

# SuperNine® Environmental Series



## MIL-DTL-38999 Series II Type IAW EN3645-01:23

### TurboFlex® aerospace-grade power cable for PWM connectors

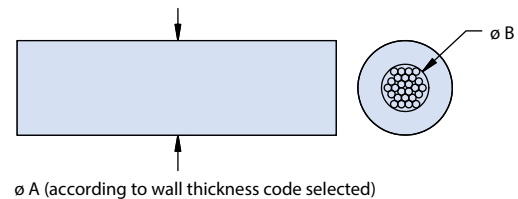
ENVIRONMENTAL CONNECTORS



Ultra-flexible rope lay construction

TurboFlex® cable is constructed from highly flexible conductors and high-performance insulation for optimized flexibility, durability, and weight reduction. Amazingly durable and flexible—especially in cold weather—the 16 AWG to 450 MCM TurboFlex cable features high strand count rope lay inner conductors made with tin-, nickel- and silver-plated copper. TurboFlex is jacketed with Glenair's unique low-smoke, zero-halogen Duraelectric™ compound that provides outstanding flexibility and resistance to environmental and chemical exposure.

Part Number Development					
Sample Part Number	961	-001	-T	-G	-2
Basic No.	961 = TurboFlex with Duraelectric Jacket				
Wall Thickness	001 = .125" 002 = .093" 003 = .062" 004 = .032"				
Conductor Material	T = Tin/Copper (-60 -150°C) S = Silver/Copper (-60 -200°C) N = Nickel/Copper (-60 -260°C)				
Wire Size (See Table I)	See Table I: -001 = G, H, I, J, K, L -002 = D, E, F, G, H, I, J, K, L -003 = A, B, C, D, E, F, G, H -004 = R, S, A, B, C, D, E, F, G				
Duraelectric Jacket Color	See Table II				



Voltage Ratings	
961-004	2000 VAC
961-003	3000 VAC
961-002	3500 VAC
961-001	4500 VAC

Table I: TurboFlex Wire Size, Dimensions, DC Resistance and Ampacity Ratings									
AWG Code	AWG	Strand / Count / AWG	Cir Mil (nom)	Ø B in. (mm)	DC Resistance @ 20°C (Ohms / 1000 ft.)			Ampacity (Amps) 40°C Ambient	
					Nickel Copper	Tin Copper	Silver Copper	Nickel Copper	Tin/Silver Copper
R	16	7 X 15 X 36	2625	.063 (1.60)	4.5510	4.5930	4.2780	40	36
S	14	7 X 24 X 36	4200	.080 (2.03)	2.8450	2.8710	2.6740	59	54
A	12	7 X 37/36	6475	.099 (2.51)	1.8450	1.8620	1.7340	78	68
B	10	7 X 59/36	10325	.126 (3.20)	1.1570	1.1680	1.0880	107	90
C	8	7 X 95/36	16625	.159 (4.04)	.7188	.7252	.6755	142	124
D	6	7 X 150/36	26250	.200 (5.08)	.4551	.4593	.4278	205	165
E	4	7 X 7 X 34/36	41650	.271 (6.88)	.2979	.3006	.2800	278	220
F	2	7 X 7 X 54/36	66150	.342 (8.69)	.1876	.1893	.1763	381	293
G	1/0	7 X 7 X 86/36	105350	.431 (10.95)	.1178	.1188	.1107	532	399
H	2/0	7 X 7 X 108/36	132300	.483 (12.27)	.0938	.0946	.0882	591	467
I	3/0	19 X 7 X 51/36	169575	.547 (13.89)	.0738	.0745	.0694	708	546
J	4/0	19 X 7 X 64/36	212800	.613 (15.57)	.0588	.0594	.0553	830	629
K	250 MCM	19 X 7 X 75/36	249375	.663 (16.84)	.0479	.0483	.0450	910	705
L	450 MCM	19 X 7 X 135/36	448875	.890 (22.61)	.0266	.0263	.0250	1320	1020

#### NOTES

- Bend radius is 3X the outer diameter
- Cable will be marked with "Glenair TurboFlex", wire gauge, part number, CAGE code.
- Jacket thickness tolerance is ±10% (±.005 for 961-004)Notes
- Duraelectric™ environmental performance
- Temperature rating: -60°C to 260°C
- Halogen free per IEC 60614-1
- Accelerated weathering and simulated solar radiation at ground level per IEC 60068-2-5; 56 Days exposure, suitable for greater than 50 years of service in direct sunlight
- Flame resistant per IEC 60614-1
- Flame resistant per UL 1685, section 12 (FT4/IEEE120), vertical-tray fire-propagation and smoke release test
- Flame resistant per far 25.853 (A) amendment 25-116, appendix F part I

**MIL-DTL-38999 Series III Type IAW EN3645-01:23**

**TurboFlex® aerospace-grade power cable for PWM connectors**

ENVIRONMENTAL CONNECTORS

**961-001 TURBOFLEX, .125 WALL, 4500 VAC**

961-001 Wire Weight and Outer Diameter			
AWG Code	Weight lbs/1000 ft. (nom.)	Ø A In. (mm)	Jacket wall thickness In. (mm)
G	494.50	.681 (17.30)	.125 (3.18)
H	600.00	.733 (18.62)	
I	749.50	.797 (20.24)	
J	916.00	.863 (21.92)	
K	1055.60	.913 (23.19)	
L	1806.20	1.140 (28.96)	

**961-002 TURBOFLEX, .093 WALL, 3500 VAC**

961-002 Wire Weight and Outer Diameter			
AWG Code	Weight lbs/1000 ft. (nom.)	Ø A In. (mm)	Jacket wall thickness In. (mm)
D	138.40	.386 (9.80)	.093 (2.36)
E	207.40	.457 (11.61)	
F	304.60	.528 (13.41)	
G	455.80	.617 (15.67)	
H	558.20	.649 (16.48)	
I	703.90	.733 (18.62)	
J	866.50	.799 (20.29)	
K	1003.10	.849 (21.56)	
L	1740.10	1.076 (27.33)	

**961-003 TURBOFLEX, .062 WALL, 3000 VAC**

961-003 Wire Weight and Outer Diameter			
AWG Code	Weight lbs/1000 ft. (nom.)	Ø A In. (mm)	Jacket wall thickness In. (mm)
A	40.20	.223 (5.66)	.062 (1.57)
B	56.20	.250 (6.35)	
C	81.00	.283 (7.19)	
D	117.90	.324 (8.23)	
E	182.80	.395 (10.03)	
F	275.90	.466 (11.84)	
G	422.00	.555 (14.10)	
H	521.40	.607 (15.42)	

**961-004 TURBOFLEX, .032 WALL, 2000 VAC**

961-004 Wire Weight and Outer Diameter			
AWG Code	Weight lbs/1000 ft. (nom.)	Ø A In. (mm)	Jacket wall thickness In. (mm)
R	14.40	.127 (3.23)	.032 (.81)
S	20.70	.144 (3.66)	
A	29.40	.163 (4.14)	
B	43.90	.190 (4.83)	
C	66.90	.223 (5.66)	
D	101.40	.264 (6.71)	
E	162.40	.335 (8.51)	
F	251.60	.406 (10.31)	
G	392.70	.495 (12.57)	

- (A) (1) (i), 60 second vertical burn test
- 11. Limiting oxygen index of 45 per ISO 4589-2:1999
- 12. Low smoke per NES 711, smoke density of 11.75
- 13. Smoke density class F1 per NF F 16-101 IAW Din EN 60695-2-11:2011
- 14. Low smoke toxicity per NES 713, tested value of 1.9
- 15. Fungus rating of 0 per MIL-STD-810g method 508.5, Does not support fungal growth
- 16. ASTM D624, die B tear strength, 150 pounds per inch minimum on jacket material
- 17. Low outgassing per ASTM e595 after post curing, .06%, CVCM .006%, WVR .02%
- 18. Resistant to fluids per MIL-STD-810F, method 504
- 19. JP-8 per MIL-DTL-83133 (NATO type 34)  
 MIL-H-5606 hydraulic fluid  
 MIL-PRF-23699 lubricating oil  
 MIL-C-85570 cleaner  
 TT-I-735 Isopropyl alcohol  
 AMS 1432 potassium acetate deicing/anti-icing fluid  
 MIL-C-87252 coolant  
 Amerex AFF fire extinguishing foam

Jacketing Options		
Weatherproof, halogen free, flame resistant, functional to 260°C		
0	Black	Fed-Std-595C #17038
1	Desert Tan	Fed-Std-595C #33446
2	Red	Fed-Std-595C #11120
3	Orange	Fed-Std-595C #12300
4	Yellow	Fed-Std-595C #13591
5	Green	Fed-Std-595C #14193
6	Blue	Fed-Std-595C #15125
7	Violet	Fed-Std-595C #17142
8	Gray	Fed-Std-595C #26270
9	White	Fed-Std-595C #17875
Consult factory for other specific Fed Std colors		
Abrasion Resistance		Good
Wear Resistance		Good
Flame Resistance		Excellent
Sunlight Resistance		Excellent
Flex Resistance		Excellent