

MC801 FIBER OPTIC CONNECTORS

RUGGED, RELIABLE CONNECTIVITY COMBINING HIGH-PERFORMANCE ARINC 801 TERMINI WITH THE VERSATILITY AND FAMILIARITY OF D38999 SERIES III STYLE CONNECTORS

MC801 FIBER OPTIC CONNECTORS



The MC801 connector combines the high performance of ARINC 801 optical termini with the convenience of a familiar D38999 Series III connector style.

The connector's threaded coupling and the termini's spring-loaded design make an excellent solution for high-vibration applications. The compact 1.25-mm ferrule provides a high-density solution—with up to 32 fibers in a size 25 shell.

The 38999-style connector offers scoop-proof mating, a wide selection of materials and finishes, six keying options, and compatibility with standard 38999 backshells and hardware.

Optical alignment is achieved with a thermoplastic insert containing precision zirconia alignment sleeves. Inserts, which are available for use with either the plug or receptacle, are removable to simplify cleaning. Stainless steel dowel pins also aid alignment during mating.

RELIABLE

- Genderless pull-proof contact design
- Precise alignment of optical interface
- Spring-loaded termini maintain optical contact during shock, vibration, and thermal extremes

EASY TO USE

- Removable alignment insert for easy inspection and cleaning
- Field terminable
- Uses standard size 16 insertion/extraction tools

HIGH PERFORMANCE

- Low loss
- PC and APC end face finishes for multimode and single mode applications
- Reduces overall system losses

FLEXIBLE

- Eight shell sizes for 2 to 32 fibers
- Range of shell materials and finishes to meet various application demands

PROVEN PEDIGREE

- Widely used termini in aerospace and military applications
- Meets ARINC 801.3 requirements
- MIL-DTL-38999 Series III-style shells
- Use widely available 38999 backshells and accessories

COMPATIBLE

- Intermateable with competitive D38999 connectors using ARINC 801 contacts

MATERIALS

Shell: Aluminum, stainless steel, marine bronze, and composite

Finishes: Nickel, black zinc nickel, passivated

Insert and Alignment Sleeve Holder: Thermoplastic

Alignment Dowel Pins: Stainless steel

Alignment Sleeve: Zirconia

Ferrule: Zirconia

Terminus Body and Crimp Sleeve: Nickel-plated copper

Spring: Stainless steel

OPTICAL PERFORMANCE

Insertion Loss: 0.10 dB multimode
0.20 dB single mode (APC finish)

Return Loss: Up to -65 dB (single mode, APC finish)

Insertion loss tested against a reference patchcord:
IEC 61300-3-4 Method B; also described in the ARINC 805 standard

Return Loss: IEC 61300-3-6; also described in the ARINC 805 standard

ENVIRONMENTAL/MECHANICAL PERFORMANCE

Temperature Range: -65°C to +85°C

Durability: 500 mating cycles

Random Vibration: No discontinuities >1 dB in excess of 1 μs
(TIA/EIA-455-32 Test Condition B)

Mechanical Shock: No discontinuities >1 dB in excess of 1 μs
(100 g, 6 ms half-sine pulse)

Altitude Immersion: 50,000 ft. (15,200 m)

Salt Spray: 500 hours Cadmium plating

SPECIFICATIONS

Product Specification: D108-32105

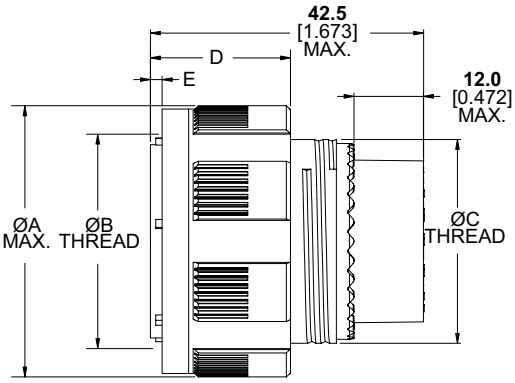
Qualification Test Reports: D501-32031 (Multimode)
D501-32105 (Single Mode)

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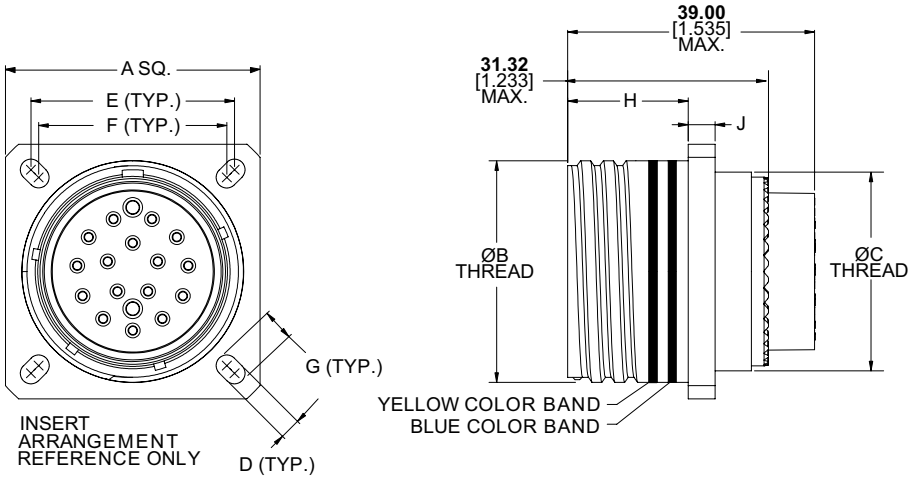
Get your product to market faster with a smarter, better solution.

Plug Connector

Insert	ØA	B Thread Stub 60° Mod 1P-3L Class 2 (In)	ØC	D	E
11-02	**24.94** (0.982)	0.7500	M15 x 1.0	**21.27** 0.837	**1.84** 0.072
13-04	**29.34** (1.155)	0.8750	M18 x 1.0		
15-06	**32.46** (1.278)	1.0000	M22 x 1.0		
17-08	**35.66** (1.404)	1.1875	M25 x 1.0		
19-12	**38.46** (1.514)	1.2500	M28 x 1.0	**21.50** 0.846	**2.07** 0.081
21-16	**41.66** (1.640)	1.3750	M31 x 1.0		
23-24	**44.86** (1.766)	1.5000	M34 x 1.0		
25-32	**47.98** (1.889)	1.6250	M37 x 1.0		

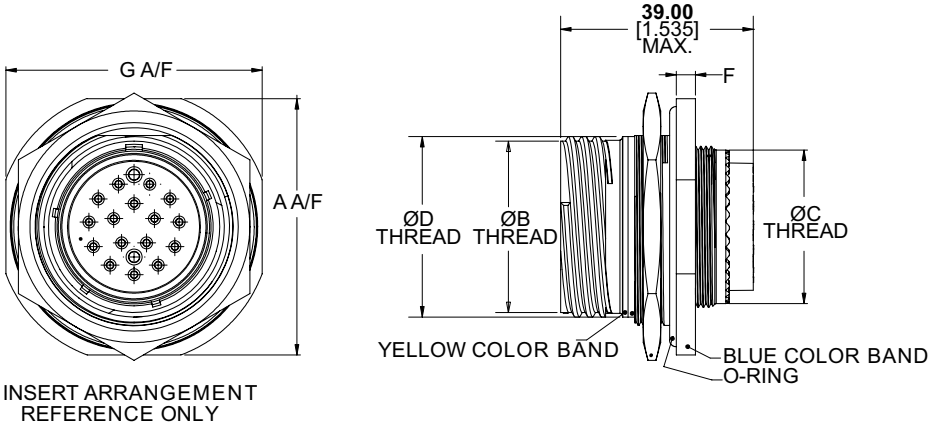


Square-Flange Receptacle Connector



Insert	ØA	B Thread Stub 60° Mod 1P-3L Class 2A (In)	ØC	D	E	F	G	H	J
11-02	**26.21** (1.032)	0.7500	M15 x 1.0	**3.30** 0.130	**20.62** (0.812)	**18.26** (0.719)	**4.98** 0.196	**19.61** 0.772	**3.40** 0.134
13-04	**28.63** (1.127)	0.8750	M18 x 1.0		**23.01** (0.906)	**20.62** (0.812)			
15-06	**31.01** (1.221)	1.0000	M22 x 1.0		**24.61** (0.969)	**23.01** (0.906)	**4.45** 0.175		
17-08	**33.32** (1.312)	1.1875	M25 x 1.0		**26.97** (1.062)	**24.61** (0.969)	**4.98** 0.196		
19-12	**36.53** (1.438)	1.2500	M28 x 1.0		**29.36** (1.156)	**26.97** (1.062)			
21-16	**39.73** (1.564)	1.3750	M31 x 1.0		**31.75** (1.250)	**29.36** (1.156)			
23-24	**42.93** (1.690)	1.5000	M34 x 1.0	**3.96** 0.156	**34.93** (1.375)	**31.75** (1.250)	**6.20** 0.244	**18.80** 0.740	**4.22** 0.166
25-32	**46.02** (1.812)	1.6250	M37 x 1.0		**38.10** (1.500)	**34.93** (1.375)			

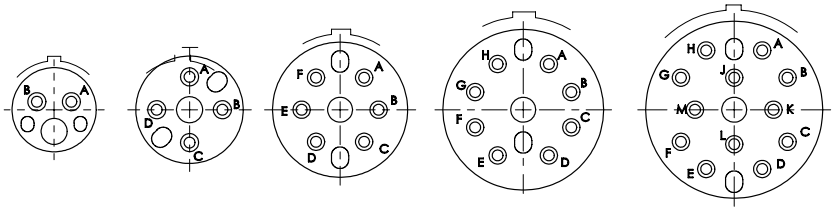
Jam Nut Receptacle Connector



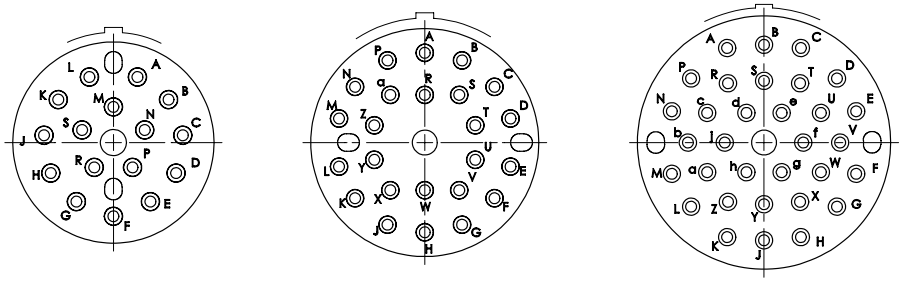
INSERT ARRANGEMENT
REFERENCE ONLY

Insert	ØA	B Thread Stub 60° Mod 1P-3L Class 2A (In)	ØC	ØD	ØE	F	G
11-02	**31.80** (1.252)	0.7500	M15 x 1.0	M20 x 1.0	**34.90** (1.374)		**26.75** (1.053)
13-04	**34.90** (1.374)	0.8750	M18 x 1.0	M25 x 1.0	**38.10** (1.500)	**2.84** 0.112	**31.75** (1.250)
15-06	**38.10** (1.500)	1.0000	M22 x 1.0	M28 x 1.0	**41.30** (1.626)		**35.74** (1.407)
17-08	**41.30** (1.626)	1.1875	M25 x 1.0	M32 x 1.0	**44.50** (1.752)		**36.75** (1.447)
19-12	**46.00** (1.811)	1.2500	M28 x 1.0	M35 x 1.0	**49.20** (1.937)		**40.74** (1.604)
21-16	**49.20** (1.937)	1.3750	M31 x 1.0	M38 x 1.0	**52.40** (2.063)	**3.61** 0.143	**45.75** (1.801)
23-24	**52.40** (2.063)	1.5000	M34 x 1.0	M41 x 1.0	**55.60** (2.189)		**49.76** (1.959)
25-32	**55.60** (2.189)	1.6250	M37 x 1.0	M44 x 1.0	**58.70** (2.311)		**50.98** (2.007)

Insert Arrangements



11-02 **13-04** **15-06** **17-08** **19-12**



21-16 **23-24** **25-32**

Part Numbering/Ordering Information

MC801 6 — K — 11-02 S N

Product Family
- **MC801**

Shell Style
- **0** Square Flange Receptacle
- **6** Plug
- **7** Jam Nut Receptacle

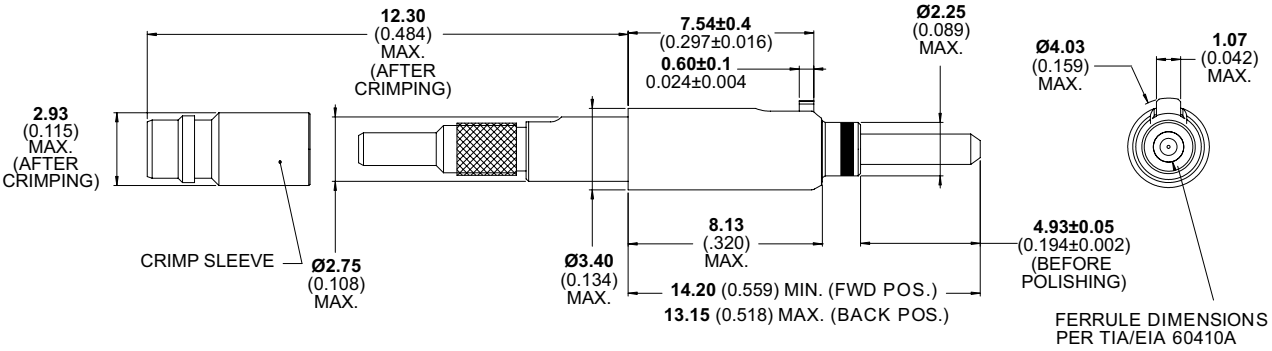
Shell Material and Finish
- **B** Aluminum Bronze, Unplated
- **C** Composite, Cadmium Plated
- **D** Composite, Zinc Nickel Plated
- **F** Aluminum, Nickel Plated
- **K** Stainless Steel, Passivated
- **N** Composite, Nickel Plated
- **W** Aluminum, Cadmium Plated
- **Z** Aluminum, Zinc Nickel Plated

Insert (Shell Size — Number of Fibers)
- **11-02, 13-04, 15-06, 17-08, 19-12, 21-16, 23-24, 25-32**

Alignment Style
- **P** "Pin" — No Alignment Insert
- **S** "Socket" — With Removable Alignment Insert

Keying
- **N** Normal
- **A, B, C, D, E**

ARINC 801 Termini



Fiber Type	Part No.			
	Tight Jacket		Loose Jacket	
	1.8 mm Cable	900 µm Buffer Cable	1.8 mm Cable	900 µm Buffer Cable
Single Mode	459266-126S-02-1	459266-126S-00-1	459265-126S-02-1	459265-126S-00-1
Single Mode, APC	459266-125A-02-1	459266-125A-00-1	459265-125A-02-1	459265-125A-00-1
Multimode	459266-126M-02-1	459266-126M-00-1	459265-126M-02-1	459265-126M-00-1

Note: Customer drawings, models, additional product information, and instruction sheets are available at te.com.

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