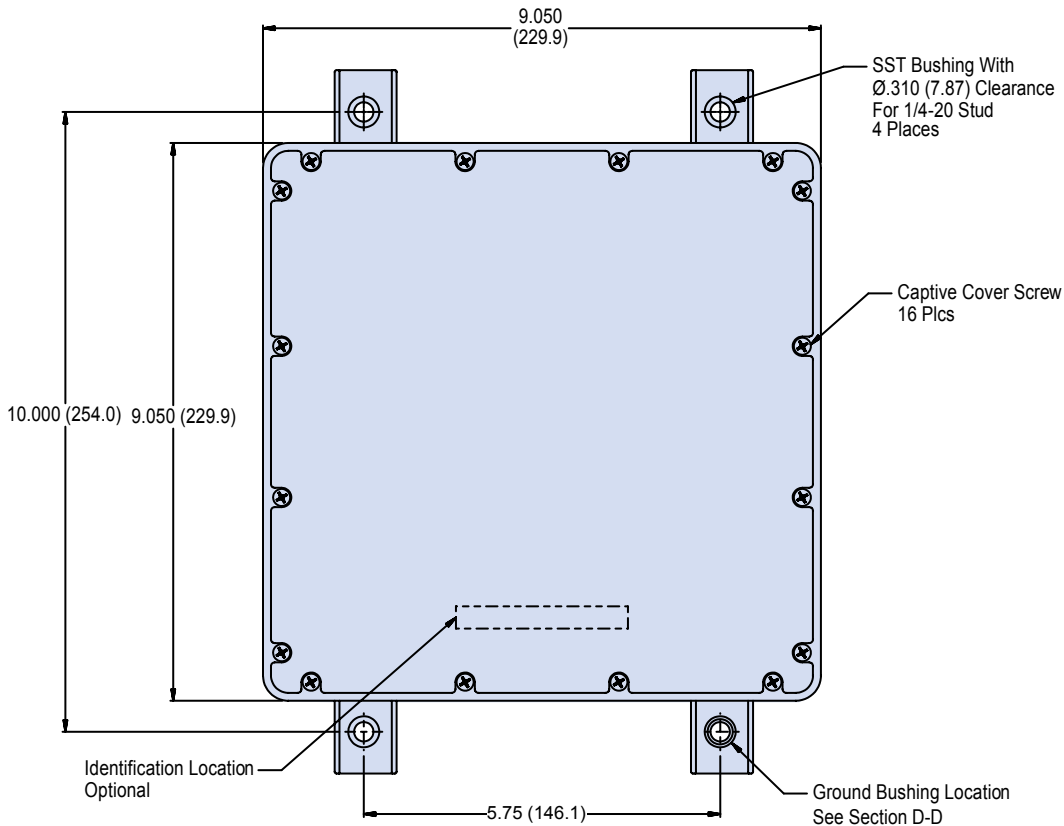
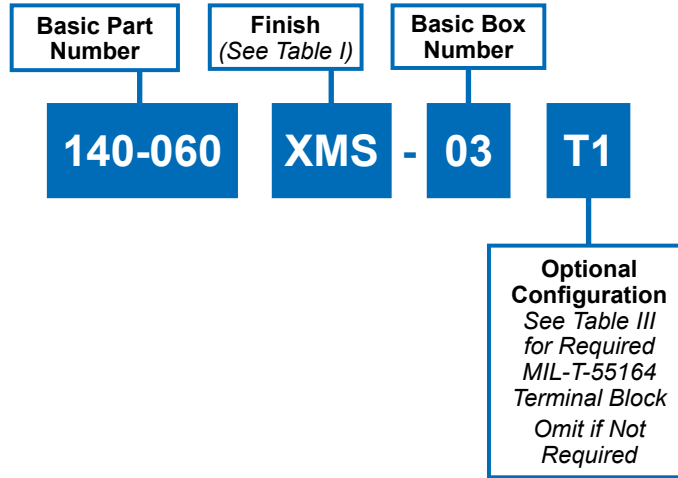


FIGURE 1 TOP VIEW

TOPSIDE: COMPOSITE BOXES





SERIES 147

15 Ft. Submersion Composite Boxes



140-060XMS-03 (NSN: 5975-01-557-2679)

48 terminal, grounded composite junction box

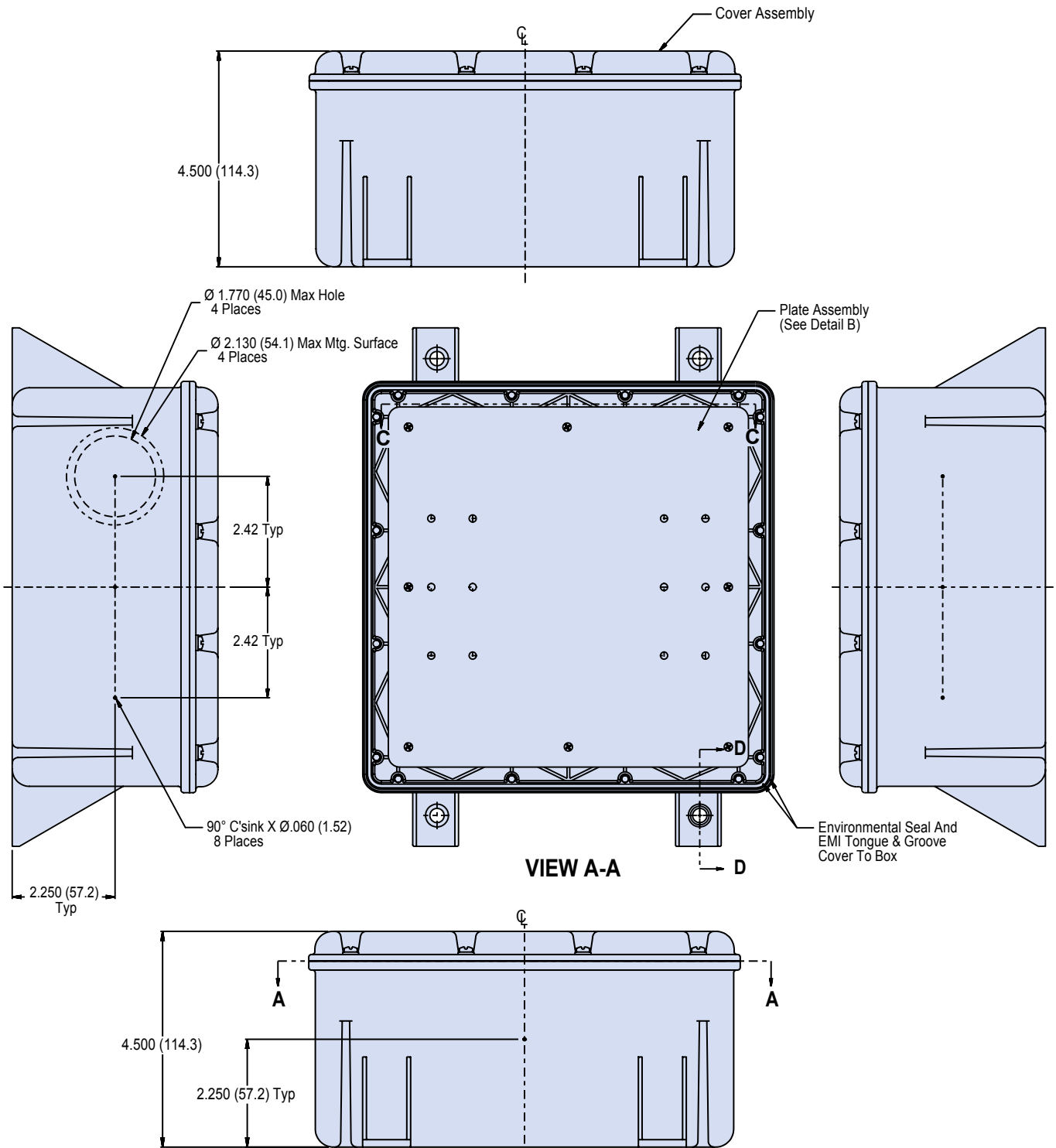


FIGURE 2

TOPSIDE: COMPOSITE BOXES





SERIES 147

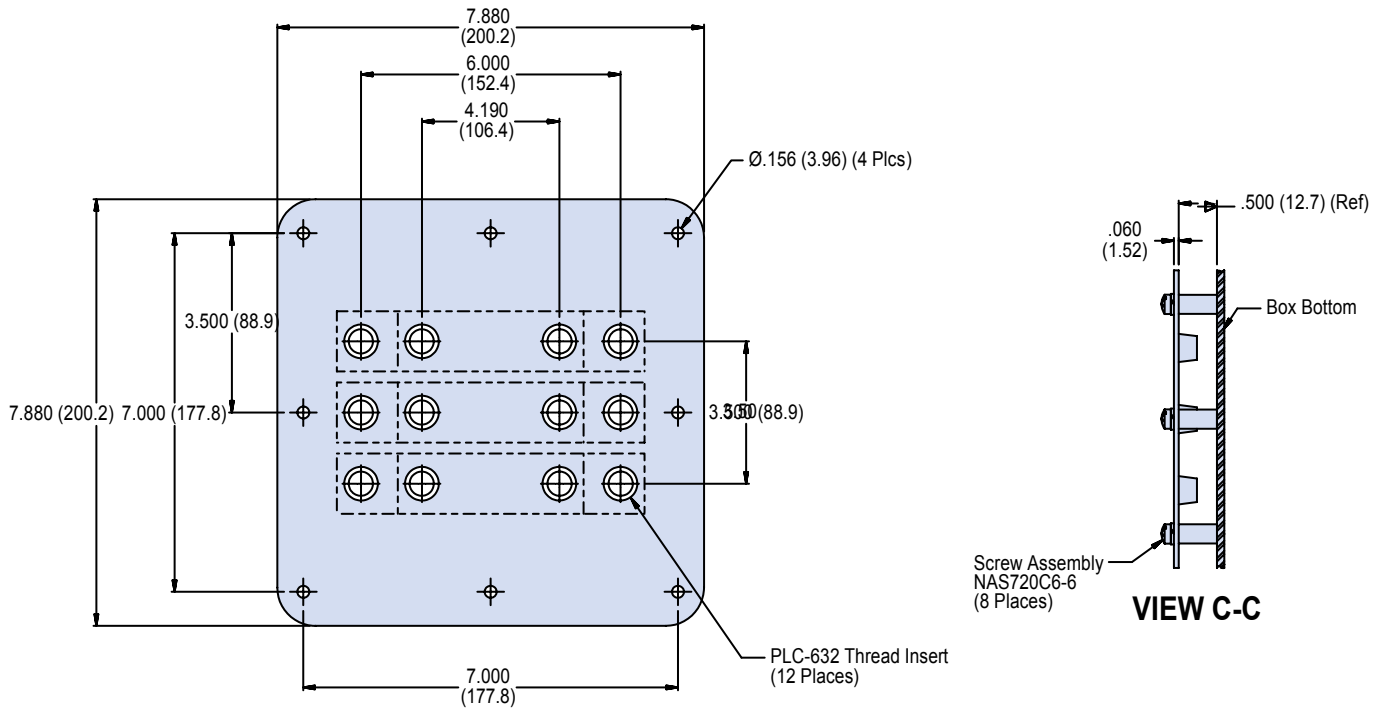
15 Ft. Submersion Composite Boxes



140-060XMS-03 (NSN: 5975-01-557-2679)

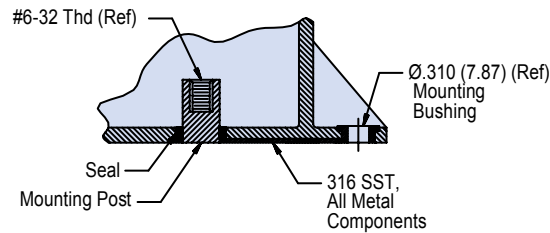
48 terminal, grounded composite junction box

TOPSIDE: COMPOSITE BOXES



DETAIL B

VIEW C-C



SECTION D-D

Electrical Ground Through Internal Mounting Post To External Mounting Bushing

APPLICATION NOTES

1. Assembly identified with manufacturer's code identification number (Glenair, part number and date code).
2. Color may be subject to fading, however UV exposure will not affect material physical properties.
3. Assembly is similar to symbol part numbers and require installation in accordance with NAVSEA drawing 803-6983506.
4. Material / Finish:
 - Box, cover - Thermoplastic grey color/see Table I.
 - Hardware - 316 SST/passivate.
 - Seals and gaskets - Silicone/N.A.
 - Mounting Plate - 300 series SST/passivate.
5. Metric dimensions (mm) are indicated in parentheses.



SERIES 147

15 Ft. Submersion Composite Boxes



140-060XMS-03 (NSN: 5975-01-557-2679)

48 terminal, grounded composite junction box

TABLE I: Finish	
Symbol	Description
XMS	Internal Surfaces - Electroless Nickel Exterior Surfaces - Unplated Light Grey Color
XO	No Plating

TABLE II: Replacement Parts			
Item	Part Number	Description	Material
1	140-065XMS-15	Cover Assembly	Grey Thermoplastic
2	687-499-2	Cover Screw Assembly	316 SST/Passivate
3	687-305Z131	Mounting Plate Assembly	300 SST/Passivate

TABLE III: MIL-T-55164 Terminal Block	
Part Number	National Stock Number
140-060XMS-03	5935-01-557-2679
140-060XMS-03T1	5940-01-556-9489
140-060XMS-03T2	5940-01-557-2564
140-060XMS-03T5	5940-01-5576-2578
140-060XMS-03T9	5940-01-557-2582
140-060XMS-03T10	5940-01-556-9494
140-060XMS-03T11	5940-01-557-2563
140-060XMS-03T12	5940-01-556-9499

TABLE IV: Mounting Plate Assembly										
Dash No.	6.000" Mntg Holes	4.190" Mntg Holes	MIL-T-55164 A-A-59125	Number of Terminals	Max No of Wires	Recm'd Max Wire Size	Recm'd Lug MS17143	Qty Blocks per Assembly	Symbol Number	Military Specification
03T1	4TB20	-	/10	20	80	#12 AWG	-3	1	432.1	MIL-T-24558/4
03T2	6TB06F/24	-	/12	30	90	#14 AWG	-5	2	434	MIL-T-24558/5
03T3	10TB28	-	/16	56	168	#14 AWG	-	2	-	-
03T4	15TB24	-	/19	48	144	#14 AWG	-8	2	-	-
03T5	16TB10	-	/20	10	20	#12 AWG	-3	1	529	MIL-T-24588/20
03T6	17TB10	-	/21	10W/STUD 20 W/O	80	#12 AWG	-3	2	-	-
03T7	-	25TB12	/23	36	72	#14 AWG	-17	3	-	-
03T8	-	26TB12	/24	24W/STUD 48 W/O	96	#16 AWG	-20	2	-	-
03T9	4TB20	-	/10	40	160	#12 AWG	-3	2	433.1	MIL-T-24588/6
03T10	6TB24	-	/12	48	144	#14 AWG	-5	2	522.1	MIL-T-24588/7
03T11	4TB20T	-	/10	60	240	#12 AWG	-3	3	446	MIL-T-24588/8
03T12	6TB24	-	/12	72	216	#14 AWG	-5	3	525	MIL-T-24588/9

TOPSIDE: COMPOSITE BOXES





SERIES 147

15 Ft. Submersion Composite Boxes



140-060XMS-05 (NSN: 5975-01-556-7948)

4 terminal, grounded composite junction box

HEXAGONAL 4.3 X 4.8 X 2.9 INCH COMPOSITE BOX

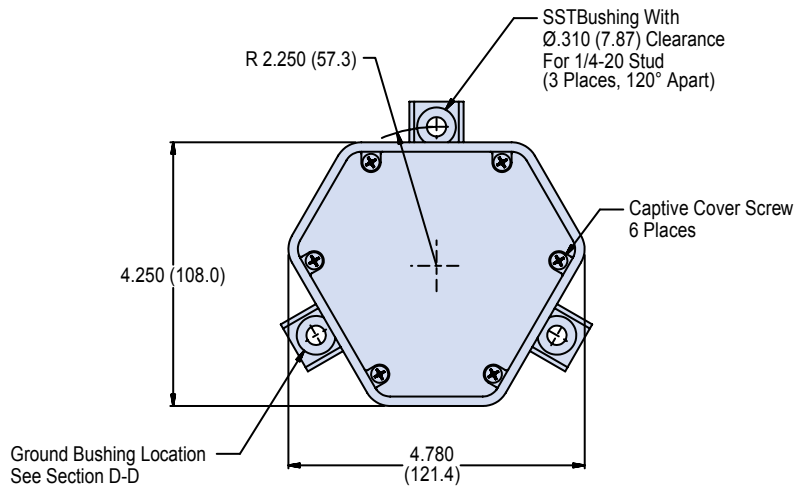
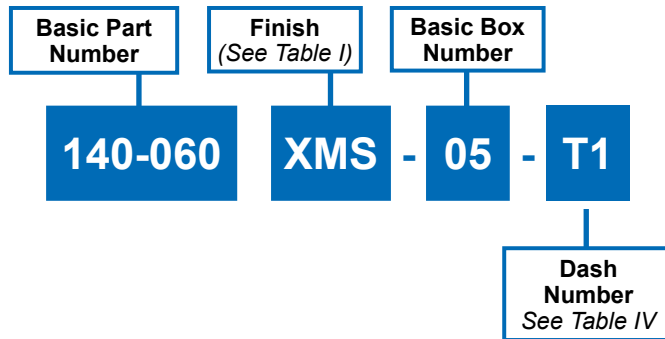
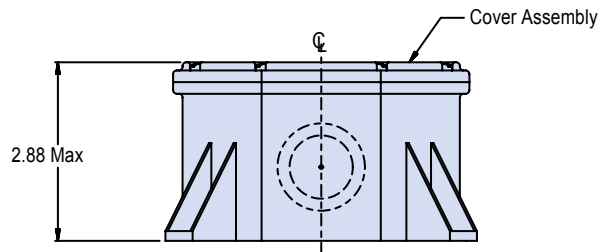


FIGURE 1 TOP VIEW



TOPSIDE: COMPOSITE BOXES





SERIES 147

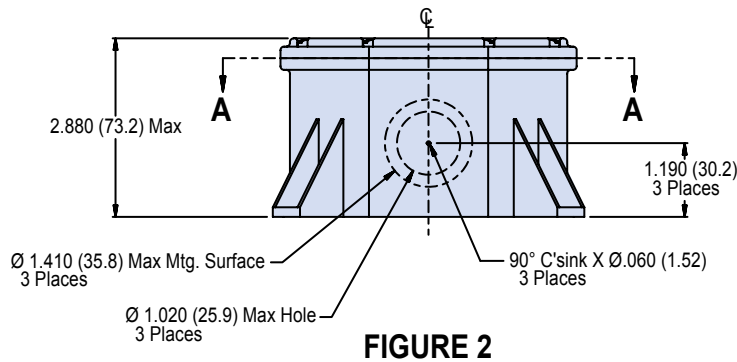
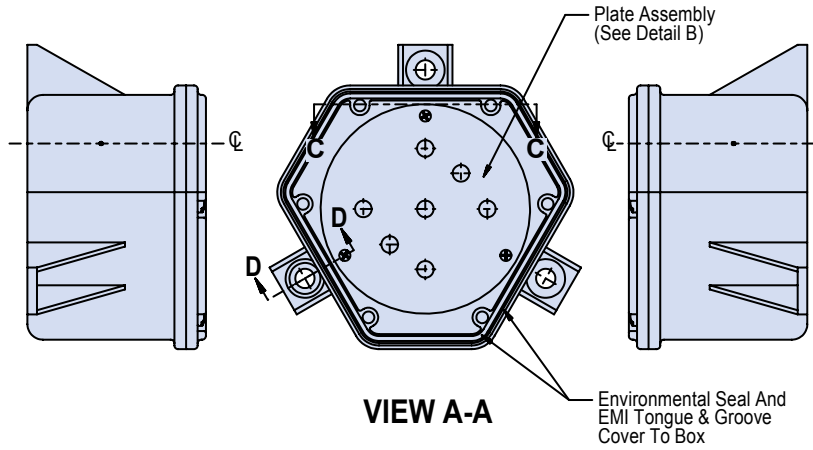
15 Ft. Submersion Composite Boxes



140-060XMS-05 (NSN: 5975-01-556-7948)

4 terminal, grounded composite junction box

HEXAGONAL 4.3 X 4.8 X 2.9 INCH COMPOSITE BOX



TOPSIDE: COMPOSITE BOXES





SERIES 147

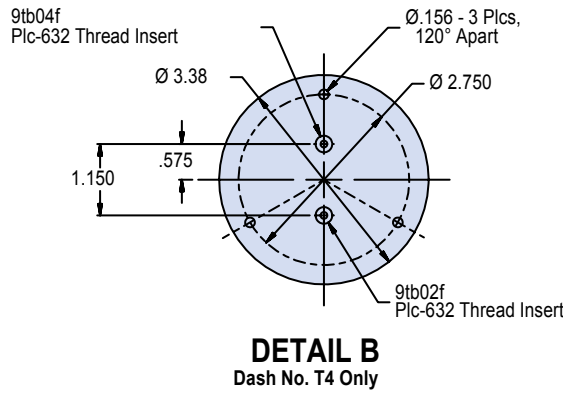
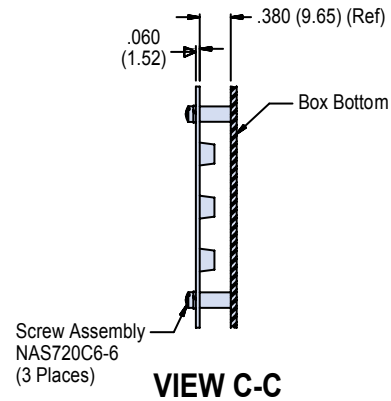
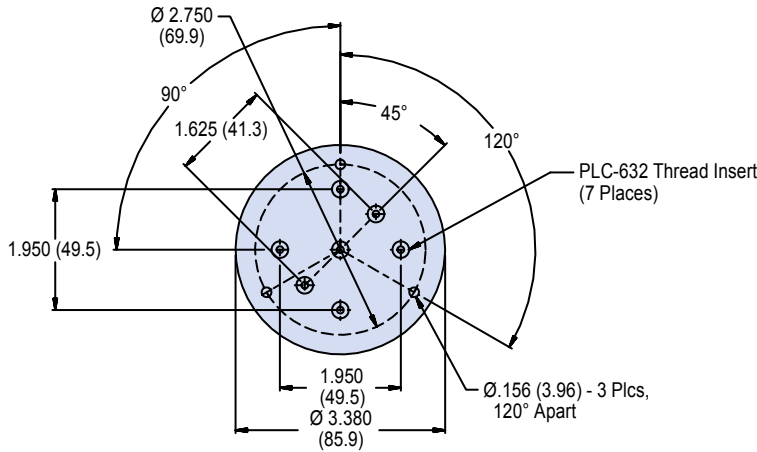
15 Ft. Submersion Composite Boxes



140-060XMS-05 (NSN: 5975-01-556-7948)

4 terminal, grounded composite junction box

HEXAGONAL 4.3 X 4.8 X 2.9 INCH COMPOSITE BOX



APPLICATION NOTES

1. Assembly identified with manufacturer's code identification number (Glenair, part number and date code).
2. Color may be subject to fading, however UV exposure will not affect material physical properties.
3. Assembly is similar to symbol part numbers and require installation in accordance with NAVSEA drawing 803-6983506.
4. Material / Finish:
 - Box, cover - Thermoplastic grey color/see Table I.
 - Hardware - 316 SST/passivate.
 - Seals and gaskets - Silicone/N.A.
 - Mounting Plate - 300 series SST/passivate.
5. Metric dimensions (mm) are indicated in parentheses.

TOPSIDE: COMPOSITE BOXES





SERIES 147

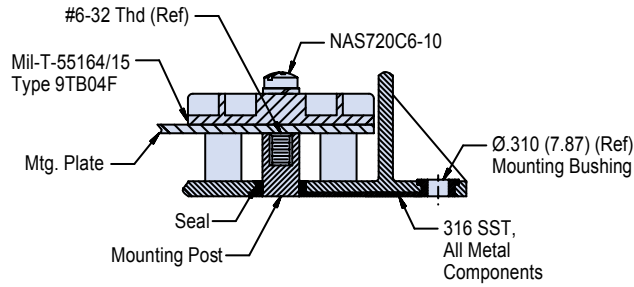
15 Ft. Submersion Composite Boxes



140-060XMS-05 (NSN: 5975-01-556-7948)

4 terminal, grounded composite junction box

HEXAGONAL 4.3 X 4.8 X 2.9 INCH COMPOSITE BOX



SECTION VIEW D-D

Terminal Block Mounting Plate, Internal Mounting Post And External Mounting Bushing (Ground Option Shown)

TABLE I: Finish

Symbol	Description
XMS	Internal Surfaces - Electroless Nickel Exterior Surfaces - Unplated Light Grey Color
XO	No Plating

TABLE II: MIL-T-55164 Terminal Block

Part Number	National Stock Number
140-060XMS-05	5975-01-556-7948
140-060XMS-05T1	5940-01-557-2579
140-060XMS-05T4	5940-01-557-2712

TABLE III: Replacement Parts

Item	Part Number	Description	Material
1	140-065XMS-14	Cover Assembly	Grey Thermoplastic
2	687-499-2	Cover Screw Assembly	316 SST/Passivate
3	687-305Z131	Mounting Plate Assembly	300 SST/Passivate

TABLE IV: Mounting Plate Assembly

Dash No.	1.950" Mntg Holes	1.625" Mntg Holes	MIL-T-55164 A-A-59125	Number of Terminals	Max No of Wires	Recm'd Max Wire Size	Recm'd Lug MS17143	Qty Blocks per Assembly	Symbol Number	Military Specification
05T1	9TB04	-	/15	4	8	#12 AWG	-	1	-	-
05T2	6TB06	-	/12	6	18	#14 AWG	-5	1	520.1	MIL-T-24588/1
05T3	25TB05	-	/23	5	10	#14 AWG	-17	1	-	-
05T4	T4 Detail	-	/15	6	12	-	-	2	400	MIL-T-24588/18

TOPSIDE: COMPOSITE BOXES





SERIES 147

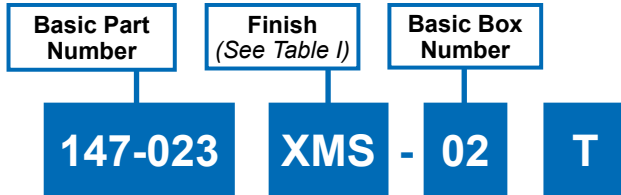
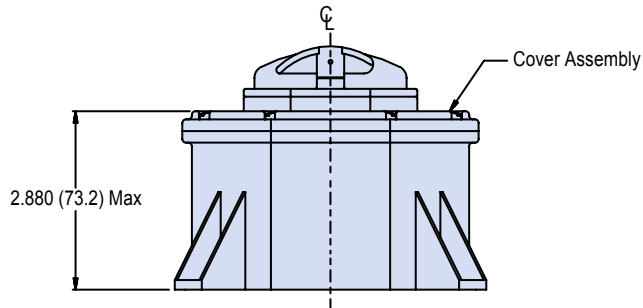
15 Ft. Submersion Composite Boxes



147-023XMS-02 (NSN: 5940-01-557-2667)

(Symbol 1099.1) grounded composite junction box

SINGLE RECEPTACLE, 15 AMP, 115 VOLT BLADE TYPE COMPOSITE BOX • SIZE 4.3 X 4.8 X 2.9



Optional Configuration
 Add "T" for MIL-T-55164/15 Terminal Block
 Omit if Not Required

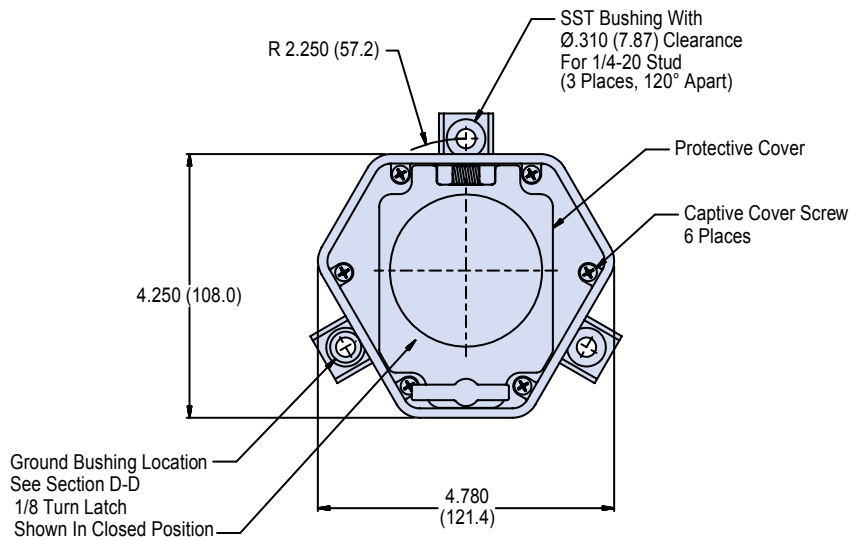
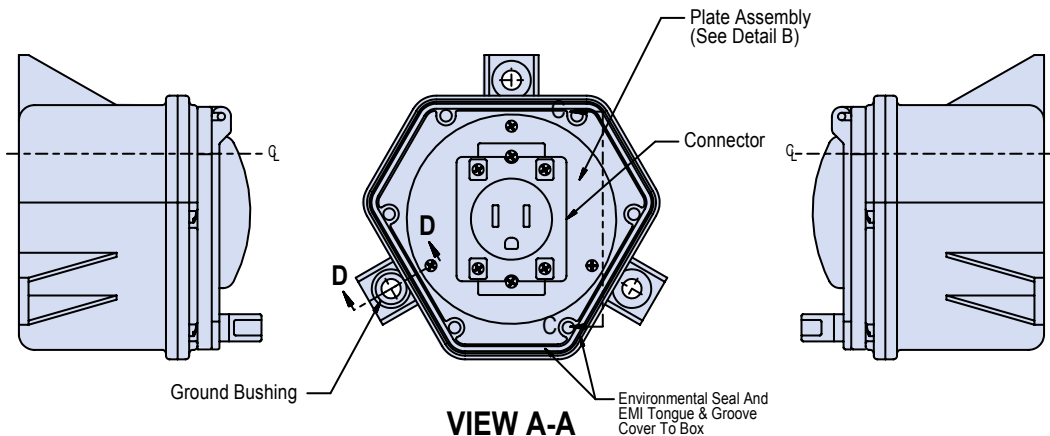


FIGURE 1 TOP VIEW



TOPSIDE: COMPOSITE BOXES





SERIES 147

15 Ft. Submersion Composite Boxes



147-023XMS-02 (NSN: 5940-01-557-2667)

(Symbol 1099.1) grounded composite junction box

SINGLE RECEPTACLE, 15 AMP, 115 VOLT BLADE TYPE COMPOSITE BOX • SIZE 4.3 X 4.8 X 2.9

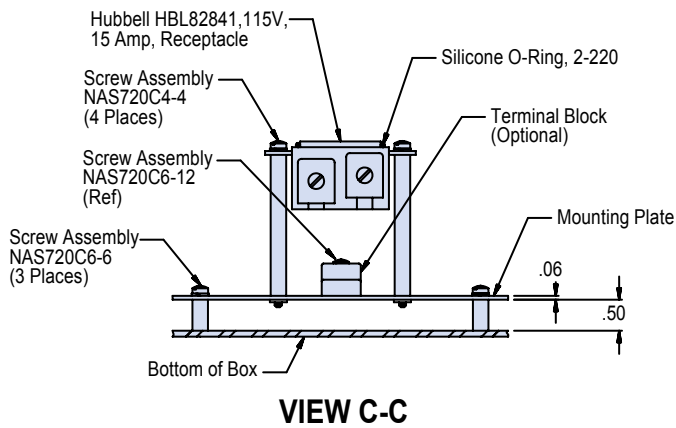
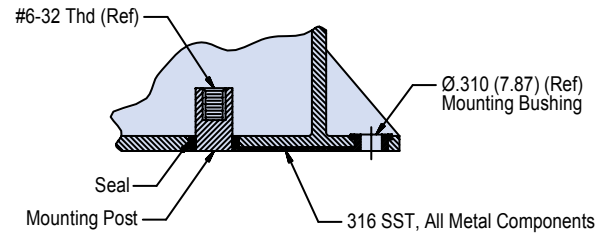
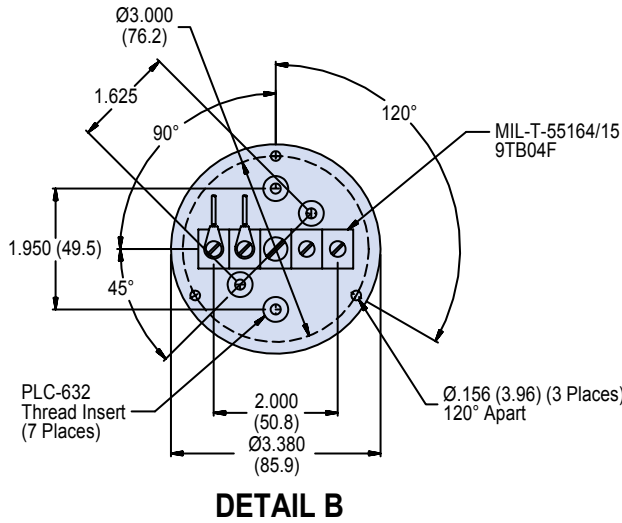


TABLE I: Finish	
Symbol	Description
XMS	Internal Surfaces - Electroless Nickel Exterior Surfaces - Unplated Light Grey Color
XO	No Plating

TABLE II: Replacement Parts			
Item	Part Number	Description	Material
1	140-065XMS-18	Cover Assembly	Grey Thermoplastic
2	687-499-2	Cover Screw Assembly	316 SST/Passivate
3	687-305Z132	Mounting Plate Assembly	300 Series SST
4	630-038XO-04K	1/8 Turn Flop Lid	Grey Thermoplastic
5	HBL8284I	Electrical Connector	N/A

APPLICATION NOTES

1. Assembly identified with manufacturer's code identification number (Glenair, part number and date code).
2. Color may be subject to fading, however UV exposure will not affect material physical properties.
3. Assembly is similar to symbol part numbers and require installation in accordance with NAVSEA drawing 803-6983506.
4. Material / Finish:
5. Box, cover - Thermoplastic grey color/see Table I.
 - Hardware - 316 SST/passivate.
 - Seals and gaskets - Silicone/N.A.
 - Mounting Plate - 300 series SST/passivate.
6. Metric dimensions (mm) are indicated in parentheses.

TOPSIDE: COMPOSITE BOXES





CONDUIT
SYSTEMS



POLYMER AND METAL-CORE Conduit Systems

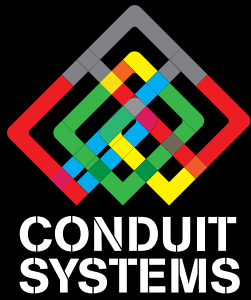
The flexible wire protection and cable routing alternative to standard jacketed cables

Conduit wire protection systems for high-reliability applications must be able to withstand extreme environments—from immersion in harsh chemicals, to temperature extremes and numerous flex cycles—without breakdown or failure. Glenair conduit systems are rigorously engineered to meet the exacting specifications of both commercial and military—geophysical and oceanographic environments.

Corrosion resistant, flexible polymer-core materials are available in a wide variety of materials to suit any application: Annular material choices include: Kynar, PVDF and G-FLEX Siltem, helical choices include ETFE, FEP, PFA, PTFE, and PEEK plus AS81914 /1 – 11 qualified materials and configurations.

Metal-core versions are specified for extreme crush resistance and optimal EMI shielding. The helically-wound metal conduit provides extremely high levels of EMI protection across all radiation fields and frequencies. Stainless steel versions are often specified for environments subject to temperature extremes such as geophysical applications.

- Hermetically sealed, flexible metal-core conduit for interconnect applications
- Lightweight, flexible helical and annular polymer-core materials and easy to install fittings, transitions and adapters
- Turnkey, factory-terminated assemblies for industrial applications



SERIES 72, 73 AND 74 Convolved Tubing and Conduit

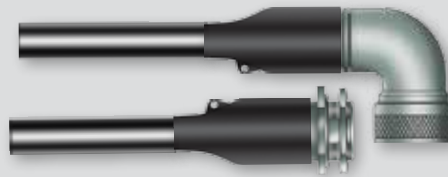


Wire protection conduit and cable routing fittings selection guide

SERIES 72 CONVOLUTED TUBING PRODUCT SELECTION GUIDE



Convolved Tubing



Factory Terminated Assemblies



Sentry system



Easy-to-Install Guardian system

SERIES 74 CONVOLUTED TUBING PRODUCT SELECTION GUIDE



Helical Convolved Tubing



Factory Terminated Assemblies

Swivel-joint circular connector backshell



Easy Assembly Hat Trick System

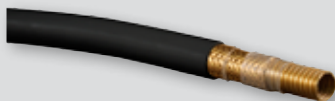


Super Durable Internal Braid System



Ultra Lightweight Composite Hummer Nut System

SERIES 75 METAL-CORE HELICALLY-WOUND CONDUIT PRODUCT SELECTION GUIDE



Metal-Core Helical-Wound Conduit



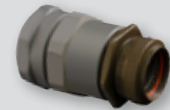
Turnkey Factory Terminated Assemblies



Low-Profile RP Plus System



Heavy-Duty Environmental Metal System



Heavy-Duty Environmental Conduit System

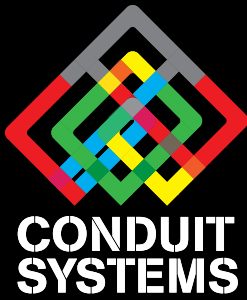
Reduce package size, weight, and labor with turnkey factory assemblies



- Glenair can design, build, terminate—and even pre-wire—turnkey conduit wire routing solutions.
- Certified factory assemblers and calibrated tooling create better-performing systems.
- Simple point-to-point or complex multi-branch.

TOPSIDE: CONDUIT SYSTEMS





SERIES 72 Annular Polymer-Core Conduit Systems

Economical wire protection conduit



Standard Black and Natural/Clear Annular Tubing

Blue, Yellow, Red, Desert Tan, and Orange Annular Polymer-Core Tubing

- Lightweight, flexible polymer-core materials and easy to install fittings, transitions and adapters
- Choice of three tubing material choices: Kynar, PVDF and G-FLEX Siltem
- Choice of turnkey, factory-terminated assemblies or user-installable configurations



Compact Environmental Sentry System

Easy-to-Install Guardian System

High-performance annular convoluted tubing provides an economical, lightweight and durable enclosure for interconnect wiring

TOPSIDE: CONDUIT SYSTEMS

Part Number
120-144



For non-environmental and non-EMI/RFI applications

Strong, abrasion resistant annular conduit tubing, supplied in thermally stabilized Kynar®, PVDF, or medium duty Siltem. Available in 7 colors, standard or slit.

Part Number
121-190



For non-environmental EMI/RFI applications

Annular conduit tubing with braided shield for EMI/RFI protection and additional structural integrity, particularly pull (tensile) strength.

Part Number
121-191



For environmental EMI/RFI applications

Annular conduit tubing with braided shielding for EMI/RFI protection and a ruggedized jacket for environmental protection against dust, dirt, and moisture incursion.

Part Number
121-192



For non-environmental EMI/RFI applications with high dB shielding requirements

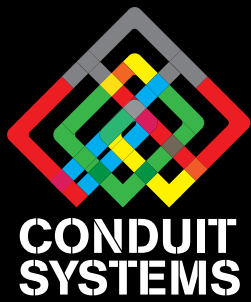
Annular conduit tubing with double braided shield for high frequency EMI/RFI protection and mechanical strength.

Part Number
121-193



For environmental EMI/RFI applications with high dB shielding requirements

Annular conduit tubing with double braided shield and jacket for optimum EMI/RFI protection, strength and environmental sealing.



SERIES 74 Helical Polymer-Core Conduit Systems



High-performance/high-temperature conduit



Easy Assembly
Hat Trick
System



Super Durable
Internal Braid
System



Ultra Lightweight
Composite AeroLite
System

- Lightweight, flexible helical polymer-core materials and easy to install fittings, transitions and adapters
- Choice of five materials: ETFE, FEP, PFA, PTFE, and low-smoke, halogen-free PEEK
- Choice of turnkey, factory-terminated assemblies or user-installable configurations
- All popular part numbers in stock and ready for same-day shipment

Series 74 High-performance helical convoluted tubing, backshells, fittings and assemblies

Part Number
120-100



Outstanding mechanical wire protection and lubricity for non-environmental and non-EMI/RFI applications

Helical plastic convoluted tubing, available in a choice of 5 materials. Choose standard black or clear color.

Part Number
121-101



Adds EMI/RFI braided shielding for use in non-environmental applications

Helical plastic convoluted tubing, available in a choice of 5 materials, with a single braided shield for EMI/RFI protection.

Part Number
121-102



Adds a second layer of high dB EMI/RFI shielding for use in non-environmental applications

Helical plastic convoluted tubing, available in a choice of 5 materials, with double braided shield for high frequency shielding applications.

Part Number
121-100



A jacketed configuration with one EMI/RFI shield for use in environmental applications

Helical plastic convoluted tubing, available in a choice of 5 materials, with braided shielding for EMI/RFI protection and a ruggedized jacket for environmental protection.

Part Number
121-103



Double-braided and jacketed configuration for environmental and high dB EMI/RFI shielding protection

Helical plastic convoluted tubing, available in a choice of 5 materials with double shielding and jacket for optimum EMI/RFI protection and environmental sealing.

Part Number
123-100



For environmental applications without EMI shielding requirements

Helical convoluted tubing in choice of 5 materials with a ruggedized jacket for environmental protection.

Part Number
121-195

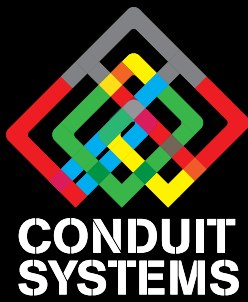


Internal braid configuration for harsh chemical environment applications, with EMI/RFI shielding

Chemical- and UV-resistant plastic conduit tubing with internal braid for weight savings and harsh-environment EMI/RFI protection.

TOPSIDE: CONDUIT SYSTEMS





SERIES 75 Helical Metal-Core Conduit Systems

Crush-resistant and hermetically sealed



Copper-clad nickel iron conduit

- Hermetically sealed, flexible metal-core conduit for interconnect applications
- Choice of three materials: Brass, Stainless Steel, and Nickel Iron Alloy
- Turnkey, factory-terminated assemblies
- All materials deliver superior EMC performance as well as crush resistance and environmental sealing

The ultimate in highly flexible, crush-proof EMI/RFI protection: Series 75 helically-wound metal-core conduit

TOPSIDE: CONDUIT SYSTEMS

Part Number
750-190



Superior EMI protection and crush-proof strength for static applications

Highly flexible crush-proof metal conduit, available in Nickel-Iron, Brass, or SST.

Part Number
750-191



Adds braided shielding for additional tensile strength applications

Flexible metal-core conduit tubing with numerous braided shielding options, for additional tensile strength and effective grounding of electromagnetic interference.

Part Number
750-192



Adds a jacket for environmental protection

Flexible metal-core conduit tubing with braided shielding plus a ruggedized jacket for environmental protection against contaminants and moisture.

Part Number
750-193



Adds a second braided shield for high dB EMI/RFI shielding

Flexible metal-core conduit tubing with double braided shield for high frequency EMI/RFI shielding requirements.

Part Number
750-194



A jacketed, double-braided configuration for combined environmental and EMI/RFI applications with high dB shielding requirements

Flexible metal-core conduit tubing with double braided shield and jacket for optimum EMI/RFI protection, strength and environmental sealing.

Part Number
750-195



Triple-braided conduit for predictable and reliable grounding of surface-borne/high frequency electromagnetic interference

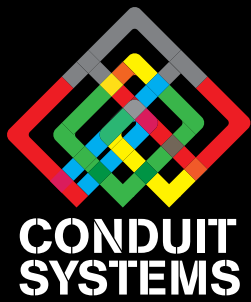
Flexible metal-core conduit tubing with triple braided shield for optimal tensile strength and enhanced high frequency EMI/RFI protection.

Part Number
750-196



Triple-braided and jacketed conduit for maximum EMI shielding in environmental applications

Flexible metal-core conduit tubing with triple braided shield and jacket for enhanced high-frequency EMI/RFI protection, strength and environmental sealing.



TECHNICAL DATASHEET
Duraelectric™ Jacketing
High-Performance Elastomeric Material
 Conduit and cable applications



Duraelectric™ is high-performance elastomeric material for use as wire insulation, conduit jacketing, cable/conduit overmolding, cable jacketing and molded boots.

Perfectly suited for immersion, chemical or caustic fluid exposure, temperature extremes, UV radiation and more.

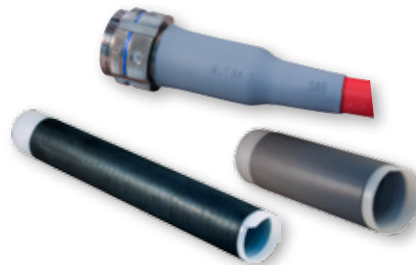
NOTABLE ATTRIBUTES

- Service temperature range: -65°C to 225°C
- Duraelectric™ K (Kelvin) range: -110° to 225°C
- Fire-resistant, Low Smoke-Zero Halogen (LSZH)
- Mil-aero and industrial fluid-resistant
- Accelerated UV/sunlight resistant, 53 year equivalent exposure
- Ozone resistant IAW ASTM D518
- Moldable and extrudable

DURALECTRIC™ HIGH-TEMPERATURE, HALOGEN-FREE, CHEMICALLY RESISTANT JACKETING



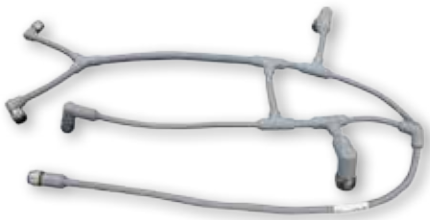
Bulk jacketed Duraelectric™ cable for harsh-environment power applications



Duraelectric™ Autoshrink™ employed in environmental boots and sleeves



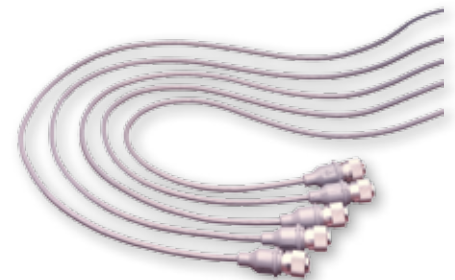
Duraelectric™ jacketing employed as conduit covering in topside naval applications



Aerospace overmolded cable assembly with rugged Duraelectric™ jacketing



Shipboard application with Duraelectric™ jacketing and overmolding



Duraelectric™ jacketing employed in environmental commercial application



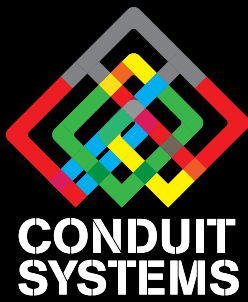
TurboFlex® with Duraelectric® jacketing ideally suited for equipment grounding



Turboflex® power pylon cable assembly with Duraelectric™ jacketing

TOPSIDE: CONDUIT SYSTEMS





TECHNICAL DATASHEET
Duraelectric™ Cable Jacketing
High-Performance Elastomeric Material
Performance specifications



Duraelectric™ is a high-performance elastomeric material for use as wire insulation, cable jacketing, conduit jacketing, cable/conduit overmolding, and molded boots.

NOTABLE ATTRIBUTES

- **Service Temperature Range: -65°C to 225°C**
- **Fire Resistant and Low Smoke-Zero Halogen (LSZH)**
- **Resistant to common aerospace, military and industrial fluids**

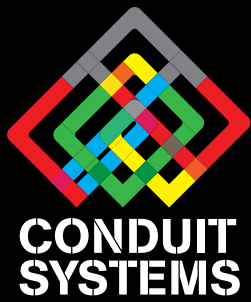
Duraelectric™ Physical Properties		
Property	Typical Result	Test Method
Hardness, Shore A	60	ASTM D2240
Tensile Strength, psi	1100	ASTM D412
Elongation, %	500	ASTM D412
Tear Strength, Die B, ppi	150	ASTM D624
Low Temperature Impact at -65°C	Pass/No Cracks	ASTM D2137
Accelerated UV/Sunlight Resistance, 53 Year Equivalent Exposure	Pass/Excellent	IEC 60068-2-5
Ozone Resistance	Pass/No Cracks	ASTM D518
Zero Halogen	Pass	IEC 754-1

Duraelectric™ Electrical Properties		
Property	Typical Result	Test Method
Dielectric Strength, kV/mm	19	ASTM D419
Comparative Tracking Index, VAC	> 600	ASTM D3638

Duraelectric™ Fire Resistance Properties	
Property	Typical Result
Flammability	
Oxygen Index, %	45
FAR 25.853, 12 Second Vertical	Pass
BSS7230 Method F2	Pass
IEC60614-1	Pass
EN60695-2-12, 850°C Glow-Wire	Pass
UL1685 FT4/IEEE1202	Pass
Smoke Density	
BSS7238	Pass
NES 711	Pass
EN 60695-2-11	Pass
UL1685 FT4/IEEE1202	Pass
Combustion Toxicity	
BSS7239	Pass
NES 713	Pass
SMP800 C	Pass

TOPSIDE: CONDUIT SYSTEMS





TECHNICAL DATASHEET

Duralectric™ Cable Jacketing
High-Performance Elastomeric Material
Performance specifications



Duralectric™ Fluid Resistance MIL-STD-810G, Method 504, Procedure II	
A-A-52624A Type I and Type II	MIL-L-23699 Gas Turbine Engine Oil
Amerex AFFF Fire Extinguishing Foam	MIBK
AMS 1432 Potassium Acetate De-Icer	Polyalphaolefin (PAO)
AMS 1450A Insecticide	Propylene Glycol Antifreeze
Calla 855 Aircraft Cleaner	Pyrethrum-based Insecticides
CBRN/NBC Washdown*	R-134 Refrigerant
Coolanol 25R Silicate Ester Fluid	Royco 500 Gas Turbine Engine Oil
E36 Runway De-Icer	Royco 756 Hydraulic Fluid
Ethylene Glycol Antifreeze	Skydrol 5
Isopropyl Alcohol	Skydrol 500 B-4
JP-8	Skydrol LD-4
MIL-C-85570 Aircraft Cleaner	Supertropical Bleach (STB)*
MIL-C-87252 Coolant	TT-I-735
MIL-H-5606 Hydraulic Fluid	Water
*Tested in accordance with TOP-8-111 Duralectric™ is not recommended for continuous immersion in petroleum based fuels, solvents, crude oil, or Type V phosphate ester fluids.	

IMPORTANT NOTE

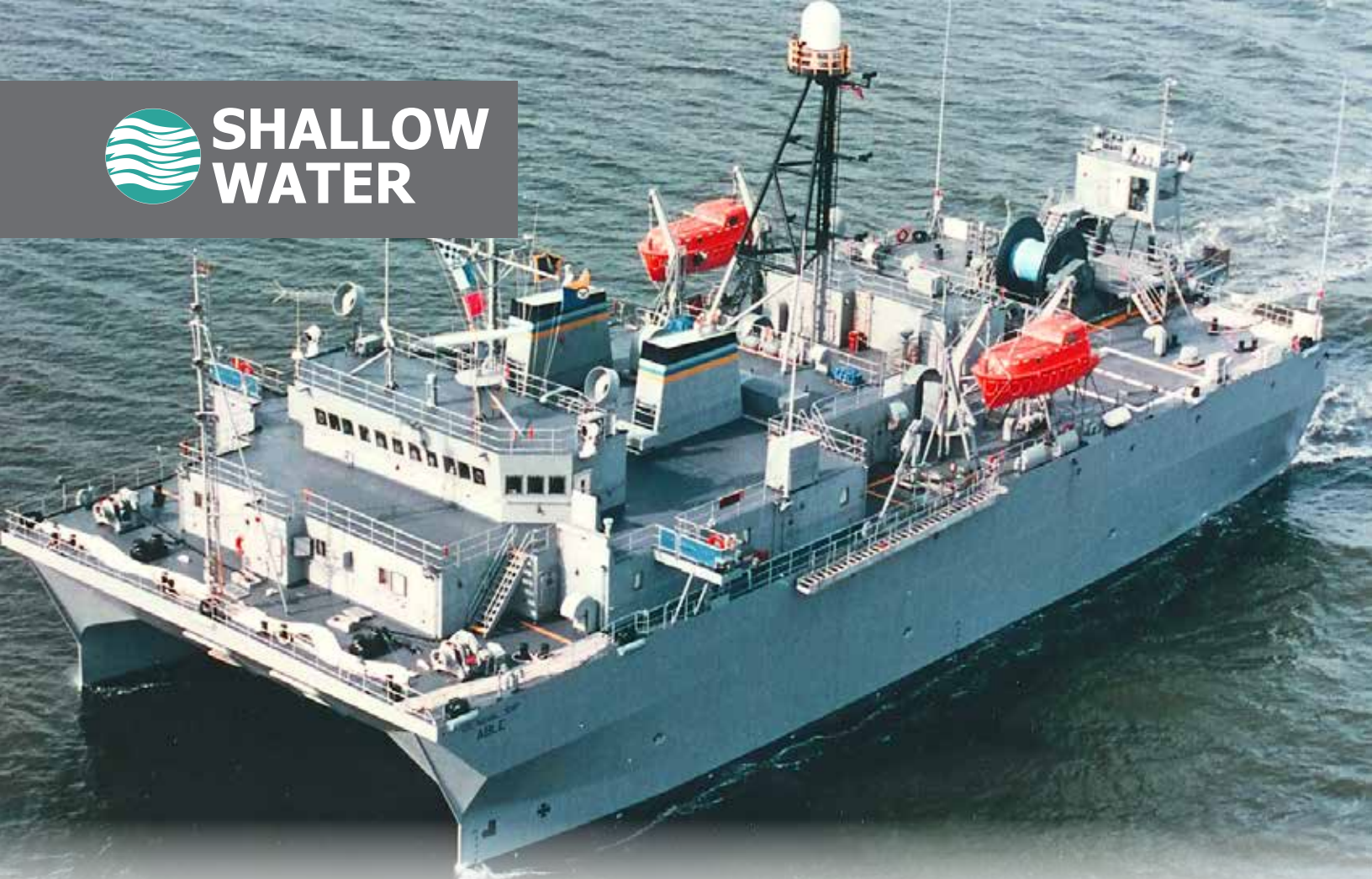
Data generated in accordance with prevailing national and international test standards and should be used only for material comparison. Actual property values are highly dependent on part geometry, mold configuration, and processing conditions. Please contact the factory to discuss the use of Duralectric™ in specific applications or environments.

TOPSIDE: CONDUIT SYSTEMS





**SHALLOW
WATER**



PROVEN PERFORMANCE

AquaMouse™ and Geo-Marine® Submersible Connectors and Cables for Towed Array and other Littoral Zone Applications

Piston O-ring and hermetically sealed interconnect technologies with marine-grade stainless steel and Marine Bronze materials for power, signal, and high-speed applications



SHALLOW WATER SUBSEA CONNECTORS



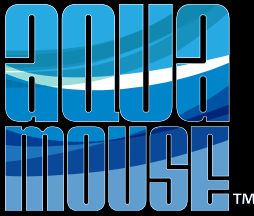
AquaMouse 3500 PSI miniature connectors

AquaMouse™ - Page 1



Geo-Marine 5000 PSI connectors

Geo-Marine® - Page 56



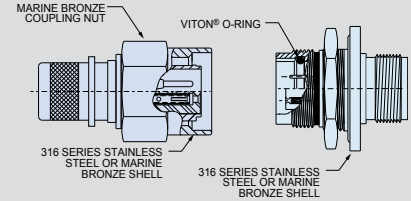
SERIES 80 2400M / 3500 PSI
Ultraminiature Subsea Connectors
 Product selection guide



SERIES 802 REFERENCE MATERIAL

Materials, contact arrangements and performance specifications

Page 2



802-008 AND 802-009 PLUGS

AquaMouse™ plugs are available with integral molding/banding platform for direct attachment of cable shield and overmolds without the need for an adapter. Or choose plugs with rear accessory thread for attachment of cable sealing backshells. Crimp contacts are packaged with connectors.



Page 34

802-010 AND 802-011 RECEPTACLES

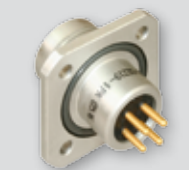
Jam nut, in-line and flange connector receptacle versions available. Integral shield termination platform can be used for overmolding, or select accessory threads for attachment of backshells or strain reliefs. Contacts are crimp-type and are packaged with the connector.



Page 36

802-012 AND 802-030 RECEPTACLES WITH PCB OR SOLDER CUP TERMINATION

These panel mount connectors feature gold plated, factory-installed PC tail contacts or solder cup contacts. Contacts are non-removable. Connectors are backfilled with epoxy potting compound.



Page 40

802-013 HERMETIC RECEPTACLES WITH PCB OR SOLDER CUP TERMINATION

These stainless steel, glass-sealed connectors are available with solder cup or PC tail contacts. Choose jam nut, square flange or weld mount versions. Contacts are gold plated iron alloy. 100% tested to meet 1×10^{-7} cc/sec helium leakage. Open face pressure rating 1000 PSI.



Page 44

802-030 BULKHEAD FEED-THRU

These stainless steel, glass-sealed connectors are available with solder cup or PC tail contacts. Choose jam nut, square flange or weld mount versions. Contacts are gold plated iron alloy. 100% tested to meet 1×10^{-6} cc/sec helium leakage. Open face pressure rating 1000 PSI.



Page 49

SERIES 802 CORDSETS

Three material overmold options available. Low smoke zero-halogen polyurethane offers excellent abrasion and chemical resistance. Polyamide overmold, perfect for medium duty low pressure applications, or thermoset polyurethane overmold for maximum performance and 2500 PSI rating.



Page 51

SERIES 802 ACCESSORIES

Replacement flange gaskets, O-rings and piston rings IP68 rated, plug and receptacle protective covers 3500 PSI rated, plug and receptacle protective covers



Page 55

SUBSEA SHALLOW WATER: AQUAMOUSE™





SUBSEA/SHALLOW WATER: AQUAMOUSE™

SERIES 802

AquaMouse

Ultraminiature High-pressure

Originally developed for petroleum pipeline inspection equipment, Series 802 connectors are available in ten sizes from 1 to 130 contacts and equipped with Viton® O-rings to withstand exposure to corrosive chemicals and high temperature environments. These connectors feature high density crimp Mighty Mouse inserts, 316 stainless steel or marine bronze shells and a piston O-ring for hydrostatic sealing. Series 802 insulated wire, panel mount receptacles can be ordered as square flange, in-line or jam-nut versions. Choose integral shield termination platform or accessory thread for use with a variety of strain relief options. Crimp style gold-plated crimp contacts accept #12-30 wire. Connectors are backfilled with epoxy potting compound. Hermetic glass-sealed connectors come with solder cup contacts (non-removable) or PC tails. 100% tested to meet 1 x 10⁻⁷ cc/sec helium leakage. Mated pressure rating 3500 PSI.

- 1000 PSI open face pressure rated
- High-temperature and corrosive chemical-resistant Viton® or Nitrile O-rings
- Ultraminiature #23 contacts
- Size #20, #20HD, #16, #12, #8 signal, power, fiber optic and shielded contacts
- Discrete connectors and turnkey cable assemblies

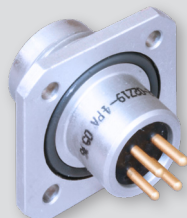
AQUAMOUSE CONNECTOR CONFIGURATIONS AND CLASSES



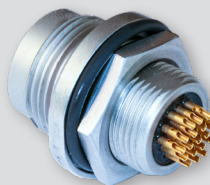
Series 802 Plugs



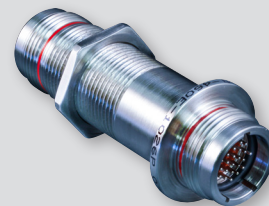
Series 802 Jam Nut Mount



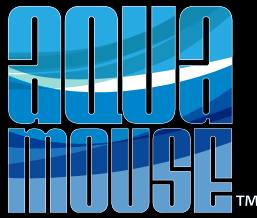
Series 802 Square Flange Receptacle



Series 802 Hermetic



Series 802 Hermetic Bulkhead Feed-Thru

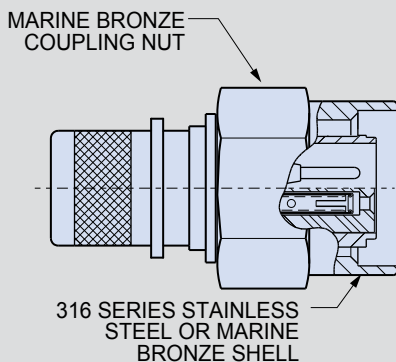


SERIES 802 2400M / 3500 PSI
Ultraminiature Subsea Connectors

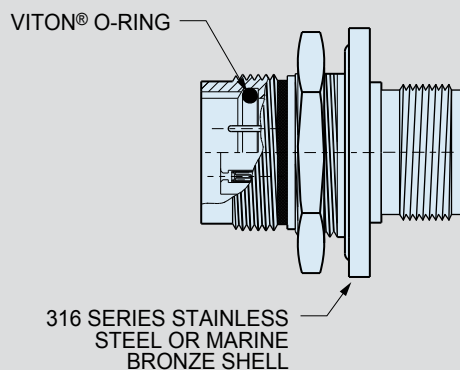


Series 802 AquaMouse™
Performance specifications and material and finish

Glenair Series 802 AquaMouse™ Delivers High-Pressure Sealing and Rugged Design in a Miniature Package



Series 802 Plug



Series 802 Receptacle

Stainless Steel or Marine Bronze

Available in ten sizes from 1 to 130 contacts, Series 802 connectors feature 316 stainless steel or marine bronze shells. Viton® o-rings resist high temperature and corrosive chemicals.

3500 psi

These connectors withstand up to 3500 PSI hydrostatic pressure in a mated condition. Hermetic versions withstand 1000 PSI open face pressure.

SUBSEA SHALLOW WATER: AQUAMOUSE™

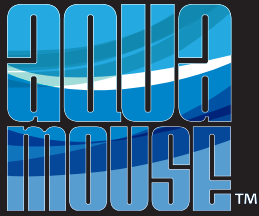


AQUAMOUSE SPECIFICATIONS AND PLUG KEY POSITIONS

Series 802 Plug Key Positions		
Key Position	Key Rotation	
	A°	B°
Normal (A)	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	9°	210°

Performance Specifications	
Current Rating	#23–5 A, #20–7.5 A, #16–13 A, #12–23 A
Dielectric Withstanding Voltage	#23–750 VAC, #20HD–1000VAC, #16 and #12–1800 VAC
Insulation Resistance	5000 megohms minimum
Operating Temperature	-65° C. to +175° C.
Hydrostatic Pressure	3500 PSI mated, 1000 PSI open face (hermetic)
Shock	300 g.
Vibration	37 g.
Durability	2000 mating cycles

Material and Finish	
Shells, Jam Nuts	316 stainless steel or marine bronze
Coupling Nuts	Marine bronze, unplated
Contacts	Copper alloy, 50 µInch gold plated. Socket hood: stainless steel, passivated. Hermetic pin contacts: Nickel-Iron alloy per ASTM-F-30, 50 µInch gold plated.
Insulators	Liquid crystal polymer (LCP), 30% glass-filled
Contact Retention Clip	Beryllium copper alloy
Interfacial Seal, O-rings	Viton Rubber
Interfacial seal, rear grommet	Fluorosilicone rubber, blue
O-rings	Viton®

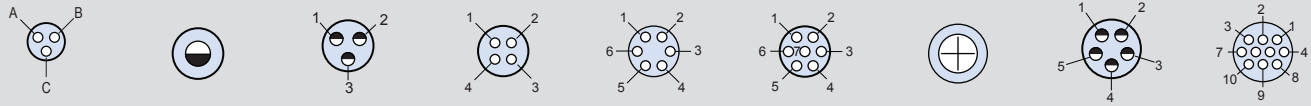


SERIES 802 2400M / 3500 PSI Ultraminiature Subsea Connectors

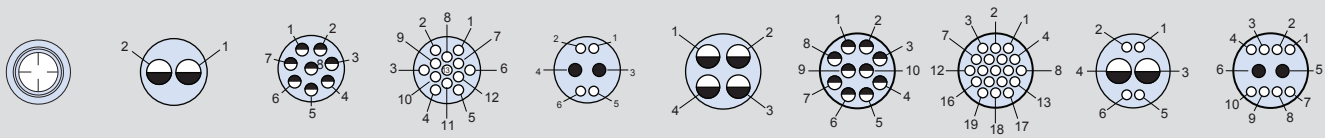
Contact arrangements



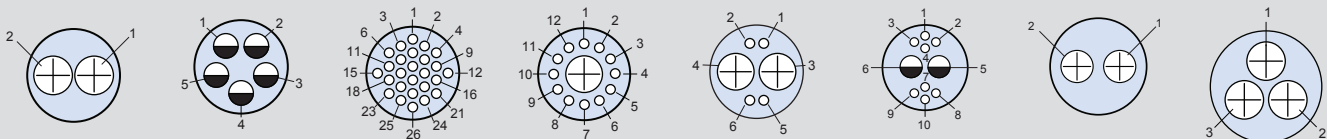
SUBSEA/SHALLOW WATER: AQUAMOUSE™



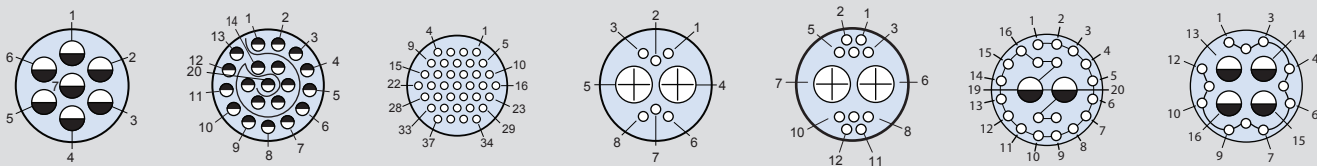
Shell Size 5		Shell Size 6				Shell Size 7		
5-3	6-1	6-23	6-4	6-6	6-7	7-1	7-25	7-10
3 Size #23 Contacts	1 Size #16 Contacts	3 Size #20HD Contacts	4 Size #23 Contacts	6 Size #23 Contacts	7 Size #23 Contacts	1 Size #12 Contact	5 Size #20HD Contacts	10 Size #23 Contacts



Shell Size 8					Shell Size 9				
8-1	8-2	8-28	8-13	8-200	9-4	9-210	9-19	9-200	9-201
1 Size #8 Contact	2 Size #16 Contacts	8 Size #20HD Contacts	13 Size #23 Contacts	4 Size #23 2 Size #20 Contacts	4 Size #16 Contacts	10 Size #20hd Contacts	19 Size #23 Contacts	4 Size #23 2 Size #16 Contacts	8 Size #23 2 Size #20 Contacts



Shell Size 10						Shell Size 12	
10-2	10-5	10-26	10-200	10-201	10-202	12-2	12-3
2 Size #12 Contacts	5 Size #16 Contacts	26 Size #23 Contacts	12 Size #23 1 Size #12 Contacts	4 Size #23 2 Size #12 Contacts	8 Size #23 2 Size #16 Contacts	2 Size #12 Contacts	3 Size #12 Contacts



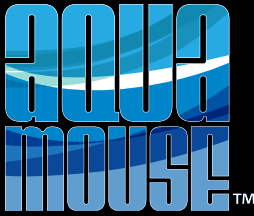
Shell Size 12						
12-7	12-220	12-37	12-200	12-201	12-202	12-203
7 Size #16 Contacts	20 Size #20HD Contacts	37 Size #23 Contacts	6 Size #23 2 Size #12 Contacts	10 Size #23 2 Size #12 Contacts	20 Size #23 2 Size #16 Contacts	12 Size #23 4 Size #16 Contacts

Standard PCB footprints begin on page 7
Hybrid PCB footprints begin on page 24

*All arrangements with #12 contacts available with keyed Twinax contacts. Use mode code -688

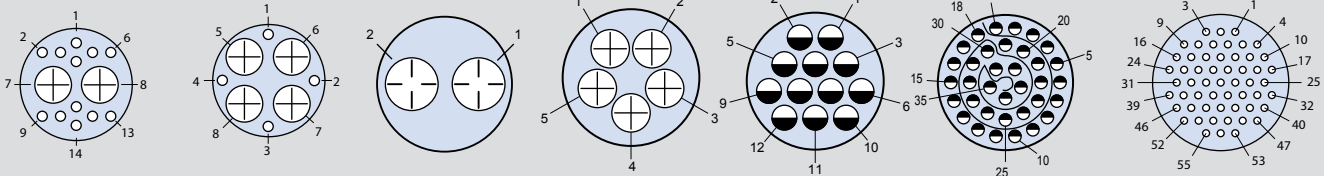
Contact Legend

#23 ◦ #20HD ◐ #20 ● #16 ◑ #12 ⊕ #8 ⊕

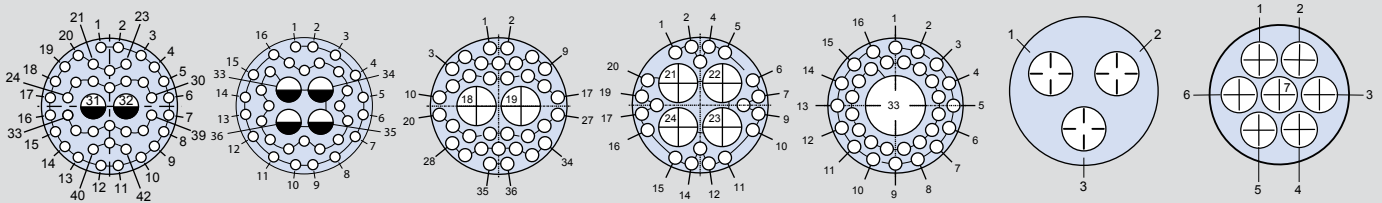


SERIES 802 2400M / 3500 PSI Ultraminiature Subsea Connectors

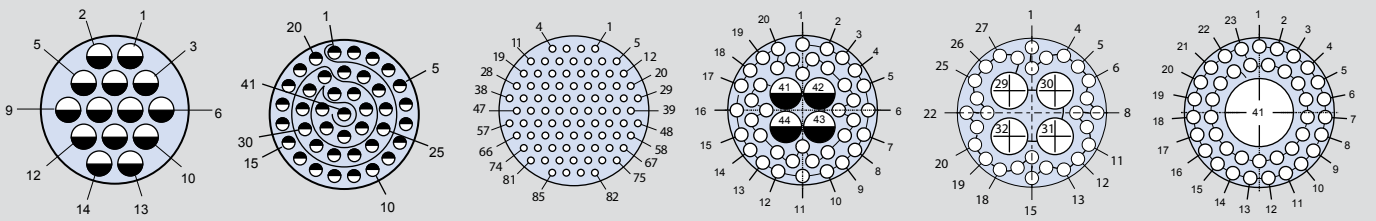
Contact arrangements



Shell Size 14						
12-204	12-205	14-2	14-5	14-12	14-235	14-55
12 Size #23 2 Size #12 Contacts	4 Size #23 4 Size #12 Contacts	2 Size #8 Contacts	5 Size #12 Contacts	12 Size #16 Contacts	35 Size #20 Contacts	55 Size #23 Contacts



Shell Size 14					Shell Size 15	
14-204	14-205	14-206	14-207	14-208	15-3	15-7
2 Size #16 40 Size #23 Contacts	4 Size #16 32 Size #23 Contacts	34 Size #23 2 Size #12 Contacts	20 Size #23 4 Size #12 Contacts	32 Size #23 1 Size #8 Contacts	3 Size #8 Contacts	7 Size #12 Contacts



15-14	15-241	15-85	15-203	15-204	15-205
14 Size #16 Contacts	41 Size #20HD Contacts	85 Size #23 Contacts	40 Size #23 4 Size #16 Contacts	28 Size #23 4 Size #12 Contacts	1 Size #8 40 Size #23

Standard PCB footprints begin on page 7
Hybrid PCB footprints begin on page 24

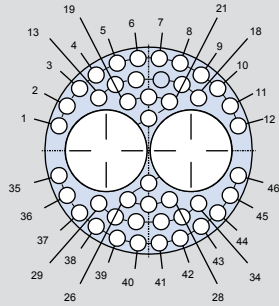
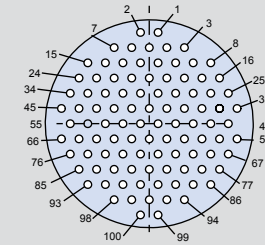
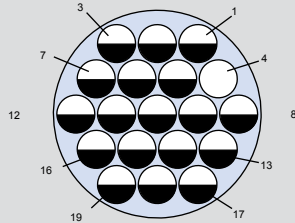
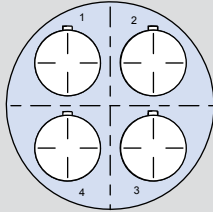
*All arrangements with #12 contacts available
with keyed Twinax contacts. Use mode code -688

Contact Legend

#23 ◯ #20HD ◯ #20 ● #16 ◐ #12 ⊕ #8 ⊕

SUBSEA SHALLOW WATER: AQUAMOUSE™





Shell Size 19

19-4

4 Size #8
Contacts

19-19

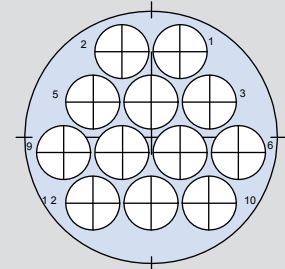
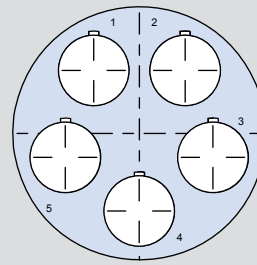
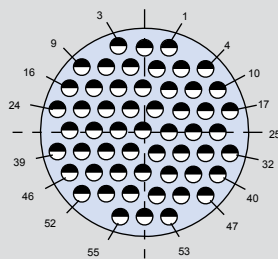
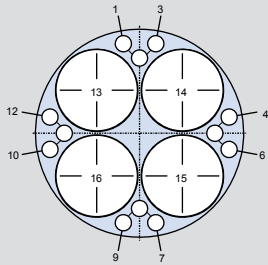
19 Size #16
Contacts

19-100

100 Size #23
Contacts

19-201

2 Size #8
44 Size #23
Contacts



Shell Size 21

19-202

4 Size #8
12 Size #23
Contacts

19-255

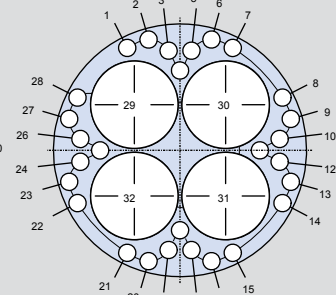
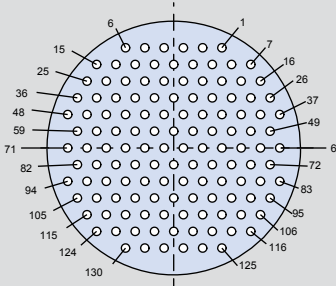
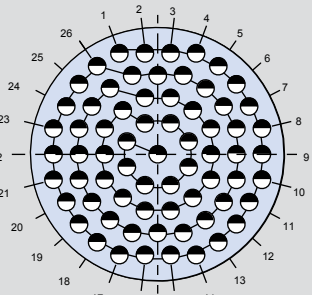
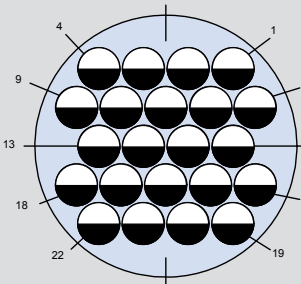
55 Size #20HD
Contacts

21-5

5 Size #8
Contacts

21-12

12 Size #12
Contacts



Shell Size 21

21-22

22 Size #16
Contacts

21-269

69 Size #20HD
Contacts

21-130

130 Size #23
Contacts

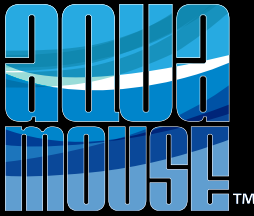
21-200

4 Size #8
28 Size #23
Contacts

Standard PCB footprints begin on page 7
 Hybrid PCB footprint layouts begin on page 24

*All arrangements with #12 contacts available
 with keyed Twinax contacts. Use mode code -688

Contact Legend
 #23 ◯ #20HD ◯ #20 ● #16 ◯ #12 ⊕ #8 ⊕



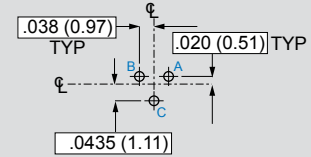
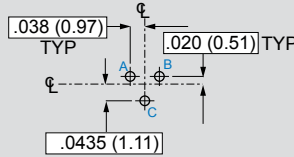
SERIES 802 2400M / 3500 PSI
Ultraminiature Subsea Connectors



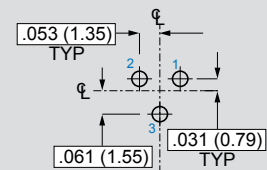
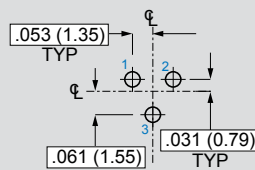
Standard PCB footprint
 Viewed from component mounting side of PCB

Contact Arrangement	Pin Connector	Socket Connector
---------------------	---------------	------------------

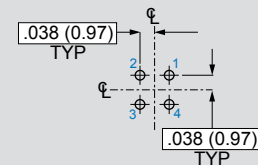
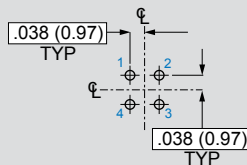
Contact Arrangement 5-3
 3 #23 Contacts
 .022 (0.56) Max. Dia. Tail



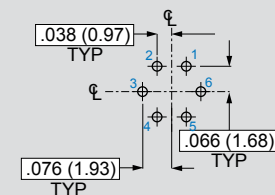
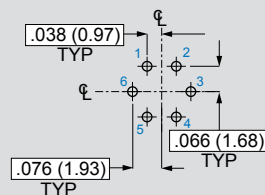
Contact Arrangement 6-23
 3 #20HD Contacts
 .028 (0.56) Max. Dia. Tail



Contact Arrangement 6-4
 4 #23 Contacts
 .022 (0.56) Max. Dia. Tail

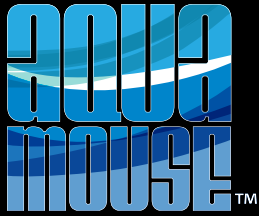


Contact Arrangement 6-6
 6 #23 Contacts
 .022 (0.56) Max. Dia. Tail



SUBSEA SHALLOW WATER: AQUAMOUSE™





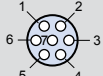
SERIES 802 2400M / 3500 PSI
Ultraminiature Subsea Connectors



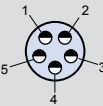
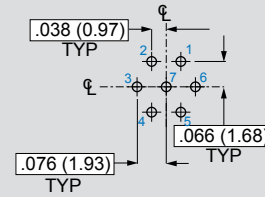
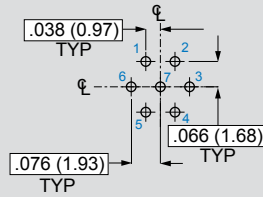
Standard PCB footprint
 Viewed from component mounting side of PCB

SUBSEA/SHALLOW WATER: AQUAMOUSE™

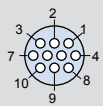
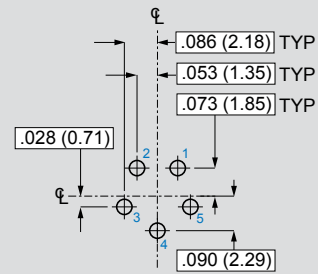
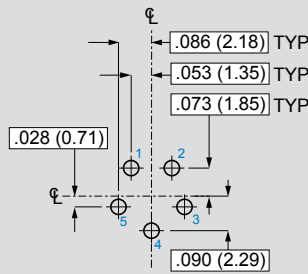
Contact Arrangement	Pin Connector	Socket Connector
---------------------	---------------	------------------



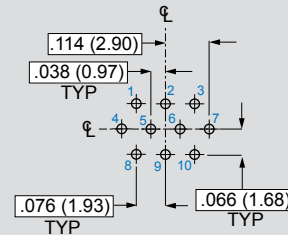
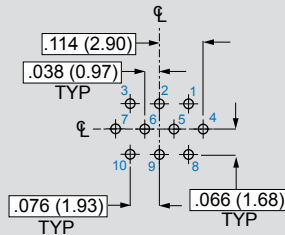
Contact Arrangement 6-7
 7 #23 Contacts
 .022 (0.56) Max. Dia. Tail



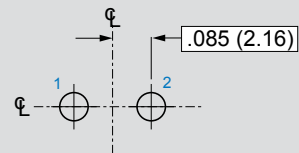
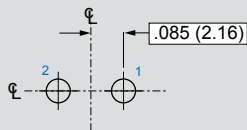
Contact Arrangement 7-25
 5 #20HD Contacts
 .028 (0.71) Max. Dia. Tail

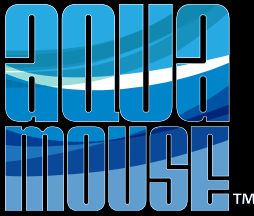


Contact Arrangement 7-10
 10 #23 Contacts
 .022 (0.56) Max. Dia. Tail



Contact Arrangement 8-2
 2 #16 Contacts
 .064 (1.63) Max. Dia. Tail



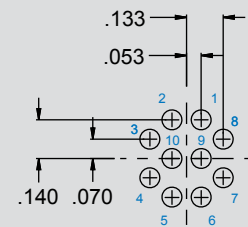
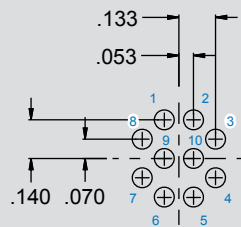
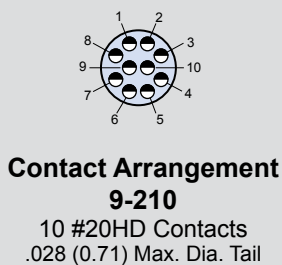
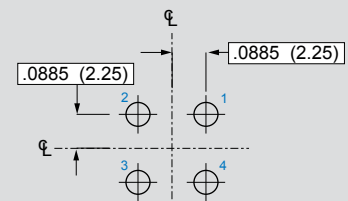
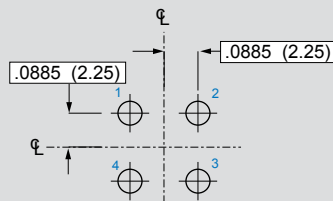
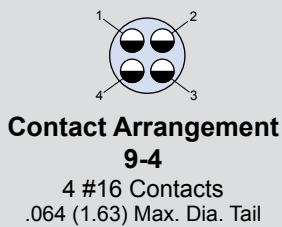
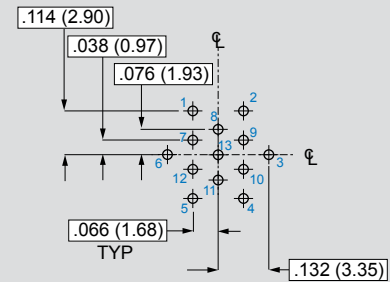
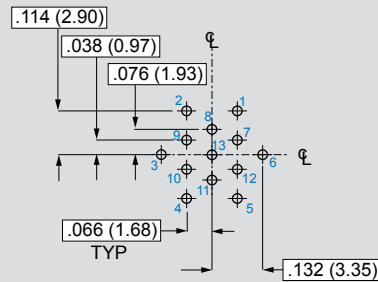
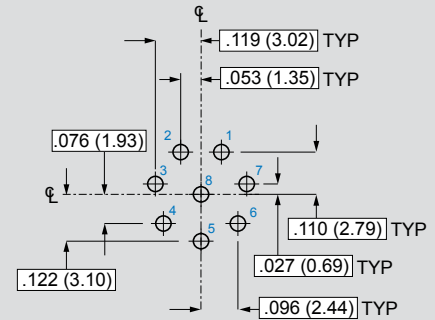
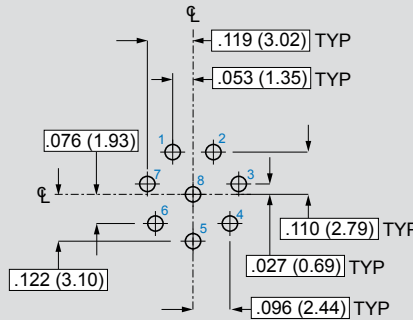
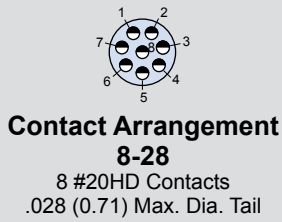


SERIES 802 2400M / 3500 PSI Ultraminiature Subsea Connectors



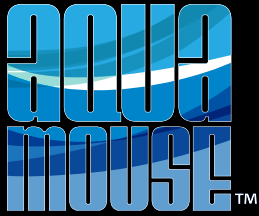
Standard PCB footprint
Viewed from component mounting side of PCB

Contact Arrangement	Pin Connector	Socket Connector
---------------------	---------------	------------------



SUBSEA SHALLOW WATER: AQUAMOUSE™





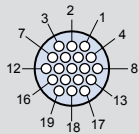
SERIES 802 2400M / 3500 PSI
Ultraminiature Subsea Connectors



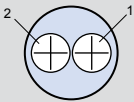
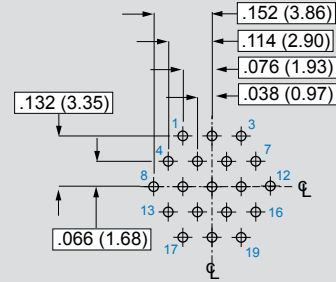
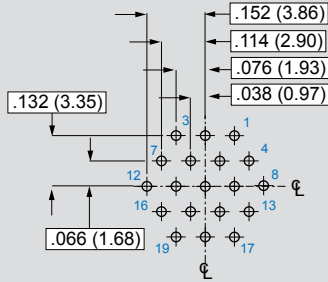
Standard PCB footprint
 Viewed from component mounting side of PCB

SUBSEA/SHALLOW WATER: AQUAMOUSE™

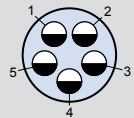
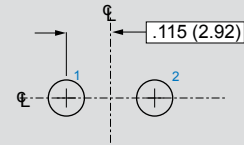
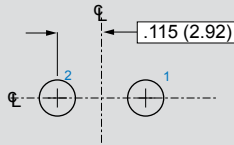
Contact Arrangement **Pin Connector** **Socket Connector**



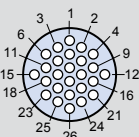
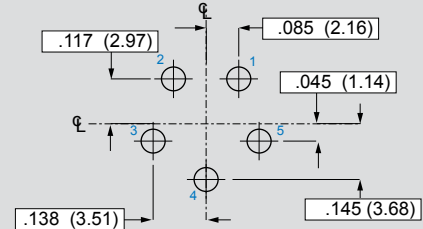
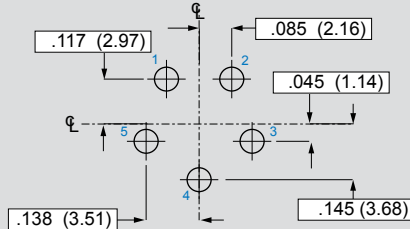
Contact Arrangement 9-19
 19 #23 Contacts
 .022 (0.56) Max. Dia. Tail



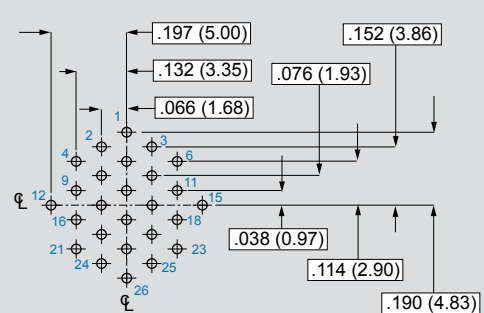
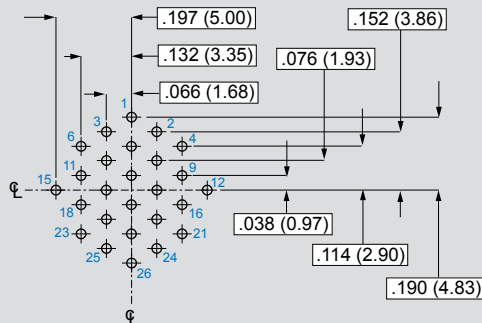
Contact Arrangement 10-2
 2 #12 Contacts
 .096 (2.44) Max Dia. Tail

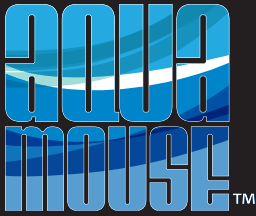


Contact Arrangement 10-5
 5 #16 Contacts
 .064 (1.63) Max. Dia. Tail



Contact Arrangement 10-26
 26 #23 Contacts
 .022 (0.56) Max. Dia. Tail



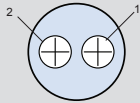


SERIES 802 2400M / 3500 PSI
Ultraminiature Subsea Connectors

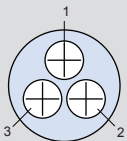
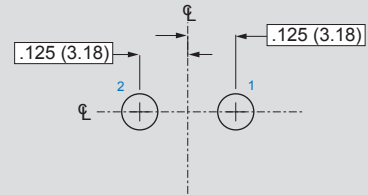
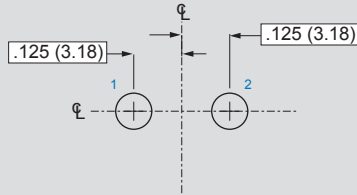


Standard PCB footprint
 Viewed from component mounting side of PCB

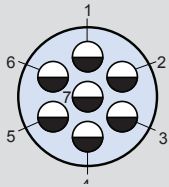
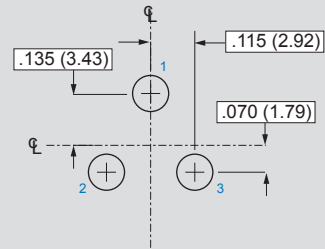
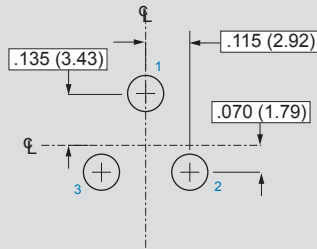
Contact Arrangement	Pin Connector	Socket Connector
---------------------	---------------	------------------



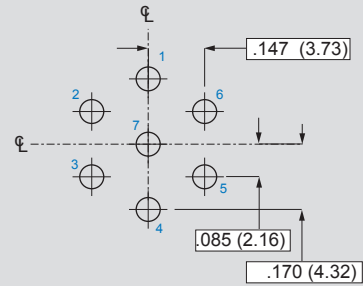
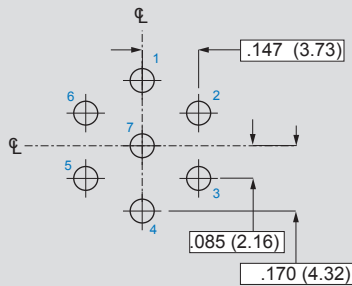
Contact Arrangement 12-2
 2 #12 Contacts
 .096 (2.44) Max Dia. Tail



Contact Arrangement 12-3
 3 #12 Contacts
 .096 (2.44) Max Dia. Tail

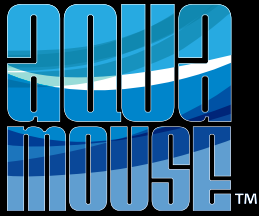


Contact Arrangement 12-7
 7 #16 Contacts
 .064 (1.63) Max. Dia. Tail



SUBSEA SHALLOW WATER: AQUAMOUSE™





SERIES 802 2400M / 3500 PSI
Ultraminiature Subsea Connectors

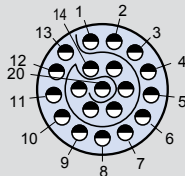


Standard PCB footprint
 Viewed from component mounting side of PCB

SUBSEA/SHALLOW WATER: AQUAMOUSE™

Contact Arrangement

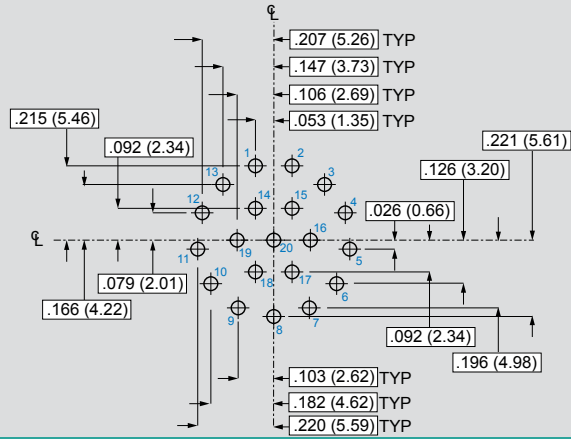
Pin Connector



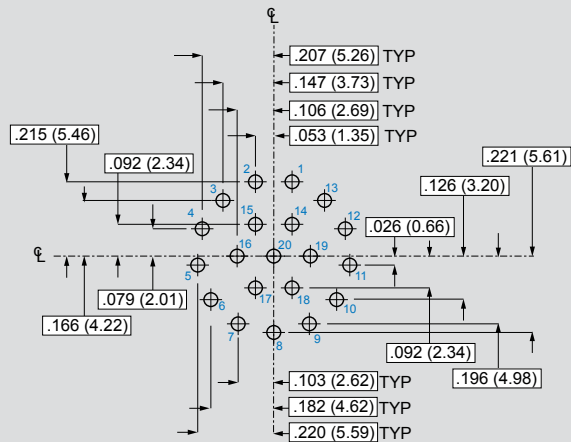
Contact Arrangement

12-220

20 #20HD Contacts
 .028 (0.71) Max. Dia. Tail



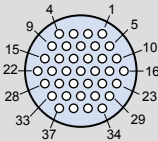
Socket Connector



Contact Arrangement

Pin Connector

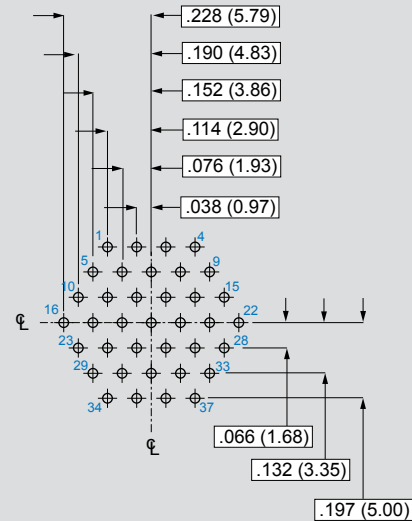
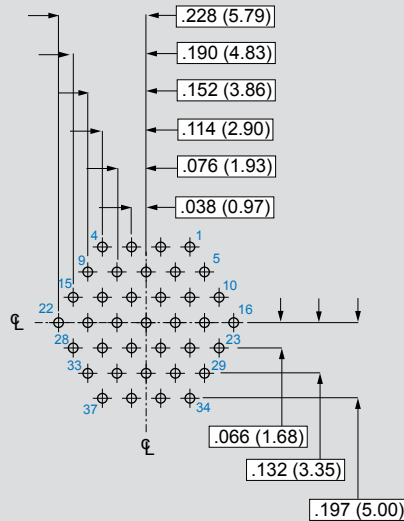
Socket Connector

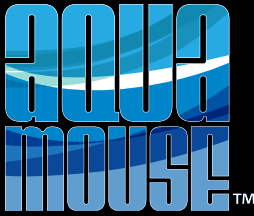


Contact Arrangement

12-37

37 #23 Contacts
 .022 (0.56) Max. Dia. Tail



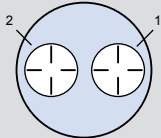


SERIES 802 2400M / 3500 PSI
Ultraminiature Subsea Connectors

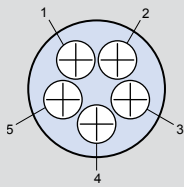
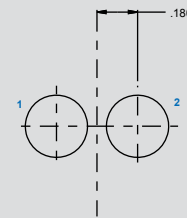
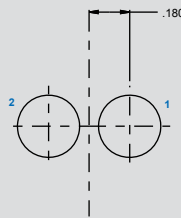


Standard PCB footprint
Viewed from component mounting side of PCB

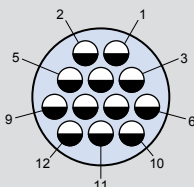
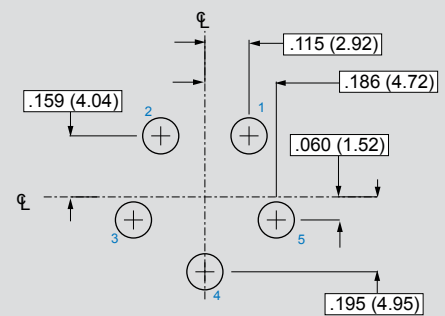
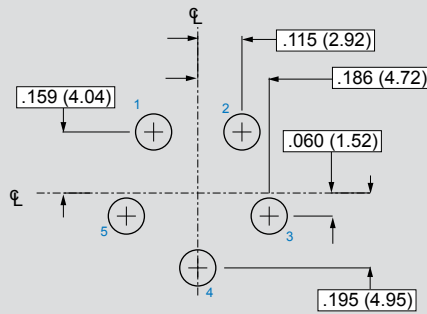
Contact Arrangement | **Pin Connector** | **Socket Connector**



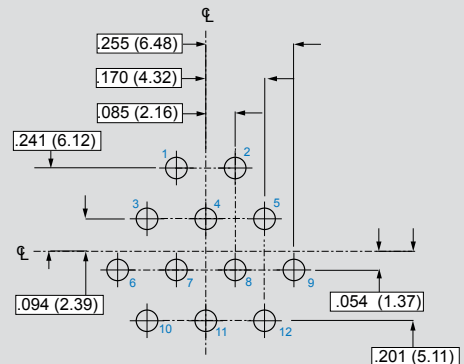
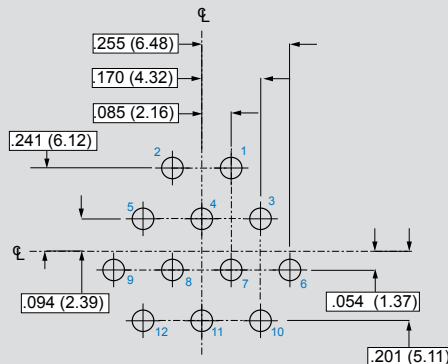
Contact Arrangement 14-2
 2 #8 Contacts
 .182 (4.62) Max Dia. Tail



Contact Arrangement 14-5
 5 #12 Contacts
 .096 (2.44) Max Dia. Tail

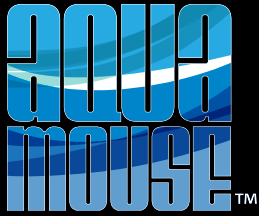


Contact Arrangement 14-12
 12 #16 Contacts
 .064 (1.63) Max Dia. Tail



SUBSEA SHALLOW WATER: AQUAMOUSE™





SERIES 802 2400M / 3500 PSI Ultraminiature Subsea Connectors

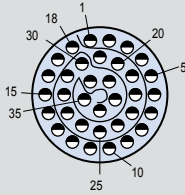
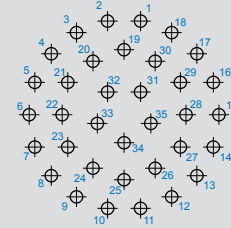
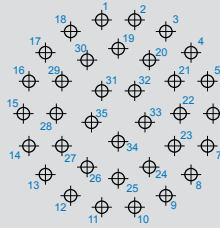


Standard PCB footprint
Viewed from component mounting side of PCB

Contact Arrangement

Pin Connector

Socket Connector

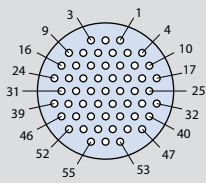


Contact Arrangement 14-235

35 #20HD Contacts
.028 (0.71) Max. Dia. Tail

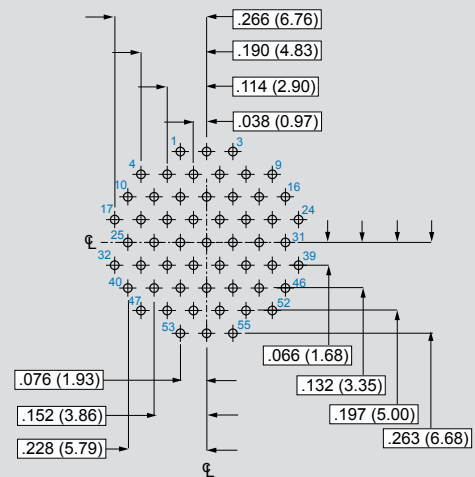
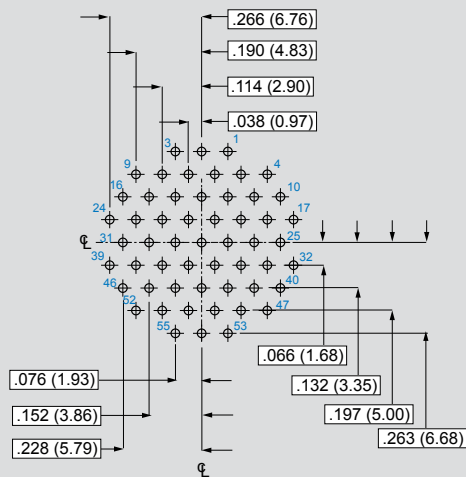
Pin No.	X		Y		Pin No.	X		Y		Pin No.	X		Y	
	In.	mm.	In.	mm.		In.	mm.	In.	mm.		In.	mm.	In.	mm.
1	-.053	-1.35	.301	7.65	13	-.234	-5.94	-.196	-4.98	25	.000	0.00	-.209	-5.31
2	.053	1.35	.301	7.65	14	-.287	-7.29	-.104	-2.64	26	-.100	-2.54	-.172	-4.37
3	.153	3.89	.264	6.71	15	-.305	-7.75	.000	0.00	27	-.181	-4.60	-.104	-2.64
4	.234	5.94	.196	4.98	16	-.287	7.29	.104	2.64	28	-.199	-5.05	.000	0.00
5	.287	7.29	.104	2.64	17	-.234	-5.94	.196	4.98	29	-.181	-4.60	.104	2.64
6	.305	7.75	.000	0.00	18	-.153	-3.89	.264	6.71	30	-.100	-2.54	.172	4.37
7	.287	7.29	-.104	-2.64	19	.000	0.00	.209	5.31	31	-.053	-1.35	.073	1.85
8	.234	5.94	-.196	-4.98	20	.100	2.54	.172	4.37	32	.053	1.35	.073	1.85
9	.153	3.89	-.264	-6.71	21	.181	4.60	.104	2.64	33	.086	2.18	-.028	-0.71
10	.053	1.35	-.301	-7.65	22	.199	5.05	.000	0.00	34	.000	0.00	-.090	-2.29
11	-.053	-1.35	-.301	-7.65	23	.181	4.60	-.104	-2.64	35	-.086	-2.18	-.028	-0.71
12	-.153	-3.89	-.264	-6.71	24	.100	2.54	-.172	-4.37					

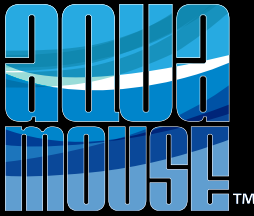
SUBSEA/SHALLOW WATER: AQUAMOUSE™



Contact Arrangement 14-55

55 #23 Contacts
.022 (0.56) Max. Dia. Tail



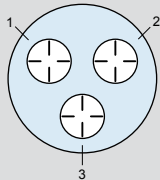


SERIES 802 2400M / 3500 PSI
Ultraminiature Subsea Connectors

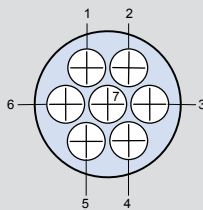
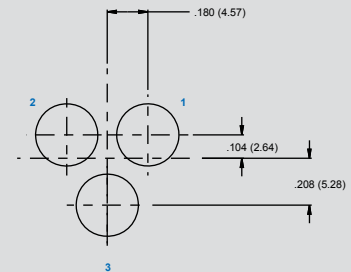
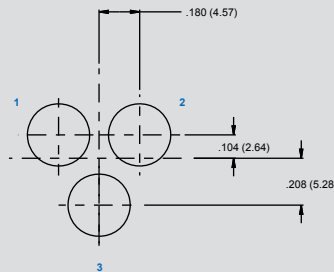


Standard PCB footprint
 Viewed from component mounting side of PCB

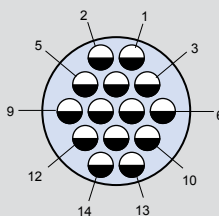
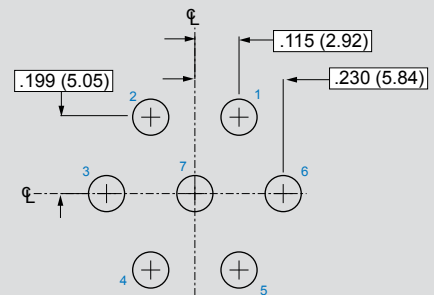
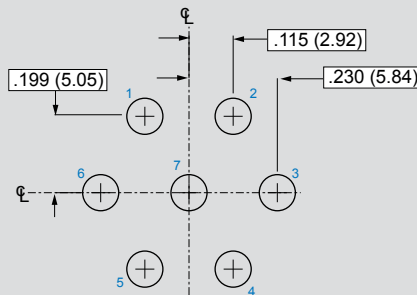
Contact Arrangement	Pin Connector	Socket Connector
---------------------	---------------	------------------



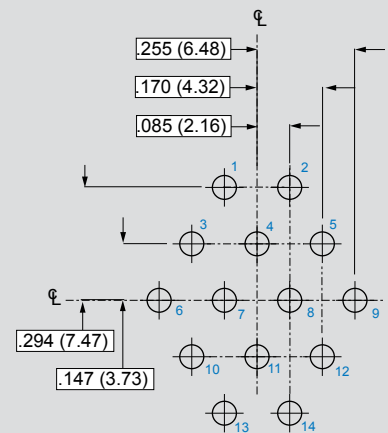
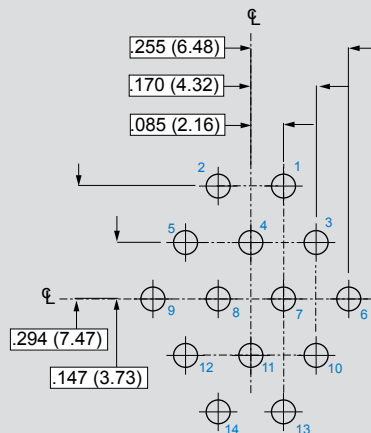
Contact Arrangement 15-3
 3 #8 Contacts
 .182 (4.62) Max Dia. Tail



Contact Arrangement 15-7
 7 #12 Contacts
 .096 (2.44) Max Dia. Tail

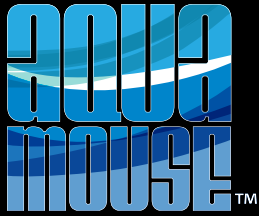


Contact Arrangement 15-14
 14 #16 Contacts
 .064 (1.63) Max Dia. Tail



SUBSEA SHALLOW WATER: AQUAMOUSE™



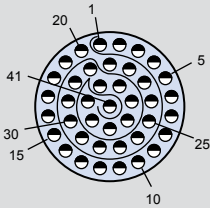
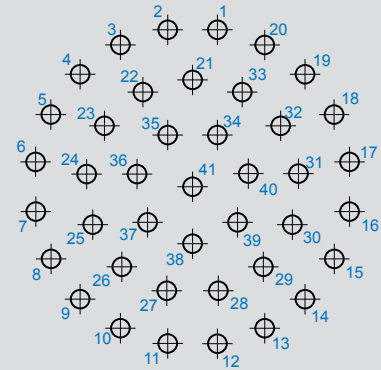
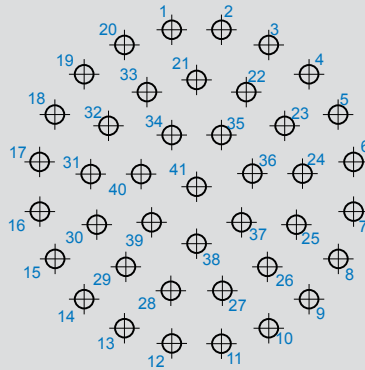


SERIES 802 2400M / 3500 PSI
Ultraminiature Subsea Connectors



Standard PCB footprint
 Viewed from component mounting side of PCB

Contact Arrangement	Pin Connector	Socket Connector
---------------------	---------------	------------------



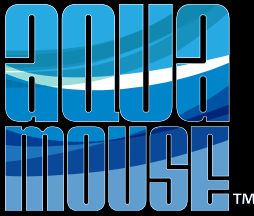
**Contact Arrangement
 15-241**

41 #20HD Contacts
 .028 (0.71) Max. Dia. Tail

Pin No.	X		Y		Pin No.	X		Y		Pin No.	X		Y	
	In.	mm.	In.	mm.		In.	mm.	In.	mm.		In.	mm.	In.	mm.
1	-.053	-1.35	.335	8.51	15	-.302	-7.67	-.154	-3.91	29	-.151	-3.84	-.171	-4.34
2	.053	1.35	.335	8.51	16	-.335	-8.51	-.053	-1.35	30	-.213	-5.41	-.081	-2.06
3	.154	3.91	.302	7.67	17	-.335	-8.51	.053	1.35	31	-.226	-5.74	.028	0.71
4	.240	6.10	.240	6.10	18	-.302	-7.67	.154	3.91	32	-.188	-4.78	.130	3.30
5	.302	7.67	.154	3.91	19	-.240	-6.10	.240	6.10	33	-.106	-2.69	.202	5.13
6	.335	8.51	.053	1.35	20	-.154	-3.91	.302	7.67	34	-.053	-1.35	.110	2.79
7	.335	8.51	-.053	-1.35	21	.000	0.00	.228	5.79	35	.053	1.35	.110	2.79
8	.302	7.67	-.154	-3.91	22	.106	2.69	.202	5.13	36	.119	3.02	.027	0.69
9	.240	6.10	-.240	-6.10	23	.188	4.78	.130	3.30	37	.096	2.44	-.076	-1.93
10	.154	3.91	-.302	-7.67	24	.226	5.74	.028	0.71	38	.000	0.00	-.122	-3.10
11	.053	1.35	-.335	-8.51	25	.213	5.41	-.081	-2.06	39	-.096	-2.44	-.076	-1.93
12	-.053	-1.35	-.335	-8.51	26	.151	3.84	-.171	-4.34	40	-.119	-3.02	.027	0.69
13	-.154	-3.91	-.302	-7.67	27	.055	1.40	-.222	-5.64	41	.000	0.00	.000	0.00
14	-.240	-6.10	-.240	-6.10	28	-.055	-1.40	-.222	-5.64					

SUBSEA/SHALLOW WATER: AQUAMOUSE™



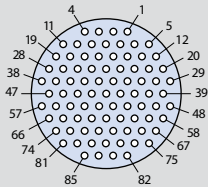
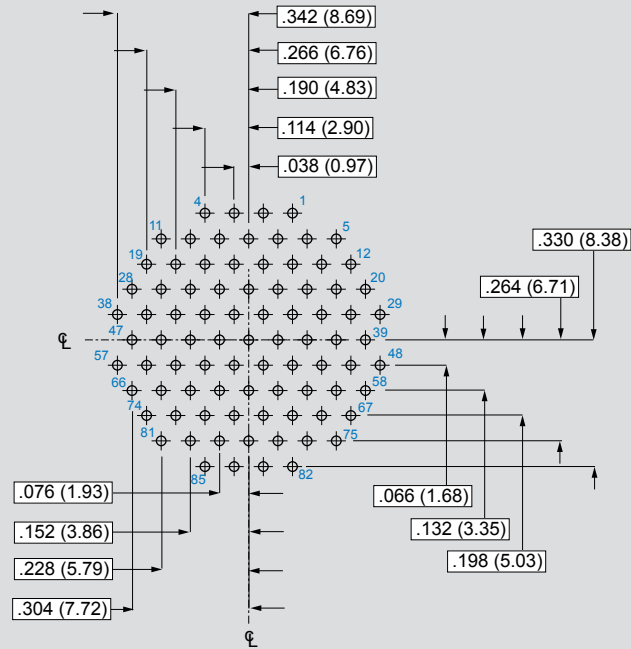


SERIES 802 2400M / 3500 PSI
Ultraminiature Subsea Connectors



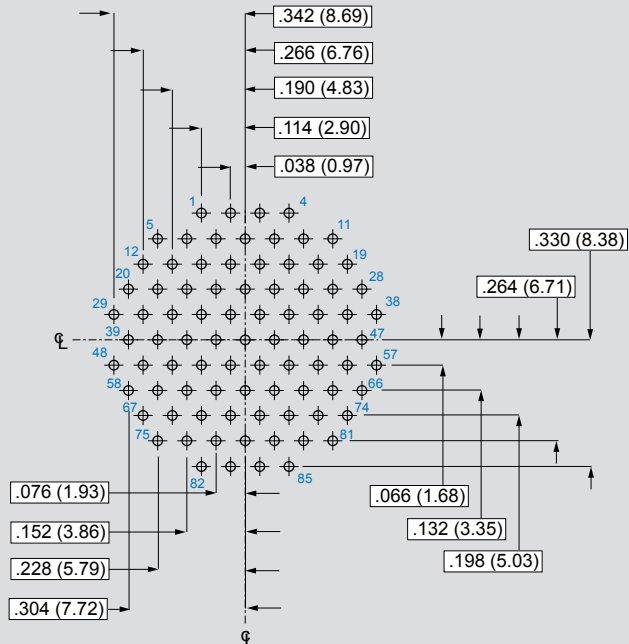
Standard PCB footprint
 Viewed from component mounting side of PCB

Contact Arrangement | Pin Connector



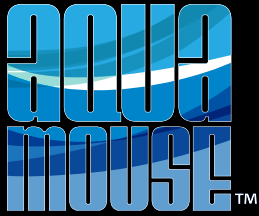
Contact Arrangement
15-85
 85 #23 Contacts
 .022 (0.56) Max. Dia. Tail

Socket Connector



SUBSEA SHALLOW WATER: AQUAMOUSE™



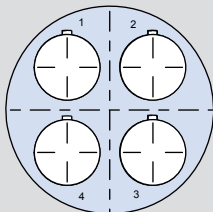


SERIES 802 2400M / 3500 PSI
Ultraminiature Subsea Connectors

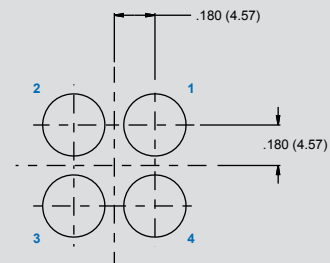
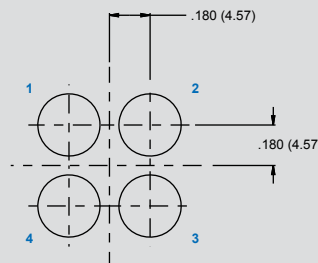


Standard PCB footprint
 Viewed from component mounting side of PCB

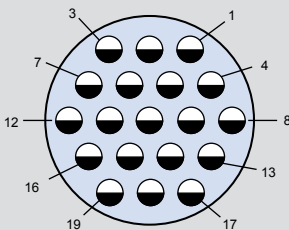
Contact Arrangement	Pin Connector	Socket Connector
---------------------	---------------	------------------



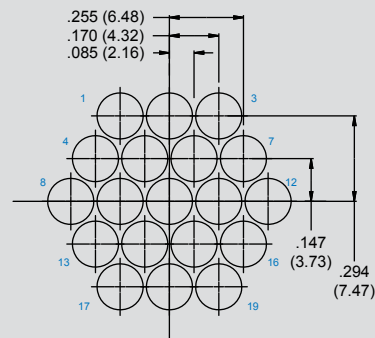
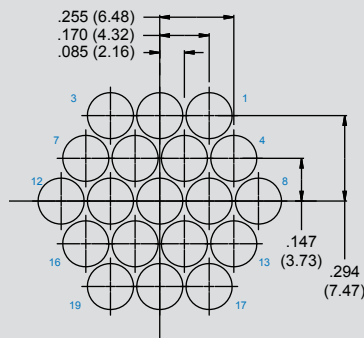
Contact Arrangement 19-4
 4 #8 Contacts
 .182 (4.62) Max Dia. Tail

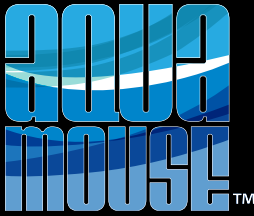


SUBSEA/SHALLOW WATER: AQUAMOUSE™



Contact Arrangement 19-19
 19 #16 Contacts
 .064 (1.63) Max Dia. Tail



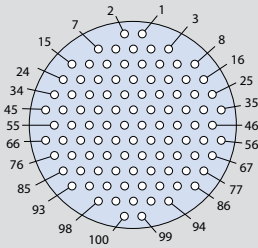


SERIES 802 2400M / 3500 PSI
Ultraminiature Subsea Connectors

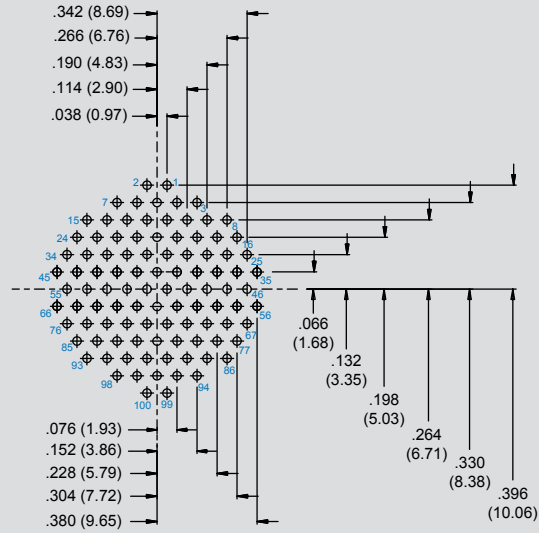


Standard PCB footprint
 Viewed from component mounting side of PCB

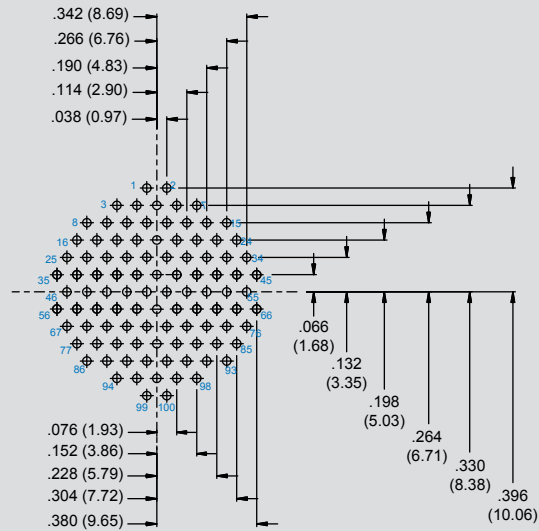
Contact Arrangement | Pin Connector



Contact Arrangement
19-100
 100 #23 Contacts
 .022 (.559) Max Dia

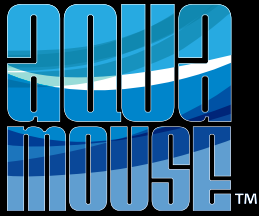


Socket Connector



SUBSEA SHALLOW WATER: AQUAMOUSE™





SERIES 802 2400M / 3500 PSI
Ultraminiature Subsea Connectors

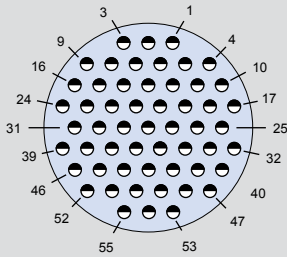


Standard PCB footprint
 Viewed from component mounting side of PCB

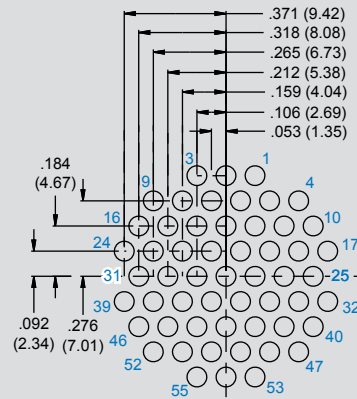
Contact Arrangement

Pin Connector

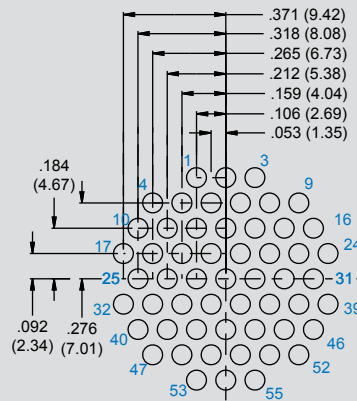
SUBSEA/SHALLOW WATER: AQUAMOUSE™

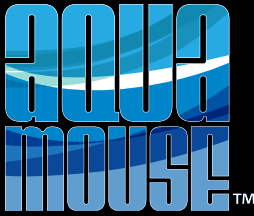


Contact Arrangement
19-255
 55 #20HD Contacts
 .028 (0.71) Max. Dia. Tail



Socket Connector



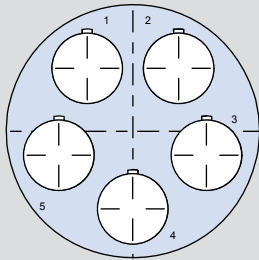


SERIES 802 2400M / 3500 PSI Ultraminiature Subsea Connectors



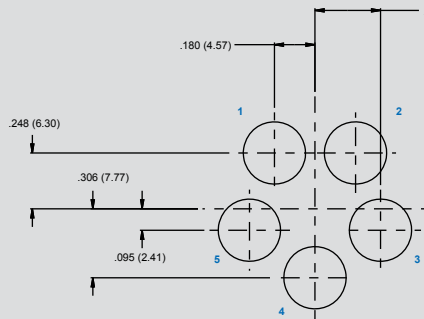
Standard PCB footprint
Viewed from component mounting side of PCB

Contact Arrangement

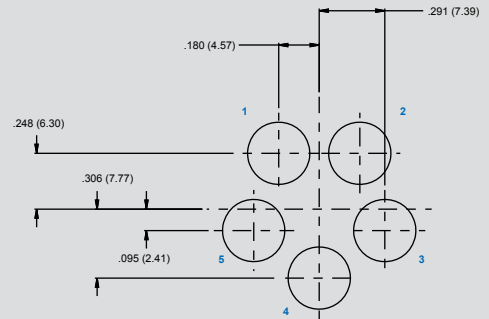


**Contact Arrangement
21-5**
5 #8 Contacts
.182 (4.62) Max Dia

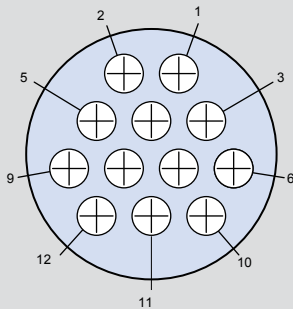
Pin Connector



Socket Connector

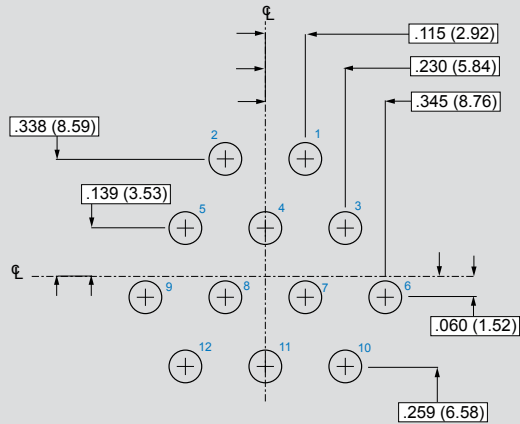


Contact Arrangement

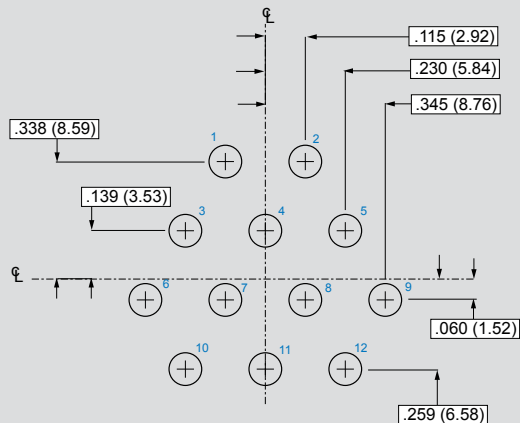


**Contact Arrangement
21-12**
#12 Contacts
.096 (2.44) Max Dia

Pin Connector

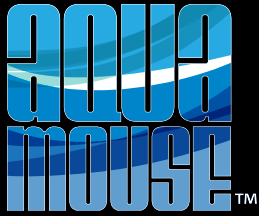


Socket Connector



SUBSEA SHALLOW WATER: AQUAMOUSE™





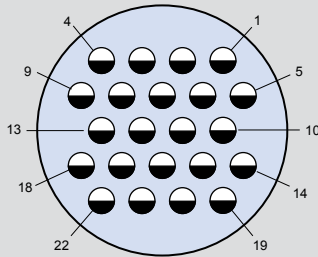
SERIES 802 2400M / 3500 PSI
Ultraminiature Subsea Connectors



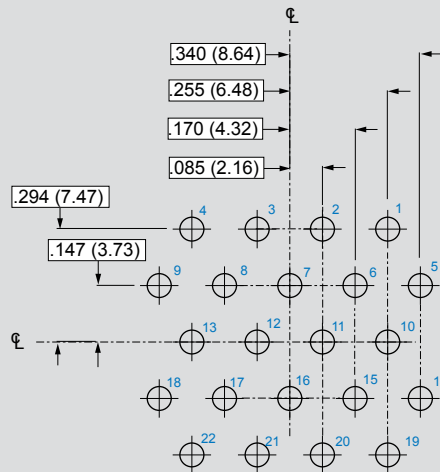
Standard PCB footprint
 Viewed from component mounting side of PCB

Contact Arrangement | Pin Connector

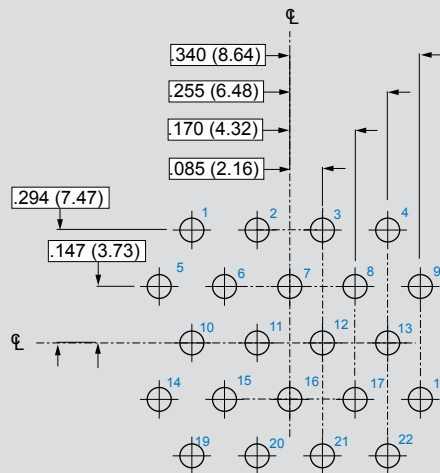
SUBSEA/SHALLOW WATER: AQUAMOUSE™

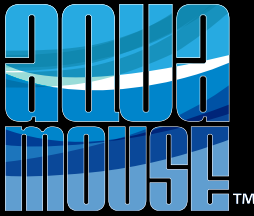


Contact Arrangement 21-22
 22 #16 Contacts
 .064 (1.63 Max. Dia. Tail)



Socket Connector





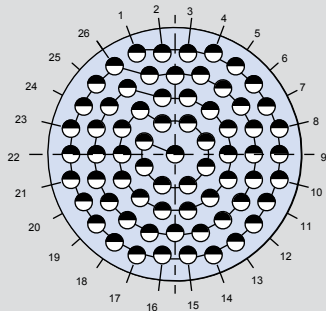
SERIES 802 2400M / 3500 PSI Ultraminiature Subsea Connectors



Standard PCB footprint
Viewed from component mounting side of PCB

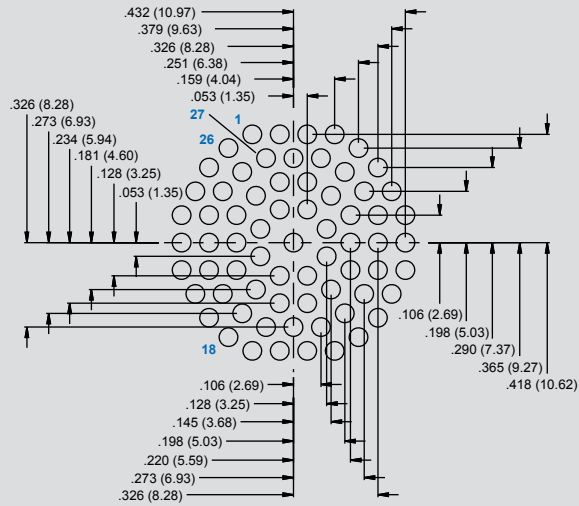
Contact Arrangement

Pin Connector

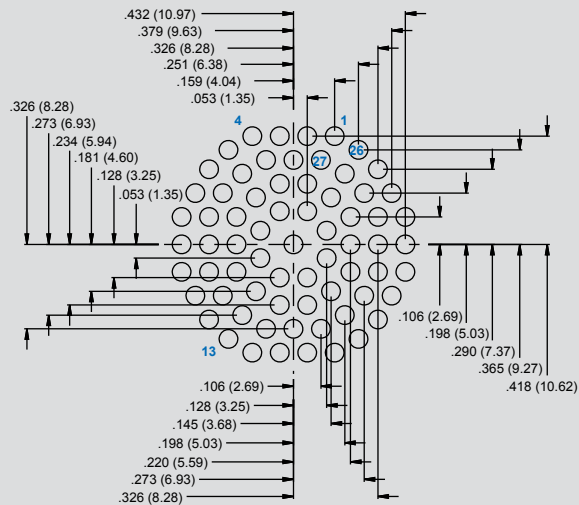


Contact Arrangement 21-269

69 #20HD Contacts
.028 (.71) Max Dia. Tail

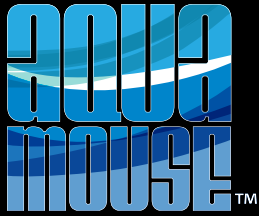


Socket Connector



SUBSEA SHALLOW WATER: AQUAMOUSE™





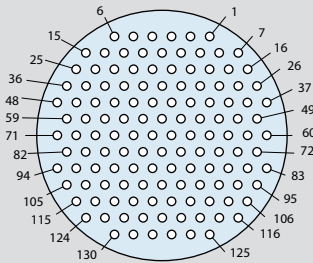
SERIES 802 2400M / 3500 PSI Ultraminiature Subsea Connectors



Hybrid PCB footprints
Viewed from component mounting side of PCB

Contact Arrangement

Pin Connector

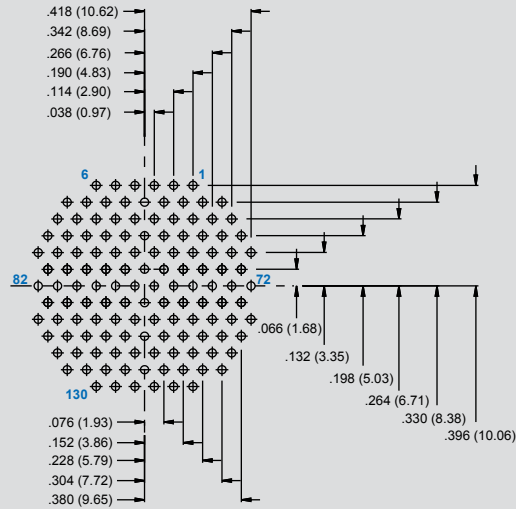


Contact Arrangement

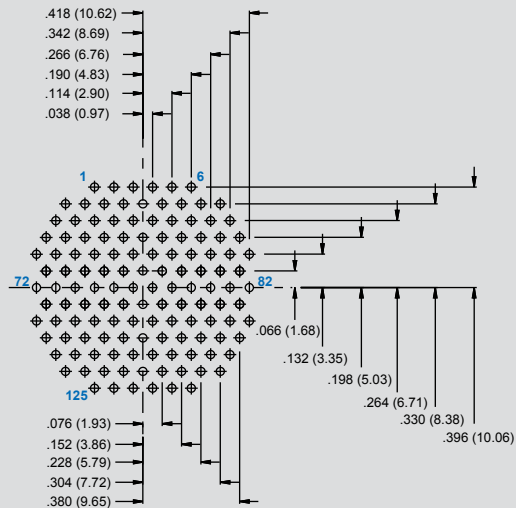
21-130

130 #23 Contacts

.022 (0.56) Max Dia. Tail

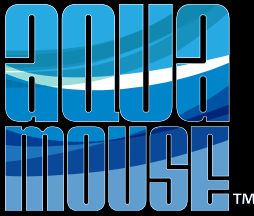


Socket Connector



SUBSEA/SHALLOW WATER: AQUAMOUSE™



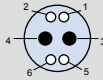


SERIES 802 2400M / 3500 PSI Ultraminiature Subsea Connectors



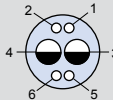
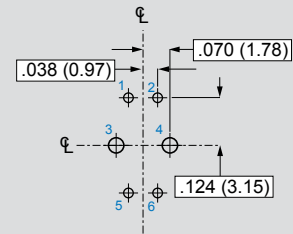
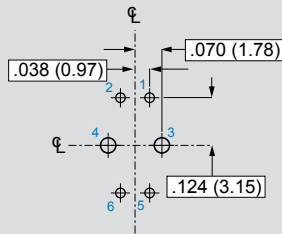
Hybrid PCB footprints
Viewed from component mounting side of PCB

Contact Arrangement	Pin Connector	Socket Connector
---------------------	---------------	------------------



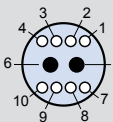
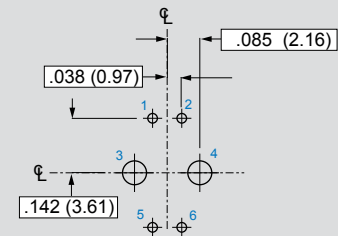
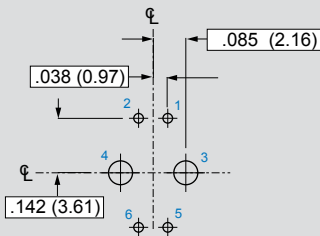
**Contact Arrangement
8-200**

2 #20 Contacts
.028 (0.71) Max. Dia. Tail
4 #23 Contacts
.022 (0.56) Max. Dia. Tail



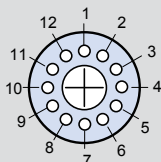
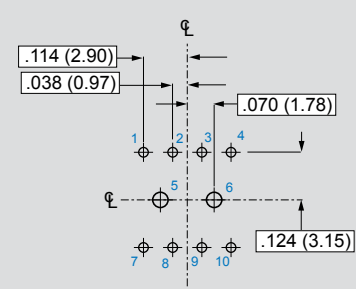
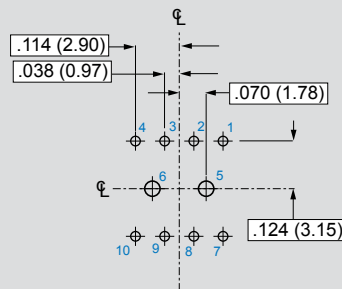
**Contact Arrangement
9-200**

4 #23 Contacts
.022 (0.56) Max. Dia. Tail
2 #16 Contacts
.064 (1.63) Max. Dia. Tail



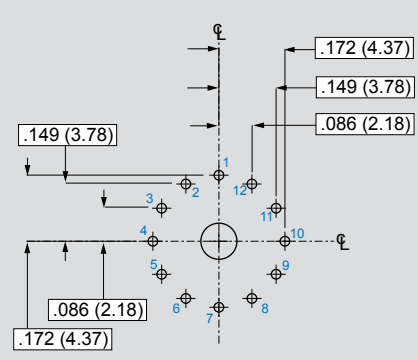
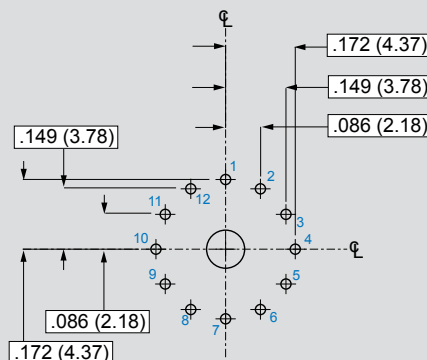
**Contact Arrangement
9-201**

2 #20 Contacts
.028 (0.71) Max Dia Tail
8 #23 Contacts
.022 (0.56) Max Dia Tail



**Contact Arrangement
10-200**

1 #12 Contact
.096 (2.44) Max Dia Tail
12 #23 Contacts
.022 (0.56) Max. Dia. Tail



SUBSEA SHALLOW WATER: AQUAMOUSE™

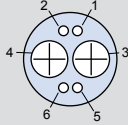


Hybrid PCB footprints
 Viewed from component mounting side of PCB

Contact Arrangement

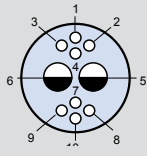
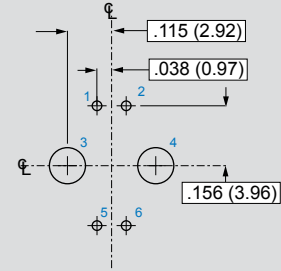
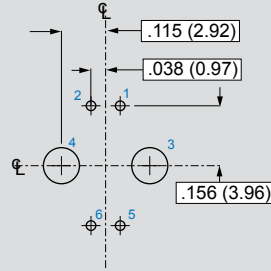
Pin Connector

Socket Connector



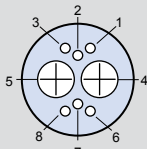
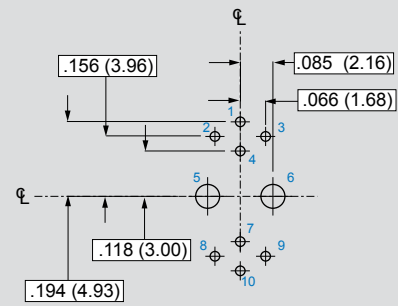
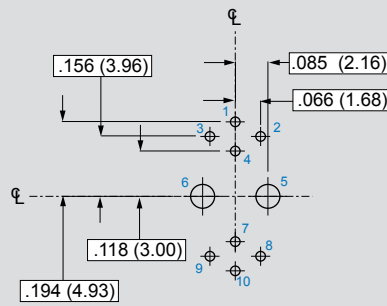
**Contact Arrangement
 10-201**

- 2 #12 Contacts
- .096 (2.44) Max. Dia. Tail
- 4 #23 Contacts
- .022 (0.56) Max. Dia. Tail



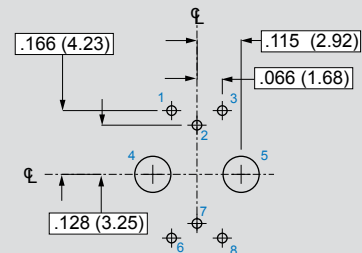
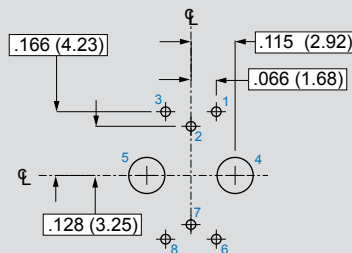
**Contact Arrangement
 10-202**

- 2 #16 Contacts
- .064 (1.63) Max. Dia. Tail
- 8 #23 Contacts
- .022 (0.5 Max. Dia. Tail)



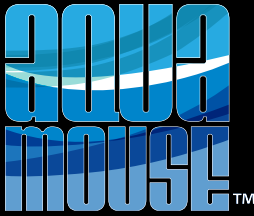
**Contact Arrangement
 12-200**

- 2 #12 Contacts
- .096 (2.44) Max. Dia. Tail
- 6 #23 Contacts
- .022 (0.56) Max. Dia. Tail



SUBSEA/SHALLOW WATER: AQUAMOUSE™





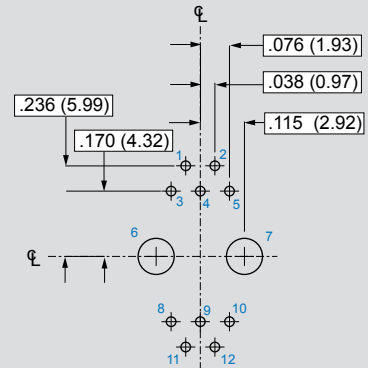
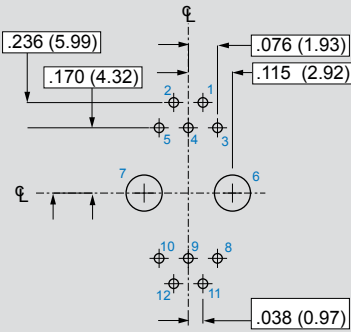
SERIES 802 2400M / 3500 PSI Ultraminiature Subsea Connectors



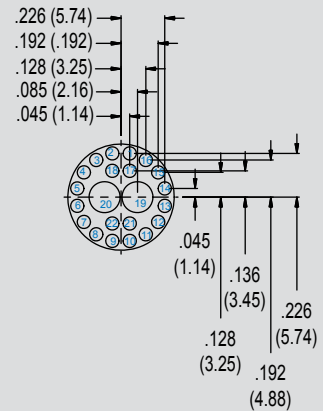
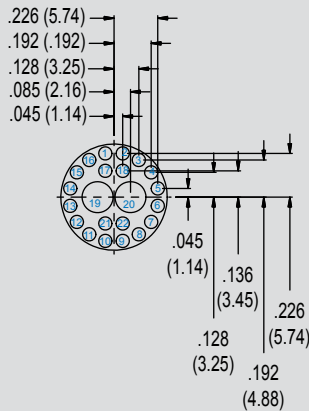
Hybrid PCB footprints
Viewed from component mounting side of PCB

Contact Arrangement	Pin Connector	Socket Connector
---------------------	---------------	------------------

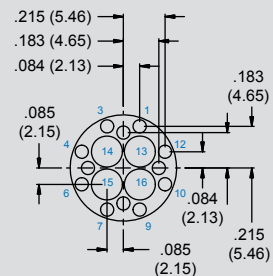
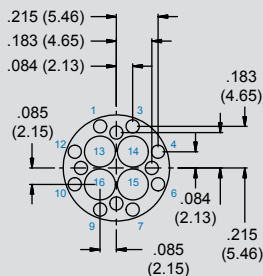
Contact Arrangement 12-201
 2 #12 Contacts
 .096 (2.44) Max. Dia. Tail
 10 #23 Contacts
 .022 (0.56) Max. Dia. Tail



Contact Arrangement 12-202
 2 #16 Contacts
 .064 (1.63) Max. Dia. Tail
 20 #23 Contacts
 .028 (0.71) Max. Dia. Tail

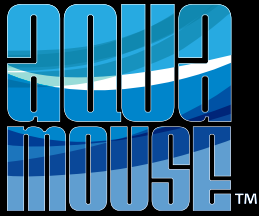


Contact Arrangement 12-203
 4 #16 Contacts
 .064 (1.63) Max. Dia. Tail
 12 #23 Contacts
 .022 (0.71) Max. Dia. Tail



SUBSEA SHALLOW WATER: AQUAMOUSE™





SERIES 802 2400M / 3500 PSI
Ultraminiature Subsea Connectors

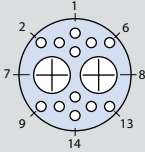


Hybrid PCB footprints
 Viewed from component mounting side of PCB

Contact Arrangement

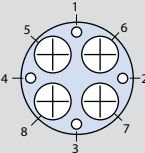
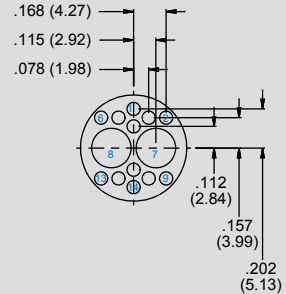
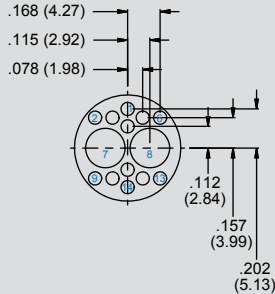
Pin Connector

Socket Connector



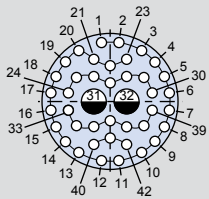
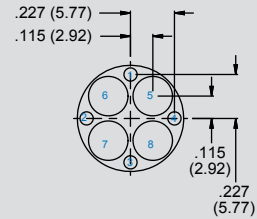
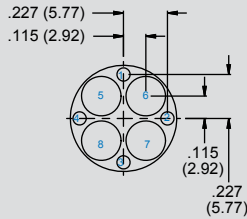
**Contact Arrangement
 12-204**

- 2 #12 Contacts
- .096 (2.44) Max. Dia. Tail
- 12 #23 Contacts
- .022 (0.71) Max. Dia. Tail



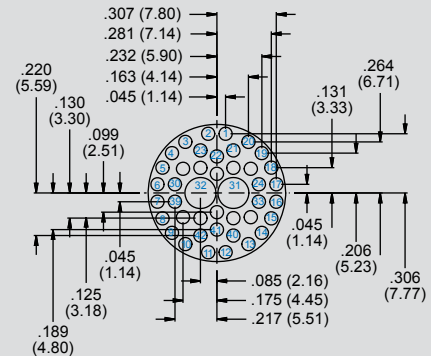
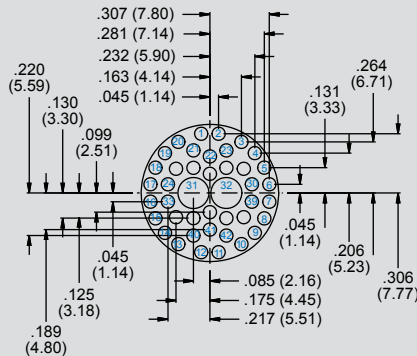
**Contact Arrangement
 12-205**

- 4 #12 Contacts
- .096 (2.44) Max. Dia. Tail
- 4 #23 Contacts
- .022 (0.71) Max. Dia. Tail



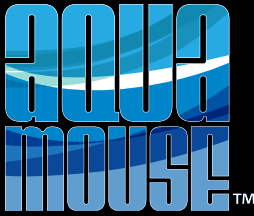
**Contact Arrangement
 14-204**

- 2 #16 Contacts
- .064 (1.63) Max. Dia. Tail
- 40 #23 Contacts
- .022 (0.71) Max. Dia. Tail



SUBSEA/SHALLOW WATER: AQUAMOUSE™



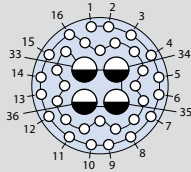


SERIES 802 2400M / 3500 PSI Ultraminiature Subsea Connectors

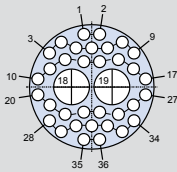
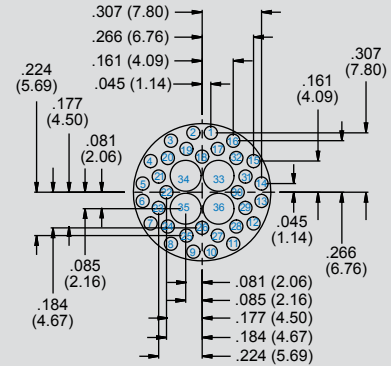
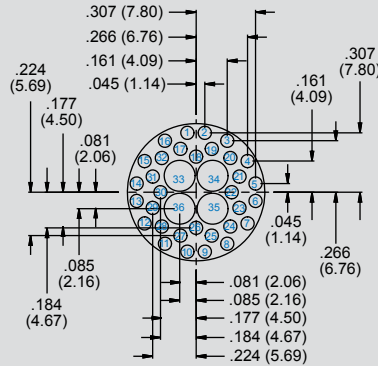


Hybrid PCB footprints
Viewed from component mounting side of PCB

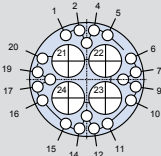
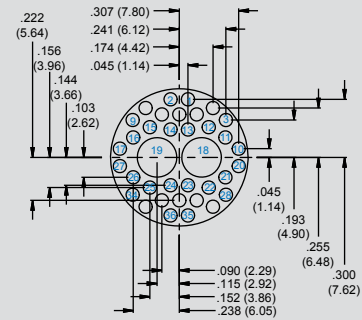
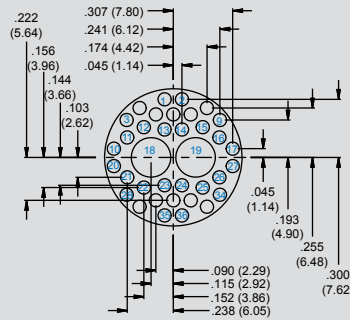
Contact Arrangement	Pin Connector	Socket Connector
---------------------	---------------	------------------



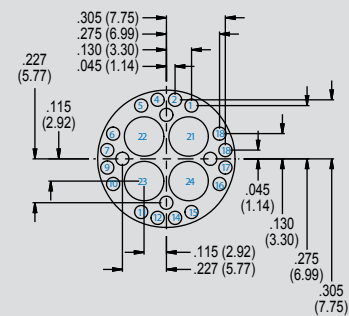
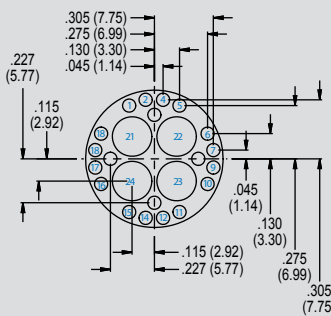
Contact Arrangement 14-205
4 #16 Contacts
.064 (1.63) Max. Dia. Tail
32 #23 Contacts
.022 (0.71) Max. Dia. Tail



Contact Arrangement 14-206
2 #12 Contacts
.096 (2.44) Max. Dia. Tail
34 #23 Contacts
.022 (0.71) Max. Dia. Tail

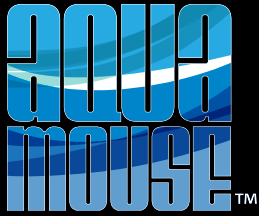


Contact Arrangement 14-207
4 #12 Contacts
.096 (2.44) Max. Dia. Tail
20 #23 Contacts
.022 (0.71) Max. Dia. Tail



SUBSEA SHALLOW WATER: AQUAMOUSE™





SERIES 802 2400M / 3500 PSI
Ultraminiature Subsea Connectors

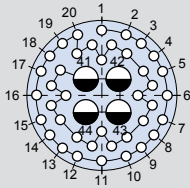


Hybrid PCB footprints
 Viewed from component mounting side of PCB

Contact Arrangement

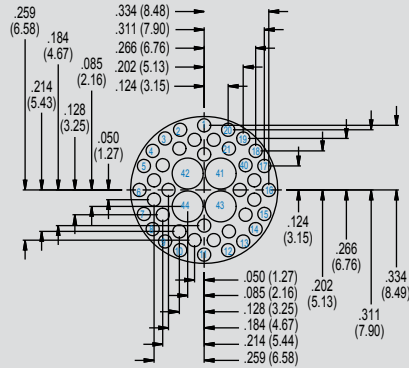
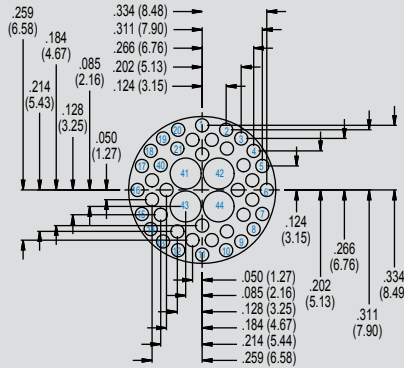
Pin Connector

Socket Connector

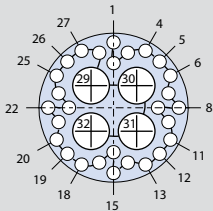


**Contact Arrangement
 15-203**

- 4 #16 Contacts
- .064 (1.63) Max. Dia. Tail
- 40 #23 Contacts
- .022 (0.71) Max. Dia. Tail

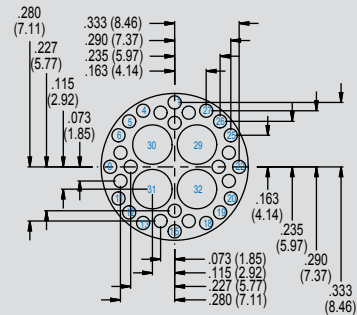
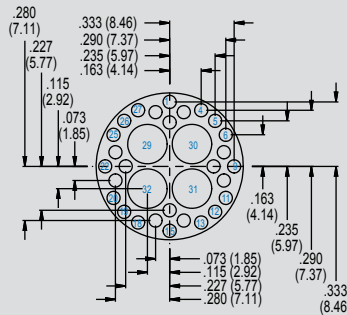


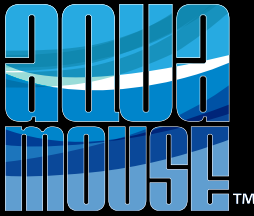
SUBSEA/SHALLOW WATER: AQUAMOUSE™



**Contact Arrangement
 15-204**

- 4 #12 Contacts
- .096 (2.44) Max. Dia. Tail
- 28 #23 Contacts
- .022 (0.71) Max. Dia. Tail





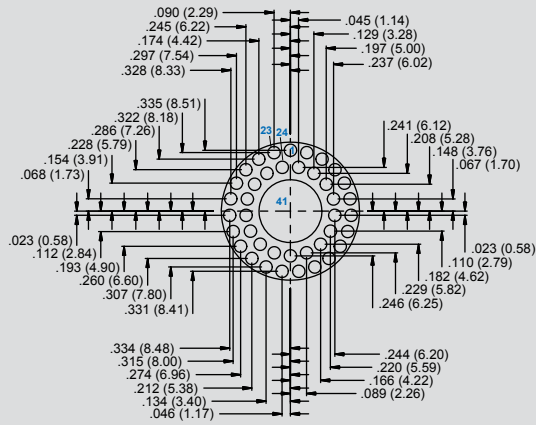
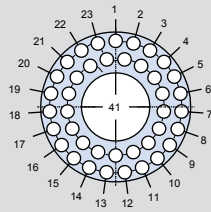
SERIES 802 2400M / 3500 PSI Ultraminiature Subsea Connectors



Hybrid PCB footprints
Viewed from component mounting side of PCB

Contact Arrangement

Pin Connector



Socket Connector

Contact Arrangement

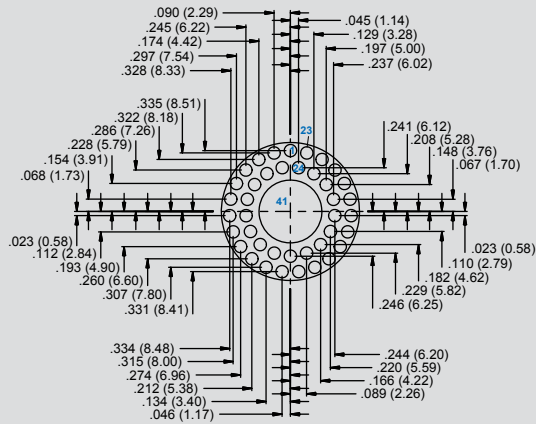
15-205

1 #8 Contacts

.182 (4.62) Max. Dia. Tail

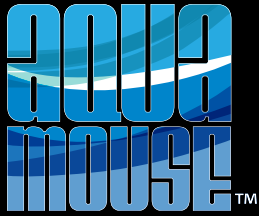
40 #23 Contacts

.022 (0.56) Max. Dia. Tail



SUBSEA SHALLOW WATER: AQUAMOUSE™





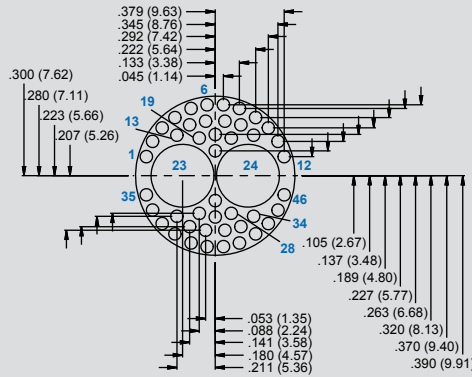
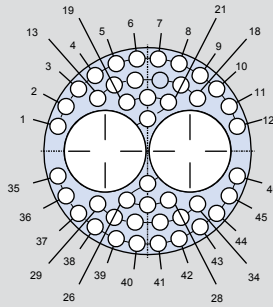
SERIES 802 2400M / 3500 PSI Ultraminiature Subsea Connectors



Hybrid PCB footprints
Viewed from component mounting side of PCB

Contact Arrangement

Pin Connector

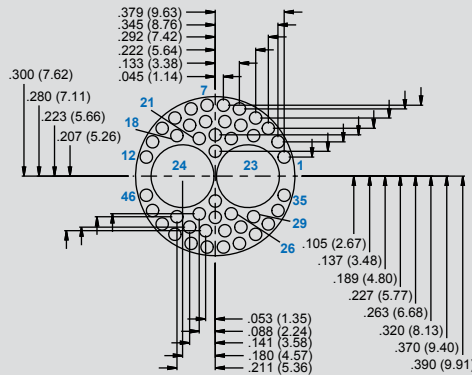


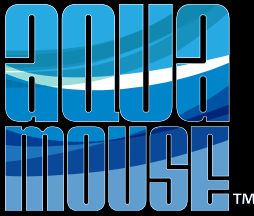
SUBSEA/SHALLOW WATER: AQUAMOUSE™

Socket Connector

Contact Arrangement 19-201

- 2 #8 Contacts
- .182 (4.62) Max. Dia. Tail
- 44 #23 Contacts
- .022 (.56) Max. Dia. Tail



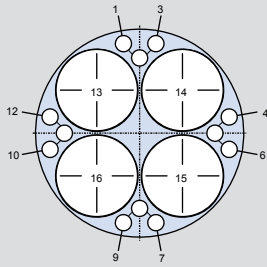


SERIES 802 2400M / 3500 PSI Ultraminiature Subsea Connectors



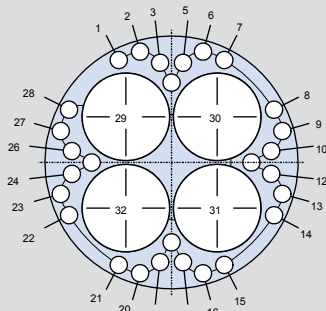
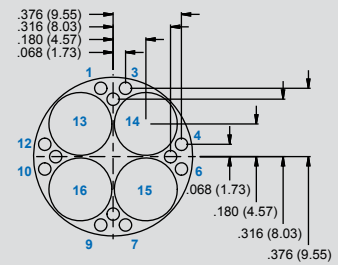
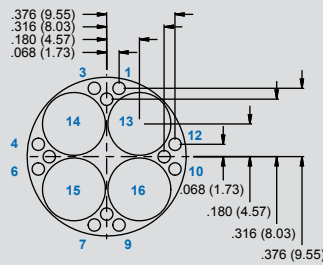
Hybrid PCB footprints
Viewed from component mounting side of PCB

Contact Arrangement	Pin Connector	Socket Connector
---------------------	---------------	------------------



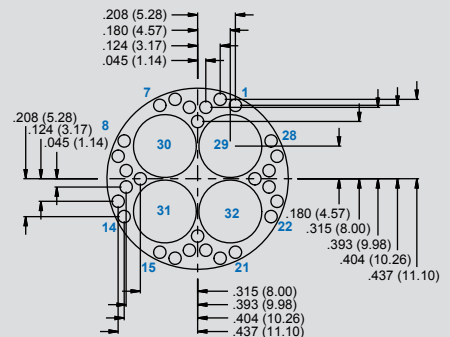
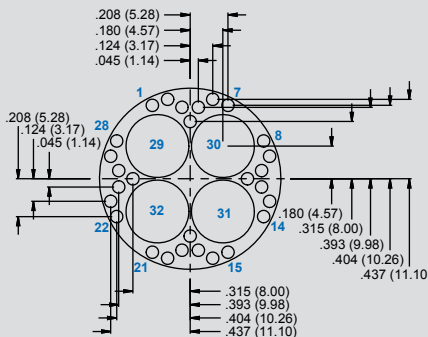
**Contact Arrangement
19-202**

4 #8 Contacts
.182 (4.62) Max. Dia. Tail
12 #23 Contacts
.022 (.56) Max. Dia. Tail



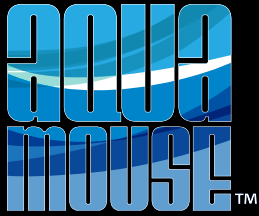
**Contact Arrangement
21-200**

4 #8 Contacts
.182 (4.62) Max. Dia. Tail
28 #23 Contacts
.022 (0.56) Max. Dia. Tail



SUBSEA SHALLOW WATER: AQUAMOUSE™





SERIES 802 2400M / 3500 PSI Ultraminiature Subsea Connectors



802-008 and 802-009 (CCP) In-line cable plug



Stainless Steel or Marine Bronze Shell withstands corrosion in the most hostile environments. Rated for 3500 PSI when mated, these connectors are suitable for the most demanding geophysical and underwater applications.

Gold-Plated Contacts attach to wire

with standard mil spec crimp tools. Contacts are packaged with connectors.

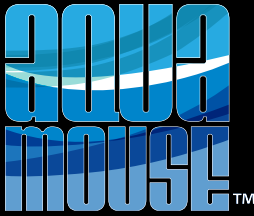
Two Shell Styles: Integral platform for direct shield attachment using Band-Master™ ATS termination system, or accessory thread for attaching accessories.

SUBSEA/SHALLOW WATER: AQUAMOUSE™

How To Order						
Sample Part Number	802-009	-06	Z1	9-19	S	A
Series (See Table I)	802-008 = Plug with Banding/ Molding Platform 802-009 = Plug with Accessory Thread					
Shell Style	-06 = Plug					
Shell Material and Finish	Z1 = Stainless Steel/Passivated RoHS Compliant ZM = Stainless Steel/ Electroless Nickel Plated AB = Marine Bronze					
Shell Size - Contact Arrangement	See Contact Arrangements page 4-6					
Contact Type	<p>Connector supplied with contacts Connector supplied without contacts</p> <p>P = Pin, Crimp A = Pin Connector, less contacts S = Socket, Crimp B = Socket Connector, less contacts</p> <p>Connectors with contacts are supplied with signal and/or power crimp contacts. These contacts are not installed. Coaxial contacts and non-standard signal contacts are ordered separately.</p>					
Shell Key Positions (See Table II)	A = Normal B = Pos. B C = Pos. C D = Pos. D E = Pos. E F = Pos. F					

Table I: Series	
802-008 Hex Plug with Banding/Molding Platform	802-009 Hex Plug with Accessory Thread

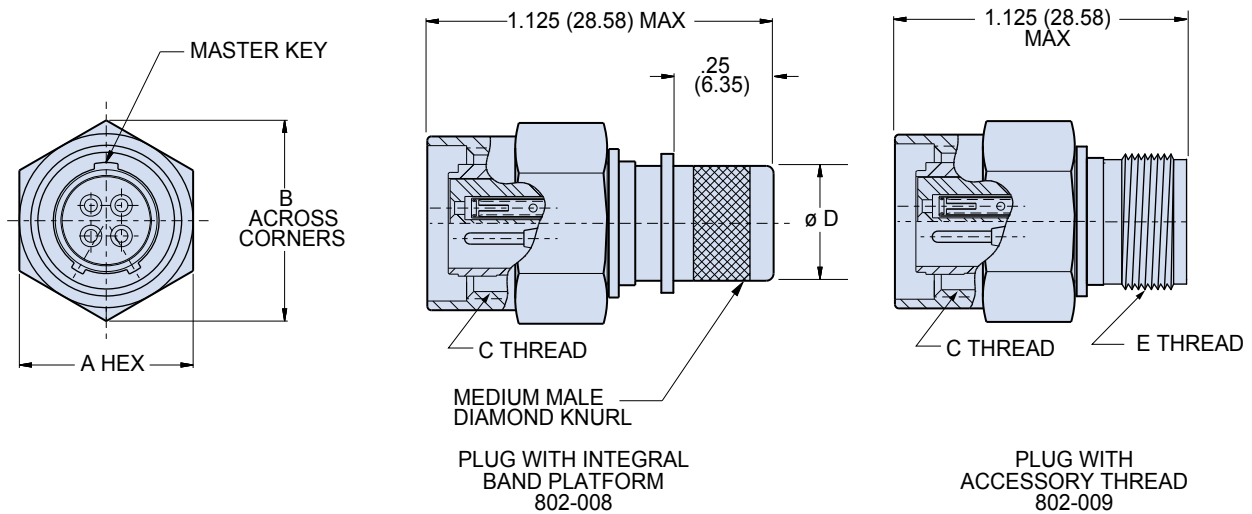
Table II: Key Positions		
Key Position	Key Rotation	
	A°	B°
Normal (A)	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°



SERIES 802 2400M / 3500 PSI
Ultraminiature Subsea Connectors
 802-008-06 and 802-009-06 (CCP)
 Cable connector plug



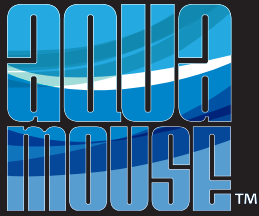
PLUG CONNECTOR



Dimensions					
Shell Size	A Hex	B.	C Thread	Ø D	E Threads Accessory
5	.500 (12.70)	.56 (14.22)	.438-28 UNEF	.232 (5.89)	.2500-32 UNEF
6	.625 (15.88)	.72 (18.29)	.562-20 UN	.312 (7.92)	.3125-32 UNEF
7	.688 (17.48)	.78 (19.81)	.625-20 UN	.375 (9.52)	.4375-28 UNEF
8	.750 (19.05)	.86 (21.84)	.687-20 UN	.438 (11.13)	.5000-28 UNEF
9	.812 (20.62)	.93 (23.62)	.750-20 UNEF	.500 (12.70)	.5625-24 UNEF
10	.875 (22.23)	1.00 (25.40)	.812-20 UNEF	.562 (14.27)	.6250-24 UNEF
12	.938 (23.83)	1.06 (26.92)	.875-20 UNEF	.656 (16.66)	.6875-24 UNEF
14	1.125 (28.58)	1.25 (31.75)	1.062-20 UN	.812 (20.62)	.8750-20 UNEF
15	1.188 (30.18)	1.32 (33.53)	1.125-20 UN	.885 (22.48)	.9375-20 UNEF
21	1.562 (39.67)	1.70 (43.18)	1.438-20 un	1.188 (30.18)	1.250-18 UNEF

SUBSEA SHALLOW WATER: AQUAMOUSE™

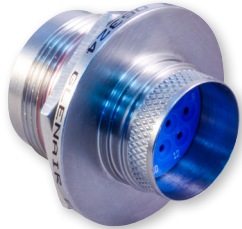




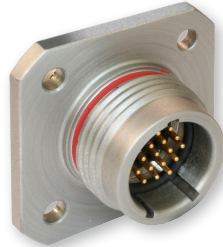
SERIES 802 2400M / 3500 PSI Ultraminiature Subsea Connectors



802-010 and 802-011 Submersible receptacle



Jam Nut, Rear Mount



FCR Flange Connector Receptacle (Square Flange)

Three Shell Mounting Options: Jam nut with o-ring for rear panel mounting, flange connector receptacle for front panel mounting, or in-line receptacles for free-hanging cables.

Two Shell Styles: Choose the integral band platform for direct attachment of a cable shield. Install a boot, or overmold a boot over the band platform. An accessory thread is available for attaching strain reliefs and backshells.

SUBSEA/SHALLOW WATER: AQUAMOUSE™

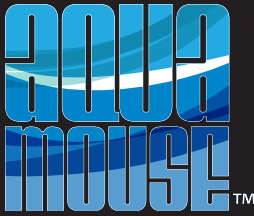
How To Order						
Sample Part Number		802-011	-02	Z1	10-26	P B
Series (See Table I)	802-010 = Receptacle with Banding Platform 802-011 = Receptacle with Accessory Thread					
Shell Style (See Table II)	-01 = In-Line -02 = Flange Connector Receptacle -07 = Jam Nut for Rear Panel Mounting					
Shell Material and Finish	Z1 = Stainless Steel/Passivated RoHS Compliant ZM = Stainless Steel/Electroless Nickel Plated AB = Marine Bronze/Unplated					
Shell Size - Contact Arrangement	See Contact Arrangements page 4-6					
Contact Type	Connector supplied with contacts P = Pin, Crimp S = Socket, Crimp Connectors with contacts are supplied with signal and/or power crimp contacts. These contacts are not installed. Coaxial contacts and non-standard signal contacts are ordered separately.		Connector supplied without contacts A = Pin Connector, less contacts B = Socket Connector, less contacts			
Shell Key Positions (See Table III)	A = Normal B = Pos. B C = Pos. C D = Pos. D E = Pos. E F = Pos. F See Keyway Positions Table					

Table I: Series	
802-010 Receptacle with Banding Platform	802-011 Receptacle with Accessory Thread

Table II: Shell Style		
-01 In-Line	-02 Square Flange	-07 Jam Nut for Rear Panel Mounting

Keyway Positions		
Position	A°	B°
A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

Rev. 10/23/17

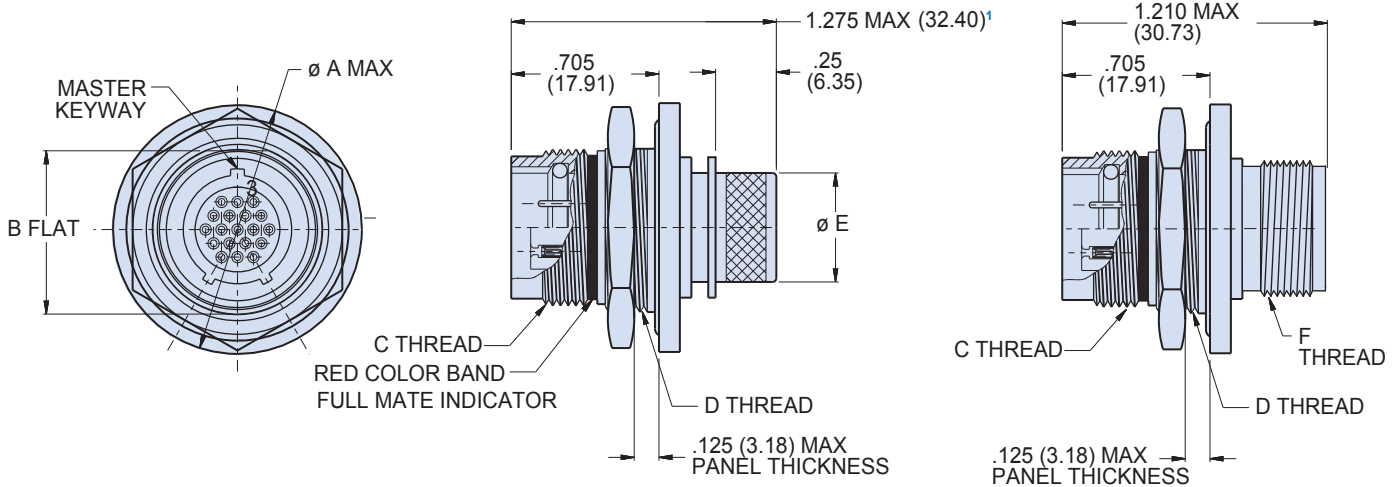


SERIES 802 2400M / 3500 PSI Ultraminiature Subsea Connectors



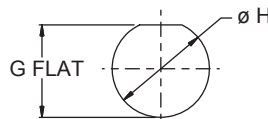
802-010 and 802-011 Rear panel mount, jam nut receptacle

JAM NUT, REAR PANEL MOUNT RECEPTACLE - SHELL STYLE 07



Intergral Band Platform
802-010

Accessory Thread
802-011



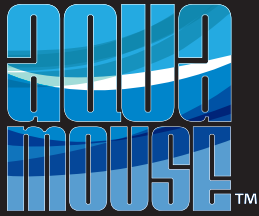
RECOMMENDED PANEL CUT OUT
STYLE 07

NOTES

1. Grommet protrudes for power/ combo/#8 arrangements.

Shell Size	Dimensions					Panel Cutout Dimensions		
	A Max.	B Flat $\pm .003$	C Mating Threads	D Jam Nut Threads	ϕ E	F Accessory Threads	G Flat $\pm .003$	ϕ H
5	.885 (22.48)	.466 (11.84)	.4375-28 UNEF	.5000-32 UN-2A	.232 (5.89)	.2500-32 UNEF-2A	0.479 (12.17) 0.474 (12.04)	.510 (12.95)
6	1.010 (25.65)	.591 (15.01)	.5625-20 UN	.6250-28 UN-2A	.312 (7.92)	.3125-32 UNEF-2A	0.604 (15.34) 0.599 (15.21)	.635 (16.13)
7	1.072 (27.23)	.653 (16.59)	.6250-20 UN	.6875-28 UN-2A	.375 (9.52)	.4375-28 UNEF-2A	0.666 (16.92) 0.661 (16.79)	.697 (17.70)
8	1.135 (28.83)	.729/.725 (18.52/18.41)	.6875-20 UN	.7500-28 UN-2A	.438 (11.13)	.5000-28 UNEF-2A	0.737 (18.72) 0.733 (18.62)	.760 (19.30)
9	1.195 (30.35)	.778 (19.76)	.7500-20 UNEF	.8125-28 UN-2A	.500 (12.70)	.5625-24 UNEF-2A	0.791 (20.09) 0.786 (19.96)	.822 (20.88)
10	1.260 (32.00)	.827 (21.01)	.8125-20 UNEF	.8750-28 UN-2A	.562 (14.27)	.6250-24 UNEF-2A	0.84 (21.34) 0.835 (21.21)	.885 (22.48)
12	1.322 (33.58)	.890 (22.61)	.8750-20 UNEF	.9375-28 UN-2A	.656 (16.66)	.6875-24 UNEF-2A	0.903 (22.94) 0.898 (22.81)	.948 (24.08)
14	1.510 (38.35)	1.077 (27.36)	1.0625-20 UN	1.1250-28 UN-2A	.812 (20.62)	.8750-20 UNEF-2A	1.09 (27.69) 1.085 (27.56)	1.135 (28.83)
15	1.572 (39.93)	1.140 (28.96)	1.1250-20 UN	1.1875-28 UN-2A	.885 (22.48)	.9375-20 UNEF-2A	1.153 (29.29) 1.148 (29.16)	1.198 (30.43)
21	1.940 (49.28)	1.467/1.463 (37.26/ 37.16)	1.4375-20 UN	1.5000-28 UN-2A	1.188 (30.18)	1.2500-20 UNEF-2A	1.478 (37.54) 1.471 (37.36)	1.510 (38.35)

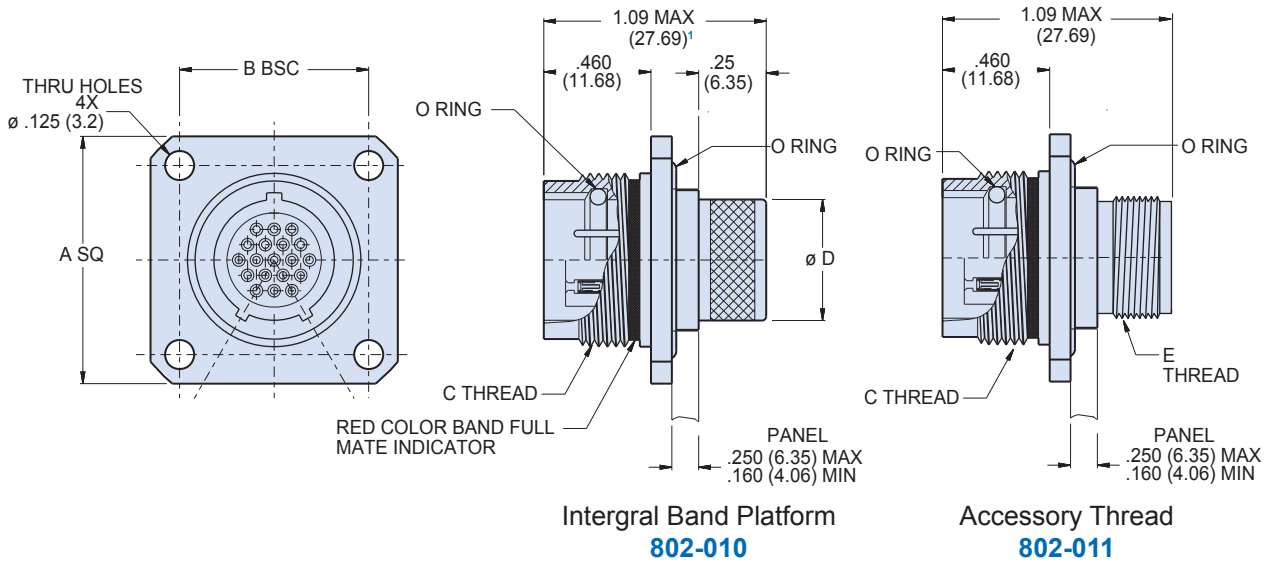




SERIES 802 2400M / 3500 PSI
Ultraminiature Subsea Connectors
 802-010 and 802-011 (FCR)
 Flange connector receptacle



FLANGE CONNECTOR RECEPTACLE, FRONT PANEL MOUNT - SHELL STYLE 02



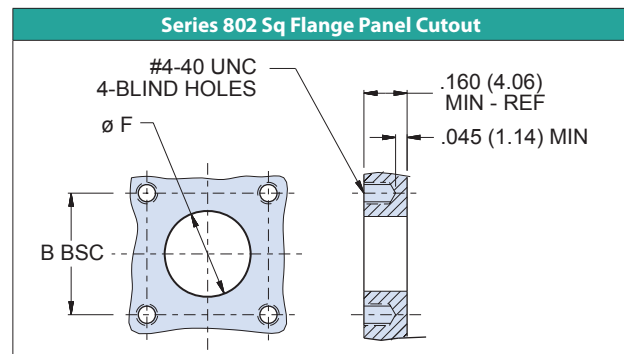
SUBSEA/SHALLOW WATER: AQUAMOUSE™

Dimensions						
Shell Size	A Square	B Bsc.	C Mating Threads	Ø D	E Accessory Threads	Ø F
5	.885 (22.48)	.500 (12.70)	.4375-28 UNEF	.232 (5.89)	.250-32 UNEF-2A	.327 (8.31)
6	1.010 (25.65)	.625 (15.88)	.5625-20 UN	.312 (7.92)	.312-32 UNEF-2A	.390 (9.91)
7	1.072 (27.23)	.688 (17.48)	.6250-20 UN	.375 (9.52)	.438-28 UNEF-2A	.515 (13.08)
8	1.135 (28.83)	.750 (19.05)	.6875-20 UN	.438 (11.13)	.500-28 UNEF-2A	.577 (14.66)
9	1.195 (30.35)	.812 (20.62)	.7500-20 UNEF	.500 (12.70)	.562-24 UNEF-2A	.640 (16.26)
10	1.260 (32.00)	.875 (22.23)	.8125-20 UNEF	.562 (14.27)	.625-24 UNEF-2A	.702 (17.83)
12	1.323 (33.60)	.938 (23.83)	.8750-20 UNEF	.656 (16.66)	.688-24 UNEF-2A	.765 (19.43)
14	1.510 (38.35)	1.125 (28.58)	1.0625-20 UN	.812 (20.62)	.875-20 UNEF-2A	.953 (24.21)
15	1.573 (39.95)	1.188 (30.18)	1.1250-20 UN	.885 (22.48)	.938-20 UNEF-2A	1.015 (25.78)
21	1.750 (44.45)	1.375 (34.92)	1.4375-20 UN	1.188 (30.18)	1.250-20 UNEF-2A	1.312 (33.32)

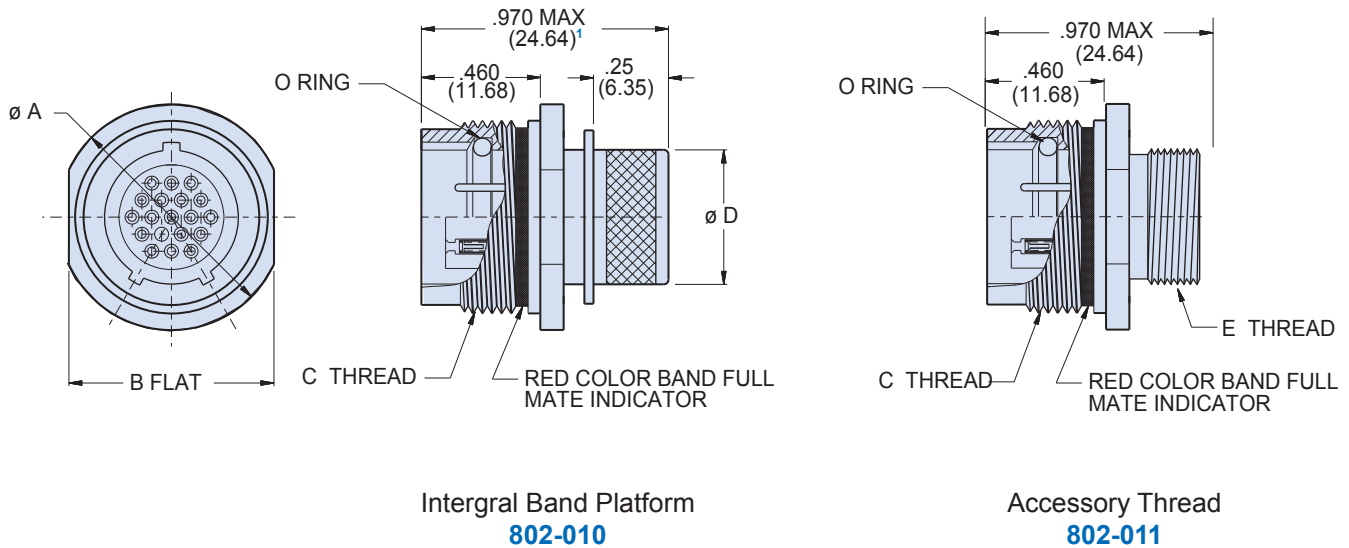
Piston O-ring replacement	
Shell size	Flange Style 02 O-ring P/N
5	2-012
6	2-014
7	2-015
8	2-016
9	2-017
10	2-018
12	2-019
14	2-022
15	2-023
21	2-028

NOTES

- Grommet protrudes for power/ combo/#8 arrangements.



CABLE CONNECTOR RECEPTACLE, INLINE - SHELL STYLE 01



Integral Band Platform
802-010

Accessory Thread
802-011

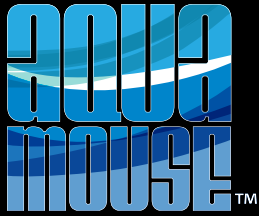
Dimensions					
Shell Size	Ø A	B Flats	C Mating Threads	Ø D	E Accessory Threads
5	.560 (14.22)	.500 (12.70)	.4375-28 UNEF	.232 (5.89)	.250-32 UNEF-2A
6	.720 (18.29)	.625 (15.88)	.5625-20 UN	.312 (7.92)	.312-32 UNEF-2A
7	.780 (19.81)	.688 (17.48)	.6250-20 UN	.375 (9.52)	.438-28 UNEF-2A
8	.860 (21.84)	.750 (19.05)	.6875-20 UN	.438 (11.13)	.500-28 UNEF-2A
9	.930 (23.62)	.812 (20.62)	.7500-20 UNEF	.500 (12.70)	.562-24 UNEF-2A
10	1.000 (25.40)	.875 (22.23)	.8125-20 UNEF	.562 (14.27)	.625-24 UNEF-2A
12	1.060 (26.92)	.938 (23.83)	.8750-20 UNEF	.656 (16.66)	.688-24 UNEF-2A
14	1.250 (31.75)	1.125 (28.58)	1.0625-20 UN	.812 (20.62)	.875-20 UNEF-2A
15	1.320 (33.53)	1.188 (30.18)	1.1250-20 UN	.885 (22.48)	.938-20 UNEF-2A
21	1.690 (42.93)	1.562 (39.67)	1.4375-20 UN	1.188 (30.18)	1.250-20 UNEF-2A

Piston O-ring replacement	
Shell size	Piston O-ring P/N
5	2-009
6	5-052
7	5-012
8	5-212
9	2-014
10	2-015
12	2-016
14	2-019
15	2-020
21	2-023

NOTES

1. Grommet protrudes for power/ combo/#8 arrangements.





SERIES 802 2400M / 3500 PSI Ultraminiature Subsea Connectors



802-012 or 802-030 Submersible solder cup or PC tail receptacle



Printed Circuit Board/ Solder Cup Receptacles feature low profile shells for minimum protrusion inside enclosures and integral standoffs for board washout. Contacts are non-removable.

Water Immersion, Unmated

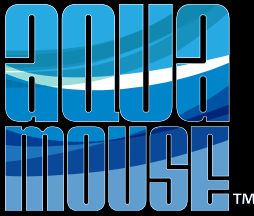
Specify **802-012** connectors for applications where open face water immersion is not a requirement. For MIL-STD-810 Method 512G immersion requirements, specify **802-030** watertight connectors. These 802-030 connectors are specially sealed ("MOD-518") and are 100% tested to maintain a helium leak rate of 1×10^{-4} cc/second at one atmosphere pressure differential from -40C to +70C.

SUBSEA/SHALLOW WATER: AQUAMOUSE™

How To Order	
Sample Part Number	802-012 -00 Z1 9-200 P A
Series	802-012 = Receptacle for Solder Cup or PCB Termination, with Standard Epoxy Potting 802-030 = Receptacle for Solder Cup or PCB Termination, with Special "MOD-518" Sealing for Open Face (Unmated) Water Immersion Requirements. 100% Leak Tested.
Shell Style (See Table I)	-00 = Jam Nut for Front Panel Mounting -02 = Square Flange for Front Panel Mounting -07 = Jam Nut for Rear Panel Mounting
Shell Material and Finish	Z1 = Stainless Steel / Passivated RoHS Compliant ZM = Stainless Steel/Electroless Nickel Plated AB = Marine Bronze/Unplated
Shell Size - Contact Arrangement	See Contact Arrangements page 4-6 See beginning of this section for PCB footprints
Contact Type	P = Pin, PC Tail E = Pin, Solder Cup S = Socket, PC Tail F = Socket, Solder Cup
Shell Key Position (See Table II)	A = Normal B = Pos. B C = Pos. C D = Pos. D E = Pos. E F = Pos. F

Table I: Shell Style		
-00 Jam Nut for Front Panel Mounting	-02 Square Flange	-07 Jam Nut for Rear Panel Mounting

Key Position	Key Rotation	
	A°	B°
A Normal	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	9°	210°



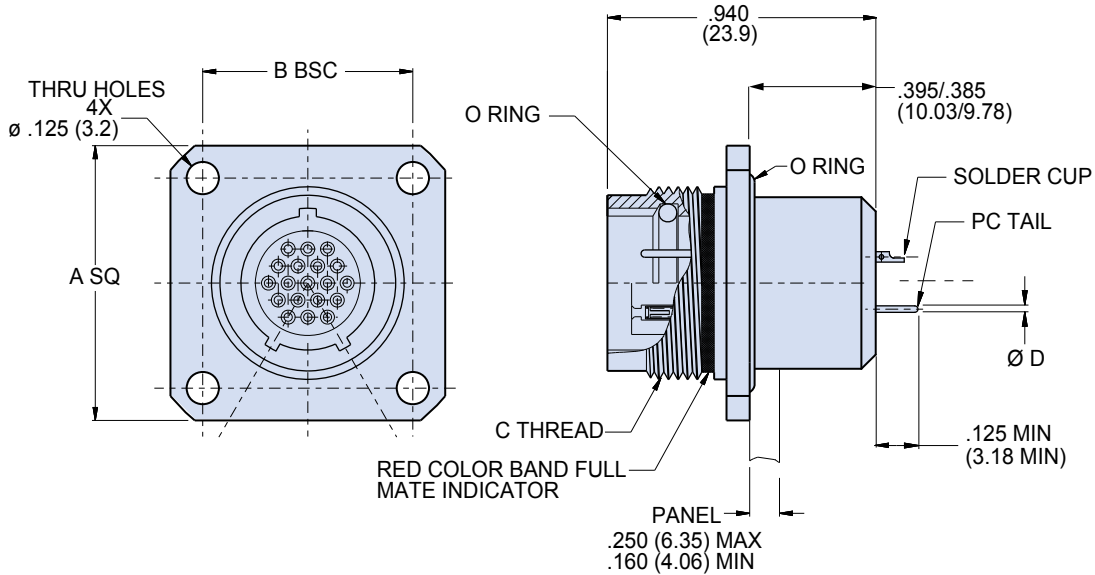
SERIES 802 2400M / 3500 PSI
Ultraminiature Subsea Connectors



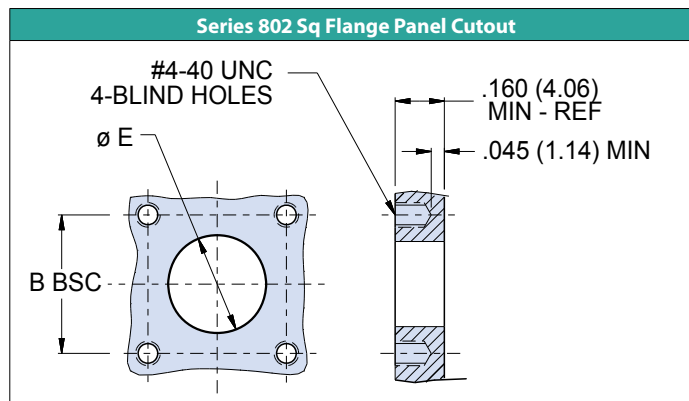
802-012 or 802-030 (FCR)

Flange connector receptacle, front panel mount

FLANGE CONNECTOR RECEPTACLE (FCR), SOLDER CUP OR PC TAIL RECEPTACLE - SHELL STYLE 02

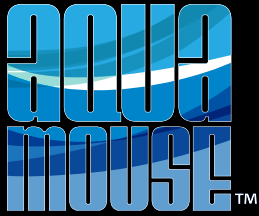


Dimensions					
Shell Size	A Square	B Bsc.	C Mating Threads	ϕD Tail Dia.	ϕE
5	.885 (22.48)	.500 (12.70)	.4375-28 UNEF	#23 .018/.022 (0.46/0.56)	.327 (8.31)
6	1.010 (25.65)	.625 (15.88)	.5625-20 UN		.390 (9.91)
7	1.072 (27.23)	.688 (17.48)	.6250-20 UN	#20 .024/.028 (0.61/0.71)	.515 (13.08)
8	1.135 (28.83)	.750 (19.05)	.6875-20 UN		.577 (14.66)
9	1.195 (30.35)	.812 (20.62)	.7500-20 UNEF	#16 .060/.064 (1.52/1.63)	.640 (16.26)
10	1.260 (32.00)	.875 (22.23)	.8125-20 UNEF		.702 (17.83)
12	1.323 (33.60)	.938 (23.83)	.8750-20 UNEF	#12 .092/.096 (2.34/2.44)	.765 (19.43)
14	1.510 (38.25)	1.125 (28.58)	1.0625-20 UN		.953 (24.21)
15	1.573 (39.95)	1.188 (30.18)	1.1250-20 UN	#12 .092/.096 (2.34/2.44)	1.015 (25.78)
21	1.750 (44.45)	1.375 (34.92)	1.4375-20 UN		1.312 (33.32)



SUBSEA SHALLOW WATER: AQUAMOUSE™





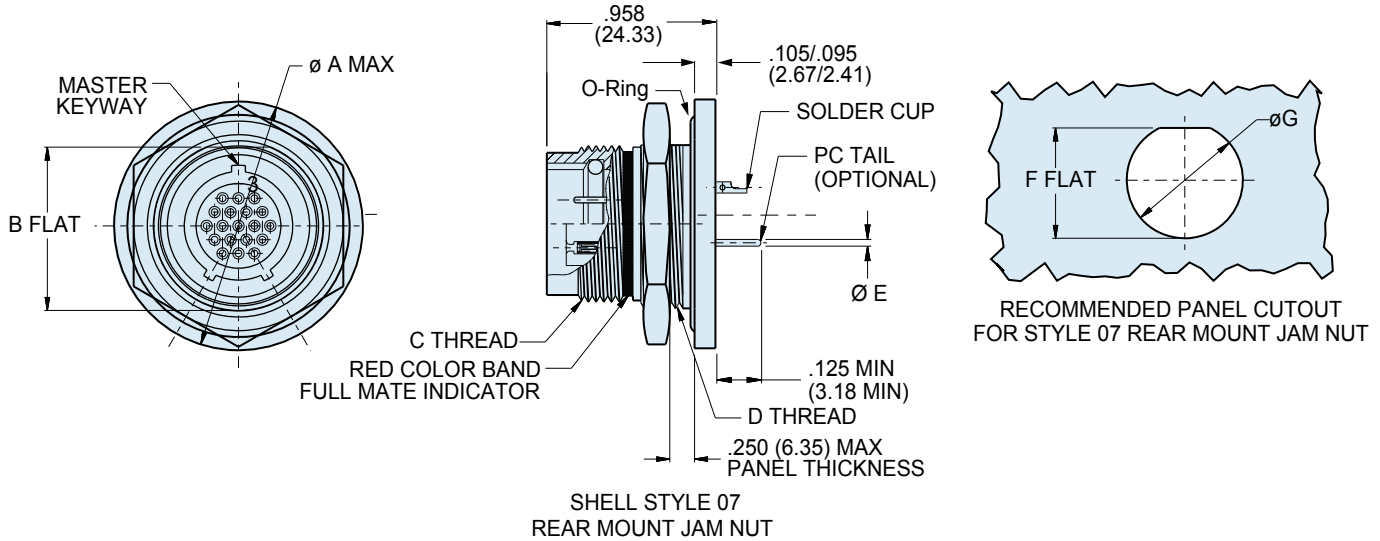
SERIES 802 2400M / 3500 PSI
Ultraminiature Subsea Connectors



802-012 or 802-030

Rear panel mount, jam nut receptacle

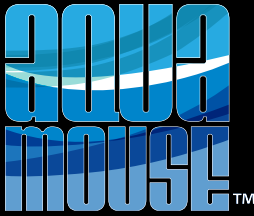
REAR PANEL MOUNT, SOLDER CUP OR PC TAIL RECEPTACLE - SHELL STYLE 07



Shell Size	Dimensions				Ø E Tail Dia.	Panel Cutout		
	Ø A Max.	B Flat ± .003	C Mating Threads	D Threads		F Flat ± .003	Ø G	
5	.885 (22.48)	.466 (11.84)	.4375-28 UNEF	.5000-32 UN-2A	#23 .018/.022 (0.46/0.56)	.477 (12.12)	.510 (12.95)	
6	1.010 (25.65)	.591 (15.01)	.5625-20 UN	.6250-28 UN-2A		#20 .024/.028 (0.61/0.71)	.602 (15.29)	.635 (16.13)
7	1.072 (27.23)	.653 (16.59)	.6250-20 UN	.6875-28 UN-2A			#16 .060/.064 (1.52/1.63)	.664 (16.87)
8	1.135 (28.83)	.716 (18.19)	.6875-20 UN	.7500-28 UN-2A		#12 .092/.096 (2.34/2.44)		.727 (18.47)
9	1.195 (30.35)	.778 (19.76)	.7500-20 UNEF	.8125-28 UN-2A			.789 (20.04)	.822 (20.88)
10	1.260 (32.00)	.827 (21.01)	.8125-20 UNEF	.8750-28 UN-2A		.838 (21.29)	.885 (22.48)	
12	1.322 (33.58)	.890 (22.61)	.8750-20 UNEF	.9375-28 UN-2A		.901 (22.89)	.948 (24.08)	
14	1.510 (38.35)	1.077 (27.36)	1.0625-20 UN	1.1250-28 UN-2A		1.088 (27.64)	1.135 (28.83)	
15	1.572 (39.93)	1.140 (28.96)	1.1250-20 UN	1.1875-28 UN-2A		1.151 (29.24)	1.198 (30.43)	
21	1.940 (49.28)	1.463/1.467	1.4375-20 UN	1.500-28 UN-2A		1.473 (37.41)	1.510 (38.35)	

SUBSEA/SHALLOW WATER: AQUAMOUSE™

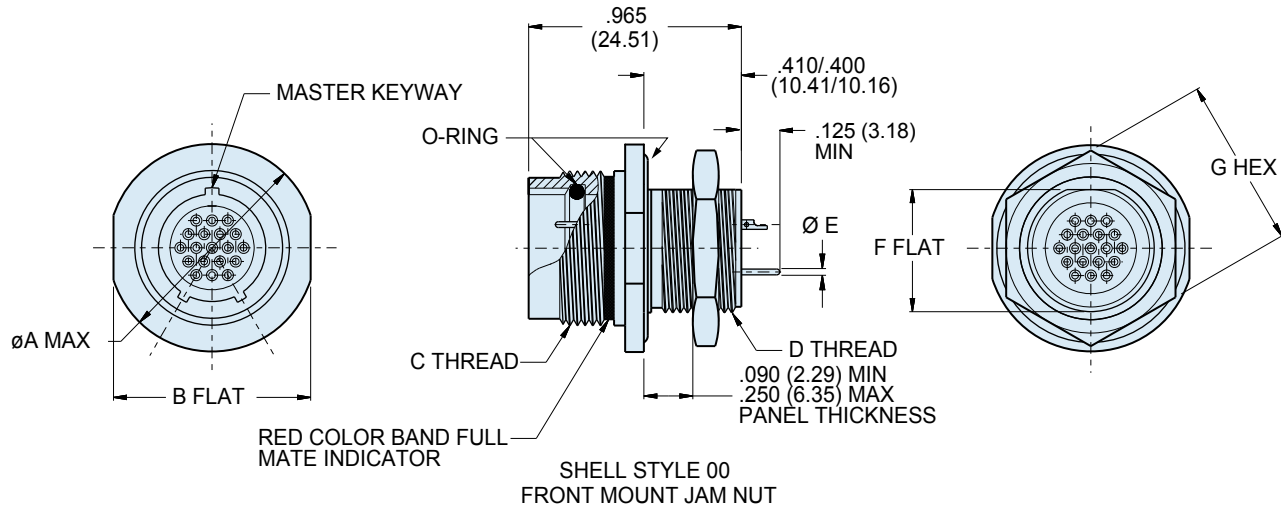




SERIES 802 2400M / 3500 PSI
Ultraminiature Subsea Connectors
802-012 or 802-030
Front panel mount, jam nut receptacle



FRONT PANEL MOUNT, SOLDER CUP OR PC TAIL RECEPTACLE - SHELL STYLE 00

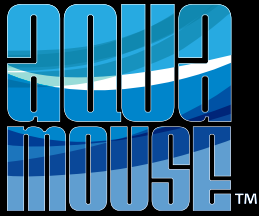


Dimensions							
Shell Size	Ø A Max.	B Flat	C Mating Threads	D Threads	Ø E Tail Dia.	F Flat	G Hex
5	.72 (18.29)	.625 (15.88)	.4375-28 UNEF-2A	.312-28 UN-2A	#23 .018/.022 (0.46/0.56)	.281 (7.14)	.500 (12.70)
6	.78 (19.81)	.750 (19.05)	.5625-20 UN-2A	.438-28 UN-2A		.344 (8.74)	.625 (15.88)
7	.91 (23.11)	.812 (20.62)	.6250-20 UN-2A	.500-32 UN-2A		.469 (11.91)	.688 (17.48)
8	.96 (24.38)	.875 (22.23)	.6875-20 UN-2A	.562-28 UN-2A		.531 (13.49)	.750 (19.05)
9	1.03 (26.16)	.937 (23.80)	.7500-20 UNEF-2A	.625-28 UN-2A		.594 (15.09)	.812 (20.62)
10	1.09 (27.69)	1.000 (25.40)	.8125-20 UNEF-2A	.687-28 UN-2A		.656 (16.66)	.875 (22.23)
12	1.16 (29.46)	1.062 (26.97)	.8750-20 UNEF-2A	.750-28 UN-2A		.719 (18.26)	.938 (23.83)
14	1.34 (34.04)	1.250 (31.75)	1.0625-20 UN-2A	.938-28 UN-2A		.893 (22.68)	1.125 (28.58)
15	1.41 (35.81)	1.312 (33.32)	1.1250-20 UN-2A	1.000-28 UN-2A		.955 (24.26)	1.188 (30.18)
21	1.70 (43.18)	1.562 (39.67)	1.4375-20 UN-2A	1.312-28 UN		1.257 (31.93)	1.500 (38.10)

Cutout Dimensions						
 RECOMMENDED PANEL CUTOUT FOR STYLE 00 FRONT MOUNT JAM NUT	Shell Size	H Flat	Ø J	Shell Size	H Flat	Ø J
		5	.291 (7.39)	.322	10	.666 (16.92)
.291 (7.39)			.661 (16.79)			
6		.417 (10.59)	.448	12	.729 (18.52)	.760
		.412 (10.46)			.724 (18.39)	
7		.479 (12.17)	.510	14	.903 (22.94)	.948
		.474 (12.04)			.898 (22.81)	
8		.541 (13.74)	.572	15	.965 (24.51)	1.010
		.536 (13.61)			.960 (24.38)	
9		.604 (15.34)	.635	21	1.267 (32.18)	1.322
		.599 (15.21)			1.263 (32.08)	

SUBSEA SHALLOW WATER: AQUAMOUSE™





SERIES 802 2400M / 3500 PSI Ultraminiature Subsea Connectors



802-013 submersible hermetic PC tail or solder cup receptacles



Series 802 Hermetic Receptacles feature gold plated iron alloy contacts and compression glass dielectric material. The 316 series stainless steel connector shell provides excellent corrosion protection and is suitable for e-beam welding. Viton® o-rings offer improved resistance to high temperature and harsh chemicals.

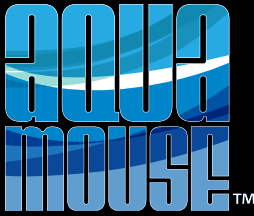
1 x 10⁻⁷ cc/Second Maximum Helium Leak Rate. Open face (unmated) pressure rating is 1000 PSI. When mated, Series 802 connectors withstand 3500 PSI hydrostatic pressure.

SUBSEA/SHALLOW WATER: AQUAMOUSE™

How To Order						
Sample Part Number	802-013	-00	Z1	9-200	P	A
Series	802-013 = Hermetic Receptacle					
Shell Style (See Table I)	-00 = Jam Nut for Front Panel Mounting -02 = Square Flange Front Panel Mount		-03 = Weld Mount -07 = Jam Nut Rear Panel Mount			
Shell Material and Finish	Z1 = Stainless Steel / Passivated RoHS Compliant ZL = Stainless Steel / Nickel Plated					
Shell Size - Contact Arrangement	See Contact Arrangements pages 4 - 6					
Contact Type	P = Pin, PC Tail E = Pin, Solder Cup		D = Socket, PC Tail S = Socket, Solder Cup			
Shell Key Position (See Table II)	A = Normal B = Pos. B C = Pos. C D = Pos. D E = Pos. E F = Pos. F					

Table I: Shell Style			
-00 Jam Nut for Front Panel Mounting	-02 Square Flange	-03 Weld Mount	-07 Jam Nut for Rear Panel Mounting

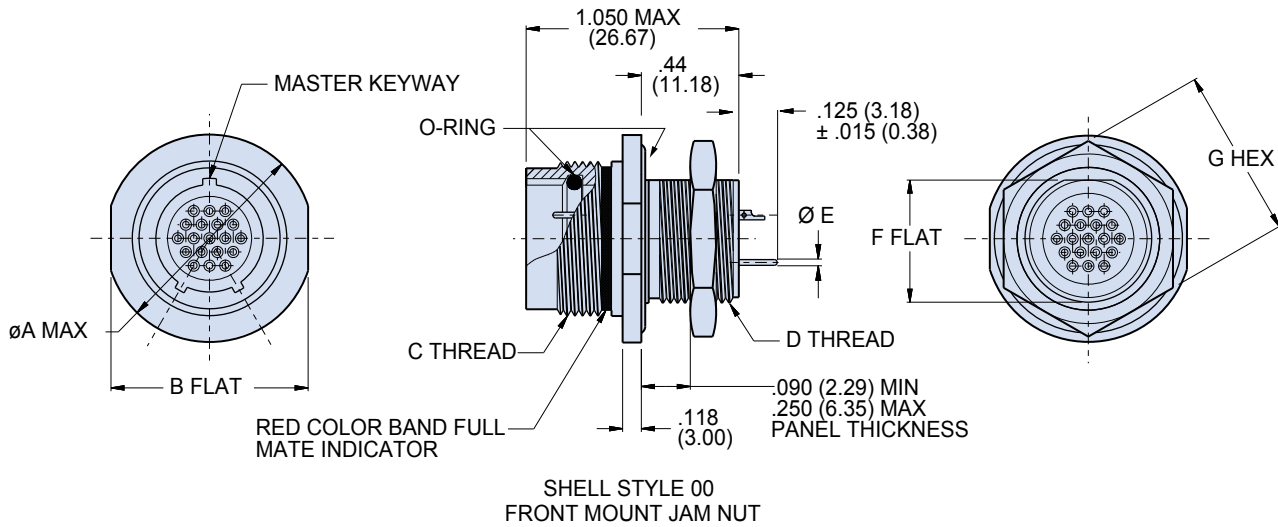
Table II: Keyway Positions		
Key Position	Key Rotation	
	A°	B°
A Normal	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	9°	210°



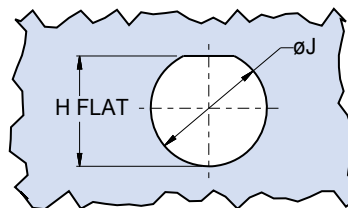
SERIES 802 2400M / 3500 PSI
Ultraminiature Subsea Connectors
 802-013-00 submersible hermetic
 Front panel mount, jam nut receptacle



FRONT PANEL MOUNT, SOLDER CUP OR PC TAIL JAM NUT RECEPTACLE - SHELL STYLE 00



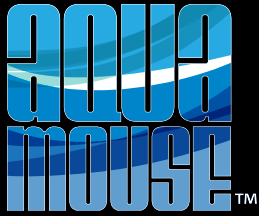
Shell Size	Dimensions					Panel Cutout			
	Ø A Max.	B Flat	C Threads	D Threads	Ø E Tail Dia.	F Flat	G Hex	H Flat	Ø J
5	.72 (18.29)	.625 (15.88)	.4375-28 UNEF-2A	.312-28 UN-2A	#23 .018/.022 (0.46/0.56) #20 .024/.028 (0.61/0.71) #16 .060/.064 (1.52/1.63) #12 .092/.096 (2.34/2.44)	.281 (7.14)	.500 (12.70)	.291 (.739) .286 (7.26)	.322 (8.18)
6	.78 (19.81)	.750 (19.05)	.5625-20 UN-2A	.438-28 UN-2A		.406 (10.31)	.625 (15.88)	.417 (10.59) .412 (10.46)	.448 (11.38)
7	.91 (23.11)	.812 (20.62)	.6250-20 UN-2A	.500-32 UN-2A		.469 (11.91)	.688 (17.48)	.479 (12.17) .474 (12.04)	.510 (12.95)
8	.96 (24.38)	.875 (22.23)	.6875-20 UN-2A	.562-28 UN-2A		.531 (13.49)	.750 (19.05)	.541 (13.74) .536 (13.61)	.572 (14.53)
9	1.03 (26.16)	.937 (23.80)	.7500-20 UNEF-2A	.625-20 UN-2A		.594 (15.09)	.812 (20.62)	.604 (15.34) .599 (15.21)	.635 (16.13)
10	1.09 (27.69)	1.000 (25.40)	.8125-20 UNEF-2A	.687-28 UN-2A		.656 (16.66)	.875 (22.23)	.666 (16.92) .661 (16.79)	.697 (17.70)
12	1.16 (29.46)	1.062 (26.97)	.8750-20 UNEF-2A	.750-28 UN-2A		.719 (18.26)	.938 (23.83)	.729 (18.52) .724 (18.39)	.760 (19.30)
14	1.34 (34.04)	1.250 (31.75)	1.0625-20 UN-2A	.938-28 UN-2A		.893 (22.68)	1.125 (28.58)	.903 (22.94) .898 (22.81)	.948 (24.08)
15	1.41 (35.81)	1.312 (33.32)	1.1250-20 UN-2A	1.000-28 UN-2A		.955 (24.26)	1.188 (30.18)	.965 (24.51) .960 (24.38)	1.010 (25.65)
21	1.70 (43.18)	1.562 (39.67)	1.4375-20 UN-2A	1.312-28 UN-2A		1.257 (31.93)	1.500 (38.10)	1.267 (32.18) 1.263 (32.08)	1.322 (33.58)



RECOMMENDED PANEL CUTOUT
 FOR STYLE 00
 FRONT MOUNT JAM NUT

SUBSEA SHALLOW WATER: AQUAMOUSE™



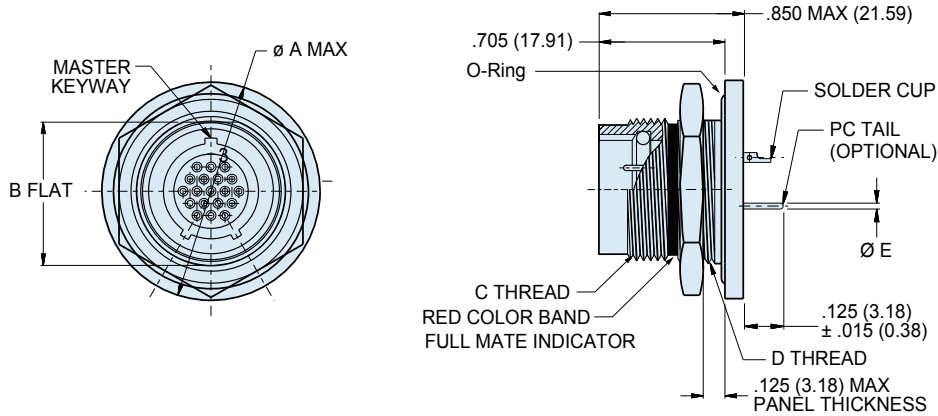


SERIES 802 2400M / 3500 PSI
Ultraminiature Subsea Connectors



**802-013-07 submersible hermetic
 Rear panel mount, jam nut receptacle**

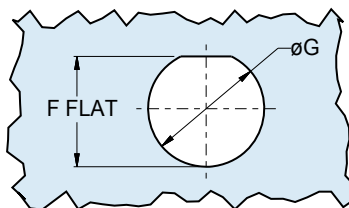
REAR PANEL MOUNT, SOLDER CUP OR PC TAIL JAM NUT RECEPTACLE - SHELL STYLE 07



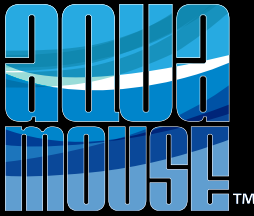
SHELL STYLE 07
 REAR MOUNT JAM NUT

SUBSEA/SHALLOW WATER: AQUAMOUSE™

Dimensions								
Shell Size	A Max.	B Flat ± .003 (.08)	C Threads	D Threads	Ø E Tail Dia.	F Flat ± .003 (.08)	Ø G	
5	.885 (22.48)	.466 (11.84)	.438-28 UNEF	.500-32 UN-2A	#23 .018/.022 (0.46/0.56)	.479 (12.17) .474 (12.04)	.510 (12.95)	
6	1.010 (25.65)	.591 (15.01)	.562-20 UN	.625-20 UN-2A		.604 (15.34) .599 (15.21)	.635 (16.13)	
7	1.072 (27.23)	.653 (16.59)	.625-20 UN	.687-28 UN-2A		.666 (16.92) .661 (16.79)	.697 (17.70)	
8	1.135 (28.83)	.729 (18.52) .725 (18.42)	.687-20 UN	.750-28 UN-2A		.737 (18.72) .733 (18.62)	.760 (19.30)	
9	1.195 (30.35)	.778 (19.76)	.750-20 UNEF	.812-28 UN-2A		#20 .024/.028 (0.61/0.71)	.791 (20.09) .786 (19.96)	.822 (20.88)
10	1.260 (32.00)	.827 (21.01)	.812-20 UNEF	.875-28 UN-2A			#16 .060/.064 (1.52/1.63)	.840 (21.34) .835 (21.21)
12	1.322 (33.58)	.890 (22.61)	.875-20 UNEF	.938-28 UN-2A		#12 .092/.096 (2.34/2.44)		.903 (22.94) .898 (22.81)
14	1.510 (38.35)	1.077 (27.36)	1.062-20 UN	1.125-28 UN-2A			1.090 (27.69) 1.085 (27.56)	1.135 (28.83)
15	1.572 (39.93)	1.140 (28.96)	1.125-20 UN	1.188-28 UN-2A			1.153 (29.29) 1.148 (29.16)	1.198 (30.43)
21	1.940 (49.28)	1.467 (37.26) 1.463 (37.16)	1.4375-20 UN	1.500-28 UN-2A		1.475 (37.47) 1.471 (37.36)	1.510 (38.35)	



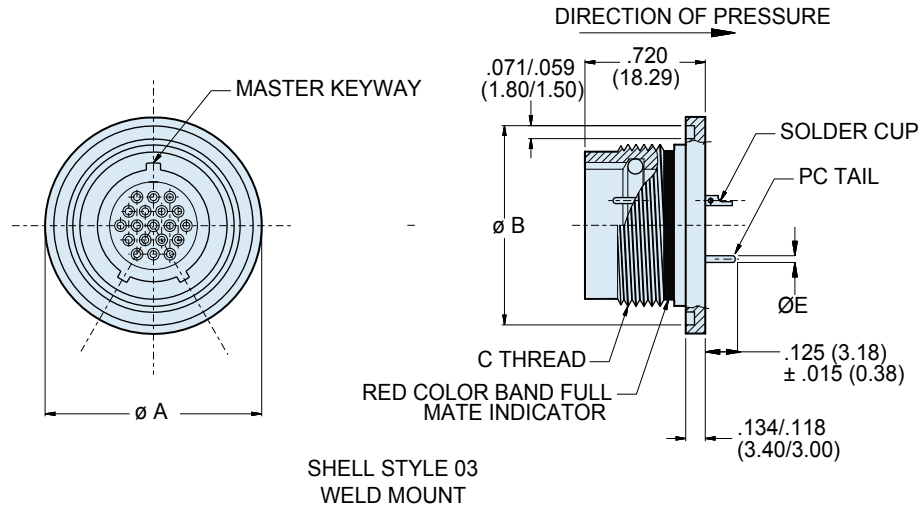
RECOMMENDED PANEL CUTOUT
 FOR STYLE 07 REAR MOUNT JAM NUT



SERIES 802 2400M / 3500 PSI
Ultraminiature Subsea Connectors
 802-013-03 submersible hermetic
 Weld mount receptacle



WELD MOUNT, SOLDER CUP OR PC TAIL RECEPTACLE - SHELL STYLE 03



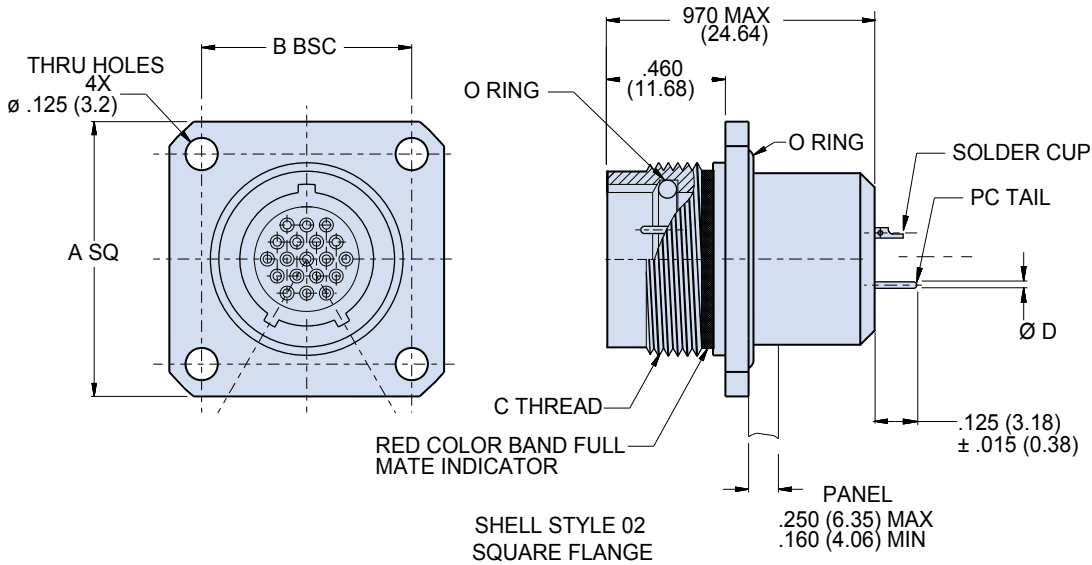
Dimensions				
Shell Size	Ø A ± .006 (.15)	Ø B ± .006 (.15)	C Mating Threads	Ø E Tail Dia.
5	.788 (20.02)	.745 (18.92)	.438-28 UNEF	#23 .018/.022 (0.46/0.56)
6	.912 (23.16)	.869 (22.07)	.562-20 UN	
7	.975 (24.76)	.933 (23.70)	.625-20 UN	
8	1.038 (26.37)	.995 (25.27)	.687-20 UN	#20 .024/.028 (0.61/0.71)
9	1.100 (27.94)	1.057 (26.85)	.750-20 UNEF	
10	1.162 (29.51)	1.119 (28.42)	.812-20 UNEF	#16 .060/.064 (1.52/1.63)
12	1.225 (31.12)	1.182 (30.02)	.875-20 UNEF	
14	1.412 (35.86)	1.369 (34.77)	1.062-20 UN	
15	1.475 (37.47)	1.432 (36.37)	1.125-20 UN	#12 .092/.096 (2.34/2.44)
21	1.795 (45.59)	1.750 (44.45) 1.744 (44.30)	1.4375-20 UN	

SUBSEA SHALLOW WATER: AQUAMOUSE™

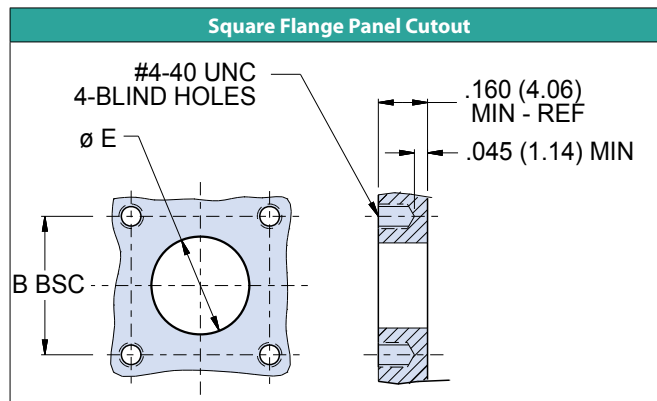


802-013-02 submersible hermetic receptacle
 flange connector receptacle (FCR)

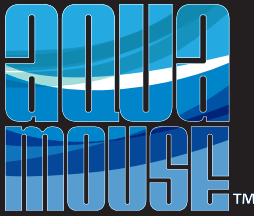
SOLDER CUP OR PC TAIL FRONT PANEL MOUNT RECEPTACLE - SHELL STYLE 02



Dimensions					
Shell Size	A Square	B Bsc.	C Mating Threads	Ø D Tail Dia.	Ø E
5	.885 (22.48)	.500 (12.70)	.438-28 UNEF	#23 .018/.022 (0.46/0.56)	.327 (8.31)
6	1.010 (25.65)	.625 (15.88)	.562-20 UN		.390 (9.91)
7	1.072 (27.23)	.688 (17.48)	.625-20 UN		.515 (13.08)
8	1.135 (28.83)	.750 (19.05)	.687-20 UN	#20 .024/.028 (0.61/0.71)	.577 (14.66)
9	1.195 (30.35)	.812 (20.62)	.750-20 UNEF		.640 (16.26)
10	1.260 (32.00)	.875 (22.23)	.812-20 UNEF	#16 .060/.064 (1.52/1.63)	.702 (17.83)
12	1.323 (33.60)	.938 (23.83)	.875-20 UNEF		.765 (19.43)
14	1.510 (38.35)	1.125 (28.58)	1.062-20 UN		.953 (24.21)
15	1.573 (39.95)	1.188 (30.18)	1.125-20 UN	#12 .092/.096 (2.34/2.44)	1.015 (25.78)
21	1.750 (44.45)	1.375 (34.92)	1.4375-20 UN		1.312 (33.32)



SUBSEA/SHALLOW WATER: AQUAMOUSE™



SERIES 802 2400M / 3500 PSI Ultraminiature Subsea Connectors



802-050 submersible hermetic receptacle Jam nut, bulkhead feed-thru



Series 802 Hermetic Jam Nut Mount Bulkhead Feed-Thru Receptacles feature gold plated iron alloy contacts and compression glass dielectric material. The 316 series stainless steel connector shell provides excellent corrosion protection. Available with pin to pin contacts. Power applied to a given contact on one end will result in power to contact directly opposite, regardless of contact identification letter. Contact DWV ratings are as follows and measured pin to pin and pin to shell without breakdown: size #23 @ 750 VAC, size #20 @ 1000 VAC, size #16 and #12 @ 1800 VAC. Insulation resistance is rated at 20,000 megohms (test) @ 500 VDC minimum. Hermeticity is rated at: 5×10^{-8} sccHe/sec @ 1 atmosphere differential. 802-050 is designed to mate with Glenair 802 Series plugs. Shell sizes 5 thru 21 have a maximum open face rated test pressure of 1,000 PSI in one direction.

How To Order	
Sample Part Number	802-050 Z1 12-37 P P A 01 N
Series	802-050 = Bulkhead Feed-Thru Hermetic Receptacle
Shell Material and Finish	Z1 = 316 Stainless Steel / Passivated RoHS Compliant
Shell Size - Contact Arrangement	See Table III; see pages 4 - 6
Contact Type Jam Nut Side	P = Pin
Contact Type Opposite Side	P = Pin
Keyway Position (See Table I)	A = Normal B = Pos. B C = Pos. C D = Pos. D E = Pos. E F = Pos. F
Panel Thickness (See Table II)	-01 = .500/1.000 -02 = 1.000/1.500 -03 = 1.500/2.000 -04 = 2.000/2.500 -05 = 2.500/3.000 -06 = 3.000/3.500 -07 = 3.500/4.000
O-ring Material	V = Viton N = Nitrile NA = No external o-rings supplied (suggested material: Nitrile)

Table I: Key Positions		
Key Position	Key Rotation	
	A°	B°
A Normal	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

Table II: Panel Thickness		
Panel Thickness Code	H Panel Thickness	J Maximum Length
-01	.500/1.000	2.450
-02	1.000/1.500	2.950
-03	1.500/2.000	3.450
-04	2.000/2.500	3.950
-05	2.500/3.000	4.450
-06	3.000/3.500	4.950
-07	3.500/4.000	5.450

Table III: Contacts Available	
Shell Size	Number of Contact by Shell Size
5	-3
6	-1, -4, -6, -7, -23
7	-1, -10, -25
8	-1, -2, -13, -28, -200
9	-4, -19, -200, -201, -210
10	-2, -5, -26, -200, -201, -202
12	-2, -3, -7, -37, -200, -201, -220
14	-5, -12, -55, -235
15	-3, -7, -14, -85, -241
21	-12, -22, -130, -269

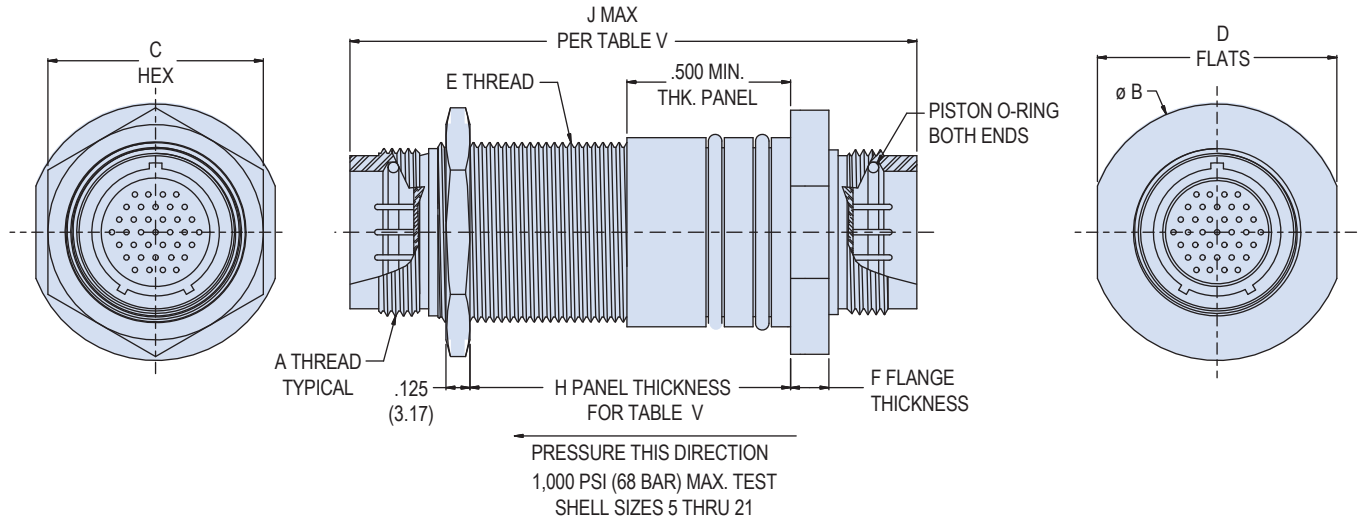
See pages 4 - 6 for contact arrangements

SUBSEA SHALLOW WATER: AQUAMOUSE™



**802-050 submersible hermetic receptacle
 Jam nut, bulkhead feed-thru**

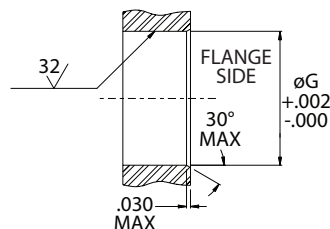
JAM NUT MOUNT, SOLDER CUP OR PC TAIL BULKHEAD FEED-THRU



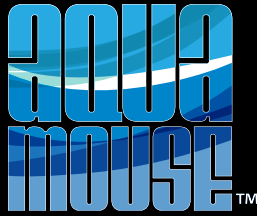
SUBSEA/SHALLOW WATER: AQUAMOUSE™

Dimensions

Shell Size	A Thread	Ø B Max	C Hex	D Flat	E Thread	Panel Cutout Ø G	Ext. O-Ring	F
5	.4375-28 UNEF	0.950 (24.13)	0.688 (17.48)	0.880 (22.35) 0.870 (22.10)	.5000-32 UN-2A	.562 (14.27)	2-013	.260 (6.60)
6	.5625-20 UN	1.150 (29.21)	0.812 (20.62)	1.010 (25.65) 1.000 (25.40)	.6250-20 UN-2A	.687 (17.45)	2-015	.260 (6.60)
7	.6250-20 UN	1.225 (31.12)	0.875 (22.23)	1.080 (27.43) 1.070 (27.18)	.6875-28 UN-2A	.750 (19.05)	2-016	.260 (6.60)
8	.6875-20 UN	1.275 (32.39)	0.938 (23.83)	1.140 (28.96) 1.130 (28.70)	.7500-28 UN-2A	.812 (20.62)	2-017	.260 (6.60)
9	.7500-20 UNEF	1.325 (33.65)	1.000 (25.40)	1.205 (30.61) 1.195 (30.35)	.8125-28 UN-2A	.875 (22.23)	2-018	.260 (6.60)
10	.8125-20 UNEF	1.380 (35.05)	1.000 (25.40)	1.270 (32.26) 1.260 (32.00)	.8750-28 UN-2A	.937 (23.80)	2-019	.260 (6.60)
12	.8750-20 UNEF	1.462 (37.13)	1.125 (28.58)	1.330 (33.78) 1.320 (33.53)	.9375-28 UN-2A	1.000 (25.40)	2-020	.260 (6.60)
14	1.0625-20 UN	1.650 (41.91)	1.312 (33.32)	1.520 (38.61) 1.510 (38.35)	1.1250-28 UN-2A	1.187 (30.15)	2-023	.325 (8.25)
15	1.1250-20 UN	1.700 (43.18)	1.375 (34.92)	1.580 (40.13) 1.570 (39.88)	1.1875-28 UN-2A	1.250 (31.75)	2-024	.325 (8.25)
21	1.4375-20 UN	2.165 (54.99)	1.700 (43.18)	2.015 (51.18) 2.005 (50.93)	1.5000-28 UN-2A	1.625 (41.28)	2-029	.325 (8.25)



**RECOMMENDED
 PANEL CUTOUT FOR
 DOUBLE O-RING
 ONLY**



SERIES 802 2400M / 3500 PSI Ultraminiature Subsea Connectors



Overmolded, Shielded Submersible Cordsets Performance Overview

Series 802 Harsh Environment Shielded Cordsets



Overmolded AquaMouse™ cordsets are used in oil and gas pipeline equipment and other hostile environments where interconnect reliability and survivability is essential. High performance cordsets feature easy ordering and fast delivery. These fully shielded and watertight assemblies withstand abrasion, temperature extremes and chemicals. Flexible overmolding provides rugged, watertight protection to wire and shield. Two styles are available. For oil and gas equipment or continuous water immersion, choose **Style 1** with thermoplastic polyurethane cable jacket and thermoset polyurethane overmolding. For non-critical general purpose applications, **Style 2** cordsets with polyurethane jackets and polyamide overmolds are a good choice if cost is a concern.

Product Features

- 2500 PSI (Style 1)
- Rugged, watertight construction
- 100% electrically tested
- BandMaster ATS Shield Termination
- Abrasion Resistance
- Resistant to chemicals
- Withstands UV and ozone

Harsh Environment Cordset Selection Guide

Property	Style 1 Polyurethane Jacket Polyurethane Overmold	Style 2 Polyurethane Jacket Polyamide Overmold
Cable jacket	Thermoplastic polyurethane (TPU), black	Thermoplastic polyurethane (TPU), black
Overmold	Thermoset polyurethane, black	Polyamide, black
Operating temperature	-40° C. to +105° C.	-30° C. to +105° C.
Flexibility	Good	Good
Water Resistance	2500 PSI (mated)	1 meter immersion
Solvent Resistance, Cable Jacket	Excellent	Good
Solvent Resistance, Overmold	Excellent	Fair
Weatherability	Excellent	Excellent
Abrasion Resistance	Excellent	Good
Flammability	Flame retardant UL 94 V-0	Flame retardant UL 94 V-0
Cost	\$\$\$\$	\$\$

Specifications

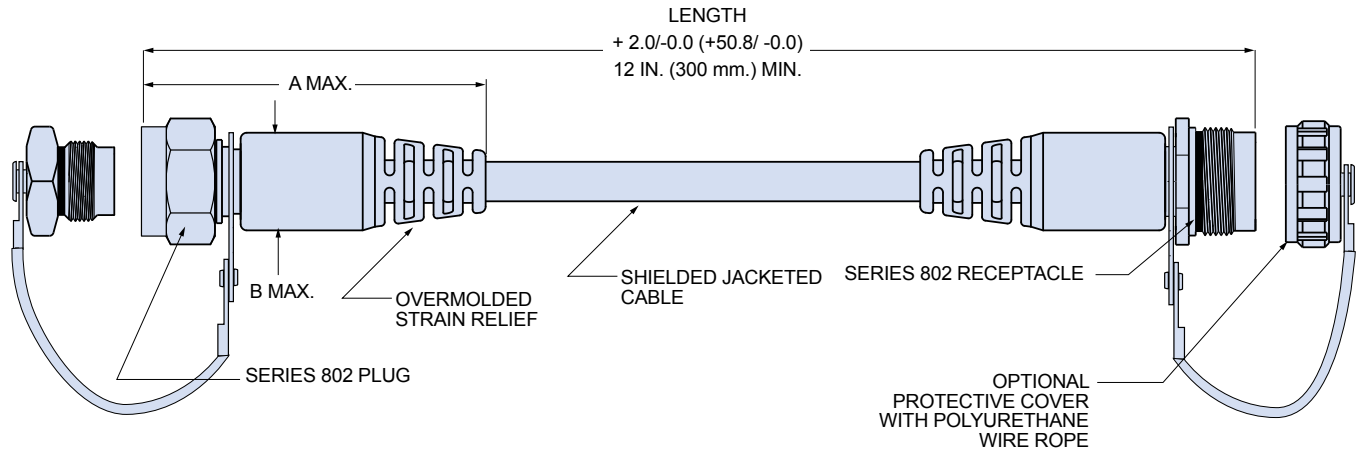
Cable jacket	Thermoplastic polyurethane, black, low-smoke, zero-halogen
Overmold	Style 1: thermoset polyurethane Style 2: polyamide
Cable shield	Tin-coated copper braid, 90% minimum coverage
Conductors	Silver coated stranded wire, TFE insulated, per M22759/11
Shield Termination	Band-Master™ ATS stainless steel shield termination band
Current rating	#23–5 amps, #20–7.5 amps, #16–13 amps, #12–23 amps
Test voltage (DWV)	#23–500 Vac, #20–500 vac, #16 and #12–500 VAC sea level
Insulation resistance	200 Megohms minimum
Shielding effectiveness	50 dB minimum from 100MHz to 1000MHz.

SUBSEA SHALLOW WATER: AQUAMOUSE™

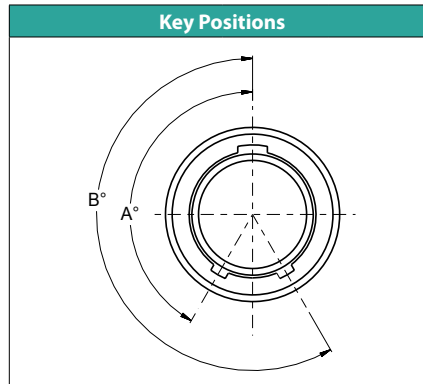


Shielded overmolded submersible cordsets
Dimensions

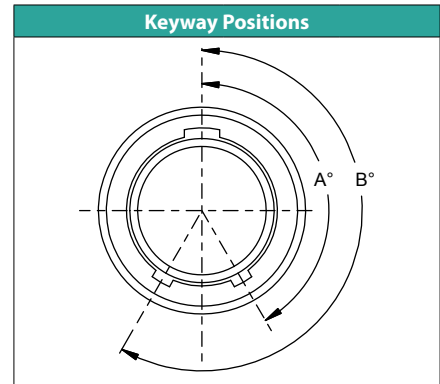
SUBSEA/SHALLOW WATER: AQUAMOUSE™



Dimensions		
Shell Size	A Max.	B Max.
5	2.31 (58.67)	0.5 (12.70)
6	2.40 (60.96)	0.55 (13.97)
7	2.50 (63.50)	0.65 (16.51)
8	2.52 (64.01)	0.71 (18.03)
9	2.80 (71.12)	0.78 (19.81)
10	2.75 (69.85)	0.82 (20.83)
11	2.85 (72.39)	0.87 (22.10)
12	3.10 (78.74)	0.9 (22.86)
14	3.40 (86.36)	1.1 (27.94)
15	3.40 (86.36)	1.2 (30.48)



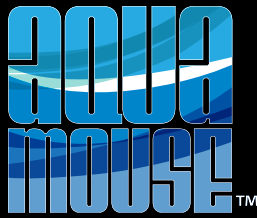
Key Position	Key Rotation	
	A°	B°
Normal (A)	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°



Key Position	Key Rotation	
	A°	B°
A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

NOTES

1. Double-ended cordsets are wired pin #1 to pin #1, #2 to #2, and so on.
2. Wires are silver-coated stranded copper with TFE insulation, 600V, in accordance with M22759/11.
3. Wire color is IAW MIL-STD-681 for cables containing 10 wires or less. For cable containing more than 10 wires, wire color is white.



SERIES 802 2400M / 3500 PSI Ultraminiature Subsea Connectors



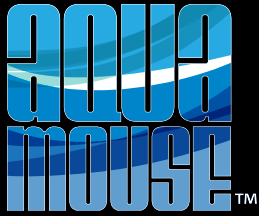
Shielded overmolded submersible cordsets
with Size #23 or #20HD contacts

Series 802 Cordsets with #23 Contacts								
Sample Part Number								
802-019	-A	C	4	M	9-19	N	A	-36
Series	End A Connector	End B Connector	Wire Size	Shell Material / Finish	Insert Arr.	Protective Cover	Key Pos.	Length
802-022 Style 1 Polyurethane Cable Jacket, Thermoset Polyurethane Overmold, 2500 PSI 802-019 Style 2 Polyurethane Cable Jacket, Polyamide Overmold, 1 Meter Immersion	-A Plug, with Male Pin Contacts	A Plug, with Male Pin Contacts	2 #22 AWG	Z1 Stainless Steel Shell / Passivated	See pages 4 - 6 for insert arr.	P Metal Protective Covers Included	A Normal	Overall Length In Inches 12 Inch Min.
	-B Plug, with Female Socket Contacts	B Plug, with Female Socket Contacts	4 #24 AWG	ZM Stainless Steel Shell / Electroless Nickel Plated	Consult Factory for Combo Arr.	N No Covers Supplied	B Pos. B	
	-C Receptacle, with Male Pin Contacts	C Receptacle, with Male Pin Contacts		AB Marine Bronze Shell Unplated			C Pos. C	
	-D Receptacle, with Female Socket Contacts	D Receptacle, with Female Socket Contacts					D Pos. D	
		N No Connector (Single-Ended)					E Pos. E	
							F Pos. F	

Series 802 Cordsets with #20HD Contacts								
Sample Part Number								
802-032	-A	C	0	M	9-19	N	A	-36
Series	End A Connector	End B Connector	Wire Size	Shell Material / Finish	Insert Arr.	Protective Cover	Key Pos.	Length
802-033 Style 1 Polyurethane Cable Jacket, Thermoset Polyurethane Overmold, 2500 PSI Rated 802-032 Style 2 Polyurethane Cable Jacket, Polyamide Overmold, 1 Meter Immersion	-A Plug, with Male Pin Contacts	A Plug, with Male Pin Contacts	0 #20 AWG	Z1 Stainless Steel Shell / Passivated	See page 4 - 6 for insert arr.	P Metal Protective Covers Included	A Normal	Overall Length In Inches 12 Inch Min.
	-B Plug, with Female Socket Contacts	B Plug, with Female Socket Contacts	2 #22 AWG	ZM Stainless Steel Shell / Electroless Nickel Plated	Consult Factory for Combo Arr.	N No Covers Supplied	B Pos. B	
	-C Receptacle, with Male Pin Contacts	C Receptacle, with Male Pin Contacts		AB Marine Bronze Shell Unplated			C Pos. C	
	-D Receptacle, with Female Socket Contacts	D Receptacle, with Female Socket Contacts					D Pos. D	
		N No Connector (Single-Ended)					E Pos. E	
							F Pos. F	

SUBSEA SHALLOW WATER: AQUAMOUSE™





SERIES 802 2400M / 3500 PSI
Ultraminiature Subsea Connectors

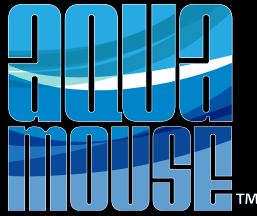


Shielded overmolded submersible cordsets
 with size #16 or #12 contacts

SUBSEA/SHALLOW WATER: AQUAMOUSE™

Series 802 Cordsets with #16 Contacts								
Sample Part Number								
802-026	-A	C	6	Z1	9-4	N	A	-48
Series	End A Connector	End B Connector	Wire Size	Shell Material/ Finish	Insert Arr.	Protective Cover	Shell Key Pos.	Length
802-028 Style 1 Polyurethane Cable Jacket, Thermoset Polyurethane Overmold, 2500 PSI Rated 802-026 Style 2 Polyurethane Cable Jacket, Polyamide Overmold, 1 Meter Immersion	-A Plug, with Male Pin Contacts	A Plug, with Male Pin Contacts	6 #16 AWG	Z1 Stainless Steel Shell / Passivated	See page B-3 for insert arr.	P Metal Protective Covers Included	A Normal	Overall Length In Inches 12 Inch Min.
	-B Plug, with Female Socket Contacts	B Plug, with Female Socket Contacts	8 #18 AWG	ZM Stainless Steel Shell / Electroless Nickel Plated	Consult Factory for Combo Arr.	N No Covers Supplied	B Pos. B	
	-C Receptacle, with Male Pin Contacts	C Receptacle, with Male Pin Contacts		AB Marine Bronze Shell Unplated			C Pos. C	
	-D Receptacle, with Female Socket Contacts	D Receptacle, with Female Socket Contacts					D Pos. D	
		N No Connector (Single-Ended)					E Pos. E	
							F Pos. F	

Series 802 Cordsets with #12 Contacts								
Sample Part Number								
802-027	-A	C	0	M	10-2	N	A	-48
Series	End A Connector	End B Connector	Wire Size	Shell Material / Finish	Insert Arr.	Protective Cover	Shell Key Pos.	Length
802-029 Style 1 Polyurethane Cable Jacket, Thermoset Polyurethane Overmold, 2500 PSI Rated 802-027 Style 2 Polyurethane Cable Jacket, Polyamide Overmold, 1 Meter Immersion	-A Plug, with Male Pin Contacts	A Plug, with Male Pin Contacts	2 #12 AWG	Z1 Stainless Steel Shell / Passivated	See page 4 - 6 for insert arr.	P Metal Protective Covers Included	A Normal	Overall Length In Inches 12 Inch Min.
	-B Plug, with Female Socket Contacts	B Plug, with Female Socket Contacts	4 #14 AWG	ZM Stainless Steel Shell / Electroless Nickel Plated	Consult Factory for Combo Arr.	N No Covers Supplied	B Pos. B	
	-C Receptacle, with Male Pin Contacts	C Receptacle, with Male Pin Contacts		AB Marine Bronze Shell Unplated			C Pos. C	
	-D Receptacle, with Female Socket Contacts	D Receptacle, with Female Socket Contacts					D Pos. D	
		N No Connector (Single-Ended)					E Pos. E	
							F Pos. F	



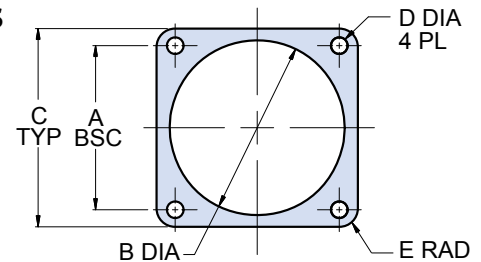
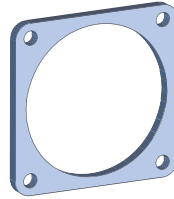
SERIES 802 2400M / 3500 PSI Ultraminiature Subsea Connectors



Series 802 replacement flange gaskets, o-rings and piston rings

FLANGE GASKETS FOR SERIES 802 MIGHTY MOUSE RECEPTACLES

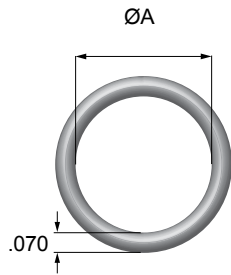
These flange gaskets provide sealing between square flange receptacles and the mounting panel. Choose fluorosilicone, Viton, or neoprene material. Gaskets are .032" (0.8) thick.



Shell Size	Part Number			Dimensions				
	Fluorosilicone	Viton®	Neoprene	A Bsc.	B Dia.	C Typ.	D Dia.	E Rad.
5	809-108F51	809-108V51	809-108N51	.500 (12.70)	.448 (11.38)	.885 (22.48)	.125 (3.18)	.105 (2.67)
6	809-108F52	809-108V52	809-108N52	.625 (15.88)	.572 (14.53)	1.010 (25.65)	.125 (3.18)	.105 (2.67)
7	809-108F53	809-108V53	809-108N53	.688 (17.48)	.635 (16.13)	1.072 (27.23)	.125 (3.18)	.105 (2.67)
8	809-108F54	809-108V54	809-108N54	.750 (19.05)	.698 (17.73)	1.135 (28.83)	.125 (3.18)	.105 (2.67)
9	809-108F55	809-108V55	809-108N55	.812 (20.62)	.760 (19.30)	1.195 (30.35)	.125 (3.18)	.105 (2.67)
10	809-108F56	809-108V56	809-108N56	.875 (22.23)	.822 (20.88)	1.260 (32.00)	.125 (3.18)	.105 (2.67)
12	809-108F57	809-108V57	809-108N57	.938 (23.83)	.885 (22.48)	1.323 (33.60)	.125 (3.18)	.105 (2.67)
14	809-108F58	809-108V58	809-108N58	1.125 (28.58)	1.072 (27.23)	1.510 (38.35)	.125 (3.18)	.105 (2.67)
15	809-108F59	809-108V59	809-108N59	1.188 (30.18)	1.135 (28.83)	1.573 (39.95)	.125 (3.18)	.105 (2.67)
21	809-108F60	809-108V60	809-108N60	1.375 (34.92)	1.448 (36.78)	1.760 (44.70)	.125 (3.18)	.105 (2.67)

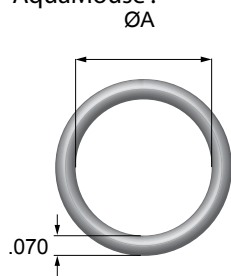
802 REPLACEMENT O-RINGS FOR MIGHTY MOUSE RECEPTACLES

These Viton® O-rings fit Series 802 "AquaMouse" rear panel mount jam nut connector flanges.



Shell Size	Flange O-rings for Series 802 Jam Nut and Square Flange Receptacles					
	Jam Nut Flange Style			Square Flange Style		
	Viton® Part No.	O-Ring Size	Ø A Inside Dia.	Viton® Part No.	O-Ring Size	Ø A Inside Dia.
-05	809-165-05	2-015	.551 (14.00)	809-165-35	2-012	.364 (9.25)
-06	809-165-06	2-017	.676 (17.17)	809-165-36	2-014	.489 (12.42)
-07	809-165-07	2-018	.739 (18.77)	809-165-37	2-015	.551 (14.00)
-08	809-165-08	2-019	.801 (20.35)	809-165-38	2-016	.614 (15.60)
-09	809-165-09	2-020	.864 (21.95)	809-165-39	2-017	.676 (17.17)
-10	809-165-10	2-021	.926 (23.52)	809-165-40	2-018	.739 (18.77)
-12	809-165-12	2-022	.989 (25.12)	809-165-42	2-019	.801 (20.35)
-14	809-165-14	2-025	1.176 (29.87)	809-165-44	2-022	.989 (25.12)
-15	809-165-15	2-026	1.239 (31.47)	809-165-45	2-023	1.051 (26.70)
-21	809-165-21	2-030	1.614 (41.00)	809-165-51	2-028	1.364 (34.65)

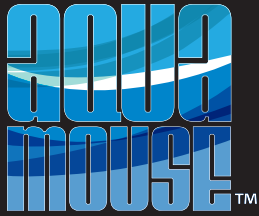
These Viton® Piston O-rings fit Series 802 "AquaMouse".



Shell Size	Piston O-rings for Series 802						
	Viton® Part No.	O-Ring ID x Width Dimensions		Shell Size	Viton® Part No.	O-Ring ID x Width Dimensions	
		In.	mm.			In.	mm.
-05	809-209-05	.208 x .070	5.28 x 1.78	10	809-209-10	.551 x .070	14.00 x 1.78
-06	809-209-06	.270 x .070	6.86 x 1.78	12	809-209-12	.614 x .070	15.60 x 1.78
-07	809-209-07	.364 x .070	9.24 x 1.78	14	809-209-14	.801 x .070	20.34 x 1.78
-08	809-209-08	.384 x .070	9.75 x 1.78	15	809-209-15	.864 x .070	21.94 x 1.78
-09	809-209-09	.489 x .070	12.42 x 1.78	21	809-209-21	1.051 x .070	26.70 x 1.78

SUBSEA SHALLOW WATER: AQUAMOUSE™





SERIES 802 2400M / 3500 PSI Ultraminiature Subsea Connectors



660-088 and 660-087 IP68 Protective cover



Protect Connectors From Damage –

These covers prevent ingress of water and contamination. Stainless steel plug covers feature Viton® O-rings for IP68 sealing (one meter for one hour). Receptacle covers have a Viton® gasket and are made from marine bronze to minimize galling. Cover is designed for low PSI connector protection. For 3500 PSI protection, use part numbers 667-241 and 667-242

the jam nut or over cable jackets. Split rings can be installed on fully assembled cables.

Polyurethane-Coated SST Wire Rope

offers high strength, excellent abrasion resistance and good flexibility. Or, choose Fluoropolymer jacket for high temperature exposure.

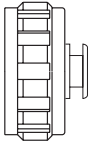
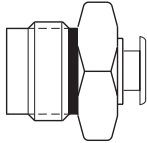
Three Types of Attachment Rings

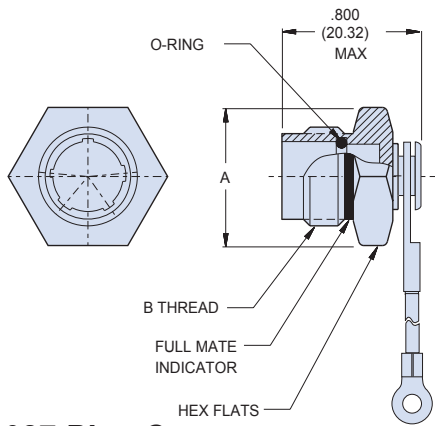
Choose small diameter eye fittings for panel attachment. Larger rings fit under

Braided Nylon Rope provides excellent flexibility and good abrasion resistance, and can be ordered with slip knot fittings for easy installation on any size cable.

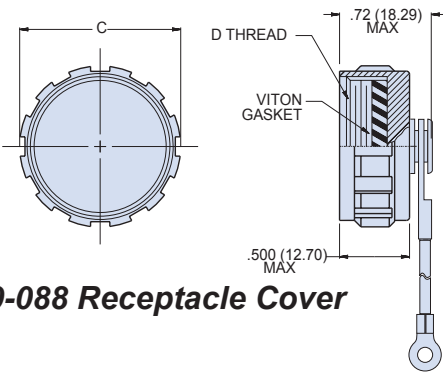
SUBSEA/SHALLOW WATER: AQUAMOUSE™

How To Order	
Sample Part Number	660-088 -9 G 04 -6 B
Series (See Table I)	660-088 = Receptacle Cover 660-087 = Plug Cover
Shell Size	-5, -6, -7, -8, -9, -10, -12, -14, -15, -21
Attachment Type	G = Nylon Rope H = SST Wire Rope, Fluoropolymer Jacket N = No Attachment S = SST Sash Chain SK = Nylon Rope With Slip Knot T = SST Wire Rope, No Jacket U = SST Wire Rope, Polyurethane Jacket "SST" = Stainless Steel
Attachment Code (See Table II)	Small Ring = 01, 02, 04, 06 Solid Ring = 16 thru 24 Split Ring = 50 thru 72
Attachment Length (inches)	Example "-6" equals six inch length Omit for attachment Type N (No Attachment)
Alternate Key Position (660-087 Only)	Omit for plug connectors with standard "A" key position, for all other positions indicate B, C or D Omit if ordering 660-088 receptacle cover

Table I: Cover Style	
	
660-088 Receptacle Cover	660-087 Plug Cover



660-087 Plug Cover



660-088 Receptacle Cover

660-087 & -088 Dimensions						
Shell Size	A Hex		B Thread Class 2A	Ø C Max.		D Thread Class 2B
	In.	mm.		In.	mm.	
5	.500	12.70	.438-28 UNEF	.59	15.0	.438-28 UNEF
6	.625	15.88	.562-20 UN	.72	18.3	.562-20 UN
7	.688	17.48	.625-20 UN	.78	19.8	.625-20 UN
8	.750	19.05	.687-20 UN	.84	21.3	.687-20 UN
9	.812	20.62	.750-20 UNEF	.90	22.9	.750-20 UNEF
10	.875	22.23	.812-20 UNEF	.97	24.6	.812-20 UNEF
12	.938	23.83	.875-20 UNEF	1.03	26.2	.875-20 UNEF
14	1.125	28.58	1.062-20 UN	1.22	31.0	1.062-20 UN
15	1.188	30.18	1.125-20 UN	1.28	32.5	1.125-20 UN
21	1.562	39.67	1.438-20 UN	1.61	40.9	1.438-20 UN

NOTES

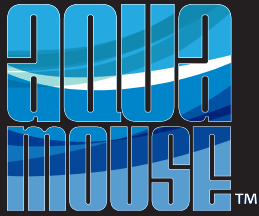
Materials and Finishes

- Plug Cover: 316 stainless steel, passivated
- Receptacle Cover: marine bronze, unplated
- O-Ring: Viton rubber
- Gasket: Viton rubber
- Wire, Hardware: Stainless steel, passivated

Table II: Attachment Options				
<p>Small Ring For Attaching Receptacle Covers to a Panel with a Screw</p>	Attch. Code	Screw Size	Ring I.D.	
			In.	mm.
	01	#4, M3	.126	3.20
	02	#6	.145	3.68
	04	#8, M4	.188	4.78
	06	#10	.197	5.00
<p>Solid Ring for Attaching Receptacle Covers to Jam Nut Receptacles</p>	Attch. Code	Receptacle Cover Shell Size	Ring I.D.	
			In.	mm.
	16	5	.570	14.5
	17	6	.635	16.1
	18	7	.695	17.7
	19	8, 9, 10	.885	22.5
	20	12	1.070	27.2
	21	14	1.135	28.8
	22	15	1.210	30.7
	24	21	1.530	38.9
<p>Large Split Ring for Attaching Covers to Cables</p>	Attch. Code	Max. Cable Dia.	Min. ID	
			In.	mm.
	50	.410	.420	10.67
	52	.470	.480	12.19
	54	.625	.635	16.13
	56	.735	.745	18.92
	58	.875	.885	22.48
	60	1.000	1.010	25.65
	64	1.115	1.125	28.58
	68	1.335	1.345	34.16
	72	1.416	1.438	36.53
<p>Slip Knot (SK) for Attaching Covers to Cable</p>				

Jam Nut Major Diameter Thread Reference			
Shell Size	Jam Nut Thread Major Dia.	Shell Size	Jam Nut Thread Major Dia.
5	.5000	10	.8750
6	.6250	12	.9375
7	.6875	14	1.1250
8	.7500	15	1.1875
9	.8125	21	1.5000

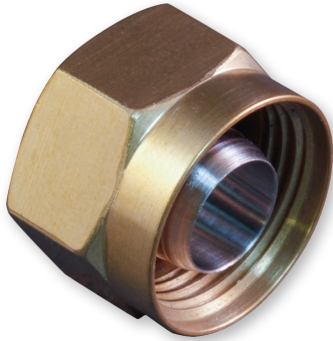




SERIES 802 2400M / 3500 PSI Ultraminiature Subsea Connectors



667-241 and 667-242 3500 PSI Protective covers



Protect Connectors From Damage – These covers prevent ingress of water and contamination. Stainless steel plug covers feature Viton® O-rings for 3500 PSI sealing. Receptacle covers are made from marine bronze to minimize galling. For low-pressure IP68 receptacle sealing only, use part number 660-088.

Polyurethane-Coated SST Wire Rope offers high strength, excellent abrasion resistance and good flexibility. Or, choose Fluoropolymer jacket for high temperature exposure.

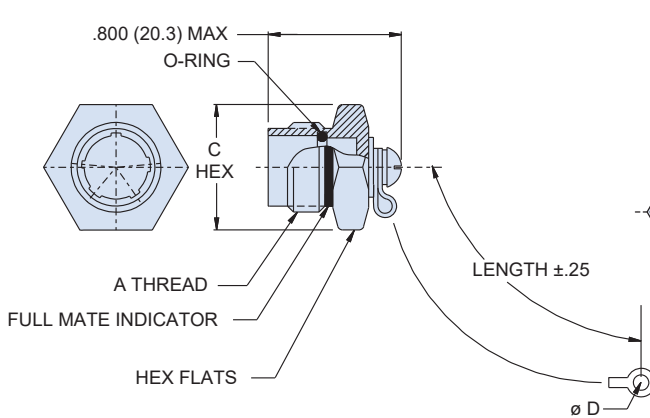
Braided Nylon Rope provides excellent flexibility and good abrasion resistance, and can be ordered with slip knot fittings for easy installation on any size cable.

SUBSEA/SHALLOW WATER: AQUAMOUSE™

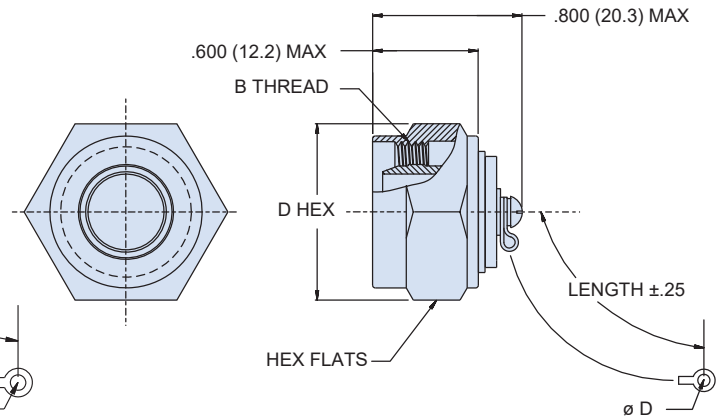
How To Order	
Sample Part Number	667-241 -S 6 03 -6
Series (See Table I)	667-241 = Plug Cover 667-242 = Receptacle Cover
Attachment Type	-D = Bead Chain, Cres., Passivate -F = Wire Rope, Nylon Jacket -G = Nylon Rope -H = SST Wire Rope, Fluoropolymer Jacket -N = No Attachment -R = Wire Rope, PVC Jacket -S = SST Sash Chain -T = SST Wire Rope, No Jacket -U = SST Wire Rope, Polyurethane Jacket "SST" = Stainless Steel
Shell Size	5, 6, 7, 8, 9, 10, 12, 14, 15, 21
Attachment Code (See Table II)	Small Ring = 01 thru 06 Solid Ring = 14 thru 33
Attachment Length (inches)	Omit for attachment Type N (No Attachment) Example "-6" equals six inch length

Table I: Cover Style	
667-241 High Pressure Plug Cover	667-242 High Pressure Receptacle Cover

Table II: Attachment Code	
Omit for attachment Type N (No Attachment)	
 Small Ring	01 - .125 (3.2) I.D. 02 - .140 (3.6) I.D. 04 - .182 (4.6) I.D. 06 - .197 (5.0) I.D.
 Solid Ring	14 - .385 (9.8) I.D. 15 - .445 (11.3) I.D. 16 - .570 (14.5) I.D. 17 - .635 (16.1) I.D. 18 - .695 (17.7) I.D. 19 - .885 (22.5) I.D. 20 - 1.070 (27.2) I.D. 21 - 1.135 (28.8) I.D. 22 - 1.210 (30.7) I.D. 23 - 1.275 (32.4) I.D. 24 - 1.530 (38.9) I.D. 26 - .510 (13.0) I.D. 27 - .766 (19.5) I.D. 28 - 1.015 (25.8) I.D. 29 - .315 (8.0) I.D. 30 - 1.380 (35.1) I.D. 31 - .820 (20.8) I.D. 32 - .265 (6.7) I.D. 33 - .510 (13.0) I.D.







667-241 High-Pressure Plug Cover



667-242 High-Pressure Receptacle Cover

667-241 (Plug Cover) Dimensions				
Attachment Code	Shell Size	A Thread	C Hex.	
			In.	mm.
32	5	.4375-28 UNEF-2A	.500	12.70
14	6	.5625-20 UN-2A	.625	15.88
33	7	.6250-20 UN-2A	.688	17.48
16	8	.6875-20 UN-2A	.750	19.05
17	9	.7500-20 UNEF-2A	.812	20.62
17	10	.8125 20 UNEF-2A	.875	22.23
18	12	.8750-20 UNEF-2A	.938	23.83
19	14	1.0625-20 UN-2A	1.125	28.58
26	15	1.1250-20 UN-2A	1.188	30.18
23	21	1.4375-20 UN-2A	1.562	39.67

667-242 (Receptacle Cover) Dimensions				
Attachment Code	Shell Size	B Thread	D Hex	
			In.	mm.
33	5	.4375-28 UNEF-2B	.500	12.70
17	6	.5625-20 UN-2B	.625	15.88
18	7	.6250-20 UN-2B	.688	17.48
27	8	.6875-20 UN-2B	.750	19.05
31	9	.7500-20 UNEF-2B	.812	20.62
19	10	.8125-20 UNEF-2B	.875	22.23
26	12	.8750-20 UNEF-2B	.938	23.83
21	14	1.0625-20 UN-2B	1.125	28.58
22	15	1.1250-20 UN-2B	1.188	30.2
24	21	1.4375-20 UN-2B	1.562	39.7

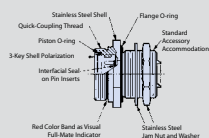
Table V: Lanyard Options	
 Nylon Rope	-65° to +100°C., black, very flexible, very good abrasion resistance, good resistance to fuels, .120" (3mm) diameter
 Polyurethane Coated Wire Rope	Black polyurethane over stainless steel rope, -65° to +125°C., very flexible, excellent abrasion resistance, excellent resistance to fuels, .080" (2mm) diameter
 Fluoropolymer Jacketed Wire Rope	Translucent FEP jacket over stainless steel rope, -65° to +200°C., fair flexibility, good abrasion resistance, .100" diameter
 Sash Chain	Stainless steel, #8 chain, .240" (6mm)

NOTES

Materials and Finishes

- Plug Cover: 316 Stainless Steel
- Receptacle Cover: Nickel-Aluminum-Bronze.
- Receptacle Shell: 316 Stainless Steel
- Plug O-Ring: Viton





REFERENCE INFORMATION

Materials, contact arrangements,
 Performance specifications

pg. 61

**220-06 (STANDARD)
 AND 220-16 (SCOOP-PROOF)**
 High-Pressure Environmental Cable Plug



pg. 77

**220-01 (STANDARD) AND
 220-11 (SCOOP-PROOF)**
 In-Line Receptacle Connector



pg. 78

**220-00 (STANDARD) AND
 220-10 (SCOOP-PROOF)**
 Jam Nut Bulkhead Receptacle,
 Front Mount



pg. 79

**220-02 (STANDARD) AND 220-12
 (SCOOP-PROOF)**
 Square Flange Mount Receptacle
 Connector



pg. 80

**220-03 (STANDARD)
 AND 220-13 (SCOOP-PROOF)**
 Receptacle Connector, Front Mount



pg. 81

**220-04 (STANDARD)
 AND 220-14 (SCOOP-PROOF)**
 Jam Nut Receptacle with Accessory
 Threads, Rear Mount



pg. 82

**220-07 (STANDARD)
 AND 220-17 (SCOOP-PROOF)**
 Jam Nut Receptacle, Rear Box Mount



pg. 83

**220-09 (STANDARD)
 AND 220-19 (SCOOP-PROOF)**
 High-Pressure Environmental
 Box-Mount Plug



pg. 84

**227-039 (STANDARD)
 AND 220-040 (SCOOP-PROOF)**
 Jam Nut, Bulkhead Feed-through



pg. 85

290-011
 Fixed SST molding adapter



pg. 87

290-012
 Variable entry SST molding adapter



pg. 87

290-003
 Straight, 45° or 90° Strain-relief backshell



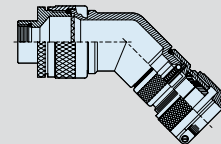
pg. 89

290-004
 Straight or 90° Environmental Strain
 Relief backshell



pg. 89

297W-003
 EMI/RFI Strain Relief Backshell



pg. 91

**ACCESSORIES AND CUSTOM
 OVERMOLDED
 CABLE ASSEMBLIES**



pg. 93



SERIES 22

Geo-Marine®

High-pressure harsh-environment connectors and overmolded cables

Applications

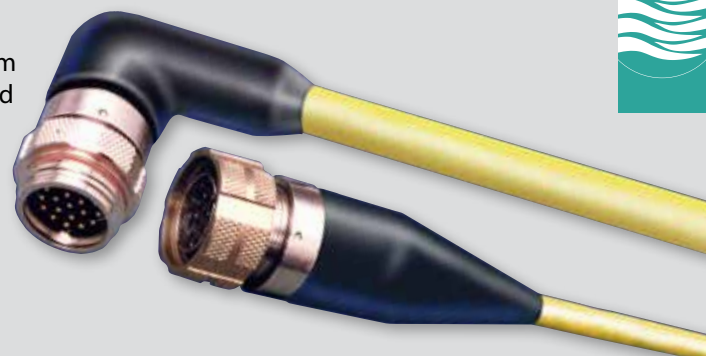
Designed for use in oceanographic, geophysical and other severe industrial environments, Glenair Series 22 Geo-Marine® Connectors and Cables are the ultimate harsh-environment power and signal connector solution. Built to withstand hydrostatic pressures up to 5,000 PSI and exposure to extreme temperatures and corrosives, the Series 22 Geo-Marine® is ideally suited for applications such as US Navy towed array sonar systems, military land vehicles, submersibles and ROV's, offshore-oil drilling equipment, seabed exploration, pipeline inspection systems, well monitoring equipment, and digital seismic streamers.

Design

Geo-Marine® plugs are equipped with arctic coupling nuts—made from marine-grade naval bronze—with easy-to-grip castellated knurling and a powerful ratcheted anti-decoupling mechanism which guarantees reliable mating and demating performance in even the harshest environments. Supplied as discrete connectors—or more typically in build-to-print overmolded cable assemblies—the Series 22 Geo-Marine® has delivered reliable, proven performance for over four decades and is an excellent interconnect solution for high-pressure, harsh-environment applications.



- Marine Grade 316 stainless steel machined shells and Naval Bronze coupling rings
- High-pressure environmental and hermetically sealed receptacles for field applications
- Power and signal contact arrangements from 2 to 128 contacts
- Anti-vibration ratcheted coupling nuts with castellated knurling
- Available Viton® overmolded cable assemblies



SUBSEA/SHALLOW WATER: GEO-MARINE®





photo: Seismometer, geophysical observatory, Neumayer Station, Antarctica by Dr. Hannes Grobe



Anti-Galling Arctic Coupling Nuts

One of the most valuable features of the Series 22 Geo-Marine® from the user's perspective is the specially-designed castellated and knurled coupling nut which facilitates rapid mating and demating in field applications. Single-start, stub Acme threads reduce thread fouling and binding, and are supplied with an anti-vibration/anti-decoupling device which prevents accidental loosening or decoupling. Plugs contribute to high-pressure sealing, up to 5,000 PSI in the mated condition, by means of rugged and durable interfacial and peripheral seals.



Range of Offerings

Series 22 Geo-Marine® connectors are supplied with either fused-glass ("H" hermetic class-up to 5,000PSI open face rating) or high grade thermoplastic ("E" environmental class-5,000PSI in the mated condition) insulators. Both classes of connectors are supplied with rugged, corrosion-resistant materials. Low-profile and scoop-proof cable plugs and receptacles, as well as bulkhead feed-throughs are available. Specially-designed cable sealing backshells as well as EMI/RFI shield termination backshells and environmentally-sealed protective covers complete the range of discrete product offerings. 35 Contact Arrangements (contact sizes #12, #16, #20 and #22) are tooled and fully available.

Receptacle Configurations: High-pressure environmental ("E") and hermetic ("H") class receptacles are available for cable as well as box applications. Rugged o-ring piston seals located inside the receptacle barrel contribute to reliable high-pressure sealing in the mated condition. Glenair is able to supply Geo-Marine® customers with a wide range of receptacle configurations for unique requirements including low-profile and scoop-proof designs, pin and socket contact designs, solder cup and printed circuit board termination, unique flange shapes and mounting configurations, in-line cable receptacles, connector savers and gender changers.

HIGH-PRESSURE ENVIRONMENTAL AND HERMETIC RECEPTACLE CONFIGURATIONS



Rear Panel Mount , Jam Nut



In-Line (CCP)



Square Flange (FCR)



Solder-Mount



Bulkhead Feed-Through

Hermetic/high-pressure or environmental connectors - performance specifications

Performance Specifications			
Hydrostatic Pressure Rating:	5,000 PSI (fully mated)		
Operating Temperature:	-65°C to +125°C		
Durability:	500 Cycles of mate/demate		
Insulation Resistance:	1000 Megohms minimum at 500 VDC		
Class H Hermetic Receptacles			
Open-Face Pressure Rating	1,000 to 5,000 PSI		
Hermeticity	Less than 1 X 10 ⁻⁶ scHe/second @ 1 atmosphere		
Current Rating			
Current Rating	Environmental	Hermetic	
Size 22 Contact	500 VDC, 5 amps	500 VDC, 3 amps	
Size 20 Contact	500 VDC, 7.5 amps	500 VDC, 5 amps	
Size 16 Contact	750 VDC, 13 amps	750 VDC, 10 amps	
Size 12 Contact	750 VDC, 23 amps	750 VDC, 17 amps	
Service Rating			
Contact Size	Suggested Operational Voltage (Sea Level)		Test Voltage (Sea Level)
	AC(RMS)	DC	
22 GA	400	550	1300 VDC
20 GA	600	850	1800 VDC
16 GA	900	1250	2300 VDC
12 GA	300	450	2300 VDC

Depth/Pressure Conversion							
Feet	Meters	P.S.I.	Bar	Feet	Meters	P.S.I.	Bar
1	.3	.4	.0296	1,000	304.8	433.0	29.8543
10	3.1	4.3	.2965	1,500	457.2	649.5	44.7814
50	15.2	21.7	1.4962	2,500	762.0	1082.5	74.6357
100	30.5	43.3	2.9854	5,000	1524.0	2165.0	149.2715
250	76.2	108.3	7.4670	10,000	3048.0	4330.0	298.5430
500	152.4	216.5	14.9271	11,547	3519.35	5000.0	344.7379

Cable/Wire D.C. Resistance			
Copper Conductors at Room Temperature			
AWG	Ohms per 1000 feet	AWG	Ohms per 1000 feet
28	66.2 Max	20	10.4 Max
26	41.6 Max	18	6.5 Max
24	26.2 Max	16	4.1 Max
22	16.5 Max	14	2.6 Max
		12	1.6 Max





SERIES 22 5000M / 5000 PSI Shallow Water Application



Hermetic/high-pressure or environmental connectors - material and finish specifications



Geo-Marine®

Geo-Marine® is a registered trademark of Glenair, Inc.



Glenair can design and fabricate overmolded Geo-Marine® cable assemblies featuring Viton® chemical resistant materials—terminated and tested to deliver advanced levels of sealing and durability.



Materials/Potting		
Item	Material	Potting
Connector Shells	CRS 316 SAE-AMS-QQ-S-763	Stycast 2651/Catalyst 9
Protective Covers	CRS 316 SAE-AMS-QQ-S-763	
Solder Mount Receptacle	CRS 316 SAE-AMS-QQ-S-763	
Plug Coupling Nut	Marine Bronze SAE AMS-4640	
Molding Adapters and Backshells	See individual product pages	
Insulators, Class "E"	Epiall 1908, Diallyl Phthalate or Hysol CP2-4289	
Insulators, Class "H"	Fused Vitreous Glass	
Contacts, Pin - Class "E"	Leaded Nickel Copper, CA 7021	
Contacts, Pin - Class "H"	Nickel-Iron Alloy 52 - MIL-I-23011, Class 2	
Contacts, Socket	Copper Alloy, CA7021	
Contacts, Socket Hood	CRS, SAE-AMS-QQ-S-763 AISI 305	
O-Rings	Nitrile (Buna-N) Rubber MIL-G-21569	
Interfacial and Peripheral Seals	Fluorosilicone Rubber MIL-DTL-25988	



CATALOG NOTES

For all parts in this catalog:

- All parts will be identified with manufacturer's name and part number, space permitting.
- Glenair 600 series backshell assembly tools are recommended for assembly and installation.
- Electrical ratings are based on connectors only, not terminated to a cable or conductors, with proper cleaning and drying after hydrostatic testing.

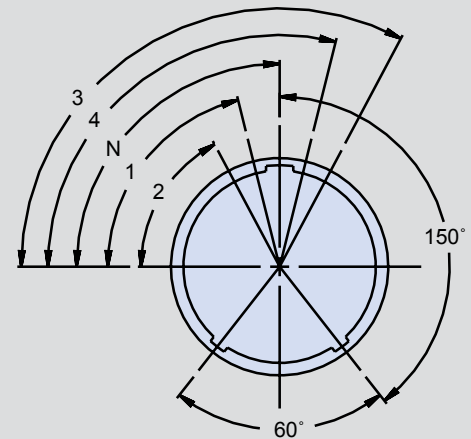
- On all length callouts, tolerance is $\pm .060$ unless otherwise specified.
- Metric dimensions appear in parentheses in diagrams and tables, based on 1 inch = 25.4 mm, for reference only. Unless otherwise specified, the following other dimensional tolerances apply:
 - .xx = $\pm .03$ (0.8)
 - .xxx = $\pm .015$ (0.4)
 - Lengths = $\pm .060$ (1.52)
 - Angles = $\pm 5^\circ$

Caution

Electrical safety limits must be established by the user. Peak voltages, switching surges, transients, etc., should be used to determine the safety of application.

STANDARD AND CUSTOM CONTACT ARRANGEMENTS AND KEYWAY POSITIONS (POLARIZATION)

Contact Arrangements					
Shell Size	Series 22 Pattern	Contact Size/Quantity			
		22	20	16	12
10	10-2			2	
	10-4			4	
	10-6		6		
	10-13	13			
12	12-8			8	
	12-10		10		
	12-22	22			
14	14-4				4
	14-12			14	
	14-19		19		
	14-37	37			
16	16-6				6
	16-19			19	
	16-26		26		
	16-55	55			
18	18-8		8		
	18-11			11	
	18-22			22	
	18-32		32		
	18-66	66			
20	20-11				11
	20-30			30	
	20-38		30	8	
	20-41		41		
	20-79	79			
22	22-19				19
	22-38			38	
	22-50	48			2
	22-55		55		
	22-85	85			
24	24-24			12	12
	24-48			48	
	24-61		61		
	24-100	100			
	24-128	128			



**FACE VIEW
RECEPTACLE**

Alternate Keyway Positions					
Shell Size Desig.	N°	1°	2°	3°	4°
10	90	76	62	118	104
12	90	70	58	122	110
14	90	69	56	124	111
16	90	72	60	120	108
18	90	72	62	120	108
20	90	72	60	120	108
22	90	75	64	116	105
24	90	75	64	116	105

Recommended Jam Nut Installation Torque Values		
Shell Size	Torque ± 5%	
	Inch - Lbs.	Newton - Meters
10	95	10.73
12	110	12.43
14	140	15.82
16	170	19.21
18	195	22.03
20	215	24.29
22	235	26.55
24	260	29.38

Custom Contact Contact Arrangements

Series 22 inserts may be tooled for alternative contact Contact Arrangements including variably sized electrical contacts—from size 12 to 22—as well as hybrid arrangements incorporating fiber optic, Coax and other contact types. Glenair has produced hundreds of custom arrangements beyond those shown in this catalog. Please contact your local Glenair representative, or the factory, for assistance.

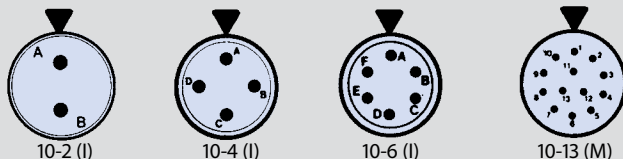
SUBSEA/SHALLOW WATER: GEO-MARINE®



**Hermetic/High-pressure or Environmental
Connectors - Table I, Contact Arrangements**

Table I, Face View of Pin Inserts Illustrated - Service Ratings Indicated in Parentheses

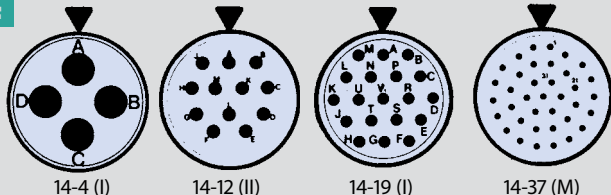
10



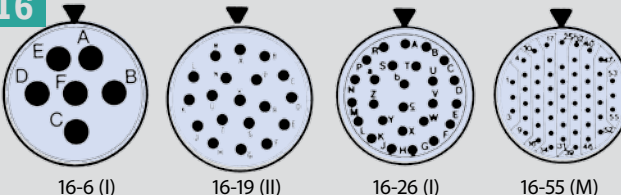
12



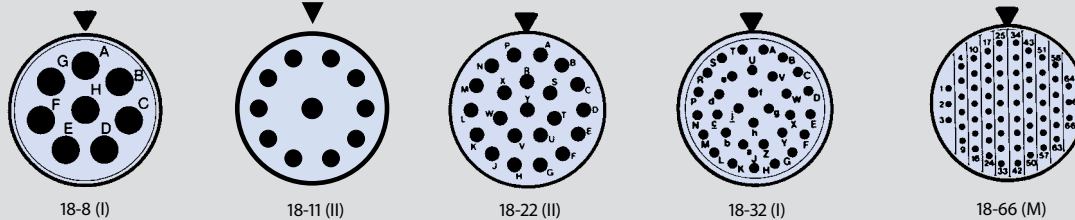
14



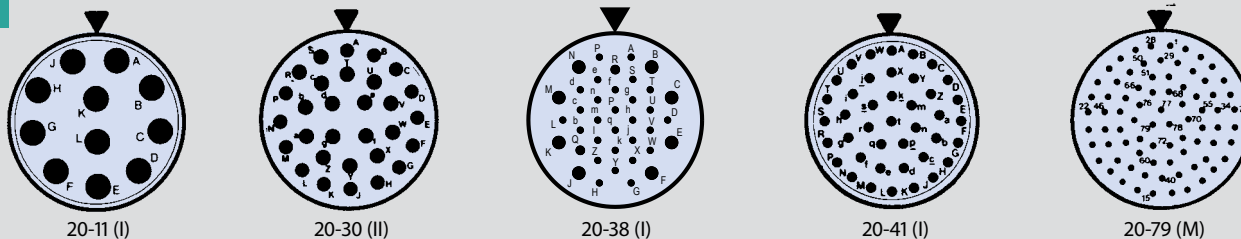
16



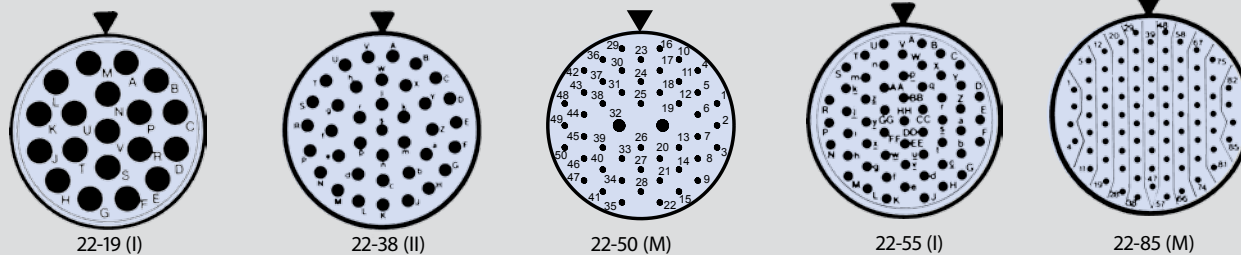
18



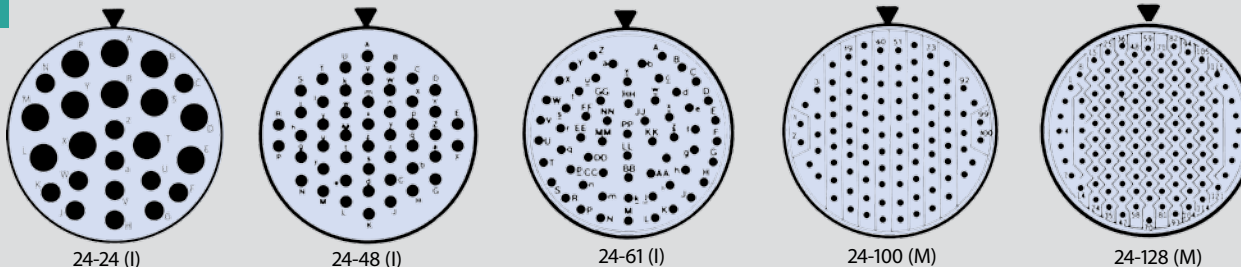
20



22



24

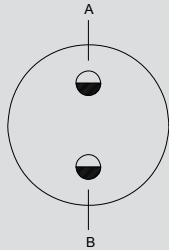


SUBSEA/SHALLOW WATER: GEO-MARINE®

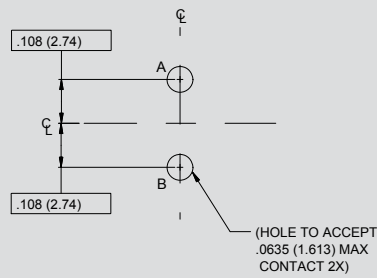


**Hermetic/High-pressure or Environmental
Connectors - PCB Footprints - Size 10**

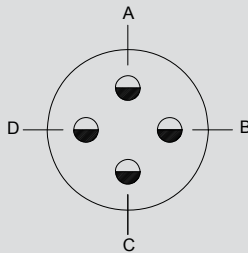
Size 10 - Viewed from Connector Mounting Side, Pin Face



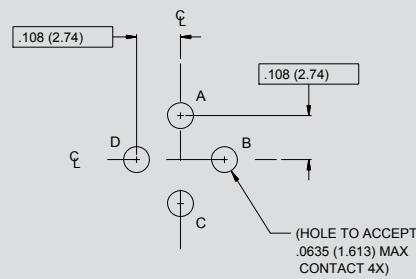
Insert Arrangement
10-2
2 #16 Contacts



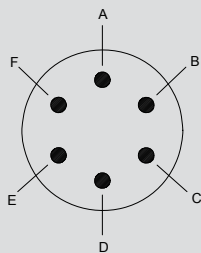
Pin Connector



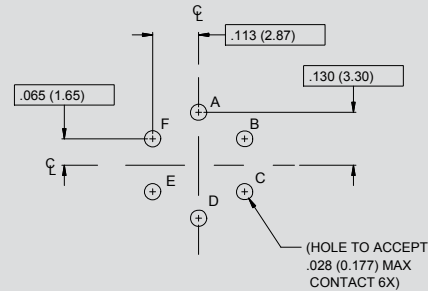
Insert Arrangement
10-4
4 #16 Contacts



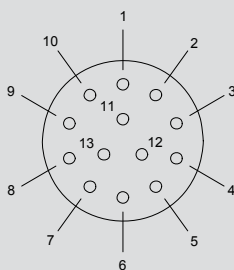
Pin Connector



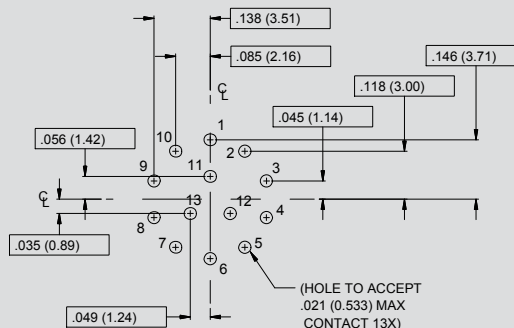
Insert Arrangement
10-6
6 #20 Contacts



Pin Connector



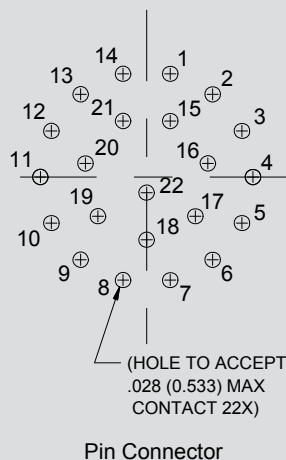
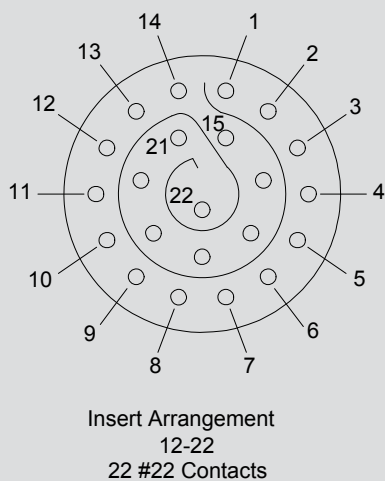
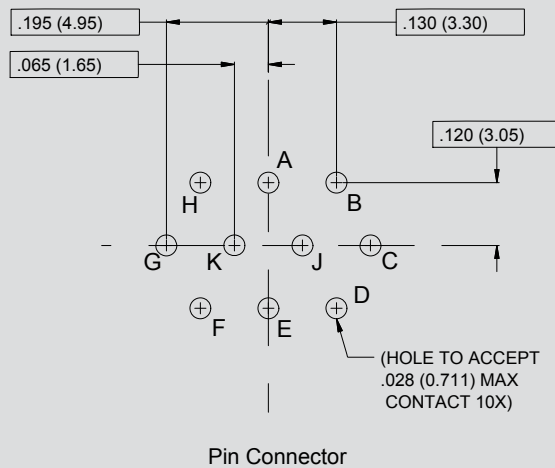
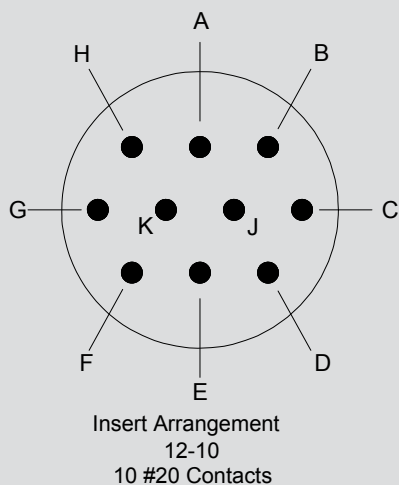
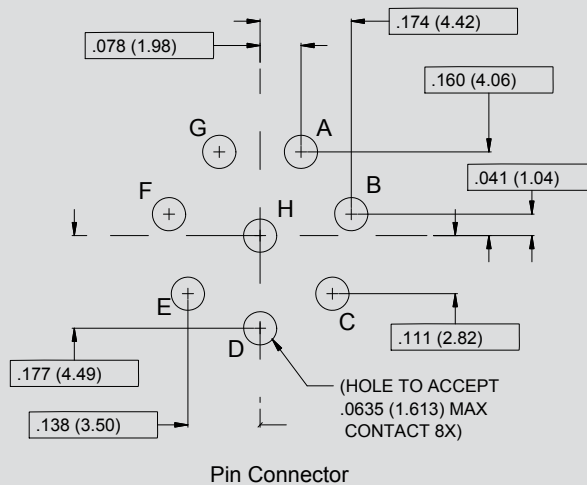
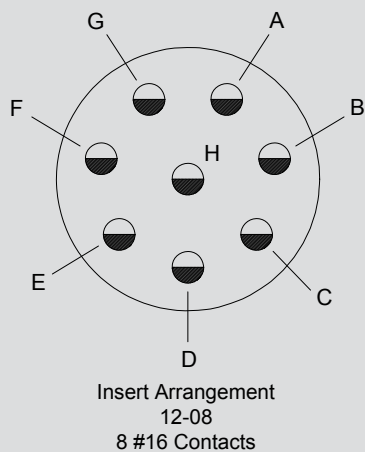
Insert Arrangement
10-13
13 #22 Contacts



Pin Connector



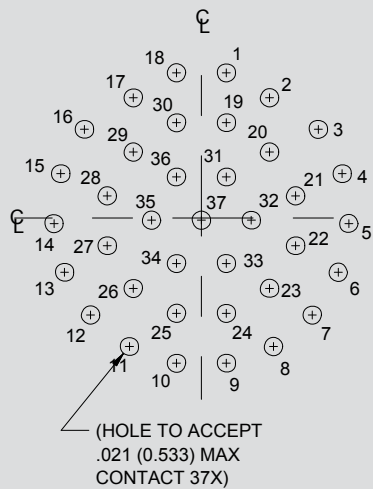
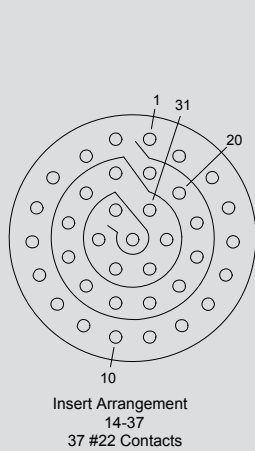
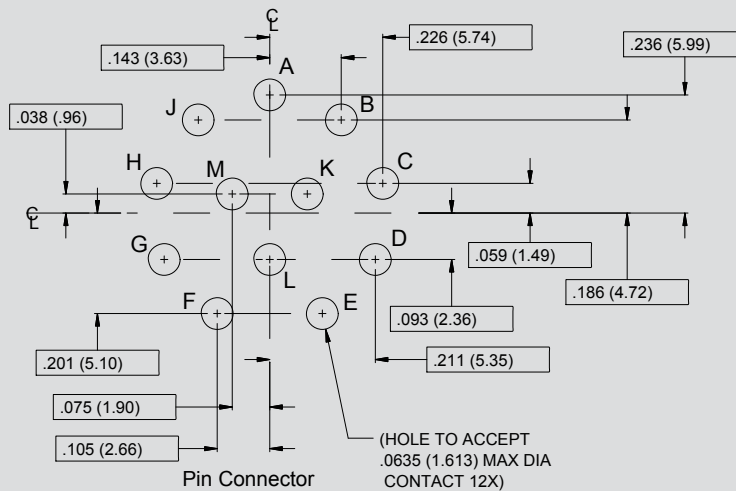
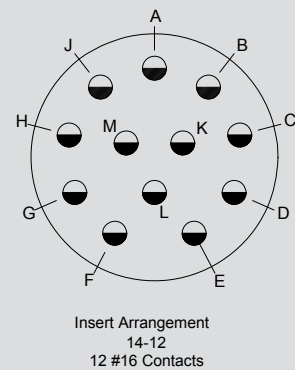
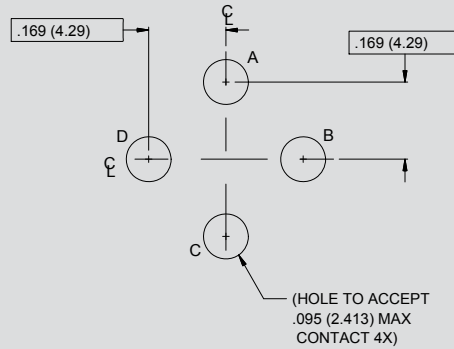
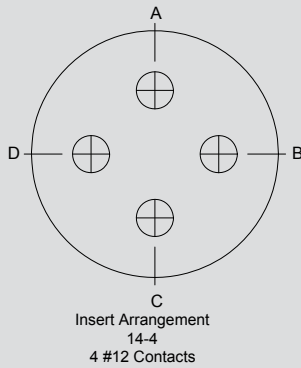
Size 12 - Viewed from Connector Mounting Side, Pin Face



I.D. NO.	X	Y
	In. mm.	In. mm.
1	.045 (1.14)	.197 (5.00)
2	.126 (3.20)	.158 (4.01)
3	.182 (4.62)	.088 (2.23)
4	.203 (5.15)	.000 (.000)
5	.182 (4.62)	-.088 (-2.23)
6	.126 (3.20)	-.158 (-4.01)
7	.045 (1.14)	-.197 (-5.00)
8	-.045 (-1.14)	-.197 (-5.00)
9	-.126 (-3.20)	-.158 (-4.01)
10	-.182 (-4.62)	-.088 (-2.23)
11	-.203 (-5.15)	.000 (.000)
12	-.182 (-4.62)	.088 (2.23)
13	-.126 (-3.20)	.158 (4.01)
14	-.045 (-1.14)	.197 (5.00)
15	.045 (1.14)	.107 (2.72)
16	.117 (2.97)	.026 (0.660)
17	.093 (2.36)	-.075 (-1.90)
18	.000 (.000)	-.120 (-3.05)
19	-.093 (-2.36)	-.075 (-1.90)
20	-.117 (-2.97)	.026 (0.660)
21	-.045 (-1.14)	.107 (2.72)
22	.000 (.000)	-.030 (-0.762)

**Hermetic/High-pressure or Environmental
Connectors - PCB Footprints - Size 14**

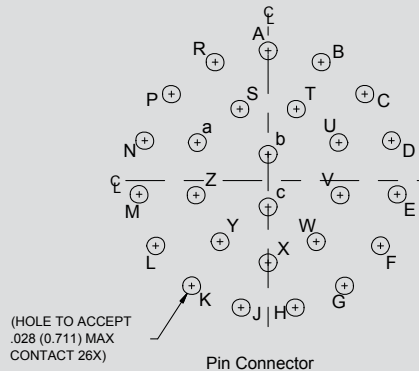
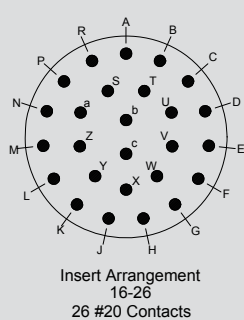
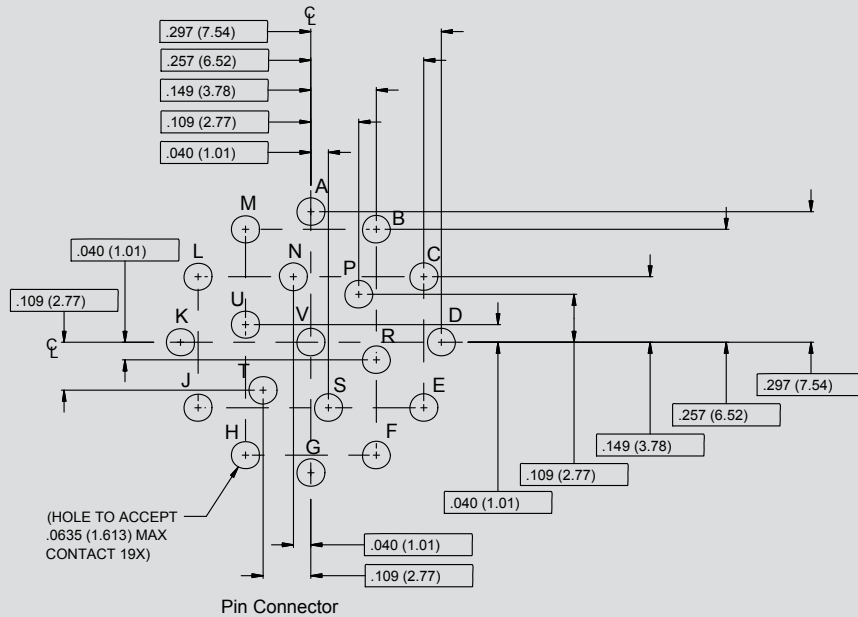
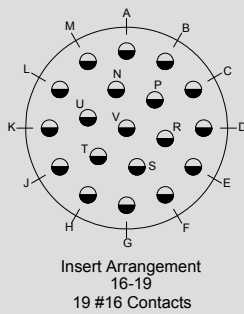
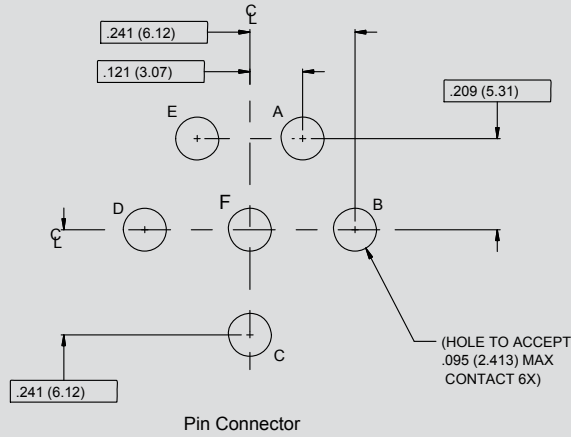
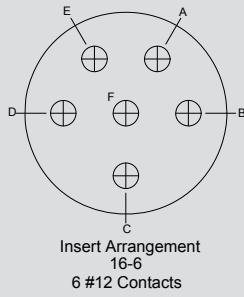
Size 14 - Viewed from Connector Mounting Side, Pin Face



I.D. NO.	X		Y		I.D. NO.	X		Y	
	In.	mm	In.	mm		In.	mm	In.	mm
1	.045	(1.14)	.262	(6.65)	20	.123	(3.12)	.119	(3.02)
2	.123	(3.12)	.217	(5.51)	21	.170	(4.31)	.040	(1.02)
3	.211	(5.35)	.160	(4.06)	22	.170	(4.31)	-.050	(-1.27)
4	.254	(6.45)	.080	(2.03)	23	.123	(3.12)	-.127	(-3.22)
5	.266	(6.75)	-.010	(-0.25)	24	.045	(1.14)	-.172	(-4.36)
6	.247	(6.27)	-.098	(-2.48)	25	-.045	(-1.14)	-.172	(-4.36)
7	.200	(5.08)	-.175	(-4.44)	26	-.123	(-3.12)	-.127	(-3.22)
8	.130	(3.30)	-.232	(-5.89)	27	-.170	(-4.31)	-.050	(-1.27)
9	.045	(1.14)	-.262	(-6.65)	28	-.170	(-4.31)	.040	(1.02)
10	-.045	(-1.14)	-.262	(-6.65)	29	-.123	(-3.12)	.119	(3.02)
11	-.130	(-3.30)	-.232	(-5.89)	30	-.045	(-1.14)	.172	(4.36)
12	-.200	(-5.08)	-.175	(-4.44)	31	.045	(1.14)	.074	(1.87)
13	-.247	(-6.27)	-.098	(-2.48)	32	.090	(2.28)	-.004	(-0.10)
14	-.266	(-6.75)	-.010	(-0.25)	33	.045	(1.14)	-.082	(-2.08)
15	-.254	(-6.45)	.080	(2.03)	34	-.045	(-1.14)	-.082	(-2.08)
16	-.211	(-5.35)	.160	(4.06)	35	-.090	(-2.28)	-.004	(-0.10)
17	-.123	(-3.12)	.217	(5.51)	36	-.045	(-1.14)	.074	(1.87)
18	-.045	(-1.14)	.262	(6.65)	37	.000	(0.00)	-.004	(-0.10)
19	.045	(1.14)	.172	(4.36)					



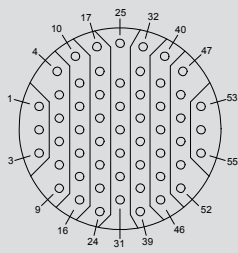
Size 16 - Viewed from Connector Mounting Side, Pin Face



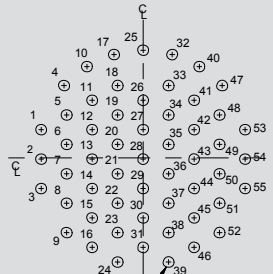
I.D. NO	X		Y	
	In.	mm	In.	mm
A	.000	(0.00)	.321	(81.53)
B	.131	(3.32)	.293	(7.44)
C	.239	(6.07)	.214	(5.43)
D	.305	(7.74)	.099	(2.51)
E	.319	(8.10)	-.034	(-0.86)
F	.278	(7.06)	-.161	(-4.08)
G	.189	(4.80)	-.260	(-6.60)
H	.067	(1.70)	-.314	(-7.97)
J	-.067	(-1.70)	-.314	(-7.97)
K	-.189	(-4.80)	-.260	(-6.60)
L	-.278	(-7.06)	-.161	(-4.08)
M	-.319	(-8.10)	-.034	(-0.86)
N	-.305	(-7.74)	.099	(2.51)
P	-.239	(-6.07)	.214	(5.43)
R	-.131	(-3.32)	.293	(7.44)
S	-.070	(-1.77)	.177	(4.49)
T	.070	(1.77)	.177	(4.49)
U	.175	(4.44)	.094	(2.38)
V	.178	(4.52)	-.036	(-0.91)
W	.119	(3.02)	-.151	(-3.83)
X	.000	(0.00)	-.203	(-5.15)
Y	-.119	(-3.02)	-.151	(-3.83)
Z	-.178	(-4.52)	-.036	(-0.91)
a	-.175	(-4.44)	.094	(2.38)
b	.000	(0.00)	.065	(1.65)
c	.000	(0.00)	-.065	(-1.65)

**Hermetic/High-pressure or Environmental
Connectors - PCB Footprints - Size 16 and 18**

Size 16 (continued) - Viewed from Connector Mounting Side, Pin Face



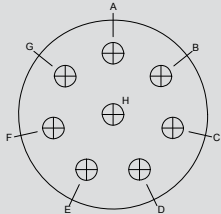
**Insert Arrangement
16-55
55 #22 Contacts**



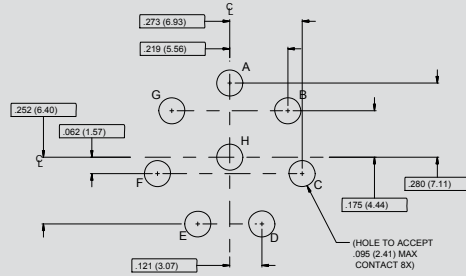
Pin Connector

I.D. NO	X		Y		I.D. NO	X		Y		I.D. NO	X		Y	
	In.	mm	In.	mm		In.	mm	In.	mm		In.	mm	In.	mm
1	-.312	(-7.92)	.086	(2.18)	20	-.078	(-1.98)	.041	(1.04)	39	.078	(1.98)	-.319	(-8.10)
2	-.312	(-7.92)	-.004	(-0.10)	21	-.078	(-1.98)	-.049	(-1.24)	40	.172	(4.36)	.279	(7.08)
3	-.312	(-7.92)	-.094	(-2.38)	22	-.078	(-1.98)	-.139	(-3.53)	41	.156	(3.96)	.176	(4.47)
4	-.242	(-6.14)	.221	(5.61)	23	-.078	(-1.98)	-.229	(-5.81)	42	.156	(3.96)	.086	(2.18)
5	-.234	(-5.94)	-.131	(-3.32)	24	-.078	(-1.98)	-.319	(-8.10)	43	.156	(3.96)	-.004	(-0.10)
6	-.234	(-5.94)	.041	(1.04)	25	.000	(0.00)	.329	(8.35)	44	.156	(3.96)	-.094	(-2.38)
7	-.234	(-5.94)	-.049	(-1.24)	26	.000	(0.00)	.176	(4.47)	45	.156	(3.96)	-.184	(-4.67)
8	-.234	(-5.94)	-.139	(-3.53)	27	.000	(0.00)	.086	(2.18)	46	.156	(3.96)	-.274	(-6.95)
9	-.234	(-5.94)	-.229	(-5.81)	28	.000	(0.00)	-.004	(-0.10)	47	.242	(6.14)	.221	(5.61)
10	-.172	(-4.36)	.279	(7.08)	29	.000	(0.00)	-.094	(-2.38)	48	.234	(5.94)	.131	(3.32)
11	-.156	(-3.96)	-.176	(-4.47)	30	.000	(0.00)	-.184	(-4.67)	49	.234	(5.94)	.041	(1.04)
12	-.156	(-3.96)	.086	(2.18)	31	.000	(0.00)	-.274	(-6.95)	50	.234	(5.94)	-.049	(-1.24)
13	-.156	(-3.96)	-.004	(-0.10)	32	.089	(2.26)	.316	(8.02)	51	.234	(5.94)	-.139	(-3.53)
14	-.156	(-3.96)	-.094	(-2.38)	33	.078	(1.98)	.221	(5.61)	52	.234	(5.94)	-.229	(-5.81)
15	-.156	(-3.96)	-.184	(-4.67)	34	.078	(1.98)	.131	(3.32)	53	.312	(7.92)	.086	(2.18)
16	-.156	(-3.96)	-.274	(-6.95)	35	.078	(1.98)	.041	(1.04)	54	.312	(7.92)	-.004	(-0.10)
17	-.089	(-2.26)	.316	(8.02)	36	.078	(1.98)	-.049	(-1.24)	55	.312	(7.92)	-.094	(-2.38)
18	-.078	(-1.98)	.221	(5.61)	37	.078	(1.98)	-.139	(-3.53)					
19	-.078	(-1.98)	.131	(3.32)	38	.078	(1.98)	-.229	(-5.81)					

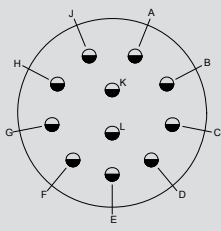
Size 18 - Viewed from Connector Mounting Side, Pin Face



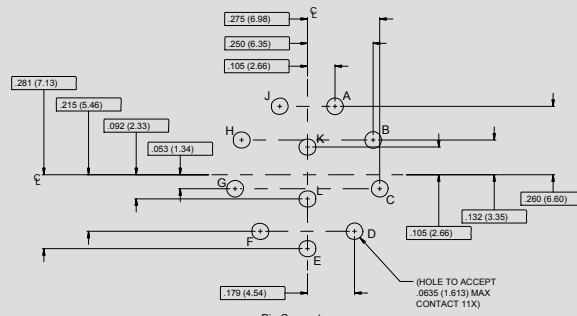
**Insert Arrangement
18-8
8 #12 Contacts**



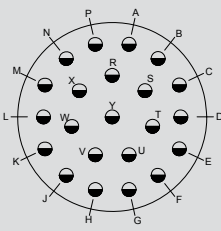
Pin Connector



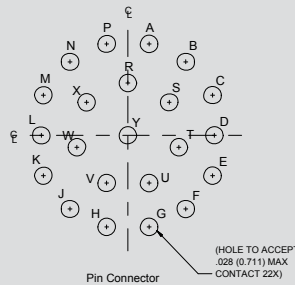
**Insert Arrangement
18-11
11 #16 Contacts**



Pin Connector



**Insert Arrangement
18-22
22 #16 Contacts**



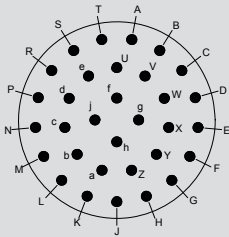
Pin Connector

I.D. NO	X		Y		I.D. NO	X		Y	
	In.	mm	In.	mm		In.	mm	In.	mm
A	.077	(1.95)	.332	(8.43)	M	-.307	(-7.79)	.146	(3.70)
B	.210	(5.33)	.267	(6.78)	N	-.210	(-5.33)	.267	(6.78)
C	.307	(7.79)	.146	(3.70)	P	-.077	(-1.95)	.332	(8.43)
D	.341	(8.66)	.000	(0.00)	R	.000	(0.00)	.190	(4.82)
E	.307	(7.79)	-.146	(-3.70)	S	.150	(3.81)	.120	(3.04)
F	.210	(5.33)	-.267	(-6.78)	T	.185	(4.69)	-.043	(-1.09)
G	.077	(1.95)	-.332	(-8.43)	U	.077	(1.95)	-.173	(-4.39)
H	-.077	(-1.95)	-.332	(-8.43)	V	-.077	(-1.95)	-.173	(-4.39)
J	-.210	(-5.33)	-.267	(-6.78)	W	-.185	(-4.69)	-.043	(-1.09)
K	-.307	(-7.79)	-.146	(-3.70)	X	-.150	(-3.81)	.120	(3.04)
L	-.341	(-8.66)	.000	(0.00)	Y	.000	(0.00)	.000	(0.00)

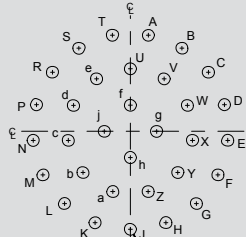


**Hermetic/High-pressure or Environmental
Connectors - PCB Footprints - Size 18 and 20**

Size 18 (continued) - Viewed from Connector Mounting Side, Pin Face



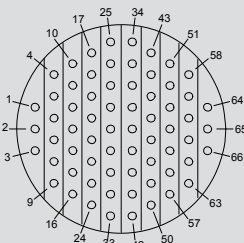
Insert Arrangement
18-32
32 #20 Contacts



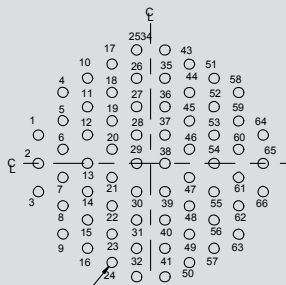
Pin Connector
(HOLE TO ACCEPT
.0435 (1.105) MAX
CONTACT 32X)

I.D. NO	X		Y		I.D. NO	X		Y		I.D. NO	X		Y	
	In. mm	In. mm	In. mm	In. mm		In. mm	In. mm	In. mm	In. mm		In. mm	In. mm	In. mm	In. mm
A	.066 (1.67)	.353 (8.96)			N	-.357 (-9.06)	-.033 (-0.83)	a	-.065 (-1.65)	-.221 (-5.61)				
B	.189 (4.80)	.305 (7.74)			P	-.345 (-8.76)	.098 (2.48)	b	-.174 (-4.41)	-.151 (-3.83)				
C	.286 (7.26)	.217 (5.51)			R	-.286 (-7.26)	.217 (5.51)	c	-.228 (-5.79)	-.033 (-0.83)				
D	.345 (8.76)	.098 (2.48)			S	-.189 (-4.80)	.305 (7.74)	d	-.209 (-5.30)	.095 (2.41)				
E	.357 (9.06)	-.033 (-0.83)			T	-.066 (-1.67)	.353 (8.96)	e	-.124 (-3.14)	.193 (4.90)				
F	.321 (8.15)	-.160 (-4.06)			U	.000 (0.00)	.230 (5.84)	f	.000 (0.00)	.096 (2.43)				
G	.242 (6.14)	-.265 (-6.73)			V	.124 (3.14)	.193 (4.90)	g	.096 (2.43)	.000 (0.00)				
H	.130 (3.30)	-.335 (-8.50)			W	.209 (5.30)	.095 (2.41)	h	.000 (0.00)	-.096 (-2.43)				
J	.000 (0.00)	-.359 (-9.11)			X	.228 (5.79)	-.033 (-0.83)	j	-.096 (-2.43)	.000 (0.00)				
K	-.130 (-3.30)	-.335 (-8.50)			Y	.174 (4.41)	-.151 (-3.83)							
L	-.242 (-6.14)	-.265 (-6.73)			Z	.065 (1.65)	-.221 (-5.61)							
M	-.321 (-8.15)	-.160 (-4.06)												

SUBSEA/SHALLOW WATER: GEO-MARINE®



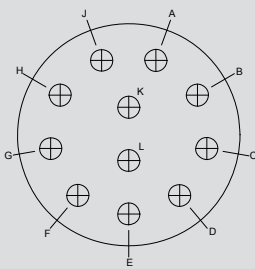
Insert Arrangement
18-66
66 #22 Contacts



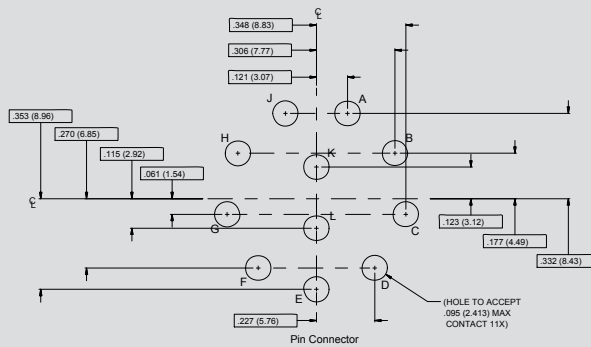
Pin Connector
(HOLE TO ACCEPT
.021 (0.533) MAX
CONTACT 66X)

I.D. NO	X		Y		I.D. NO	X		Y		I.D. NO	X		Y	
	In. mm	In. mm	In. mm	In. mm		In. mm	In. mm	In. mm	In. mm		In. mm	In. mm	In. mm	In. mm
1	-.357 (-9.06)	.090 (2.28)	23	-.123 (-3.12)	45	.123 (3.12)	.135 (3.42)							
2	-.357 (-9.06)	.000 (0.00)	24	-.123 (-3.12)	46	.123 (3.12)	.045 (1.14)							
3	-.357 (-9.06)	-.090 (-2.28)	25	-.045 (-1.14)	47	.123 (3.12)	-.045 (-1.14)							
4	-.279 (-7.08)	.225 (5.71)	26	-.045 (-1.14)	48	.123 (3.12)	-.135 (-3.42)							
5	-.279 (-7.08)	.135 (3.42)	27	-.045 (-1.14)	49	.123 (3.12)	-.225 (-5.71)							
6	-.279 (-7.08)	.045 (1.14)	28	-.045 (-1.14)	50	.123 (3.12)	-.315 (-8.00)							
7	-.279 (-7.08)	-.045 (-1.14)	29	-.045 (-1.14)	51	.201 (5.10)	.270 (6.85)							
8	-.279 (-7.08)	-.135 (-3.42)	30	-.045 (-1.14)	52	.201 (5.10)	.180 (4.57)							
9	-.279 (-7.08)	-.225 (-5.71)	31	-.045 (-1.14)	53	.201 (5.10)	.090 (2.28)							
10	-.201 (-5.10)	.270 (6.85)	32	-.045 (-1.14)	54	.201 (5.10)	.000 (0.00)							
11	-.201 (-5.10)	.180 (4.57)	33	-.045 (-1.14)	55	.201 (5.10)	-.090 (-2.28)							
12	-.201 (-5.10)	.090 (2.28)	34	.045 (1.14)	56	.201 (5.10)	-.180 (-4.57)							
13	-.201 (-5.10)	.000 (0.00)	35	.045 (1.14)	57	.201 (5.10)	-.270 (-6.85)							
14	-.201 (-5.10)	-.090 (-2.28)	36	.045 (1.14)	58	.279 (7.08)	.225 (5.71)							
15	-.201 (-5.10)	-.180 (-4.57)	37	.045 (1.14)	59	.279 (7.08)	.135 (3.42)							
16	-.201 (-5.10)	-.270 (-6.85)	38	.045 (1.14)	60	.279 (7.08)	.045 (1.14)							
17	-.123 (-3.12)	.315 (8.00)	39	.045 (1.14)	61	.279 (7.08)	-.045 (-1.14)							
18	-.123 (-3.12)	.225 (5.71)	40	.045 (1.14)	62	.279 (7.08)	-.135 (-3.42)							
19	-.123 (-3.12)	.135 (3.42)	41	.045 (1.14)	63	.279 (7.08)	-.225 (-5.71)							
20	-.123 (-3.12)	.045 (1.14)	42	.045 (1.14)	64	.357 (9.06)	.090 (2.28)							
21	-.123 (-3.12)	-.045 (-1.14)	43	.123 (3.12)	65	.357 (9.06)	.000 (0.00)							
22	-.123 (-3.12)	-.135 (-3.42)	44	.123 (3.12)	66	.357 (9.06)	-.090 (-2.28)							

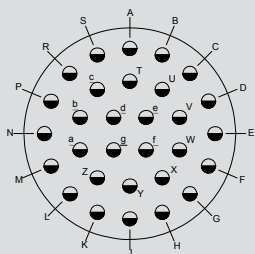
Size 20 - Viewed from Connector Mounting Side, Pin Face



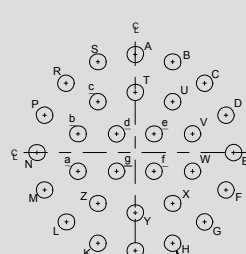
Insert Arrangement
20-11
11 #12 Contacts



Pin Connector
(HOLE TO ACCEPT
.095 (2.413) MAX
CONTACT 11X)



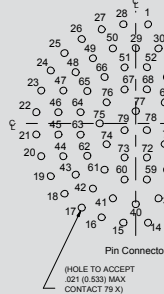
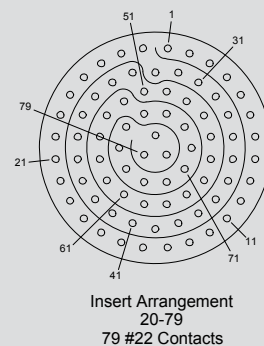
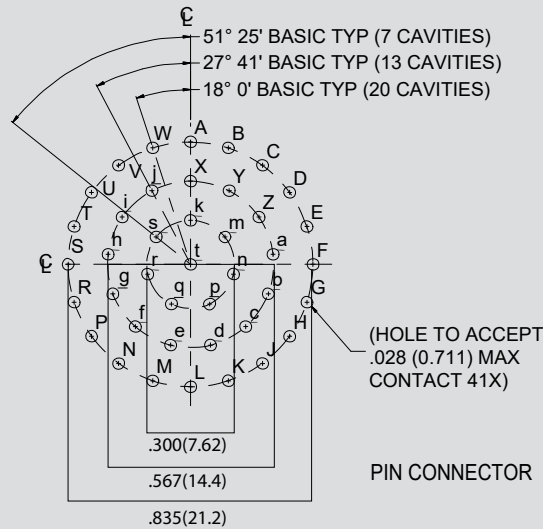
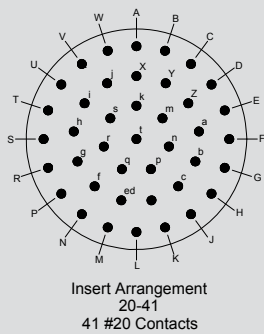
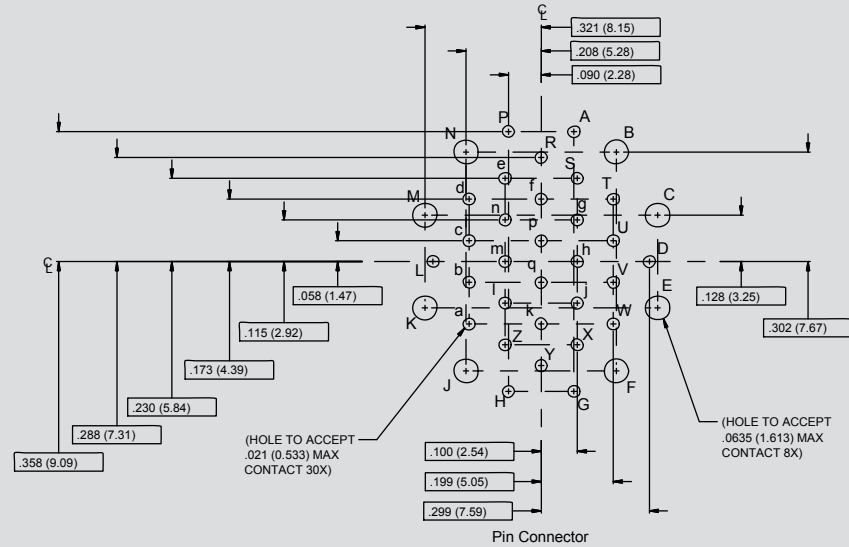
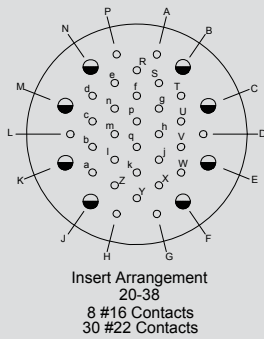
Insert Arrangement
20-30
30 #16 Contacts



Pin Connector
(HOLE TO ACCEPT
.028 (0.711) MAX
CONTACT 30X)

I.D. NO	X		Y		I.D. NO	X		Y		I.D. NO	X		Y	
	In. mm	In. mm	In. mm	In. mm		In. mm	In. mm	In. mm	In. mm		In. mm	In. mm	In. mm	In. mm
A	.000 (0.00)	-.399 (-10.13)	L	-.282 (-7.16)	-.282 (-7.16)	X	.152 (3.86)	-.207 (-5.25)						
B	.152 (3.86)	.369 (9.37)	M	-.369 (-9.37)	-.152 (-3.86)	Y	.000 (0.00)	-.245 (-6.22)						
C	.282 (7.16)	.282 (7.16)	N	-.400 (-10.16)	.000 (0.00)	Z	-.152 (-3.86)	-.207 (-5.25)						
D	.369 (9.37)	-.152 (-3.86)	P	-.369 (-9.37)	.152 (3.86)	a	-.233 (-5.91)	-.076 (-1.93)						
E	.400 (10.16)	.000 (0.00)	R	-.282 (-7.16)	.282 (7.16)	b	-.233 (-5.91)	.076 (1.93)						
F	.369 (9.37)	-.152 (-3.86)	S	-.152 (-3.86)	.369 (9.37)	c	-.152 (-3.86)	.207 (5.25)						
G	.282 (7.16)	-.282 (-7.16)	T	.000 (0.00)	.245 (6.22)	d	-.076 (-1.93)	.076 (1.93)						
H	.152 (3.86)	-.369 (-9.37)	U	.152 (3.86)	.207 (5.25)	e	.076 (1.93)	.076 (1.93)						
J	.000 (0.00)	-.399 (-10.13)	V	.233 (5.91)	.076 (1.93)	f	.076 (1.93)	-.076 (-1.93)						
K	-.152 (-3.86)	-.369 (-9.37)	W	.233 (5.91)	-.076 (-1.93)	g	-.076 (-1.93)	-.076 (-1.93)						

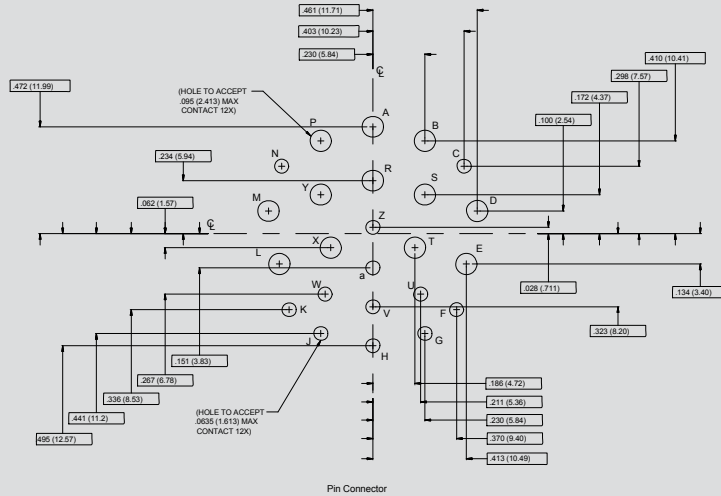
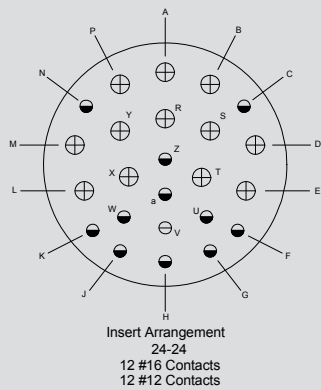
Size 20 Viewed from Connector Mounting Side, Pin Face



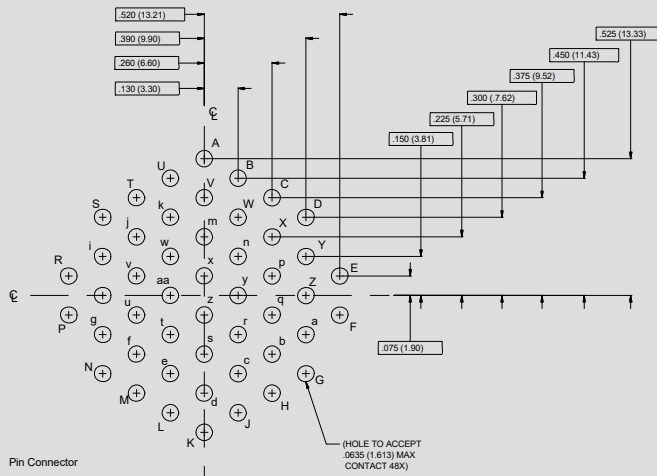
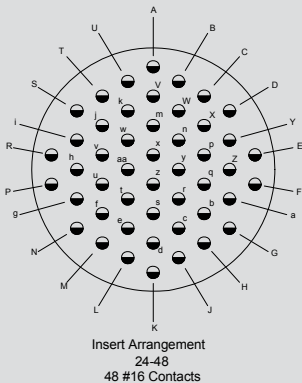
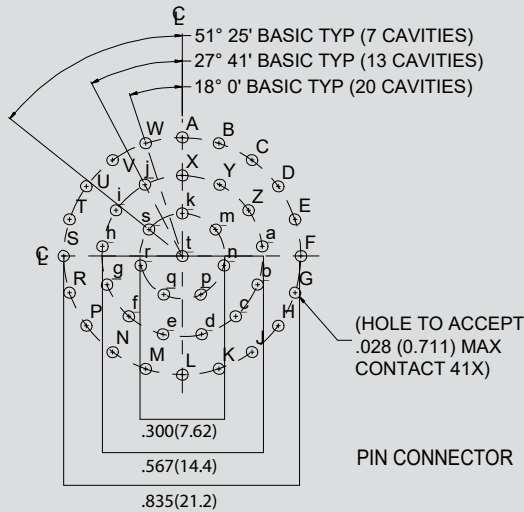
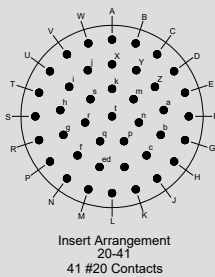
I.D. NO	X In. mm	Y In. mm	I.D. NO	X In. mm	Y In. mm	I.D. NO	X In. mm	Y In. mm	I.D. NO	X In. mm	Y In. mm
1	.053 (1.35)	-.426 (-10.82)	21	-.427 (-10.84)	-.048 (-1.22)	41	-.098 (-2.48)	-.322 (-8.18)	61	-.134 (-3.40)	-.199 (-5.05)
2	-.146 (-3.71)	.404 (10.26)	22	-.427 (-10.84)	.048 (1.22)	42	-.184 (-4.67)	-.280 (-7.11)	62	-.208 (-5.28)	-.139 (-3.53)
3	.232 (5.89)	-.362 (-9.19)	23	-.406 (-10.31)	.141 (3.58)	43	-.258 (-6.55)	-.220 (-5.59)	63	-.237 (-6.02)	-.048 (-1.22)
4	-.306 (-7.77)	.302 (7.67)	24	-.365 (-9.27)	.227 (5.76)	44	-.311 (-7.90)	-.141 (-3.58)	64	-.237 (-6.02)	.048 (1.22)
5	.365 (9.27)	-.227 (-5.76)	25	-.306 (-7.77)	-.302 (-7.67)	45	-.332 (-8.43)	-.048 (-1.22)	65	-.208 (-5.28)	-.139 (-3.53)
6	-.406 (-10.31)	.141 (3.58)	26	-.232 (-5.89)	-.362 (-9.19)	46	-.332 (-8.43)	.048 (1.22)	66	-.134 (-3.40)	.199 (5.05)
7	.427 (10.84)	-.048 (-1.22)	27	-.146 (-3.71)	.404 (10.26)	47	-.311 (-7.90)	.141 (3.58)	67	-.048 (-1.22)	-.146 (-3.71)
8	-.427 (-10.84)	.048 (1.22)	28	-.053 (-1.35)	.426 (10.82)	48	-.258 (-6.55)	.220 (5.59)	68	.048 (1.22)	.146 (3.71)
9	.406 (10.31)	-.141 (-3.58)	29	.000 (0.00)	.323 (8.20)	49	-.184 (-4.67)	.280 (7.11)	69	-.125 (-3.17)	.090 (2.28)
10	-.365 (-9.27)	.227 (5.76)	30	.098 (2.48)	.322 (8.18)	50	-.098 (-2.48)	.322 (8.18)	70	.155 (3.94)	.000 (0.00)
11	.306 (7.77)	-.302 (-7.67)	31	.184 (4.67)	-.280 (-7.11)	51	-.048 (-1.22)	.241 (6.12)	71	.125 (3.17)	-.090 (-2.28)
12	-.232 (-5.89)	-.362 (-9.19)	32	.258 (6.55)	.220 (5.59)	52	.048 (1.22)	.241 (6.12)	72	.048 (1.22)	-.146 (-3.71)
13	.146 (3.71)	-.404 (-10.26)	33	.311 (7.90)	-.141 (-3.58)	53	.134 (3.40)	.199 (5.05)	73	.048 (-1.22)	-.146 (-3.71)
14	.053 (1.35)	-.426 (-10.82)	34	.332 (8.43)	.048 (1.22)	54	.208 (5.28)	.139 (3.53)	74	-.125 (-3.17)	-.090 (-2.28)
15	-.053 (-1.35)	.426 (10.82)	35	.332 (8.43)	-.048 (-1.22)	55	.237 (6.02)	.048 (1.22)	75	.155 (3.94)	.000 (0.00)
16	-.146 (-3.71)	.404 (10.26)	36	.311 (7.90)	-.141 (-3.58)	56	.237 (6.02)	-.048 (-1.22)	76	-.125 (-3.17)	.090 (2.28)
17	.232 (5.89)	-.362 (-9.19)	37	.258 (6.55)	-.220 (-5.59)	57	.208 (5.28)	-.139 (-3.53)	77	.000 (0.00)	.053 (1.35)
18	-.306 (-7.77)	.302 (7.67)	38	.184 (4.67)	-.280 (-7.11)	58	.134 (3.40)	-.199 (-5.05)	78	.048 (1.22)	-.029 (-0.74)
19	.365 (9.27)	-.227 (-5.76)	39	.098 (2.48)	-.322 (-8.18)	59	.048 (1.22)	-.241 (-6.12)	79	-.048 (-1.22)	-.029 (-0.74)
20	-.406 (-10.31)	.141 (3.58)	40	.000 (0.00)	-.347 (-8.81)	60	-.048 (-1.22)	-.241 (-6.12)			



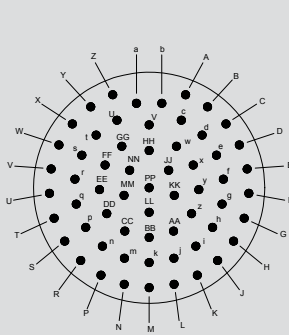
Size 24 Viewed from Connector Mounting Side, Pin Face



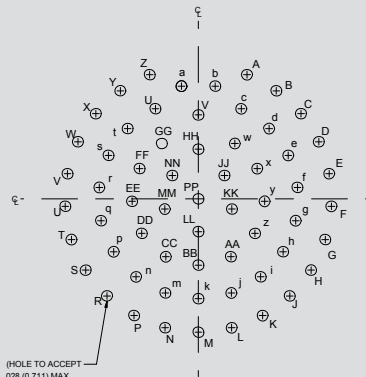
SUBSEA/SHALLOW WATER: GEO-MARINE®



Size 24 Viewed from Connector Mounting Side, Pin Face



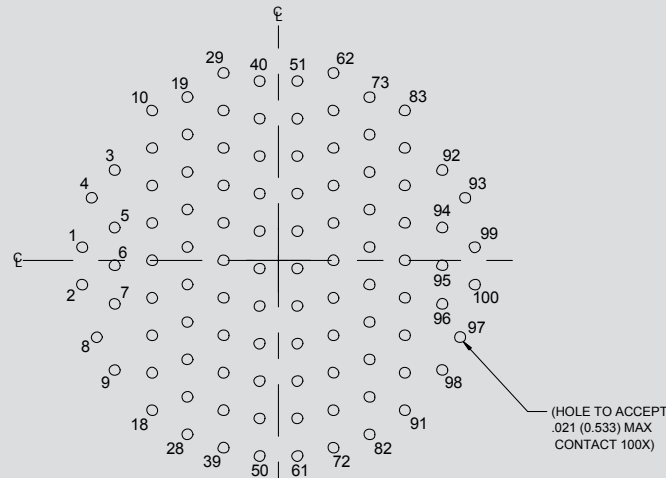
**Insert Arrangement
24-61
61 #20 Contacts**



(HOLE TO ACCEPT
.028 (0.711) MAX
CONTACT 61X)

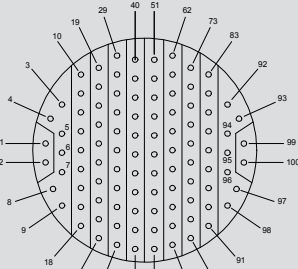
Pin Connector

I.D. NO.	X		Y		I.D. NO.	X		Y		I.D. NO.	X		Y	
	In. mm.	In. mm.	In. mm.	In. mm.		In. mm.	In. mm.	In. mm.	In. mm.		In. mm.	In. mm.	In. mm.	In. mm.
A	.196 (4.98)	.500 (12.7)	a	.068 (1.72)	.454 (11.53)	AA	.131 (3.33)	-.233 (-5.92)						
B	.314 (7.98)	.435 (11.05)	b	-.068 (-1.72)	.454 (11.53)	BB	.000 (0.000)	-.267 (-6.78)						
C	.413 (10.5)	.343 (8.71)	c	.173 (4.39)	.363 (9.22)	CC	-.131 (-3.33)	-.233 (-5.92)						
D	.485 (12.3)	.230 (5.84)	d	.285 (7.24)	.283 (7.19)	DD	-.228 (-5.79)	-.139 (-3.53)						
E	.527 (13.4)	.101 (2.57)	e	.362 (9.19)	.175 (4.44)	EE	-.267 (-6.78)	-.010 (-.254)						
F	.536 (13.6)	-.030 (-.762)	f	.399 (10.1)	.046 (1.17)	FF	-.237 (-6.02)	.122 (3.099)						
G	.511 (13.0)	-.164 (-4.165)	g	.392 (9.95)	-.088 (-2.24)	GG	-.147 (-3.73)	.122 (3.099)						
H	.454 (11.5)	-.287 (-7.29)	h	.341 (8.66)	-.213 (-5.41)	HH	.000 (0.000)	.200 (5.08)						
J	.368 (9.34)	-.391 (-9.93)	i	.251 (6.37)	-.314 (-7.97)	JJ	.105 (2.67)	.094 (2.39)						
K	.259 (6.58)	-.470 (-11.94)	j	.133 (3.38)	-.379 (-9.63)	KK	.135 (3.43)	-.041 (-1.04)						
L	.134 (3.40)	-.519 (-13.18)	k	.000 (0.000)	-.402 (-10.21)	LL	.000 (0.000)	-.132 (-3.35)						
M	.000 (0.000)	-.537 (-13.64)	m	-.133 (-3.38)	-.379 (-9.63)	MM	-.135 (-3.43)	-.041 (-1.04)						
N	-.134 (-3.40)	-.519 (-13.18)	n	-.251 (-6.37)	-.314 (-7.97)	NN	-.105 (-2.67)	.094 (2.39)						
P	-.259 (-6.58)	-.470 (-11.94)	p	-.341 (-8.66)	-.213 (-5.41)	PP	.000 (0.000)	.000 (0.000)						
R	-.368 (-9.34)	-.391 (-9.93)	q	-.392 (-9.95)	-.088 (-2.24)									
S	-.454 (-11.5)	-.287 (-7.29)	r	-.399 (-10.1)	.046 (1.17)									
T	-.511 (-13.0)	-.164 (-4.16)	s	-.362 (-9.19)	.175 (4.44)									
U	-.536 (-13.6)	-.030 (-.762)	t	-.285 (-7.24)	.283 (7.19)									
V	-.527 (-13.4)	.101 (2.56)	u	-.173 (-4.39)	.363 (9.22)									
W	-.485 (-12.3)	.230 (5.84)	v	.000 (0.000)	.338 (8.58)									
X	-.413 (-10.5)	.343 (8.71)	w	.147 (3.73)	.223 (5.66)									
Y	-.314 (-7.98)	.435 (11.05)	x	.237 (6.02)	.122 (3.099)									
Z	-.196 (-4.98)	.500 (12.7)	y	.267 (6.78)	-.010 (-.254)									
			z	.228 (5.79)	-.139 (-3.53)									



(HOLE TO ACCEPT
.021 (0.533) MAX
CONTACT 100X)

Pin Connector



**Insert Arrangement
24-100
100 #22 Contacts**

I.D. NO.	X		Y		I.D. NO.	X		Y		I.D. NO.	X		Y	
	In. mm.	In. mm.	In. mm.	In. mm.		In. mm.	In. mm.	In. mm.	In. mm.		In. mm.	In. mm.	In. mm.	In. mm.
1	-.550 (-13.97)	.039 (.990)	26	.255 (-6.48)	-.278 (-7.06)	51	.053 (1.35)	.502 (12.75)	76	.255 (6.48)	.142 (3.607)			
2	-.550 (-13.97)	-.068 (-1.73)	27	.255 (-6.48)	-.383 (-9.73)	52	.053 (1.35)	.397 (10.08)	77	.255 (6.48)	.037 (.940)			
3	-.459 (-11.67)	.253 (6.42)	28	.255 (-6.48)	-.488 (-12.39)	53	.053 (1.35)	.292 (7.42)	78	.255 (6.48)	-.068 (-1.73)			
4	-.523 (-13.3)	.175 (4.44)	29	.154 (-3.91)	.525 (13.34)	54	.053 (1.35)	.187 (4.75)	79	.255 (6.48)	-.173 (-4.39)			
5	-.459 (-11.67)	.092 (2.34)	30	-.154 (-3.91)	.420 (10.67)	55	.053 (1.35)	.082 (2.083)	80	.255 (6.48)	-.278 (-7.06)			
6	-.459 (-11.67)	-.014 (-.355)	31	-.154 (-3.91)	.315 (8.00)	56	.053 (1.35)	-.023 (-.584)	81	.255 (6.48)	-.383 (-9.73)			
7	-.459 (-11.67)	-.122 (-3.099)	32	-.154 (-3.91)	.210 (5.33)	57	.053 (1.35)	-.128 (-3.25)	82	.255 (6.48)	-.488 (-12.39)			
8	-.509 (-12.9)	-.215 (-5.46)	33	-.154 (-3.91)	.105 (2.67)	58	.053 (1.35)	-.233 (-5.92)	83	.354 (8.99)	.420 (10.67)			
9	-.459 (-11.67)	-.307 (-7.80)	34	.154 (-3.91)	.000 (0.000)	59	.053 (1.35)	-.338 (-8.58)	84	.354 (8.99)	.315 (8.00)			
10	-.354 (-8.99)	.420 (10.67)	35	-.154 (-3.91)	-.105 (-2.67)	60	.053 (1.35)	-.443 (-11.25)	85	.354 (8.99)	.210 (5.33)			
11	-.354 (-8.99)	.315 (8.00)	36	-.154 (-3.91)	-.210 (-5.33)	61	.053 (1.35)	-.548 (-13.92)	86	.354 (8.99)	.105 (2.67)			
12	-.354 (-8.99)	.210 (5.33)	37	-.154 (-3.91)	-.315 (-8.00)	62	.154 (3.91)	.525 (13.34)	87	.354 (8.99)	.000 (0.000)			
13	-.354 (-8.99)	.105 (2.67)	38	-.154 (-3.91)	-.420 (-10.67)	63	.154 (3.91)	.420 (10.67)	88	.354 (8.99)	-.105 (-2.67)			
14	-.354 (-8.99)	.000 (0.000)	39	.154 (-3.91)	-.525 (-13.34)	64	.154 (3.91)	.315 (8.00)	89	.354 (8.99)	-.210 (-5.33)			
15	-.354 (-8.99)	-.105 (-2.67)	40	.053 (-1.35)	.502 (12.75)	65	.154 (3.91)	.210 (5.33)	90	.354 (8.99)	-.315 (-8.00)			
16	-.354 (-8.99)	-.210 (-5.33)	41	-.053 (-1.35)	.397 (10.08)	66	.154 (3.91)	.105 (2.67)	91	.354 (8.99)	-.420 (-10.67)			
17	-.354 (-8.99)	-.315 (-8.00)	42	-.053 (-1.35)	.292 (7.42)	67	.154 (3.91)	.000 (0.000)	92	.459 (11.66)	.253 (6.42)			
18	-.354 (-8.99)	-.420 (-10.67)	43	-.053 (-1.35)	.187 (4.75)	68	.154 (3.91)	-.105 (-2.67)	93	.523 (13.28)	.175 (4.44)			
19	-.255 (-6.47)	.457 (11.60)	44	-.053 (-1.35)	.082 (2.08)	69	.154 (3.91)	-.210 (-5.33)	94	.459 (11.66)	.092 (2.34)			
20	-.255 (-6.47)	.352 (8.94)	45	-.053 (-1.35)	-.023 (-.58)	70	.154 (3.91)	-.315 (-8.00)	95	.459 (11.66)	-.014 (-.356)			
21	-.255 (-6.47)	.247 (6.27)	46	-.053 (-1.35)	-.128 (-3.25)	71	.154 (3.91)	-.420 (-10.67)	96	.459 (11.66)	-.122 (-3.10)			
22	-.255 (-6.47)	.142 (3.61)	47	-.053 (-1.35)	-.233 (-5.92)	72	.154 (3.91)	-.525 (-13.34)	97	.509 (12.93)	-.215 (-5.46)			
23	-.255 (-6.47)	.037 (.94)	48	-.053 (-1.35)	-.338 (-8.58)	73	.255 (6.48)	.457 (11.60)	98	.459 (11.66)	-.307 (-7.80)			
24	-.255 (-6.47)	-.068 (-1.73)	49	-.053 (-1.35)	-.443 (-11.25)	74	.255 (6.48)	.352 (8.94)	99	.550 (13.97)	.039 (.991)			
25	-.255 (-6.47)	-.173 (-4.39)	50	-.053 (-1.35)	-.548 (-13.92)	75	.255 (6.48)	.247 (6.27)	100	.550 (13.97)	-.068 (-1.73)			



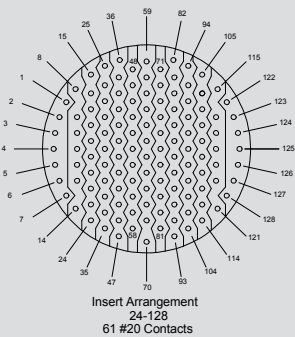
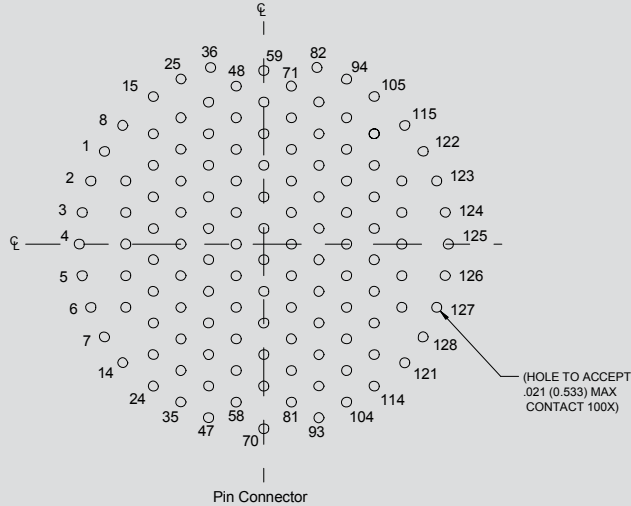


SERIES 22 5000M / 5000 PSI Shallow Water Application



Hermetic/High-pressure or Environmental Connectors - PCB Footprints - Size 24

Size 24 Viewed from Connector Mounting Side, Pin Face



I.D. NO.	X		Y		I.D. NO.	X		Y		I.D. NO.	X		Y	
	In. mm.	In. mm.	In. mm.	In. mm.		In. mm.	In. mm.	In. mm.	In. mm.		In. mm.	In. mm.	In. mm.	In. mm.
1	-.479 (-12.17)	.279 (7.09)	33	-.249 (-6.32)	-285 (-7.24)	65	.000 (.000)	-.047 (-1.19)	97	.249 (6.32)	.190 (4.82)			
2	-.520 (-13.21)	.190 (4.82)	34	-.249 (-6.32)	-.380 (-9.65)	66	.000 (.000)	-.142 (-3.607)	98	.249 (6.32)	.095 (2.41)			
3	-.546 (-13.87)	.095 (2.41)	35	-.249 (-6.32)	-.475 (-12.06)	67	.000 (.000)	-.237 (-6.02)	99	.249 (6.32)	.000 (.000)			
4	-.555 (-14.1)	.000 (.000)	36	-.160 (-4.06)	.531 (13.48)	68	.000 (.000)	-.332 (-8.43)	100	.249 (6.32)	.095 (-2.41)			
5	-.546 (-13.87)	-.095 (-2.41)	37	-.166 (-4.21)	.427 (10.84)	69	.000 (.000)	-.427 (-10.84)	101	.249 (6.32)	.190 (-4.82)			
6	-.520 (-13.2)	-.190 (-4.82)	38	-.166 (-4.21)	.332 (8.43)	70	.000 (.000)	-.555 (-14.1)	102	.249 (6.32)	.285 (-7.24)			
7	-.479 (-12.17)	-.279 (-7.09)	39	-.166 (-4.21)	.237 (6.02)	71	.083 (2.11)	.475 (12.06)	103	.249 (6.32)	.380 (-9.65)			
8	-.424 (-10.77)	.357 (9.07)	40	-.166 (-4.21)	.142 (3.607)	72	.083 (2.11)	.380 (9.65)	104	.249 (6.32)	.475 (-12.06)			
9	-.415 (-10.54)	.190 (4.82)	41	-.166 (-4.21)	.047 (1.19)	73	.083 (2.11)	.285 (7.24)	105	.332 (8.43)	.444 (11.27)			
10	-.415 (-10.54)	.095 (2.41)	42	-.166 (-4.21)	-.047 (-1.19)	74	.083 (2.11)	.190 (4.82)	106	.332 (8.43)	.332 (8.43)			
11	-.415 (-10.54)	.000 (.000)	43	-.166 (-4.21)	-.142 (-3.607)	75	.083 (2.11)	.095 (2.41)	107	.332 (8.43)	.237 (6.02)			
12	-.415 (-10.54)	-.095 (-2.41)	44	-.166 (-4.21)	-.237 (-6.02)	76	.083 (2.11)	.000 (.000)	108	.332 (8.43)	.142 (3.607)			
13	-.415 (-10.54)	-.190 (-4.82)	45	-.166 (-4.21)	-.332 (-8.43)	77	.083 (2.11)	-.095 (-2.41)	109	.332 (8.43)	.047 (1.19)			
14	-.424 (-10.77)	-.357 (-9.07)	46	-.166 (-4.21)	-.427 (-10.84)	78	.083 (2.11)	-.190 (-4.82)	110	.332 (8.43)	.047 (-1.19)			
15	-.332 (-8.43)	.444 (11.27)	47	-.166 (-4.21)	-.522 (-13.26)	79	.083 (2.11)	-.285 (-7.24)	111	.332 (8.43)	.142 (-3.607)			
16	-.332 (-8.43)	.332 (8.43)	48	-.083 (-2.11)	.475 (12.06)	80	.083 (2.11)	-.380 (-9.65)	112	.332 (8.43)	.237 (-6.02)			
17	-.332 (-8.43)	.237 (6.02)	49	-.083 (-2.11)	.380 (9.65)	81	.083 (2.11)	-.475 (-12.06)	113	.332 (8.43)	.332 (-8.43)			
18	-.332 (-8.43)	.142 (3.607)	50	-.083 (-2.11)	.285 (7.24)	82	.160 (4.06)	.531 (13.5)	114	.332 (8.43)	.427 (-10.84)			
19	-.332 (-8.43)	.047 (1.19)	51	-.083 (-2.11)	.190 (4.82)	83	.166 (4.21)	.427 (10.84)	115	.424 (10.77)	.357 (9.07)			
20	-.332 (-8.43)	-.047 (-1.19)	52	-.083 (-2.11)	.095 (2.41)	84	.166 (4.21)	.332 (8.43)	116	.415 (10.54)	.190 (4.82)			
21	-.332 (-8.43)	-.142 (-3.607)	53	-.083 (-2.11)	.000 (.000)	85	.166 (4.21)	.237 (6.02)	117	.415 (10.54)	.095 (2.41)			
22	-.332 (-8.43)	-.237 (-6.02)	54	-.083 (-2.11)	-.095 (-2.41)	86	.166 (4.21)	.142 (3.607)	118	.415 (10.54)	.000 (.000)			
23	-.332 (-8.43)	-.332 (-8.43)	55	-.083 (-2.11)	-.190 (-4.82)	87	.166 (4.21)	.047 (1.19)	119	.415 (10.54)	.095 (2.41)			
24	-.332 (-8.43)	-.427 (-10.84)	56	-.083 (-2.11)	-.285 (-7.24)	88	.166 (4.21)	-.047 (-1.19)	120	.415 (10.54)	.190 (-4.82)			
25	-.249 (-6.32)	.496 (12.6)	57	-.083 (-2.11)	-.380 (-9.65)	89	.166 (4.21)	-.142 (-3.607)	121	.424 (10.77)	.357 (-9.07)			
26	-.249 (-6.32)	.380 (9.65)	58	-.083 (-2.11)	-.475 (-12.06)	90	.166 (4.21)	-.237 (-6.02)	122	.479 (12.17)	.279 (7.08)			
27	-.249 (-6.32)	.285 (7.24)	59	.000 (.000)	.522 (13.26)	91	.166 (4.21)	-.332 (-8.43)	123	.520 (13.2)	.190 (4.82)			
28	-.249 (-6.32)	.190 (4.82)	60	.000 (.000)	.427 (10.84)	92	.166 (4.21)	-.427 (-10.84)	124	.546 (13.87)	.095 (2.41)			
29	-.249 (-6.32)	.095 (2.41)	61	.000 (.000)	.332 (8.43)	93	.166 (4.21)	-.522 (-13.26)	125	.555 (14.1)	.000 (.000)			
30	-.249 (-6.32)	.000 (.000)	62	.000 (.000)	.237 (6.02)	94	.249 (6.32)	.496 (12.6)	126	.546 (13.87)	.095 (-2.41)			
31	-.249 (-6.32)	-.095 (-2.41)	63	.000 (.000)	.142 (3.607)	95	.249 (6.32)	.380 (9.65)	127	.520 (13.2)	.190 (-4.82)			
32	-.249 (-6.32)	-.190 (-4.82)	64	.000 (.000)	.047 (1.19)	96	.249 (6.32)	.285 (7.24)	128	.479 (12.17)	.279 (-7.08)			

SUBSEA/SHALLOW WATER: GEO-MARINE®

ENVIRONMENTAL-5000 PSI MATED OR HERMETIC-5000 PSI OPEN FACE PLUG



How To Order					
Sample Part Number	220-06	E	24-61	S	N
Series and Shell Style	220-06 - Standard 220-16 - Scoop-Proof				
Class	E = High-Pressure Environmental				
Shell Size - Contact Arrangement	See pages 65-66				
Contact Style	P = Pin S = Socket				
Polarization	N, 1, 2, 3, 4 See page 65				

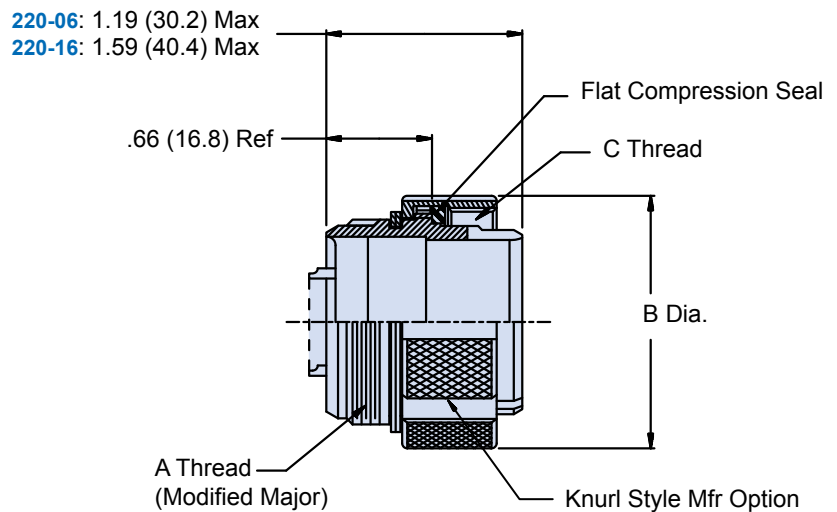
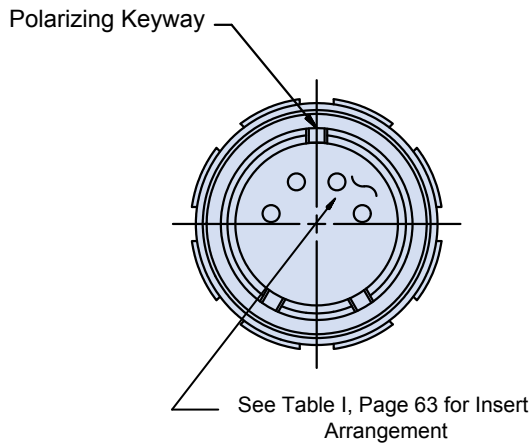


Table II: Dimensions			
Shell Size	A Thread Class 2A	Ø B Max	C Thread Class 2B
10	5/8 - 24 UNEF	1.000 (25.4)	.750 - .1P - .1L
12	3/4 - 20 UNEF	1.125 (28.6)	.875 - .1P - .1L
14	7/8 - 20 UNEF	1.250 (31.8)	1.000 - .1P - .1L
16	1 - 20 UNEF	1.375 (34.9)	1.125 - .1P - .1L
18	1 1/8 - 16 UN	1.594 (40.5)	1.250 - .1P - .1L
20	1 1/4 - 16 UN	1.719 (43.7)	1.375 - .1P - .1L
22	1 3/8 - 16 UN	1.894 (48.1)	1.500 - .1P - .1L
24	1 1/2 - 16 UN	1.969 (50.0)	1.625 - .1P - .1L

Replacement Flat Compression Seal Part Number	
Shell Size	Glenair Part No.
10	G70653-10
12	G70653-12
14	G70653-14
16	G70653-16
18	G70653-18
20	G70653-20
22	G70653-22
24	G70653-24

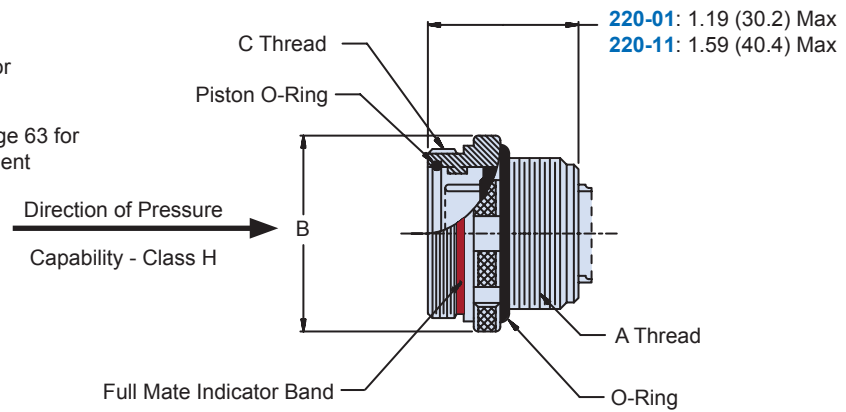
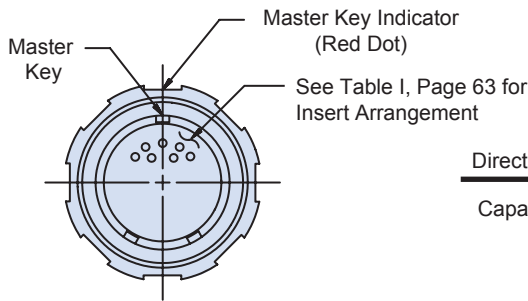


ENVIRONMENTAL-5000 PSI MATED OR HERMETIC-5000 PSI OPEN FACE RECEPTACLE



How To Order					
Sample Part Number	220-01	E	24-61	P	N
Series and Shell Style	220-01 = Standard 220-11 = Scoop Proof				
Class	E = Environmental H = Hermetic				
Shell Size - Contact Arrangement	See pages 65-66				
Contact Style	P = Pins S = Sockets				
Polarization	N, 1, 2, 3, 4 See page 65				

SUBSEA/SHALLOW WATER: GEO-MARINE®



Dimensions			
Shell Size	A Thread Class 2A	Ø B Max	C Thread Class 2A
10	5/8 - 24 UNEF	.906 (23.0)	.750 - .1P - .1L
12	3/4 - 20 UNEF	1.031 (26.2)	.875 - .1P - .1L
14	7/8 - 20 UNEF	1.156 (29.4)	1.000 - .1P - .1L
16	1 - 20 UNEF	1.359 (34.5)	1.125 - .1P - .1L
18	1 1/8 - 16 UN	1.531 (38.9)	1.250 - .1P - .1L
20	1 1/4 - 16 UN	1.656 (42.1)	1.375 - .1P - .1L
22	1 3/8 - 16 UN	1.781 (45.2)	1.500 - .1P - .1L
24	1 1/2 - 16 UN	1.906 (48.4)	1.625 - .1P - .1L

Replacement O-Ring Part Numbers*

Shell Size	Piston O-Ring
10	2-014
12	2-016
14	2-018
16	2-020
18	2-022
20	2-024
22	2-026
24	2-028

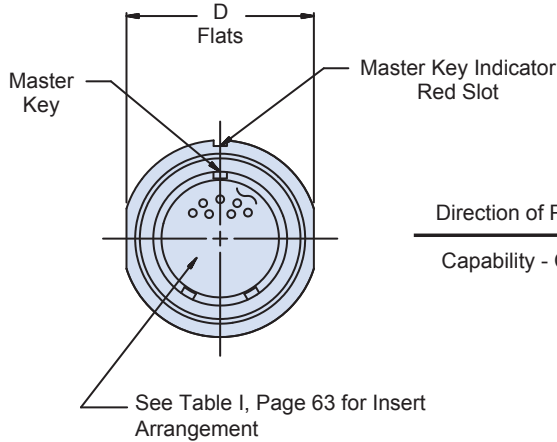
*Parker O-Ring Part Numbers.
Compound N674-70 or Equivalent

ENVIRONMENTAL-5000 PSI MATED OR HERMETIC-5000 PSI OPEN FACE RECEPTACLE

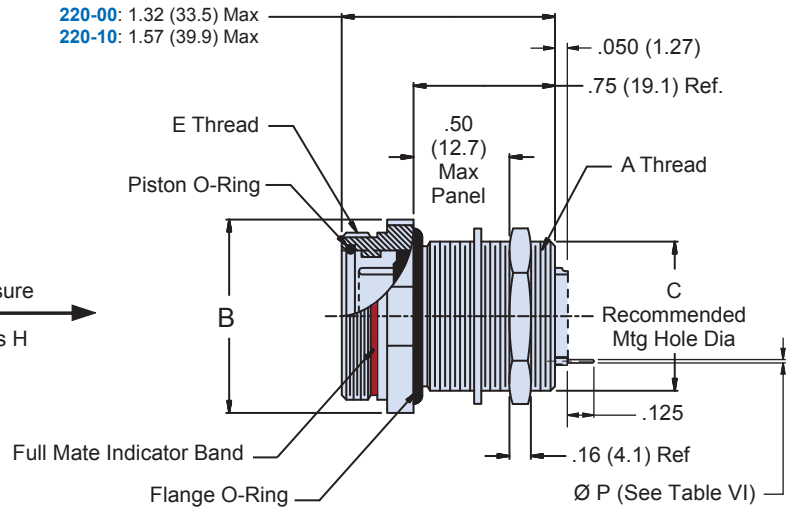


How To Order					
Sample Part Number	220-00	E	24-61	P	N
Series and Shell Style	220-00 = Standard 220-10 = Scoop Proof				
Class	E = Environmental H = Hermetic				
Shell Size - Contact Arrangement	See pages 65-66				
Contact Style	P = Pins S = Sockets		C = Pin PC Tail D = Socket PC Tail		
Polarization	N, 1, 2, 3, 4 See page 65				

Prior to use, lubricate O-rings with high grade silicone lubricant (Moly-kote M55 or equivalent).



Direction of Pressure
Capability - Class H



Dimensions					
Shell Size	A Thread Class 2A	Ø B Max	C ±.005 ±(0.1)	D Flats	E Thread Class 2A
10	5/8 - 24 UNEF	1.03 (25.4)	.635 (16.1)	.875 (22.2)	.750 - .1P - .1L
12	3/4 - 20 UNEF	1.16 (28.6)	.760 (19.3)	1.000 (25.4)	.875 - .1P - .1L
14	7/8 - 20 UNEF	1.28 (31.8)	.885 (22.5)	1.125 (28.6)	1.000 - .1P - .1L
16	1 - 20 UNEF	1.41 (34.9)	1.010 (25.7)	1.250 (31.8)	1.125 - .1P - .1L
18	1 1/8 - 16 UN	1.66 (40.5)	1.135 (28.8)	1.500 (38.1)	1.250 - .1P - .1L
20	1 1/4 - 16 UN	1.78 (43.7)	1.260 (32.0)	1.625 (41.3)	1.375 - .1P - .1L
22	1 3/8 - 16 UN	1.91 (48.1)	1.385 (35.2)	1.750 (44.5)	1.500 - .1P - .1L
24	1 1/2 - 16 UN	2.03 (50.0)	1.510 (38.4)	1.875 (47.6)	1.625 - .1P - .1L

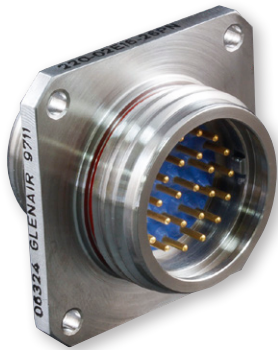
PC Tail Diameter		
Contact Size	Ø P	
	Max	Min
22D	.021	.018
20	.024	.028
16	.0635	.0615
12	.095	.093

Replacement O-Ring Part Numbers*

Shell Size	Piston O-Ring	Flange O-Ring	Shell Size	Piston O-Ring	Flange O-Ring	Shell Size	Piston O-Ring	Flange O-Ring
10	2-014	2-017	16	2-020	2-023	22	2-026	2-029
12	2-016	2-019	18	2-022	2-025	24	2-028	2-030
14	2-018	2-021	20	2-024	2-027			

*Parker O-Ring Part Numbers.
Compound N674-70 Or Equivalent

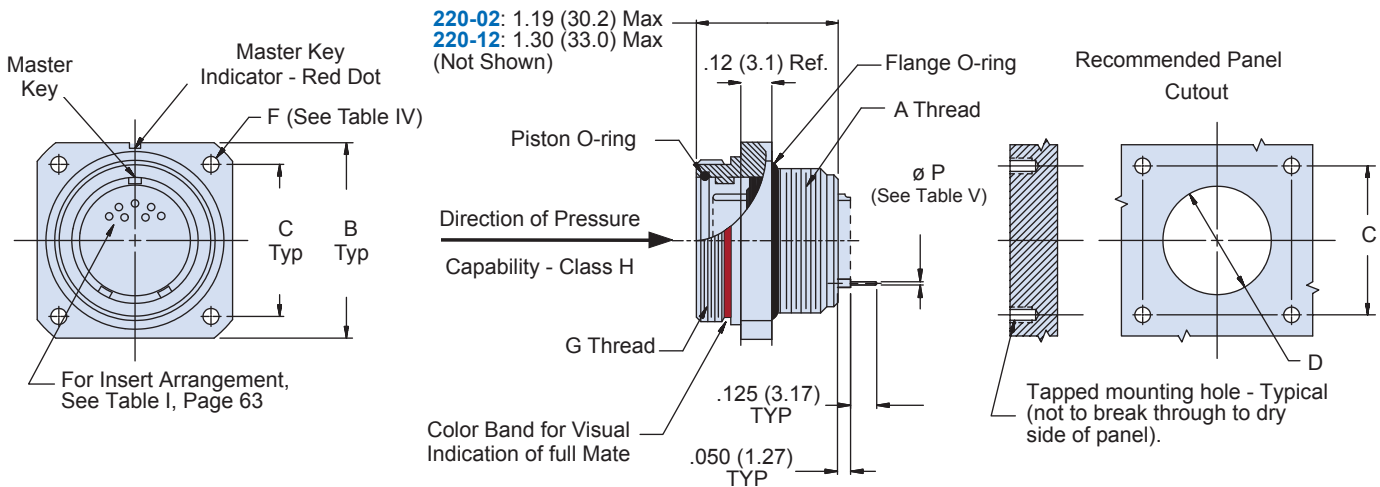




ENVIRONMENTAL-5000 PSI MATED OR HERMETIC-5000 PSI OPEN FACE RECEPTACLE

How To Order					
Sample Part Number	220-02E	H	24-61	P	N
Series and Shell Style	220-02 = Standard 220-12 = Scoop Proof				
Class	E = Environmental		H = Hermetic		
Shell Size - Contact Arrangement	See pages 65-66				
Contact Style	P = Pin, Solder Cup		C = Pin, PC Tail		
	S = Socket, Solder Cup		D = Socket, PC Tail		
Polarization	N, 1, 2, 3, 4 See page 65				

Prior to use, lubricate O-rings with high grade silicone lubricant (Moly-kote M55 or equivalent).



Dimensions					
Shell Size	A Thread Class 2A	B Dim	C Dim	D Dia +.015 +(0.4) -.000 -(0.0)	G Thread Class 2A
10	5/8 - 24 UNEF	1.188 (30.2)	.938 (23.8)	.844 (21.4)	.750 - .1P - .1L
12	3/4 - 20 UNEF	1.312 (33.3)	1.062 (27.0)	.969 (24.6)	.875 - .1P - .1L
14	7/8 - 20 UNEF	1.438 (36.5)	1.188 (30.2)	1.078 (27.4)	1.000 - .1P - .1L
16	1 - 20 UNEF	1.562 (39.7)	1.250 (31.8)	1.219 (31.0)	1.125 - .1P - .1L
18	1 1/8 - 16 UN	1.750 (44.5)	1.375 (34.9)	1.359 (34.5)	1.250 - .1P - .1L
20	1 1/4 - 16 UN	1.875 (47.6)	1.500 (38.1)	1.515 (38.5)	1.375 - .1P - .1L
22	1 3/8 - 16 UN	2.000 (50.8)	1.625 (41.3)	1.640 (41.7)	1.500 - .1P - .1L
24	1 1/2 - 6 UN	2.125 (54.0)	1.750 (44.5)	1.765 (44.8)	1.625 - .1P - .1L

PC Tail Diameter	
Contact Size	Ø P
22D	.021 (0.53)
	.018 (0.46)
20	.024 (0.61)
	.028 (0.71)
16	.0635 (1.61)
	.0615 (1.56)
12	.095 (2.41)
	.093 (2.36)

Mounting/Hardware Dim.		
Shell Size	F Dia	Mtg Screw Ref.
10	.125 (3.2)	No. 4
12	.125 (3.2)	No. 4
14	.125 (3.2)	No. 4
16	.125 (3.2)	No. 4
18	.125 (3.2)	No. 4
20	.125 (3.2)	No. 4
22	.125 (3.2)	No. 4
24	.156 (4.0)	No. 6

Replacement O-Ring Part Numbers*

Shell Size	Piston O-Ring	Flange O-Ring	Shell Size	Piston O-Ring	Flange O-Ring	Shell Size	Piston O-Ring	Flange O-Ring
10	2-014	2-021	16	2-020	2-027	22	2-026	2-031
12	2-016	2-023	18	2-022	2-029	24	2-028	2-032
14	2-018	2-025	20	2-024	2-030			

*Parker O-ring part numbers Compound N674-70 or equivalent.

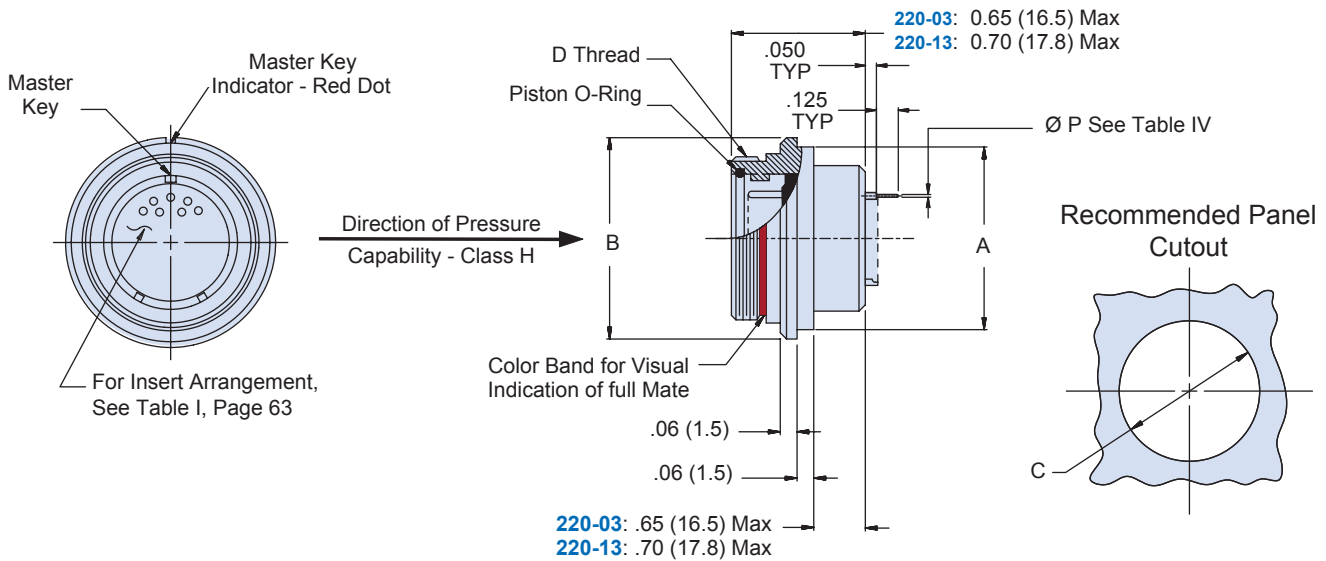
**220-03 and 220-13
Solder mount, bulkhead receptacle**

ENVIRONMENTAL-5000 PSI MATED OR HERMETIC-5000 PSI OPEN FACE RECEPTACLE



How To Order					
Sample Part Number	220-03	H	24-61	P	N
Series and Shell Style	220-03 = Standard 220-13 = Scoop-Proof				
Class	H = Hermetic				
Shell Size - Contact Arrangement	See pages 65-66				
Contact Style	P = Pin, Solder Cup		C = Pin, PC Tail		
	S = Sockets, Solder Cup		D = Socket, PC Tail		
Polarization	N, 1, 2, 3, 4 See page 65				

Prior to use, lubricate O-rings with high grade silicone lubricant (Moly-kote M55 or equivalent).



Dimensions				
Shell Size	A Dia Max	B Dia	C Dia +.010 +(0.3) -.000 -(0.0)	D Thread Class 2A
10	.870 (22.1)	1.00 (25.4)	.875 (22.2)	.750 - .1P - .1L
12	.995 (25.3)	1.13 (28.7)	1.000 (25.4)	.875 - .1P - .1L
14	1.120 (28.4)	1.25 (31.8)	1.125 (28.6)	1.000 - .1P - .1L
16	1.245 (31.6)	1.38 (35.1)	1.250 (31.8)	1.125 - .1P - .1L
18	1.370 (34.8)	1.50 (38.1)	1.375 (34.9)	1.250 - .1P - .1L
20	1.495 (38.0)	1.63 (41.4)	1.500 (38.1)	1.375 - .1P - .1L
22	1.620 (41.1)	1.75 (44.5)	1.625 (41.3)	1.500 - .1P - .1L
24	1.745 (44.3)	1.88 (47.8)	1.750 (44.5)	1.625 - .1P - .1L

PC Tail Diameter	
Contact Size	Ø P
22D	.021 (0.53)
	.018 (0.46)
20	.024 (0.61)
	.028 (0.71)
16	.0635 (1.61)
	.0615 (1.56)
12	.095 (2.41)
	.093 (2.36)

Replacement O-Ring Part Numbers*	
Shell Size	Piston O-Ring
10	2-014
12	2-016
14	2-018
16	2-020
18	2-022
20	2-024
22	2-026
24	2-028

* Parker O-ring part numbers.
Compound N674-70 or equivalent.

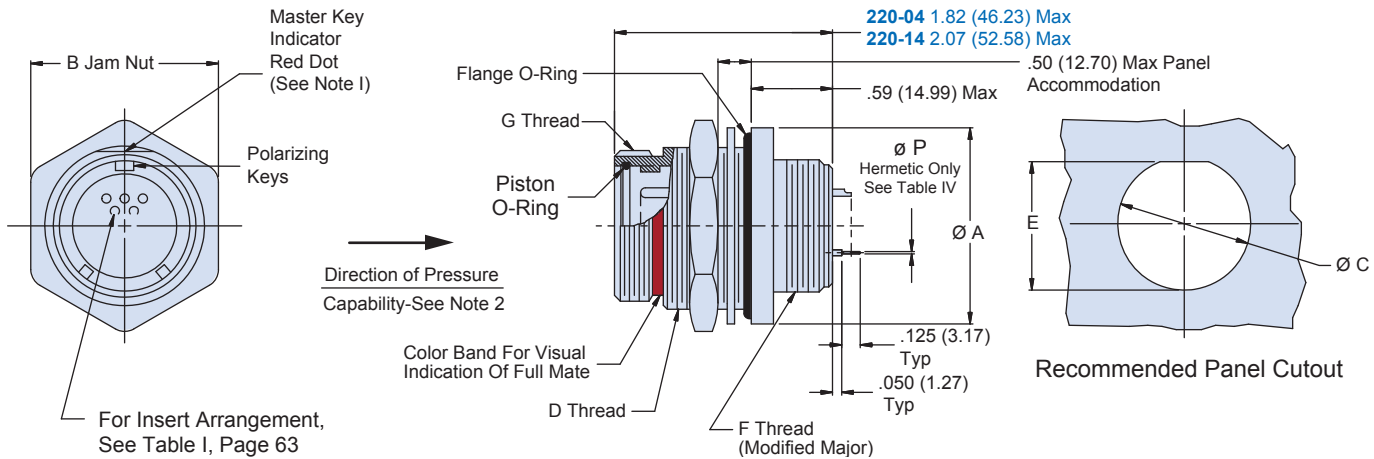


ENVIRONMENTAL-5000 PSI MATED OR HERMETIC-5000 PSI OPEN FACE RECEPTACLE



How To Order					
Sample Part Number	220-04	E	24-61	P	N
Series and Shell Style	220-04 - Standard with Accessory Thread 220-14 - Scoop-Proof with Accessory Thread				
Class	H = Hermetic E = Environmental				
Shell Size- Contact Arrangement	See pages 65-66				
Contact Style	P = Pin, Solder Cup S = Sockets, Solder Cup		C = Pin, PC Tail (hermetic Only) D = Socket, PC Tail (Hermetic Only)		
Polarization	N, 1, 2, 3, 4 See page 65				

Prior to use, lubricate O-rings with high grade silicone lubricant (Moly-kote M55 or equivalent).



Dimensions							
Shell Size	A Dia	B Flats	C Dia ±.005±(0.1)	D Thread Class 2A	E ±.005 ±(0.1)	F Thread Class 2A	G Thread Class 2A
10	1.25 (31.8)	1.125 (28.6)	.885 (22.5)	7/8 - 20 UNEF	.835 (21.2)	5/8 - 24 UNEF	.750 - .1P - .1L
12	1.38 (35.1)	1.250 (31.8)	1.010 (25.7)	1 - 20 UNEF	.960 (24.4)	3/4 - 20 UNEF	.875 - .1P - .1L
14	1.50 (38.1)	1.500 (38.1)	1.135 (28.8)	1 1/8 - 16 UN	1.085 (27.6)	7/8 - 20 UNEF	1.000 - .1P - .1L
16	1.63 (41.4)	1.625 (41.3)	1.260 (32.0)	1 1/4 - 16 UN	1.210 (30.7)	1 - 20 UNEF	1.125 - .1P - .1L
18	1.75 (44.5)	1.750 (44.5)	1.385 (35.2)	1 3/8 - 16 UN	1.335 (33.9)	1 1/8 - 16 UN	1.250 - .1P - .1L
20	1.88 (47.8)	1.875 (47.6)	1.510 (38.4)	1 1/2 - 16 UN	1.460 (37.1)	1 1/4 - 16 U N	1.375 - .1P - .1L
22	2.00 (50.8)	2.000 (50.8)	1.635 (41.5)	1 5/8 - 16 UN	1.585 (40.3)	1 3/8 - 16 UN	1.500 - .1P - .1L
24	2.12 (53.8)	2.125 (54.0)	1.760 (44.7)	1 3/4 - 16 UN	1.710 (43.4)	1 1/2 - 16 UN	1.625 - .1P - .1L

PC Tail Diameter	
Contact Size	Ø P
22D	.021 (0.53) .018 (0.46)
20	.024 (0.61) .028 (0.71)
16	.0635 (1.61) .0615 (1.56)
12	.095 (2.41) .093 (2.36)

Replacement O-Ring Part Numbers *

Shell Size	Piston O-Ring	Flange O-Ring	Shell Size	Piston O-Ring	Flange O-Ring
10	2-014	2-021	18	2-022	2-029
12	2-016	2-023	20	2-024	2-030
14	2-018	2-025	22	2-026	2-031
16	2-020	2-027	24	2-028	2-032

* Parker O-ring part numbers. Compound N674-70 or equivalent.

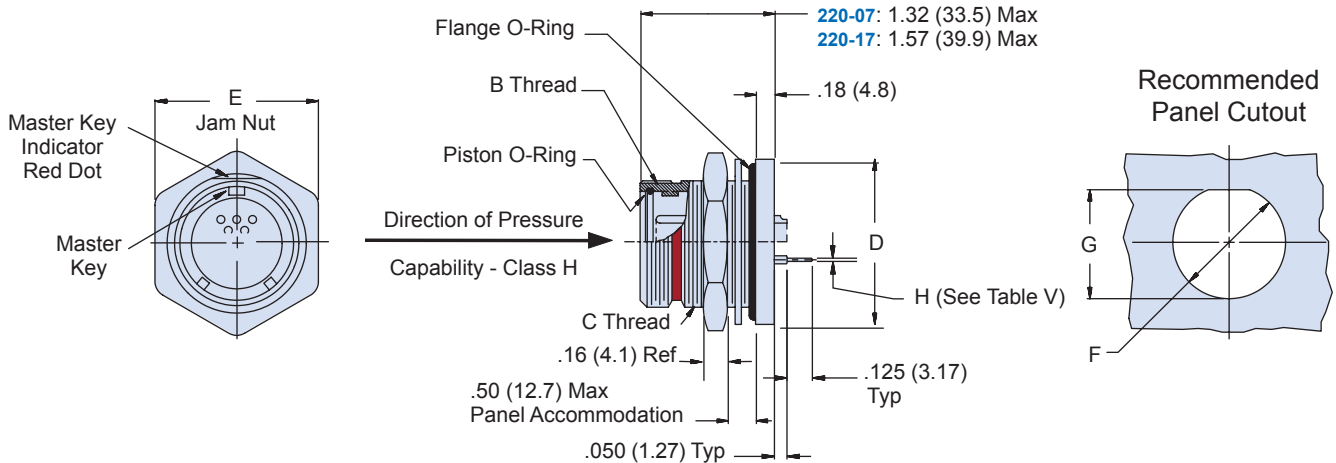
**220-07 and 220-17
Jam nut receptacle, rear box mount**

ENVIRONMENTAL-5000 PSI MATED OR HERMETIC-5000 PSI OPEN FACE RECEPTACLE



How To Order					
Sample Part Number	220-07	H	24-61	P	N
Series and Shell Style	220-07 - Standard 220-17 - Scoop-Proof				
Class	H = Hermetic E = Environmental				
Shell Size-Contact Arrangement	See pages 65-66				
Contact Style	P = Pin, Solder Cup S = Socket, Solder Cup		C = Pin, PC Tail D = Socket, PC Tail		
Polarization	N, 1, 2, 3, 4 See page 65				

Prior to use, lubricate O-rings with high grade silicone lubricant (Moly-kote M55 or equivalent).



Dimensions						
Shell Size	B Thread Class 2A	C Thread Class 2A	D Dia	E Flats	F Dia ±.005± (0.1)	G ±.005± (0.1)
10	.750 - .1P - .1L	7/8 - 20 UNEF	1.25 (31.8)	1.125 (28.6)	.885 (22.5)	.835 (21.2)
12	.875 - .1P - .1L	1 - 20 UNEF	1.38 (35.1)	1.250 (31.8)	1.010 (25.7)	.960 (24.4)
14	1.000 - .1P - .1L	1 1/8 - 16 UN	1.50 (38.1)	1.500 (38.1)	1.135 (28.8)	1.085 (27.6)
16	1.125 - .1P - .1L	1 1/4 - 16 UN	1.63 (41.4)	1.625 (41.3)	1.260 (32.0)	1.210 (30.7)
18	1.250 - .1P - .1L	1 3/8 - 16 UN	1.75 (44.5)	1.750 (44.5)	1.385 (35.2)	1.335 (33.9)
20	1.375 - .1P - .1L	1 1/2 - 16 UN	1.88 (47.8)	1.875 (47.6)	1.510 (38.4)	1.460 (37.1)
22	1.500 - .1P - .1L	1 5/8 - 16 UN	2.00 (50.8)	2.000 (50.8)	1.635 (41.5)	1.585 (40.3)
24	1.625 - .1P - .1L	1 3/4 - 16 UN	2.12 (53.8)	2.125 (54.0)	1.760 (44.7)	1.710 (43.4)

PC Tail Diameter	
Contact Size	Ø P
22D	.021 (0.53) .018 (0.46)
20	.024 (0.61) .028 (0.71)
16	.0635 (1.61) .0615 (1.56)
12	.095 (2.41) .093 (2.36)

Replacement O-Ring Part Numbers *

Shell Size	Piston O-Ring	Flange O-Ring	Shell Size	Piston O-Ring	Flange O-Ring	Shell Size	Piston O-Ring	Flange O-Ring
10	2-014	2-020	16	2-020	2-027	22	2-026	2-031
12	2-016	2-023	18	2-022	2-029	24	2-028	2-032
14	2-018	2-025	20	2-024	2-030			

* Parker O-ring part numbers. Compound N674-70 or equivalent.

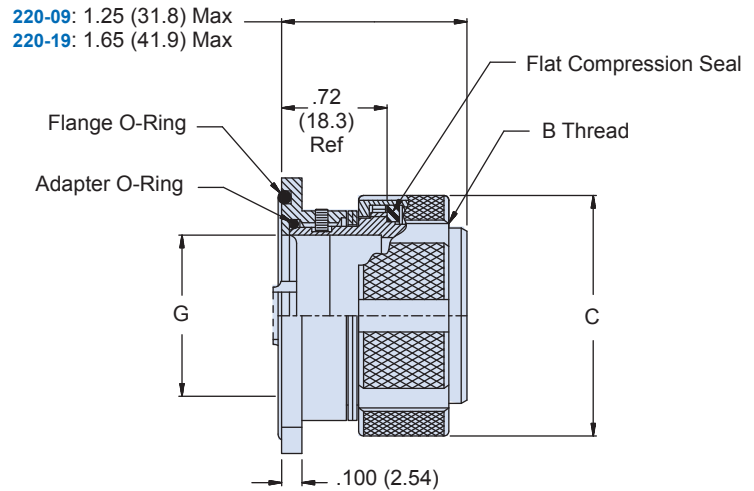
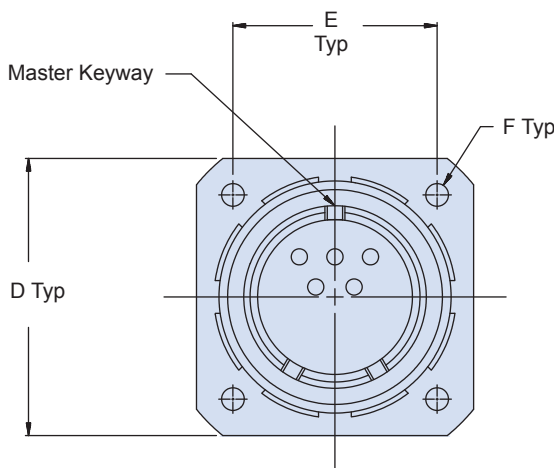


ENVIRONMENTAL-5000 PSI MATED OR HERMETIC-5000 PSI OPEN FACE RECEPTACLE



How To Order					
Sample Part Number	220-09	E	24-61	P	N
Series and Shell Style	220-09 - Standard 220-19 - Scoop-Proof				
Class	E = High-Pressure Environmental				
Shell Size - Contact Arrangement	See pages 65-66				
Contact Style	P = Pin S = Socket				
Polarization	N, 1, 2, 3, 4 See page 65				

SUBSEA/SHALLOW WATER: GEO-MARINE®



Dimensions							
Shell Size	B Thread Class 2B	C Dia Max	D Dim	E Dim	F Dia	Mtg Screw Ref.	G Panel Cutout
10	.750 - .1P - .1L	1.000 (25.4)	1.09 (27.7)	.844 (21.4)	.125 (3.2)	No. 4	.625 (15.9)
12	.875 - .1P - .1L	1.125 (28.6)	1.19 (30.2)	.938 (23.8)	.125 (3.2)	No. 4	.750 (19.1)
14	1.000 - .1P - .1L	1.250 (31.8)	1.25 (31.8)	1.000 (25.4)	.125 (3.2)	No. 4	.875 (22.2)
16	1.125 - .1P - .1L	1.375 (34.9)	1.34 (34.0)	1.094 (27.8)	.125 (3.2)	No. 4	1.000 (25.4)
18	1.250 - .1P - .1L	1.594 (40.5)	1.44 (36.6)	1.188 (30.2)	.125 (3.2)	No. 4	1.125 (28.6)
20	1.375 - .1P - .1L	1.719 (43.7)	1.55 (39.4)	1.281 (32.5)	.125 (3.2)	No. 4	1.250 (31.8)
22	1.500 - .1P - .1L	1.844 (46.8)	1.72 (43.7)	1.375 (34.9)	.125 (3.2)	No. 4	1.375 (34.9)
24	1.625 - .1P - .1L	1.969 (50.0)	1.85 (47.0)	1.500 (38.1)	.156 (4.0)	No. 6	1.500 (38.1)

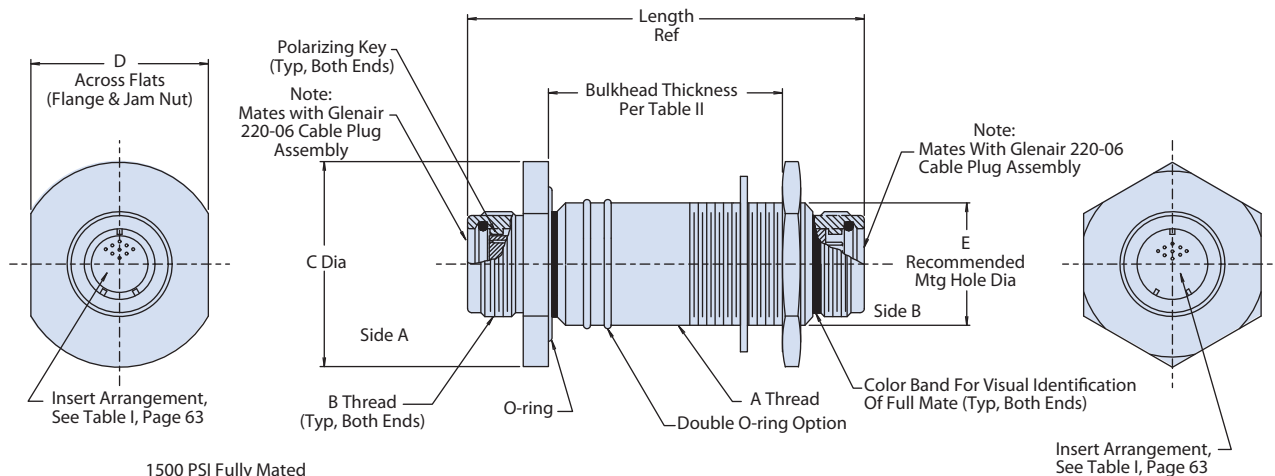
Seal Replacement Part Numbers

Shell Size	Adapter O-Ring	Flange O-Ring	Compression Flat Seal	18	2-022	2-025	G70653-18
10	2-014	2-019	G70653-10	22	2-026	2-029	G70653-22
12	2-016	2-021	G70653-12	24	2-028	2-030	G70653-24
14	2-018	2-022	G70653-14	*Parker O-ring part numbers.			
16	2-020	2-024	G70653-16	Compound N674-70 or equivalent.			

ENVIRONMENTAL-1500 PSI MATED OR HERMETIC UP TO -5000 PSI OPEN FACE RECEPTACLE

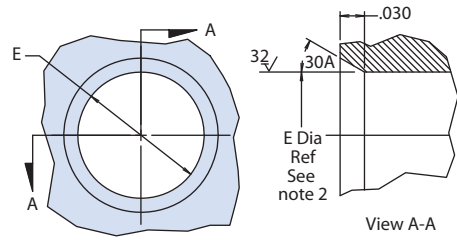


		How To Order							
Sample Part Number		227-040	-24-61	S	N	P	N	03	D
Series and Shell Style	227-039 - Standard shell (mates with 220-06 plug) 227-040 - Scoop-Proof shell (mates with 220-016)								
Shell Size - Contact Arrangement	See pages 65-66								
Side A Contact Style	P = Pins S = Sockets H = Hermetic Pin								
Side A Polarization	N, 1, 2, 3, 4 See page B-63								
Side B Contact Style	P = Pin S = Socket H = Hermetic Pin								
Side B Polarization	N, 1, 2, 3, 4 See page 65								
Bulkhead Thickness Dash No.	See Table III								
Double O-Ring Option	D (Omit for None)								



1500 PSI Fully Mated To Counterpart Connector
Hydrostatic Pressure Capability

1000 To 5000 PSI Open Face Hermetic (Sym H) Only
Hydrostatic Pressure Capability



Recommended Panel Cut-out

SUBSEA/SHALLOW WATER: GEO-MARINE®





SERIES 22 5000M / 5000 PSI Shallow Water Application



227-039 and 227-040 Receptacle Jam Nut, Bulkhead Feed-through

Dimensions					
Shell Size	A Thread Class 2A	B Thread Class 2A	C Dia	D Flat	E Dia *
10	7/8-20 UNEF	.750-.1P-.1L	1.41 (35.8)	1.250 (31.8)	.875 (22.2)
12	1-20 UNEF	.875-.1P-.1L	1.53 (38.9)	1.375 (34.9)	1.000 (25.4)
14	1 1/8-18 UNEF	1.000-.1P-.1L	1.66 (42.2)	1.500 (38.1)	1.125 (28.6)
16	1 1/4-16 UN	1.125-.1P-.1L	1.78 (45.2)	1.625 (41.3)	1.250 (31.8)
18	1 3/8-16 UN	1.250-.1P-.1L	1.91 (48.5)	1.750 (44.5)	1.375 (34.9)
20	1 1/2-16 UN	1.375-.1P-.1L	2.03 (51.6)	1.875 (47.6)	1.500 (38.1)
22	1 5/8-16 UN	1.500-.1P-.1L	2.16 (54.9)	2.000 (50.8)	1.625 (41.3)
24	1 3/4-16 UN	1.625-.1P-.1L	2.28 (57.9)	2.125 (54.0)	1.750 (44.5)

* Standard Shell +.010 (.254) -.000 (.0) * Double "O" Ring Option +.002 (.05) -.000 (.0)

Bulkhead Thickness				
Dash No.	Panel Min	Panel Max	Length (Ref.)	
			Standard Shell Length	Scoop-Proof Shell Length
01	.03 (.8)	1.00 (25.4)	2.30 (58.4)	3.00 (76.2)
02	1.00 (25.4)	2.00 (50.8)	3.30 (83.8)	4.00 (101.6)
03	2.00 (50.8)	3.00 (76.2)	4.30 (109.2)	5.00 (127.0)
04	3.00 (76.2)	4.00 (101.6)	5.30 (134.6)	6.00 (152.4)
05	4.00 (101.6)	5.00 (127.0)	6.30 (160.0)	7.00 (177.8)
06	5.00 (127.0)	6.00 (152.4)	7.30 (185.4)	8.00 (203.2)
07	6.00 (152.4)	7.00 (177.8)	8.30 (210.8)	9.00 (228.6)
08	7.00 (177.8)	8.00 (203.2)	9.30 (236.2)	10.00 (254.0)

NOTES

1. Power to a given contact on one end will result in power to contact directly opposite, regardless of identification letter.
2. For standard o-ring option, $\sqrt[3]{}$ does not apply and E dia s/b $\begin{matrix} +.010 \\ -.000 \end{matrix}$
3. For pin/pin and skt/skt, symmetrical layouts only, consult factory for available Contact Arrangements.
4. Performance capabilities

Current Rating:

Size 12 contact	17 amps at 750 VDC
Size 16 contact	10 amps at 750 VDC
Size 20 contact	5 amps at 500 VDC
Size 22 contact	3 amps at 500 VDC

Insulation Resistance:

1000 MegOhms min, at 500 VDC, Between contacts and contacts to shell

Hermeticity:

Less than 10^{-6} cc/sec leakage at 1 atmosphere

SUBSEA/SHALLOW WATER: GEO-MARINE®



**290-011 and 290-012
Stainless Steel Molding Adapters**

STAINLESS STEEL MOLDING ADAPTERS, STANDARD OR WITH OPTIONAL CABLE ENTRY DIAMETERS



How To Order		
Sample Part Number	290WS011	-18
Basic Number	290WS011	
Shell Size	See Table I	



How To Order			
Sample Part Number	290WS012	-18	12
Basic Number	290WS012		
Shell Size	See Table II		
Cable Entry Size	See Table II		

Tips

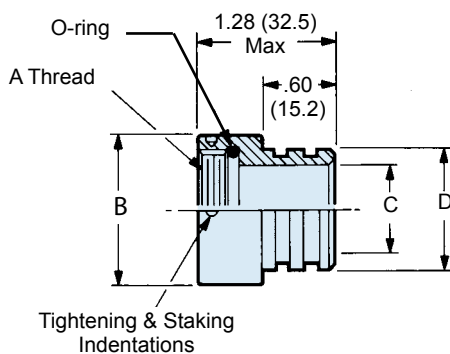
To select the appropriate molding adapter, consider the following basic suggestions to ensure a high integrity, quality molded termination:

- Select a molding adapter which will provide adequate inside working room to accept the termination envelope, especially if there are shield terminations, splices, etc.
- If the termination is to be molded with neoprene or other material using a transfer molding process, select the molding adapter cable entry diameter close to the outside diameter of the cable or termination envelope.

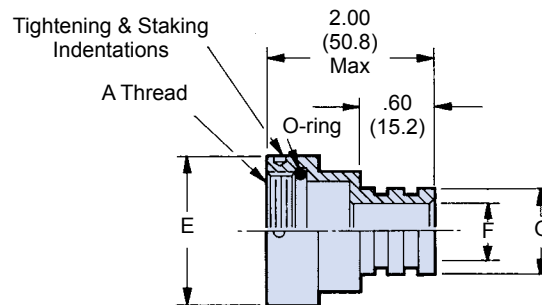
NOTES

1. Prior to use, lubricate O-rings with high grade silicone lubricant (Molykote M55 or equivalent).
2. Material:
Adapter - stainless steel.
O-ring - nitrile

290WS011 STANDARD



290WS012 OPTIONAL CABLE ENTRY DIAMETERS





SERIES 22 5000M / 5000 PSI Shallow Water Application



290-011 and 290-012 Stainless Steel Molding Adapters

SUBSEA/SHALLOW WATER: GEO-MARINE®

Table I: 290WS011 Fixed Entry Dimensions				
Shell Size	A Thread Class 2B	B Dia Max	C Dia	D Dia
10	5/8 - 24 UNEF	.855 (21.7)	.430 (10.9)	.670 (17.0)
12	3/4 - 20 UNEF	.965 (24.5)	.535 (13.6)	.780 (19.8)
14	7/8 - 20 UNEF	1.090 (27.7)	.660 (16.8)	.905 (23.0)
16	1 - 20 UNEF	1.220 (31.0)	.785 (19.9)	1.020 (25.9)
18	1 1/8 - 16 UN	1.370 (34.8)	.880 (22.4)	1.135 (28.8)
20	1 1/4 - 16 UN	1.525 (38.7)	1.005 (25.5)	1.250 (31.8)
22	1 3/8 - 16 UN	1.655 (42.0)	1.130 (28.7)	1.383 (35.1)
24	1 1/2 - 16 UN	1.775 (45.1)	1.255 (31.9)	1.510 (38.4)

Table II: 290WS012 Variable Entry Dimensions					
Shell Size	A Thread Class 2B	E Dia Max	Max Entry	F Dia	G Dia
10	5/8 - 24 UNEF	.855 (21.7)		.430 (10.9)	.670 (17.0)
12	3/4 - 20 UNEF	.965 (24.5)	12	.535 (13.6)	.780 (19.8)
14	7/8 - 20 UNEF	1.090 (27.7)		.660 (16.8)	.905 (23.0)
16	1 - 20 UNEF	1.220 (31.0)	16	.785 (19.9)	1.020 (25.9)
18	1 1/8 - 16 UN	1.370 (34.8)		.880 (22.4)	1.135 (28.8)
20	1 1/4 - 16 UN	1.525 (38.7)	20	1.005 (25.5)	1.250 (31.8)
22	1 3/8 - 16 UN	1.655 (42.0)		1.130 (28.7)	1.383 (35.1)
24	1 1/2 - 16 UN	1.775 (45.1)	24	1.255 (31.9)	1.510 (38.4)

Table IV: Torque Values	
Entry No.	Torque ± 5 In. Lbs.
10	80
12	100
14	120
16	120
18	140
20	140
22	140
24	150

Table V: Replacement O-Ring Part Numbers *	
Shell Size	Piston O-Ring
10	2-014
12	2-016
14	2-018
16	2-020
18	2-022
20	2-024
22	2-026
24	2-028

* Parker o-ring part numbers.
Compound N674-70 or equivalent.

INSTRUCTIONS FOR USING CABLE MOLDING ADAPTERS

- Slide 290WS011/012 adapter over cable
- Prepare cable and wires
- If using shrink sleeves, slide them over wire insulation and solder terminated wires to solder cup contacts; slide shrink sleeves to correct position and apply recommended heat.
- Slide 290WS011/012 adapter and attach hand-tight to plug connector.
- Use Plug Holding Tool (P/N 600-005) along with Hand Held Torque Wrench (P/N 600-076) and Spanner Wrench (P/N 600-171) to tighten to recommended torque value.

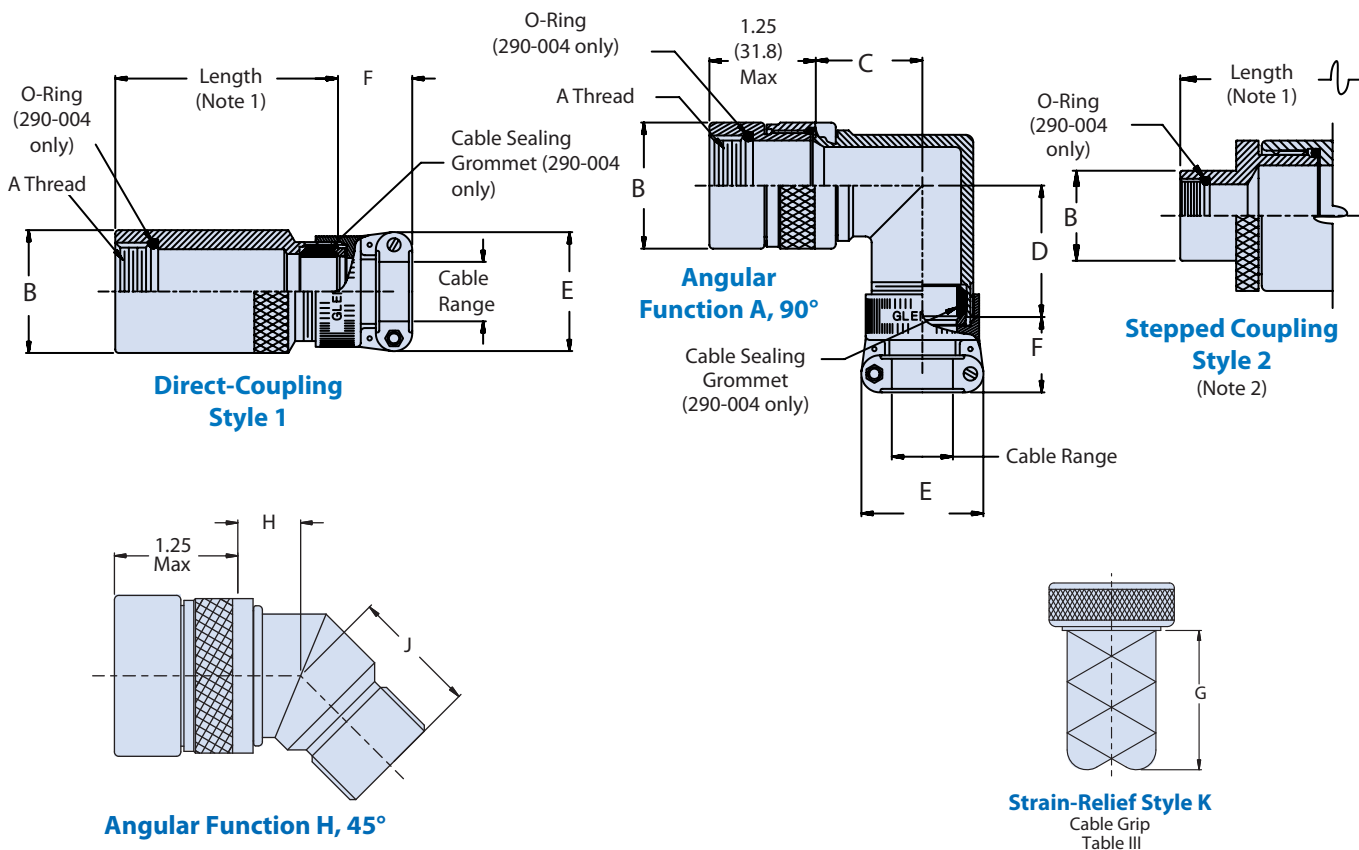
Please note that the "tightening/staking indentations" are on the 290WS011/012 Adapter, NOT on the Marine Bronze Coupling Nut. The "holes" in the coupling nut retain the spring for the anti-decoupling feature of the cable plug.

The TG70 Strap Wrench and the 600-076 Torque Wrench should be utilized to properly torque the cable/plug assembly to the appropriate receptacle

90°, 45° OR STRAIGHT ENVIRONMENTAL BACKSHELL AND/OR CABLE CLAMP



		How To Order									
Sample Part Number		290	W	A	003	NF	-16	10	H	6	
Product Series	290										
Connector Designator	W										
Angular Function	A = 90° H = 45° S = Straight										
Basic Part Number	003 = Strain Relief 004 = Environmental Seal/Strain Relief										
Material/Finish	B, G, M, GB, NF, Z1 See Table IV,										
Shell Size	-10, -12, -14, -16, -18, -20, -22, -24, -28 See Table I										
Cable Entry Dash No.	04, 06, 08, 10, 12, 16, 18, 20, 24, 28, See Table II										
Strain Relief Style	H = Cable Clamp, Table II K = Cable Grip, Table III										
Length (S Only)	1/2 inch Increments, e.g. 6 = 3.0 inches ; See Note 2										



SUBSEA/SHALLOW WATER: GEO-MARINE®





SERIES 22 5000M / 5000 PSI Shallow Water Application



290-003 and 290-004

Environmental Backshell with Strain-Relief Clamp

Shell Size	A Thread Class 2B	B Dia Max
10	5/8-24 UNEF	0.781 (19.8)
12	3/4-20 UNEF	0.906 (23.0)
14	7/8-20 UNEF	1.031 (26.2)
16	1-20 UNEF	1.156 (29.4)
18	1 1/8-16 UN	1.281 (32.5)
20	1 1/4-16 UN	1.406 (35.7)
22	1 3/8-16 UN	1.531 (38.9)
24	1 1/2-16 UN	1.656 (42.1)
26	1 5/8-18 UNEF	1.781 (45.2)
28	1 3/4-18 UNS	1.906 (48.4)

Dash No.	C Max	D Max	E Max	F Max	H Max	J Max	Cable Entry	
							Min	Max
04	0.94 (23.9)	1.16 (29.5)	0.957 (24.3)	0.780 (19.8)	0.74 (18.8)	0.95 (24.1)	0.125 (3.2)	0.312 (7.9)
06	0.98 (24.9)	1.22 (31.0)	1.145 (29.1)	0.780 (19.8)	0.76 (19.3)	0.98 (24.9)	0.250 (6.4)	0.437 (11.1)
08	1.03 (26.2)	1.25 (31.8)	1.332 (33.8)	0.780 (19.8)	0.78 (19.8)	1.00 (25.4)	0.312 (7.9)	0.562 (14.3)
10	1.09 (27.7)	1.32 (33.5)	1.332 (33.8)	0.780 (19.8)	0.80 (20.3)	1.03 (26.2)	0.350 (8.9)	0.625 (15.9)
12	1.12 (28.4)	1.36 (34.5)	1.551 (39.4)	0.811 (20.6)	0.82 (20.8)	1.05 (26.7)	0.500 (12.7)	0.750 (19.1)
16	1.25 (31.8)	1.45 (36.8)	1.770 (45.0)	0.905 (23.0)	0.87 (22.1)	1.09 (27.7)	0.625 (15.9)	0.937 (23.8)
20	1.41 (35.8)	1.65 (41.9)	2.113 (53.7)	1.092 (27.7)	1.14 (29.0)	1.35 (34.3)	0.875 (22.2)	1.250 (31.8)
24	1.41 (35.8)	1.65 (41.9)	2.363 (60.0)	1.124 (28.5)	1.14 (29.0)	1.35 (34.3)	1.000 (25.4)	1.375 (34.9)
28	1.60 (40.6)	1.88 (47.8)	2.770 (70.4)	1.399 (35.5)	1.27 (32.3)	1.43 (36.3)	1.250 (31.8)	1.625 (41.3)
32	1.60 (40.6)	1.88 (47.8)	3.020 (76.7)	1.399 (35.5)	1.27 (32.3)	1.43 (36.3)	1.437 (36.5)	1.875 (47.6)

Dash No	G Length Ref	Grip Range			
		Min		Max	
03	2.12 (53.8)	0.180	(4.6)	0.210	(5.3)
04	2.75 (69.9)	0.210	(5.3)	0.310	(7.9)
06	4.00 (101.6)	0.310	(7.9)	0.438	(11.1)
08	4.12 (104.6)	0.438	(11.1)	0.500	(12.7)
10	4.37 (111.0)	0.500	(12.7)	0.625	(15.9)
12	6.00 (152.4)	0.625	(15.9)	0.750	(19.1)
14	5.00 (127.0)	0.750	(19.1)	0.875	(22.2)
16	6.00 (152.4)	0.875	(22.2)	1.000	(25.4)
20	6.25 (158.8)	1.000	(25.4)	1.250	(31.8)
24	7.25 (184.2)	1.125	(28.6)	1.375	(34.9)

Sym	Finish Description
B	Cadmium Plate/Olive Drab
G	Hard Coat, Mil-A-8625 Color Gray
M	Electroless Nickel
N	Cadmium Plate/Olive Drab Over Nickel Plate
GB	Hard Coat, Mil-A-8625 Color Black
NF	Cad/O. D. Over Electroless Nickel (1000 Hour Salt Spray)
Z1	Stainless Steel Material Passivate Per QQ-P-35

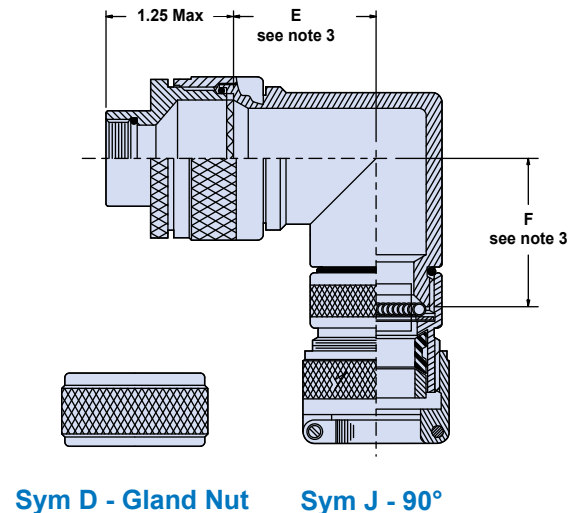
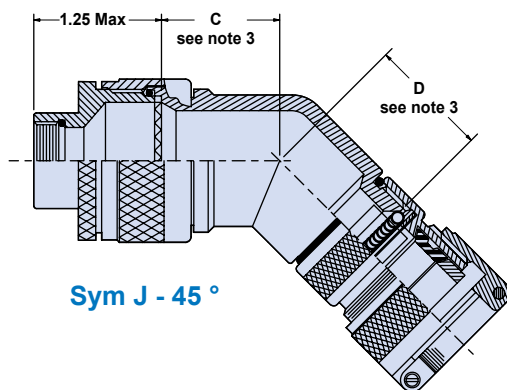
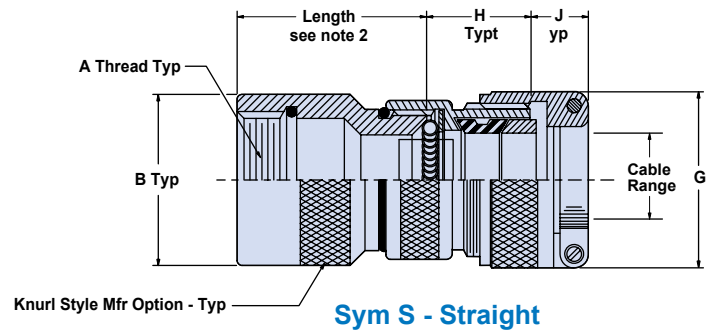
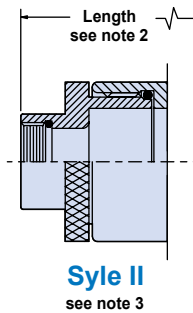
NOTES

1. Assembly identified with manufacturer's name and P/N, space permitting.
2. Standard minimum length for Style I is 1.50 Inch, for Style II is 2.00 Inches. For shorter length, consult factory. Note: applies to Sym S, straight, only.
3. When cable diameter exceeds inside diameter or connector shell, Style II will be supplied.
4. Glenair 600 series backshell assembly tools are recommended for assembly and installation.
5. Material/finish:
Elbows, adapter, coupling & gland nuts, clamp - Al alloy or CRES/see Table II.
Grip, hardware - CRES/passivate.

297W EMI/RFI Strain Relief Backshell Cable Sealing for Geo-Marine® Connectors

ENVIRONMENTAL 45°, 90° AND STRAIGHT STRAIN RELIEF BACKSHELLS

How To Order							
Sample Part Number	297W	S	003	16	10	D	6
Product Series and Connector Designator	297W						
Angular Function	H = 45° J = 90° S = Straight						
Basic Number	003						
Shell Size	See Table I						
Cable Entry Dash No.	See Table II						
Gland Nut	D = Gland Nut Omit for Clamp, Substitute Dash						
Length	1/2 Inch Increments; E.G. 6 = 3 Inches See Note 2 Length "F Dim" for 90A in 1/2 Inch Increments Length "D Dim" for 45A in 1/2 Inch Increments Omit for Standard Length D & F on 45A and 90A Assembly						



SUBSEA/SHALLOW WATER: GEO-MARINE®





SERIES 22 5000M / 5000 PSI Shallow Water Application



297W EMI/RFI Strain Relief Backshell Cable Sealing for Geo-Marine® Connectors

SUBSEA/SHALLOW WATER: GEO-MARINE®

Table I: Dimensions

Shell Size	A Thread Class 2B	B Max		C Max		D (Standard) Max		E Max		F (Standard) Max	
10	5/8-24 UNEF	.781	(19.8)	.688	(17.5)	.86	(21.8)	.87	(22.1)	1.04	(26.4)
12	3/4-20 UNEF	.906	(23.0)	.705	(17.9)	.89	(22.6)	.97	(24.6)	1.11	(28.2)
14	7/8-20 UNEF	1.031	(26.2)	.732	(18.6)	.91	(23.1)	.98	(24.9)	1.17	(29.7)
16	1-20 UNEF	1.156	(29.4)	.748	(19.0)	.92	(23.4)	1.02	(25.9)	1.19	(30.2)
18	1 1/8-16 UN	1.281	(32.5)	.773	(19.6)	.94	(23.9)	1.08	(27.4)	1.25	(31.8)
20	1 1/4-16 UN	1.406	(35.7)	.800	(20.3)	.98	(24.9)	1.14	(29.0)	1.33	(33.8)
22	1 3/8-16 UN	1.531	(38.9)	.823	(20.9)	1.01	(25.7)	1.20	(30.5)	1.40	(35.6)
24	1 1/2-16 UN	1.656	(42.1)	1.041	(26.4)	1.18	(30.0)	1.48	(37.6)	1.64	(41.7)

Table II: Cable Entry Dash Number Dimensions

Dash No	Cable Entry				G Max		H Ref		J Ref	
	Min		Max							
03	.156	(4.0)	.250	(6.4)	.844	(21.4)	1.03	(26.2)	.760	(19.3)
04	.188	(4.8)	.312	(7.9)	.906	(23.0)	1.03	(26.2)	.760	(19.3)
06	.281	(7.1)	.438	(11.1)	1.903	(48.3)	1.03	(26.2)	.760	(19.3)
08	.344	(8.7)	.562	(14.3)	1.187	(30.1)	1.03	(26.2)	.760	(19.3)
10	.375	(9.5)	.625	(15.9)	1.281	(32.5)	1.19	(30.2)	.760	(19.3)
12	.438	(11.1)	.750	(19.1)	1.500	(38.1)	1.19	(30.2)	.760	(19.3)
16	.562	(14.3)	.938	(23.8)	1.719	(43.7)	1.19	(30.2)	1.073	(27.3)
20	.750	(19.1)	1.250	(31.8)	2.062	(52.4)	1.19	(30.2)	1.323	(33.6)
24	.781	(19.8)	1.375	(34.9)	2.312	(58.7)	1.19	(30.2)	1.323	(33.6)
28	.969	(24.6)	1.625	(41.3)	2.719	(69.1)	1.19	(30.2)	1.572	(39.9)
32	1.125	(28.6)	1.875	(47.6)	2.969	(75.4)	1.19	(30.2)	1.572	(39.9)
40	1.469	(37.3)	2.375	(60.3)	3.531	(89.7)	1.19	(30.2)	1.572	(39.9)

NOTES

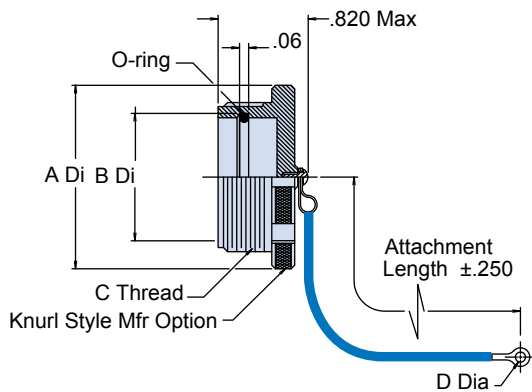
1. Assembly identified with manufacturer's name and P/N, space permitting.
2. Standard minimum length for Style I is 1.50 Inch, for Style II is 2.00 Inches. For shorter length, consult factory. Note: applies to Sym S, straight, only.
3. When maximum cable range exceeds inside diameter of connector shell:
Sym S: Style II will be supplied.
Sym H and Sym J: dimension C, D, E & F does not apply.
4. Glenair 600 series backshell assembly tools are recommended for assembly and installation.
5. Material/Finish:
 - Elbow, adapter, clamp, hardware, spring follower, coupling and gland nuts - CRES/pasivate
 - Washer - Fluoropolymer/n.a.
 - Grommet, o-rings - silicone/n.a.



SERIES 22 5000M / 5000 PSI Shallow Water Application



290-009 Cover for Standard Plug (Non-Scoop-Proof) Series 22 Connectors



How To Order Plug Cover				
Sample Part Number	290-009	S	18	03- 5
Series - Shell Style	290-009 = Standard Plug			
Attachment Type	See Table III			
Shell Size	See Table I			
Dash No.	See Table II or Table IV			
Attachment Length	5 = 5 inches			

NOTES:

1. Assembly identified with manufacturer's name and P/N, space permitting.
2. Protective cover is capable of hydrostatic sealing pressures to 5000 PSI, when fully mated with counterpart plug.
3. Material/finish:
Cover, hardware & split ring - 300 series stainless steel/passivate
Wire rope - CRES, see Table III/passivate
O-ring - nitrile/n.a.

Table I: Dimensions				
Shell Size	A Max	B Max	C Thread Class 2A	Piston O-Ring Size*
10	0.900 (22.9)	0.602 (15.3)	.750 -1P-.1L	2-014
12	1.025 (26.0)	0.727 (18.5)	.875 -1P-.1L	2-016
14	1.150 (29.2)	0.852 (21.6)	1.000 -1P-.1L	2-018
16	1.275 (32.4)	0.977 (24.8)	1.125 -1P-.1L	2-020
18	1.525 (38.7)	1.102 (28.0)	1.250 -1P-.1L	2-022
20	1.650 (41.9)	1.227 (31.2)	1.375 -1P-.1L	2-024
22	1.775 (45.1)	1.352 (34.3)	1.500 -1P-.1L	2-026
24	1.900 (48.3)	1.477 (37.5)	1.625 -1P-.1L	2-028

* Reference piston o-ring P/N when purchasing replacement rings

Table III: Attachment Type					
Sym	Attachment	Sym	Attachment	Sym	Attachment
D	Bead chain, CRES, passivated, with terminal	G	Bead chain, CRES, passivated, no terminal	T	Wire rope, no jacket, w/terminal
E	Link chain, CRES, passivated, with clevis terminal	H	Wire rope, Fluoropolymer jacket w/ terminal	K	Nylon rope
F	Wire rope, nylon jacket w/terminal	N	Attachment omitted	S	#8 Sash chain, CRES, passivate
		R	Wire rope, pvc jacket w/terminal	U	Wire rope, polyurethane jacket, with terminal

Table II: Solid Ring Dia.	
Dash No	D Dia
01	0.125 (31.8)
02	0.140 (3.6)
03	0.167 (4.2)
04	0.182 (4.6)
05	0.191 (4.9)
06	0.197 (5.0)

Table IV: Split Ring Dia.			
Dash No	E Dia	Dash No	E Dia
50	0.425 (10.8)	66	1.250 (31.8)
52	0.485 (12.3)	68	1.350 (34.3)
54	0.640 (16.3)	70	1.375 (34.9)
56	0.750 (19.1)	72	1.485 (37.7)
58	0.890 (22.6)	74	1.625 (41.3)
60	1.015 (25.8)	76	1.750 (44.5)
62	1.095 (27.8)	78	1.875 (47.6)
64	1.130 (28.7)	80	1.980 (50.3)
		82	2.060 (52.3)

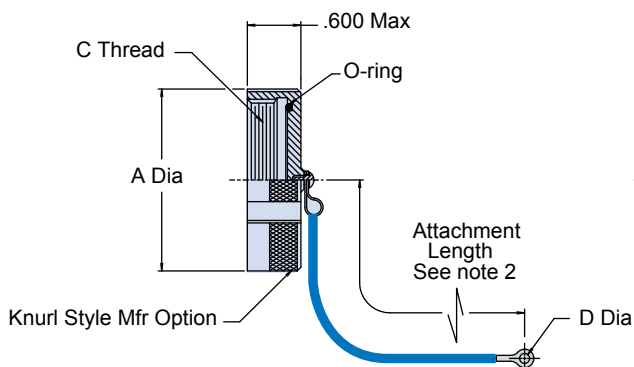
SUBSEA/SHALLOW WATER: GEO-MARINE®



**290-010 Cover for Standard Receptacle
(Non-Scoop-Proof) Series 22 Connectors**



How To Order Receptacle Cover					
Sample Part Number	290-010	S	18	03	-6
Series - Shell Style	290-010 = Scoop Proof				
Attachment Type	See Table III				
Shell Size	See Table I				
Dash No.	See Table II or Table IV				
Attachment Length	5 = 5 inches				



NOTES:

1. Assembly identified with manufacturer's name and P/N, space permitting.
2. Length tolerance for link chain (e) and sash chain (s) is ± one (1) link, for all other attachments ±.25.
3. Protective cover is capable of hydrostatic sealing pressures to 5000 PSI, when fully mated with counterpart plug.
4. Material/finish:
Cover, hardware & split ring - 300 series stainless steel/passivate
Attachment - see Table III/passivate
O-ring - nitrile/n.a.

SUBSEA/SHALLOW WATER: GEO-MARINE®

Table I: Dimensions				
Shell Size	A Max	B Max	C Thread Class 2B	Piston O-Ring Size*
10	0.900 (22.9)	0.430 (10.9)	.750 -1P-.1L	2-014
12	1.025 (26.0)	0.555 (14.1)	.875 -1P-.1L	2-016
14	1.150 (29.2)	0.680 (17.3)	1.000 -1P-.1L	2-018
16	1.275 (32.4)	0.805 (20.4)	1.125 -1P-.1L	2-020
18	1.525 (38.7)	0.930 (23.6)	1.250 -1P-.1L	2-022
20	1.650 (41.9)	1.055 (26.8)	1.375 -1P-.1L	2-024
22	1.775 (45.1)	1.180 (30.0)	1.500 -1P-.1L	2-026
24	1.900 (48.3)	1.305 (33.1)	1.625 -1P-.1L	2-028

* Reference piston o-ring P/N when purchasing replacement rings

Table II: Solid Ring Dia.	
Dash No	D Dia
01	0.125 (3.2)
02	0.140 (3.6)
03	0.167 (4.2)
04	0.182 (4.6)
05	0.191 (4.9)
06	0.197 (5.0)
10	0.266 (6.8)

Table IV: Split Ring Dia.			
Dash No	E Dia	Dash No	E Dia
50	0.425 (10.8)	72	1.485 (37.7)
52	0.485 (12.3)	74	1.625 (41.3)
54	0.640 (16.3)	76	1.750 (44.5)
56	0.750 (19.1)	78	1.875 (47.6)
58	0.890 (22.6)	80	1.980 (50.3)
60	1.015 (25.8)	82	2.060 (52.3)
62	1.095 (27.8)	84	2.235 (56.8)
64	1.130	86	2.310 (58.7)
66	1.250 (31.8)	88	2.475 (62.9)
68	1.350 (34.3)	90	2.655 (67.4)
70	1.375 (34.9)	92	2.810 (71.4)
		94	3.045 (77.3)

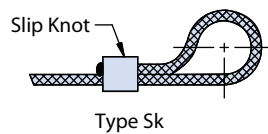
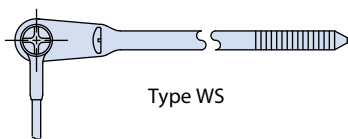
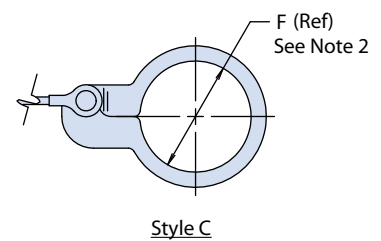
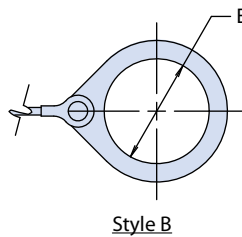
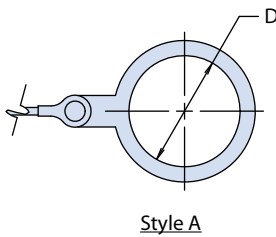
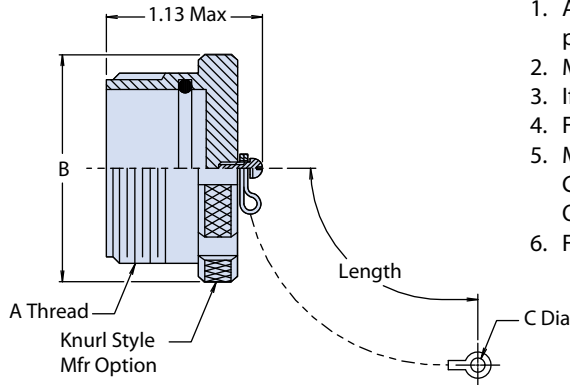
Table III: Attachment Type					
Sym	Attachment	Sym	Attachment	Sym	Attachment
D	Bead chain, CRES, passivated, with terminal	G	Bead chain, CRES, passivated, no terminal	T	Wire rope, no jacket, w/terminal
E	Link chain, CRES, passivated, with clevis terminal	H	Wire rope, Fluoropolymer jacket w/ terminal	K	Nylon rope
F	Wire rope, nylon jacket w/terminal	N	Attachment omitted	S	#8 Sash chain, CRES, passivate
		R	Wire rope, pvc jacket w/terminal	U	Wire rope, polyurethane jacket, with terminal

**290-016 Metal Plug Protective Covers for
Scoop-Proof Series 22 Connectors**

How To Order Receptacle Cover					
Sample Part Number	290-016	S	18	03-	6
Series - Shell Style	290-016 = Scoop Proof				
Attachment Type	See Table III				
Shell Size	See Table I				
Dash No.	See Table II, IV, V or VI, omit for Type SK				
Attachment Length	In Inches; ± .25 for Rope, ± Link for Chain				

NOTES:

1. Assembly identified with manufacturer's name and P/N, space permitting.
2. Max. diameter mandrel over which assembled ring will rotate freely.
3. If retaining ring is desired, use Tables IV & V (solid) or Table VI (split ring).
4. For terminal lug or type "WS", use Table II.
5. Material/finish:
Cover, attachment, clevis, hardware - CRES/passivate
O-ring - nitrile/n.a.
6. For use with scoop-proof Geo-Marine receptacles





SERIES 22 5000M / 5000 PSI Shallow Water Application



290-016 Metal Plug Protective Covers for Scoop-Proof Series 22 Connectors

SUBSEA/SHALLOW WATER: GEO-MARINE®

Table I: Dimensions		
Dash No	A Thread Class 2A	B Max
10	0.750 -.1P-.1L	0.900 (22.9)
12	0.875 -.1P-.1L	1.025 (26.0)
14	1.000 -.1P-.1L	1.150 (29.2)
16	1.125 -.1P-.1L	1.275 (32.4)
18	1.250 -.1P-.1L	1.525 (38.7)
20	1.375 -.1P-.1L	1.650 (41.9)
22	1.500 -.1P-.1L	1.775 (45.1)
24	1.625 -.1P-.1L	1.900 (48.3)

Table II: Split Ring Dimensions		
Dash No.	C Dia.	
01	0.125	(3.2)
02	0.140	(3.6)
03	0.167	(4.2)
04	0.182	(4.6)
05	0.191	(4.9)
06	0.197	(5.0)
WS	With Strap	

Table III: Attachment Type	
Sym	Attachment
B	Bead chain, brass, nickel plated, with terminal
C	Link chain, brass, nickel plated, with clevis terminal
D	Bead chain, CRES, passivated, with terminal
E	Link chain, CRES, passivated, with clevis terminal
F	Wire rope, nylon jacket w/terminal
H	Wire rope, Fluoropolymer jacket w/ terminal
K	Nylon rope
N	Attachment omitted
R	Wire rope, PVC jacket w/terminal
T	Wire rope, no jacket, w/terminal
S	#8 Sash chain, CRES, passivated
SK	Nylon rope, (black) with slip knot
U	Wire rope, polyurethane jacket with terminal

Table IV: Style A Solid Ring Dimensions		
Dash No	D Dia ±.015	
095	0.312	(7.9)
100	0.391	(9.9)
101	0.516	(13.1)
102	0.583	(14.8)
103	0.641	(16.3)
104	0.708	(18.0)
105	0.766	(19.5)
205	0.788	(20.0)
106	0.896	(22.8)
206	0.907	(23.0)
107	1.016	(25.8)
207	1.025	(26.0)
108	1.141	(29.0)
308	1.188	(30.2)
208	1.203	(30.6)
109	1.266	(32.2)
209	1.312	(33.3)
110	1.391	(35.3)
210	1.438	(36.5)
111	1.521	(38.6)
211	1.536	(39.0)
112	1.641	(41.7)
113	1.766	(44.9)
213	1.812	(46.0)
114	1.891	(48.0)
214	1.938	(49.2)
115	2.078	(52.8)
116	2.406	(61.1)
117	2.510	(63.8)

Table V: Style B Solid Ring Dimensions		
Dash No	E Dia ±.015	
08	0.468	(11.9)
10	0.593	(15.1)
12	0.718	(18.2)
13	0.765	(19.4)
14	0.844	(21.4)
15	0.890	(22.6)
16	0.968	(24.6)
17	1.015	(25.8)
18	1.093	(27.8)
19	1.140	(29.0)
20	1.203	(30.6)
21	1.265	(32.1)
22	1.343	(34.1)
23	1.453	(36.9)
24	1.484	(37.7)
25	1.577	(40.1)
27	1.640	(41.7)
28	1.687	(42.8)
29	1.765	(44.8)
30	1.890	(48.0)
31	1.953	(49.6)
32	1.968	(50.0)
33	2.077	(52.8)
35	2.140	(54.4)
36	2.187	(55.5)
40	2.406	(61.1)
44	2.656	(67.5)
48	3.031	(77.0)

Table VI: Style C Ring Dimensions		
Dash No	F Dia	
50	0.425	(10.8)
52	0.485	(12.3)
54	0.640	(16.3)
56	0.750	(19.1)
58	0.890	(22.6)
60	1.015	(25.8)
62	1.095	(27.8)
64	1.130	(28.7)
66	1.250	(31.8)
68	1.350	(34.3)
70	1.375	(34.9)
72	1.485	(37.7)
74	1.625	(41.3)
76	1.750	(44.5)
78	1.875	(47.6)
80	1.980	(50.3)
82	2.060	(52.3)
84	2.235	(56.8)
86	2.310	(58.7)
88	2.475	(62.9)
90	2.655	(67.4)
92	2.810	(71.4)
94	3.045	(77.3)



SERIES 22 5000M / 5000 PSI Shallow Water Application

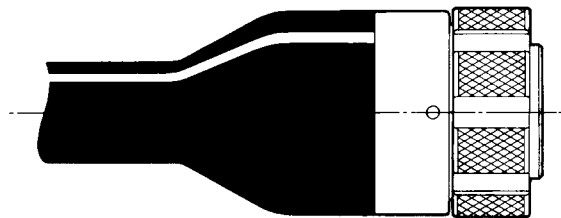


Custom Overmolded Geo-Marine® Cable Assemblies

All Series 22 connectors can be supplied complete with molded cable terminations or open wire bundles to meet specific application requirements. **Custom Overmolded Cable Assemblies**, built in our tightly controlled, 100% inspection and test facilities, are a turnkey solution to the complex requirements of harsh environment interconnect systems.

Glenair offers users of Series 22 Geo-Marine® connectors a complete custom cabling service, designing and producing cable assemblies or harnesses to meet the user's specific application requirements.

Glenair has over 30 years experience and expertise in designing and producing cable assemblies to meet many unique environmental conditions, supported by test facilities to provide the user with proven reliability and performance.



CABLE PLUG WITH MOLDED CABLE

Molded connector-to-cable terminations are the common application for Series 22 connectors, with materials and compounds available to satisfy the most stringent application. Typical molding and cable jacketing materials include:

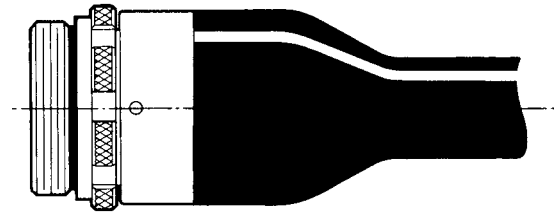
- Neoprene
- Polyurethane
- Viton

Conductor insulation on wire is selected for compatibility with the molding and jacket materials for optimum performance and cost-effectiveness.

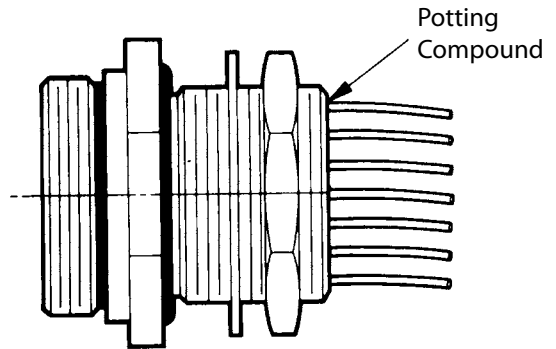
Additional custom features include items such as EMI shielding, Kevlar stress members, multiple breakouts, as well as open wire bundles or "pigtailed" which are terminated with a non-hydroscopic potting compound.

Special molded shapes are available to accommodate unusual space limitations or cable routing.

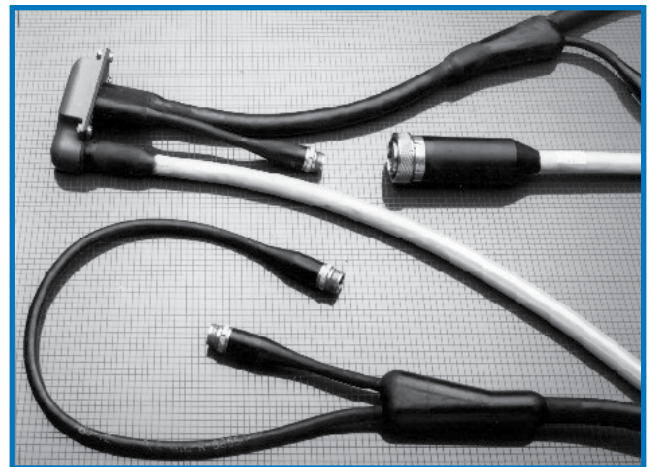
Contact Glenair's ABC Division for further information on complete cable assemblies using the Series 22 Geo-Marine® connectors.



CABLE RECEPTACLE WITH MOLDED CABLE



BULKHEAD RECEPTACLE WITH PIGTAILS



Depicted here is a typical cable assembly designed to withstand pressure to 5000 PSI. Glenair's standard molding material is solvent and oil resistant neoprene per MIL-S-6855 molded to neoprene jacketed cable containing either rubber or fluoropolymer insulated, fine stranded, copper conductors. Special molded shapes and cable configurations are available per customer requirements.

SUBSEA/SHALLOW WATER: GEO-MARINE®





SERIES 22 5000M / 5000 PSI Shallow Water Application



Custom Overmolded Geo-Marine® Cable Assemblies - Application Worksheet

Glenair specializes in the manufacture of fast-turnaround cable assemblies, and our ability to rapidly respond to requests for our unique, overmolded Geo-Marine® Cables is well known throughout the industry. For a fast quote on your next point-to-point cable, just photocopy this page and fax or mail the completed form to your local Glenair representative, or directly to the Glenair factory. For multi-branch cables, or more complex assemblies, please call the factory to speak directly with an application engineer, or submit your drawing via fax or E-mail.

Originator Contact Information

Contact Name and Title _____

Company Name/Division _____

Street Address _____

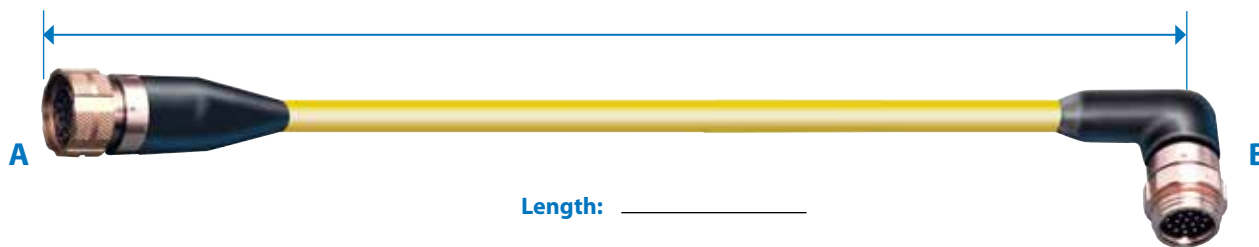
City and State/Province _____

Country and Postal Code/Zip _____

Telephone _____ Fax _____ Email _____

Name of Project or Program _____ Description _____

Initial Quantity _____ Required Delivery Date _____ Potential Long-Term Quantity _____



Wire Gauge: 12 16 20 22 **Kevlar Strength Members:** Yes No

Overmolding Material Type: Neoprene Viton Polyurethane

Tin/Copper EMI Shielding: None Single Overall Shield Double Overall **Other:** Consult Factory

Connector B:

Gender: Pin Socket
Type: 06 16 01 11
Class: Environmental Hermetic
Polarization: N 1 2
 3 4

Shell Size and Contact Arrangements:
 _____ - _____ (See Section A)

Cable Exit Angle: Straight 45° 90°

Dust Cover: Yes No

Marking Instructions: _____

Connector B:

Gender: Pin Socket
Type: 06 16 01 11
Class: Environmental Hermetic
Polarization: N 1 2
 3 4

Shell Size and Contact Arrangements:
 _____ - _____ (See Section A)

Cable Exit Angle: Straight 45° 90°

Dust Cover: Yes No

Marking Instructions: _____

SUBSEA/SHALLOW WATER: GEO-MARINE®



Other ruggedized harsh-environment interconnect solutions available from Glenair



Selection guide

GLASS-TO-METAL SEAL HERMETIC



Resolve gas, moisture and particle ingress problems with advanced-performance glass-sealed hermetic connectors

CODE RED LIGHTWEIGHT ENCAPSULANT-SEAL HERMETIC



Lightweight hermetic encapsulant sealing solution with better than 1×10^{-7} leak rate performance

QUALIFIED MIL-DTL-28840 CONNECTORS AND ACCESSORIES



Qualified military standard electrical connectors and accessories for shipboard—and all rugged environmental applications

QPL AND COMMERCIAL MIL-PRF-28876 FIBER OPTIC CONNECTION SYSTEM



Qualified MIL-PRF-28876 fiber optic connectors and MIL-PRF-29504 termini—Navy approved, in stock, and ready for immediate shipment

FIBER OPTIC AND PHOTONIC INTERCONNECT SOLUTIONS



Unlock the huge bandwidth of fiber optic connectors, cables, and ruggedized transceiver technologies



HIGH-RELIABILITY Glass-sealed Hermetic Connectors

Resolve gas, moisture and particle ingress problems with advanced-performance glass-sealed hermetic connectors



VITREOUS GLASS TECHNOLOGY ADVANTAGES

- Superior pressure resistance to 32,000+ PSI
- Hundreds of designs, including long-length bulkhead feed-thrus and penetrators
- Higher resistance to extreme operating temperatures to 260°+ C
- Superior mechanical strength
- No material breakdown or aging over time
- Helium leak rate <math>< 1 \times 10^{-7}</math> cc/sec to 1×10^{-10}

CIRCULAR GLASS-SEALED HERMETIC CONNECTORS AVAILABLE WITH ACCELERATED LEAD TIMES



MIL-DTL-26482



MIL-DTL-83723



MIL-DTL-38999 (QPL)



MIL-DTL-5015



Series 80 Mighty Mouse

GEOPHYSICAL AND OFFSHORE CONFIGURATIONS



GeoMarine® double-start hermetic connector



Hermetic power connector



Single-way tool joint hermetic connector



Hermetic probe connector



Hermetic bulkhead penetrator

HIGH-SPEED/SHIELDED DESIGNS



Triax hermetic



Hybrid coax/signal hermetic



Quadrax hermetic

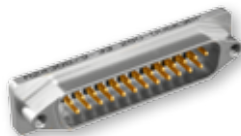


MT ribbon fiber optic hermetic



Hybrid coax/signal hermetic

RECTANGULAR PACKAGES



MIL-DTL-24308 QPL hermetic



Series 79 Micro-Crimp hermetic



MIL-DTL-83513 type micro-D hermetics



Sealed panel-mount micro-D hermetic



ALSO AVAILABLE:

Well-Master™ 260° high-temperature Micro-D

MIL-DTL-38999 QPL PIN AND SOCKET HERMETICS



Series I
Scoop-proof
3 Point Bayonet Coupling



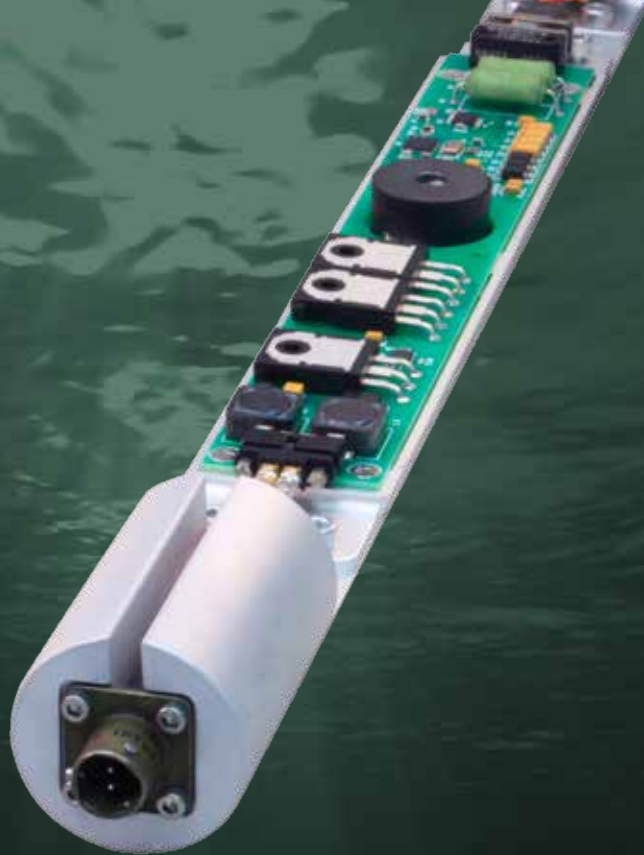
Series II
Low-profile
3 Point Bayonet Coupling



Series III
Scoop-proof
Triple Start, Self-Locking



Series IV
Scoop-proof
Breech Lock



LIGHTWEIGHT, LOW RESISTANCE

CODE RED

Lightweight hermetic encapsulant sealing solution with better than 1×10^{-7} leak rate performance

Hermetically-sealed interconnects used in vacuum or high-altitude applications prevent moisture and other contaminants from polluting sensitive electronic equipment and other payload technologies. Glass-to-metal hermetic sealing has been the gold standard in the aerospace industry for decades due to its reliable long-term performance. But application engineers employing conventional hermetic interconnects pay a heavy price to prevent sensitive vacuum-sealed equipment from gas and moisture ingress/damage as these interconnects famously suffer from heavy weight and high electrical resistance.

CODE RED is a proprietary sealing adhesive and application process invented by Glenair that for the first time ever provides durable hermetic sealing in a lightweight aluminum package. In addition, CODE RED allows for the use of conventional gold-plated copper alloy contacts, significantly improving the electrical performance of the system. CODE RED is available now in Glenair SuperNine® (D38999 Series III type) and Series 80 Mighty Mouse connectors, and delivers reliable, life-of-system 1×10^{-7} max leak rate hermetic sealing.

- Full hermetic sealing, better than 1×10^{-7} in a lightweight aluminum shell with low electrical resistance copper contacts
- Meets NASA outgassing requirements, as well as aerospace temperature and corrosion resistance standards
- Operating temperature -65°C to $+200^{\circ}\text{C}$
- Available today as drop-in replacement for D38999/23 glass-to-metal seal hermetics
- Significant weight savings—up to +50%
- Order-of-magnitude improvement in current carrying capacity and electrical resistance performance compared to Kovar and Inconel material construction

LIGHTWEIGHT, LOW RESISTANCE

Code Red

The Glenair adhesive hermetic sealing solution



CODE RED TESTING AND VALIDATION

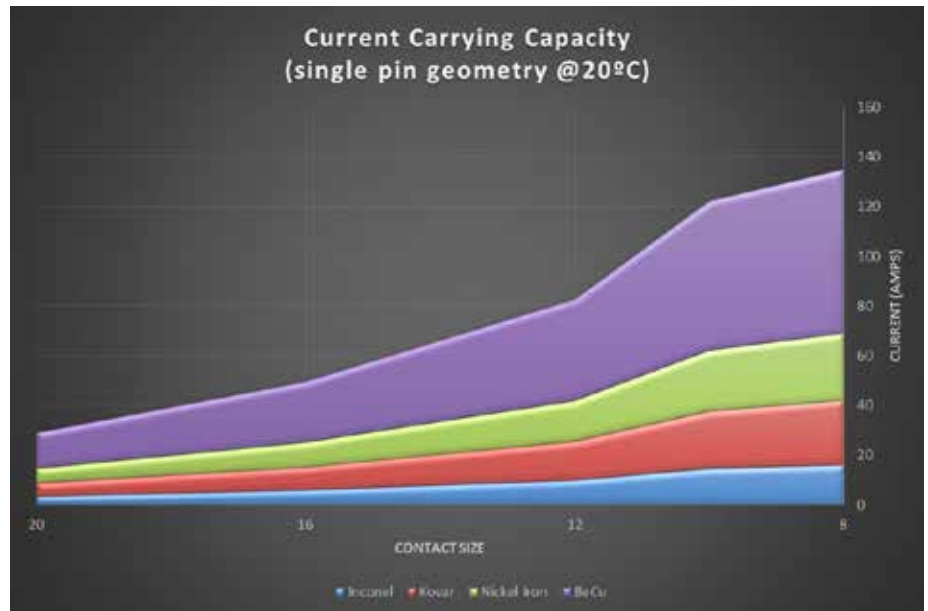


Connectors utilizing CODE RED hermetic adhesive sealing went through a grueling qualification test and validation process to validate material sealing durability and hermeticity. Validation testing included:

- 100 cycles of thermal shock IAW EIA-364-32 Test Condition A -65°C to +200°C while maintaining hermeticity
- Followed by 1000 hours of thermal aging at 200°C
- DWV and IR
- Contact retention
- Insert retention
- Hermetic seal at 30 psi
- IR at temperature
- DWV at altitude
- Random vibration at temperature

CODE RED USES PROVEN PERFORMANCE CONNECTOR AND CONTACT MATERIALS

CODE RED Materials / Finish
SEALING ADHESIVE
Proprietary Glenair compound
CONTACTS
Gold-plated beryllium copper alloy per ASTM B 197 or equivalent
INSULATOR
Rigid plastic
SEALS
Blended fluorosilicone/silicone elastomer
SHELL AND JAM NUT
Aluminum alloy 6061-T6 per ASTM B 221
FINISH
Electroless nickel per ASTM B 733



Graph illustrates Current Carrying Capacity of CODE RED copper alloy contacts compared to Inconel, Kovar, and nickel iron contacts used in conventional glass-to-metal seal hermetics.

QUALIFIED MIL-DTL-28840 Naval Connectors and Accessories



MIL-DTL-28840 qualified connectors
in-stock and ready for immediate,
same-day shipment

- High density, scoop proof contact arrangements
- Flange mount, box mount, jam-nut and in-line receptacles
- Straight, 45° and 90° strain reliefs and backshell assemblies
- Sav-Con® connector savers
- MIL-DTL-28840 qualified
- Additional glenair commercial part numbers with features not available in the mil-spec

Qualified military standard electrical connectors and accessories for shipboard—and all rugged environmental applications



Performance Specifications	
Current Rating (Maximum)	Size #20 Contact with 20AWG wire=7.5Amps, with 22AWG wire=5.0Amps
Test Voltage (DWV)	1000 VAC RMS at sea level. Test per EIA-364-20
Insulation Resistance	5000 megohms minimum (at ambient temperature) per EIA-364-21
Contact Resistance	Per SAE-AS39029
Operating Temperature	-55° C to +200° C
Immersion	per test method EIA-364-09
Shock	in accordance with MIL-S-901 grade A
Vibration	per EIA-364-28 test procedure
Magnetic Permeability	2.0 μ (Aluminum), 5.0 μ (Stainless Steel) maximum; ASTM-A342/A342M

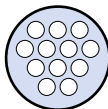


Splined MIL-DTL-28840 connector-to-backshell interface is ideally suited for heavy backshells and cables

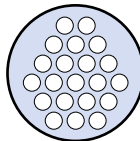
AVAILABLE CONTACT ARRANGEMENTS



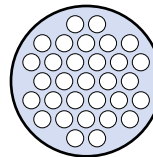
Shell Size 11
7 Contacts



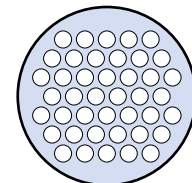
Shell Size 13
12 Contacts



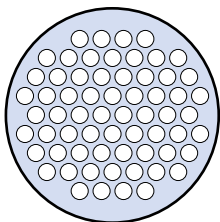
Shell Size 15
21 Contacts



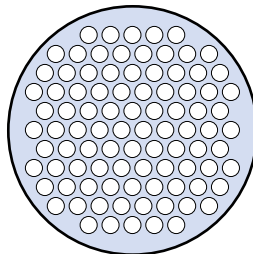
Shell Size 17
31 Contacts



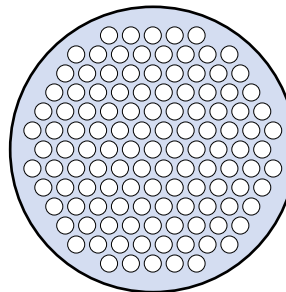
Shell Size 19
42 Contacts



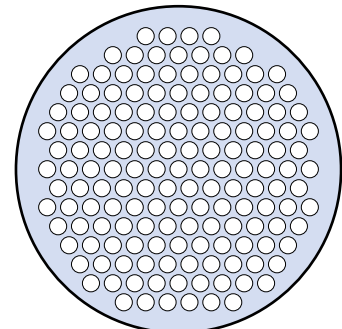
Shell Size 23
64 Contacts



Shell Size 25
92 Contacts



Shell Size 29
121 Contacts



Shell Size 33
155 Contacts

QUALIFIED MIL-DTL-28840 Naval Connectors and Accessories



STANDARD PIN CRIMP CONTACT FOR MIL-DTL-28840 CONNECTORS



Mating End Size	Wire Accomodation	Military Part Number	Glenair Part Number
20	28-32 AWG	M39029/83-451	850-004-20-451
20	22-26 AWG	M39029/83-450	850-004-20-450
20	20-24 AWG	M39029/83-508	850-004-20-508

STANDARD SOCKET CRIMP CONTACT FOR MIL-DTL-28840 CONNECTORS

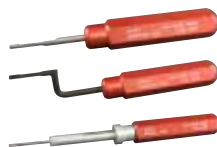


Mating End Size	Wire Accomodation	Military Part Number	Glenair Part Number
20	28-32 AWG	M39029/84-453	850-005-20-453
20	22-26 AWG	M39029/84-452	850-005-20-452
20	20-24 AWG	M39029/84-509	850-005-20-509



Crimping Tools

M22520/34-01 Basic Crimp Tool
M22520/34-02 Positioner
M22520/35 Gage



Insertion & Removal Tools

M81969/33-01 Straight Insertion Tool
M81969/33-02 Offset Insertion Tool
M81969/34-01 Removal Tool



Pin Contact

M39029/83 Standard Duty
Electrical Pin Contact



Socket Contact

M39029/84 Standard Duty
Electrical Socket Contact



Environmental Backshells

M28840/6 B Straight
M28840/9 B 45°
M28840/8 B 90°



EMI/RFI Environmental Backshells

M28840/6 A Straight
M28840/8 A 90°
M28840/9 A 45°

Connector Sockets

600G005

"E" Nuts



Non-Self-Locking

M28840/23

Strain Reliefs



Non-Self-Locking

M28840/1 Straight
M28840/3 45°
M28840/2 90°



Dummy Stowage Receptacles

M28840/7



Protective Plug Covers

M28840/15



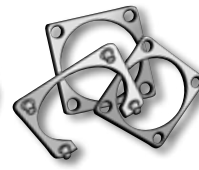
Protective Receptacle Covers

M28840/13



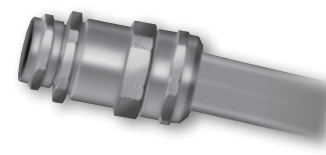
Jam Nuts

MS3186



Mounting Flanges and Gaskets

M28840/24
Gasket



MIL-PRF-24758A Conduit Fittings

M24758-14 Straight
(M24758/14 Straight.)
M28840/5 Straight • M28840/25 90° •
M28840/27 45° • M28840/30 Coupling



QPL AND COMMERCIAL MIL-PRF-28876 Fiber optic connection system

Qualified MIL-PRF-28876 fiber optic connectors and MIL-PRF-29504 termini—Navy approved, in stock, and ready for immediate shipment

- Connectors qualified to the complete requirements of MIL-PRF-28876 including plugs, wall-mount receptacles, jam-nut mount receptacles and in-line receptacles
- Multiple shell sizes and Contact Arrangements, including 2, 4, 6, 8, 18 and 31 channel layouts
- Backshells in straight, 45° and 90° configurations
- Corrosion-resistant and environmentally sealed
- Qualified MIL-PRF-29504/14 and /15 pin and socket termini and /3 dummy terminus
- Connectors, backshells and protective covers available for immediate, same-day shipment

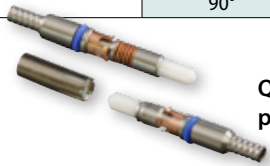




QPL AND COMMERCIAL MIL-PRF-28876 Fiber optic connection system



Connector/Backshell Types			
Connector Type	Backshell Type	MIL-Spec	Commercial Connector Type Code
Wall Mount Receptacle	None	M28876/1	03
	Straight	M28876/2	13
	45°	M28876/3	23
	90°	M28876/4	33
In-Line Receptacle	Straight	M28876/5	15
Plug	None	M28876/6	06
	Straight	M28876/7	16
	45°	M28876/8	26
	90°	M28876/9	36
Jam Nut Receptacle	None	M28876/11	04
	Straight	M28876/12	14
	45°	M28876/13	24
	90°	M28876/14	34



Qualified QPL-29504 pin and socket terminus

Qualified Fiber Optic Termini			
Type	Military Part Number	A Dia (Microns)	Typical Fiber Type
Pin Termini	M29504/14-4131C	126.0	Multi Mode
	M29504/14-4132C	127.0	Multi Mode
	M29504/14-4135C	142.0	Multi Mode
Socket Termini	M29504/15-4171C	126.0	Multi Mode
	M29504/15-4172C	127.0	Multi Mode
	M29504/15-4175C	142.0	Multi Mode
Dummy Terminus	M29504/3-4038		

Crimp sleeve is supplied with terminus assembly and may be ordered separately (see Table II). For terminus less crimp sleeve, omit **C** from end of part number. Consult factory for additional sizes.

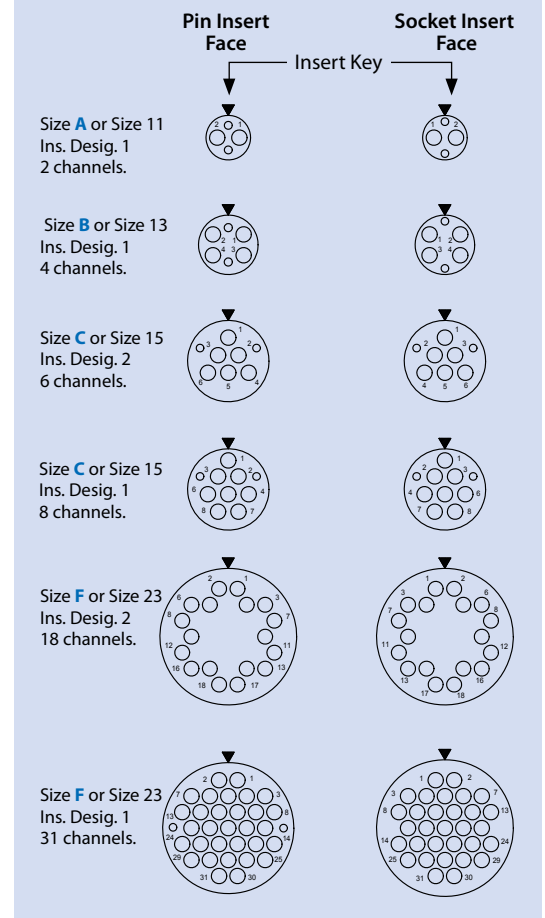
Terminated and tested MIL-PRF-28876 fiber optic cable assembly



Test Description	Performance Requirements/Specifications
Optical Insertion Loss, Multimode	-0.3 dB Typical (62.5/125)
Optical Insertion Loss, Singlemode	-0.3 dB Typical (9/125)
Optical Back Reflection, Singlemode	Better than -40 dB - PC Polish • Better than -50 dB - Enhanced PC Polish
Operating Temperature	-28°C to +65°C (MIL-Spec Epoxy and Cable) -55°C to +125°C (alternative Epoxy and Cable)
Temperature (Thermal) Shock	-40°C to +70°C, 5 Cycles
Temperature Cycling	-28°C to +65°C, 5 Cycles
Temperature/Humidity Cycling	-10°C to +65°C, 10 Cycles, 240 hours, 98% RH
Temperature Life Aging	+110°C, 240 hours, Dry Air
Mating Durability	500 cycles
Vibration - Sinusoidal	10 g Peak, 5-500 Hz sin./ 10.2 g RMS, 50-2000 Hz random
Impact	8 Drops from 8 feet
Crush Resistance	281 lbs, 7 Cycles
Cable Pull Out Force - Termini	Termini: 22 lbs min for 1 minute Connector: 162 lbs min for 10 minutes
Fluid Immersion	Turbine Fuel, Isopropyl Alcohol, Hydraulic Fluid, Lubricating Oil, Coolant, Tap- and seawater, 24 hrs
Water Pressure	32 feet for 48 hours at +10°C to +35°C
Mechanical Shock (High Impact)	MIL-S-901, Grade A, Type B, Class I
Corrosion Resistance (Salt Spray)	500 hours
Sand and Dust	12 hours
Flammability	0.75 inch flame for 10 sec. mated, 1.50 inch flame for 60 sec. unmated

*Performance Specifications/Requirements based on the use of MIL-PRF-24792 Epoxy and MIL-PRF-85045 Simplex and Breakout Shipboard Optical Fiber.

Contact Arrangements



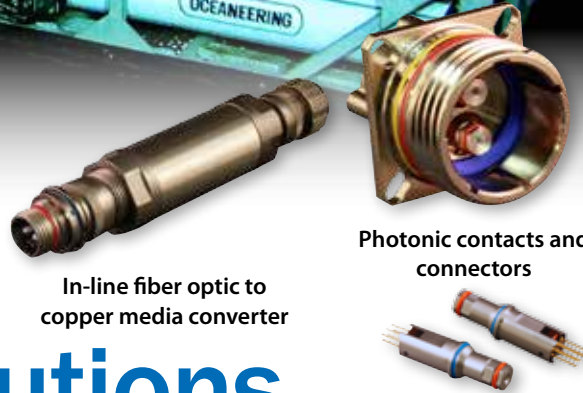


HARSH-ENVIRONMENT

Fiber Optic Interconnect Solutions

Unlock the huge bandwidth of fiber optic connectors, cables, and ruggedized transceiver technologies

Glenair harsh-environment fiber optic connectors and board-level transceiver technologies are designed for harsh land, air, sea, and space environments and will operate reliably over very wide temperature ranges and high shock and vibration conditions. These proven technologies have been optimized to minimize size, weight and power and offer electrical-to-fiber conversion for Ethernet, video, signal aggregation and high-speed digital signals. Glenair also offers integration of electronics or opto-electronics into rugged connector packages and cable assemblies per specific customer requirements. We offer rapid response in-house electrical/PCB design, and mechanical connector/backshell engineering from our vertically integrated factory.



In-line fiber optic to copper media converter

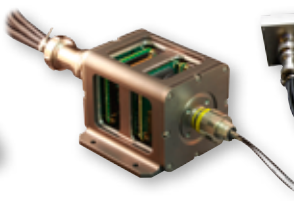
Photonic contacts and connectors

GLENAIR FIBER OPTICS

- Reduced size, weight, and power consumption
- Total EMI immunity, network security, increased transmission distance and ultra-high bandwidth
- High shock and vibration to support mission critical applications
- Wide operating temperature range: -40°C to +85°C and beyond
- Qualified, proven opto-electronic and fiber optic interconnect technologies for both commercial oil & gas and naval/defense applications.



Small form-factor transceiver



Signal aggregation media converter



7-port Ethernet switch

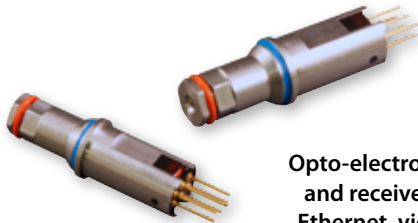


DVI video media converter

FIBER OPTICS AND OPTO-ELECTRONICS
Harsh-Environment, Small Form-Factor
Optical Interconnect Solutions
for Ethernet, video, and high-speed data



HARSH ENVIRONMENT FIBER OPTIC CONNECTORS AND OPTO-ELECTRONIC TRANSCEIVERS



Opto-electronic transmitter and receiver contacts for Ethernet, video, and high-speed data



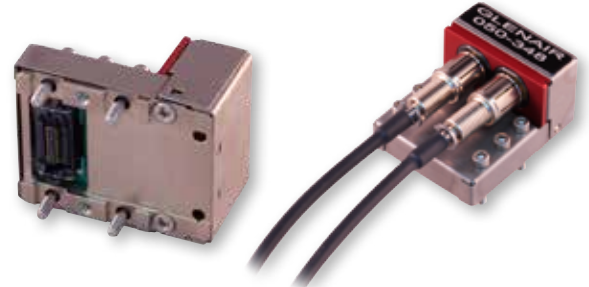
High vibration and shock board-mount transmitters and receivers with Samtec surface-mount connectors



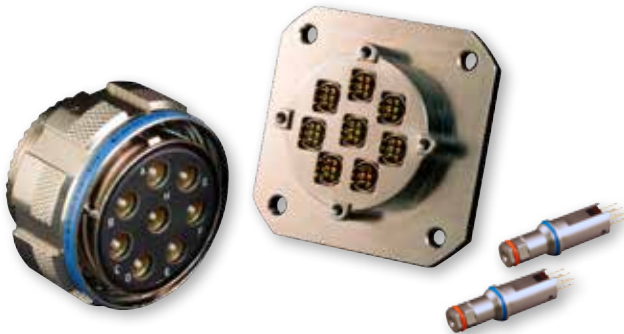
RF-over-fiber board-mount transceiver



High vibration and shock Bi-directional transceiver



EMI shielded PCB transceiver showing Samtec surface-mount connector and Glenair GC F/O interconnects



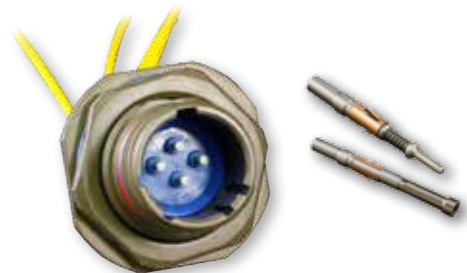
Harsh-environment opto-electronic connectors for Ethernet, video, and high-speed data



MIL-PRF-28876 US Navy qualified fiber optic connectors and termini



Eye-Beam® GMA Expanded-Beam IAW M83526



Eye-Beam® GLT Expanded Beam Fiber Optic

Hydrostatic test lab

The Glenair marine/subsea technology team is unique in the industry having the ability to design, produce, validate, and test its complete range of subsea interconnect technologies using 100% in-house resources. Glenair's hydrostatic lab is a dual-mode pressure test facility equipped with both large form-factor pressure vessels for testing complete cable assemblies, mated cable connectors, and even customer sub-assemblies. In addition, a small pressure vessel cell provides qualification and validation testing on discrete connector inserts and bulkhead connectors. Both the large pressure vessel and small pressure vessel systems can validate and test up to 16.5K psi, or 1 1/2 times Glenair's standard 10,000 psi subsea connector rating.

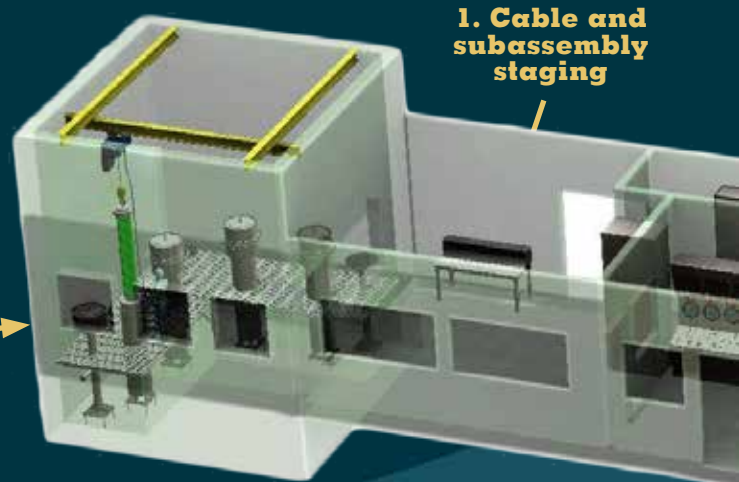


DISCRETE CONNECTOR TESTING: All Glenair subsea interconnects are subjected to 100% inspection and test



LARGE PRESSURE VESSELS: Built to accommodate complete cable assemblies, mated connectors, and customer-supplied sub-assemblies. Each unit contains a 12" diameter X 72" depth test chamber accommodating specimen weights up to 1500 lbs.

2. Large cable and subassembly pressure test bunker

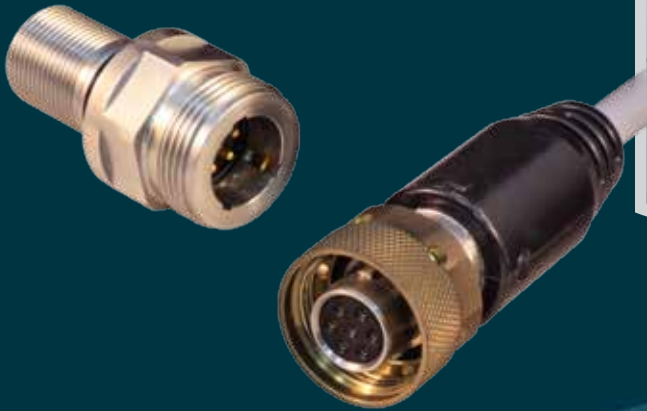


1. Cable and subassembly staging



TECHNICAL STAFF: Knowledgeable and trained subsea specialists perform both in-house product qualification testing, as well as customer subassemblies.

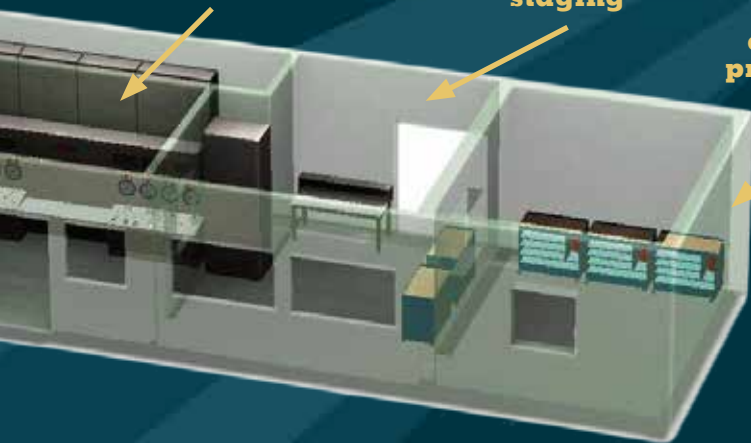
CONTROL ROOM: The modular consoles in the control room provide for up to 8 pressure circuits, operating in Manual mode or Automated. Each circuit is capable of a maximum of 16.5K psi. Monitors display: Automated Test Profiles, Data Acquisition, remote viewing of Test rooms and more. System is network connected for access to Profiles and distribution of test reports.



3. Hydrostatic test lab control room

4. Production connector staging

5. Small connector pressure test bunker



SeaKing™ and SuperG55™ QUALIFICATION TESTING: Both Glenair Series 70 SeaKing and SuperG55 rugged dry-mate subsea connectors have been tested and qualified to their 10K psi pressure rating—open-face and mated—in Glenair’s state-of-the-art hydrostatic test lab. Additional testing included mating cycles, salt spray, and electrical continuity



Glenair Hydrostatic Test Lab Technical Specifications and Pressure Test Standards	
Pressure test profiles	Automated or manual
Maximum test pressure	16.5K psi
Data acquisition types	Pressure, time, temperature, and electrical performance
Performance monitoring under pressure	I/R, continuity, insertion loss, and backreflection (optical)
Industry profiles	All major oil & gas standards
Custom profiles	Yes, including customer-supplied subassemblies
Capacity (large pressure vessels)	Working volume = 12" diameter x 72" depth; Test specimen weight up to 1500 lbs.

Why Choose **GLENAIR?**



Plenty of Raw Materials!



Outstanding
Customer Service!



Abundant Machining Capacity!



In-House Assembly!



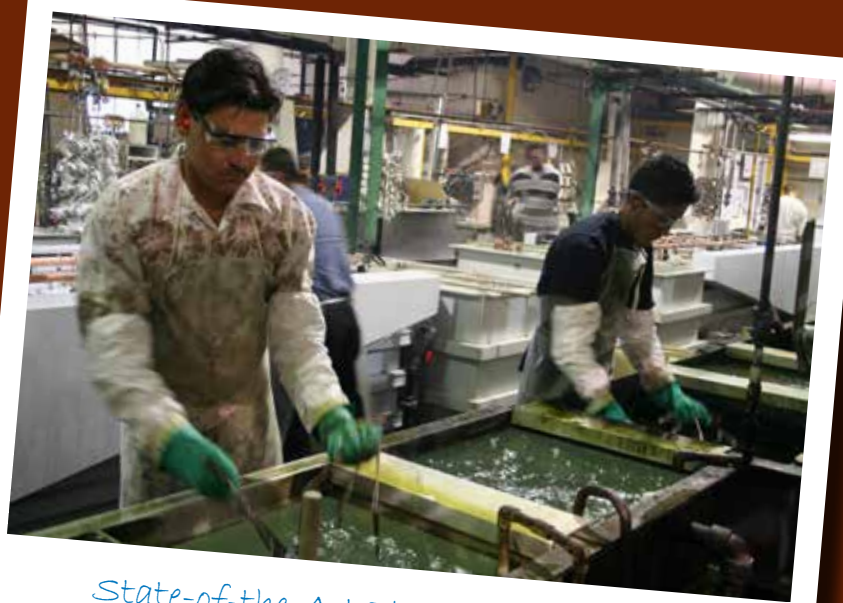
Huge "Same-Day" Inventory!



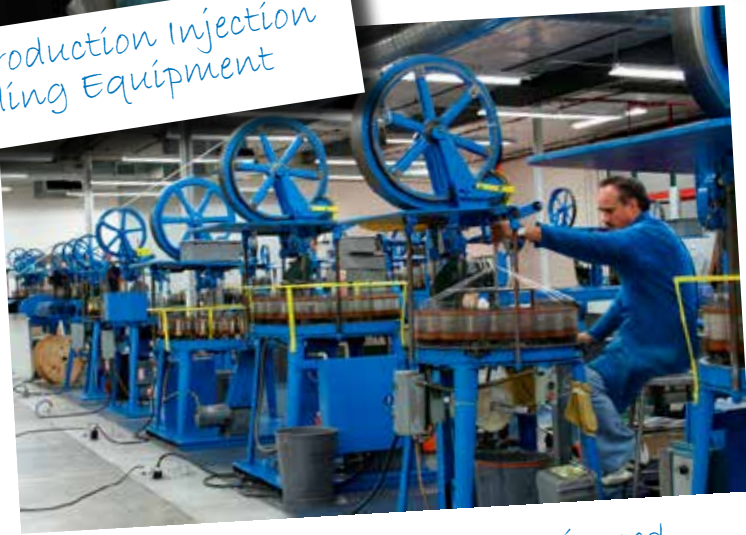
One of North America's
and Machining



High-Production Injection Molding Equipment



State-of-the-Art Plating Capabilities



The Industry's Most Experienced EMI/RFI Braided Shielding Specialists



Largest CNC Milling Installations



Clean Rooms for Filter Array and Printed Circuit Board Assembly



Out of This World
**INTERCONNECT
SOLUTIONS**

Glenair, Inc.

1211 Air Way • Glendale, California • 91201-2497
Telephone: 818-247-6000 • Fax: 818-500-9912 • sales@glenair.com
www.glenair.com

**Glenair Power
Products Group** Telephone: 203-741-1115
860 N. Main Street Extension Facsimile:
Wallingford, CT 203-741-0053
06492 sales@glenair.com

Glenair UK Ltd Telephone: +44-1623-638100
40 Lower Oakham Way Facsimile:
Oakham Business Park +44-1623-638111
Mansfield, Notts sales@glenair.co.uk
NG18 5BY England

Glenair Microway Systems Telephone: 847-679-8833
7000 North Lawndale Avenue Facsimile:
Lincolnwood, IL 847-679-8849
60712

Glenair Nordic AB Telephone: +46-8-50550000
Gustav III : S Boulevard 46 sales@glenair.se
SE-169 27 Solna
Sweden

Glenair Electric GmbH Telephone: 06172 / 68 16 0
Schaberweg 28 Facsimile:
61348 Bad Homburg 06172 / 68 16 90
Germany info@glenair.de

Glenair Iberica Telephone: +34-925-89-29-88
C/ La Vega, 16 Facsimile:
45612 Velada +34-925-89-29-87
Spain sales@glenair.es

Glenair Italia S.p.A. Telephone: +39-051-782811
Via Del Lavoro, 7 Facsimile:
40057 Quarto Inferiore – +39-051-782259
Granarolo dell'Emilia info@glenair.it
Bologna, Italy

Glenair France SARL Telephone: +33-5-34-40-97-40
7, Avenue Parmentier Facsimile:
Immeuble Central Parc #2 +33-5-61-47-86-10
31200 Toulouse sales@glenair.fr
France

Glenair Korea Telephone: +82-31-8068-1090
B-1304 Gunpo IT Valley Facsimile:
148 Gosan-Ro, Gunpo-Si +82-31-8068-1092
Kyunggi-Do, Korea sales@glenair.kr
435-733

