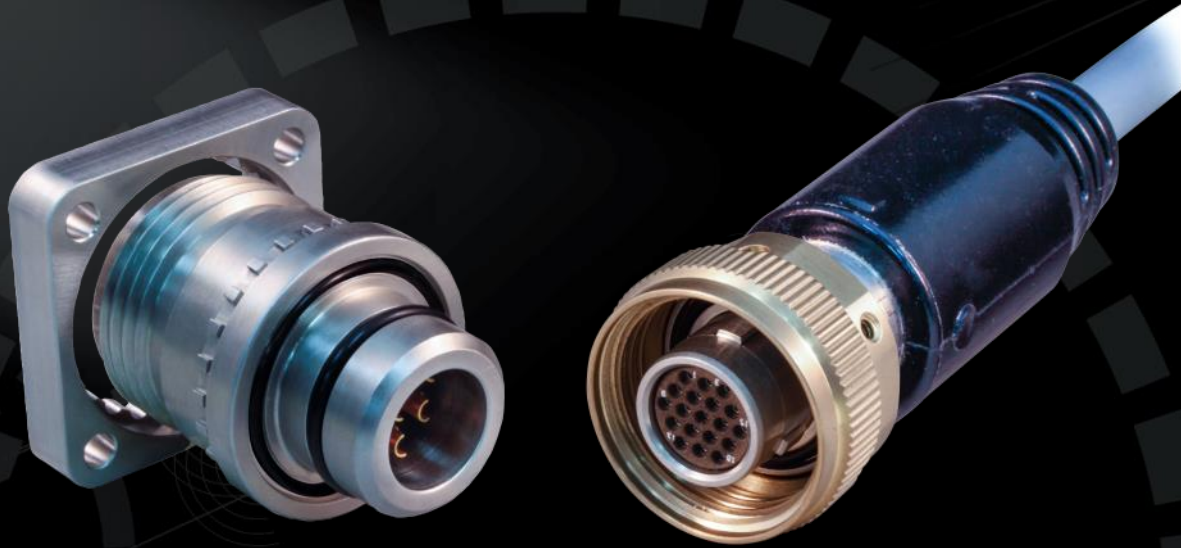


The widest range of
mission-critical interconnect
technologies in the world



Underwater / Subsea Connectors and Cables

Deep Water • Topside • Downhole • Shallow Water

Glenair Marine / Subsea Connectors and Cables

High pressure, harsh environment underwater / topside



Subsea Deep Water



Topside / Shipboard

Well-Master 260°

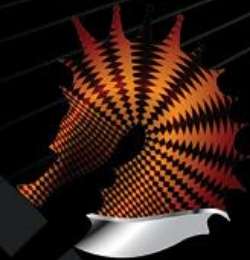


Downhole / HTHP



Subsea Shallow Water

10K PSI OPEN-FACE OR MATED



SeaKing

SEAKING™ SUBSEA CONNECTORS AND CABLES



SeaKing™ High-Density Subsea Connectors and Cable Assemblies



10K psi open face or mated, dual O-ring equipped high-pressure subsea connector

- Signal, power, RF and optical contact arrangements
- Innovative PBOF attachment and indexing
- Advanced durability, ease-of-use, and sealing performance



SeaKing™ High-Density Subsea Connectors



Retractable engaging nut retention ring for easy O-ring inspection/replacement



Accessory thread and overmold features

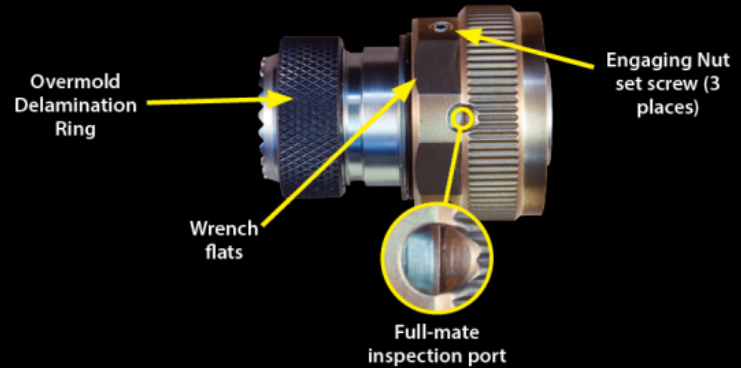
Multiple PBOF backshell indexing points



Replaceable O-rings facilitate fast and trouble-free field replacement



BCR showing keyway-assisted mating and polarization feature and wrench flats for reliable, secure attachment to pressure bulkheads

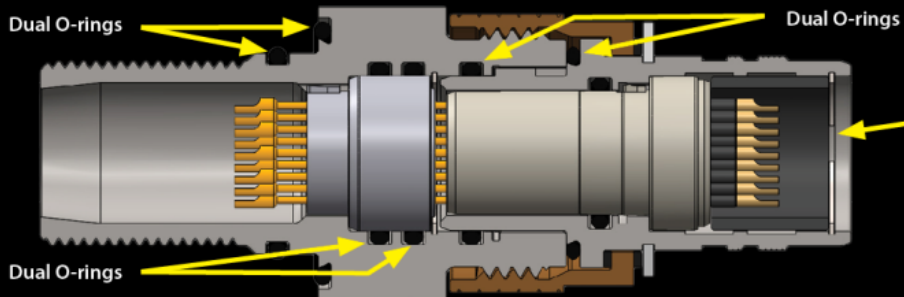


Overmold Delamination Ring

Wrench flats

Engaging Nut set screw (3 places)

Full-mate inspection port



Dual O-rings

Dual O-rings

Dual O-rings

SeaKing Flange Connector Receptacles feature a removable spoked body and indexable flange



Indexable flange

Disengage flange to rotate body for multiple clocking positions

Available pressure-balanced oil filled (PBOF) back end for use with oil-filled cables

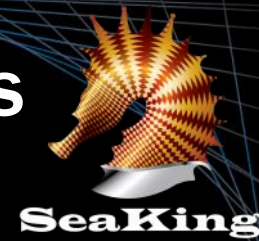


Series 70 SeaKing™ cable assemblies are available from the factory with special 10,000 psi overmolded cable-to-plug connector environmental sealing.

Revolutionary PBOF swivel assembly features kink-proof hose swivel, straight, 45° and 90° routing, and superfast assembly



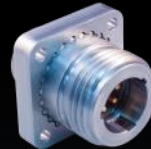
SeaKing™ High-Pressure Subsea Connectors



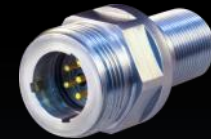
SeaKing - How To Order	
Sample Part Number	700 -001 K-19 Z1 S N
Product Series	700 = SeaKing
Connector Style	-001 = Cable Connector Plug (CCP) Mates with 700-006 / 700-007 -006 = Flange Connector Receptacle (FCR) Mates with 700-001 -007 = Bulkhead Connector Receptacle (BCR) Mates with 700-001
Shell Size-Contact Arrangement	See SeaKing Contact Arrangements table
Barrel Material	Z1 = 316 Stainless Steel TC = Titanium
Contact Style	S = Socket, CCP P = Pin, FCR and BCR
Alternate Key Position	A, B, C, N = Normal (See Alternate Key Positions table)



-001 CCP
Cable Connector Plug





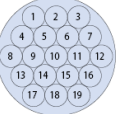
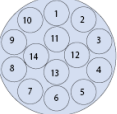
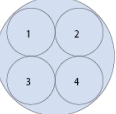
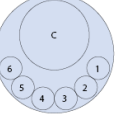
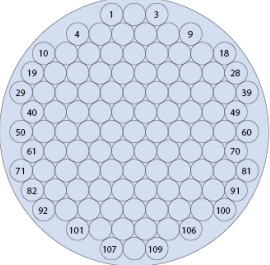
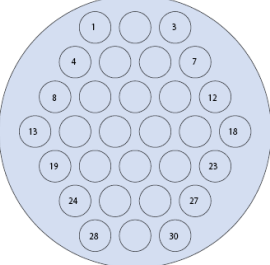
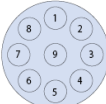
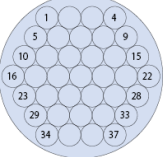
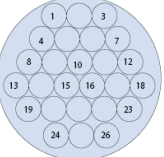
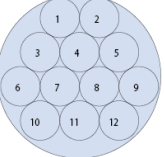
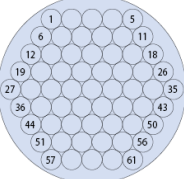
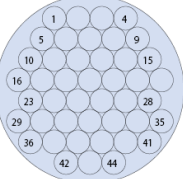
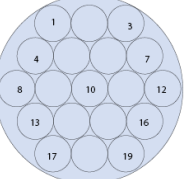
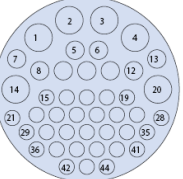
-006 FCR
Flange Connector Receptacle



-007 BCR
Bulkhead Connector Receptacle

SeaKing™ Connector Contact Arrangements



							
Size G		Size K				Size Q	
G-10	G-8	K-19	K-14	K-4	K-C6	Q-109	Q-30
10 Size #22 Contacts	8 Size #20 Contacts	19 Size #22 Contacts	14 Size #20 Contacts	4 Size #16 Contacts	175 Ohm Coax, 6 #22 Contacts	109 Size #22 Contacts	30 Size #16 Contacts
							
Size L		Size M					
L-9	M-37	M-26	M-12				
9 Size #16 Contacts	37 Size #22 Contacts	26 Size #20 Contacts	12 Size #16 Contacts				
							
Size O						Size R	
O-61	O-44	O-19	OX44	Q-129			
61 Size #22 Contacts	44 Size #20 Contacts	19 Size #16 Contacts	44 Contacts 6 #16 • 9 #20 • 29 #22	129 Size #22 Contacts			

SeaKing™ High-Pressure Connectors: Features



High availability, and generous engineering support

- 10ksi working pressure and 15ksi test pressure on all designs
- Glass-to-metal sealed receptacle inserts
- 500lb pull strength plug-to-receptacle
- Dual O-rings on all critical leak paths
- Solder cup contacts
- Plug shell is universal for overmolding and PBOF
- Wrench flats and knurls for easy mate and demate
- Metal-to-metal seating
- Polarized metal keyways
- Standard configurations in stock
- Intermountable to Minicon (not intermateable)
- Best in class compared to current market standards



SeaKing™ High-Pressure Subsea Connectors: High-Durability Materials



Plug (CCP)

- Body – 316SST or Titanium
- Coupling Nut – Aluminum Bronze
- Insert – Ultem 2100
(GRE = Glass Reinforced Epoxy)
- Contacts – Gold Plated Copper alloy
- O-Rings – Nitrile

Receptacle (FCR and BCR)

- Shell – 316SST, Inconel or Titanium
- Contacts – Inconel X750 / Gold Plated
- Insert – Inconel X750
- Insulator – Fused Vitreous Glass
- O-Rings – Nitrile

SeaKing™ High-Pressure Subsea Plug (CCP)



Dual-Use

- Attachable
(user-terminatable)
- PBOF “Ready”
- Overmolded
 - ST and RA
 - PU and Neoprene
- PBOF
 - ST and RA
 - 360° rotation



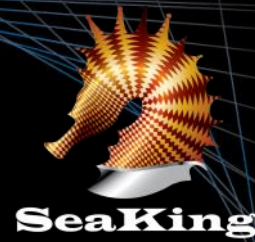
SeaKing™ High-Pressure Subsea Flange Connector Receptacle (FCR)



- 360° indexable flange
- Universal flange option
- Custom flange option
- Dual O-rings or intermountable



SeaKing™ High-Pressure Subsea Bulkhead Connector Receptacle (BCR)

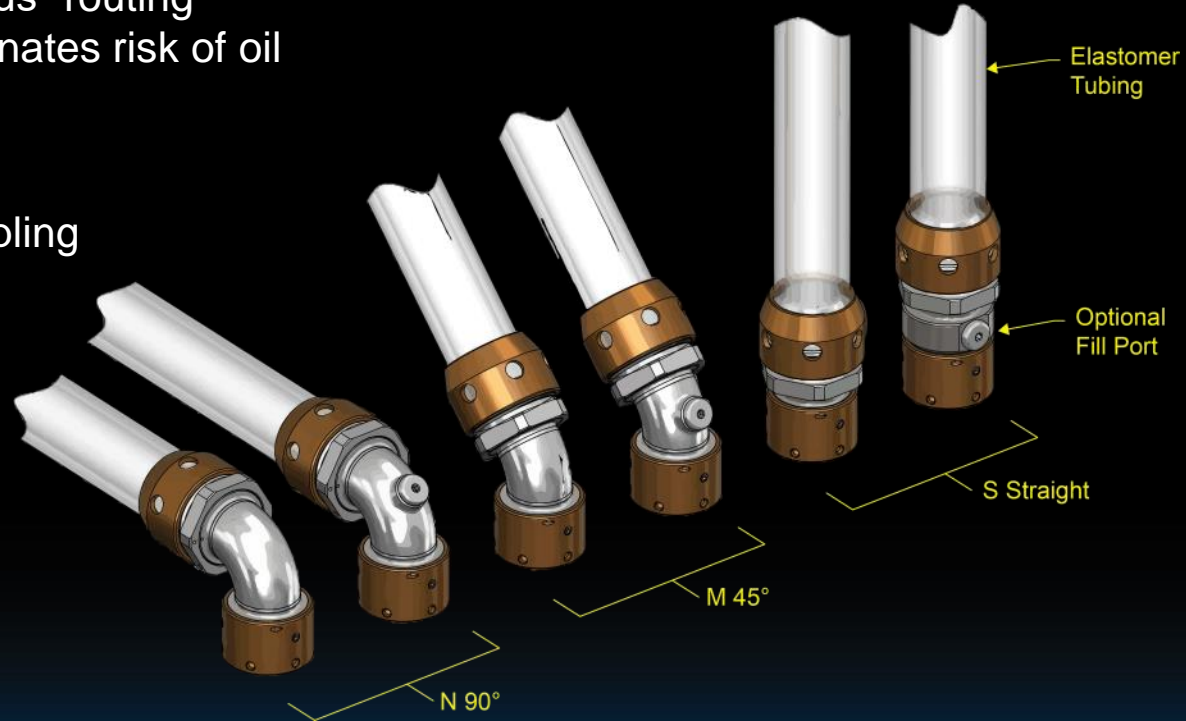


- Standard intermountable BCR threads to industry standard bulkhead drillings
- Extended shank available for thicker bulkhead construction
- Dual O-rings as standard



SeaKing™ High-Pressure Subsea PBOF Cable Attachment Accessories

- Straight, 45°, and 90° “full radius” routing
- Angle adjustment feature eliminates risk of oil leakage
- Corrosion-resistant
- Threaded couplers with safety set-screws for leak and decoupling protection
- No special tools required for assembly
- Compact PBOF compression fitting with 340° swivel action



SeaKing™ High-Pressure Subsea Connector Tools



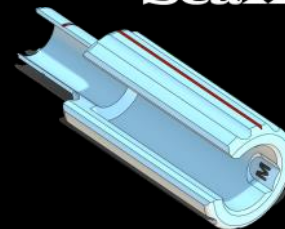
O-ring kits and lubrication grease



Torque wrench adapters



Plug nut



Insert installation tool



Spanner wrench



Snap ring pliers



Plug and receptacle pressure caps

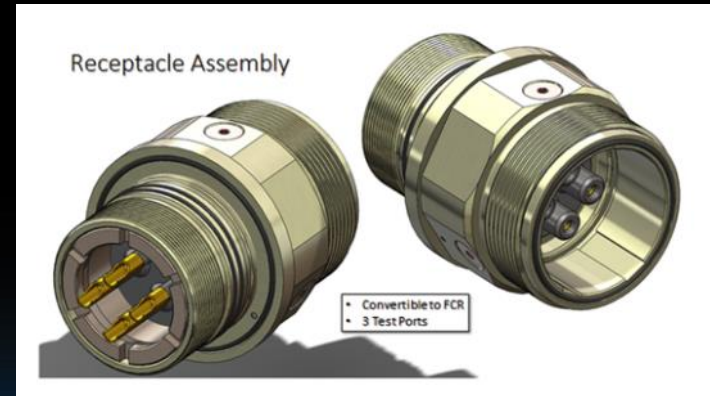
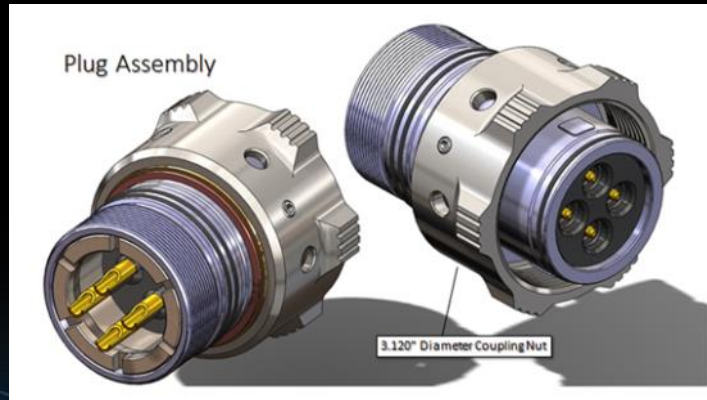


Replacement hex nuts and washers

Additional SeaKing™ High-Pressure Connector Series Offerings

Fiber Optic and High Voltage

- Fiber optic
 - 2 and 4 channel singlemode
 - Expanded beam
 - Hybrids
- High voltage
 - 3Kv
 - 5Kv



HIGH-PRESSURE 10K PSI



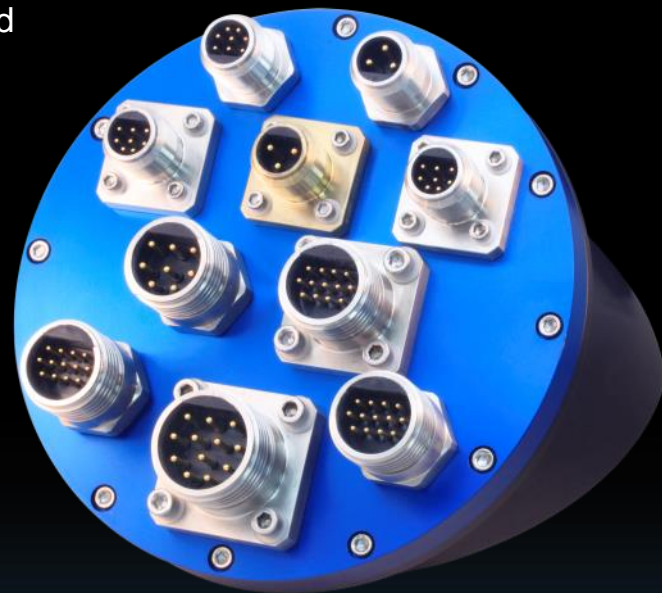
SUPERG55™ DRY-MATE ELECTRICAL CONNECTORS



SuperG55 Underwater Dry-Mate Electrical Connector: Enhanced Design Features



- Superior design compared to current industry standards
- Intermateable and interchangeable with available 55 series connectors
- Universal Cable Connector Plug (CCP) shell accepts overmolding and 360° rotatable PBOF Backshell
- Coupling nut inspection port for full-mate/interface seal visibility
- Longer shell allows coupling nut retraction for visual inspection of interfacial seal
- Circlip feature enables coupling nut removal from plug body
- Blue AFC 2101 PTFE Xylan-coated coupling nut
- Easy-access solder bucket contacts
- PEEK potting cap
- Laser marked part number



SuperG55 Underwater Dry-Mate Electrical Connectors: Plug and Receptacle Styles



1. Overmolded assemblies (whips)
2. Attachable connectors (user-terminatable)
3. PBOF (special backend and adapter)



SuperG55 Underwater Dry-Mate Electrical Connectors

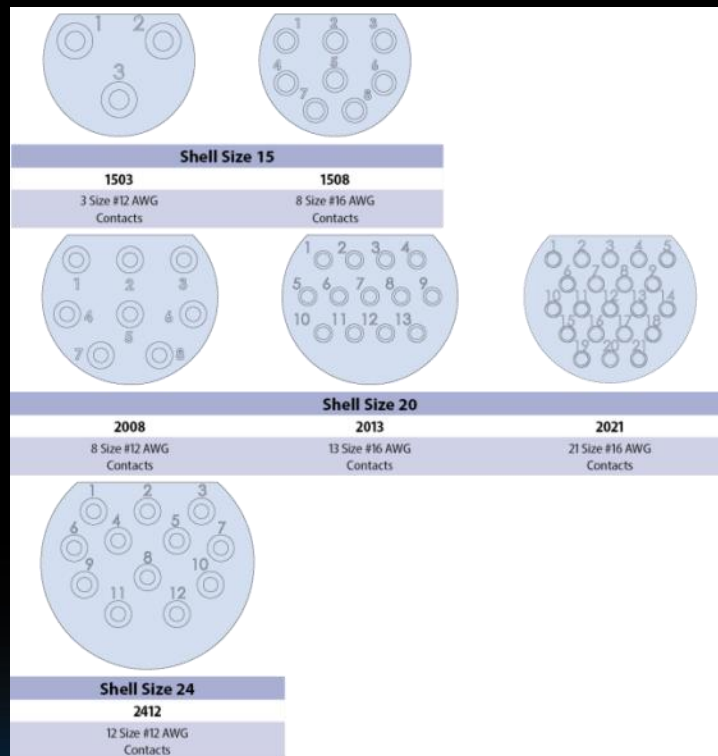


SuperG55 CCP - How To Order					
Sample Part Number	G55	01	15	03	-0001
Series	SuperG55 = underwater dry-mate				
Connector Style	01 = cable connector plug 06 = flange connector receptacle 06IF = Indexable flange receptacle connector 07 = bulkhead connector receptacle 07 EL = bulkhead connector receptacle with Earth Lead A1 = cable connector plug, attachable OFA1 = oil filled cable connector plug, Attachable A2 = cable connector receptacle, attachable OF1 = oil filled cable connector plug R1 = right angle cable connector plug, short overmold R2 = right angle cable connector receptacle D1 = receptacle cover				
Shell Size	15, 20, 24				
Number of Contacts	See contact arrangements				
Cable Length	in feet (0001 = 1 foot, 002 = 2 feet, etc.)				

SuperG55 Underwater Dry-Mate Electrical Connectors: Contact Arrangements



- 1503
- 1508
- 2008
- 2013
- 2021
- 2412



SuperG5501 Cable Connector Plug: Overmolded Assembly or “Whip”

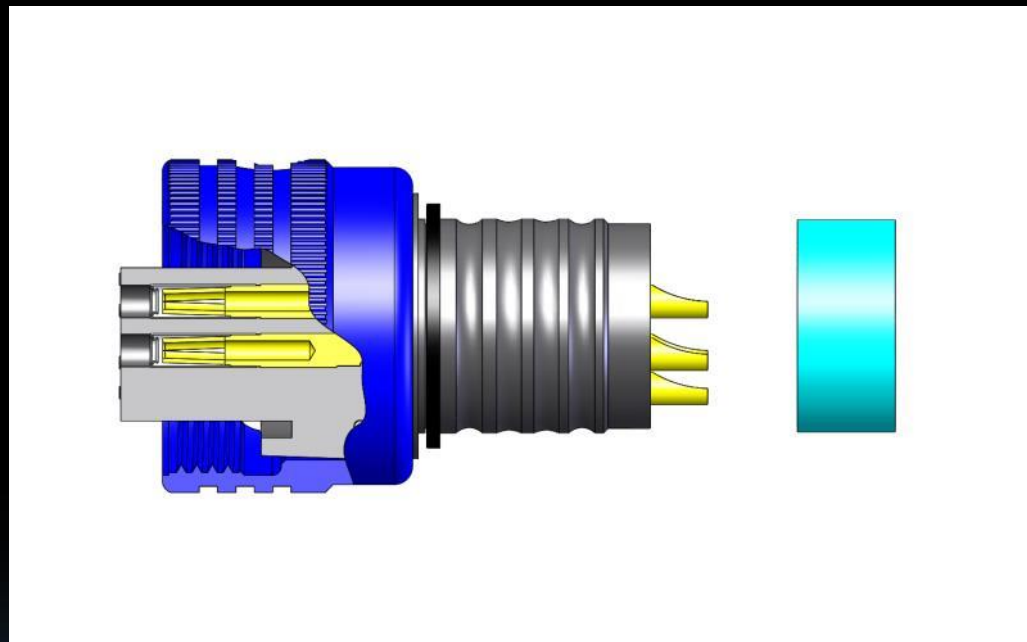


- Polyurethane or Neoprene overmolding
- Recessed female contacts, molded and sealed in place

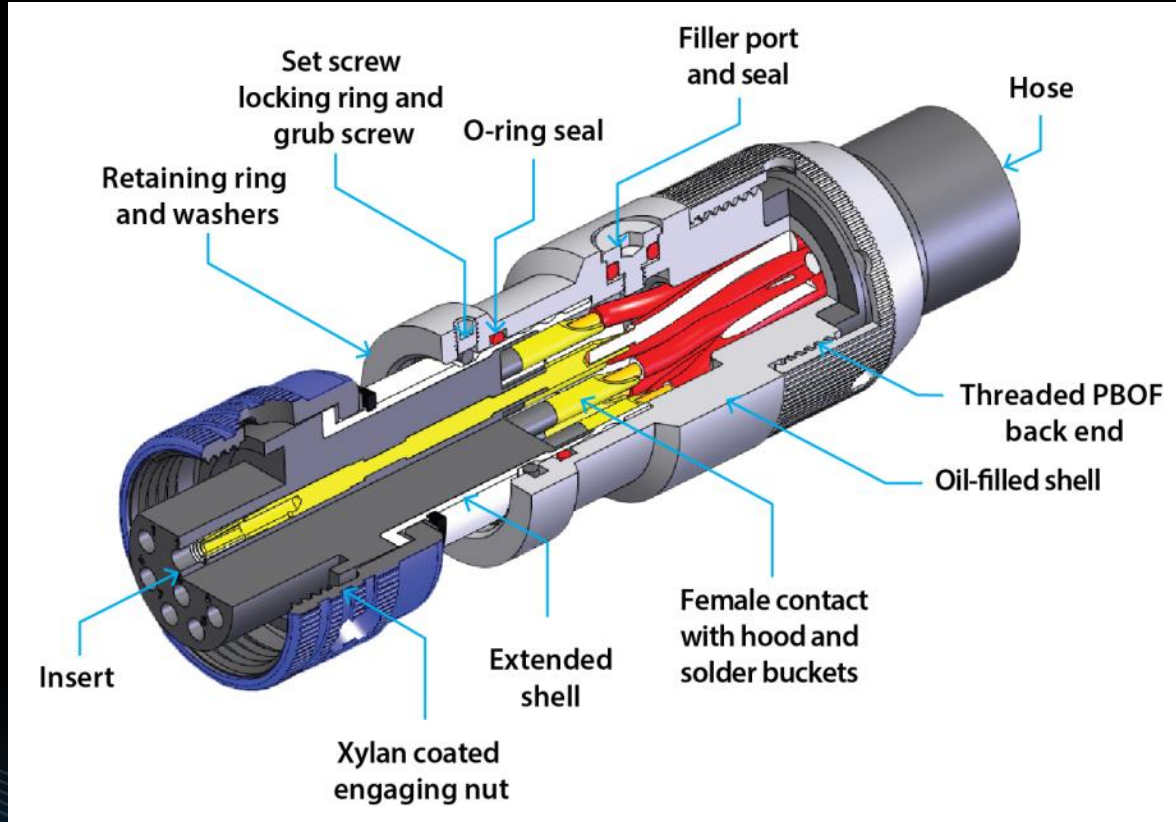


SuperG55A1 Cable Connector Plug: Attachable (User-Terminatable)

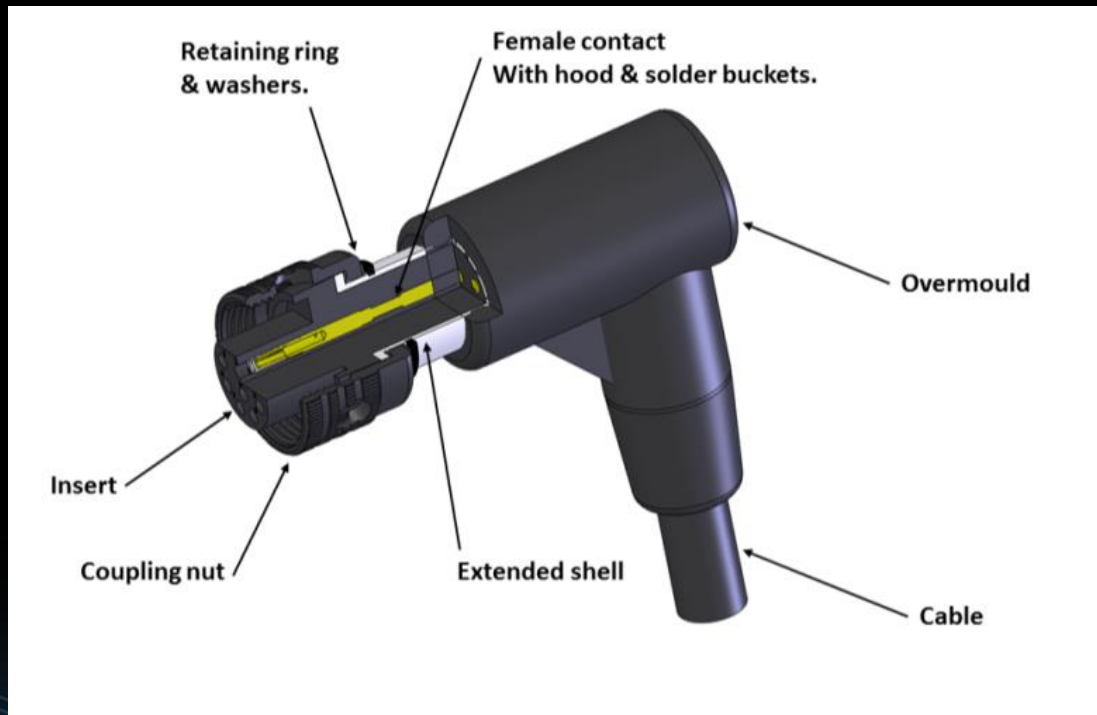
- Molded/sealed insert with recessed female contacts
- Extended overmolding shell
- Straight or right angle
- Glenair PBOF adapter available



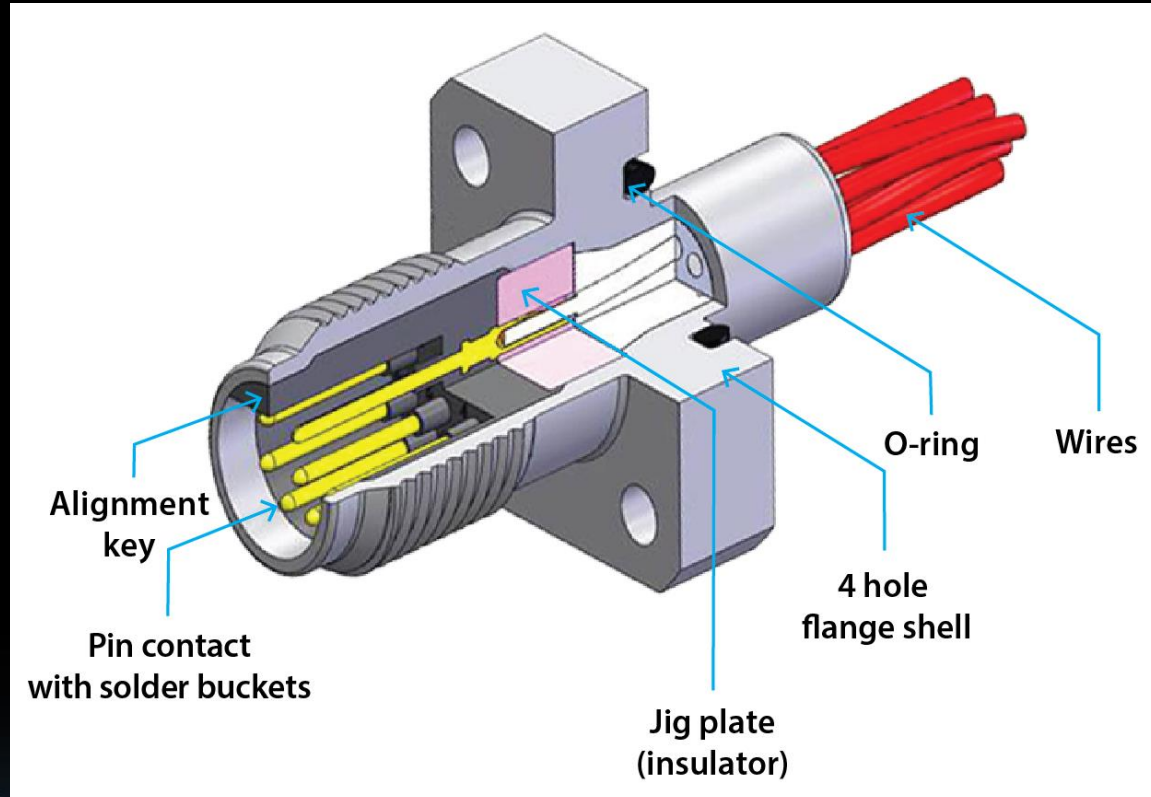
SuperG5501 Cable Connector Plug, Oil-Filled



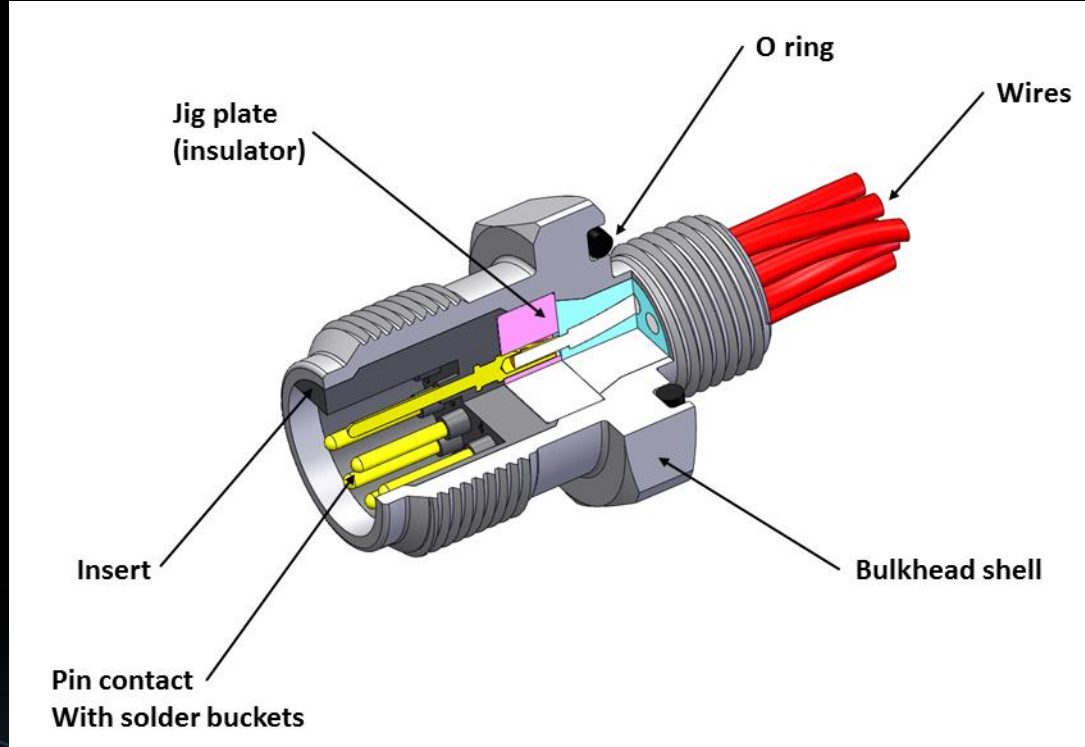
SuperG55R1 Cable Connector Plug, Molded Body, Right Angle



SuperG5506 Flange Connector Receptacle (FCR)



SuperG5507 Bulkhead Connector Receptacle (BCR)



SuperG55 Underwater Dry-Mate Electrical Connectors: Materials



Plug

- Plug body 316 SST (standard)
Titanium / PEEK options
- Coupling Nut 316 Stainless Steel / AFC
2101 PTFE Blue Xylan Coated
- Neoprene insert (Glenair proprietary
recipe)
- Gold-plated contacts
- Nitrile O-ring

Receptacle

- Shell body 316 SST (standard)
Titanium / PEEK options
- Gold-plated contacts
- Neoprene insert (Glenair proprietary recipe)
- Nitrile O-ring

SuperG55 Underwater Dry-Mate Electrical Connectors: Performance Specifications



- Pressure 10,000 psi mated and unmated
- Voltage rating
 - 600 VDC/440 VAC (Standard)
 - 3kVDC for new high power version
- Current (maximum)
 - 5 to 18 amps dependant on contact and cable conductor size
 - 50 Amps for new high power version
- Operating temperature -4°F to 194°F (-20°C to 90°C)
- Mating cycles 500



IECE_x/ATE_x QUALIFIED

ITS-Ex™



**ITS-Ex HAZARDOUS ZONE
CONNECTORS**

Glenair®

ITS-Ex Explosive Zone Connectors



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

- 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 on all designs
- Mechanical cable clamp, basket weave, and Ex d cable gland accessories
- IP68 water, vapor, moisture and dust protection in mated condition



ITS-Ex Explosive Zone Connectors

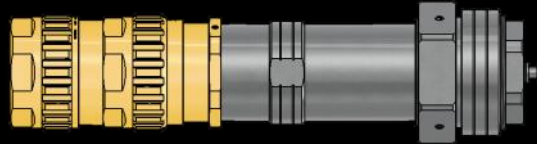


Product selection: plug configurations



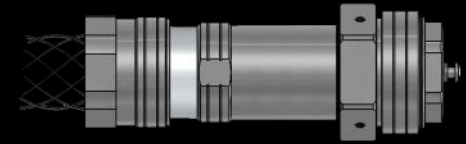
927-072-016

In-Line Plug with
Mechanical Clamp



927-072-026

In-Line Plug with
Ex d Cable Gland



927-072-036

In-Line Plug with
Basket-Weave Cable Grip

ITS-Ex Explosive Zone Connectors

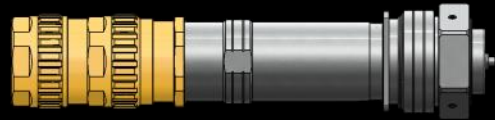


Product selection: fixed in-line receptacle configurations



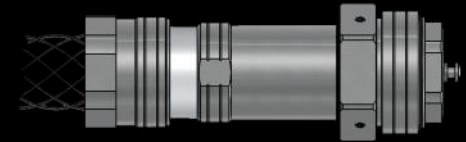
927-072-012

Fixed In-Line Receptacle
with Mechanical Clamp



927-072-022

Fixed In-Line Receptacle
with Ex d Cable Gland



927-072-036

Fixed In-Line Receptacle
with Basket-Weave Cable Grip

ITS-Ex Explosive Zone Connectors

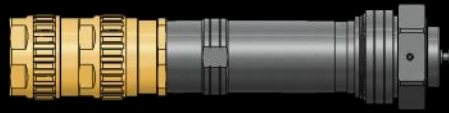


Product selection: in-line and panel mount receptacle configurations



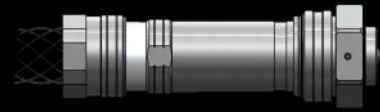
927-072-011

In-Line Receptacle
with Mechanical Clamp



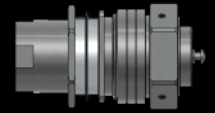
927-072-021

In-Line Receptacle
with Ex d Cable Gland



927-072-031

In-Line Receptacle with
Basket-Weave Cable Grip



927-072-003

Panel Mount
Fixed Receptacle

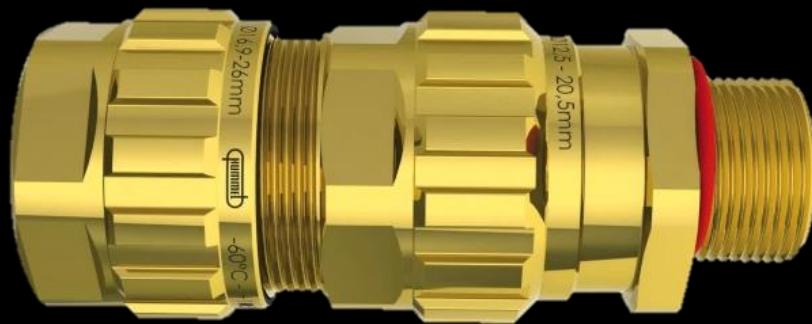
ITS-Ex Explosive Zone Connectors



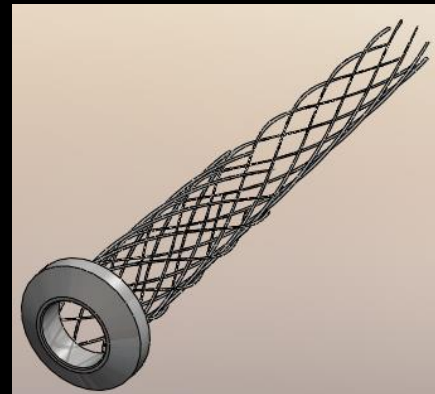
Connector accessories



Strain-Relief Clamp



Cable Sealing Gland



Basket Wire Mesh Grips

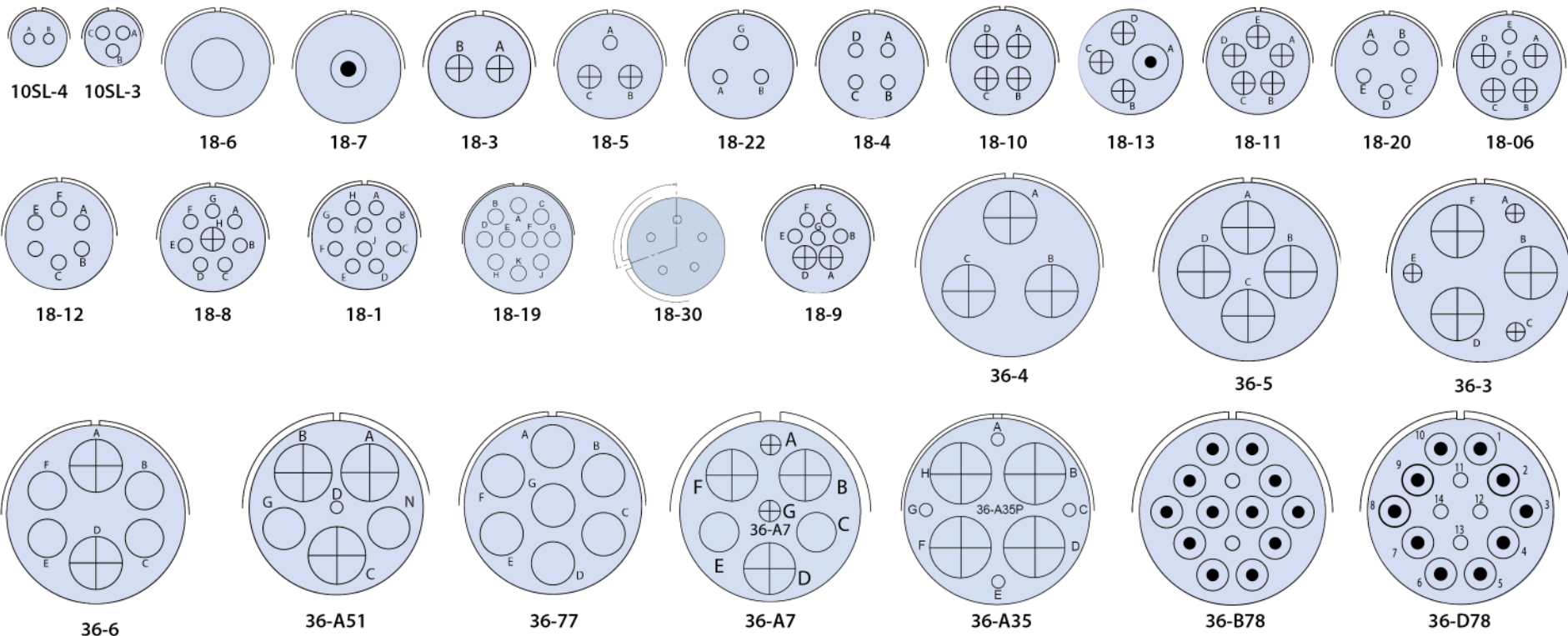
ITS-Ex Explosive Zone Connectors

How To Order

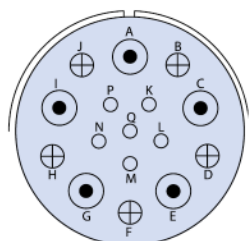
Sample Part Number					
927-072-	11	10SL-3	P1	F9	N
Series	Style	Shell Size - Insert Arrangement	Contact Type and Plating	Shell Material and Finish	Key Position
927-072- AETX\IEC Series	OX1 In Line Receptacle	10SL 14S	P1 Pin Contacts - Silver Plated	F9 Alumine, Anodize, Hardcoat	N Position 1
	OX2 Fixed In Line Receptacle	16 18 28 36	S1 Socket Contacts - Silver Plated	Z1 Stainless Steel, Passivate	X Position 2
	003 Fixed Receptacle		P2 Pin Contacts - Gold Plated	AB Marine Bronze, unplated	Y Position 3
	OX6 In Line Plug		S2 Socket Contacts - Gold Plated		W Position 4

X	
1	Mechanical Cable Clamp
2	Ex Cable Clamp
3	Basketweave Cable Grip

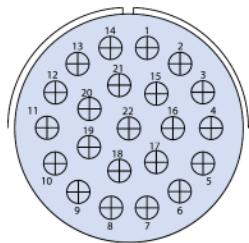
ITS-Ex Explosive Zone Connectors: Available Contact Arrangements



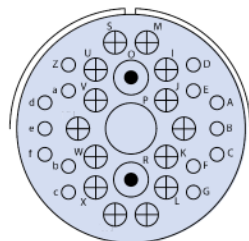
ITS-Ex Explosive Zone Connectors: Available Contact Arrangements



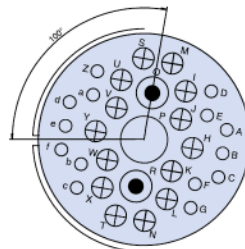
36-14



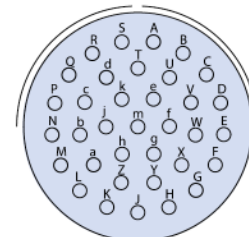
36-22



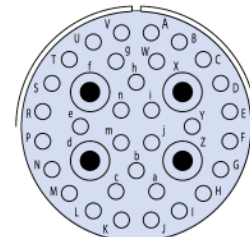
36-9



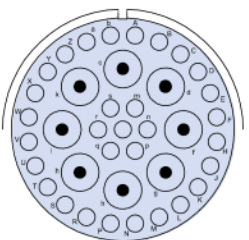
36-18



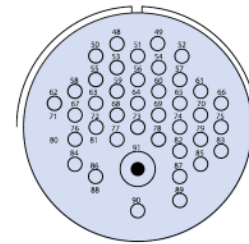
36-15



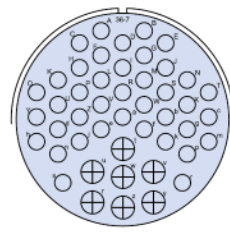
36-35



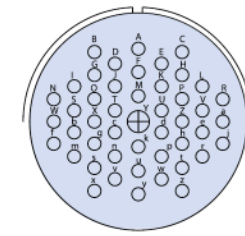
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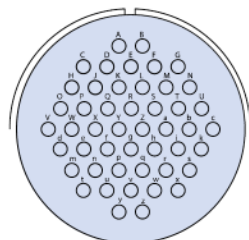
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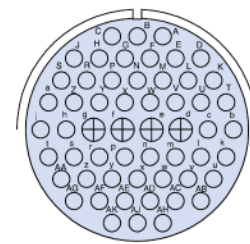
36-7



36-8



36-10



36-66

MARINE BRONZE

**Seacrow**TM



**SEACROWTM 5015 MB
POWER CONNECTORS**

**Glennair**[®]

SeaCrow™ Harsh Environment Marine Bronze Connectors



Rugged Marine Bronze for harsh environments

- Marine bronze alloy for superior corrosion resistance in seawater and other harsh environments
- Ideal for shipboard and offshore drilling applications
- IP67 environmental sealing in mated condition; IP68 available
- Hundreds of available contact arrangements for both power and signal as well as hybrid applications

SeaCrow™ Harsh Environment Marine Bronze Connectors



ITS-MB

ITS reverse-bayonet
VG95234-compliant



IPT-MB

IPT / 26482 high-density
VG 95328-compliant



IGE-MB

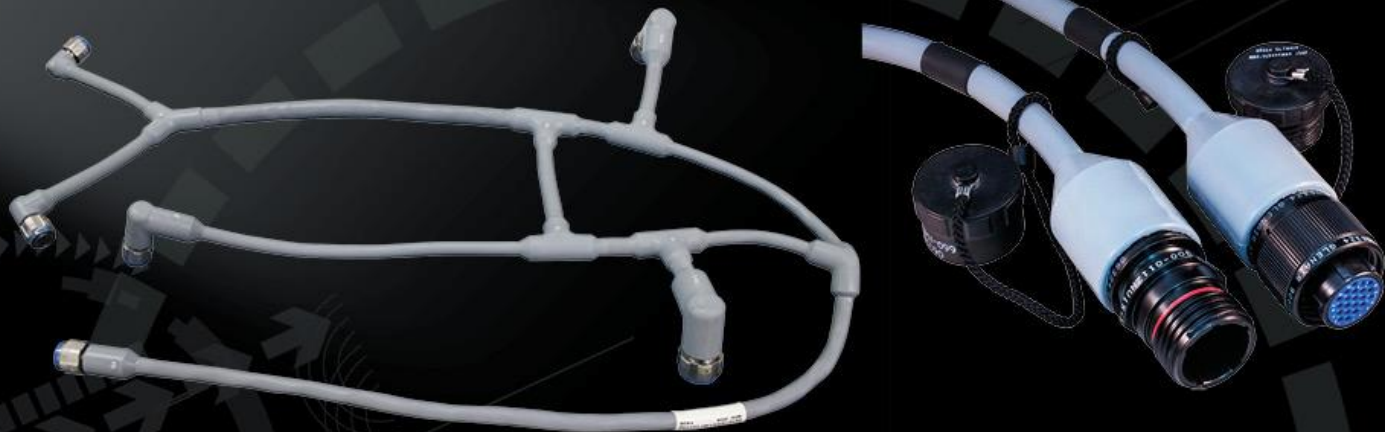
IGE reverse-bayonet
single-pole
VG96929-compliant



IT-MB

IT Threaded 5015
MIL-DTL-5015-compliant

HIGH-TEMPERATURE · HALOGEN FREE



DURALECTRIC[®]
JACKETING AND OVERMOLDING



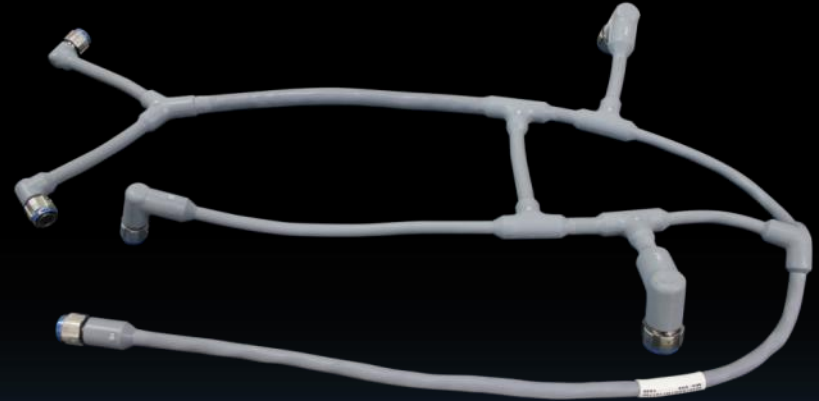
Duraelectric™ Topside Jacketing / Overmolding

- Jacketing material for wire protection
- 10 years since MIL-PRF-24758 approval (Navy topside conduit)
- Resistant to:
 - Flame
 - High and low temps (-65°C to 225°C)
 - Repeated flexing
 - Broad range of fluids
 - Ozone
 - Long-term direct sunlight
 - Fungus
 - Dielectric breakdown



Applications for Duraelectric™ Topside Jacketing / Overmolding

- Weather deck cables and conduit
- Completely sealed overmolded systems
- Wire insulation for TurboFlex™ power cable assemblies
- Jacketing on custom bulk cables extruded in long lengths
- Ground straps
- Autoshrink™ boots & tubing



WEIGHT-SAVING, CORROSION-FREE



**COMPOSITE EMI/RFI
JUNCTION BOXES**



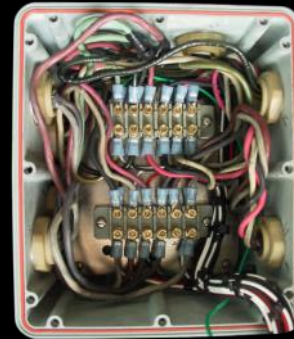
Shielded Composite Junction Boxes

NAVSEA approved

- Over a dozen different tooled sizes and shapes
- Durable, corrosion-free, high temperature composite thermoplastic
- Tested and qualified to U.S. Navy, UK MOD and hundreds of aircraft and marine applications

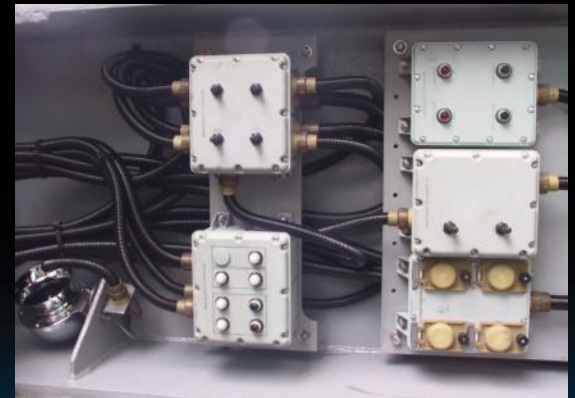


Broad range of sizes and shapes



Discrete components or turnkey wired and connectorized systems

Complex installations fully supported with feed-thru fittings and wire protection conduit



Shielded Composite Junction Boxes

Application example

Series 316 stainless steel hardware provides long-term durability

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



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

IP67 rated seals and gaskets protect equipment from moisture and dust

◀ Example box shown: one of a series of NAVSEA-approved signal, switch, sound power, control boxes designed to eliminate corrosion damage and reduce maintenance cost on Navy ships

HIGH-TEMPERATURE MICRO-D



260°[®]

Well-Master

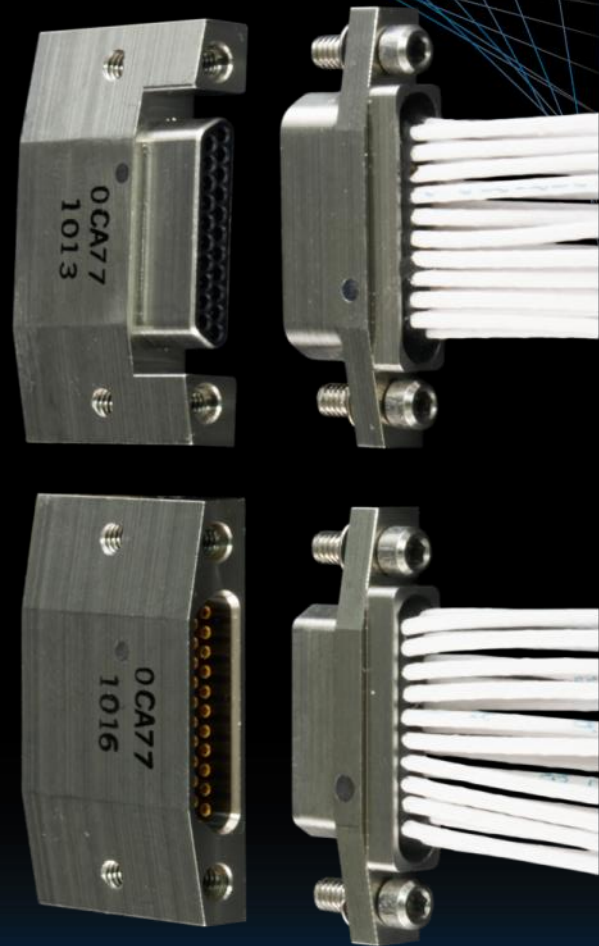
WELL-MASTER 260°



Well-Master 260°

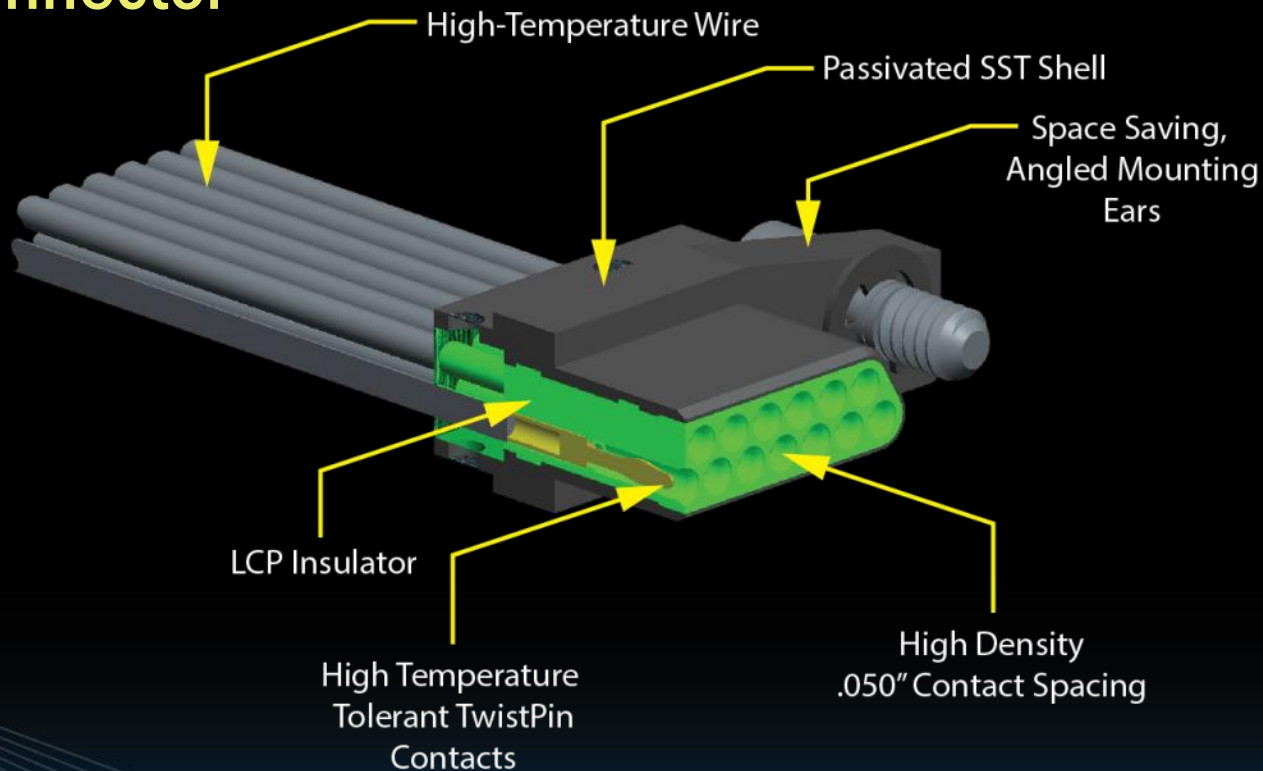
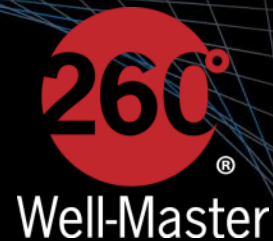
High-temperature Micro-D

- +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
- Pre-wired or PCB
- Meets performance requirements of MIL-DTL-83513



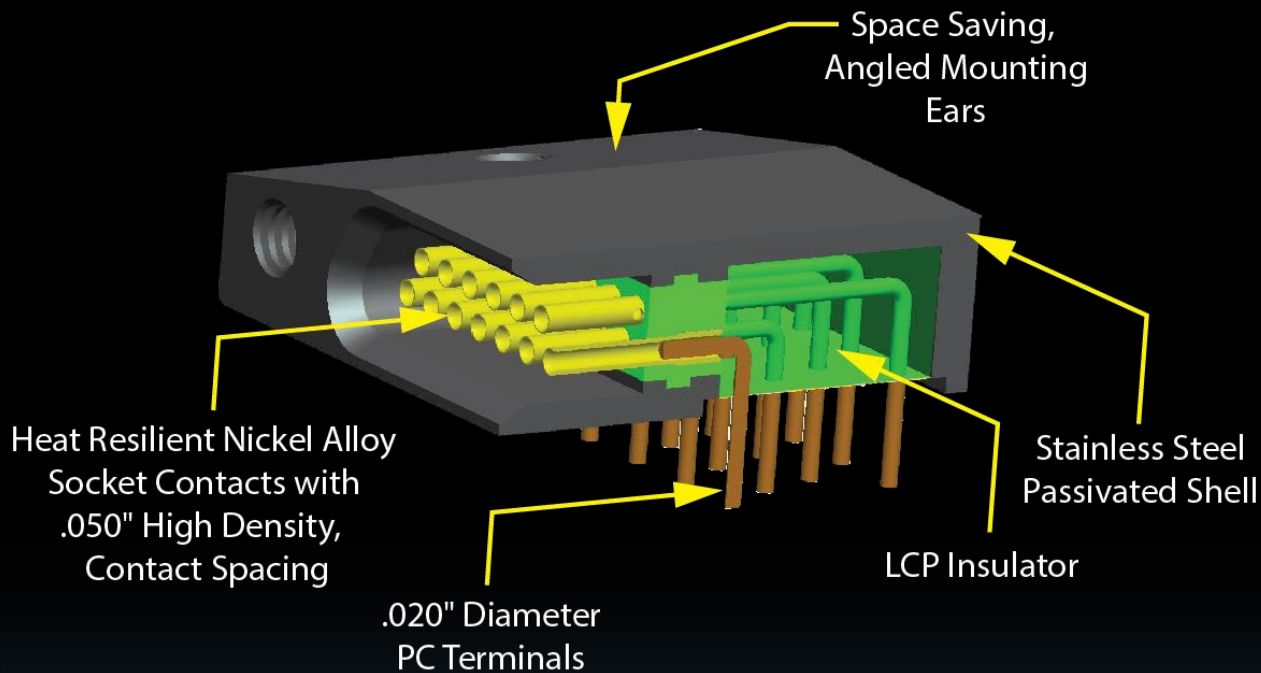
Well-Master 260°

Cable connector



Well-Master 260°

PCB header

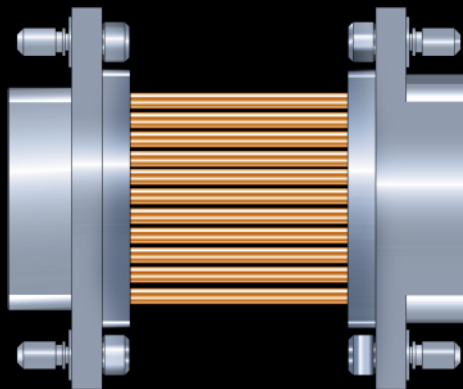


Well-Master 260°

Connector configurations



Pre-wired pin/plug or
socket/receptacle
connectors



Back-to-back
connectors



Right-angle
PCB connectors

SeaKing Downhole/HTHP

Penetrators and feed-thrus



Penetrator

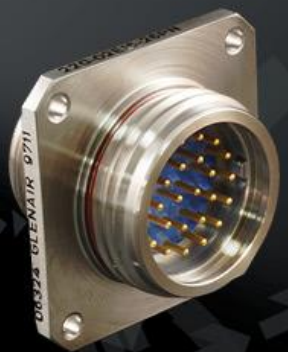


Hermetic feed-thru



High-pressure hermetic and
single-pin feed-thru

5000 PSI HARSH-ENVIRONMENT



**SERIES 22 GEO-MARINE®
ENVIRONMENTAL / HERMETIC**



Geo-Marine[®]: The 5000 PSI Connector with Extreme Temperature and Corrosion Resistance



- Open-face pressure rated 100 – 5000 PSI
- 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



Geo-Marine[®] Connector Anatomy

5000 PSI piston-sealed extreme environmental submersible



Geo-Marine[®]



Geo-Marine® Connector Selection Guide



Geo-Marine®

Series 22 Geo-Marine® Product Selection Guide



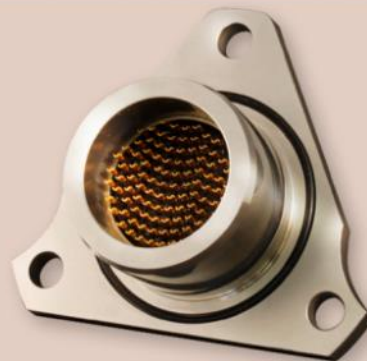
Geo-Marine®
Plug and Receptacle Connectors



Geo-Marine®
Bulkhead Feed-through
Assemblies



Geo-Marine® Adapters,
Backshells and Protective Covers



Special-Purpose
Geo-Marine® Connectors

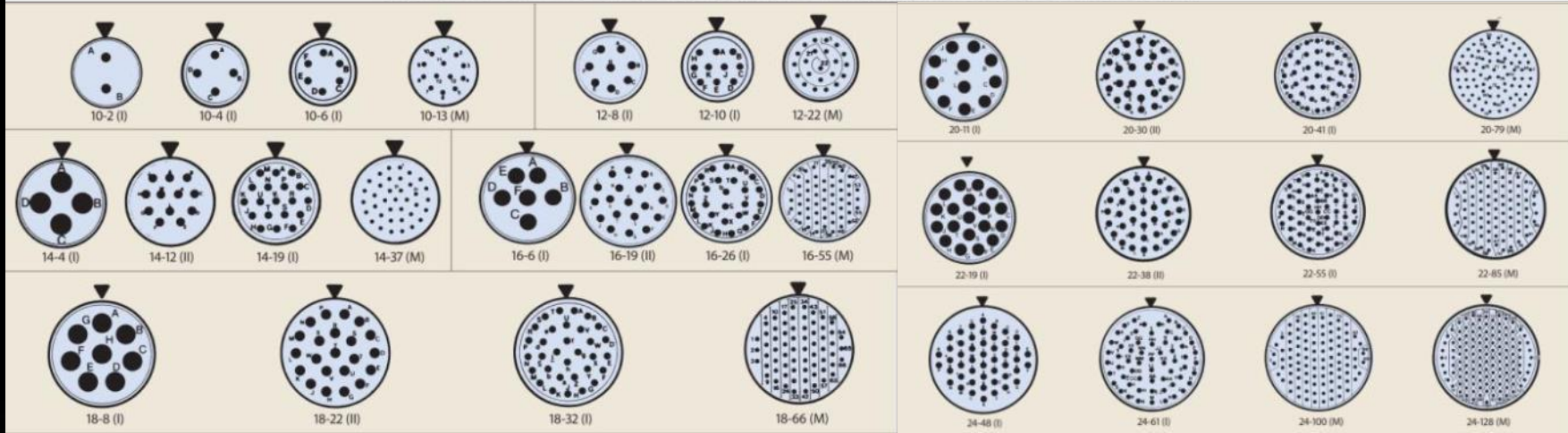
Geo-Marine[®] Contact Arrangements



Geo-Marine[®]

Geo-Marine[®] Contact Arrangements

Front Face of Pin Inserts Illustrated. Service Ratings Indicated in Parentheses.



Geo-Marine[®] Overmolded Cable Sealing and Packaging Capabilities



Essentially unlimited configuration range,
all with optimal sealing

- Straight, 90° and 45° angular specifications
- Existing tooling for many common molding adapters and connectors
- Viton[®] and other harsh environment materials



ULTRAMINIATURE SUBSEA



**AQUA
MOUSE**

**SERIES 802 AQUAMOUSE
SUBSEA / HERMETIC**

Glennair

Series 80 AquaMouse Underwater Connector



Miniaturized, extreme-duty, submersible

- 3500 psi 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



Series 80 AquaMouse Underwater Connector



Connector configurations and classes



Plugs



Jam-nut
receptacles



Square-flange
receptacles



Hermetic
receptacles



Hermetic
bulkhead feed-thru

Glenair Culture

One-of-a-Kind Service From a One-of-a-Kind Supplier

- Outstanding product availability: literally thousands of items in stock
- Liberal policies on NRE costs, samples, and RMA's
- The industry's best engineering and technical support team
- No dollar or quantity minimums on standard products
- Comprehensive product documentation and information access
- Ample, professionally-managed manufacturing capacity
- The size and scale to tackle every interconnect challenge



The widest range of
mission-critical interconnect
technologies in the world



Underwater / Subsea Connectors and Cables

Deep Water • Topside • Downhole • Shallow Water