

Metal-Shell Micro Circular with Spring-Loaded Contacts

Revised 01/06

1654950

DESCRIPTION

- Small, rugged circular connector for Military and Aerospace, Medical and Industrial, applications
- 2 shell sizes M11 (7 pos.) and M14 (19 pos.)

APPLICATIONS

- Military & Aerospace
- Medical Equipment
- Instrumentation & Test Equipment
- Portable Computing, Data Management, Communications and Sensing Devices
- Rugged Solution for Gigabit Ethernet and USB 2.0
- Outdoor Applications



KEY FEATURES

- High cycle life spring probe and pad contact interface – 5000+ mating cycles
- Threaded coupling mechanism
- High density for limited space applications
- Multiple shell sizes and keying configurations
- Resistant to autoclaving (1000 cycles @ 275°F [135°C]) or chemical sterilization (500 cycles)
- Jam nut style, rear panel mounting
- Precision, screw machine contacts
- No assembly or application tools required
- Environmentally sealed (IP67) and shielded
- High performance at lower cost
- Alternate pin and socket contact interface available
- Matte black, low reflectivity finish
- Optimized wiring pattern of standard connector configuration - 8 position Ethernet
- Single piece adapter for shield termination and overmolding

MECHANICAL

- Threaded coupling
- 5000 minimum mating cycles with spring probe contacts
- Environmentally sealed, IP 67 - water immersion, 1M for 30 minutes (in mated condition)
- Overmold or heat-shrink tubing for sealing and strain relieving
- Wire Size: 30-24 AWG [0.06-0.2 mm²] (24 AWG wire is solid or 7-strand only)
- Termination: Solder
- Max. Operating Temperature: 392°F [200°C]

MATERIALS

- **Spring Probe Pin:** Brass, 10 µin. [.25 µm] gold finish over nickel on mating end, tin-lead over nickel on solder cup/tail
- **Spring Probe Pad:** Brass, 30 µin. [.76 µm] gold finish over nickel on entire contact
- **Shell:** Black chrome plated (Nickel plated brass option)
- **Insulator:** High temperature thermoplastic, white

STANDARDS & SPECS

- Design Objectives: 108-2169
- Spring Probe Product Specification: 108-1943

FOR MORE INFORMATION

Technical Support

Internet: www.tycoelectronics.com
E-mail: newproducts@tycoelectronics.com

USA: 1-800-522-6752
Canada: 1-905-470-4425
Mexico: 01-800-733-8926
C. America: 52-55-5-792-0425

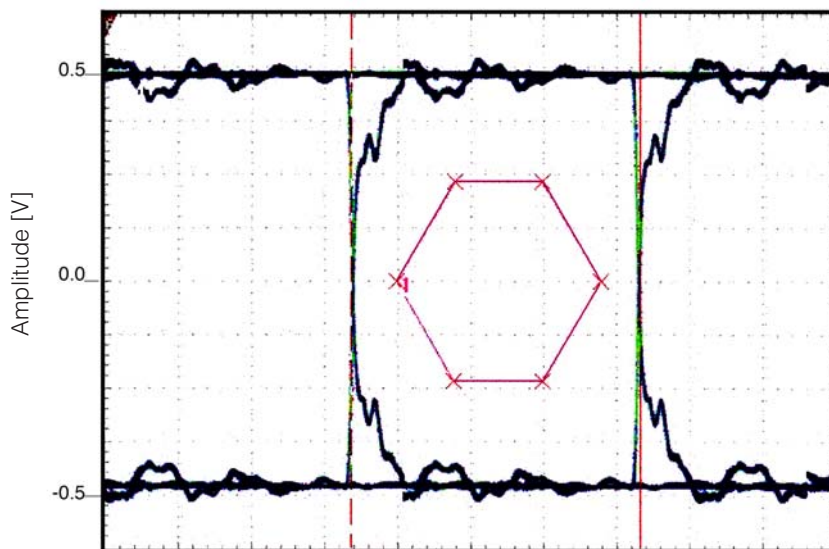
South America: 55-11-3611-1514
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Metal-Shell Micro Circular *with Spring-Loaded Contacts*

ELECTRICAL

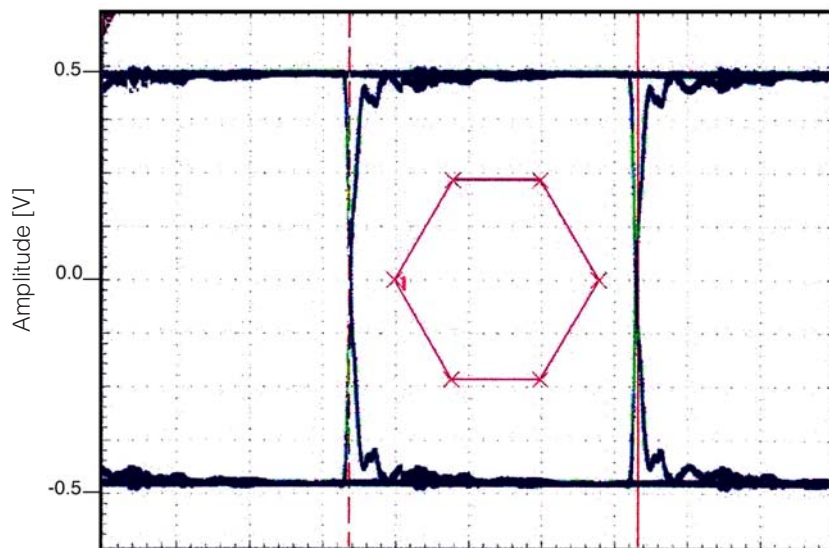
- Current Carrying Capacity: 2 AMP - UL
1.3 AMP - CSA
- Operating Voltage: 200 VAC max.
- Termination Resistance: 20 mOhm max.

Eye Pattern (Time Domain Measurement of Voltage vs. Time)
Pin and Socket Contact System



Eye Pattern Mask Created per USB 2.0 Specification
480 Mb/s Data Rate

Eye Pattern (Time Domain Measurement of Voltage vs. Time)
Spring Probe Contact System



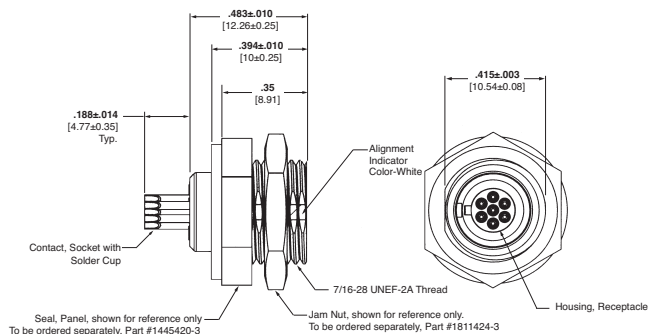
Eye Pattern Mask Created per USB 2.0 Specification
480 Mb/s Data Rate

Metal-Shell Micro Circular with Spring-Loaded Contacts

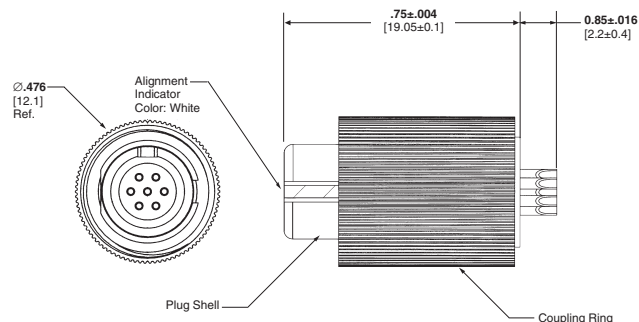
PRODUCT OFFERING

Shell Size M11 (7 Position shown)

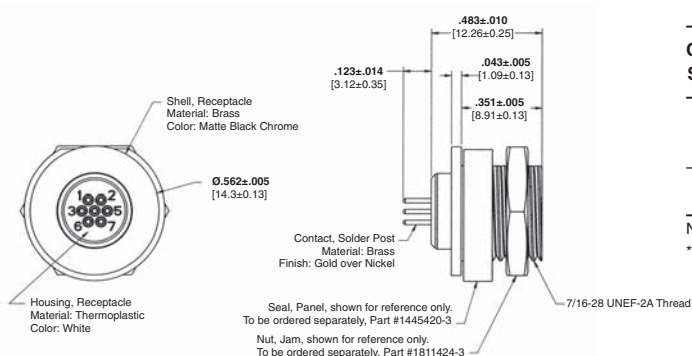
Receptacle Assembly, Solder Cups



Plug Assembly, Pin Contacts



Receptacle Assembly, Board Mount

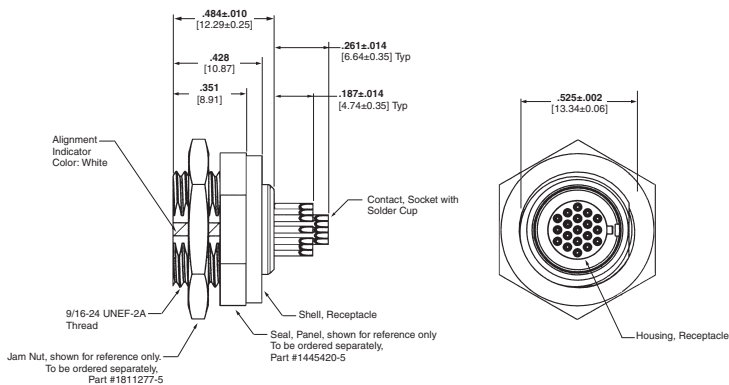


Contact System	Shell Size	No. of Pos.	Rear Panel Mount		
			Solder Cup Receptacle	Plug	Solder Tail Receptacle
Spring	M11	7	1604750-2	1738548-2	1811577-1
	M14	8*	1877236-1	1877007-1	1877666-1
Probe	M14	19	1738553-2	1738552-2	1811547-1
	M11	7	1738547-2	1738541-2	1811578-1
Socket	M14	19	1738551-2	1738550-2	1811579-1

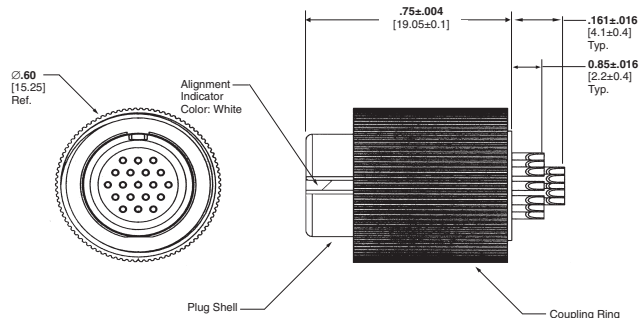
Note: Bright Nickel finish available.
*Ethernet configuration

Shell Size M14 (19 Position shown)

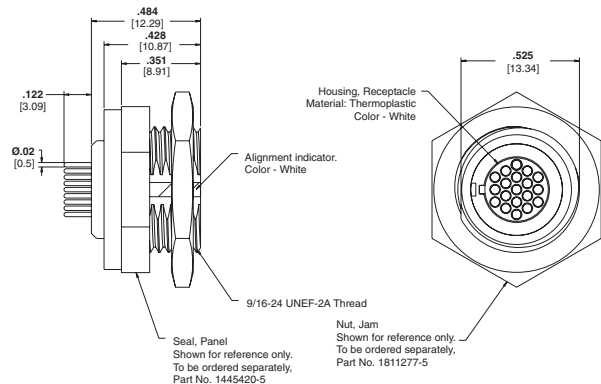
Receptacle Assembly, Solder Cup



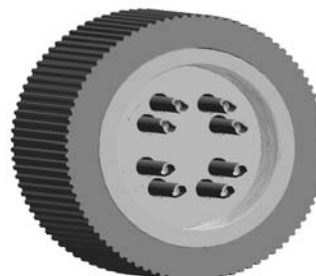
Plug Assembly



Receptacle Assembly, Board Mount



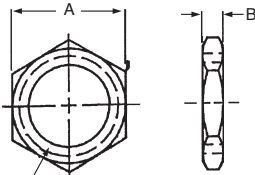
Ethernet Assembly, 8 Position



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ACCESSORIES

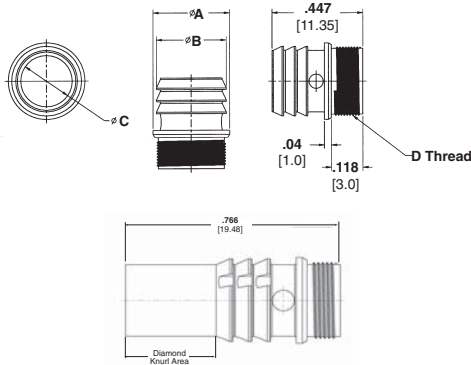
Jam Nuts



See table for threads

Shell Size	Dimensions		Thread	Finish	Part Number
	A	B			
M11	0.553 [14.05]	0.093 [2.36]	7/16-28 UNEF-2B	Black Chrome	1811424-3
M14	0.750 [19.05]	0.093 [2.36]	9/16-24 UNEF-2B	Black Chrome	1811277-5

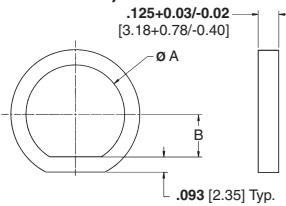
Overmold Adapter



Shell Size	Dimensions			Thread	Part Number
	A	B	C		
M11	.326 [8.29]	.295 [7.5]	.193 [4.9]	5-16 - 32 UNEF-2A	1604366-4
M14	.424 [10.76]	.385 [9.8]	.283 [7.2]	0.380-64 Special	1604366-3
M14* Ext.	.326 [8.29]	.316 [8.04]	.230 [5.84]	5/6-32 UNEF-2A	1604366-7

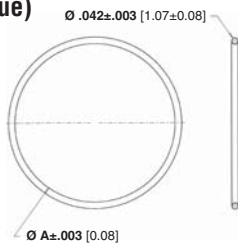
*Extended Adapter for Shield Termination and Overmold

Panel Seals – Closed Cell Neoprene Sponge (color - black)



Shell Size	Dimensions		Part Number	Panel Mount
	A	B		
M11	0.430 [10.9]	0.177 [4.5]	1445420-3	Rear
M14	0.551 [14.0]	0.236 [6.0]	1445420-5	Rear

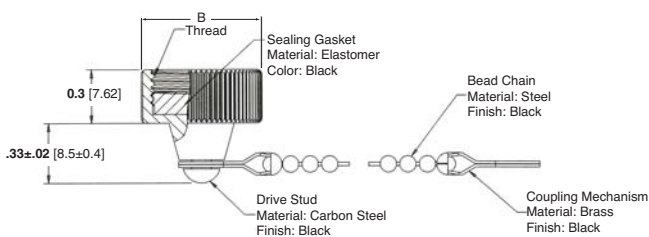
Panel Seals – Fluorosilicone O-Ring* (color - blue)



Shell Size	Dimension A	Part Number	Panel Mount
M14	.571±.005 [14.52±0.13]	1877244-2	Rear

*Note: Optional - replaces closed cell neoprene panel seal

Dust Caps



Shell Size	Dimension B±0.25	Thread	Finish	Part Number
M14	17	9/16-24 UNEF-2B	Black Chrome	1738941-4

Note: Bright Nickel finish available.