

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



MS/Standard 3100 Series, MIL-5015 Type Connectors

MIL-DTL-5015 and MIL-5015 Type Standard Circular Connectors with solder or crimp (non-rear release) contacts

Amphenol has long been the accepted leader in providing MS Standard MIL-5015 type connectors. These connectors represent well-proven electrical capability at an economical cost for most equipment where durability is important.

The MS/Standard family of connectors (3100 Series) is a very broad range of product with the following features:

- Medium to heavy weight cylindrical with resilient inserts
- Environmental resistant
- Threaded couplings, single key/keyway shell polarization
- Operating voltage to 3000 VAC (RMS) at sea level
- 5 shell styles, 19 shell sizes, 280 contact arrangements
- Solder or crimp contacts (non-rear-release type), sizes 16–0 accepting 22–0 AWG
- Coaxial or thermocouple contact options
- Alternate insert positioning
- Hermetic configurations available
- Zinc alloy plating (cadmium-free) available

The 3100 Series has five classes of connectors to meet different requirements. Within these connector styles, MIL-C-5015 has been replaced as follows: Environmental classes F and R are updated to and produced in strict accordance to MIL-DTL-5015. Classes A, C and E are still produced, but are no longer listed on the qualified products listing (QPL). Class designations and brief descriptions are as follows:

- A – Solid Shell – for general, non-environmental applications.
- C – Pressurized – for use on pressurized bulkheads or pressure barriers; limits air leakage regardless of type and class of plug mated with them.
- E/F – Environmental Resisting with Strain Relief – designed for applications where the connector will be exposed to moisture, vibration, and rapid changes in pressure and temperature.
- R – Lightweight Environmental Resisting – shorter in length, lighter in weight than the E & F classes, the MS-R offers a high degree of reliability under adverse conditions: recommended for new design applications.

Ask for Amphenol catalog 12-020 which gives detailed information on this family of connectors or visit www.amphenol-industrial.com

MIL-5015 Modifications

In order to supplement standard MS shell styles and provide a greater variety of styles for the electrical connector user, there are several MS and MS Modified cylindrical connectors offered by Amphenol. These types include flange mount plugs, thru bulkhead receptacles, jam nut receptacles, connectors for potting and connectors designed specifically to terminate jacketed cable. Ask for Amphenol catalog 12-021 for detailed information or visit www.amphenol-industrial.com.

97 Series, MIL-5015 Type Connectors

The low cost, general duty connector used extensively in the machine tool industry, welding industry and numerous other industrial applications, is the Amphenol® 97 Series. Offered in non-environmental styles, these connectors have hard dielectric inserts and threaded coupling. They are Underwriters Laboratories Recognized and Canadian Standards Association Certified.

Recent addition to this family is the 97E environmental styles, still an economical choice. The 97E can be used in a variety of industrial applications where environmental sealing is required, such as automotive and robotics.

Ask for Amphenol catalog 12-022 for detailed information or visit www.amphenol-industrial.com.



97 Series, MIL-5015 Type Connectors

Amphenol MIL-DTL-26500, Pyle®

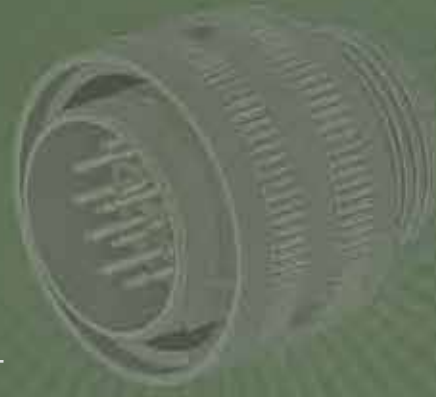


TABLE OF CONTENTS

MIL-DTL-26500, Pyle® Connectors

- Table of Contents199
- Product Introduction and Options200
- Class Descriptions, Features, Specifications201, 202
- Insert Arrangements, Alternate Keying203, 204

MIL-DTL-26500 Aluminum/Stainless Steel Shell Styles:

- Threaded Coupling & Bayonet Coupling Quick Reference Charts205
- Ratchet Lock Coupling Quick Reference Charts206
- How to Order, Threaded/Bayonet, Military & Commercial207, 208
- Square Flange Mounted Receptacle, Threaded MS24264, Pyle ZZY209
- Single Hole (D-hole) Mounted Receptacle, Threaded MS24265, Pyle ZZY210
- Straight Plug, Threaded MS24266, Pyle ZZY211
- Square Flange Mounted Receptacle Bayonet, MS24264, Pyle ZZW212
- Single Hole (D-hole) Mounted Receptacle, Bayonet MS24265, Pyle ZZW213
- Straight Plug, Bayonet MS24266, Pyle ZZW214
- Ratchet Lock Plug/New Non-Decoupling Plug, Pyle ZZY215
- Ratchet Lock Plug/New Non-Decoupling Plug, Mating Flange Mounted Receptacle Pyle ZZY216

MIL-DTL-26500 Firewall Class K Stainless Steel Shell Styles:

- Threaded Coupling & Bayonet Coupling Quick Reference Charts217
- How to Order Firewall Class K218
- How to Order Firewall Class K, Boeing Company219
- Square Flange Mounted Receptacle, Firewall MS27613K, Pyle FPK Threaded MS27613K, Pyle® FYL Bayonet220
- Single Hole (D-hole) Mounted Receptacle Firewall MS27614K, Pyle FPK Threaded MS27614K, Pyle FYL, Bayonet221
- Straight Plug, Firewall MS27615K, Pyle FPK Threaded MS27615K, Pyle FYL, Bayonet Ratchet Lock Plug, Firewall MS27615K, Pyle FPK Threaded222

MIL-DTL-26500, 48 Series Interconnect Products:

- Receptacle Short Shirt & Wire Splice Connector223, 224

MIL-DTL-26500 Hermetic Receptacle Shell Styles:

- Pyle ZZL/ZZB Hermetic Receptacles (three styles) Threaded or Bayonet225

Contacts & Accessories

- Shielded Coaxial Contacts, Contact Terminating Tools, Assembly Instructions, Cable Supports, Dummy Receptacles, Protection Caps226-235



MIL-DTL-26500, Pyle® Typical Markets:

- Military & Commercial Aviation
- High Temperature Applications
- Meets Boeing Specifications
- Missiles & Ordnance



High quality and dependability are the earned reputations of the Amphenol®/Pyle Series of connectors designed to meet the specification requirements of MIL-DTL-26500. Serving such diverse fields as avionics, missile systems, aircraft general-purpose applications, aircraft engines and firewalls, the Amphenol/Pyle MIL-DTL-26500 connector family meets the myriad of problems with innovative connector solutions.

High quality and dependability are the earned reputations of the Amphenol/Pyle Series of connectors designed to meet the specification requirements of MIL-DTL-26500. Serving such diverse fields as avionics, missile systems, aircraft general-purpose applications, aircraft engines and firewalls, the Amphenol/Pyle MIL-DTL-26500 connector family meets the myriad of problems with innovative connector solutions.

Amphenol /Pyle MIL-DTL-26500 Connectors are medium sized connectors with a rugged design, lightweight construction and continuously dependable performance. This product family provides the following design features and options:

Aluminum Connectors - Military Classes R and G; Proprietary (ZZY, ZZW)

- General purpose, environmentally resistant
- Threaded or bayonet coupling
- Square flange or single hole receptacles, and straight plug shell styles
- Black anodize non-conductive finish for class R and a conductive finish in class G that provides a minimum resistance path through the shell for grounding purposes
- Coupling nuts are hard coat treated for added protection against wear
- Rear accessory threads accommodate standard MS27291 series cable supports or related accessory hardware

Stainless Steel Connectors - Military Class E; Proprietary (ZZY, ZZW)

- Machined from 300-series stainless steel providing superior strength and wear characteristics
- Threaded or bayonet coupling
- Shells experience a less than 10% loss in yield strength at elevated temperatures, 204°C (399°F)
- Shell hardware resists corrosion for the life of the connector without the need of additional finishes
- Same shell styles offered as in aluminum
- Variety of stainless steel accessories are available

Firewall Connectors – Military Class K; Proprietary (FPK, FYL)

- Meets the fireproof requirements of MIL-DTL-5015, Class K
- Threaded or bayonet coupling
- FPL - threaded coupling; same as FPK; used on Lockheed Aircraft
- FP5K - threaded coupling; same as FPK; qualified for General Electric
- Non-magnetic stainless steel shells designed for superior strength and elevated temperatures up to 460°F for extended periods
- Same shell styles as stainless steel and aluminum versions

48 Series Receptacle Short Skirt - Amphenol special application connector,

- Low profile design for restricted installation requirements
- Wire Splice Connector
- Space saving, single contact, wire splice module

Hermetic Connectors - Military Class H; Proprietary (ZZL, ZZB)

- See page 225 for brief description
- See page 225 for hermetic insert availability
- Consult Amphenol, Sidney, NY for availability and ordering information.

Contacts and Accessories for MIL-DTL-26500 connectors

- SAE AS39029 qualified contacts and special application contacts including thermocouple, printed circuit board and shielded/coaxial types
- Boeing specification contacts
- Aluminum and stainless steel cable supports; aluminum dummy receptacles
- Contact crimping/ installation/removal tools for Amphenol 48 series and Pyle-National MIL-DTL-26500 series

38999
SJT I II III

26482
Matrix 2

83723 III
Matrix Pyle

5015
Crimp Rear
Release Matrix

26500 Pyle

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Circuit Board

EMI Filter
Transient

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High Speed
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MIL-DTL-26500, Pyle® Connectors

Features and Class Descriptions

Amphenol®/Pyle MIL-DTL-26500 Connectors are qualified to Military Specification MIL-DTL-26500, as well as numerous high performance customer specifications. These connectors are available in aluminum or stainless steel shells, with bayonet or threaded coupling, and are qualified to meet the specifications of the following MIL-DTL-26500 classes:

MIL-DTL-26500 Classes	Amphenol/Pyle Series Classes	Hardware Description	Finish
Class R: (Environmental Resistant)	A	Aluminum Alloy	Anodize
Class G	M	Aluminum Alloy	Chromium
Class E	R	Stainless Steel	Passivated
Class K Firewall	FPK/FYL	Stainless Steel	Passivated
Class H Hermetic	HC	CRS/Stainless Steel	Various

Crimp Contacts

Rear-insertable, front-releasable, crimp style contacts are machined from a copper alloy material, plated gold over nickel, and are qualified to specification SAE AS39029.

Contacts are crimp terminated outside the connector assembly and inserted into the appropriate cavity by means of a hand tool. Socket contacts utilize a multi-tined construction and feature a “C” spring which grips the tines, and insures consistent and repetitive insertion/withdrawal forces. Contact tines are protected by a stainless steel shroud.

An optional pencil-clip thermocouple socket design is also offered. See page 226 for more information on thermocouple contacts.

Alternate Keying

All MIL-DTL-26500 Series Connector shells can be furnished with normal or any of five alternate key positions. (See page 204). Each plug shell has a master key and four alternate keys. The position of the alternate keys in relation to the fixed master key determines the key identification. Inserts are bonded to the shell in relation to the master key, thus allowing positive protection against mis-mating when differing circuits exist side by side.

Connector Sealing

The insert design utilizes a combination of resilient and rigid insulators to offer a connector with total sealing capabilities. Bonded interfaces between the resilient and rigid dielectric components eliminate air voids and thus protect the connector from potential degradation due to moisture and altitude conditions.

In Firewall Class K connectors, the resilient insert forms the primary contact seal and is bonded to a molded ceramic rigid insert. The insert assembly is physically bonded and mechanically retained to the inside surface of the stainless steel shell, providing a void-less, mono-block configuration impervious to adverse environments.

A pressure seal at the connector interface is accomplished through the aid of a coupling device which compresses the front resilient insulations and thus offers a seal around each contact which prevents the passage of air or moisture through the contact cavity.

Back resilient insulators are designed with a triple sealing grip at each wire hole to offer positive sealing and prevent wicking of moisture through the connector without the use of external clamping rings or adapters.



In addition, a dynamic “O” ring seal engages the front of the plug shell when connectors are mated and offers yet another barrier to moisture and containments.

Fluid/Temperature Resistance

The fluorosilicone compound elastomer, developed by Pyle-National, exceeds all specification requirements and provides excellent resistance to tear, compression set, fluids, and high temperatures.

Amphenol/Pyle’s fluorosilicone compound offered in Class R, G, E and K is capable of reliability resisting:

- MIL-H-5606 hydraulic fluid
- MIL-L-9236 lubricating oil
- MIL-L-7808 and MIL-L-23699 lubricating oils
- MIL-J-5624 (JP-5) jet fuel
- Glycol
- Alkaline cleaning solutions of pH 10 or higher.

Test methods are as defined in MIL-DTL-26500 specification. Alternate compounds have been developed by Pyle-National to solve unique user requirements not addressed by the specifications.

Connectors have the capability of resisting high ambient temperatures up to 200°C (392°F) for long periods of time, thus contributing to an extended connector life. Connectors will withstand a combined ambient and internal temperature due to thermal rise of current carrying capacity of 238°C (469°F).

Amphenol®/Pyle® Firewall, Class K, connectors have the inherent ability to resist high temperatures up to 460°F (total temperature) for extended periods of time and can resist short time exposures (20 minutes) to prevent passage of a direct 2000°F flame.

III
II
I
SJT
38999

Matrix 2
26482

Matrix
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83723 III

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Release Matrix
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High Speed
Contacts

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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

TEST REQUIREMENTS	MILITARY SPECIFICATIONS	PYLE CONNECTOR CAPABILITIES
Air Leakage (Classes E, G, R & K)	1 cu. inch per hr. max. -55°C (-67°F)	Comply
Altitude Immersion (Classes E, G, R & K)	Sea level 1 inch of mercury, 3 cycles (IR 5000 megohms hi-pot 1500 volts-submerged)	Comply
Contact Retention (Classes E, G, R & K)	Size 20 contact 20 lbs. min. Size 16 contact 25 lbs. min. Size 12 contact 30 lbs. min.	Exceeds specifications
Collet Retention	No requirement	Without damage to the collet or its retention means: Size 20 – 75 lbs. min. Size 16 – 140 lbs. min. Size 12 – 160 lbs. min.
Contact Insertion Force (Classes E, G, R & K)	All size contacts 10 lbs. max.	Comply
Coupling Forces	Torque required to couple and uncouple mating plugs and receptacles is not to exceed the values listed: Shell size Torque inch lbs. 8 10 12 14 16 18 20 22 24 9 10 14 17 23 26 31 38 46	Comply
Fluid Resistance (Classes E, G, R & K)	20 hrs. immersion in MIL-H-5606 hydraulic fluid and MIL-L-9236 lubrication oil. Must meet hi-pot.	20 hrs. min., fully functional physically and electrically after immersion. No deterioration of resilient material.
Ground Resistance (Class G)	.250 ohms backshell of plug to rear of receptacle flange.	Comply
High Potential (Classes E, G, R & K)	1500 VRMS mated & unmated at sea level 1000 VRMS mated to 110,000 ft. altitude	Exceed with ample margin of safety.
Insert Retention (Classes E, G, R & K)	75 psi. from either direction for 5 seconds.	Exceeds specifications.
Insulation Resistance (Classes E, G, R & K)	21°C (70°F), 5000 megohms between adjacent contacts and any contact and shell.	Exceeds specifications.
Low Temperature (Classes E, G, R & K)	-55°C (-67°F)	Comply
Magnetic Permeability (Classes E, G, R & K)	2 mu. maximum	Comply
Moisture Resistance (Classes E, G, R & K)	1000 megohms min. per Mil-std. 202 method 106	Comply
Ozone Exposure (Classes E, G, R & K)	0.10 to .015% ozone exposure	Comply
Physical Shock (Classes E, G, R & K)	50 G's, 3 axis, per mil-std-202, method 213, test condition C, wired to monitor 1 microsecond discontinuity.	Comply
Sand & Dust Exposure (Classes E, G, R & K)	No requirement.	Meet MIL-E-5272 condition "B"
Temperature Life (Classes E, G, R & K)	Connector fully functional for 1000 hours at 200°C (392°F) ambient internal temperature 238°C (460°F)	Comply
Thermal Shock (Mated) (Classes E, G, R & K)	Cycled five times from -55°C to 260°C, held for 30 minutes at each temperature and transferred to the other in 2 minutes or less, with no evidence of damage.	Comply
Vibration (Classes E, G, R & K)	MIL-Std. 202 method 204 condition "D" at R. T., -55°C (-67°F) and +200°C (+392°F).	Comply - monitored for a max. of 1 microsecond discontinuity.
Flame Resistance (Class K)	Performance requirements of Paragraph 4.5.18 Fireproof (Class K of MIL-DTL-5015D)	Exceeds specifications

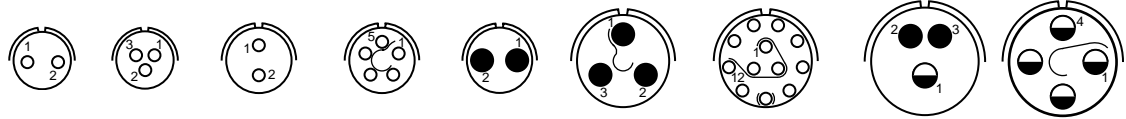
MIL-DTL-26500, Pyle®

Insert Arrangements

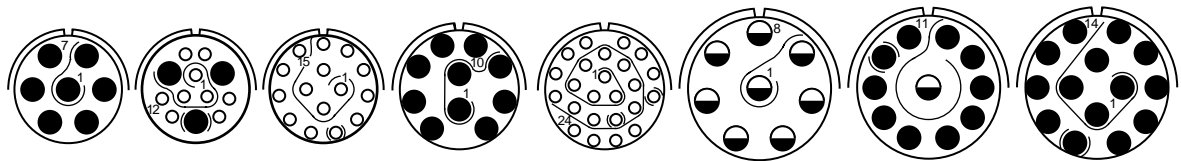


Front Face of Pin Insert or Rear Face of Socket Insert Illustrated

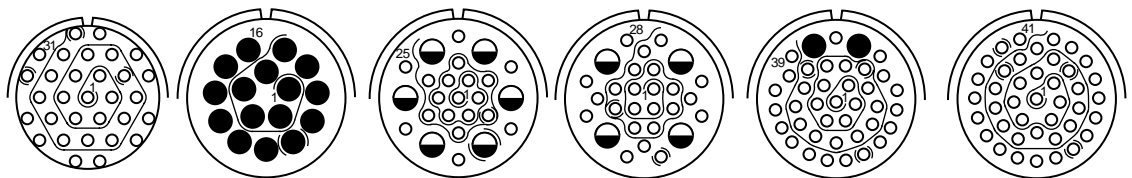
Contact cavities are identified with a spiral guide line indicating cavity sequence. The first and last cavities are numbered and every tenth cavity is bracketed. Symmetrical about center line.



Insert Arrangement	08-02	08-03 ^H	10-02 ^{**}	10-05 ^H	10-20 ^H	12-03 ^{KH}	12-12 ^H	14-03	14-04 ^K
Service Rating	I	I	I	I	I	I	I	I	I
Number of Contacts	2	3	2	5	2	3	12	2	4
Contact Size	20	20	20	20	16	16	20	16	12
								12	12
								Shielded Coaxial	



Insert Arrangement	14-07 ^{KH}	14-12	14-15 ^{KH}	16-10 ^{KH}	16-24 ^{KH}	18-08 ^{KH}	18-11	18-14 ^{KH}
Service Rating	I	I	I	I	I	I	1	I
Number of Contacts	7	9	3	15	10	24	8	10
Contact Size	16	20	16	20	16	20	12	16
								12
								Shielded Coaxial



Insert Arrangement	18-31 ^{KH}	20-16	20-25	20-28 ^{**}	20-39	20-41
Service Rating	I	I	I	I	I	I
Number of Contacts	31	16	19	6	24	4
Contact Size	20	16	20	12	20	12
					37	2
					20	16
						41
						20

† designates Non-MS Configurations.
 K designates Firewall Class K inserts.
 H designates Hermetic inserts.

CONTACT LEGEND



38999
III
II
I
SJT

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5015
Crimp Rear
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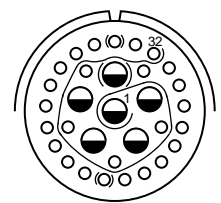
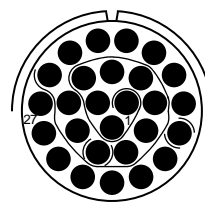
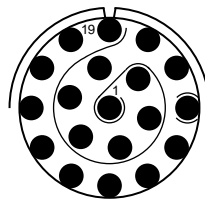
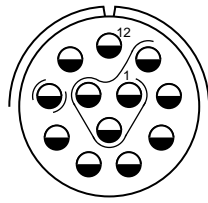
Fiber Optics

High Speed
Contacts

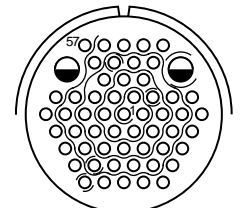
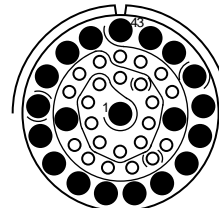
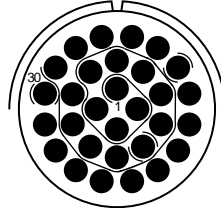
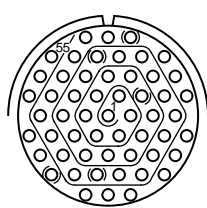
Options
Others

Front Face of Pin Insert or Rear Face of Socket Insert Illustrated

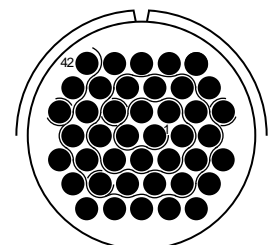
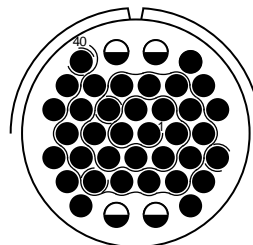
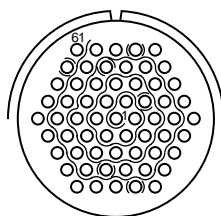
Contact cavities are identified with a spiral guide line indicating cavity sequence. The first and last cavities are numbered and every tenth cavity is bracketed. Symmetrical about centerline.



Insert Arrangement	22-12 ^K	22-19 ^{KH}	22-27 [†]	22-32
Service Rating	I	I	I	I
Number of Contacts	12	19	27	26 6
Contact Size	12	16	16	20 12



Insert Arrangement	22-55 ^{KH}	24-30 ^{†K}	24-43 ^{**}	24-57
Service Rating	I	I	I	I
Number of Contacts	55	30	23 20	55 2
Contact Size	20	16	20 16	20 12



Insert Arrangement	24-61	28-40 ^{†K}	28-42 ^{†K}
Service Rating	I	I	I
Number of Contacts	61	36 4	42
Contact Size	20	16 12	16

† designates Non-MS Configurations.
K designates Firewall Class K inserts.
H designates Hermetic inserts.

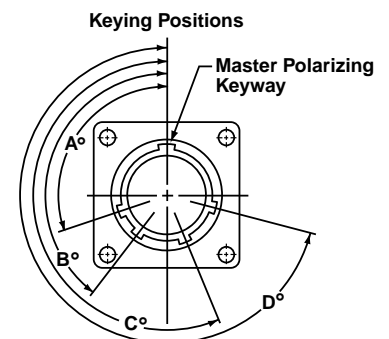


Alternate Keying Positions of Shells

ALTERNATE POLARITY KEYWAY ARRANGEMENTS (Shell sizes 12, 14, 16, 18, 20, 22, 24, 28) View of front face of receptacle shell. Angles are counter-clockwise from "N" keyway. For plug shell, the key locations are clockwise when viewed from front of plug.

Position	For Connectors Size 8 and 10				For Connectors Size 12, 14, 16, 18, 20, 22, 24 and 28			
	A	B	C	D	A	B	C	D
Normal	105°	140°	215°	265°	105°	140°	215°	265°
6	102°	132°	248°	320°	18°	149°	192°	259°
7	80°	118°	230°	312°	92°	152°	222°	342°
8	35°	140°	205°	275°	84°	152°	204°	334°
9	64°	155°	234°	304°	24°	135°	199°	240°
Y or 10*	25°	115°	220°	270°	98°	152°	268°	338°

* Y is used for all Military part number call-outs - aluminum/stainless steel and firewall; 10 is used for Amphenol/Pyle part number call-outs - aluminum/stainless steel only. (See how to order pages 207, 208 and 218).






Shown is Engaging Face View of Receptacle Shell with Keyways (Plug Shell Keys would be Opposite)

THREADED COUPLING

PYLE ZZY




MS2426X()TXX

Shell Style (Stainless Steel pictured)	Basic Performance Level	Hardware Description*	Class*	Basic Part Number**
 Square Flange Mounted Receptacle Threaded Coupling	General Purpose, Environmental Resistant	Aluminum	Military Class R or G	MS24264(R or G)XXTXX
			Pyle A or M Series	ZZY-(A or M)X-17XX
	Superior Strength, Corrosion Resistance up to 204°C (399°F)	Stainless Steel	Military Class E	MS24264EXXTXX
			Pyle R Series	ZZY-RX-17XX
 Single Hole (D-Hole) Mounted Receptacle Threaded Coupling	General Purpose, Environmental Resistant	Aluminum	Military Class R or G	MS24265(R or G)XXTXX
			Pyle A or M Series	ZZY-(A or M)X-15XX
	Superior Strength, Corrosion Resistance up to 204°C (399°F)	Stainless Steel	Military Class E	MS24265EXXTXX
			Pyle R Series	ZZY-RX-15XX
 Straight Plug Threaded Coupling	General Purpose, Environmental Resistant	Aluminum	Military Class R or G	MS24266(R or G)XXTXX
			Pyle A or M Series	ZZY-(A or M)X-10XX
	Superior Strength, Corrosion Resistance up to 204°C (399°F)	Stainless Steel	Military Class E	MS24266EXXTXX
			Pyle R Series	ZZY-RX-10XX

BAYONET COUPLING

PYLE ZZW

MS2426X()BXX

Shell Style (Stainless Steel pictured)	Basic Performance Level	Hardware Description*	Class*	Basic Part Number**
 Square Flange Mounted Receptacle Bayonet Coupling	General Purpose, Environmental Resistant	Aluminum	Military Class R or G	MS24264(R or G)XXBXX
			Pyle A or M Series	ZZW-(A or M)X-17XX
	Superior Strength, Corrosion Resistance up to 204°C (399°F)	Stainless Steel	Military Class E	MS24264EXXTXX
			Pyle R Series	ZZW-RX-17XX
 Single Hole (D-Hole) Mounted Receptacle Bayonet Coupling	General Purpose, Environmental Resistant	Aluminum	Military Class R or G	MS24265(R or G)XXBXX
			Pyle A or M Series	ZZW-(A or M)X-15XX
	Superior Strength, Corrosion Resistance up to 204°C (399°F)	Stainless Steel	Military Class E	MS24265EXXTXX
			Pyle R Series	ZZW-RX-15XX
 Straight Plug Bayonet Coupling	General Purpose, Environmental Resistant	Aluminum	Military Class R or G	MS24266(R or G)XXBXX
			Pyle A or M Series	ZZW-(A or M)X-10XX
	Superior Strength, Corrosion Resistance up to 204°C (399°F)	Stainless Steel	Military Class E	MS24266EXXTXX
			Pyle R Series	ZZW-RX-10XX

NA designates not available

* See how to order, page 207, for further description of hardware classes.

** See how to order, page 207, to complete part numbers.

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

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High Speed
Contacts

Options
Others


38999
SJT I II III

**RATCHET LOCK PLUG, BAYONET
PYLE ZZY**

26482
Matrix 2

83723 III
Matrix Pyle

5015
Crimp Rear
Release Matrix

Shell Style (Stainless steel only)	Basic Performance Level	Hardware Description*	Class*	Basic Part Number**
 <p>Ratchet Lock Plug Non-Decoupling</p>	Superior Strength, Corrosion Resistance up to 204°C (399°F) Employs ratchet feature in last 120° of rotation to eliminate need for safety-wiring	Stainless Steel only	Pyle R Series (Commercial only)	ZZY-RX-12XX
<p>NNDC Plug New Non-Decoupling</p>	Superior Strength, Corrosion Resistance up to 204°C (399°F)	Stainless Steel only	Pyle R Series (Commercial only)	ZZY-RX-13XX

* See how to order, page 207, for further description of hardware classes.
** See how to order, page 207, to complete part numbers.

26500 Pyle

Printed
Circuit Board



**RATCHET LOCK PLUG & MATING FLANGE MOUNTED, THREADED RECEPTACLE
PYLE ZZY**

EMI Filter
Transient

Fiber Optics

High Speed
Contacts

Options
Others

Shell Style (Stainless steel pictured)	Basic Performance Level	Hardware Description*	Class*	Pyle Basic Part Number**
 <p>Ratchet Lock Plug Non-Decoupling</p>	Designed to meet high vibration requirements beyond MIL-DTL-26500.	Aluminum	Pyle A Series	ZZY (A, D, F, M) X-12 (D, E or F) XX
		Stainless Steel	Pyle R Series	ZZY-RX-12 (D, E or F)XX
 <p>Square Flange Mounted Receptacle Threaded Coupling</p>	Designed to meet high vibration requirements beyond MIL-DTL-26500.	Aluminum	Pyle A Series	ZZY (A or F) X-17(D, E or F) XX
		Stainless Steel	Pyle R Series	ZZY-RX-17 (D, E or F) XX

* See how to order, page 208, for further description of hardware classes.
** See how to order, page 208, to complete part numbers.

Easy Steps to build a part number... Military

1. Shell Style	2. Service Class	3. Shell Size	4. Coupling Type	5. Insert Arrangement	6. Contact Type	7. Alternate Keying
MS24266	R	22	T	55	P	6

Step 1. Select a Shell Style

	Designates
MS24264	Square Flange Mounted Receptacle
MS24265	Single D-Hole Mounted Receptacle
MS24266	Straight Plug

Step 5. Select an Insert Arrangement from page 203 & 204

See page 203 & 204 for Shell Size & Insert Arrangements. First number represents Shell Size, second number is the Insert Arrangement.

Step 2. Select a Service Class

	Designates
R	Aluminum, non-conductive (black anodize finish)
G	Aluminum, conductive (chromium finish)
E	Stainless steel, Passivated

Step 6. Select a Contact Type

	Designates
P	Pin Contacts
S	Socket Contacts

Step 3. Select a Shell Size

8	10	12	14	16	18	20	22	24
---	----	----	----	----	----	----	----	----

Step 7. Select an Alternate Keying Position of Shell

6, 7, 8, 9, Y (N for Normal) See page 204.

Step 4. Select a Coupling Type

	Designates
T	Threaded
B	Bayonet

III	38999
II	
I	
SJT	
Matrix 2	26482
Matrix	83723 III
Pyle	
Crimp Rear Release Matrix	5015

Printed Circuit Board	26500 Pyle
EMI Filter Transient	
Fiber Optics	
High Speed Contacts	
Options Others	

Easy Steps to build a part number... Pyle Commercial

1. Shell Style	2. Service Class	3. Contacts/Accessories	4. Shell Style	5. Shell Size	6. Insert Arrangement	7. Contact Type	8. Alternate Keying	9. Contact Plating	10. Deviations/Specials
ZZY	A	C	10	22	55	P	6	D	XXX

Step 1. Select a Shell Style

	Designates
ZZY	Threaded Coupling
ZZW	Bayonet Coupling

Step 4. Select a Shell Style

	Designates
10	Straight Plug
12	Non-Decoupling Plug(Ratchet Lock)
13	New Non-Decoupling Plug (NNDC) (SS only)
15	Single Hole Mounting Receptacle
17	Square Flange Receptacle

Step 8. Select an Alternate Keying Position of Shell

06, 07, 08, 09, 10 (Omit for Normal) See page 204.

Step 2. Select a Service Class

	Designates
A	Aluminum, non-conductive (black anodize finish)
D	Aluminum, O.D. CAD/Ni
F	Aluminum, Clear Cadmium plated
M	Aluminum, conductive (chromium finish)
R	Stainless steel, Passivated

Step 5. Select a Shell Size

8	10	12	14	16	18	20	22	24	28
---	----	----	----	----	----	----	----	----	----

Step 9. Select a Contact Plating

	Designates
D	Gold
T	Rhodium

Step 3. Select Contacts & Accessories

	Designates
No Digit	with contacts and cable support
C	without cable support, with contacts
D	without contacts, with cable support
O	without contacts or cable support

Step 6. Select an Insert Arrangement from page 203 & 204

See page 203 & 204 Shell Size & Insert Arrangements. First number represents Shell Size, second number is the Insert Arrangement.

Step 7. Select a Contact Type

	Designates
P	Pin Contacts
S	Socket Contacts

Step 10. Deviation/Specials

Consult Amphenol for more information.

Accessory threads for aluminum and stainless steel hardware differ, and care should be taken in selection of alternate accessory hardware that will conform to the threads noted in the dimensional tables within this catalog.

Amphenol®/Pyle® connectors are specifically designed to meet high vibration requirements above and beyond the specification requirements of MIL-DTL-26500. The plug connector features a unique non-decoupling device which offers a ratchet mechanism designed to engage as the threaded connectors approach a bottomed condition. Connector coupling assembly continues to ratchet for approximately 120 degrees until the mated connectors reach a complete metal-to-metal bottomed condition. The ratchet device maintains the connectors in a fully coupled condition, thus eliminating the need for safety wiring.



Additional features include:

- Modified accessory thread to accommodate MIL-DTL-83723 backshell hardware.
- Rear accessory teeth are featured on both the plug and receptacle shell to assure non-rotation of accessory hardware
- Intermateable with all MIL-DTL-26500 threaded connectors of like insert arrangement and key position

Easy Steps to build a part number... Pyle Commercial

1. Shell Style	2. Service Class	3. Contacts & Accessories	4. Shell Style	5. Accessory Style	6. Insert Arrangement	7. Contact Type	8. Alternate Keying	9. Contact Plating	10. Deviations/ Specials
ZZY	A	C	12	D	14	04	P	06	D

Step 1. Select a Shell Style

	Designates
ZZY	Threaded Coupling

Step 2. Select a Service Class

	Designates
A	Aluminum, non-conductive (black anodize finish)
D	Aluminum, O.D. CAD/Ni
F	Aluminum, Clear Cadmium plated
M	Aluminum, conductive (chromium finish)
R	Stainless steel, Passivated

Step 3. Select Contact & Accessory

	Designates
No Digit	With contacts and clamp
C	With contacts
O	Without contacts

Step 4. Select a Shell Style

	Designates
12	Non-Decoupling Plug, (Ratchet Lock)
13	New Non-Decoupling Plug (NNDC) (SS only)
17	Square Flange Mounted Receptacle

Step 5. Select Accessory Style

	Designates
D	Rear accessories per MIL-DTL-83723, 3 Accessory Serrations.
E	Rear accessories per MS 3155 (360° Accessory Serrations)
F	Rear accessories per MS 3155 with EMI Band (360° Accessory Serrations)

Accessory threads for aluminum and stainless steel hardware differ, and care should be taken in selection of alternate accessory hardware that will conform to the threads noted in the dimensional tables within this catalog.

Step 5. Select a Shell Size

10	12	14	16	18	20	22	24	28
----	----	----	----	----	----	----	----	----

Step 6. Select an Insert Arrangement from Page 203 & 204

Shell Size & Insert Arrangements are on pages 203 & 204. First number represents Shell Size, second number is the Insert Arrangement.

Step 7. Select a Contact Type

	Designates
P	Pin Contacts
S	Socket Contacts

Step 8. Select an Alternate Keying Position of Shell

06, 07, 08, 09, 10 (Omit for Normal) See page 204

Step 9. Select a Contact Plating

	Designates
D	Gold plate per MIL-DTL-39029
T	Rhodium plate per MIL-DTL-26636

Step 10. Deviations/Specials

Consult Amphenol for more information.

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

MS24264, Pyle® ZZY, MIL-DTL-26500

Square Flange Mounted Receptacle, Threaded



Part

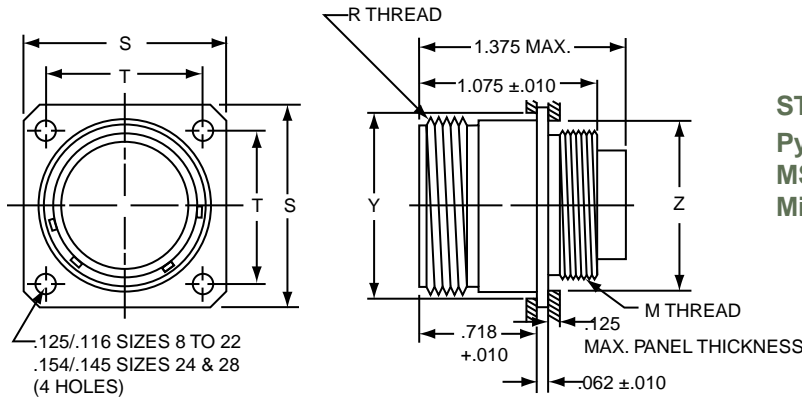
To complete see how to order pages 207

Military

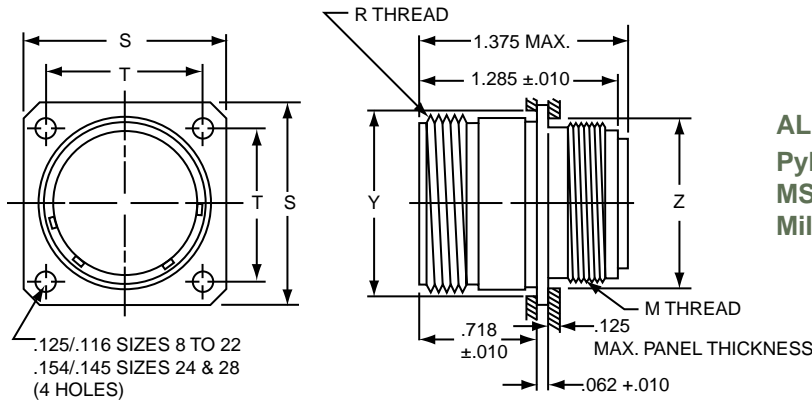
Shell Style	Service Class	Shell Size	Coupling Type	Insert Arrangement	Contact Type	Alternate Keying
MS24264	E, R, G	XX	T	XX	X	X

Commercial

Shell Style	Service Class	Contacts & Accessories	Shell Style	Shell Size	Insert Arrangement	Contact Type	Alternate Keying	Contact Plating	Deviations/ Specials
ZZY	X	X	17	XX	XX	X	X	X	XXX



STAINLESS STEEL
Pyle ZZY-RX-17XX Series
MS24264EXXTXX
Military Class E



ALUMINUM
Pyle ZZY-XX-17XX Series
MS24264RXXTXX
Military Class R and G

Shell Size	M Cable Support Thread		Aluminum Connector Weight (lbs.) max including Contacts		R Coupling Thread	S Flange Width ±.005	T Mounting Hole Centers ±.005	Y Back Mount Min. Hole	Z Front Mount Min. Hole
	Steel NS-2A	Alum. UNEF-2A Modified	Pin Insert	Socket Insert					
08**	NA	.437-28	.025	.026	.562-24	.812	.594	.606	.443
10	.563-36	.562-24	.042	.044	.687-24	.937	.719	.748	.572
12	.733-36	.750-20	.061	.062	.875-20	1.031	.812	.913	.760
14	.803-36	.812-20	.072	.074	.937-20	1.125	.906	.980	.822
16	.930-36	.937-20	.087	.090	1.062-18	1.250	.969	1.107	.948
18	1.036-36	1.062-18	.110	.112	1.187-18	1.343	1.062	1.209	1.072
20	1.161-36	1.187-18	.130	.134	1.312-18	1.437	1.156	1.325	1.197
22	1.286-36	1.312-18	.152	.159	1.437-18	1.562	1.250	1.452	1.322
24	1.411-36	1.437-18	.181	.188	1.562-18	1.703	1.375	1.577	1.448
28†	1.661-36	NA	NA	NA	1.812-16	2.000	1.562	1.827	1.700

NA designates not available. ** Not available in Stainless Steel. † Not available in Aluminum.
All dimensions for reference only.

III
II
I
SJT
38999

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

Part

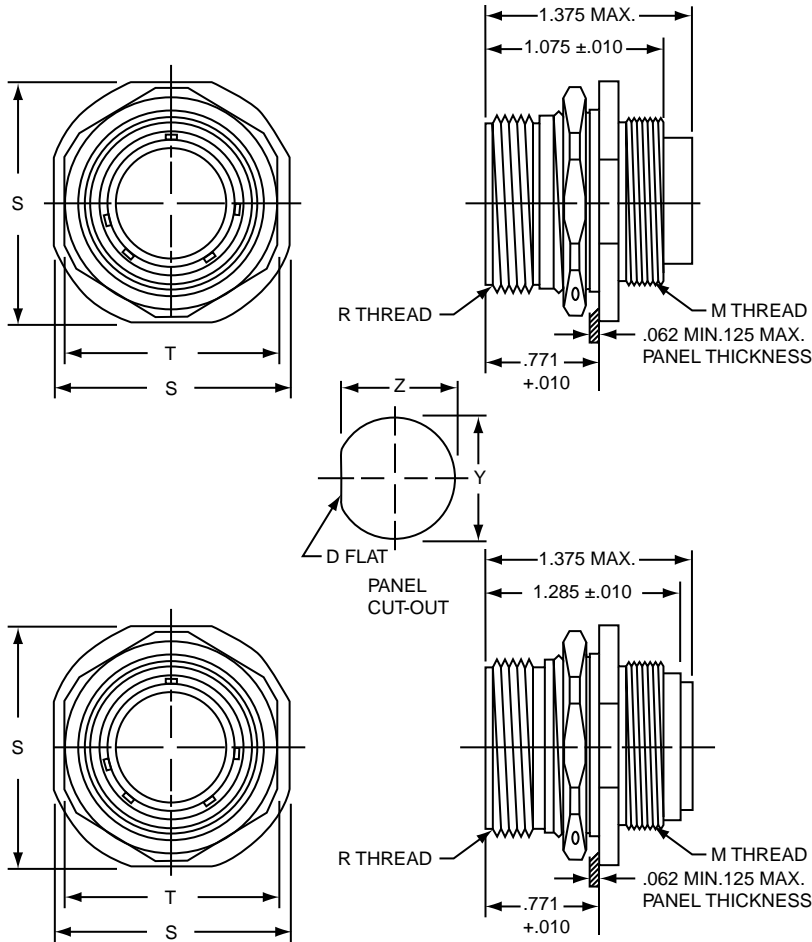
To complete see how to order pages 207

Military

Shell Style	Service Class	Shell Size	Coupling Type	Insert Arrangement	Contact Type	Alternate Keying
MS24265	E or R	XX	T	XX	X	X

Commercial

Shell Style	Service Class	Contacts & Accessories	Shell Style	Shell Size	Insert Arrangement	Contact Type	Alternate Keying	Contact Plating	Deviations/Specials
ZZY	X	X	15	XX	XX	X	X	X	XXX



STAINLESS STEEL
Pyle ZZY-RX-15XX Series
MS24265EXXTXX
Military Class E

ALUMINUM
Pyle ZZY-XX-15XX Series
MS24265RXXTXX
Military Class R

Shell Size	M Cable Support Thread		Aluminum Connector Weight (lbs.) max including Contacts		R Coupling Thread	S Flange Width ±.005	T Lock Nut Flats		Y Dia Mounting Hole	Z Flat Mounting Hole	Rec. min. Torque Jam Nut Inch/Lbs.
	Steel NS-2A	Alum. UNEF-2A Modified	Pin Insert	Socket Insert			Steel	Alum.			
08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10	.563-36	.562-24	.049	.050	1.171-24	1.104	.937	.937	.760	.730	36
12**	NA	.750-20	.069	.070	.875-20	1.291	1.125	1.125	.947	.917	56
14	.803-36	.812-20	.087	.089	.937-20	1.391	1.062	1.187	1.010	.980	65
16	.930-36	.937-20	.104	.106	1.062-18	1.516	1.187	1.312	1.135	1.105	69
18	1.036-36	1.062-18	.131	.133	1.187-18	1.614	1.312	1.437	1.260	1.225	81
20	NA	NA	.152	.157	NA	NA	NA	NA	NA	NA	100
22	1.286-36	1.312-18	.181	.187	1.312-18	1.954	1.562	1.687	1.510	1.475	123
24	1.411-36	1.437-18	.208	.212	NA	NA	NA	NA	NA	NA	133
28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA designates not available. ** Not available in Stainless Steel.
All dimensions for reference only.

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

MS24266, Pyle® ZZY, MIL-DTL-26500

Straight Plug, Threaded



Part

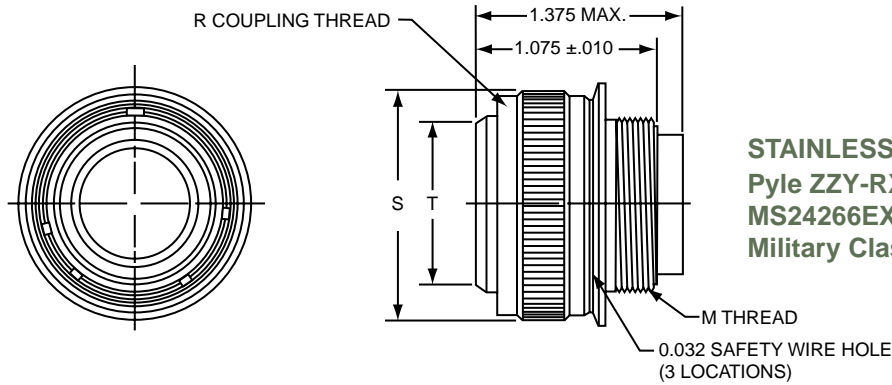
To complete see how to order pages 207

Military

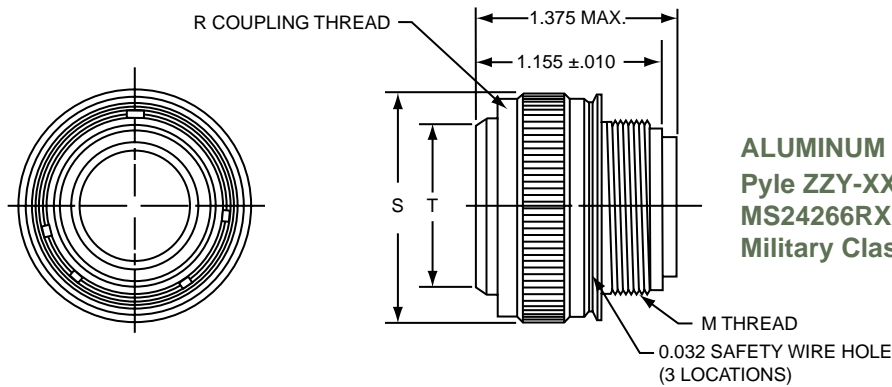
Shell Style	Service Class	Shell Size	Coupling Type	Insert Arrangement	Contact Type	Alternate Keying
MS24266	E or R	XX	T	XX	X	X

Commercial

Shell Style	Service Class	Contacts & Accessories	Shell Style	Shell Size	Insert Arrangement	Contact Type	Alternate Keying	Contact Plating	Deviations/Specials
ZZY	X	X	10	XX	XX	X	X	X	XXX



STAINLESS STEEL
Pyle ZZY-RX-10XX Series
MS24266EXXTXX
Military Class E



ALUMINUM
Pyle ZZY-XX-10XX Series
MS24266RXXTXX
Military Class R

Shell Size	M Cable Support Thread		Aluminum Connector Weight (lbs.) max including Contacts		R Coupling Thread	S Dia. Max Coupling Nut		T Shell Dia. +.000 - .005
	Steel NS-2A	Alum. UNEF-2A Modified	Pin Insert	Socket Insert		Steel	Alum.	
08**	NA	.437-28	.030	.031	.562-24	NA	.776	.424
10	.563-36	.562-24	.044	.045	.687-24	.826	.906	.526
12	.733-36	.750-20	.063	.064	.875-20	.996	1.078	.696
14	.803-36	.812-20	.074	.076	.937-20	1.066	1.141	.765
16	.930-36	.937-20	.091	.094	1.062-18	1.193	1.266	.892
18	1.036-36	1.062-18	.110	.112	1.187-18	1.299	1.375	.998
20	1.161-36	1.187-18	.133	.136	1.312-18	1.424	1.510	1.123
22	1.286-36	1.286-18	.154	.160	1.437-18	1.549	1.625	1.248
24	1.411-36	1.437-18	.184	.188	1.562-18	1.674	1.670	1.373
28†	1.661-36	NA	NA	NA	1.812-16	1.912	NA	1.623

NA designates not available. ** Not available in Stainless Steel. † Not available in Aluminum.
All dimensions for reference only.

III
II
I
SJT
38999

Matrix 2
26482

Matrix
Pyle
83723 III

Crimp Rear
Release Matrix
5015

26500 Pyle

Printed
Circuit Board

EMI Filter
Transient

Fiber Optics

High Speed
Contacts

Options
Others

Part

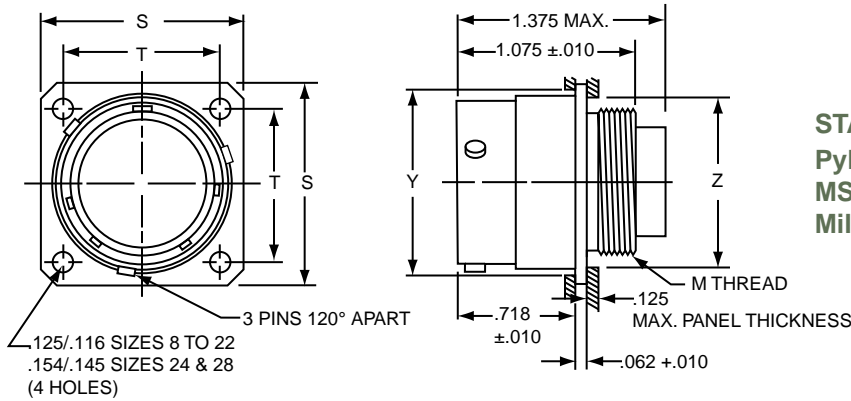
To complete see how to order pages 207

Military

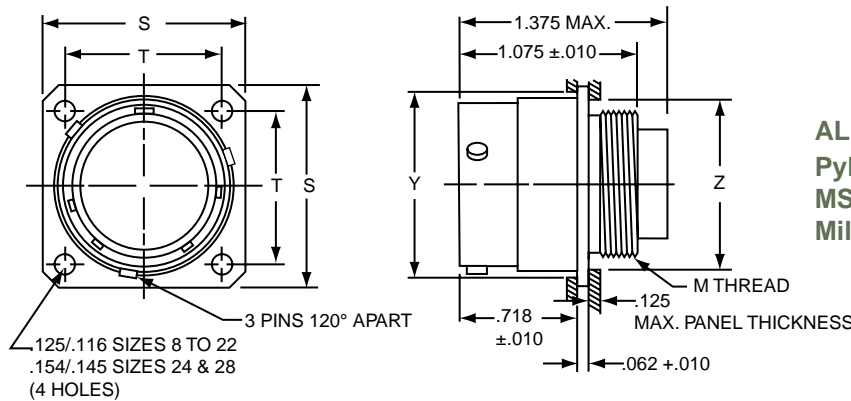
Shell Style	Service Class	Shell Size	Coupling Type	Insert Arrangement	Contact Type	Alternate Keying
MS24264	E or R	XX	B	XX	X	X

Commercial

Shell Style	Service Class	Contacts & Accessories	Shell Style	Shell Size	Insert Arrangement	Contact Type	Alternate Keying	Contact Plating	Deviations/Specials
ZZW	X	X	17	XX	XX	X	X	X	XXX



STAINLESS STEEL
Pyle ZZW-RX-17XX Series
MS24264EXXBXX
Military Class E



ALUMINUM
Pyle ZZW-XX-17XX Series
MS24264RXXBXX
Military Class R

Shell Size	M Cable Support Thread		Aluminum Connector Weight (lbs.) max including Contacts		S Flange Width ±.005	T Mounting Hole Centers ±.005	Y Back Mount Min. Hole	Z Front Mount Min. Hole
	Steel NS-2A	Alum. UNEF-2A Modified	Pin Insert	Socket Insert				
08**	NA	.437-28	.025	.026	.812	.594	.606	.443
10	.563-36	.562-24	.042	.044	.937	.719	.748	.572
12	.733-36	.750-20	.061	.062	1.031	.812	.913	.760
14	.803-36	.812-20	.072	.074	1.125	.906	.980	.822
16	.930-36	.937-20	.087	.090	1.250	.969	1.107	.948
18	1.036-36	1.062-18	.110	.112	1.343	1.062	1.209	1.072
20	1.161-36	1.187-18	.130	.134	1.437	1.156	1.325	1.197
22	1.286-36	1.312-18	.152	.159	1.562	1.250	1.452	1.322
24**	NA	1.437-18	.181	.188	1.703	1.375	1.577	1.447
28	NA	NA	NA	NA	NA	NA	NA	NA

NA designates not available. ** Not available in Stainless Steel. All dimensions for reference only.

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

MS24265, Pyle® (ZZW), MIL-DTL-26500

Single Hole (D-Hole) Mounted Receptacle, Bayonet



Part

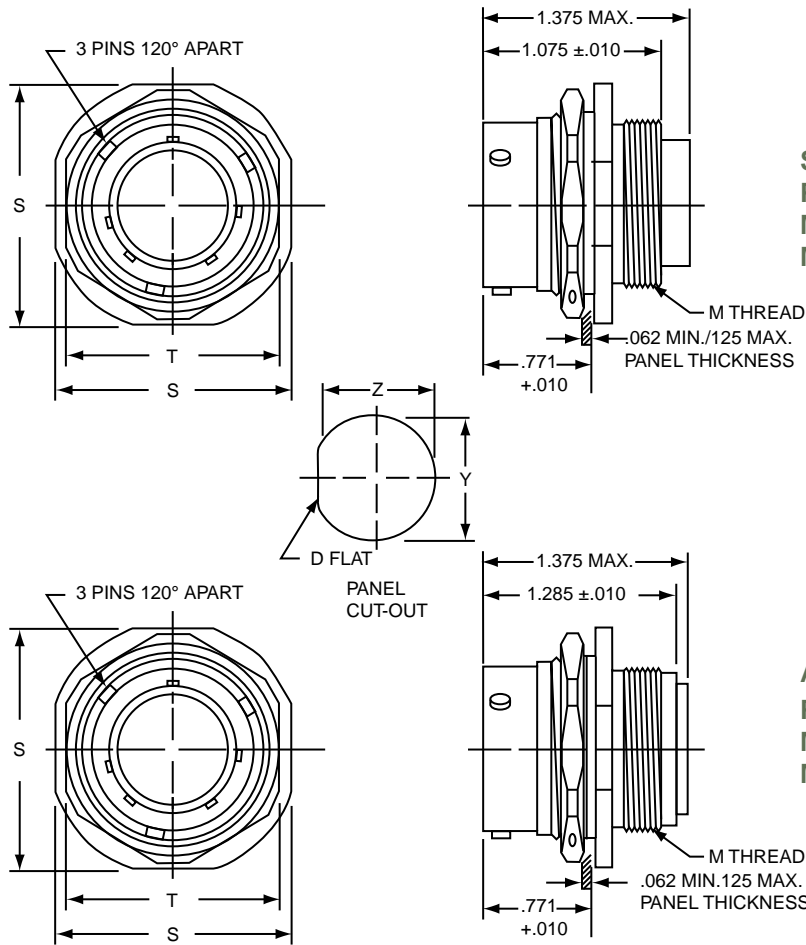
To complete see how to order pages 207

Military

Shell Style	Service Class	Shell Size	Coupling Type	Insert Arrangement	Contact Type	Alternate Keying
MS24265	E or R	XX	B	XX	X	X

Commercial

Shell Style	Service Class	Contacts & Accessories	Shell Style	Shell Size	Insert Arrangement	Contact Type	Alternate Keying	Contact Plating	Deviations/Specials
ZZW	X	X	15	XX	XX	X	X	X	XXX



STAINLESS STEEL
Pyle ZZW-RX-15XX Series
MS24265EXXBXX
Military Class E

ALUMINUM
Pyle ZZW-XX-15XX Series
MS24265RXXBXX
Military Class R

Shell Size	M Cable Support Thread		Aluminum Connector Weight (lbs.) max including Contacts		S Flange Width ±.005	T Lock Nut Flats		Y Dia Mounting Hole	Z Flat Mounting Hole	Recom. min. Torque Jam Nut Lb. - inches
	Steel NS-2A	Alum. UNEF-2A Modified	Pin Insert	Socket Insert		Steel	Alum.			
08**	NA	.437-28	.029	.030	.979	NA	.812	.635	.605	33
10	.563-36	.562-24	.049	.050	1.104	.937	.937	.760	.730	36
12**	NA	.750-20	.069	.070	1.291	1.125	1.125	.947	.917	56
14	.803-36	.812-20	.087	.089	1.391	1.062	1.187	1.010	.980	65
16	.930-36	.937-20	.104	.106	1.561	1.187	1.312	1.135	1.105	69
18	1.036-36	1.062-18	.131	.133	1.641	1.312	1.437	1.260	1.225	81
20	1.161-36	1.187-18	.152	.157	1.766	1.562	NA	1.385	1.350	100
22	1.286-36	1.312-18	.181	.187	1.954	1.585	1.687	1.510	1.475	123
24	1.411-36	1.437-18	.208	.212	2.079	1.687	1.812	1.635	1.600	133
28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA designates not available. ** Not available in Stainless Steel. All dimensions for reference only.

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

Part

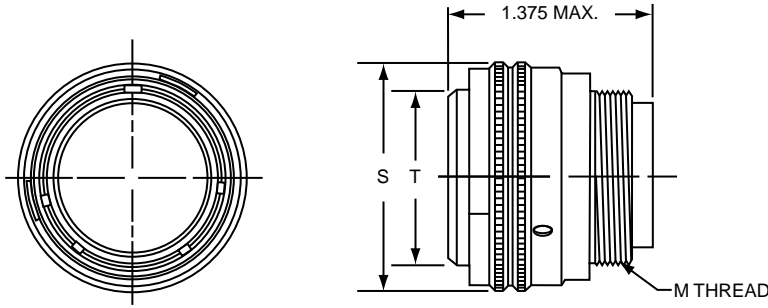
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Military

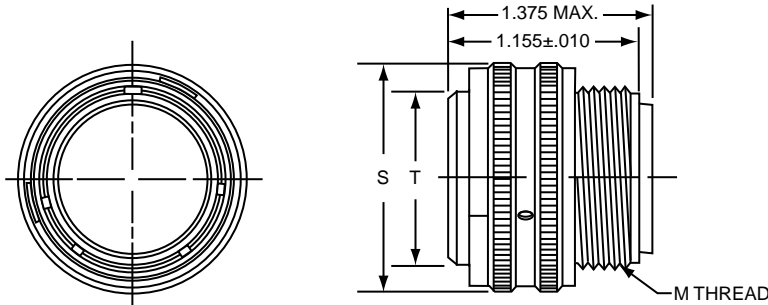
Shell Style	Service Class	Shell Size	Coupling Type	Insert Arrangement	Contact Type	Alternate Keying
MS24266	E or R	XX	B	XX	X	X

Commercial

Shell Style	Service Class	Contacts & Accessories	Shell Style	Shell Size	Insert Arrangement	Contact Type	Alternate Keying	Contact Plating	Deviations/ Specials
ZZW	X	X	10	XX	XX	X	X	X	XXX



STAINLESS STEEL
Pyle ZZW-RX-10XX Series
MS24266EXXBXX
Military Class E



ALUMINUM
Pyle ZZW-XX-10XX Series
MS24266RXXBXX
Military Class R

Shell Size	M Cable Support Thread		Aluminum Connector Weight (lbs.) max including Contacts		S Dia Max. Coupling Nut		T Shell Dia. +.000 - .005
	Steel NS-2A	Alum. UNEF-2A Modified	Pin Insert	Socket Insert	Steel	Alum.	
08**	NA	.437-28	.030	.031	NA	.762	.424
10	.563-36	.562-24	.044	.045	.848	.904	.526
12	.733-36	.750-20	.063	.064	1.018	1.076	.696
14	.803-36	.812-20	.074	.076	1.087	1.122	.765
16	.930-36	.937-20	.091	.094	1.214	1.264	.892
18	1.036-36	1.062-18	.110	.112	1.320	1.373	.998
20	1.161-36	1.187-18	.133	.136	1.445	1.503	1.123
22	1.286-36	1.312-18	.154	.160	1.570	1.623	1.248
24	1.411-36	1.437-18	.184	.188	1.695	1.752	1.373
28	NA	NA	NA	NA	NA	NA	NA

NA designates not available. ** Not available in Stainless Steel.
All dimensions for reference only.

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

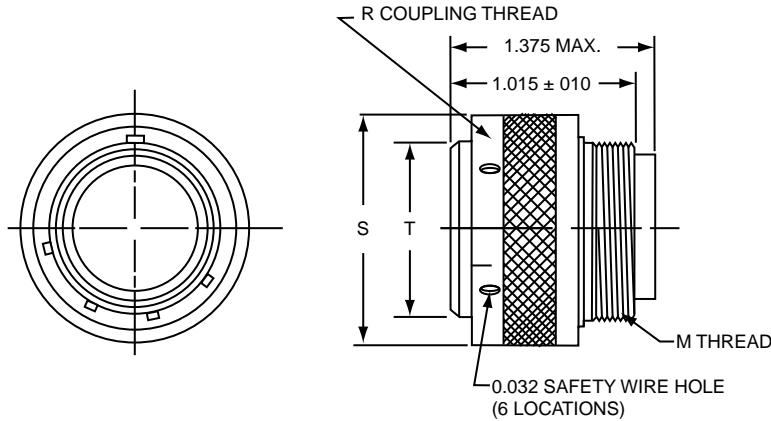
Options
Others

Pyle® (ZZY), MIL-DTL-26500 Ratchet Lock Plug, New Non-Decoupling Plug

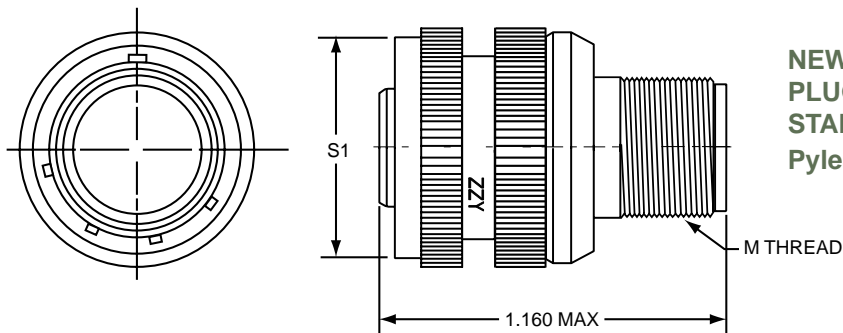


Part # To complete see how to order pages 207 **Commercial**

Shell Style	Service Class	Contacts & Accessories*	Shell Style	Shell Size	Insert Arrangement	Contact Type	Alternate Keying	Contact Plating	Deviations/Specials
ZZY	X	X	12	XX	XX	X	X	X	XXX
ZZY	X	X	13	XX	XX	X	X	X	XXX



RATCHET LOCK PLUG
STAINLESS STEEL/
ALUMINUM
Pyle ZZY-XX-12XX
Series



NEW NON-DECOUPLING PLUG
STAINLESS STEEL
Pyle ZZY-RX-13XX Series

Shell Size	M Thread Cable Support	R Thread Coupling	S Dia Coupling Nut	S1 Dia Coupling Nut	T Shell Dia.
08	.434-36	.562-24	.800	.820	.424
10	.563-36	.687-24	.934	.946	.526
12	.733-36	.875-20	1.114	1.088	.696
14	.803-36	.937-20	1.178	1.191	.765
16	.930-36	1.062-18	1.305	1.314	.892
18	1.036-36	1.312-18	1.411	1.420	.998
20	1.161-36	1.312-18	1.550	1.545	1.123
22	1.286-36	1.437-18	1.661	1.670	1.248
24	1.411-36	1.562-18	1.786	1.805	1.373
28	1.661-36	1.812-16	2.041	2.110	1.623

All dimensions for reference only.

III
II
I
SJT
38999

Matrix 2
26482

Matrix
Pyle
83723 III

Crimp Rear
Release Matrix
5015

26500 Pyle

Printed
Circuit Board

EMI Filter
Transient

Fiber Optics

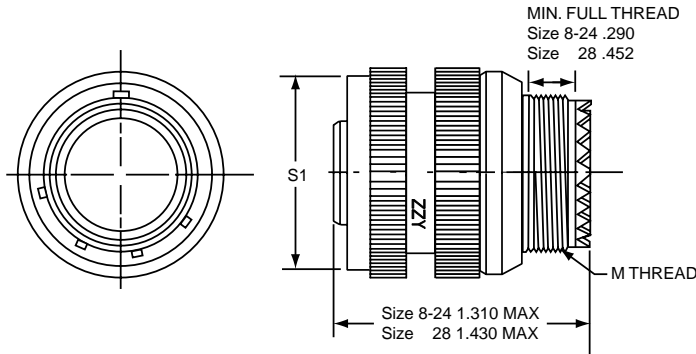
High Speed
Contacts

Options
Others

Part # To complete see how to order pages 208

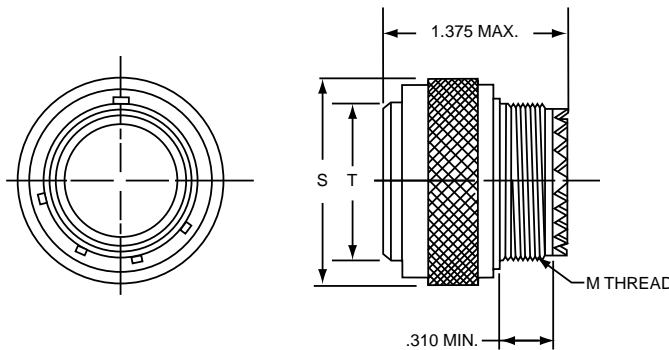
Commercial

Shell Style	Service Class	Contacts & Accessories*	Shell Style	Shell Size	Insert Arrangement	Contact Type	Alternate Keying	Contact Plating	Deviations/Specials
ZZY	X	X	12 or 13	XX	XX	X	X	X	XXX



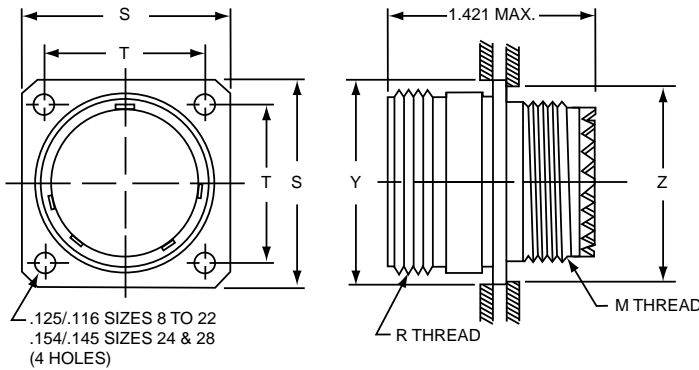
NEW NON-DECOUPLING PLUG MATING

Serrations per MS3155
STAINLESS STEEL/ALUMINUM
Pyle ZZY- XX-13XXX Series



RATCHET LOCK PLUG

With MIL-DTL-83723 Accessory
Serrations per MS3155
STAINLESS STEEL/ALUMINUM
Pyle ZZY- XX-12XXX Series



MATING SQUARE FLANGE MOUNTED, THREADED RECEPTACLE

STAINLESS STEEL/ALUMINUM
Pyle ZZY-XX-17XX Series

Shell Size	Plug				Receptacle				
	M Thread Cable Support	S Dia Max. Coupling Nut	T Shell Dia. +.000 - .005	R Coupling Thread	S Flange Width ±.005	S1 Dia Coupling Nut	T Mounting Hole Centers ±.005	Y Back Mount Hole (min.)	Z Front Mount Hole (min.)
08	NA	NA	NA	NA	NA	.820	NA	NA	NA
10	.6250-24	.945	.526	.6875-24	.937	.946	.719	.706	.635
12	.7500-20	1.165	.696	.8750-20	1.031	1.088	.812	.885	.760
14	.8750-20	1.230	.765	.9375-20	1.125	1.191	.906	.947	.885
16	1.0000-20	1.353	.892	1.0625-18	1.250	1.314	.969	1.072	1.010
18	1.0625-18	1.468	.998	1.1875-18	1.343	1.420	1.062	1.197	1.072
20	1.1875-18	1.607	1.123	1.3125-18	1.437	1.545	1.156	1.322	1.197
22	1.3125-18	1.733	1.248	1.4375-18	1.562	1.670	1.250	1.447	1.322
24	1.4375-18	1.858	1.373	1.5625-18	1.703	1.805	1.375	1.572	1.448
28	1.7500-18	2.113	1.623	1.8120-16	2.000	2.110	1.562	1.822	1.760

NA designates not available. All dimensions for reference only.

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

THREADED COUPLING, FIREWALL, PYLE FPK, FPL, FP5K, MS2761X-KXXTXX

Shell Style (Firewall stainless steel only)	Basic Performance Level	Hardware Description*	Class*	Basic Part Number**
 <p>Square Flange Mounted Receptacle Threaded Coupling</p>	High performance. Environmentally sealed. Resists high temperatures up to 238°C (460°F).	Class K Firewall Stainless Steel	Military Class K	MS27613-KXXTXX
			Pyle FPK or FPL or FP5K Series	FPK-17() or FPL-17() or FP5K-17()
 <p>Single Hole (D-Hole) Mounted Receptacle Threaded Coupling</p>	High performance. Environmentally sealed. Resists high temperatures up to 238°C (460°F).	Class K Firewall Stainless Steel	Military Class K	MS27614-KXXTXX
			Pyle FPK or FPL or FP5K Series	FPK-19() or FPL-19() or FP5K-19()
 <p>Straight Plug Threaded Coupling</p>	High performance. Environmentally sealed. Resists high temperatures up to 238°C (460°F).	Class K Firewall Stainless Steel	Military Class K	MS27615-KXXTXX
			Pyle FPK or FPL	FPK-11() or FPL-11()
 <p>Ratchet Locking Plug Threaded Coupling</p>	High performance. Environmentally sealed. Resists high temperatures up to 238°C (460°F).	Class K Firewall Stainless Steel	Meets Military Class K	Consult Amphenol
			Pyle FPK or FPL or FP5K Series	FPK-12() or FPL-12() or FP5K-12()

BAYONET COUPLING, FIREWALL, PYLE FYL, MS2761X-KXXBXX

Shell Style (Firewall stainless steel only)	Basic Performance Level	Hardware Description*	Class*	Basic Part Number**
 <p>Square Flange Mounted Receptacle Bayonet Coupling</p>	High performance. Environmentally sealed. Resists high temperatures up to 238°C (460°F).	Class K Firewall Stainless Steel	Military Class K	MS27613-KXXBXX
			Pyle FYL Series	FYL-17()
 <p>Single Hole (D-Hole) Mounted Receptacle Bayonet Coupling</p>	High performance. Environmentally sealed. Resists high temperatures up to 238°C (460°F).	Class K Firewall Stainless Steel	Military Class K	MS27614-KXXBXX
			Pyle FYL Series	FYL-19()
 <p>Straight Plug Bayonet Coupling</p>	High performance. Environmentally sealed. Resists high temperatures up to 238°C (460°F).	Class K Firewall Stainless Steel	Military Class K	MS27615-KXXBXX
			Pyle FYL Series	FYL-11()

* See how to order, page 218, for further description of hardware classes.
 ** See how to order, page 218, to complete part numbers.

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

Easy Steps to build a part number... Military

1. Shell Style	2. Service Class	3. Shell Size	4. Coupling Type	5. Insert Arrangement	6. Contact Type	7. Alternate Keying	8. Cable Support
MS27613	K	14	T	7	P	6	D

Step 1. Select a Shell Style

	Designates
MS27613	Square Flange Receptacle
MS27614	Single Hole Mounting Receptacle
MS27615	Straight Plug

Step 2. Select a Service Class

	Designates
K	Firewall - Stainless steel, passivated

Step 3. Select a Shell Size

12	14	16	18	22	24	28
----	----	----	----	----	----	----

Step 4. Select a Coupling Type

	Designates
T	Threaded
B	Bayonet

For Ratchet Lock Plug and New Non-Decoupling Consult Amphenol

Step 5. Select an Insert Arrangement on pages 203 & 204

Shell Size & Insert Arrangements are on pages 203 & 204. First number represents Shell Size, second number is the Insert Arrangement.

Step 6. Select a Contact Type

	Designates
P	Pin Contacts
S	Socket Contacts

Step 7. Select an Alternate Keying Position

6, 7, 8, 9, Y (N for Normal) See page 204

Step 8. Select a Cable Support

	Designates
D	Long Straight (MS27658)
P	Standard Straight (MS27657)
J	Right Angle (MS27659)

(omit for normal)
See page 233

Easy Steps to build a part number... Commercial

1. Connector Type	2. Shell Style	3. Shell Size	4. Insert Arrangement	5. Contact Type	6. Less Contact/Contact Plating	7. Alternate Keying	8. Cable Support	9. Deviations/Specials
FPK	11	28	42	S	T	06	D	XXX

Step 1. Select a Shell Style

	Designates (Firewall, Class K Styles)
FPK	Threaded coupling, qualified to MIL-DTL-26500 and BACC63 Series
FPL	Threaded coupling, same as FPK, but used on Lockheed Aircraft
FP5K	Threaded Coupling, qualified for General Electric
FYL	Bayonet Coupling, qualified to MIL-DTL-26500

Step 4. Select an Insert Arrangement on pages 203 & 204

Shell Size & Insert Arrangements are on page 203 & 204. First number represents Shell Size, second number is the Insert Arrangement.

Step 7. Select an Alternate Keying Position

6, 7, 8, 9, Y (N for Normal) See page 204

Step 8. Select a Cable Support

	Designates
D	Long Straight
P	Standard Straight
J	Right Angle

(omit for normal)
See page 233

Step 2. Select a Shell Type

	Designates
11	Straight Plug
12	Ratchet Locking Threaded Plug
13	Improved Non-Decoupling Plug
17	Square Flange Receptacle
19	D-Hole Mounting Receptacle

Step 5. Select a Contact Type

	Designates
P	Pin Contacts
S	Socket Contacts

Step 6. Select a Contact/Contact Plating

	Designates
E	No Contacts
T	Rhodium
D	Gold Contacts

Step 9. Deviations/Specails

Please consult Amphenol for more information.

Step 3. Select a Shell Size

12	14	16	18	22	24	28
----	----	----	----	----	----	----

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

Easy Steps to build a part number... Per Boeing Company

1.	2.	3.	4.	5.	6.	7.	8.
Boeing Aircraft	Electrical Connector	Shell Type	Shell Size	Accessories	Insert Arrangement	Contact Type	Alternate Keying
BAC	C	63X	14	S	T	06	D

Step 1. Boeing Aircraft

	Designates
BAC	Boeing Aircraft Company

Step 2. Electrical Connector

	Designates
E	Electrical Connector

Step 3. Select a Shell Type

	Designates
63X	Plug, Threaded, Fire Barrier
63Y	Receptacle, Threaded Fire Barrier
63AE	Plug, Threaded, for use with No. 20 Wire Fire Barrier
63AF	Receptacle, Flange Mount, Threaded, Fire Barrier, For use with No. 20 Wire Fire Barrier.

Note: AE & AF require W11 variation on Pyle Number.

Step 4. Select a Shell Size

12	14	16	18	22	24	28
----	----	----	----	----	----	----

Step 5. Accessories

	Designates
C	To order with D Cable Clamp replace - with Letter C

Step 6. Select an Insert Arrangement on pages 201 & 202

Shell Size & Insert Arrangements are on page 201 & 202. First number represents Shell Size, second number is the Insert Arrangement.

Step 7. Select a Contact Type

	Designates
P	Pin Contacts
S	Socket Contacts

Step 8. Select an Alternate Keying Position

6, 7, 8, 9, Y (N for Normal) See page 202

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

Part

To complete see how to order pages 218

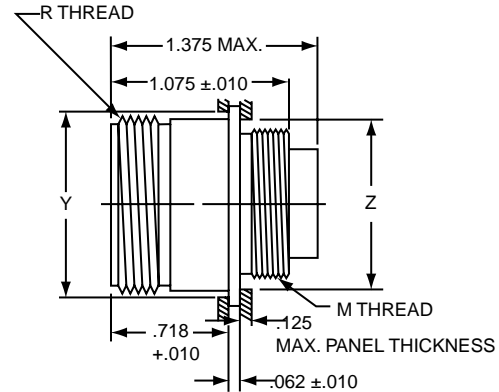
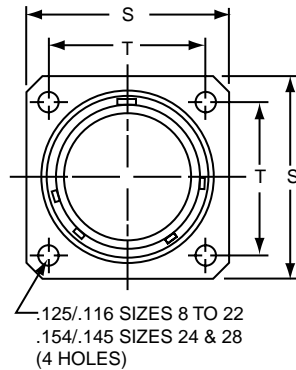
Military

Shell Style	Service Class	Shell Size	Coupling Type	Insert Arrangement	Contact Type	Alternate Keying	Cable Support
MS27613	K	XX	B or T	XX	X	X	X

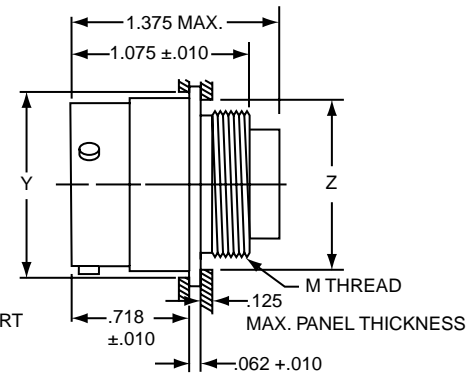
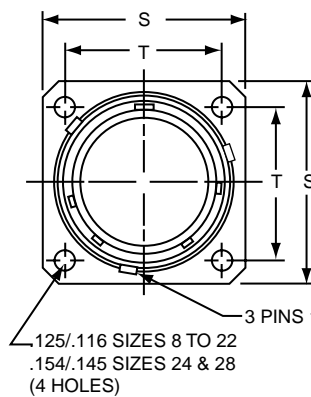
Commercial

Connector Type	Shell Style	Shell Size	Insert Arrangement	Contact Type	Contact Style	Alternate Keying	Cable Support	Deviations/Specials
FPK or FYL	17	X	XX	XX	X	X	X	XXX

THREADED COUPLING Class K Stainless Steel Pyle FPK-17XX Series MS27613KXXTXX Military Class K



BAYONET COUPLING Class K Stainless Steel Pyle FYL-17XX Series MS27613KXXBXX Military Class K



Shell Size	M Cable Support Thread	R Coupling Thread	S Flange Width ±.005	T Mounting Hole Centers ±.005	Y Back Mount Min. Hole	Z Front Mount Min. Hole
08	NA	NA	NA	NA	NA	NA
10	NA	NA	NA	NA	NA	NA
12**	.733-36	.875-20	1.031	.812	.913	.760
14	.803-36	.937-20	1.125	.906	.980	.822
16	.930-36	1.062-18	1.250	.969	1.107	.948
18	1.036-36	1.187-18	1.343	1.062	1.209	1.072
20	NA	NA	NA	NA	NA	NA
22	1.286-36	1.437-18	1.562	1.250	1.452	1.322
24**	1.411-36	1.562-18	1.703	1.375	1.577	1.422
28**	1.661-36	1.812-16	2.000	1.562	1.827	1.700

NA designates not available. ** Available in Threaded Coupling only.
All dimensions for reference only.

MS27614, Pyle® FPK or FYL, Firewall Class K Single Hole (D-Hole) Mounted Receptacle



Threaded or Bayonet

Part

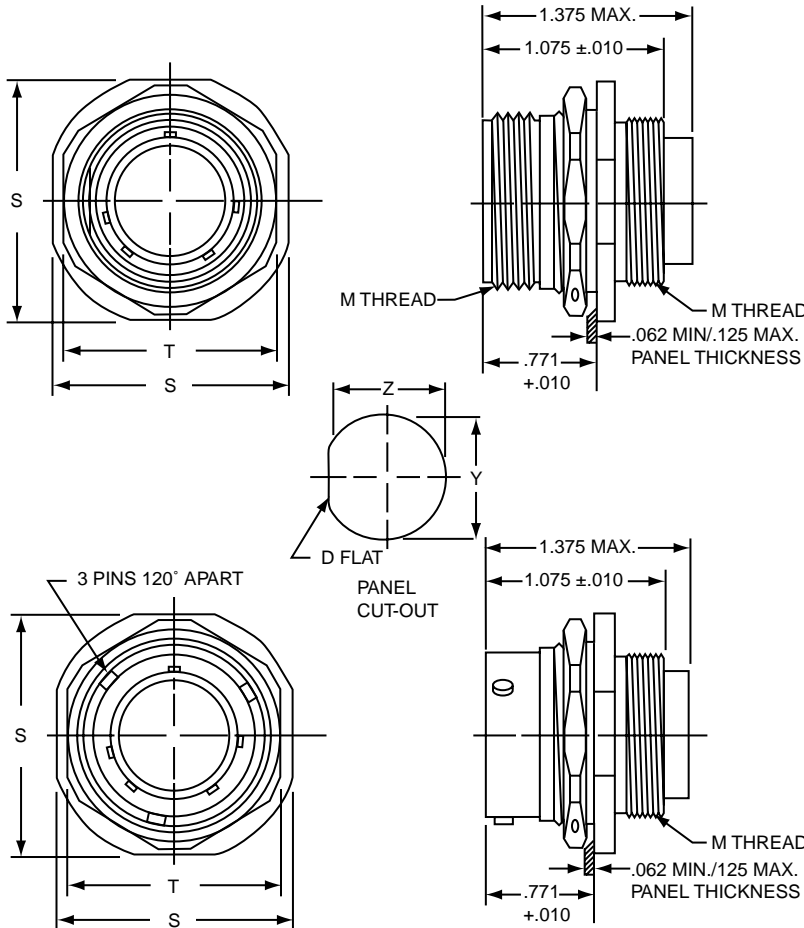
*To complete see how to order pages 218

Military

Shell Style	Service Class	Shell Size	Coupling Type	Insert Arrangement	Contact Type	Alternate Keying	Cable Support
MS27614	K	XX	B or T	XX	X	X	X

Commercial

Connector Type	Shell Style	Shell Size	Insert Arrangement	Contact Type	Contact Style	Alternate Keying	Cable Support	Deviations/ Specials
FPK or FYL	19	X	XX	XX	X	X	X	XXX



THREADED COUPLING
Class K Stainless Steel
Pyle FPK-19XX Series
MS27614KXXTXX
Military Class K

BAYONET COUPLING
Class K Stainless Steel
Pyle FYL-19XX Series
MS27614KXXBXX
Military Class K

Shell Size	M Cable Support Thread	R Coupling Thread	S Flange Width	T Lock Nut Flats	Y Mounting Hole Dia.	Z Mounting Hole Flat	Recom. min. Torque Jam Nut
08	NA	NA	NA	NA	NA	NA	33
10	NA	NA	NA	NA	NA	NA	36
12**	.733-36	.875-20	1.291	1.215	.947	.917	56
14	.803-36	.937-20	1.391	1.062	1.010	.980	65
16	.930-36	1.062-18	1.516	1.187	1.135	1.105	69
18	1.036-36	1.187-18	1.614	1.312	1.260	1.225	81
20	NA	NA	NA	NA	NA	NA	100
22**	1.286-36	1.437-18	1.954	1.562	1.510	1.475	123
24	NA	NA	NA	NA	NA	NA	133
28	NA	NA	NA	NA	NA	NA	NA

NA designates not available. ** Available in Threaded Coupling only.
All dimensions for reference only.

- III 38999
- II 26482
- I Matrix 2
- SJT 83723 III
- 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

Part #

Military

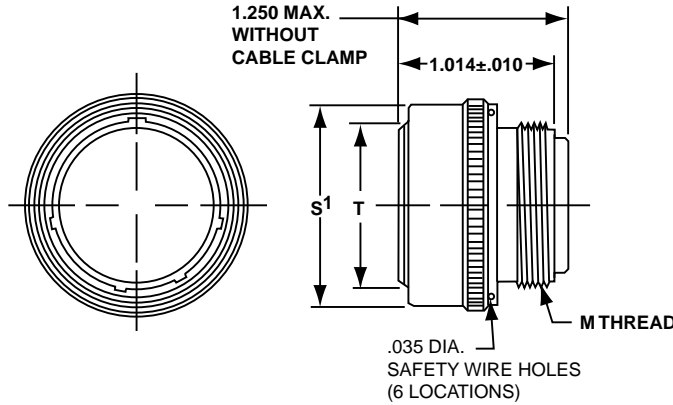
To complete see how to order pages 218

Shell Style	Service Class	Shell Size	Coupling Type	Insert Arrangement	Contact Type	Alternate Keying	Cable Support
MS27615	K	XX	B or S	XX	X	X	X

Commercial

Connector Type	Shell Style	Shell Style	Insert Arrangement	Contact Type	Contact Style	Alternate Keying	Cable Support	Deviations/Specials
FPK or FYL	11 or 12	X	XX	XX	X	X	X	XXX

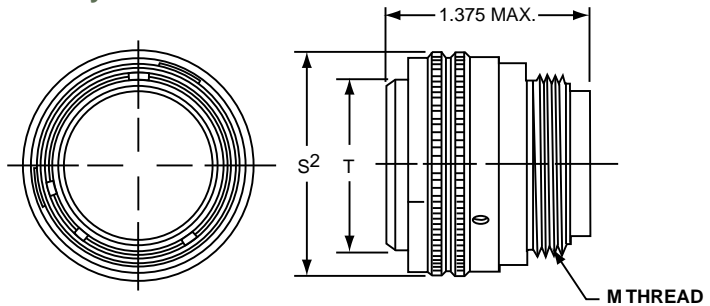
THREADED COUPLING
Class K Stainless Steel
Pyle FPK-11XX Series
MS27615KXXTXX
Military Class K



Shell Size	M Cable Support Thread	R Coupling Thread	Coupling Nut		T Shell Dia.
			S ¹ Dia.	S ² Dia.	
08	NA	NA	NA	NA	NA
10	NA	NA	NA	NA	NA
12	.733-36	.875-20	.984	1.018	.696
14	.803-36	.937-20	1.054	1.087	.765
16	.930-36	1.062-18	1.181	1.214	.892
18	1.036-36	1.187-18	1.287	1.320	.998
20	NA	NA	NA	NA	NA
22	1.286-36	1.437-18	1.537	1.570	1.248
24	1.411-36	1.562-18	1.662	1.695	1.373
28**	1.661-36	1.812-16	1.912	NA	1.623

** Available in Threaded Coupling only.

BAYONET COUPLING Class K Stainless Steel
Pyle FYL-11XX Series MS27615KXXBXX
Military Class K



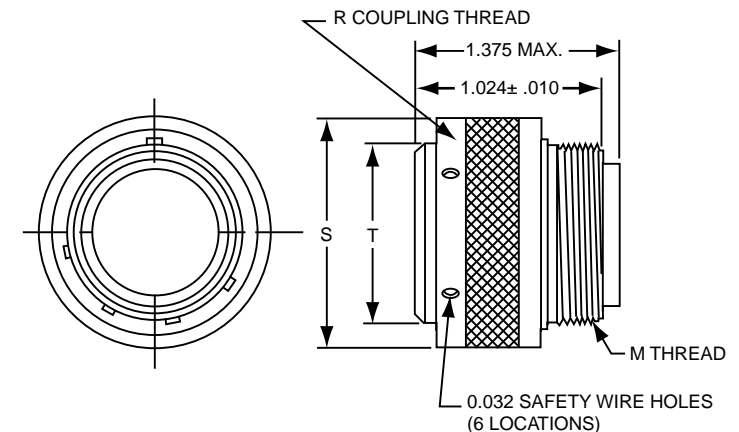
MS27615, Pyle® FPK, Firewall Class K

Ratchet Lock Plug, Threaded

RATCHET LOCK PLUG

Threaded Coupling
Class K Stainless Steel Pyle FPK-12XX Series
MS27615KXXSXX
Military Class K

Shell Size	M Cable Support Thread	R Coupling Thread	S Coupling Nut Dia	T Shell Dia.
08	NA	NA	NA	NA
10	.563-36	.687-24	.931	.526
12	.733-36	.875-20	1.111	.696
14	.803-36	.937-20	1.175	.765
16	.930-36	1.062-18	1.302	.892
18	1.036-36	1.187-18	1.408	.998
20	NA	NA	NA	NA
22	1.286-36	1.437-18	1.658	1.248
24	1.411-36	1.562-18	1.783	1.373
28	1.661-36	1.812-16	2.038	1.623



NA designates not available.
All dimensions for reference only.

MIL-DTL-26500 Type – 48 Series

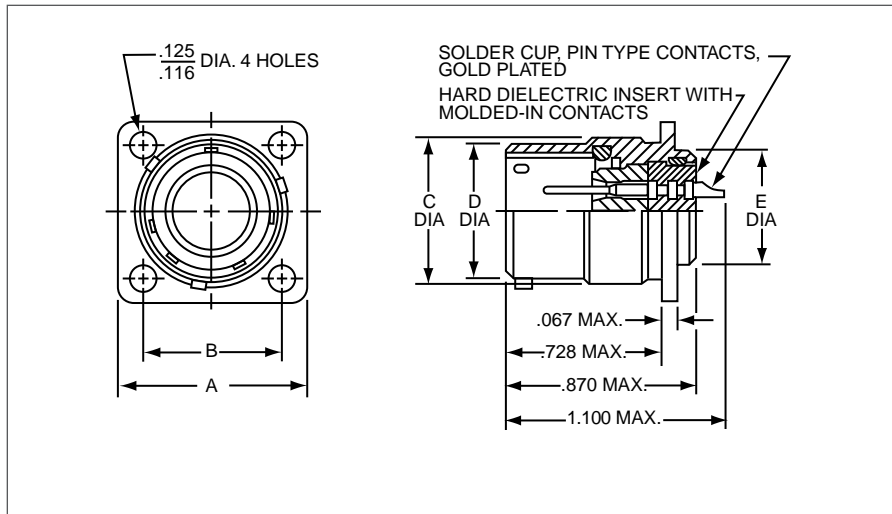
Receptacle Short Skirt



Receptacle Short Skirt – Aluminum – Bayonet Coupling

Shorter, lighter, and more economical than the standard MIL-DTL-26500 connector receptacles, the 48 Series receptacle short skirt comes in two versions: with standard flange and with reduced flange. Both versions are 1.100" long which is .275" shorter than the length of the standard MIL-DTL-26500 connector.

They have molded epoxy fiberglass inserts and can operate continuously up to 125°C (257°F), but otherwise they offer the same environmental sealing, from the panel out, as standard MIL-DTL-26500 connectors. They have bayonet coupling and mate with standard MIL-DTL-26500 plugs. The hard dielectric inserts, with resilient face seal and molded-in gold plated solder cup pin type contacts, are available in insert arrangements shown in the chart below.



AVAILABLE WITH PIN CONTACTS ONLY

48 Series

Receptacle Short Skirt with Standard Flange

Insert Arrangement	Amphenol Part Number*	A ±.005	B ±.005	C Max.	D +.000 - .005	E Max.
10-5	48-7115-XX	.937	.719	.696	.659	.562
12-3	48-7116-XX	1.031	.812	.875	.829	.750
12-12	48-7117-XX	1.031	.812	.875	.829	.750
14-4	48-7118-XX	1.125	.906	.935	.898	.812
14-7	48-7119-XX	1.125	.906	.935	.898	.812
14-15	48-7120-XX	1.125	.906	.935	.898	.812
16-24	48-7121-XX	1.250	.969	1.062	1.025	.938
18-8	48-7122-XX	1.343	1.062	1.187	1.131	1.062
18-14	48-7123-XX	1.343	1.062	1.187	1.131	1.062
18-31	48-7124-XX	1.343	1.062	1.187	1.131	1.062
20-25	48-7251-XX	1.437	1.156	1.312	1.256	1.182
20-28	48-7175-XX	1.437	1.156	1.312	1.256	1.182
22-12	48-7125-XX	1.562	1.250	1.437	1.381	1.312
22-19	48-7126-XX	1.562	1.250	1.437	1.381	1.312
22-55	48-7127-XX	1.562	1.250	1.437	1.381	1.312

Receptacle Short Skirt with Reduced Flange

Insert Arrangement	Amphenol Part Number*	A Max.	B ±.005	C Max.	D +.000 - .005	E Max.
10-5	48-7132-XX	.870	.647	.696	.659	.562
12-3	48-7133-XX	.996	.773	.875	.829	.750
12-12	48-7134-XX	.996	.773	.875	.829	.750

* To complete part number: Replace XX with alternate keying positions (omit for normal position). See page 204.

For more information on other Amphenol®/Pyle® 48 Series products consult Amphenol, Sidney NY

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

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

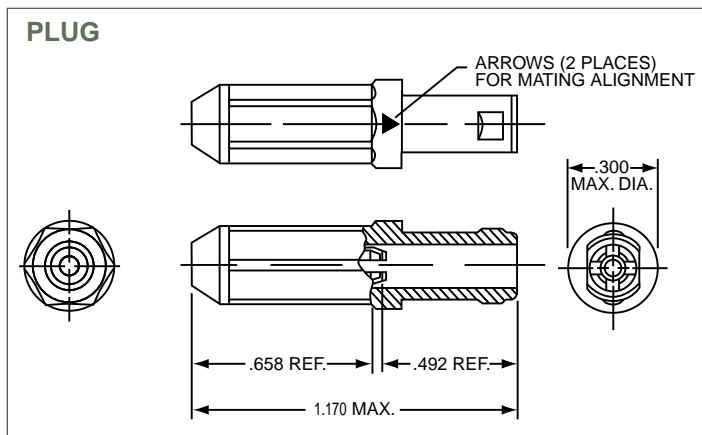
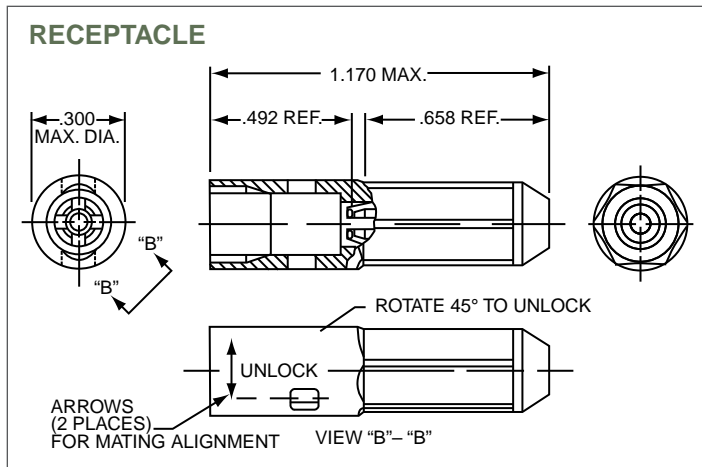
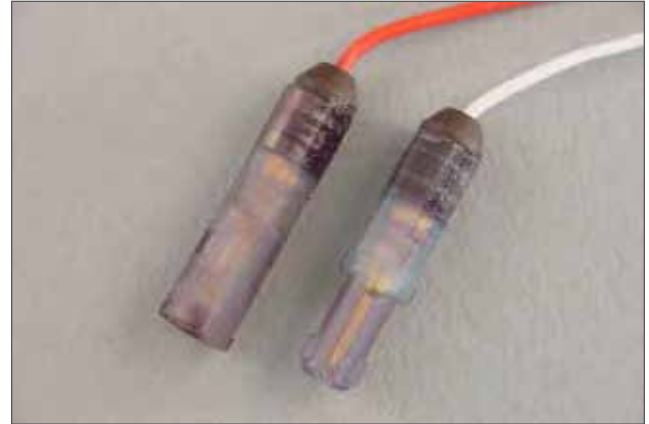
Options
Others

Special Application Wire Splice Connector

The Amphenol® 48 Series Wire Splice Connector is a low cost, space-saving connector design that can be used for various applications. The push-mating/twist-pull-unmating feature provides a simple solution to many design requirements without sacrificing performance. This wire splice connector utilizes a metal retention clip for a single size 16 pin and socket contact.

Features and benefits include:

- Push-mating/twist-pull-unmating
- Uses standard M39029/31-229 pin and M39029/32-248 socket contacts
- Incorporates environmental sealing grommet
- Metal collet retention
- Uses standard MIL-DTL-26500 contact removable tools
- Low cost
- Weight savings design
- Space savings design
- Color coded connector halves - red or blue



Receptacle Wire Splice

Amphenol 48 Series Part Number	Amphenol 10- Part Number	Color	Size 16 Contact Part Number
48-7191	10-804342	Blue	Pin ZZL-4016-36LD
48-7191-1	10-804342-1	Red	Socket ZZL-4116-36LD

Plug Wire Splice

Amphenol 48 Series Part Number	Amphenol 10- Part Number	Color	Size 16 Contact Part Number
48-7190	10-804341	Blue	Pin ZZL-4016-36LD
48-7190-1	10-804341-1	Red	Socket ZZL-4116-36LD

Pyle® ZZL/ZZB, MIL-DTL-26500 Type Hermetic (three styles), Threaded or Bayonet



Amphenol®/Pyle® is an experienced supplier of highly reliable hermetic connectors for the aircraft industry. Amphenol's ZZL and ZZB series of hermetic receptacles are designed to the requirements of MIL-DTL-26500, they are available in stainless steel shells with gold-plated, nickel-iron alloy contacts.

Hermetic receptacles are available in shell sizes 8, 10, 12, 14, 16, 18, 22, 24 and 28. The hermetic series is offered in a variety of receptacle shell styles, which include solder mount, square flange and "D" hole mount. These connectors can be ordered with either eyelet, solder-well or printed circuit tail pin contacts.

Consult Amphenol, Sidney, NY for more information on hermetic connectors, and for optional connector designs.



III
II
I
SJT
38999

Matrix 2
26482

Matrix
Pyle
83723 III

5015
Crimp Rear
Release Matrix

26500 Pyle

Printed
Circuit Board

EMI Filter
Transient

Fiber Optics

High Speed
Contacts

Options
Others

Easy Steps to build a part number for Hermetic Connectors... Commercial

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.

Series	Service Class	Shell Style	Shell Size	Insert Arrangement	Contact Type	Alternate Keying	Contact Plating	Variations
ZZY	A	C	T	55	P	6	D	H45

Step 1. Select a Series

	Designates
ZZL	Threaded Coupling
ZZB	Bayonet Coupling

Step 2. Service Class

	Designates
HC	Hermetic Class

Step 3. Select a Shell Style

	Designates
14	Solder Mount Receptacle
15	Single Hole Mounting Receptacle
17	Square Flange Receptacle

Step 5. Select a Shell Size

8	10	12	14	16	18	22	24	28
---	----	----	----	----	----	----	----	----

Step 6. Select an Insert Arrangement

See inserts labeled with an "H" on page 203 & 204

Step 7. Select a Contact Type

	Designates
P	Male Pin Contacts with standard gold plate

Step 8. Select an Alternate Keying Position

06, 07, 08, 09, 10 (Omit for Normal)
See page 204

Step 9. Select a Contact Plating

	Designates
E	Eyelet
W	Solderwell

Consult Amphenol, Sidney, NY for ordering information of printed circuit tail contacts.

Step 10. Select a Variation

	Designates
H45	304L Stainless Steel Shell
H52	Tinned Termination Tails
H56	Same as standard; gold contacts
H77	304L Stainless Steel Shell, Inconel Contacts
H127	Same as H125 except 304L Stainless Steel Shell
H146	303 Stainless Steel Shell, 100 Micro-inch Gold
H152	304L Stainless Steel Shell with Individual Beads, Loose Seals
H177	303 Stainless Steel Shell, Loose Seals
H181	Tin Plated Contacts

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

Crimp Contacts per MIL-DTL-39029 – Copper Alloy, Gold Plating

PIN CONTACTS				
Contact Size	Spec. Number	Bin Code	MS Number	Amphenol/Pyle No.
20	M39029/31	241	MS24254-20P	ZZL-4020-36LD*
16	M39029/31	229	MS24254-16P	ZZL-4016-36LD*
12	M39029/31	235	MS24254-12P	ZZL-4012-36LD*

SOCKET CONTACTS				
Contact Size	Spec. Number	Bin Code	MS Number	Amphenol/Pyle No.
20	M39029/32	260	MS24255-20S	ZZL-4120-36LD*
16	M39029/32	248	MS24255-16S	ZZL-4116-36LD*
12	M39029/32	254	MS24255-12S	ZZL-4112-36LD*

* Add – H139 for Boeing Marking for Pin/Socket, Standard Plating.
Add – H148 for Boeing Marking for Pin/Socket, Select Plate.

Amphenol®/Pyle® Special Application Contacts

Copper Alloy, Rhodium plated Contacts†			
Contact Size	Description	Amphenol/Pyle Pin No.	Amphenol/Pyle Socket No.
20	Copper Alloy/ Rhodium plated	ZZL-4020-36LT	ZZL-4120-36LT
16	Copper Alloy/ Rhodium plated	ZZL-4016-36LT	ZZL-4116-36LT
12	Copper Alloy/ Rhodium plated	ZZL-4012-36LT	ZZL-4112-36LT

† Contacts qualified to Boeing BACC47CN/CP.

Thermocouple Contacts					
Contact Size	Material	Amphenol/Pyle Pin No.	Amphenol/Pyle Socket No.		
			Pencil Clip Design*	Split Tine Design**	Color Code
20	Alumel Chromel Constantan	ZZL-4020-10R	ZZL-4120-10R	ZZY-4120-10R	Green
		ZZL-4020-10P	ZZL-4120-10P	ZZY-4120-10P	White
		ZZL-4020-10N	ZZL-4120-10N	ZZY-4120-10N	Yellow
16	Alumel Chromel Constantan	ZZL-4016-10R	ZZL-4116-10R	ZZY-4116-10R	Green
		ZZL-4016-10P	ZZL-4116-10P	ZZY-4116-10P	White
		ZZL-4016-10N	ZZL-4116-10N	ZZY-4116-10N	Yellow
12	Alumel Chromel Constantan	ZZL-4012-10R	ZZL-4112-10R	ZZY-4112-10P	Green
		ZZL-4012-10P	ZZL-4112-10P	ZZY-4112-10P	White
		ZZL-4012-10N	ZZL-4112-10N	ZZY-4112-10N	Yellow

* Pencil clip socket design - see page 201 for description.

** Split tine socket with napkin ring design - see page 201 for description.

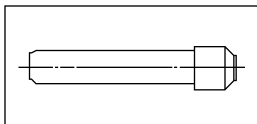
Printed Circuit Board/Wire-Wrap Contacts

A variety of different designs are available; please consult Amphenol, Sidney, NY for more information.

Reel Contacts

2000 contacts per reel (gold or rhodium plated) are available. Consult Amphenol, Sidney, NY for more information.

Sealing Plugs

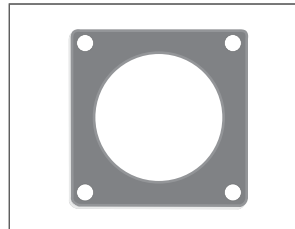


For sealing spare contact holes. Same sealing plug is used in both plug and receptacle.

Contact Size	Amphenol/Pyle No.	MS Number	Color Code
20	10-405996-20	MS-27488-20	Red
16	10-405996-16	MS-27488-16	Blue
12 & #1 Shielded	10-405996-12	MS-27488-12	Yellow
# 2 Shielded	10-405996-8	MS27187-4	White

Sealing Gaskets

For use with square flange mounted receptacles. Provide waterproofing and pressure sealing features.



Contact Size	Amphenol/Pyle No.
08	ZZL-6508-10D
10	ZZL-6510-10D
12	ZZL-6512-10D
14	ZZL-6514-10D
16	ZZL-6516-10D
18	ZZL-6518-10D
20	ZZL-6520-10D
22	ZZL-6522-10D
24	NA

Shielded/Coaxial Contacts

For MIL-DTL-26500 Connectors



Drawing (See below and on next page)	Shielded Contact Part No./ Contact Type	Cable Stripping Dim.***			Amphenol Crimp Tools (Center Contact)			Outer Ferrule Crimping Tool††	Cable Application
		A	B	C	Tool	Nest Bushing	Crimp Setting		
Type 1 #1 Shielded	48-1226-02 Pin 48-1227-02 Socket 48-1227-50 Socket	.2189	.0781	.1094	294-268* 294-289**	294-1631	#3	294-529	#22 AWG per MIL-C-7078 Type II and MIL-C-27500-22 KING RG-174/U, -188/U
	48-1226-57 Pin 48-1227-57 Socket	.2189	.0781	.1094	294-268* 294-289**	294-1631	#1	294-529	RG-161/U, -179/U, -179A/U, -187/U
	48-1226-57 Pin 48-1227-57 Socket	.2189	.0781	.1094	294-268* 294-289**	294-1631	#1	294-528	Raychem 9530A11
Type 2 #1 Shielded	48-1226-51, -54 Pin 48-1227-51, -54, -56 Socket	.2189	.0313	.1563	294-268* 294-289**	294-1631	#1	294-528	RG-180/U, -180A/U, -180B/U, -195/U
Type 3 #1 Shielded	48-1226-55 Pin 48-1227-55 Socket	.2344	.0313	.1563	294-268* 294-289**	294-1631	#1	294-529	RG-178/U, -178A/U, -178B/U, -196-U
Type 4 #2 Shielded	48-2187-02 Pin 48-2188-02 Socket	.2189	.1094	.1406	294-126** 294-243** 294-1166**† 294-358** 294-268*	294-1014 Turret Head 294-1014 294-1015 299-1630	.030 -.040	294-528	#18, 20, 22 AWG per MIL-C-7078, Type II and MIL-C-27500-18, -20, -22 KING Extruded Jacket
	48-2187-50, -51 Pin 48-2188-50, -51, -53, -54 Socket	.2189	.1094	.1406	294-1166**† 294-358** 294-268*	294-1014 294-1015 294-1630	.030 .040 #3	294-528	RG-180/U, -180A/U, -180B/U, -195/U
Type 5 #2 Shielded	48-2187-52 Pin 48-2188-52 Socket	.3125	.1094	.1406	294-358** 294-268*	294-1015 294-1630	-.037 -.041	294-530	RG-59/U and 21-541

* Conforms to MIL-C-22520/2 specification.

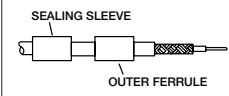
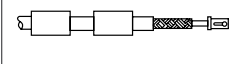
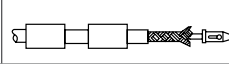
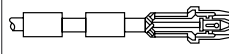
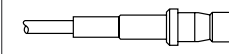
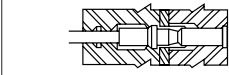
** MS3191 tools are inactive for new procurement, but can be used if available.

*** Refer to illustration on page 228.

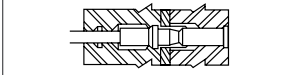
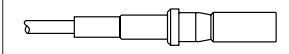
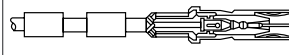
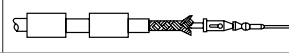
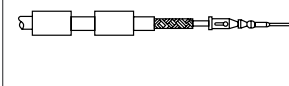
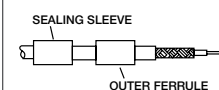
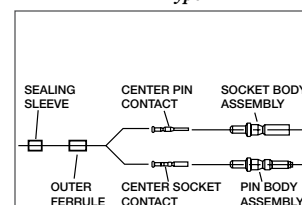
† Same as 294-126, less positioners.

†† Including Hex Die Set

Shielded Contact Assembly Procedure

Step 1	Slide sealing boot or sleeve and outer ferrule onto cable and strip cable as shown at right. After stripping, slide spacer over center conductor as shown for Type 2 and Type 3 . For Type 3 slide spacer under wire braid.	
Step 2	Insert stripped center conductor into contact until wire shows through inspection hole and dielectric (Type 1 , Type 4 and Type 5) or spacer (Type 2 and Type 3) butts against contact. Fully seat contact in nest bushing of crimp tool and crimp in one full stroke. (Follow same crimping procedures except use nest bushing crimping tool from table above).	
Step 3	Slightly flair out ends of wire braid to facilitate insertion of inner ferrule of body assembly. Do not comb braid.	
Step 4	Install center contact in body assembly and slide inner ferrule underneath wire braid as shown. Push center contact until it is locked in place in the body assembly. Pull lightly on cable to make sure that contact is securely locked in place.	
Step 5	Slide outer ferrule over braid and up against body as shown. There should be no slack in the wire braid. Crimp the outer ferrule with proper tool from table above. Then for Type 1 , Type 3 and Type 5 slide sealing sleeve toward contact until sleeve touches outer ferrule.	
Step 6	Insert the assembled shielded contact into the connector in the same way as the standard contact using applicable insertion tool (see page 28). This completes assembly for Type 1 , Type 2 , Type 3 and Type 5 .	
Step 7	To complete assembly for Type 4 , push sealing boot into connector grommet until O-ring riser of boot snaps into place and seals the assembly.	

Type 1



III
II
I
SJT
38999

Matrix 2
26482

Matrix
Pyle
83723 III

Crimp Rear
Release Matrix
5015

26500 Pyle

Printed
Circuit Board

EMI Filter
Transient

Fiber Optics

High Speed
Contacts

Options
Others

38999
SJT I II III

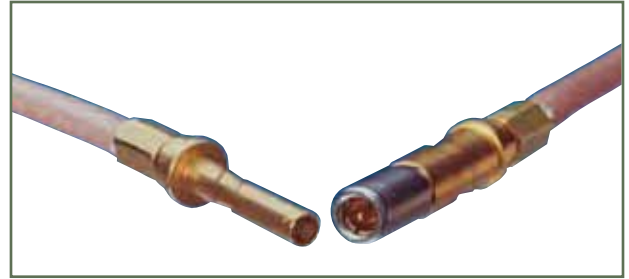
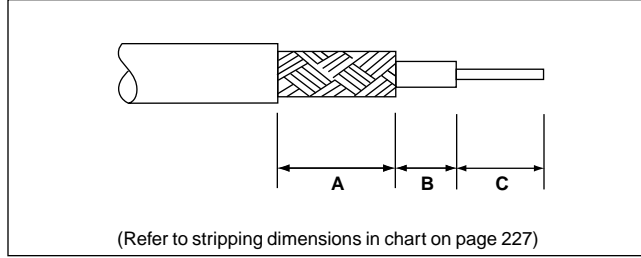
26482
Matrix 2

83723 III
Matrix Pyle

5015
Crimp Rear
Release Matrix

Cable Stripping

Strip cable jacket, braid and dielectric to the dimensions shown in the table on page 227. Make all cuts square and sharp, being careful not to nick braid, dielectric, or center conductor when cutting. If conductor ends fray, twist them to their normal lay.



Shielded Contacts after Crimping

Shielded Contact Assembly Procedure, cont.

	Type 2	Type 3	Type 4	Type 5

26500 Pyle

Printed
Circuit Board

EMI Filter
Transient

Fiber Optics

High Speed
Contacts

Options
Others

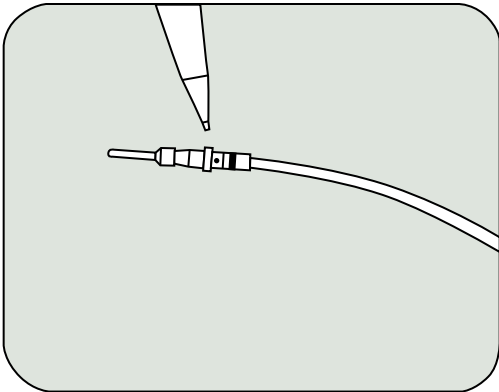
Contact Termination

Contacts should be crimped to the wire with MS Standard hand crimping tools or specification automatic crimping machines.

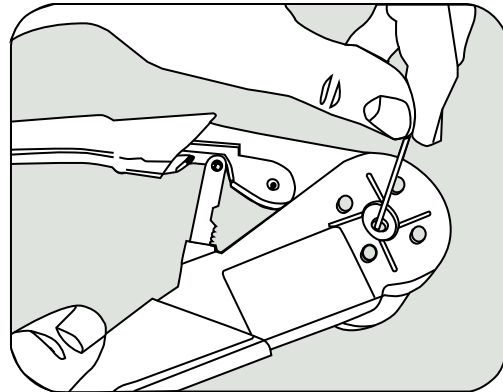
When stripping the wire avoid nicking wires or damaging the insulation as it is a functional part of the sealing system.

Contact Size	Wire Size	Stripping Length
20	20 to 24	.170" – .201"
16	16 to 18	.207" – .238"
12	12 to 14	.207" – .238"

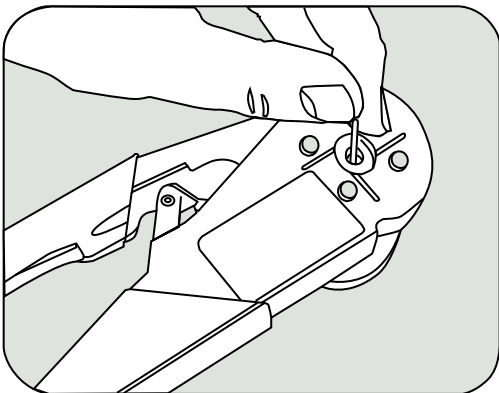
Follow steps 1 – 4, as shown below, for proper contact crimping:



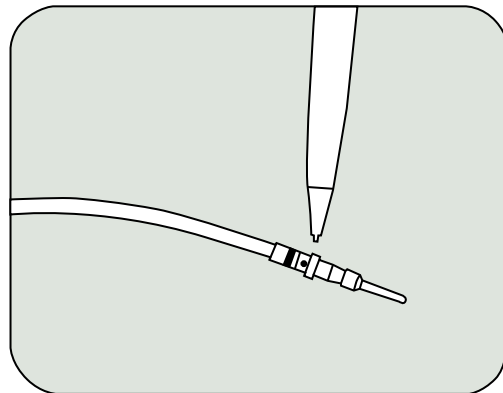
1. Insert stripped wire into contact pocket until it is visible through inspection hole.



2. Carefully seat contact in crimp tool positioner.



3. Crimp in one full stroke. (The ratchet will not release jaws until tool has completed stroke).



4. Inspect crimp for wire visibility through inspection hole.

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

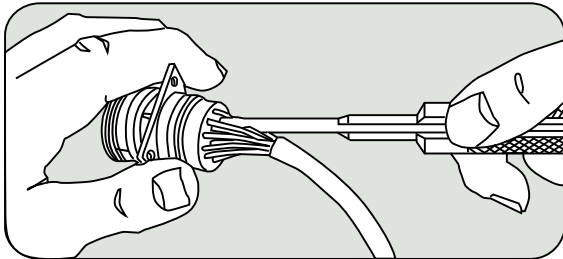
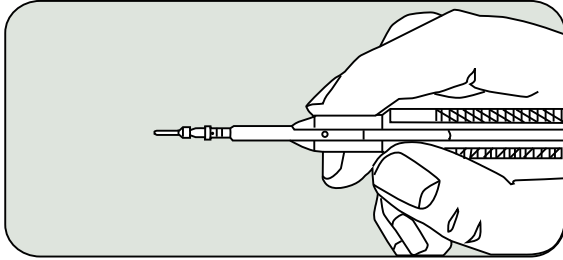
Fiber Optics

High Speed
Contacts

Options
Others

Contact Insertion into the Connector

The following steps are recommended for assembly.



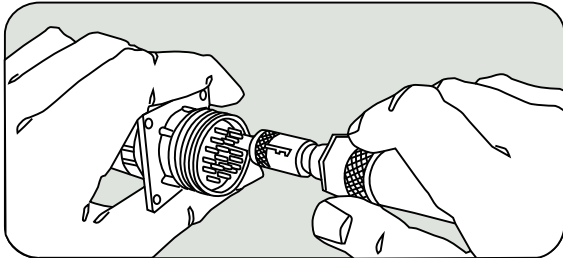
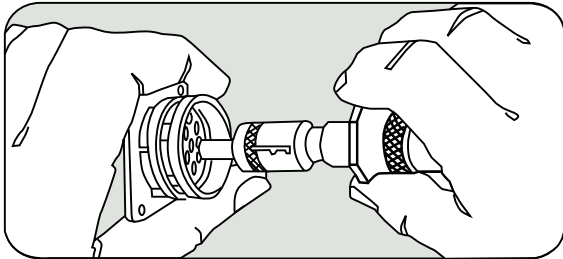
NOTE:

The Pyle Miniature Connector is designed with a unique sealing principle. Assembly of contacts into the connector must be made with reasonable care to avoid damage to the silicone rubber insert.

1. Lubricate wire cavities in back face of insert with a very thin film of DC-200 Silicone Oil or equal before inserting contacts.
2. Locate contact in insertion tool (as shown in illustration).
3. Align contact with hole in rear face of insert. The alignment of insertion tool with contact must be coaxial with the axis of the connector. When contact has entered rear seal portion of insert, maintain alignment of contact and tool parallel to, and in line with hole. Insert contact to full depth. Seating of the contact in the retention collet is audible. The contact insertion force is less than five pounds.
4. Extract insertion tool, keeping it aligned with hole.

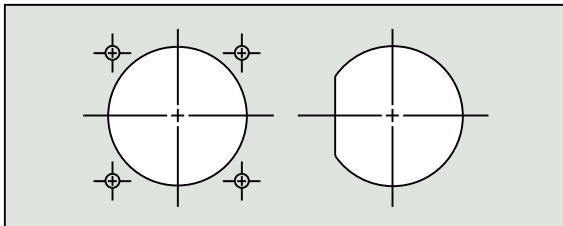
Contact Removal from the Connector

A contact is removed from the connector insert with the extraction tool as follows:



1. Set the spacer sleeve in the proper position for removal of male or female contact.
2. Place tool over the contact and insert into front face of cavity. The alignment of removal tool with contact must be coaxial with axis of connector.
3. Exert a nominal force axially (from 5 to 10 lbs.) to release retention collet. Spacer sleeve will shoulder at front face of insulation when tool is inserted to proper depth.
4. Push extraction plunger to force the contact out of the rear of the insert.
5. Grasp contact or wire at rear face of insert and complete the extraction.
6. Remove extraction tool axially.
7. After using extraction tool the spacer sleeve should be set forward in last notch to protect the end of the plunger guide.

Panel Mounting



Two receptacle shell styles, flange mount and D-hole mount, are available for panel mounting. See the applicable drawings for mounting hole dimensions. The square flange receptacle, sizes 10 through 22, is fastened to the panel with four size #4-40 machine screws. The 24 and 28 size shells are fastened with #6-32 machine screws.

Contact Insertion Tools



Contact Size	Insertion Tool			Insertion Tool Replacement Tip & Pin	
	Amphenol/ Pyle No.	Mil. No.	Color Code	Amphenol/ Pyle No.	Mil. No.
20	ZZL-R-9510-A-20	MIL-I-81969/17-9	Red	ZZL-R-9531-A-20	–
16	ZZL-R-9510-16	MIL-I-81969/17-4	Blue	ZZL-R-9531-16	–
12	ZZL-R-9510-12	MIL-I-81969/17-5	Yellow	ZZL-R-9531-12	–

Contact Removal Tools



Contact Size	Removal Tool			Removal Tool Replacement Tip	
	Amphenol/ Pyle No.	Mil. No.	Color Code	Amphenol/ Pyle No.	Mil. No.
20	ZZL-R-9511-20	MS-24256-R-20	Red	ZZL-R-9557-20	–
16	ZZL-R-9511-16	MS-24256-R-16	Blue	ZZL-R-9557-16	–
12	ZZL-R-9511-12	MS-24256-R-12	Yellow	ZZL-R-9557-12	–

Contact Crimping Tools



Contact Size	Crimping Tool with Indenters		Adjustable Turret		Checking Gage for Crimping Tool	
	Amphenol/ Pyle No.	Mil. No.	Amphenol/ Pyle No.	Mil. No.	Amphenol/ Pyle No.	Mil. No.
20	TP-201354	M22520/1-01 (Class 1)	TP-201355	M22520/1-02 (Class 1)	TP-201356	M22520/3
16						
12						

Contact Termination

Use table below to determine correct wire stripping length for your wire sizes. When stripping the wire, avoid nicking wires or damaging insulation, as it is a functional part of the sealing system.

Contact Size	Wire Size	Stripping Length
20	20 to 24	.170" – .201"
16	16 to 18	.207" – .238"
12	12 to 14	.207" – .238"

See pages 229 and 300 for assembly instructions for proper contact termination and contact insertion/removal.

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

Crimping Tools for Shielded Contacts

Amphenol Tool 357-100



Amphenol Tool 294-529 or 294-528



Shielded Contact Size	For Crimping Center Contact		For Crimping Outer Ferrule	
	Basic Crimp Tool	Contact Positioner	Basic Crimp Tool (Hex dies included)	Hex Dimension
# 1 Shielded	357-100	294-1631	294-529	.128 Hex
# 2 Shielded		294-1630	294-528	.160 Hex

26482
Matrix 2

83723 III
Matrix Pyle

5015
Crimp Rear Release Matrix

Contact Insertion Tools



Contact Size	Amphenol Part No.	Military Part No.
20	294-88	MS2456A20
16	294-96	MS2456A16
#12, # 1 Shielded	294-72	MS24256R12
#2 Shielded	294-128	–

26500 Pyle

Printed
Circuit Board

Contact Removal Tools



Contact Size	Amphenol Part No.	Military Part No.
20	294-89	MS2456R20
16	294-97	MS2456R16
#12, # 1 Shielded	294-73	MS2456R12
#2 Shielded	294-127	–

EMI Filter
Transient

Fiber Optics

Standard Crimping Tool for Power Contacts



Basic Crimp Tool		Use with Turret Head
Amphenol Part No.	Military Part No.	
294-542	M22520/1-01	M22520/1-02

Contact Size	Color Code	Wire Size
20	Red	20–22–24
16	Blue	16–18–20
12	Yellow	12–14

For more information on other tools available consult Amphenol, Sidney, NY. NOTE: Amphenol and Pyle tools are interchangeable.

High Speed
Contacts

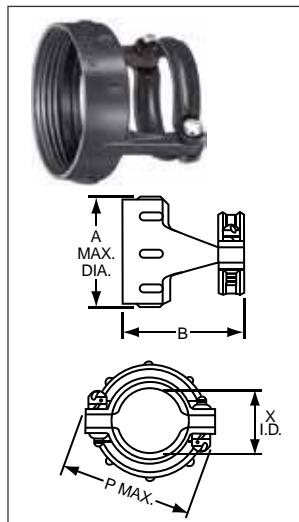
Options
Others

Accessories - Cable Supports

For MIL-DTL-26500 Connectors



Cable Supports - Aluminum



Cable clamps support cable or wire at the plug or receptacle and prevent twisting and pulling.

Shell Size	Non-Conductive, Black Anodize Finish		Conductive, Chromium Finish		A Max. Dia.	B ±.015	X I.D. ±.38	Thread UNEF-2B	P Max.
	MS No.	Amphenol/Pyle No.	MS No.	Amphenol/Pyle No.					
08	*MS27291-13	*ZZL-R-5308-A	*MS27291-701	*ZZL-M-5308	.582	.935	.180	.4375-28	.785
10	*MS27291-1	*ZZL-R-5310-A	*MS27291-101	*ZZL-M-5310	.731	.935	.270	.5625-24	.914
12	MS27291-2	ZZL-R-5312-A	*MS27291-201	*ZZL-M-5312	.919	.935	.400	.7500-20	1.026
14	MS27291-3	ZZL-R-5314-A	*MS27291-301	*ZZL-M-5314	.981	1.170	.460	.8125-20	1.090
16	MS27291-4	ZZL-R-5316-A	MS27291-401	10-804941-16E	1.106	1.170	.610	.9375-20	1.250
18	*MS27291-5	*ZZL-R-5318-A	*MS27291-501	*ZZL-M-5318	1.231	1.170	.690	1.0625-18	1.358
20	*MS27291-14	*ZZL-R-5320-A	*MS27291-801	*ZZL-M-5320	1.356	1.170	.830	1.1875-18	1.496
22	*MS27291-6	*ZZL-R-5322-A	*MS27291-601	*ZZL-M-5322	1.481	1.170	.940	1.3125-18	1.604
24	MS27291-15	ZZL-R-5324-A	*MS27291-901	*ZZL-M-5324	1.606	1.170	1.040	1.4375-18	1.740

Cable Supports - Stainless Steel, Straight



Shell Size	Standard Straight Support (L = .781)						Long Straight Support				
	MS No.	Amphenol/Pyle No.	A Dia.	MS No.	Amphenol/Pyle No.	A Dia.	Similar to MS No.	Amphenol/Pyle No.	A Dia.	L Max Overall Length	Thread
10	NA	NA	NA	NA	NA	NA	NA	*FPL-R-5310L	NA	NA	.563-36
12	NA	NA	NA	NA	NA	NA	MS27658-12	FPL-R-5312L	.435	1.070	.753-36
14	MS27657-14	ZZL-R-5314	.230	MS27657-1	FPL-R-5314	.382	MS27658-14	FPL-R-5314L	.504	1.170	.803-36
16	*MS27657-16	*ZZL-R-5316	.292	*MS27657-2	*FPL-R-5316	.462	MS27658-16	FPL-R-5316L	.686	1.270	.930-36
18	MS27657-18	ZZL-R-5318	.392	MS27657-3	FPL-R-5318	.556	*MS27658-18	*FPL-R-5318L	.794	1.370	1.036-36
20	NA	NA	NA	NA	NA	NA	NA	*FPL-R-5320L	NA	NA	NA
22	MS27657-22	ZZL-R-5322	.516	MS27657-4	FPL-R-5322	.608	MS27658-22	FPL-R-5322L	1.038	1.570	1.286-36
24	NA	NA	NA	NA	NA	NA	MS27658-24	FPL-R-5324L	1.162	1.670	1.411-36
28	NA	NA	NA	NA	NA	NA	MS27658-28	FPL-R-5328L	1.412	1.870	1.661-36

Cable Supports - Stainless Steel, Right Angle



Shell Size	Cable Support, Right Angle				
	Similar to MS No.	Amphenol/Pyle No.	A Dia.	L Max Overall Length	Thread
10	NA	*FPL-R-5210	NA	NA	.563-36
12	MS27659-12	FPL-R-5212	.435	1.298	.753-36
14	MS27659-14	FPL-R-5214	.504	1.388	.803-36
16	*MS27659-16	*FPL-R-5216	.686	1.523	.930-36
18	MS27659-18	FPL-R-5218	.794	1.622	1.036-36
22	MS27659-22	FPL-R-5222	1.038	1.878	1.286-36
24	*MS27659-24	*FPL-R-5224	1.162	2.000	1.411-36
28	*MS27659-28	*FPL-R-5228	1.412	2.250	1.661-36

*Consult Amphenol, Sidney, NY for availability

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

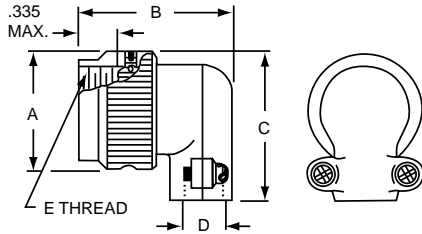
Fiber Optics

High Speed
Contacts

Options
Others

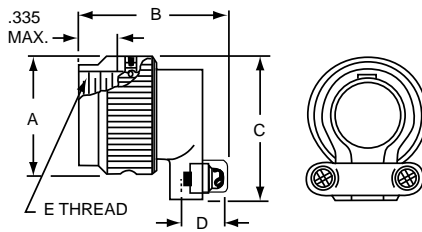
Additional right angle conduit adapters and cable support clamps are available which provide added protection for the cable or wiring. Closed back cable support clamps have a removable cover; while open back cable support clamps have a strap to protect the wires at the right angle bend.

Cable Supports - Stainless Steel, Closed Right Angle



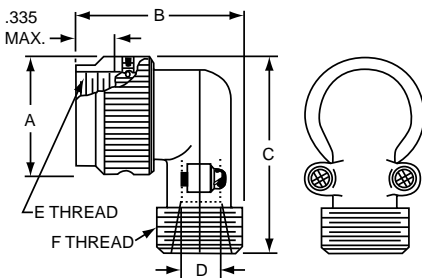
Shell Size	Cable Support - Closed Right Angle						
	MS No.	Amphenol No.	A Dia. Max.	B Max.	C Max	D Max	E Thread UNEF-2B
8	MS27558-1	48-2222-08100	.672	1.200	.938	.245	.4375-28
10	MS27558-2	48-2222-10100	.797	1.320	1.049	.370	.5625-24
12	MS27558-3	48-2222-12100	1.016	1.320	1.248	.370	.7500-20
14	MS27558-4	48-2222-14100	1.110	1.487	1.330	.520	.8125-20
16	MS27558-5	48-2222-16100	1.234	1.470	1.447	.520	.9375-20
18	MS27558-6	48-2222-18100	1.360	1.588	1.577	.645	1.0625-18
20	MS27558-7	48-2222-20100	1.485	1.759	1.698	.780	1.1875-18
22	MS27558-8	48-2222-22100	1.610	1.759	1.820	.780	1.3125-18
24	MS27558-9	48-2222-24100	1.735	2.027	1.945	1.065	1.4375-18

Cable Supports - Stainless Steel, Open Right Angle



Shell Size	Cable Support - Open Right Angle						
	MS No.	Amphenol No.	A Dia. Max.	B Max.	C Max	D Max	E Thread UNEF-2B
8	MS27559-1	48-2222-08200	.672	1.173	.938	.201	.4375-28
10	MS27559-2	48-2222-10200	.797	1.293	1.049	.328	.5625-24
12	MS27559-3	48-2222-12200	1.016	1.293	1.248	.328	.7500-20
14	MS27559-4	48-2222-14200	1.110	1.460	1.330	.452	.8125-20
16	MS27559-5	48-2222-16200	1.234	1.443	1.447	.508	.9375-20
18	MS27559-6	48-2222-18200	1.360	1.561	1.577	.571	1.0625-18
20	MS27559-7	48-2222-20200	1.485	1.732	1.698	.748	1.1875-18
22	MS27559-8	48-2222-22200	1.610	1.732	1.819	.748	1.3125-18
24	MS27559-9	48-2222-24200	1.735	2.000	1.945	.996	1.4375-18

Conduit Adapter- Stainless Steel, Right Angle



Shell Size	Conduit Adapter - Right Angle							
	Equivalent MS No.	Amphenol No.	A Dia. Max.	B Max.	C Max	D Max	E Thread UNEF-2B	F Thread UNEF-2A
8	MS27557-1	48-2222-08000	.672	1.300	1.403	.245	.4375-28	.6250-24
10	MS27557-2	48-2222-10000	.797	1.420	1.514	.370	.5625-24	.7500-20
12	MS27557-3	48-2222-12000	1.016	1.420	1.713	.370	.7500-20	.7500-20
14	MS27557-4	48-2222-14000	1.110	1.575	1.795	.520	.8125-20	.8750-20
16	MS27557-5	48-2222-16000	1.234	1.558	1.912	.520	.9375-20	.8750-20
18	MS27557-6	48-2222-18000	1.360	1.675	2.042	.645	1.0625-18	1.0000-20
20	MS27557-7	48-2222-20000	1.485	1.863	2.163	.780	1.1875-18	1.1875-18
22	MS27557-8	48-2222-22000	1.610	1.863	2.285	.780	1.3125-18	1.1875-18
24	MS27557-9	48-2222-24000	1.735	2.118	2.410	1.065	1.4375-18	1.4375-18

38999
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