

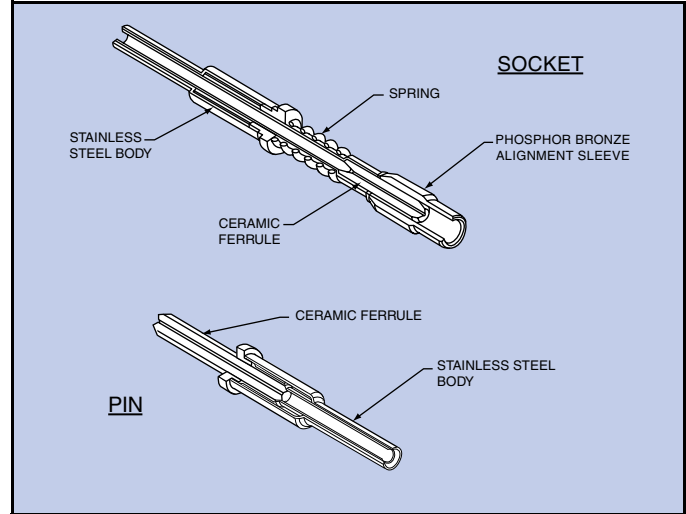
# Amphe-Lite Series

## fiber optic termini – multi-mode, size 16

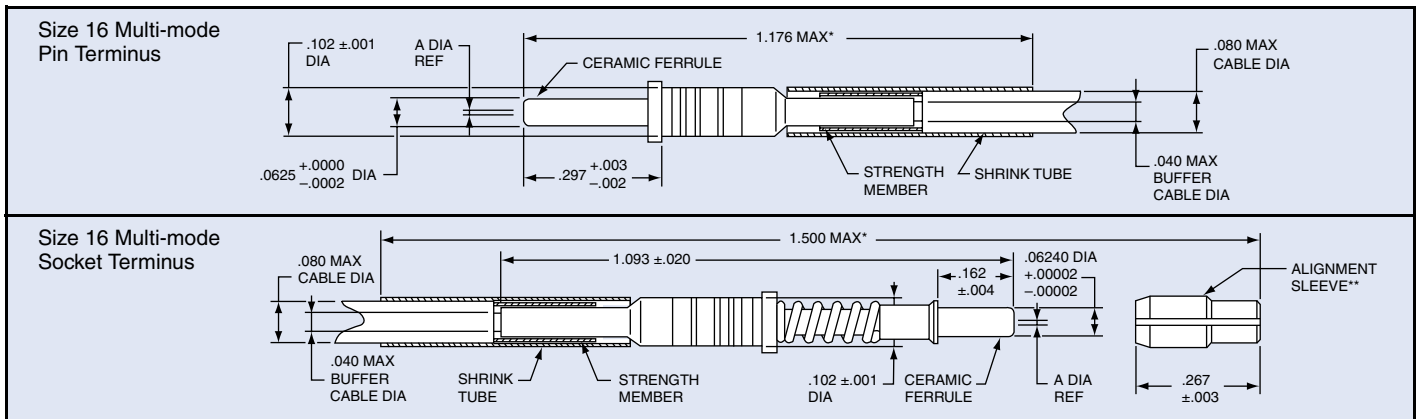
### Amphenol® Multi-mode, Size 16 Termini

#### Features and Performance Levels:

- Ceramic alignment ferrule which precisely positions the fiber within the termini
- Phosphor bronze alignment sleeve, assembled on the socket after polishing insures accurate fiber to fiber alignment (a ceramic alignment sleeve is also available).
- Typical insertion loss for 100/140 fiber with .2 NA at 820 nm is .5 to .7 dB using Air Gap (AG) polish technique  
Use of the ceramic ferrule and sleeve maximizes the ability to hold extremely tight dimensional tolerances while maintaining accurate concentricity, thus providing superior and consistent optical loss performance.
- Termination accomplished using the industry proven epoxy/polish method. Can be polished Air Gap (AG) or Physical contact (PC).
- Socket cleaning optional. Consult Amphenol, Sidney, NY for termini cleaning tool. For application tools consult Sidney, NY.



Multi-mode Size 16 Fiber Optic Termini



Amphenol® Multi-Channel fiber optic connectors are supplied less contacts. Order multi-mode termini by Amphenol part number designation as shown in the chart below. Consult Amphenol, Sidney, NY for further availability.

\* Indicated dimension when fully assembled.  
\*\* Alignment sleeve shipped unassembled.

### Ordering Information Multi-mode Termini (Size 16) for Amphe-Lite Connectors

Fiber Size† Core/Cladding Dia (Microns)	Size 16 Socket	Size 16 Pin	A Dia Ref	
			Inches	Microns
50/125	CF-198035-010	CF-198036-010	.0050	127
62.5/125				
100/140	CF-198035-017	CF-198036-017	.0057	145
100/140/172	CF-198035-029	CF-198036-029	.0069	175
100/140/172	CF-198035-29A	CF-198036-29A	.0068	173.5
200/230	CF-198035-053	CF-198036-053	.0093	236
200/240	CF-198035-057	CF-198036-057	.0097	245
200/280	CF-198035-074	CF-198036-074	.0114	290
200/300	CF-198035-080	CF-198036-080	.0120	305

† Additional sizes available upon request: consult Amphenol, Sidney, NY for availability.

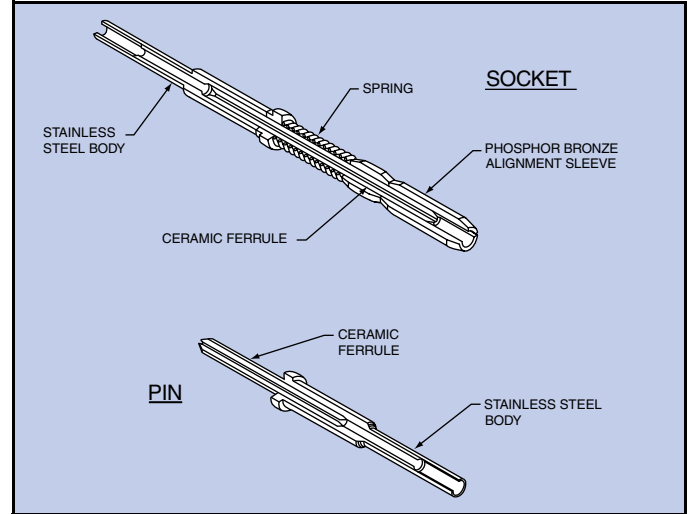
Power contacts can be purchased separately, contact Amphenol, Sidney, NY.

# Amphe-Lite Series

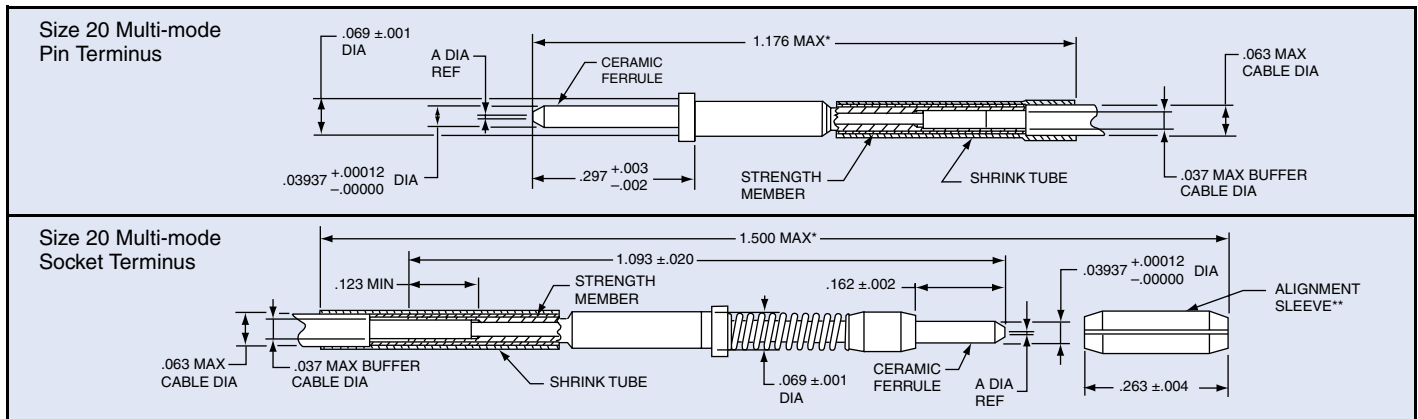
## fiber optic termini – multi-mode, size 20

### Amphenol® Multi-mode, Size 20 Termini Features and Performance Levels:

- Designed for use in size 20 cavities of Amphe-Lite connectors
- Designed with similar high performance components as the proven size 16 termini
- Comparable performance and reliability to the size 16 termini can be expected
- Offers increased termini density in Amphenol Amphe-Lite connectors
- Maintains fiber optic/electrical hybrid capabilities
- Allows for multiple fiber accommodations
- Termination accomplished using the industry proven epoxy/polish method. Can be polished Air Gap (AG) or Physical contact (PC).
- Socket cleaning optional. Consult Amphenol, Sidney, NY for termini cleaning tool. For application tools consult Sidney, NY.



Multi-mode Size 20 Fiber Optic Termini



Amphenol® Multi-Channel fiber optic connectors are supplied less contacts. Order multi-mode termini by Amphenol part number designation as shown in the chart below. Consult Amphenol, Sidney, NY for further availability.

\* Indicated dimension when fully assembled.  
\*\* Alignment sleeve shipped unassembled.

### Ordering Information Multi-mode Termini (Size 16) for Amphe-Lite Connectors

Fiber Size† Core/Cladding Dia (Microns)	Size 20 Socket	Size 20 Pin	A Dia Ref	
			Inches	Microns
50/125	CF-198080-010	CF-198081-010	0.0050	127
62.5/125				
100/140	CF-198080-017	CF-198081-017	0.0057	145

† Additional sizes available upon request: consult Sidney, NY for availability.  
Power contacts can be purchased separately, contact Sidney, NY.

# Amphe-Lite Series

## fiber optic termini – 90° multi-mode, size 16

Amphenol provides 90°, size 16 fiber optic termini that can be used with multi-channel cylindrical connectors.

**90° Socket Termini (Size 16)**

**Ordering Information for 90° Multi-mode Socket Termini**

Fiber Size† Core/Cladding Dia (Microns)	Socket, Size 16 Amphenol Part Number For use in Cylindrical Connectors	A Dia Ref	
		Inches	Microns
50/125	CF-198111-010	.0050	127
62.5/125			
100/140	CF-198111-017	.0057	145
100/140/172	CF-198111-29	.0069	175
	CF-198111-29A	.0068	173.5

† Additional sizes available upon request: consult Amphenol, Sidney, NY for availability.  
 \* Consult Amphenol, Sidney, NY for ordering information.  
 \*\* Indicated dimension when fully assembled.  
 \*\*\* Shrink tubing and alignment sleeve are shipped unassembled.

**90° Pin Termini (Size 16)**

**Ordering Information for 90° Multi-mode Pin Termini**

Fiber Size† Core/Cladding Dia (Microns)	Pin, Size 16 Amphenol Part Number For use in Cylindrical Connectors	A Dia Ref		B Max (Inches)	C Ref (Inches)
		Inches	Microns		
50/125	CF-198110-010	.0050	127	1.121	1.100
62.5/125					
100/140	CF-198110-017	.0057	145	1.121	1.100
100/140/172	CF-198110-029	.0069	175	1.121	1.100
	CF-198110-29A	.0068	173.5	1.121	1.100
50/125	CF-198112-010	.0050	127	1.003	.900
62.5/125					
100/140	CF-198112-017	.0057	145	1.003	.900
100/140/172	CF-198112-029	.0069	175	1.003	.900
	CF-198112-29A	.0068	173.5	1.003	.900

† Additional sizes available upon request: consult Amphenol, Sidney, NY for availability.  
 \* Consult Amphenol, Sidney, NY for ordering information.

# Amphe-Lite Series

## application tools

The following data includes information pertaining to the application tools which have been established for crimping, inserting, and removing contacts incorporated in the Amphe-Lite Series connectors. For additional information on coaxial contact tools see catalog 12-130.

All crimping tools included are the "full cycling" type.

There is a possibility of additional crimping tools other than those included being available at present or in the future for this specific application.

### RECOMMENDED CRIMPING TOOLS

Contact Size/Type	Crimping Tool	Turret Die or Positioner
12 Pin and Socket	M22520/1-01	M22520/1-04
16 Pin and Socket	M22520/1-01 M22520/7-01	M22520/1-04 M22520/7-04
20 Pin and Socket	M22520/1-01 M22520/2-01 M22520/7-01	M22520/1-04 M22520/2-10 M22520/7-08
22D Pin	M22520/2-01 M22520/7-01	M22520/2-09 M22520/7-07
22D Socket	M22520/2-01 M22520/7-01	M22520/2-07 M22520/7-05
8 Twinax Center Pin and Socket	M22520/2-01	M22520/2-37
8 Twinax Intermediate Outer Pin & Socket	M22520/5-01	M22520/5-200

Contact Size/Type	Crimping Tool	Turret Die or Positioner
8 Coaxial Inner Pin and Socket	M22520/2-01	M22520/2-31
8 Coaxial Outer Pin and Socket	M22520/5-01	M22520/5-05 Die Closure B
	M22520/5-01	M22520/5-41 Die Closure B
	M22520/10-01	M22520/10-07 Die Closure B
16 Coaxial Inner Pin and Socket	M22520/2-01	M22520/2-35
16 Coaxial Outer Pin and Socket	M22520/4-01	M22520/4-02
12 Coaxial Inner Pin and Socket	M22520/2-01	M22520/2-34
12 Coaxial Outer Pin and Socket	M22520/31-01	M22520/31-02
10 (Power)	TP201423	1716P-1

Where 2 or 3 tools are listed for a contact size, only one tool and its die or positioner are required to crimp the contact.

The above crimping tools and positioners are available from the approved tool manufacturer.

### INSERTION TOOLS

Use with Contact Size	Plastic Tools		Metal Tools			
	MS Part Number	Color	Angle Type		Straight Type Proprietary Part Number	Color
			MS Part Number	Proprietary Part Number		
10 (Power)	M81969/14-05*	Gray / (White)	M81969/8-11	†	†	Green
12	M81969/14-04*	Yellow / (White)	M81969/8-09	11-8674-12	11-8794-12	Yellow
16	M81969/14-03*	Blue / (White)	M81969/8-07	11-8674-16	11-8794-16	Blue
20	M81969/14-10*	Red / (Orange)	M81969/8-05	11-8674-20	11-8794-20	Red
22D	M81969/14-01*	Green / (White)	M81969/8-01	11-8674-24	11-8794-24	Black
8 Coaxial	None Required					
8 Twinax	None		M81969/46-06**	None		Red

### REMOVAL TOOLS

Use with Contact Size	Plastic Tools		Metal Tools				
	MS Part Number	Color	For Unwired Contacts Proprietary Part Number	Angle Type		Straight Type Proprietary Part Number	Color
				MS Part Number	Proprietary Part Number		
10 (Power)	M81969/14-05*	(Gray) / White	†	M81969/8-12	†	†	Green / White
12	M81969/14-04*	(Yellow) / White	11-10050-11	M81969/8-10	11-8675-12	11-8795-12	Yellow / White
16	M81969/14-03*	(Blue) / White	11-10050-10	M81969/8-08	11-8675-16	11-8795-16	Blue / White
20	M81969/14-10*	(Orange) / Red	11-10050-9	M81969/8-06	11-8675-20	11-8795-20	Red / White
22D	M81969/14-01*	(Green) / White	11-10050-7	M81969/8-02	11-8675-24	11-8795-24	Green / White
8 Coaxial	M81969/14-12	Green	None	None	11-9170	DRK264-8††	N/A
8 Twinax	M81969/14-12	Green	None	M81969/46-12**	11-9170	N/A	N/A

The M81969/8, 11-8674, 11-8675, and 11-8794 metal contact insertion and removal tools will accommodate wires having the maximum outside diameter as follows: Contact size 12- .155, 16- .109, 20- .077, 22D- .050. When wire diameters exceed those specified, the plastic tools must be used.

\* Double end insertion/removal tool.

† To be determined.

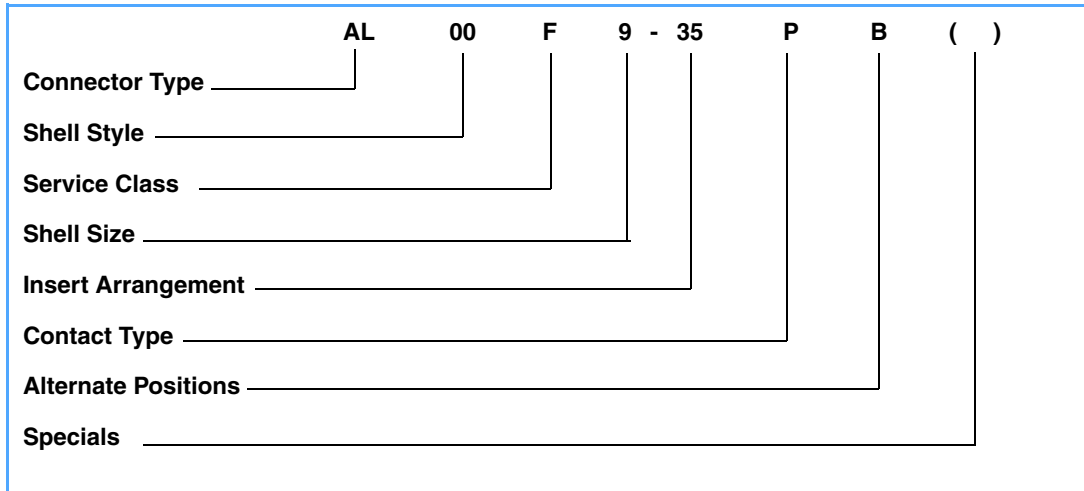
\*\* Twinax insertion tools are available only in a straight type, metal version..

†† Contact Daniels Manufacturing Co. for availability.

# Amphe-Lite Series

## how to order

Amphenol® Amphe-Lite Composite Connectors can be ordered by coded part number. Ordering procedure is illustrated by part number AL00F9-35PB as shown below:



### Connector Type

AL designates Amphe-Lite Connector Series

### Shell Style

00 designates wall mount receptacle  
06 designates straight plug  
07 designates jam nut receptacle

### Service Class

F electroless nickel plated composite  
U black composite, unplated  
X black zinc alloy, conductive, composite

### Shell Size

9 thru 25 available

### Insert Arrangement

See insert arrangement chart, page 3. See insert configurations illustrated on pages 5-8.

### Contact Type

P designates standard 500 cycle pin contacts  
S designates standard 500 cycle socket contacts

### Alternate Positions

Locksmith keying - rotation of minor keys. "N" not required for normal position, see page 4.

### Specials

Specials include optional contact styles and contact platings. Also includes a high decoupling style of Amphe-Lite. Consult Amphenol, Sidney, NY for part numbering suffix for specials.

### Standard Packaging

The Amphe-Lite Series is shipped with connectors and contacts packaged in bulk. Consult Amphenol, Sidney NY for special packaging requirements

# Amphe-Lite – capabilities

## fiber optics, filter contacts, flex termination, coax contacts

### FIBER OPTIC

Fiber optic termini connectors offer a precision optic interconnect system within the Amphe-Lite connector. The Amphe-Lite connector provides protection from damage in severe environmental and physical conditions. Optical performance is optimized utilizing the ceramic alignment features employed by the termini. Insertion losses are typically .8dB and can range from .5 to 1.5 dB, depending on test conditions.

See pages 18-20 for fiber optic termini features and how to order. Ask for publication 12-352 or contact Sidney, NY for more information on Amphenol Fiber Optic Connectors.

Also available with MT and LC termination within an Amphe-Lite shell kit. Contact Amphenol, Sidney for more information.



Fiber Optics

### FILTER CONTACTS FOR EMI PROTECTION

EMI shielding protection devices can be integrated into the Amphe-Lite connector to provide a cost effective alternative to discrete devices mounted inside the box. These unique, high performance designs provide weight and space savings necessary for modern electronic systems.

Ask for publication 12-120 or contact Amphenol, Sidney, NY for complete information on Amphenol Filter/Transient Protection Connectors.



Filter Contacts



Flex Termination Assemblies

### FLEX TERMINATION ASSEMBLIES FOR PRINTED CIRCUIT BOARD APPLICATIONS

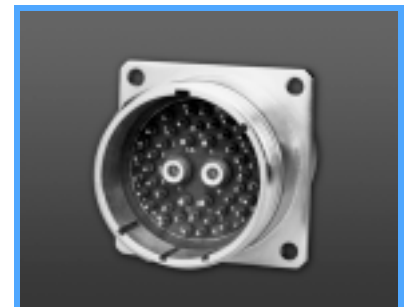
Amphenol provides flex termination assemblies for printed circuit board attachment. Flex circuits are available for Amphe-Lite connectors in flat or sculptured styles. Sculptured® Flexible Circuits with built-in terminations eliminate the failures associated with crimped or solder-on contacts, and they are designed to geometrically fit the tight space requirements within a unit. They plug into a printed circuit board and create a self-locking terminal pad which eliminates the need for an additional interconnect to the PCB.

Ask for catalog 12-170, Amphenol Cylindrical Connectors for PCB Applications.

### CONNECTORS WITH COAX CONTACTS

For shielded wire applications, coaxial contacts can be incorporated into Amphe-Lite connectors. Designed-in crimp or solder types are available to fit various RG and special cables. High performance coaxial contacts eliminate discontinuities or impedance variations due to movement of parts under axial load.

For further information on coax contacts ask for catalog 12-130.



Coax Contacts