

Accessories for Circular Connectors

Protection Caps, Sealing Plugs, Strain Reliefs



HOW TO ORDER

Protection Caps

Shell Size	Plastic Protection Caps		MS Metal Protection Caps		
	For Plugs	For Receptacles	MS Shell Size Code	For MS Plugs	For MS Receptacles
9	10-70506-14	10-70500-10	A	D38999/32W9X*	D38999/33W9X*
11	10-70506-16	10-70500-12	B	D38999/32W11X*	D38999/33W11X*
13	10-70500-18	10-70500-14	C	D38999/32W13X*	D38999/33W13X*
15	10-70500-20	10-70500-16	D	D38999/32W15X*	D38999/33W15X*
17	10-70500-22	10-70500-19	E	D38999/32W17X*	D38999/33W17X*
19	10-70500-24	10-70500-20	F	D3899/32W19X*	D38999/33W19X*
21	10-70524-1	10-70500-22	G	D3999/32W21X*	D38999/33W21X*
23	10-70506-28	10-70500-24	H	D38999/32W23X*	D38999/33W23X*
25	10-70500-28	10-70524-1	J	D3899932W25X*	D38999/33W25X*

Sealing Plugs

Sealing Plugs for Unused Contact Cavities		
Contact Size	Commercial No.	Military No.
8 (Coax)	10-482099-8	N/A
8 (Twinax)	T3-4008-59P	N/A
8 (Power)	10-405996-81	MS27488-8-1
10 (Power)	10-576225	N/A
12	10-405996-121	MS27488-12-1
16	10-405996-161	MS27488-16-1
20	10-405996-201	MS27488-20-1
22D	10-405996-41	MS27488-4-1

* To complete order number, replace X with applicable letter as follows:
 R - designates eyelet type
 N - designates washer type

MS metal protection caps are supplied with service class W which designates corrosion resistant olive drab cadmium plate aluminum.



Protection Caps



Sealing Plugs

Amphenol offers the widest range of accessories for circular connectors conforming to most Military (MIL) specifications.

Please visit www.backshellworld.com for more information about backshells and a configurator to build a part number... see Backshell Designer.

Backshells

Some Backshells can be used without any additional protection while other types are generally used with heat shrink boots or similar protection/strain relief mechanism depending on specific requirements.

Backshells for Military & Aerospace applications are governed by SAE, AS85049 standard and Amphenol Backshells are designed to meet the requirement of this standard. Amphenol offers additional styles and designs and can support you from concept to product realization to satisfy your unique specifications. Please contact your Sales Associate or Technical Assistance for more information.

- Non-Environmental Backshell
- Environmental Backshell
- Non-Environmental EMI/RFI Backshell
- Environmental EMI/RFI Backshell
- Shrink Boot Adaptor
- Crimp Ring Adaptor
- Band Lock Adaptor
- SQ Adaptor
- Quick Clamp
- Strain Relief Clamp
- Grommet Nut
- Lamp Thread Adaptor

III
II
I
SJT
38999

Matrix 2
26482

Matrix Pyle
83723 III

Release Matrix
5015
Crimp Rear

26500 Pyle

Printed
Circuit Board

EMI Filter
Transient

Fiber Optics

High Speed
Contacts

Options
Others

The following data includes information pertaining to the application tools which have been established for polishing, inserting and removing multi-mode fiber optic termini within multi-channel connectors. Insertion and removal tools are common to MIL-DTL-38999 size 16 and size 20 tools. Installation instructions L-1262 for multi-mode size 16 and L-2103 for multi-mode size 20 provide proper installation and polishing procedures for these termini. These are available on-line at www.amphenol-aerospace.com, under service instructions. Termination kits, as shown at right, are available for each Amphenol -connector family. The kit includes the carrying case, heat gun, crimping and stripping tools and microscope with adapters.



Termination Kit



Plastic Insertion/Removal Tool for Size 16 Multi-mode Termini

38999 SJT I II III
 26482 Matrix 2
 83723 III Pyle Matrix
 5015 Crimp Rear Release Matrix
 26500 Pyle
 Printed Circuit Board
 EMI Filter Transient
 Fiber Optics
 High Speed Contacts
 Options Others

HOW TO ORDER

Application Tools for Multi-Channel, Multi-mode Fiber Optic Termini

Contact Size/Type	Termini Part Number	Hand Polishing Tools*	Machine Polishing Tools		Termination Kit (Includes necessary field termination equipment)
			Amphenol/Buehler Fibrmet*** Polishing Tool Part Number	Amphenol/Buehler Fibrscope*** Adaptor Body Part Number	
16 Multi-mode	CF-198035-()** Socket CF-198036-()** Pin	11-12123 or 11-12195 (grooved for wet polishing)	11-12103	11-12104	CF-8500-1†
20 Multi-mode	CF-198080-()** Socket CF-198081-()** Pin	11-12153	N/A	N/A	CF-8500-3††

Insertion Tools

Contact Size/Type	Plastic Tools (Double ended insertion/removal tool)		Metal Tools			
	MS Part Number	Color	Angle Type		Straight Type Commercial Part Number	Color
			MS Part Number	Commercial Part Number		
16 Multi-mode	M81969/14-03	Blue/White	M81969/8-07	11-8674-16 11-012197-16†††	11-8794-16 11-012198-16†††	Blue
20 Multi-mode	M81969/14-10	Red/Orange	M81969/8-05	11-8674-20	11-8794-16	Red

Removal Tools

Contact Size/Type	Plastic Tools (Double ended insertion/removal tool)		Metal Tools				
	MS Part Number	Color	For Unwired Contacts Commercial Part Number	Angle Type		Straight Type Commercial Part Number	Color
				MS Part Number	Commercial Part Number		
16 Multi-mode	M81969/14-03	Blue/White	11-10050-10	M81969/8-08	11-8675-16	11-8795-16	White
20 Multi-mode	M81969/14-10	Red/Orange	11-10050-9	M81969/8-06	11-8675-20	11-8795-20	White

◆ FOR APPLICATION TOOLS FOR SINGLE MODE TERMINI, CONSULT AMPHENOL AEROSPACE.
 The M81969/8, 11-8675 and 11-8794 metal contact insertion and removal tools will accommodate wires having the maximum outside diameter of .105 for size 16 and .084 for size 20. When wire diameters exceed this, the plastic tools must be used.
 * Single Termini Capability
 ** To complete order number add fiber size; see ordering information on page 3 for size 16 multi-mode, and page 4 for size 20 multi-mode.
 *** Fibrmet and Fibrscope are registered trademarks of Buehler Ltd.
 † This includes hand polishing tool 11-12123.
 †† This includes hand polishing tool 11-12153.
 ††† Recommended tool for socket termination insertion.

Fiber Optic Custom Cable Assembly Design and Fabrication

Amphenol's cable assembly expertise dates back to the first industry standard fiber optic connector, over 25 years ago. Our depth of understanding of connector and terminus design, and the complete control of connector materials, make Amphenol Fiber Optic cable assemblies one of the best in the industry. Amphenol offers a comprehensive line of single mode and multi-mode cable assemblies in a variety of cable configurations. From simplex jumpers to multi-fiber custom assemblies, Amphenol can design and supply all of your cable needs.

High quality polishing processes have been developed to meet and exceed industry standard specifications for insertion loss, return loss and end-face geometry. All assemblies are designed to intermateability standards for optical and physical performance criteria.

Amphenol can assemble, polish and test many harsh environment and commercial grade connectors including:

- MIL-PRF-29504/4, /5, /14, /15
- HD20
- MTC/MP0
- ARINC 801
- ST
- LC
- FC
- SC

Connector and cable materials are extensively inspected prior to assembly. Every completed cable assembly receives 100% inspection for both insertion loss and visual defects. Interferometers are used for accurate end-face geometry testing.

You specify the optical and mechanical requirements of the cable assembly and Amphenol's fiber optic application's engineers will develop an "end-to-end" interconnect solution. Design creativity, experience and an understanding of harsh environments will ensure a functional and manufacturable design. See the next page for a guide to selecting and specifying a fiber optic cable assembly.



D38999 Fiber Optic Connectors and Cables



ARINC 801 Connectors and Cables



Explosion Proof Amphe-EX™ Connectors and Cables

38999
III
II
I
SJT

26482
Matrix 2

83723 III
Matrix
Pyle

5015
Crimp Rear
Release Matrix

26500 Pyle

Printed
Circuit Board

EMI Filter
Transient

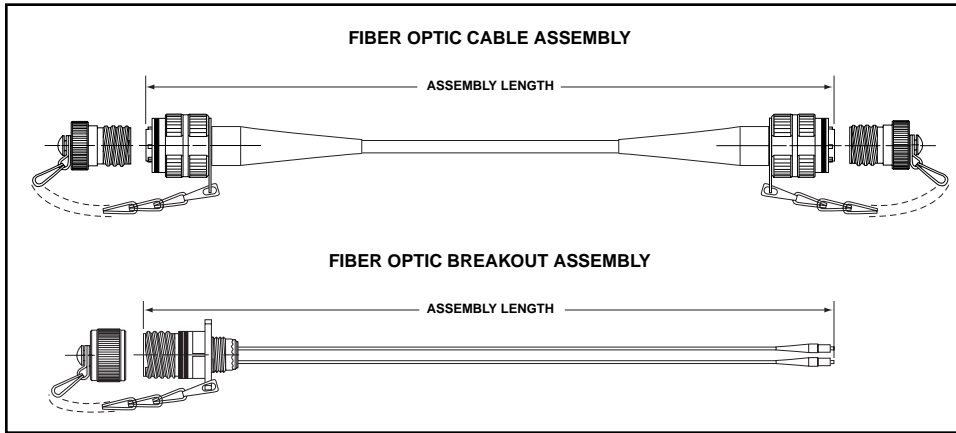
Fiber Optics

High Speed
Contacts

Options
Others

- 38999
SJT I II III
- 26482
Matrix 2
- 83723 III
Matrix Pyle
- 5015
Crimp Rear
Release Matrix
- 26500 Pyle
- Printed
Circuit Board
- EMI Filter
Transient
- Fiber Optics
- High Speed
Contacts
- Options
Others

The following criteria should be considered when specifying a fiber optic cable assembly. You may copy this page and fax it Amphenol Aerospace*. Our design engineers are ready to help meet your custom cable application requirements.



Typical Breakout Cable Assembly shown:

- Connector ends: CF38999 Fiber Optic Jam Nut Receptacle; and Commercial grade ST
- Termini in the CF38999 connector are size 16 single mode
- Optical wavelength: 1300
- Cable: Avionics grade; 1 ft. length

This check list is provided to help ensure a thorough design of a custom fiber optic cable assembly.

- ENVIRONMENTAL CRITERIA**
- High Temperature _____
 - Low Temperature _____
 - Salt Spray _____
 - Mechanical Shock _____
 - Mechanical Vibration _____
 - Durability _____

COMPONENTS

- Termini**
- MIL-PRF-29504
 - Pin _____
 - Socket _____
 - ARINC 801
 - MTC
 - HD20
 - Other _____
- Connectors - Cylindrical**
- CF38999
 - ARINC 801
 - MT38999
- Connectors - Rectangular**
- Low mating force, PCB _____
 - LRM
 - Rack and Panel
 - VME64X
 - VITA-46
- Accessories**
- Backshells/Strain Reliefs _____
 - Sealing plugs _____
 - Protection caps _____

OPERATIONAL CRITERIA

- Assembly Length and Tolerance _____
- Optical Wavelength**
- 850
 - 1300
 - 1550
 - Other _____
- Fiber Core Size**
- 5/125 single mode
 - 9/125 single mode
 - 50/125 multi-mode
 - 62.5/125 multi-mode
 - 100/140 multi-mode
 - 200/230 multi-mode
 - Other _____
- Performance**
- Insertion Loss
 - Return Loss
- Cable Type**
- Field Tactical
 - LSZH
 - Breakout
 - Distribution
 - Avionics
- Special Options**
- EMI Shielding
 - Hermetic Backfill

* Fax to 607-563-5157, attention Fiber Optic Design Engineering, Amphenol Aerospace. Or call 607-563-5011 for further assistance.