molex

AirBorn TriMate

Rugged Circular Connectors

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AirBorn TriMate

Molex AirBorn TriMate Connectors perform at a level that meets or exceeds legacy MIL-DTL-38999 connectors, while being manufactured in a smaller, lighter and easier-to-install connector package. These connectors help manufacturers simplify their bill of material (BOM) by employing a common receptacle to mate with three different plug types: threaded plug, push-pull plug and break-away plug.









Applications

Military & Defense

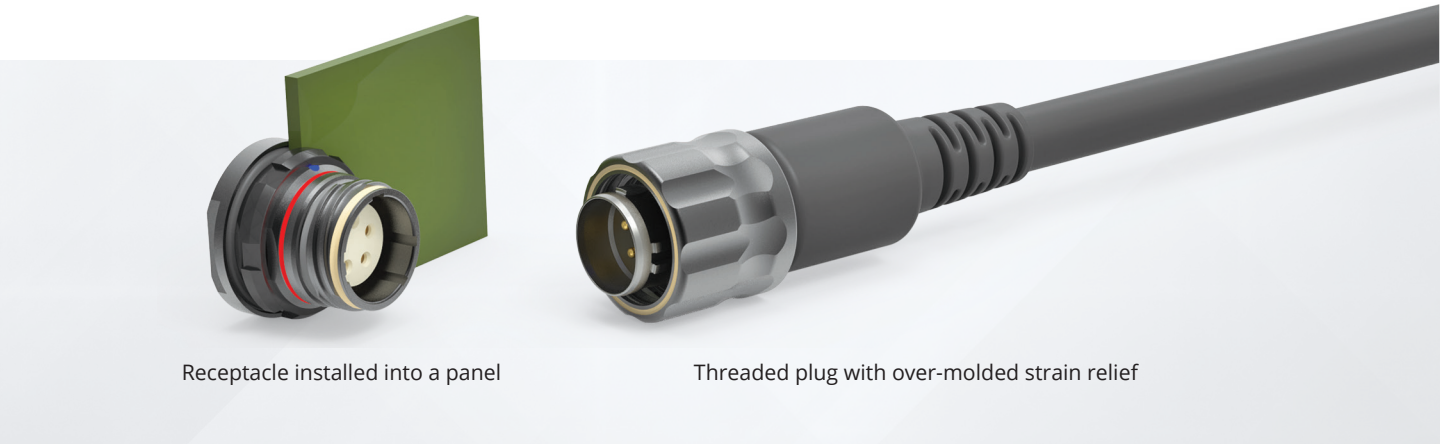
- Radar systems
- Portable radios
- Ground vehicles
- Drones (UAVs)
- Training equipment
- Autonomous equipment
- Robotic systems
- Power distribution systems
- Electronic warfare
- COTS – industrial computing

Industrial

- Factory automation
- Heavy equipment
- Mining electronics
- Off-highway transportation
- Rail
- Construction

About AirBorn TriMate

The three AirBorn TriMate connector forms include both connectors and pre-tested cable assemblies, each tailored to exact specifications. Overmolded strain reliefs offer benefits in size, weight and sealing.

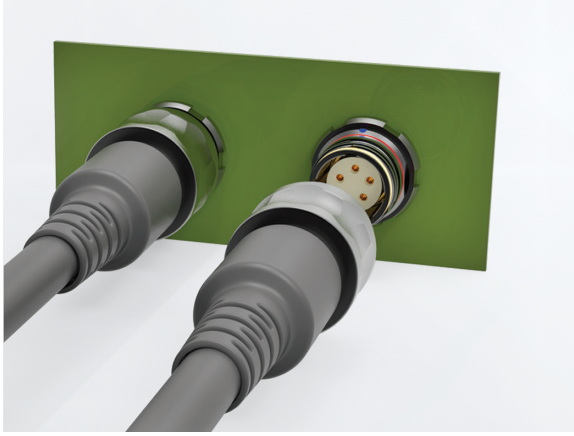


Receptacle installed into a panel

Threaded plug with over-molded strain relief

Threaded Connections

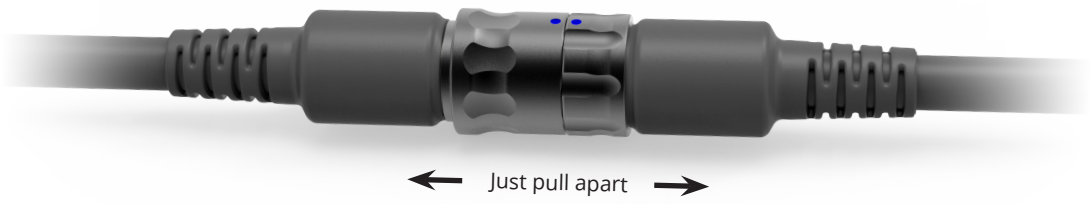
Often used in commercial and military aircraft, the ratcheting triple-start thread provides a quick-threaded coupling. Threaded connections resist loosening in high-vibration environments.



Push-Pull Connections

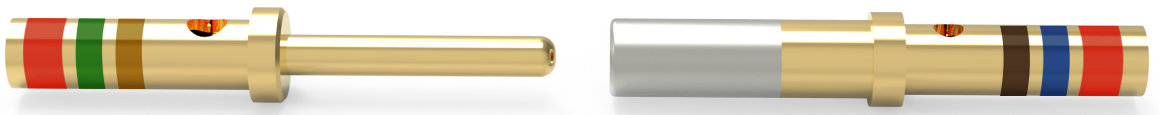
Often used in applications requiring a higher density of connector installations, the push-pull latching style requires less space to mate and un-mate. The design provides a secure fitting while allowing easy un-mating by pulling on the coupling ring.

In applications like these, it can be difficult to mate and un-mate threaded connectors because there is little room for a human hand to turn the connectors. Push-pull connectors work well in these applications while still maintaining a secure connection.



Break-Away Connections

The AirBorn TriMate break-away connectors feature an easy push-on, pull-off design, ideal for applications where frequent un-mating and quick decoupling are required. This design eliminates the need to pull back the coupling ring, allowing rapid disconnection when needed. This feature has been used in applications such as soldier-wearable connections, where quick un-mating is essential to accommodate urgent disconnection needs in critical situations.

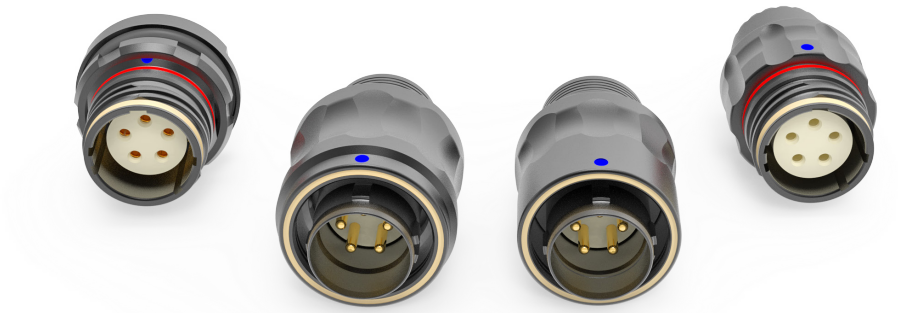


MIL-C-39029 Contacts

Dependable MIL-C-39029 Contacts

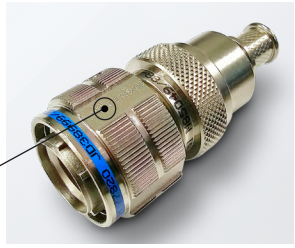
Since electrical connection integrity is vital to safe and successful flights and missions, AirBorn TriMate connectors use proven MIL-C-39029 contacts that have been trusted in in countless applications since their introduction. The solid-body pin and socket construction, along with anti-overstress socket hoods, ensure complete reliability.

If a higher-density configuration is required, Molex offers alternatives to the MIL-STD contacts. With heavy gold plating (0.050 microinch) and quick, triple-start ratcheted threaded coupling, AirBorn TriMate contacts excel in high-vibration environments inherent in Mil-Aero and industrial applications.

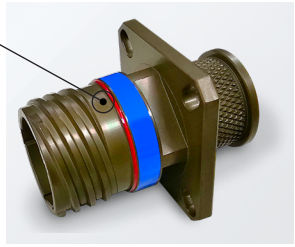


Grey tin-nickel — similarly referred to as black zinc-nickel

Compare with many legacy circular connectors



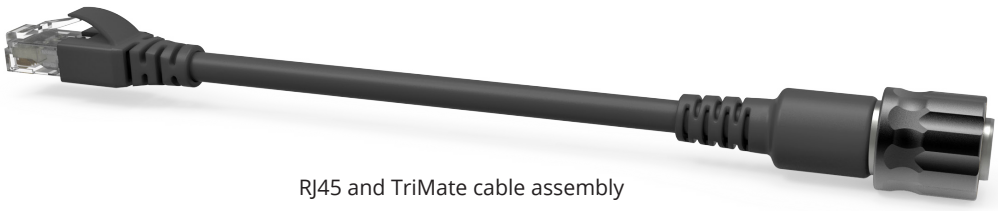
Stainless steel is highly reflective.



Built Tough and Responsibly

Environmentally responsible platings have also been incorporated into the AirBorn TriMate connectors. A grey tin-nickel electroless finish is used to reduce reflectivity and provide superior corrosion resistance.

Grey tin-nickel provides similar appearance and performance to traditional black-zinc nickel.

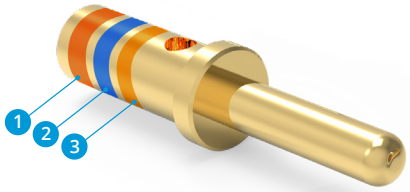


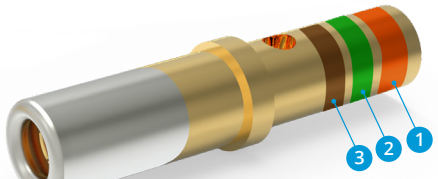
RJ45 and TriMate cable assembly

Designed for Ease of Use

AirBorn TriMate connectors are engineered for easy overmolding, enabling improved ergonomics and a refined industrial appearance. Fully tested overmolded cable assemblies are available and can be configured to customer specifications. For simplified mating, the connectors are compatible with a wide selection of standard MIL-DTL-38999 backshells and banding accessories.

Contacts





General Information

AirBorn TriMate was designed to employ industry-standard MIL-C-39029 contacts (now superseded as the SAE-AS39029 specification), used throughout aviation and defense applications. For new applications, higher-density contact options are also available to support increased packaging density.

Contacts are defined by the maximum termination cross section:
Contact size #16 ⟶ AWG 16-20
Contact size #20MD ⟶ AWG 20-24
Contact size #22D ⟶ AWG 22-26

Current-Carrying Capacity

Current-carrying capacity is determined by the maximum operating temperature of the contacts. At higher ambient temperature conditions, the contacts have a reduced current-carrying capacity. Another standard used to assess UL, CSA and other agency ratings is based on temperature rise. The current that produces a 30˚C temperature rise above ambient is defined as the maximum-current per contact. The graphs compare both methods.

Contact Description

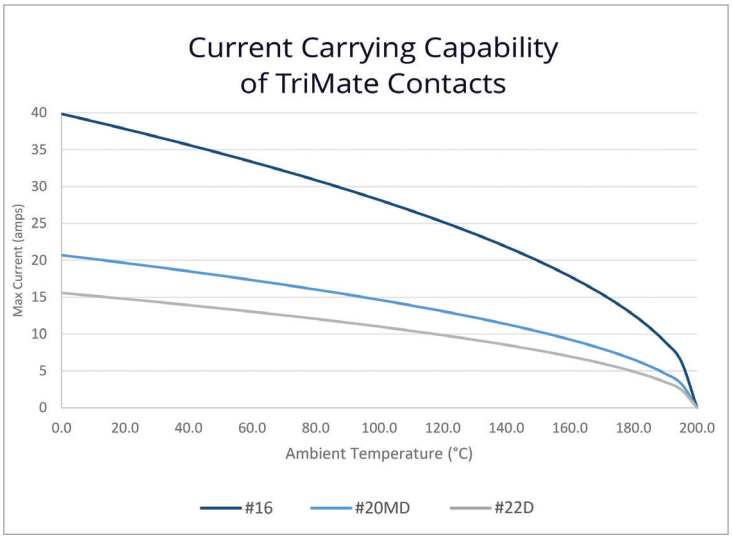
MIL contacts have a BIN (Basic Identification Number) code consisting of three color bands around the crimp barrel. There are 10 colors, which designate a number.

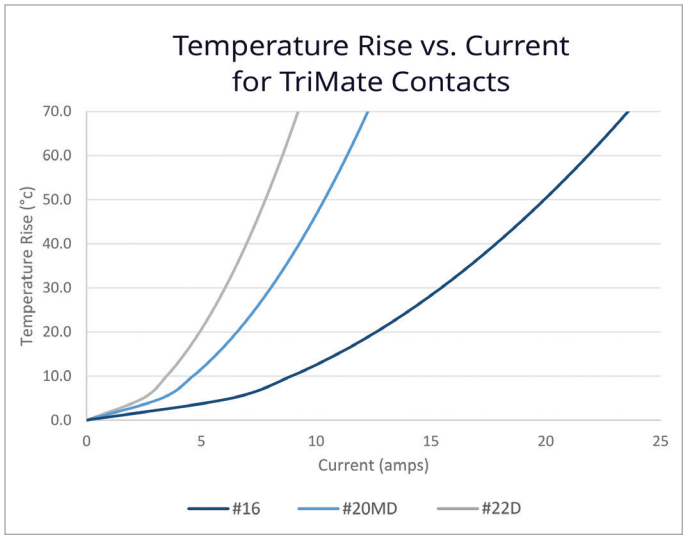
0 - BLACK	1 - BROWN	2 - RED	3 - ORANGE	4 - YELLOW
5 - GREEN	6 - BLUE	7 - VIOLET	8 - GRAY	9 - WHITE

Advantages

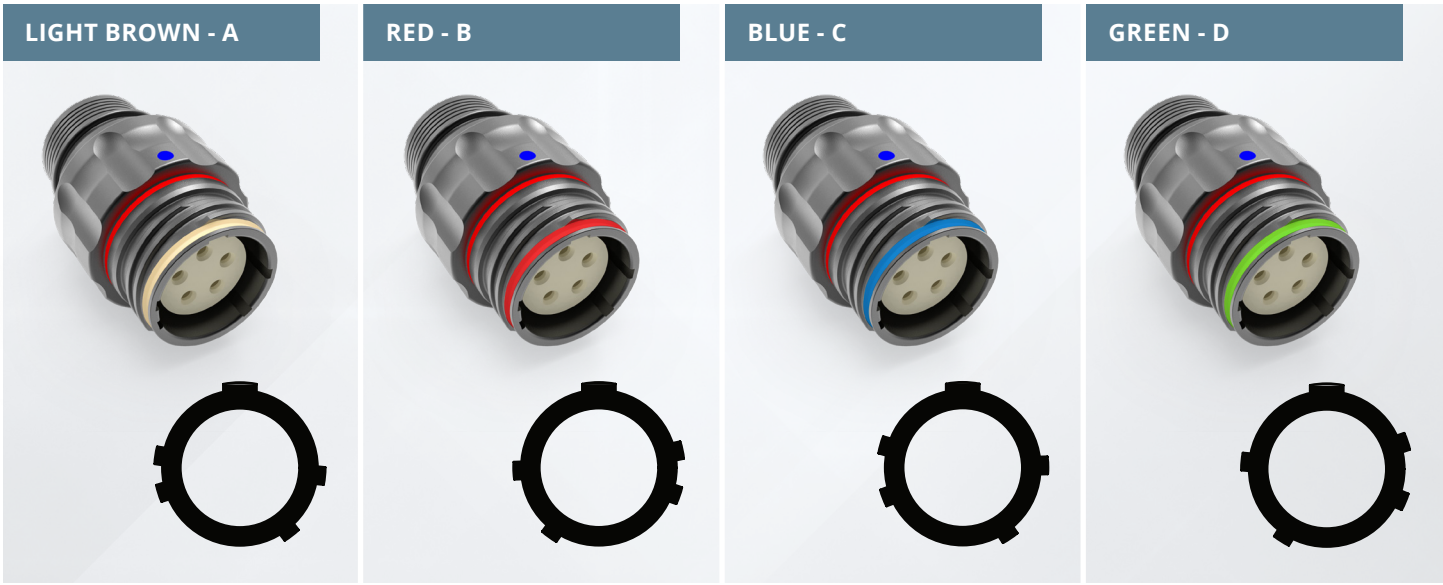
- Long proven and reliable components
- Interchangeable for repair and modification
- Field assembly possible
- Easy identification of contacts

Type	Size	AWG	Part No.	MIL Part No.
Pin	16	20-16	N/A	M39029/58-364
Socket			N/A	M39029/57-358
Pin	20MD	24-20	TMC-P20MD	N/A
Socket			TMC-S20MD	N/A
Pin	22D	26-22	N/A	M39029/58-360
Socket			N/A	M39029/57-354





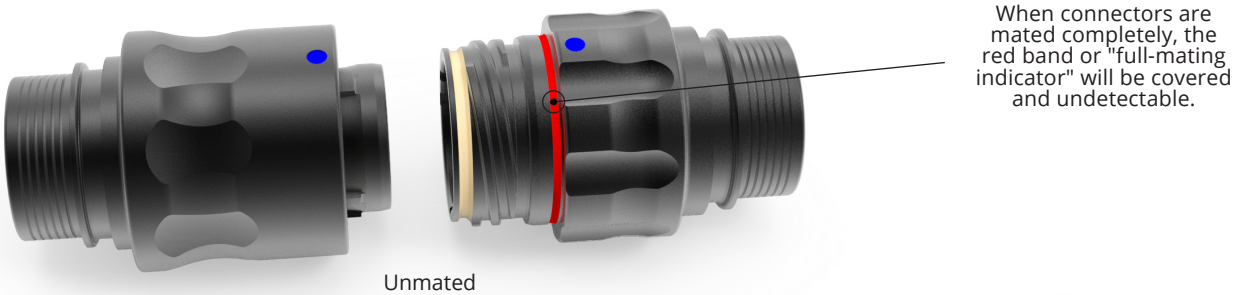
Keying/Coding



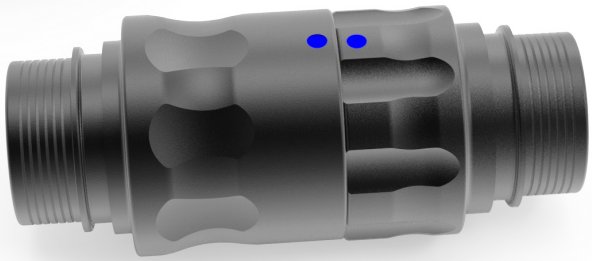
Keying, Coding, and the Full-Mate Indicator

The terms "keying" and "coding" are often used interchangeably. Their intent is to specify standard connector sizes and configurations, while preventing the wrong connectors from being mated. In the graphic above, the AirBorn TriMate connector on the far left is manufactured with Key A geometry, while the connector on the far right is manufactured to Key D geometry. The only plug that will mate is another shell size 9, 5 position with matching key geometry.

AirBorn TriMate has four different key geometries–A, B, C and D–machined into each plug and receptacle to simplify mating. Each key comes marked with a different color band (light brown, red, blue, and green) to provide a quick and easy visible indicator of the correct connector mate.



Unmated



Mated

The "full-mate indicator" is a colored band that becomes hidden when the connectors are fully mated. The unmated image above shows the red colored band that disappears when both connector halves are joined.

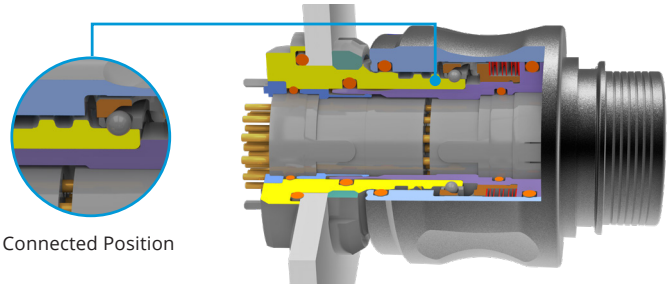
Plugs

INTEGRATED SHIELD TERMINATION EXIT

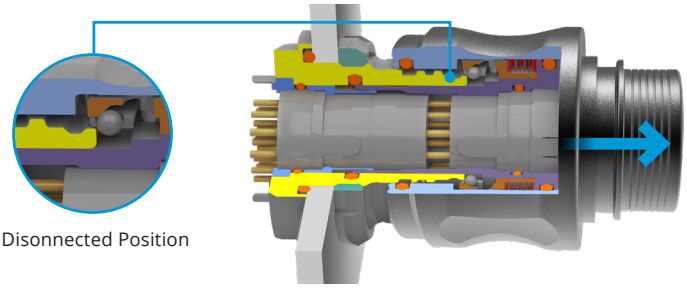
Style P-S | Style B-S | Style T-S

REAR ACCESSORY THREAD EXIT

Style P-T | Style B-T | Style T-T



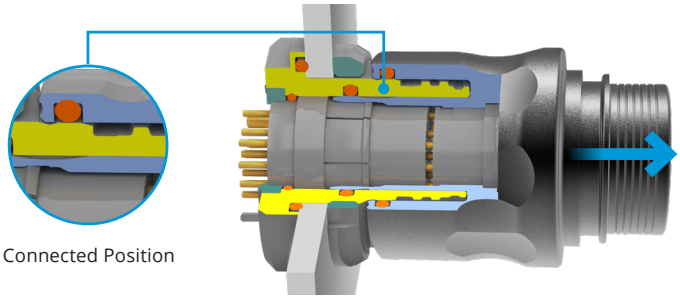
Connected Position



Disonnected Position

Push-Pull Coupling

AirBorn TriMate's proprietary locking system uses a ball-and-groove design to minimize space and ensure a consistent, reliable retention force. Pulling on the cable has no effect on the locking mechanism; uncoupling is initiated by pulling on the coupling ring.



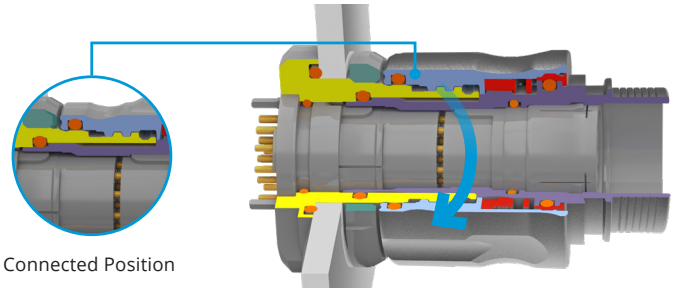
Connected Position

Break-Away Coupling

The break-away locking system is similar to the push-pull design but without the ball locking, while preserving the stout mating force. To uncouple, pull axially along the connector or when using an overmolded cable, pull anywhere along the cable until separated.

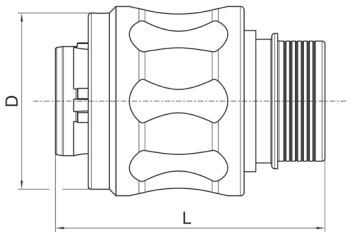
Threaded Coupling

AirBorn TriMate connectors have an improved tri-start threaded coupling system, featuring a ratcheting design that resists vibration. While similar to the MIL-DTL-38999 tri-start threads, AirBorn TriMate also includes additional peripheral sealing to keep dust, dirt, and moisture from the connector interface.



Connected Position

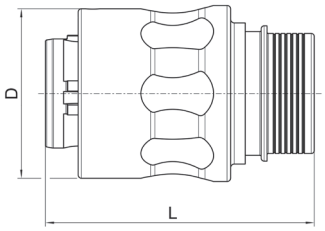
STYLE P-S: PUSH/PULL



Integrated Shield Termination Exit

Shell Size	L inches (mm)	D inches (mm)
09 E	1.20" (30.5)	.755" (19.2)
12 H	1.45" (37)	.952" (24.2)

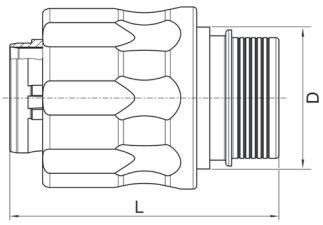
STYLE B-S: BREAK AWAY



Integrated Shield Termination Exit

Shell Size	L inches (mm)	D inches (mm)
09 E	1.20" (30.5)	.692" (17.6)
12 H	1.45" (37)	.917" (23.3)

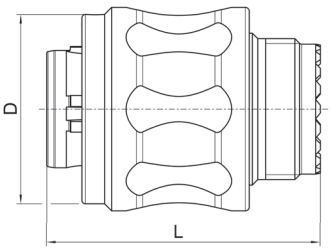
STYLE T-S: THREADED LOCK



Integrated Shield Termination Exit

Shell Size	L inches (mm)	D inches (mm)
09 E	1.20" (30.5)	.527" (13.4)
12 H	1.45" (37)	.763" (19.4)

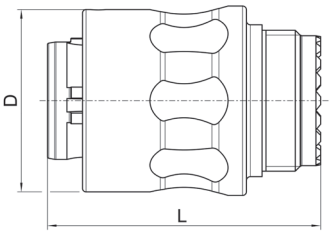
STYLE P-T: PUSH/PULL



Rear Accessory Thread Exit

Shell Size	L inches (mm)	D inches (mm)
09 E	1.12" (28.5)	.755" (19.2)
12 H	1.37" (35)	.952" (24.2)

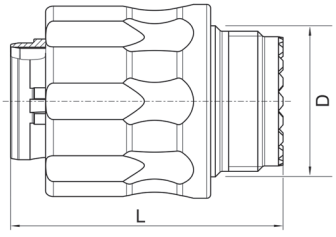
STYLE B-T: BREAK AWAY



Rear Accessory Thread Exit

Shell Size	L inches (mm)	D inches (mm)
09 E	1.18" (30)	.692" (17.6)
12 H	1.37" (35)	.917" (23.3)

STYLE T-T: THREADED LOCK

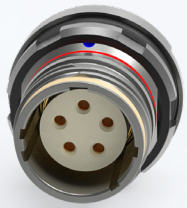


Rear Accessory Thread Exit

Shell Size	L inches (mm)	D inches (mm)
09 E	1.12" (28.5)	.527" (13.4)
12 H	1.37" (35)	.763" (19.4)

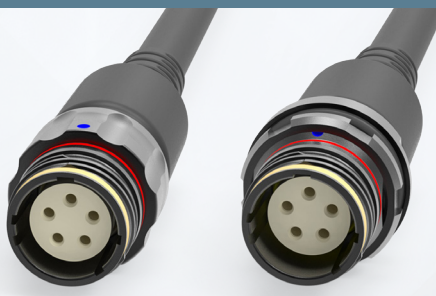
Receptacles

REAR PANEL MOUNT



Style J-N: Solder Cup or PTH

INTEGRATED SHIELD TERMINATION EXIT

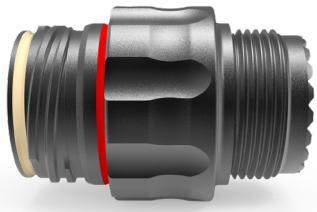


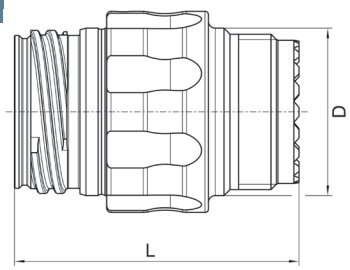
Style L-S Style J-S

REAR ACCESSORY THREAD EXIT

Style L-T Style J-T

STYLE L-T: IN-LINE CABLE-MOUNT

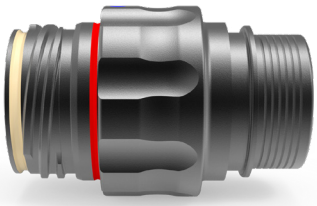


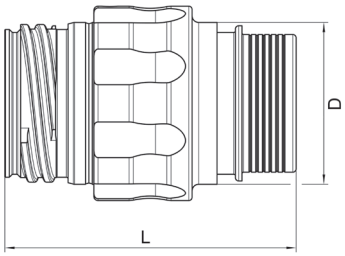


Rear Accessory Thread Exit

Shell Size	L inches (mm)	D inches (mm)
09 E	1.11" (28.4)	0.527" (13.4)
12 H	1.29" (33)	0.763" (19.4)

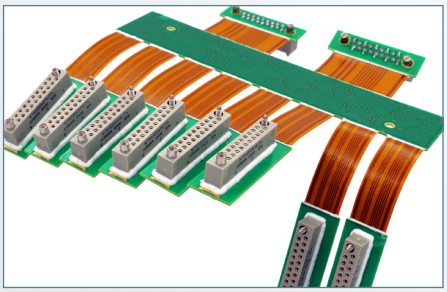
STYLE L-S: IN-LINE CABLE-MOUNT

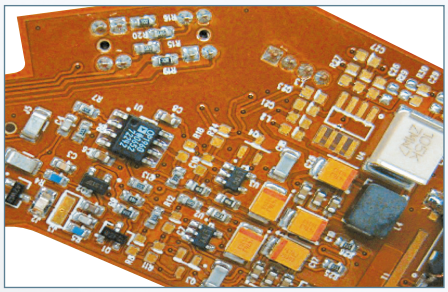


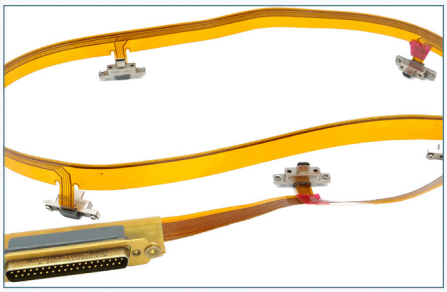


Integrated Shield Termination Exit

Shell Size	L inches (mm)	D inches (mm)
09 E	1.19" (30.4)	0.527" (13.4)
12 H	1.37" (35)	0.763" (19.4)



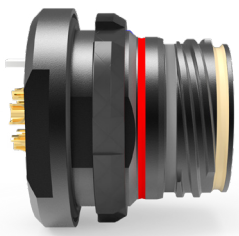




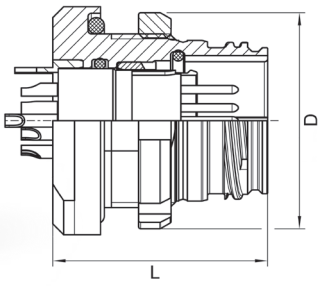
Flexible Circuits

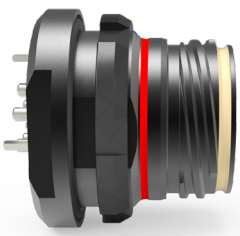
Early-stage technical support is available to assist system and device designers in addressing interconnect design requirements using a range of flex circuit options. Flexible circuits extend beyond jumpers to fully developed, rigid-flex circuit boards supporting PCB components.

STYLE J-N: REAR PANEL MOUNT

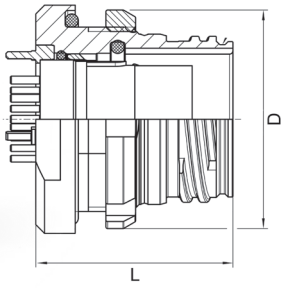


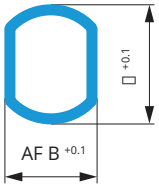
Solder Cup





PTH





Solder Cup

Shell Size	L inches (mm)	D inches (mm)
09 E	0.779" (19.8)	0.783" (19.9)
12 H	0.885" (22.5)	0.980" (24.9)

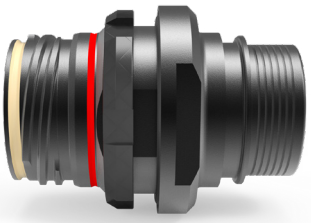
Plated Through Hole

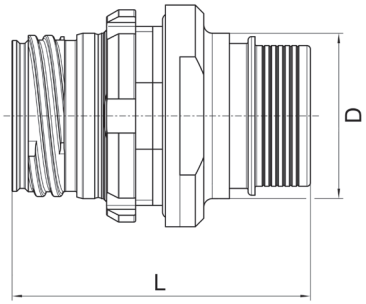
Shell Size	L inches (mm)	D inches (mm)
09 E	0.779" (19.8)	0.783" (19.9)
12 H	0.818" (20.8)	0.980" (24.9)

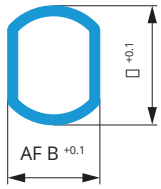
Panel Cutout

Shell Size	AF B inches (mm)	∅ inches (mm)
09 E	0.594" (15.1)	0.633" (16.1)
12 H	0.771" (19.6)	0.830" (21.1)

STYLE J-S: IN-LINE PANEL-MOUNT JAM-NUT







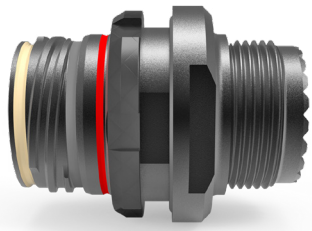
Integrated Shield Termination Exit

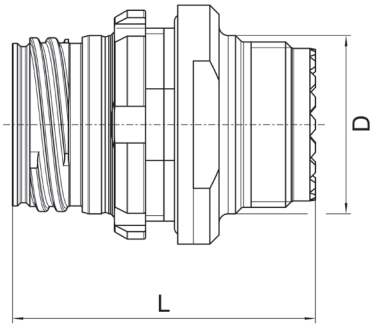
Shell Size	L inches (mm)	D inches (mm)
09 E	1.19" (30.4)	0.527" (13.4)
12 H	1.37" (35)	0.763" (19.4)

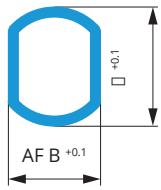
Panel Cutout

Shell Size	AF B inches (mm)	∅ inches (mm)
09 E	0.594" (15.1)	0.633" (16.1)
12 H	0.771" (19.6)	0.830" (21.1)

STYLE J-T: PANEL-MOUNT JAM-NUT







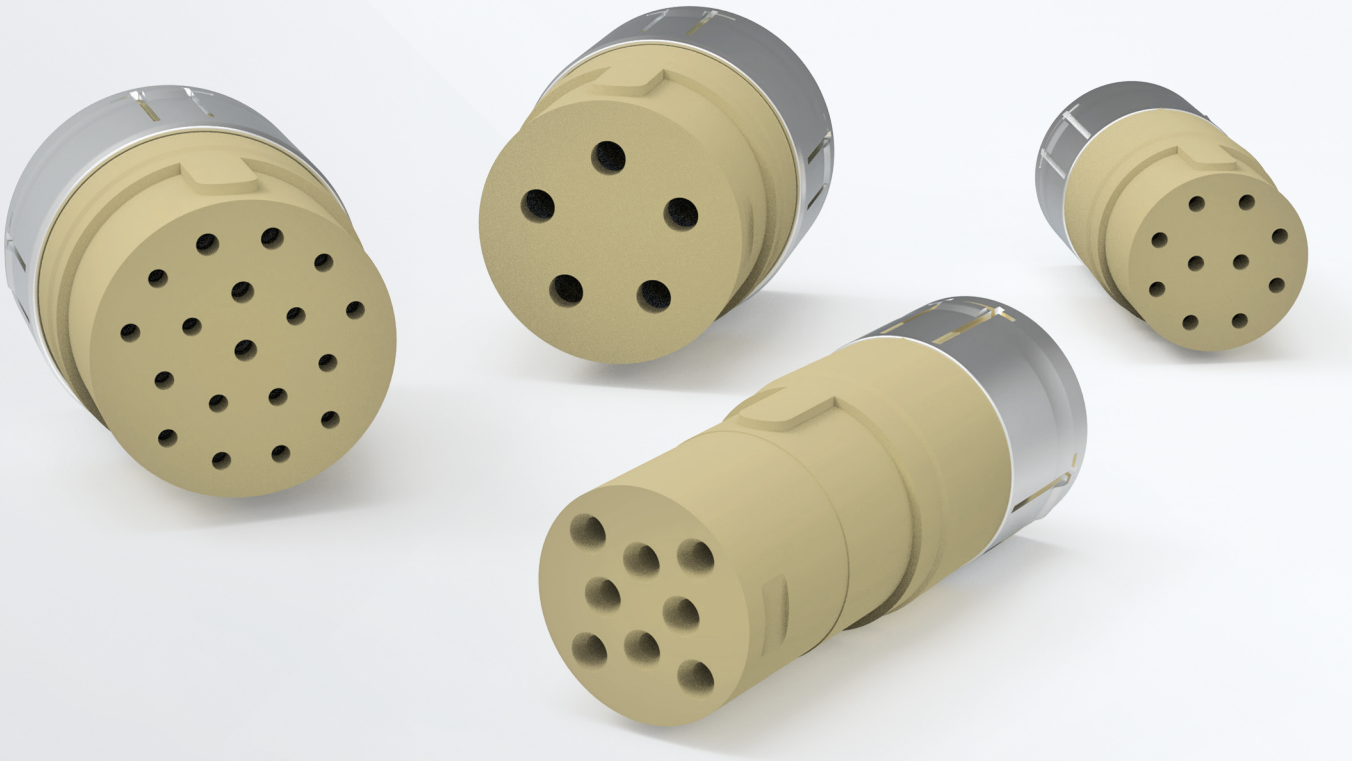
Rear Accessory Thread Exit

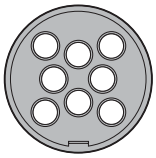
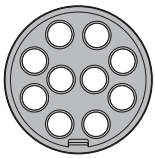
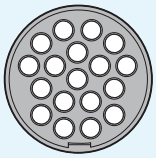
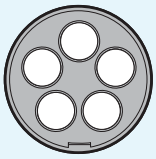
Shell Size	L inches (mm)	D inches (mm)
09 E	1.13" (28.9)	0.527" (13.4)
12 H	1.29" (33)	0.763" (19.4)

Panel Cutout

Shell Size	AF B inches (mm)	∅ inches (mm)
09 E	0.594" (15.1)	0.633" (16.1)
12 H	0.771" (19.6)	0.830" (21.1)

Insert Sizes



Shell Size	Insert Code	Insert	# Contacts	Performance	Description
9	008A		8 - Size 22D	Up to 5A per contact Cat 5 up to 1GB capable	Crimp-snap, removable contacts
	010A		10 - Size 22D	Up to 5A per contact	Crimp-snap, removable contacts
12	018A		18 Contacts 4 20MD 14 22D	Size 22D - 5A per contact Size 20MD - 7.5 amps per contact	Crimp-snap, removable contacts
	005A		5 - Size 16	Up to 13A per contact	Crimp-snap, removable contacts

Configurations

Plugs

Sample Part Number: TMP-TTAN09-008APC00A

TM	P	–			A	N			C	0	0	

SERIES
AirBorn
TriMate

GENDER
P – Plug

CONNECTOR STYLE
T – Threaded
P – Push-pull
B – Break-away

CABLE EXIT
T – Rear accessory thread
S – Integrated shield termination (IST)

SHELL MATERIAL
A – Aluminum

SHELL PLATING
N – TinNickel

SHELL SIZE - # POS INSERT CODE
09-008A
09-010A
12-005A
12-018A

CONTACT GENDER
P – Pin
S – Socket

CONTACT TERMINATION
C – Crimp

TERMINATION SIZE/LENGTH
0 – Standard

CONTACT FINISH
0 – Standard

KEYING
A – Lt. Brown
B – Red
C – Blue
D – Green

NOTE: Please consult molex.com to configure your part number and for the latest revision-controlled drawing and technical data.

Cable Receptacles

Sample Part Number: TMR-LTAN09-008ASC00A

TM	R	–			A	N			C	0	0	

SERIES
AirBorn
TriMate

GENDER
R – Receptacle

CONNECTOR STYLE
L – In line
J – Jam nut mount

CABLE EXIT
T – Rear accessory thread
S – Integrated shield termination (IST)

SHELL MATERIAL
A – Aluminum

SHELL PLATING
N – TinNickel

SHELL SIZE - # POS INSERT CODE
09-008A
09-010A
12-005A
12-018A

CONTACT GENDER
P – Pin
S – Socket

CONTACT TERMINATION
C – Crimp

TERMINATION SIZE/LENGTH
0 – Standard

CONTACT FINISH
0 – Standard

KEYING
A – Lt. Brown
B – Red
C – Blue
D – Green

NOTE: Please consult molex.com to configure your part number and for the latest revision-controlled drawing and technical data.

PCB & Solder Cup Receptacles

Sample Part Number: TMR-JNAN09-008ASS00A

TM	R	–	J	N	A	N				0	0	

SERIES
AirBorn
TriMate

GENDER
R – Receptacle

CONNECTOR STYLE
J – Jam nut mount

CABLE EXIT
N – None

SHELL MATERIAL
A – Aluminum

SHELL PLATING
N – TinNickel

SHELL SIZE - # POS INSERT CODE
09-008A
09-010A
12-005A
12-018A

CONTACT GENDER
P – Pin
S – Socket

CONTACT TERMINATION
S – Solder cup
P – Plated through hole

TERMINATION SIZE/LENGTH
0 – Standard

CONTACT FINISH
0 – Standard

KEYING
A – Lt. Brown
B – Red
C – Blue
D – Green

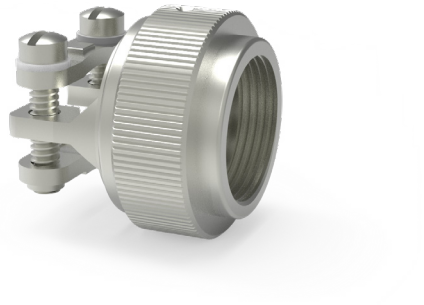
NOTE: Please consult molex.com to configure your part number and for the latest revision-controlled drawing and technical data.

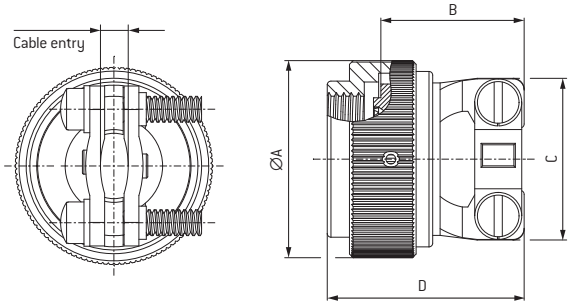
Backshells/Strain Relief

Wire and Cable Protection

AirBorn TriMate connectors are designed to be compatible with a wide variety of existing cable clamp strain relief accessories. A few are listed below:

SUITABLE FOR CB/SB/AB/GB/KB

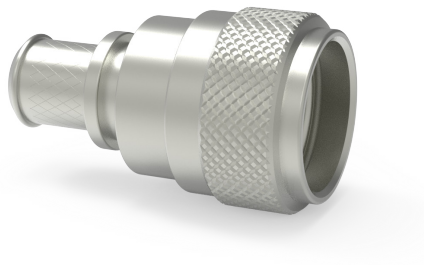


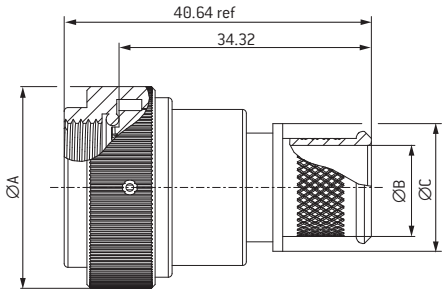


Material	CuTeP
Plating	Nickel

Shell Size		MIL-Part No.	∅ in inches (mm)	Dimensions in inches (mm)			Cable Entry in inches (mm)	
Connector	Backshell		A	B	C	D	Min.	Max.
9	9	M85049/38S9N	0.751" (19.1)	0.909" (23.1)	0.850" (21.6)	1.09" (27.9)	0.098" (2.5)	0.232" (5.9)
12	13	M85049/38S13N	1" (25.4)	1.01" (25.7)	1.09" (27.9)	1.21" (30.8)	0.188" (4.8)	0.326" (8.3)

SUITABLE FOR CB/SB/AB/GB/KB



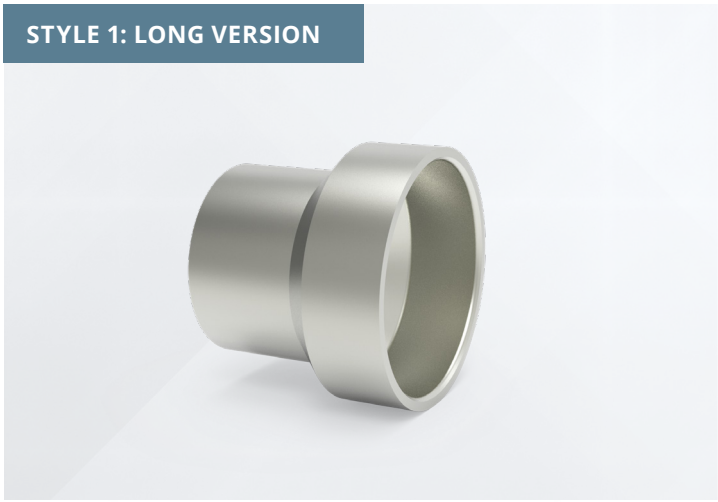


Material	CuTeP
Plating	Nickel

Shell Size		MIL-Part No.	∅ in inches (mm)		
Connector	Backshell		A	B (+0.0 / -0.50)	C
9	9	M85049/88-9N03	0.859" (21.82)	0.259" (6.60)	0.559" (14.22)
12	13	M85049/88-13N03	0.985" (25.04)	0.320" (8.13)	0.629" (16)

Crimp Sleeves

STYLE 1: LONG VERSION



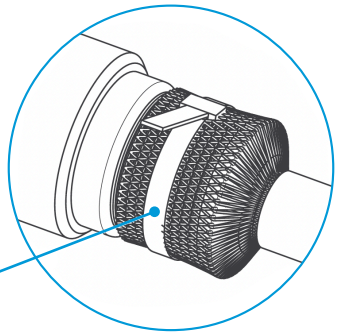
STYLE 2: SHORT VERSION

Crimp Sleeves		
Shell Size	Part Number	Style
9	TMA-C0901	1
	TMA-C0902	2
12	TMA-C1201	1
	TMA-C1202	2

Material	CuTeP
Plating	Nickel

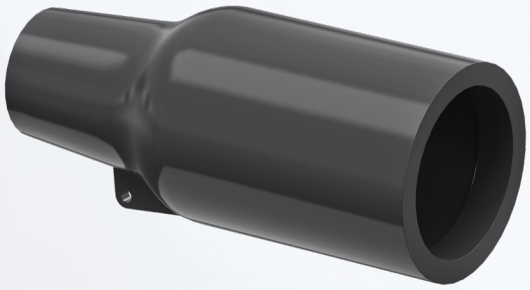
Braid Termination Sleeves

SUITABLE FOR: C1/CB/S1/SB/A1/AB/K1/KB/G6/GB



Shell Size	Part Number	Material
All	CDG10026	Stainless Steel

Accessories



Straight

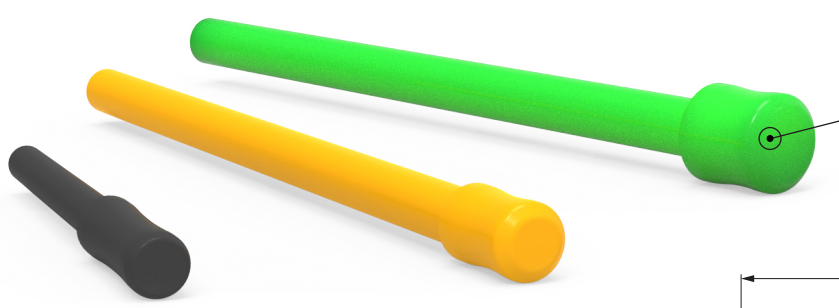
Right Angle

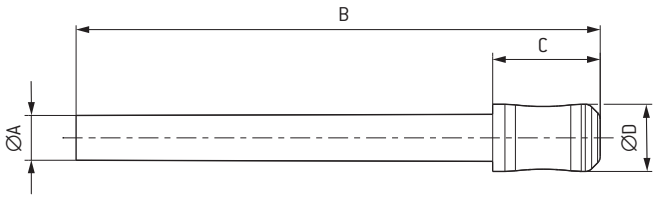
Heat Shrink Boots

Heat shrinkable tubes are used to insulate wires and cables, providing additional protection against abrasion and environmental influences: especially in the wire transition area of the assembly.

It is recommended to use a heatshrink boot with supplied diameter of 0.917" (24.0mm) and recover diameter of 0.413" (10.5mm) for both size 9 and 12 connectors.

Heat Shrink Boots	Part Number
Straight Boot	TMA-H0001
Right-Angle Boot	TMA-H0002



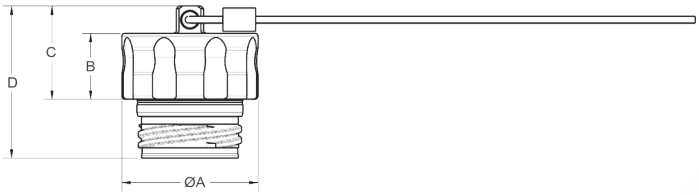


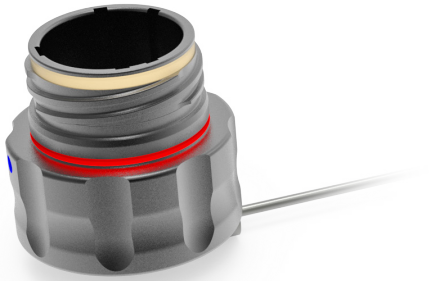
Contact Cavity Sealing Plugs

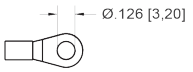
The sealing plugs are used to close or open unused contact positions in AirBorn TriMate connectors. The appropriate sealing plug coincides with the correct contact size. All nonfunctional cavities must be equipped with unconnected contacts. Install the sealing plug with the head towards bottom of the crimp barrel.

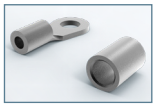
Contact Size	Part Number	MIL-Part No.	Color	Dimensions in inches (mm)			
				∅ A	B	C	∅ D
#16		MS27488-16-2	Green	0.070" (1.8)	0.854" (21.7)	0.090" (2.3)	0.125" (3.2)
#20MD	TMA-S0001		Orange	0.043" (1.1)	0.854" (21.7)	0.098" (2.5)	0.062" (1.6)
#22D		MS27488-22-2	Black	0.039 (1)	0.460" (11.7)	0.094" (2.4)	0.059" (1.5)

Protection Caps



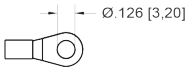


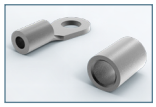




For Use with Threaded Plugs

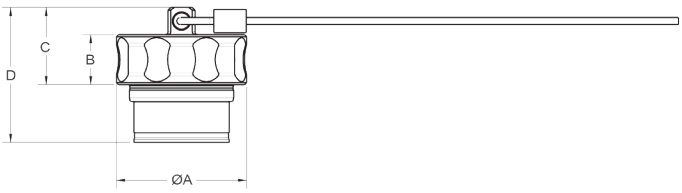
Shell Size	Part Number	Coding	Dimensions in inches (mm)				
			∅ A	B	C	D	L
9	TMA-TRAN-09A	A	0.724" (18.4)	0.314" (8.0)	0.511" (13)	0.842" (21.4)	7.84" (200)
	TMA-TRAN-09B	B					
	TMA-TRAN-09C	C					
	TMA-TRAN-09D	D					
12	TMA-TRAN-12A	A	0.983" (24.9)	0.472" (12)	0.669" (17)	1.09" (27.7)	7.84" (200)
	TMA-TRAN-12B	B					
	TMA-TRAN-12C	C					
	TMA-TRAN-12D	D					

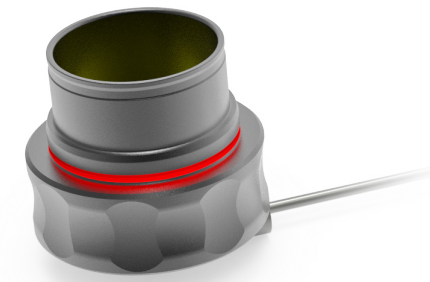


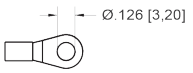


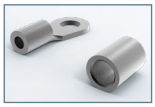
For Use With All Types of TriMate Receptacles

Shell Size	Part Number	Dimensions in inches (mm)			
		∅ A	B	C	L
9	TMA-RRAN-09	0.724" (18.4)	0.531" (13.5)	0.393" (10)	7.84" (200)
12	TMA-RRAN-12	0.917" (23.3)	0.610" (15.5)	0.472" (12)	7.84" (200)









For Use With Break-Away & Push/Pull Plugs

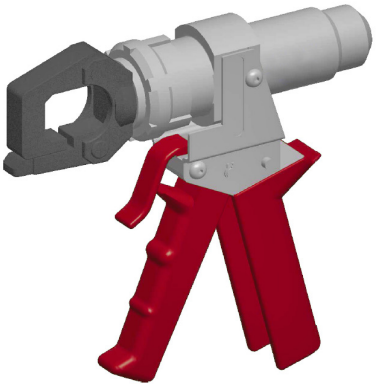
Shell Size	Part Number	Dimensions in inches (mm)				
		∅ A	B	C	D	L
9	TMA-PRAN-09	0.763" (19.4)	0.566" (14.4)	0.755" (19.2)	0.807" (20.5)	7.84" (200)
12	TMA-PRAN-12	0.889" (22.6)	0.692" (17.6)	0.952" (24.2)	0.984" (25)	7.84" (200)

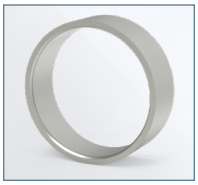
Application Tooling

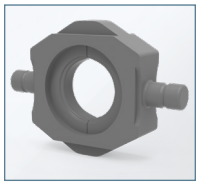
Contact Crimp Tools

The 8-point crimping tool is used to crimp turned contacts onto a conductor. The hand-crimping tool features a user-friendly display, an ergonomic design and optimal force transmission for comfortable operation.

Part Number	Mil Part Number	Name	Contact Size
N/A	M22520/1-01	Contact Crimp Tool	#16 / #20
N/A	M22520/1-04	Positioner	#16 / #20
N/A	M22520/2-01	Contact Crimp Tool	#20MD, #22D
N/A	M22520/7-06	Positioner Sockets	#20MD, #22D
N/A	M22520/7-06	Positioner Pins	#20MD
N/A	M22520/7-07	Positioner Pins	#22D







Tools for Shield Termination

Part Number	Name	Shell Size
CDG10027	Band-It Tool	Universal
CDG27338	Housing Cable Crimp Tool	Universal
TMT-C0009	Crimp Die	09
TMT-C0012	Crimp Die	12

Insertion and Removal Tools

The use of the correct insertion tool ensures proper seating of the contact in the connector. Removal tools ensures that the contact can be removed without causing damage. In addition, MIL-Standard metal tweezers are offered as a more durable option.

Mil-Standard Plastic Tools

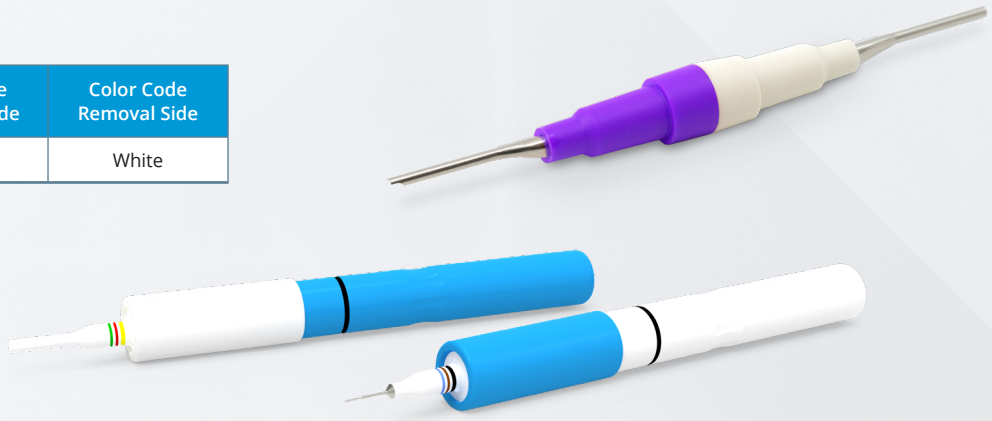
Size	Part Number	MIL-Part No.	Color Code Insertion Side	Color Code Removal Side	Min. Wire ∅ in inches (mm)	Max. Wire ∅ in inches (mm)
#16	TMT-I16	M81969/14-03	Blue	White	0.064" (1.65)	0.109" (2.77)
#22D	TMT-I22	M81969/14-01	Green	White	0.029" (0.76)	0.05" (1.27)

Mil-Standard Metal Tweezers

Size	Type	MIL-Part No.	Min. Wire ∅ in inches (mm)	Max. Wire ∅ in inches (mm)
#16	Insertion	M81969/8-07	0.064" (1.65)	0.109" (2.77)
	Removal	M81969/8-08		
#22D	Insertion	M81969/8-01	0.029" (0.76)	0.05" (1.27)
	Removal	M81969/8-02		

Insertion and Removal Tool

Size	Part Number	Color Code Insertion Side	Color Code Removal Side
#20MD	TMT-I20MD	Purple	White



Contact Retention Tool

Retention tools are used to validate the retention of the contact into the connector insert. By pressing the tool against the contact mating face, the retention of both pins and sockets are tested.

Tool Handle

Size	Part Number	Contact Size
12-16	TMT-RH002	Not Universal
20-28	TMT-RH001	Not Universal

Tool Head

Size	Part Number	Type	Color 1	Color 2	Color 3
#16	TMT-RC016	Pin	Yellow	Red	Green
#16		Socket	Black	Red	Green
#20	TMT-RC020	Pin	Yellow	Yellow	Yellow
#20		Socket	Black	Yellow	Yellow
#22D	TMT-RC022	Pin	Yellow	Blue	Black
#22D		Socket	Black	Blue	Black

Application Tooling

Insert Retention Tool

Inserts

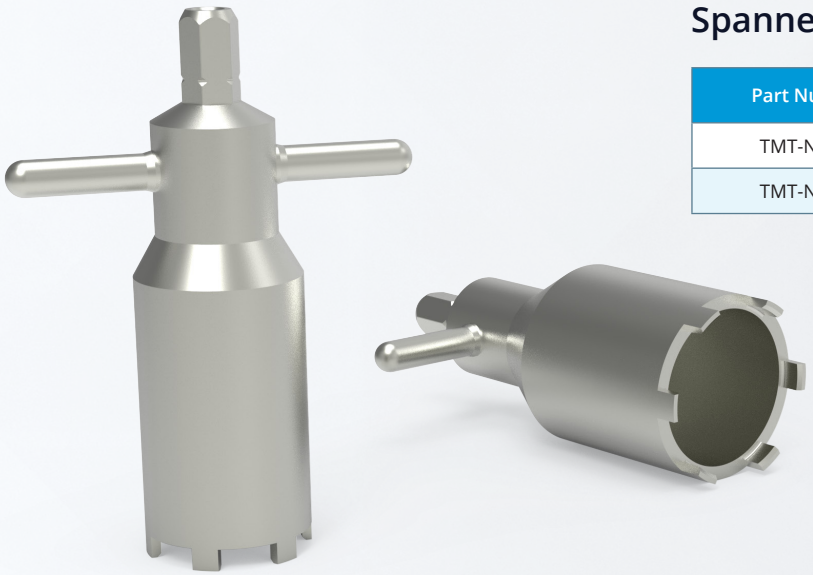
Part Number	Shell Size
TMT-RI009	09
TMT-RI012	12

Tool Handle

Part Number	Shell Size
TMT-RH003	Universal

Tool Head

Part Number	Size Shell	Contact Type	Contact Type	Color 1	Color 2	Color 3
TMT-RI009	09	Plug	Socket	Black	Green	Red
		Plug	Pin	Black	Green	Yellow
		Receptacle	Socket	Black	Green	Red
		Receptacle	Pin	Black	Green	Yellow
TMT-RI012	12	Plug	Socket	Red	Green	Red
		Plug	Pin	Red	Green	Yellow
		Receptacle	Socket	Red	Green	Red
		Receptacle	Pin	Red	Green	Yellow



Spanner Wrench

Part Number	Shell Size	Name
TMT-N0009	09	Nut Driver
TMT-N0012	12	Nut Driver

Materials Specifications

Item	Material	Surface Finish	Flammability
Housing/nut	Aluminum AlMgSiSn1Bi	Anthracite tin-nickel over nickel	
EMI-locking ring	CuBe2	Gold over nickel	
Crimp sleeve	CuTeP	Nickel	
Grounding ring	CuZn39Pb3	Tin over nickel	
Insulator	PEEK		UL94 (V0)
Pin contact ODU specific	CuZn38Pb2	1.27µm gold over nickel	
Pin contact MIL standard	CuZn35Pb2	1.27µm gold over nickel	
Socket contact body	CuZn35Pb2	Gold over nickel	
Socket contact clip	CuBe2	1.27µm gold over nickel	
Wave spring	Stainless steel		
Ratchet ring	PEEK		UL94 (V0)
Grommet	FVMQ (fluorosilicone)		
Potting	Potting compound		UL94 (V0)
O-rings	FVMQ (fluorosilicone)		

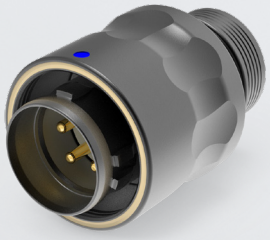
Performance Specifications

Description	Requirement	
Current carrying capacity	Contact Size	Current
	#16	13A
	#20MD	7.5A
	#22D	5A
Insulation resistance at ambient temperature	The insulation resistance between any pair of contacts, and between any contact and the shell, shall be greater than 5.000 MΩ.	
Insulation resistance at elevated temperature	The insulation resistance between any pair of contacts, and between any contact and the shell, shall be greater than 1.000 MΩ at +175°C.	

Type	Performance
Saltspray	96h salt mist
Operating temperature	-65ºC up to +175ºC
Mating cycles	500
Shell-to-shell conductivity	Voltage drop 2, 5mV
Random vibration[1]	37.8g
Sine vibration[1]	30g
Mechanical shock[1]	300g

1: Threaded version

Order Contents



Connector

Dust Cover

Contacts

Back-End Assembly by Connector Type

Integrated Termination Exit Version

Connector

+

Crimp Sleeve

+

Heat-Shrink Tube

OR

Connector

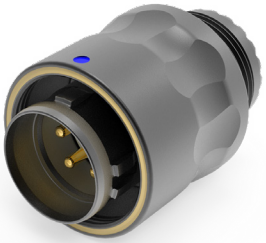
+

Band-it

+

Overmold

Rear Accessory Thread Exit Version



Connector

+

Backshell

+

Band-it

+

Heat-Shrink Tube

molex

creating connections for life

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