Amphenol
MIL-DTL-83723, Series III, Pyle®

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MIL-DTL-83723 Series III, Pyle® Typical Markets:

- Military & Commercial Aviation
  - High Temperature Applications, Harsh Environments
- Military Vehicles

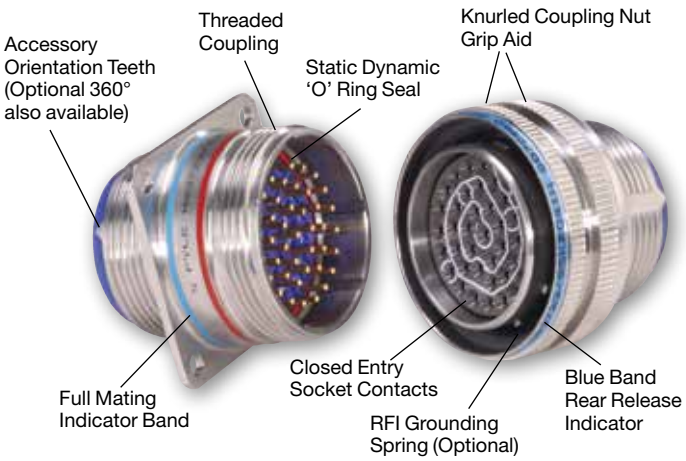
Amphenol Aerospace

MIL-DTL-83723, Series III, Pyle®

Threaded or Bayonet, High Temp. Stainless Steel

Amphenol Aerospace

Amphenol Aerospace offers the Pyle® Product line of MIL-DTL-83723*, Series III Connectors.



Design Features (Threaded Style Shown)

The Amphenol MIL-DTL-83723, Series III family of connectors includes styles from Pyle National. These have proven technology for severe environments and are widely used in commercial and military aerospace markets. Amphenol/Pyle 83723 connectors incorporate many advantageous features, such as a unique threaded coupling mechanism that provides greater resistance to decoupling. This coupling mechanism eliminates the need for safety wiring and tends to couple during vibration - thus offering the user added assurance and a margin of safety.

Amphenol/Pyle 83723 Series III high temperature styles are capable of operation at 260° C/500°F. A 100% scoop-proof version of the high temperature connector is also available under specification ESC11/Pyle HTK Series. In addition, this connector series incorporates a unique sealing grommet that is capable of sealing on standard diameter wire as well as Kapton wire of reduced diameter.

The Pyle 83723 family provides connectors in environmental, firewall and hermetic classes that exceed the most stringent specification requirements.

SERVICE RATINGS

Service Rating	Recommended Operating AC Voltage at Sea Level	Test Voltage AC (RMS), 60 cps			
		Sea Level	50,000 ft.	70,000 ft.	110,000 ft.
I	600	1,500	500	375	200

Please note that the electrical data given is not an establishment of electrical safety factors. This is left entirely in the designer's hands as he can best determine which peak voltage, switching surges, transients, etc. can be expected in a particular circuit.

MIL-DTL-83723, Series III Connectors are Available in a Wide Variety of Styles:

THREADED STYLE CONNECTORS

- Stainless steel shells** provide corrosion resistance
- Metal-to-metal bottoming
- Unique sealing grommet accepts a wide range of wire diameters
- Patented non-decoupling device in plugs - a self-locking clutch plate that provides greater resistance to decoupling than coupling during vibration

BAYONET STYLE CONNECTORS

- Same quality features of the threaded style, but with 3 point bayonet coupling - quick turn to lock, visual confirmation of complete coupling

HIGH TEMPERATURE STYLE CONNECTORS

- High temperature connector materials and contacts provide operation to 200°C and Firewall capability to 260°C
- Improved metal-to-metal bottoming design
- Unique sealing grommet accepts a wide range of wire diameters
- Improved 360° accessory orientation teeth provide greater performance under vibration
- Patented non-decoupling device (torque differential)
- Improved shell-to-shell conductivity with optional RFI grounding fingers
- Styles available that meet several European specifications, General Electric and Rolls Royce specifications
- Special Shell Geometry Styles available

HERMETIC STYLE CONNECTORS

- Hermetic styles are available in threaded receptacles with solderwell or flat eyelet termination. PC Tail Designs are available on request.
- Designed for environmental moisture sealing with fused compression glass sealed inserts
- High temperature hermetics 200°C and 260°C Firewall

Pyle Connectors with PC Tail and Standoff

* MIL-DTL-83723 supersedes MIL-C-83723.

** The Amphenol Pyle 83723 family is offered in stainless steel shell classes. See the Amphenol Matrix 83723 family for aluminum shell classes in the preceding section of this catalog.

MIL-DTL-83723, Series III, Pyle®
Manufacturer's Specifications

The Amphenol/Pyle® Product line of MIL-DTL-83723*, Series III Connectors was developed for the higher operating temperatures inherent in today's high performance aircraft and aircraft engines.

These connectors meet the performance requirements of the following manufacturer's specifications:

- Boeing BACC63CM/CN* Firewall
- European: ASD† EN2997
- General Electric: M50TF3564
- Rolls Royce/SBAC: ESC10 and ESC11

ESC11
Engine Connector

MIL-DTL-83723, SERIES III CONNECTOR PERFORMANCE CHARACTERISTICS

Operating Temperature Data	Std: –85°F (–65°C) to 392°F (200°C) Class K types meet fireproof test per MIL-DTL-83723 2000°F (1093°C) High Temperature Series: Operates at 500°F (260°C)
Altitude	Sea Level to 110,000 feet
Voltage Breakdown Rating	Service Rating I Sea Level .....1,500 50,000 ft. .....500 70,000 ft. ..... 375 110,000 ft. 200
Contact Rating	Size 20 contacts ... 7.5 amperes max. Size 16 contacts ... 13.0 amperes max. Size 12 contacts ... 23 amperes max.
Contact Retention Strength	Exceeds MIL-DTL-83723 requirements
Connector Durability	500 cycles per MIL-DTL-83723 for threaded coupling; 500 cycles per General Electric M50TF2321 for non-decoupling styles
Humidity	To 98% relative humidity, including condensation
Exposure	Freezing rain
Non-Decoupling	Exceeds requirements of MIL-DTL-83723/95 and 96.
Vibration	Meets MIL-DTL-83723 of 41.7G's for 16 hours.; Boeing BACC63CM/CN for 36 hours General Electric vibration spec. M50TF2321 and M50TF2238 for 36 hours, which includes: **Temp. Extremes G Level Time Length** Room Temp. ..... 60 G's ..... 12 hrs. (4 hrs. each axis) –65°F ±5°F ..... 60 G's ..... 12 hrs. (4 hrs. each axis) 350°F ±5°F ..... 60 G's .....12 hrs. (4 hrs. each axis)

HERMETIC CONNECTOR PERFORMANCE CHARACTERISTICS

Thermal Shock	No damage detrimental to the operation of the connector occurs when subjected to 10 cycles of thermal shock from 0°C to 90°C and back to 0°C.
Physical Shock (Mated)	300 G's
Moisture Resistance (Mated)	500 Megohms
Insulation Resistance, High Temp. (Mated)	500 Megohms
Corrosion (Unmated)	Complies with MIL-DTL-83723 Req.
Temperature Life	Fully functional for 1000 hours at 200°C (392°F) ambient. Internal temperature 238°C (460°F).
Air Leakage (Unmated)	Less than .01 micron per cubic feet per hour on application of 15 PDS pressure differential across the connector.
Altitude Immersion (Mated)	After 3 cycles immersed in salt water with pressure reduced to 1 in. Hg (75,000 ft. altitude) for 30 minutes and returned to atmosphere pressure. While connectors submerged insulation resistance should remain 1000 megohms minimum and support 1500 volts RMS applied without flash-over or breakdown.
High Potential Voltage Altitude (Unmated)	When tested in accordance with MIL-STD-202, Method 301, no flash-over or breakdown under simulated altitude conditions as shown: **Altitude/Service Rating I** 50,000 ..... 500 AC-RMS 70,000 ..... 375 AC-RMS 110,000 ..... 200 AC-RMS

* BACC63CM supersedes BACC63BR and BACC63CN supersedes BACC63BT.

† ASD supersedes AECMA

MIL-DTL-83723, Series III, Pyle®

Sq. Flange Receptacle, Threaded - Quick Reference

Amphenol® Aerospace

MIL-DTL-83723, SERIES III SQUARE FLANGE RECEPTACLE, THREADED COUPLING

Military: **M83723/82** with Sockets, Classes G, K

Military: **M83723/83** with Pins, Classes G, K

Commercial: **BT( )-17**
With 'O' ring seal, Classes G, K

Comm. Special for General Electric: **BJ-17**
With Static Dynamic Seal, Stainless Steel, but not avail. in Firewall

BJ8-17
Same as BJ-17 except with Scoop-proof recessed pins

BN-17
Same as BJ-17 except Electro-deposited Nickel Base

BN8-17
Same as BN-17 except with Scoop-proof recessed pins

BNK-17
Same as BN except Stainless Steel Firewall

Special with Boeing Designation: **BACC63CN****
With 'O' ring seal, Stainless Steel Firewall, with Boeing approved contacts, Shell modifications with 360° teeth per MS3155

Comm. Special per Boeing Co. Spec.: **BSK-17**
Stainless Steel Firewall with 'O' ring seal, qualified to Boeing, Y126 Variation - with Boeing approved contacts

Commercial ASD Designation: **EN2997 ( )0**
Meets ASD specifications
200°C temp. (Classes K, S, Y),
260°C high temp. (Classes KE, SE, YE)

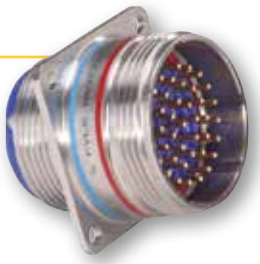
Comm.- Meet Several European Stds: **BT( )-17**
With 'O' ring seal, Classes G, K
Variations for Euro market specifications

BJ( )-17
With Static Dynamic Seal, Classes G, K
Variations for Euro market specifications

** BACC63CN supersedes BACC63BT.

See how to order pages 374-381 for complete part numbers.

Bayonet style square flange receptacles are shown on page 385.



Square Flange Receptacle Threaded

SERVICE CLASSES* MILITARY AND COMMERCIAL

G	Stainless steel, 200°C
K	Stainless steel, 200°C Firewall capability
S	Stainless steel, 200°C Firewall capability, Grounding Spring
P	Stainless steel, 200°C, Hermetic with Eyelet contacts
Y	Stainless Steel, 200°C, Hermetic with Solderwell contacts
KE	Stainless Steel, High Temp. (260°C) Firewall capability
SE	Stainless steel, High Temp. (260°C) Firewall capability, Grounding Spring
YE	Stainless Steel, High Temp. (260°C) Firewall capability, Hermetic with solderwell contacts

* For Classes A, R and W (aluminum shell types) - Amphenol supplies these in their Matrix 83723 family. See the preceding section of this catalog, 83723 III Matrix.

Square Flange Receptacle, Threaded, per European Stds.
(Green Insert - High Temp 260°C; Blue insert - 200°C)

Commercial - Meet Society of British Aerospace Co./Rolls Royce Standards: **ESC10 ( )0**
260°C Firewall (Classes KE, SE, YE),
360° accessory teeth per MS3155

ESC11 ( )0
260°C Firewall (Classes KE, SE, YE),
Scoop-proof recessed pins,
360° accessory teeth per MS3155

ESC10 & ESC11 also available in Hermetic square flange receptacles - See Hermetic quick ref. page 369.

ESC11 with Scoop-Proof (Recessed pins): **HTK-17**
Standard ESC11, Class K Firewall, Scoop-proof, Variations for Euro market specifications

HNK-17
Nickel finish, Class K Firewall
Mating recept. has 'O' ring seal,
Scoop-proof, Variations for Euro market specs

HSK-17
Same as HTK, except this is a special designator for Boeing Co.

MIL-DTL-83723, Series III, Pyle®

Jam Nut Receptacle, Threaded - Quick Reference

MIL-DTL-83723, SERIES III JAM NUT (D-HOLE MOUNT) RECEPTACLE, THREADED COUPLING

Military: **M83723/84** with Sockets, Classes G, K

Military: **M83723/85** with Pins, Classes G, K

Commercial: **BT( )-19**
With 'O' ring seal, Classes G, K

Comm. Special for General Electric: **BJ-19**
With Static Dynamic Seal, Stainless Steel, but not avail. in Firewall

BJ8-19
Same as BJ-17 except with Scoop-proof recessed pins

BN-19
Same as BJ-17 except Electro-deposited Nickel Base

BN8-19
Same as BN-17 except with Scoop-proof recessed pins

BNK-19
Same as BN except Stainless Steel Firewall

Commercial ASD Designation: **EN2997 ( )7**
Meets ASD specifications
200°C temp. (Classes K, S, Y),
260°C high temp. (Classes KE, SE, YE)

NFL 54143 ( )7

Comm.- Meet Several European Stds: **BT( )-19**
With 'O' ring seal, Classes G, K
Variations for Euro market specifications

BJ( )-19
With Static Dynamic Seal,
Classes G, K
Variations for Euro market specifications

Commercial - Meet Society of British Aerospace Co./Rolls Royce Standards: ESC10 & ESC11 jam nut receptacles are available in Hermetic only - See Hermetic quick ref. pages 369 & 370.

Jam Nut (D-Hole Mount) Receptacle, Threaded

SERVICE CLASSES*
MILITARY AND COMMERCIAL

G	Stainless steel, 200°C
K	Stainless steel, 200°C Firewall capability
S	Stainless steel, 200°C Firewall capability, Grounding Spring
P	Stainless steel, 200°C, Hermetic with Eyelet contacts
Y	Stainless Steel, 200°C, Hermetic with Solderwell contacts
KE	Stainless Steel, High Temp. (260°C) Firewall capability
SE	Stainless steel, High Temp. (260°C) Firewall capability, Grounding Spring
YE	Stainless Steel, High Temp. (260°C) Firewall capability, Hermetic with solderwell contacts

* For Classes A, R and W (aluminum shell types) - Amphenol supplies these in their Matrix 83723 family. See the preceding section of this catalog, 83723 III Matrix.

No Boeing Designated Jam nut receptacle.

See how to order pages 374-381 for complete part numbers.

Bayonet style jam nut receptacles are shown on page 386.

MIL-DTL-83723, Series III, Pyle®
Plugs, Threaded - Quick Reference

Amphenol Aerospace

MIL-DTL-83723, SERIES III STANDARD STRAIGHT PLUG, THREADED COUPLING

Standard Straight Plug, Threaded

Military: **M83723/86** with Sockets, Classes G, K

Military: **M83723/87** with Pins, Classes G, K

Commercial: **BT( )11**
Mating recept. has 'O' ring seal, Classes G, K

Comm. Special for General Electric: **BJ-11**
With Static Dynamic Seal, Stainless Steel, but not avail. in Firewall

BJ8-11
Same as BJ-17 except with Scoop-proof recessed pins

BN-11
Same as BJ-17 except Electro-deposited Nickel Base

BN8-11
Same as BN-17 except with Scoop-proof recessed pins

BNK-11
Same as BN except Stainless Steel Firewall

No Boeing straight plug designations. No ASD or other European/ESC10 or ESC11 straight plug designations. See page 387 for Bayonet style straight plug style.

SERVICE CLASSES*
MILITARY AND COMMERCIAL

G	Stainless steel, 200°C
K	Stainless steel, 200°C Firewall capability
S	Stainless steel, 200°C Firewall capability, Grounding Spring
KE	Stainless Steel, High Temp. (260°C) Firewall capability
SE	Stainless steel, High Temp. (260°C) Firewall capability, Grounding Spring

* For Classes A, R and W (aluminum shell types) - Amphenol supplies these in their Matrix 83723 family. See the preceding section of this catalog, 83723 III Matrix.

MIL-DTL-83723, SERIES III NON-DECOUPLING PLUG (UNIQUE SELF-LOCKING CLUTCH PLATE), THREADED COUPLING

Non-Decoupling Plug, Threaded
Left - Green Insert - High Temp 260°C and 360° Accessory Teeth;
Right - Blue insert - 200°C and 3 Accessory Teeth

Military: **M83723/95** with Sockets, Classes G, K

M83723/96 with Pins, Classes G, K

M83723/97 with EMI Grounding spring, with Pins

M83723/97 with EMI Grounding spring, with Sockets

Commercial: **BT( )12**
Mating recept. has 'O' ring seal, Classes G, K

Comm. Special for General Electric: **BJ-12**
With Static Dynamic Seal, Stainless Steel, but not avail. in Firewall

BJ8-12
Same as BJ-17 except with Scoop-proof recessed pins

BN-12
Same as BJ-17 except Electro-deposited Nickel Base

BN8-12
Same as BN-17 except with Scoop-proof recessed pins

BNK-12
Same as BN except Stainless Steel Firewall

Special with Boeing Designation: **BACC63CM****
Mating recept. has 'O' ring seal, Stainless Steel Firewall, with Boeing approved contacts, Shell modifications with 360° teeth per MS3155

Comm. Special per Boeing Co. Spec.: **BSK-12**
Stainless Steel Firewall qual. to Boeing, Y126 Variation - with Boeing approved contacts

Commercial ASD Designation: **EN2997 ( )6**
Meets ASD specifications 200°C temp. (Classes K, S), 260°C high temp. (Classes KE, SE)

Comm.- Meet Several European Stds: **BT( )-12**
Mating recept. has 'O' ring seal, Classes G, K Variations for Euro market specifications

BJ( )-12
With Static Dynamic Seal, Classes G, K Variations for Euro market specifications

Commercial - Meet Society of British Aerospace Co./Rolls Royce Standards: **ESC10 ( )6**
260°C Firewall (Classes KE, SE), 360° accessory teeth per MS3155

ESC11 ( )6
260°C Firewall (Classes KE, SE), Scoop-proof, 360° accessory teeth per MS3155

ESC11 with Scoop-Proof (Recessed pins): **HTK-12**
Standard ESC11, Class K Firewall, Scoop-proof, Variations for Euro market specs

HNK-12
Nickel finish, Class K Firewall
Mating recept. has Static Dynamic seal, Scoop-proof, Variations for Euro market specs

HSK-12
Same as HTK, except this is a special designator for Boeing Co.

** BACC63CM supersedes BACC63BR.

See how to order pages 374-381 for complete part numbers.

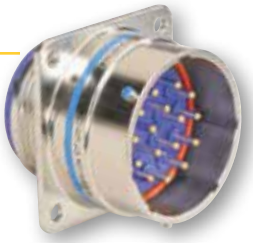
No Bayonet style Non-Decoupling plug available.

MIL-DTL-83723, Series III, Pyle®

Bayonet Plugs & Receptacles - Quick Reference

MIL-DTL-83723, SERIES III SQUARE FLANGE RECEPTACLE, BAYONET COUPLING

Military:	**M83723/71** with Sockets, Classes G, K
Military:	**M83723/72** with Pins, Classes G, K
Commercial:	**BY( )17** With 'O' ring seal, Classes G, K



Square Flange Receptacle with Bayonet Coupling

SERVICE CLASSES* MILITARY AND COMMERCIAL

G	Stainless steel, 200°C
K	Stainless steel, 200°C Firewall capability

* For Classes A, R and W (aluminum shell types) - Amphenol supplies these in their Matrix 83723 family. See the preceding section of this catalog, 83723 III Matrix.

MIL-DTL-83723, SERIES III JAM NUT (D-HOLE MOUNT) RECEPTACLE, BAYONET COUPLING

Military:	**M83723/73** with Sockets, Classes G, K
Military:	**M83723/74** with Pins, Classes G, K
Commercial:	**BY( )19** With 'O' ring seal, Classes G, K

Jam Nut (D-Hole Mount) Receptacle with Bayonet Coupling

MIL-DTL-83723, SERIES III STRAIGHT PLUG, BAYONET COUPLING

Military:	**M83723/75** with Sockets, Classes G, K
Military:	**M83723/76** with Pins, Classes G, K
Commercial:	**BY( )10** With 'O' ring seal, Classes G, K

Straight Plug with Bayonet Coupling

Bayonet coupling connectors are offered in Military 83723 and Commercial equivalent designations. See how to order page 374. They are not included in Boeing, GE, ASD and other European specified connectors.

Shell size 28 is not available in Bayonet coupling connectors.

MIL-DTL-83723, Series III, Pyle®

Hermetic Receptacles - Quick Reference

Amphenol Aerospace

MIL-DTL-83723, SERIES III
HERMETIC SQUARE FLANGE RECEPTACLE, THREADED COUPLING

Hermetic Square Flange Receptacle, Threaded

Military: **M83723/88Y**
Stainless Steel, Class Y,
Solderwell contacts

Military: **M83723/88P**
Stainless Steel, Class P,
Eyelet contacts

Commercial: **BTY-17**
Stainless Steel, 'O' ring Seal,
Solderwell or Eyelet contacts,
200°C or 260°C

BFY-17
Stainless Steel, Static Dynamic
Seal, Solderwell or Eyelet contacts,
200°C or 260°C

BNY-17
Stainless Steel, Static Dynamic
Seal, Electro-deposited Nickel, Solderwell or Eyelet contacts,
200°C or 260°C

Commercial
ASD Designation: **EN2997Y0** / **YE0**
Meets ASD Specifications, Stainless Steel,
Class Y (200°C) / Class YE (260°C), Solderwell contacts

Commercial - Meet
Society of British
Aerospace Co./Rolls
Royce Standards: **ESC10YE2**
260°C Firewall, Stainless Steel, Class YE, Solderwell contacts

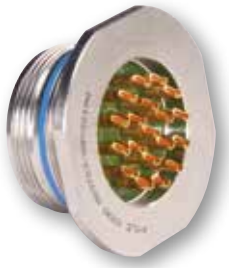
ESC11YE2
260°C Firewall, Stainless Steel, Class YE, Solderwell contacts,
Scoop-proof Recessed pins

PCB Tails available upon request

SERVICE CLASSES
HERMETIC
MILITARY AND COMMERCIAL

Y	Stainless Steel, 200°C, Hermetic with solderwell contacts
P	Stainless steel, 200°C, Hermetic with eyelet contacts
YE	Stainless Steel, High Temp. (260°C) Firewall capability, Hermetic with solderwell contacts

MIL-DTL-83723, SERIES III
HERMETIC JAM NUT RECEPTACLE, THREADED COUPLING



Hermetic Jam Nut Receptacle, Threaded

Military: **M83723/89Y**
Stainless Steel, Class Y, Solderwell contacts

Military: **M83723/89P**
Stainless Steel, Class Y, Eyelet contacts

Commercial: **BTY-19**
Stainless Steel, 'O' ring Seal, Solderwell or Eyelet contacts, 200°C or 260°C

BFY-19
Stainless Steel, Static Dynamic Seal, Solderwell or Eyelet contacts, 200°C or 260°C

BNY-19
Stainless Steel, Static Dynamic Seal, Electro-deposited Nickel, Solderwell or Eyelet contacts, 200°C or 260°C

Commercial
ASD Designation: **EN2997Y7** / **YE7**
Meets ASD Specifications, Stainless Steel,
Class Y (200°C) / Class YE (260°C), Solderwell contacts

Commercial - Meet
Society of British
Aerospace Co./Rolls
Royce Standards: **ESC10YE3**
260°C Firewall, Stainless Steel, Class YE, Solderwell contacts

ESC11YE3
260°C Firewall, Stainless Steel, Class YE, Solderwell contacts,
Scoop-proof Recessed pins

PCB Tails available upon request

Commercial BTY, BFY and BNY meet European specifications and General Electric spec. GEM50TF3564, Classes A & B.

Shell sizes 20, 24 and 28, consult Amphenol Aerospace for availability.

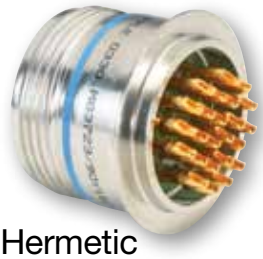
Hermetic style receptacles are not included in Boeing designations.

MIL-DTL-83723, Series III, Pyle®

Hermetic Receptacles, cont. - Quick Reference

MIL-DTL-83723, SERIES III, HERMETIC SOLDER MOUNT/WELD MOUNT RECEPTACLE, THREADED COUPLING

Military:	**M83723/90Y** Stainless Steel, Class Y, Solderwell contacts
Military:	**M83723/90P** Stainless Steel, Class P, Eyelet contacts
Commercial:	**BTY-14** Stainless Steel, 'O' ring Seal, Solderwell or Eyelet contacts, 200°C or 260°C
	BFY-14 Stainless Steel, Static Dynamic Seal, Solderwell or Eyelet contacts, 200°C or 260°C
	BNY-14 Stainless Steel, Static Dynamic Seal, Electro-deposited Nickel, Solderwell or Eyelet contacts, 200°C or 260°C
Commercial ASD Designation:	**EN2997Y1 / YE1** Meets ASD Specifications, Stainless Steel, Class Y (200°C) / Class YE (260°C), Solderwell contacts
Commercial - Meet Society of British Aerospace Co./Rolls Royce Standards:	**ESC10YE1** 260°C Firewall, Stainless Steel, Class YE, Solderwell contacts
	ESC11YE1 260°C Firewall, Stainless Steel, Class YE, Solderwell contacts, Scoop-proof Recessed pins
PCB Tails available upon request	



Hermetic Solder Mount/Weld Mount Receptacle, Threaded

SERVICE CLASSES HERMETIC MILITARY AND COMMERCIAL

Y	Stainless Steel, 200°C, Hermetic with solderwell contacts
P	Stainless steel, 200°C, Hermetic with eyelet contacts
YE	Stainless Steel, High Temp. (260°C) Firewall capability, Hermetic with solderwell contacts

Commercial BTY, BFY and BNY meet European specifications and General Electric spec. GEM50TF3564, Classes A & B.

Shell sizes 20, 24 and 28, consult Amphenol Aerospace for availability.

Hermetic style receptacles are not included in Boeing designations.

MIL-DTL-83723, Series III, Pyle®

Insert Availability and Identification, Alternate Keying Positions

Amphenol® Aerospace

INSERT ARRANGEMENTS

Shell Size/ Insert Arrangement	Service Rating	Total Contacts	Contact Size			
			8	12	16	20
08-03	I	3				3
08-98	I	3				3
10-02**	I	2				2
10-05	I	5				5
10-06	I	6				6
10-20	I	2			2	
12-03***	I	3			3	
12-12	I	12				12
14-04***	I	4		4		
14-07***	I	7			7	
14-12	I	12			3	9
14-15	I	15				15
16-10***	I	10			10	
16-24	I	24				24
18-08	I	8		8		
18-14***	I	14			14	
18-31	I	31				31
20-16***	I	16			16	
20-25	I	25		6		19
20-28**	I	28		4		24
20-39	I	39			2	37
20-41	I	41				41
22-12**	I	12		12		
22-19***	I	19			19	
22-27	I	27			27	
22-32**	I	32		6		26
22-39**	I	39			12	27
22-55	I	55				55
24-19†✦	I	19		19		
24-30†***	I	30			30	
24-43**	I	43			20	23
24-46†✦✦	I	46	2 Twinax		4	40
24-57	I	57		2		55
24-61	I	61				61
28-41†	I	41			41	
28-42†***	I	42			42	
28-91†*	I	91				91

† Not an MS layout.

* Special - consult Amphenol for availability.

** Special Pyle with Matrix 83723 insert (ESC10 type, EN2997 Spec); consult Amphenol Aerospace for availability.

*** Boeing Qualified Arrangements (See Boeing How to Order page 376)

✦ 24-19 is a special ground plane insert with purchased size 12 Coax contacts; consult Amphenol for information.

✦✦ 24-46 is a special insert that accommodates size 8 twinax contacts with ground spring.

Size 8 and Size 12 cavities can accommodate Twinax or Coax contacts; consult Amphenol for information.

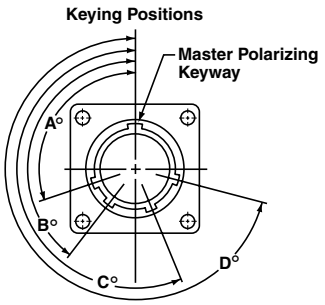
Sizes 20, 24 and 28 Hermetic; consult Amphenol Aerospace for availability.

Size 28 not available in Bayonet style.

ALTERNATE KEYING POSITIONS (Rotation of key/keyway of shell)

To avoid cross-plugging problems in applications requiring the use of more than one connector of the same size and arrangement, alternate keying positions are available as indicated in the chart below. The diagram shows the engaging view of a receptacle shell with keyways. The insert is rotated counter-clockwise relative to the center-line. Plug shells would be the opposite of this diagram.

In the "Normal insert position" (position N), the insert center line coincides with the center-line of the master key/ keyway of the shell. In the "alternate keying positions" (positions 6, 7, 8, 9 and Y), the minor keys/keyways are positioned with reference to master key/keyway as indicated in the keying position table.



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

ALTERNATE KEYING POSITIONS OF SHELL

Shell Size	Polarizing Position	Key/Keyway Positions			
		A°	B°	C°	D°
8 thru 24	N	105	140	215	265
8 & 10	6	102	132	248	320
	7	80	118	230	312
	8	35	140	205	275
	9	64	155	234	304
10 only	Y††	25	115	220	270
12, 14, 16, 18, 20, 22, 24 and 28	6	18	149	192	259
	7	92	152	222	342
	8	84	152	204	334
	9	24	135	199	240
	Y††	98	152	268	338

ESC 11 (HTK SERIES) ONLY

Shell Size	Polarizing Position	Key/Keyway Positions			
		A°	B°	C°	D°
14 thru 24	N	95	145	220	255
	6	101	168	211	342
	7	18	138	208	268
	8	26	156	208	276
	9	120	161	225	336

†† Position Y supersedes inactive positions 10 and Z designations. Ref. MIL-STD-1554.

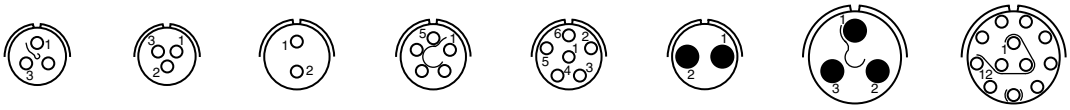
For ordering Pyle 83723 accessories, contact Amphenol Aerospace.

For ordering information on Backshells, see Backshell section of this catalog, family J.

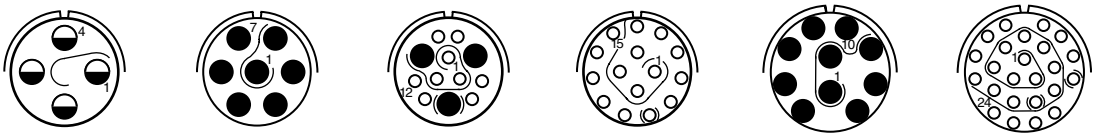
MIL-DTL-83723, Series III, Pyle®

Insert Arrangements

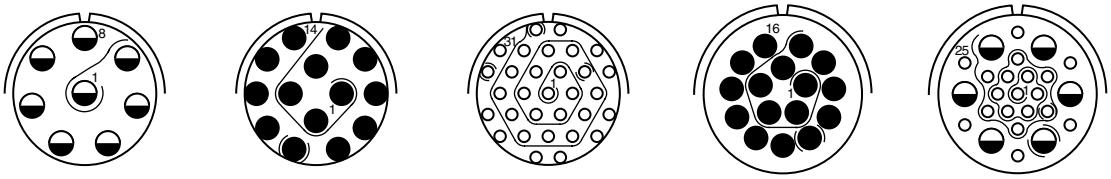
Front face of pin insert or rear face of socket insert illustrated



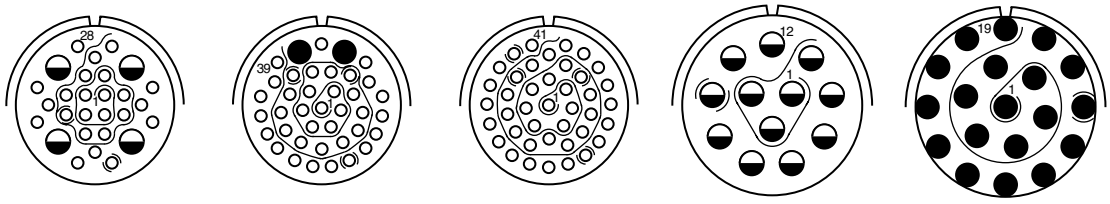
Insert Arrangement	08-03	08-98	10-02**	10-05	10-06	10-20	12-03***	12-12
Service Rating	I	I	I	I	I	I	I	I
Number of Contacts	3	3	2	5	6	2	3	12
Contact Size	20	20	20	20	20	16	16	20



Insert Arrangement	14-04***	14-07***	14-12**	14-15	16-10***	16-24
Service Rating	I	I	I	I	I	I
Number of Contacts	4	7	9 3	15	10	24
Contact Size	12	16	20 16	20	16	20



Insert Arrangement	18-08	18-14***	18-31	20-16***	20-25
Service Rating	I	I	I	I	I
Number of Contacts	8	14	31	16	19 6
Contact Size	12	16	20	16	20 12



Insert Arrangement	20-28**	20-39	20-41	22-12**	22-19***
Service Rating	I	I	I	I	I
Number of Contacts	24 4	37 2	41	12	19
Contact Size	20 12	20 16	20	12	16

† Not an MS layout.

* Special - consult Amphenol Aerospace for availability.

** Special Pyle with Matrix 83723 insert (ESC10 type, EN2997 Spec); consult Amphenol Aerospace for availability.

*** Boeing Qualified Arrangements (See Boeing How to Order page 376)

Size 8 and Size 12 cavities can accommodate Twinax or Coax contacts; consult Amphenol Aerospace for information.

Sizes 20, 24 and 28 Hermetic; consult Amphenol Aerospace for availability.

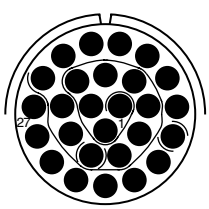
Size 28 not available in Bayonet style.

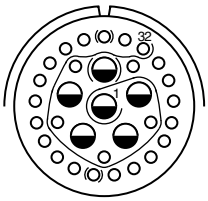
CONTACT LEGEND 20 16 12 8

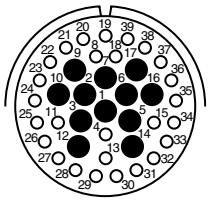
MIL-DTL-83723, Series III, Pyle®
Insert Arrangements

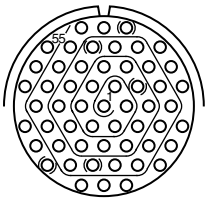
Amphenol Aerospace

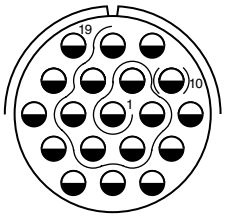
Front face of pin insert or rear face of socket insert illustrated



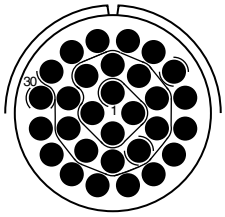


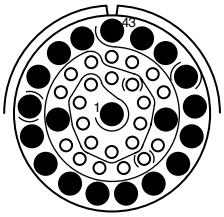


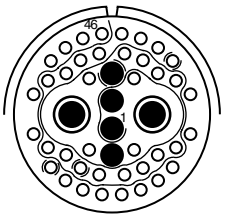


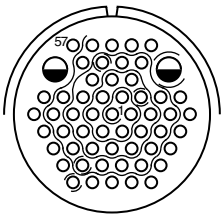


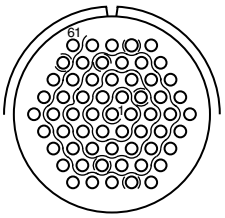
Insert Arrangement	22-27	22-32**		22-39**		22-55	24-19†✦
Service Rating	I	I		I		I	I
Number of Contacts	27	26	6	27	12	55	19
Contact Size	16	20	12	20	16	20	12



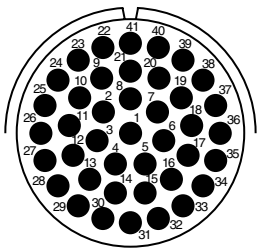


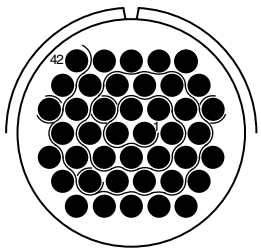


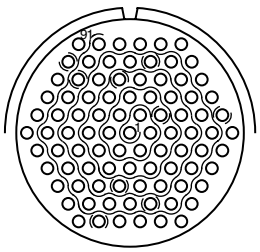




Insert Arrangement	24-30†***	24-43**		24-46†✦✦			24-57		24-61
Service Rating	I	I		I			I		I
Number of Contacts	30	23	20	40	4	2	55	2	61
Contact Size	16	20	16	20	16	8 Twinax	20	12	20







Insert Arrangement	28-41†	28-42†***	28-91†*
Service Rating	I	I	I
Number of Contacts	41	42	91
Contact Size	16	16	20

† Not an MS layout.

* Special - consult Amphenol Aerospace for availability.

** Special Pyle with Matrix 83723 insert (ESC10 type, EN2997 Spec); consult Amphenol for availability.

*** Boeing Qualified Arrangements (See Boeing How to Order page 376)

✦ 24-19 is a special ground plane insert with purchased size 12 Coax contacts; consult Amphenol Aerospace for information.

✦✦ 24-46 is a special insert that accommodates size 8 twinax contacts with ground spring.

Size 8 and Size 12 cavities can accommodate Twinax or Coax contacts; consult Amphenol Aerospace for information.

Sizes 20, 24 and 28 Hermetic; consult Amphenol Aerospace for availability.

Size 28 not available in Bayonet style.

CONTACT LEGEND ○ 20 ● 16 ◒ 12 ◉ 8

MIL-DTL-83723, Series III, Pyle®

How to Order – Military or Commercial Designation

	1.	2.	3.	4.	5.
MIL-DTL-83723, Series III	Connector Type	Connector Style and Contact Type (Crimp)	Service Class	Shell Size/ Insert Arrangement	Alternate Keying Position of Shell
MILITARY	M83723	/82	G	16-24	6

	1.	2.	3.	4.	5.	6.	7.	8.
Amphenol® Pyle® MIL-DTL-83723, Series III	Connector Style	Service Class	Shell Style	Shell Size/ Insert Arrangement	Contact Type	Alternate Contact Finish or Without Contacts	Alternate Keying Position of Shell	Variations
COMMERCIAL	BT	G	-17	16-24	S	D	06	XXX

Step 1. Military Connector Type

M83723	Designates MIL-DTL-83723 Series III Connectors

Step 2. Select a Connector Style

(Refer to military specification slash sheet number).
(How to Order Hermetic Styles is provided on page 381).

	Designates
/71	Bayonet, Square Flange Receptacle, with sockets
/72	Bayonet, Square Flange Receptacle, with pins
/73	Bayonet, Jam Nut (D-Hole Mount) Recept., with sockets
/74	Bayonet, Jam Nut (D-Hole Mount) Recept., with pins
/75	Bayonet, Straight Plug, with sockets
/76	Bayonet, Straight Plug, with pins
/82	Threaded, Square Flange Receptacle, with sockets
/83	Threaded, Square Flange Receptacle, with pins
/84	Threaded, Jam Nut (D-Hole Mount) Recept., with sockets
/85	Threaded, Jam Nut (D-Hole Mount) Recept., with pins
/86	Threaded, Straight Plug, with sockets
/87	Threaded, Straight Plug, with pins
/95	Threaded, Non-Decoupling Plug, with sockets
/96	Threaded, Non-Decoupling Plug, with pins
/97	Threaded, Non-Decoupling Plug, with EMI Grounding spring, with sockets
/98	Threaded, Non-Decoupling Plug, with EMI Grounding spring, with pins

Step 3. Select a Service Class

	Designates
G	Stainless Steel
K	Stainless Steel Firewall

Note: See Matrix 83723 styles for aluminum classes A, R and W.

Step 4. Select a Shell Size & Insert Arrangement from chart on pg. 371. (except size 28 is not available in Bayonet Style)

First number represents Shell Size, second number is the Insert Arrangement

Step 5. Select an Alternate Keying Position - Rotation of master key/keyway of shell.

Use N for normal. Use 6, 7, 8, 9 or Y for alternate keying positions. See page 371 for descriptions.

Step 1. Select a Commercial Connector Style Designed to be Equivalent to M83723, Series III

	Designates
BT	Threaded with 'O' ring seal in receptacle
BY	Bayonet with 'O' ring seal in receptacle

(How to Order Hermetic Styles is provided on page 381).

Step 2. Select a Service Class

	Designates
G	Stainless steel
K	Stainless steel Firewall

Note: See Matrix 83723 styles for aluminum classes A, R and W.

Step 3. Select a Shell Style

	Designates
-10	Straight Plug, Bayonet coupling only
-11	Straight Plug, Threaded coupling only
-12	Non-Decoupling Plug, Threaded coupling only
-12F	Modification 360° accessory teath per MS3155, EMI Grounding Spring on Plug only. For /97 & /98 only.
-17	Square Flange Receptacle
-19	Jam Nut (D-Hole Mount) Receptacle

Step 4. Select a Shell Size & Insert Arrangement from chart on pg. 371. (except size 28 is not available in Bayonet Style)

First number represents Shell Size, second number is the Insert Arrangement.

Step 5. Select a Contact Type (Crimp)

	Designates
P	Pin Contacts
S	Socket Contacts

Step 6. Alternate Contact Finish or without Contacts

	Designates
D	Gold per SAE AS39029*
E	Without contacts

Step 7. Select an Alternate Keying Position - Rotation of master key/keyway of shell.

Use N for normal. Use 06, 07, 08, 09 or Y for alternate keying positions. See page 371 for descriptions.

Step 8. Variations

Consult Amphenol Aerospace for information.

*Supersedes MIL-C-39029

MIL-DTL-83723, Series III, Pyle®

How to Order – Pyle Commercial - Designed to Meet General Electric Specifications

	1.	2.	3.	4.	5.	6.	7.	8.
Amphenol® Pyle® MIL-DTL-83723, Series III	Connector Type	Shell Style	Shell Modification (Accessory Teeth)	Shell Size/ Insert Arrangement	Contact Type	Alternate Contact Finish or Without Contacts	Alternate Keying Position of Shell	Variations
PYLE COMMERCIAL DESIGNED TO MEET G. E. SPECIFICATIONS	BJ	-17	E	16-24	S	D	06	XXXX

Step 1. Select a Commercial Connector Type Designed to Meet General Electric Specifications

	Designates
BJ	Threaded, Stainless Steel, Static/Dynamic Seal in receptacle
BJ8	Same as BJ except with Scoop-Proof Recessed pins
BN	Same as BJ except Electro-deposited Nickel Plated
BN8	Same as BN except with Scoop-Proof Recessed pins
BNK	Same as BN except Stainless Steel Firewall

Step 2. Select a Shell Style

	Designates
-10	Bayonet Plug
-11	Threaded Straight Plug
-12	Threaded Non-Decoupling Plug
-17	Square Flange Receptacle
-19	Jam Nut (D-Hole Mount) Receptacle

Step 3. Select a Shell Modification

	Designates
E	360° Accessory Teeth per MS3155 Plug and Receptacle
F	360° Accessory Teeth per MS3155, EMI Grounding Spring on Plug only
G	3 Accessory Teeth, EMI Grounding Spring on Plug only

Step 4. Select a Shell Size & Insert Arrangement from chart on pg. 371.

First number represents Shell Size, second number is the Insert Arrangement.

Step 5. Select a Contact Type (Crimp)

	Designates
P	Pin Contacts
K	#20 Pins with #18 crimpwell
S	Socket Contacts
L	#20 Sockets with #18 crimpwell

Step 6. Alternate Contact Finish or without Contacts

	Designates
D	Gold per SAE AS39029*
E	Without contacts

Step 7. Select an Alternate Keying Position - Rotation of master key/keyway of shell.

Use N for normal. Use 06, 07, 08, 09 or Y for alternate keying positions. See page 371 for descriptions.

Step 8. Variations (Primarily Designed for General Electric)

	Designates
Y176	260°C per G.E. M50TF3564, Class B, No Accessory Teeth
Y185	Older style with 200°C Capability - European market (Superseded by Y163)
Y186	260°C Capability per G. E. M50TF3564 Class B**
Y188	200°C Capability per G. E. M50TF3564 Class A**

Another variation available with molding groove for potting - consult Amphenol Aerospace for ordering information.

* Supersedes MIL-C-39029

** Also see Hermetic styles that meet G.E. specification M50TF3564, Classes A & B on page 381.

MIL-DTL-83723, Series III, Pyle®

How to Order – Boeing Designation (BACC63CM/CN*) or Pyle Commercial Equivalent

	1.	2.	3.	4.	5.	6.	7.	8.
MIL-DTL-83723, Series III	Connector Type	Shell Style	Boeing Spec. Qualified Shell Size	Shell Modification (Accessory Teeth)	Boeing Spec. Qualified Insert Arrangement	Con-tact Style	Alternate Keying Position of Shell	Without Contacts Option
BOEING CO. DESIGNATION	BACC63	CM	18	B	14	P	8	A

	1.	3.	4.	5.	6.	7.	8.
Amphenol® Pyle® MIL-DTL-83723, Series III	Connector Type	Shell Style	Shell Modification (Accessory Teeth)	Shell Size/ Insert Arrangement	Con-tact Type	Alternate Contact Finish or Without Contacts	Alternate Keying Position of Shell	Variation
PYLE COMMERCIAL EQUIV. TO BOEING BACC63CM/CN	BSK	-12	E	18-14	P	D	08	XXX

Step 1. Boeing Co. Designation

BACC63	Designates MIL-DTL-83723 Series III Boeing Designation BACC63CM/CN** Firewall Connectors

(Refer to military specification slash sheet number.)

** BACC63CM/CN supersedes BACC63BR/BT

Step 2. Select a Connector Type

	Designates
CM	Threaded, Non-Decoupling Plug Stainless Steel Firewall
CN	Threaded, Square Flange Receptacle, Stainless Steel Firewall

Step 3. Select a Boeing Specification Qualified Shell Size 12, 14, 16, 18, 20, 22, 24, 28

Step 4. Select a Shell Modification

	Designates
–	Accessory Teeth per MIL-DTL-83723, Series III (normally 3 teeth)
B	360° Accessory Teeth per MS3155 Plug and Receptacle
D	360° Accessory Teeth per MS3155,EMI Grounding Spring on Plug only

Step 5. Select a Boeing Specification Qualified Insert Arrangement

12-03, 14-04, 14-07, 16-10, 18-14, 20-16, 22-19, 24-30, 28-42 (these incorporate Boeing approved contacts)

Step 6. Select a Contact Type (Crimp)

	Designates
P	Pin Contacts, Gold plate per SAE AS39029*
S	Socket Contacts, Gold plate per SAE AS39029*

Step 7. Select an Alternate Keying Position - Rotation of master key/keyway of shell.

Use N for normal. Use 6, 7, 8, 9 or Y for alternate keying positions. See page 371 for descriptions.

Step 8. Without Contacts Option

	Designates
A	Without Contacts and Sealing Plugs (Letter 'A' to be used on purchase orders only, and will not appear on connector as part of connector part number).

*Supersedes MIL-C-39029

Step 1. Commercial Connector Type Designed to be Equivalent to Boeing BACC63

	Designates
BSK	Threaded with 'O' ring seal in receptacle

Step 2. Select a Shell Style

	Designates
-12	Threaded, Non-Decoupling Plug Stainless Steel Firewall
-17	Threaded, Square Flange Receptacle, Stainless Steel Firewall

Step 3. Select a Shell Modification

No designation needed for shells with accessory teeth per MIL-DTL-83723, Series III (normally 3 teeth).

	Designates
E	360° Accessory Teeth per MS3155 Plug and Receptacle
F	360° Accessory Teeth per MS3155, EMI Grounding Spring on Plug only

Step 4. Select a Shell Size & Insert Arrangement from chart on pg. 371.

Shell Sizes 12, 14, 18, 20, 24, 28 are available.
Shell size and insert arrangement are written together. First number represents Shell Size, second number is the Insert Arrangement.

Step 5. Select a Contact Type (Crimp)

	Designates
P	Pin Contacts
S	Socket Contacts

Step 6. Alternate Contact Finish or without Contacts

	Designates
D	Gold per SAE AS39029*
E	Without contacts and sealing plugs

Step 7. Select an Alternate Keying Position - Rotation of master key/keyway of shell.

Omit for N for normal. Use 06, 07, 08, 09 or Y for alternate keying positions. See page 371 for descriptions.

Step 8. Variation

	Designates
Y126	Contact Marking per MIL-DTL-83723/33 & /34 (Required with BACC63CM/CN Series)

No variation suffix - connector will incorporate Mil-Spec AS39020 contacts

MIL-DTL-83723, Series III, Pyle®

How to Order – ASD Designation

Amphenol Aerospace

	1.	2.	3.	4.	5.	6.
MIL-DTL-83723, Series III	Connector Type	Service Class	Shell Style	Shell Size/Insert Arrangement	Contact Style	Alternate Keying Position of Shell
ASD DESIGNATION	EN2997	KE	6	16-24	F	6

Step 1. Select an ASD Designated/European Standards Connector Type

	Designates
EN2997	ASD Designation

Note: ASD supersedes AECMA Designation

Step 2. Select a Service Class

	Designates Standard Temperature Class
K	Threaded, Stainless Steel, 200°C
S	Threaded, Stainless Steel, EMI Grounding Spring on Plug, 200°C
Y*	Stainless Steel Hermetic with Solderwell Contacts, 200°C
	Designates High Temperature Class
KE	Threaded, Stainless Steel Firewall, 260°C
SE	Threaded, Stainless Steel, EMI Grounding Spring on Plug, 260°C
YE*	Stainless Steel Hermetic with Solderwell Contacts, 260°C

* No longer approved QPL supplier. Commercially equivalent is available, please contact a representative for more information.

Step 3. Select a Shell Style

	Designates
0	Threaded, Square Flange Receptacle
1	Threaded, Solder Mount Receptacle, Hermetic only
6	Threaded Non-Decoupling Plug
7	Threaded Jam Nut (D-Hole Mount) Receptacle

Step 4. Select a Shell Size & Insert Arrangement from chart on pg. 371.

First number represents Shell Size, second number is the Insert Arrangement.

Step 5. Select a Contact Type (Crimp)

	Designates
M	Standard Pin Contacts
C	#20 Pins with #18 crimpwell
A	Pin Insert less Contacts
F	Standard Socket Contacts
D	#20 Sockets with #18 crimpwell
B	Socket Insert less Contacts

Step 6. Select an Alternate Keying Position - Rotation of master key/keyway of shell.

Use N for normal. Use 6, 7, 8, 9 or Y for alternate keying positions. See page 371 for descriptions.

MIL-DTL-83723, Series III, Pyle®

How to Order – Pyle Commercial Equivalents to ASD Designation/European Standards

	1.	2.	3.	4.	5.	6.	7.	8.	9.
Amphenol® Pyle® MIL-DTL-83723, Series III	Connector Type	Service Class	Shell Style	Shell Modification (Accessory Teeth)	Shell Size/ Insert Arrangement	Con-tact Type	Alternate Contact Finish or Without Contacts	Alternate Keying Pos. of Shell	Varia-tions
PYLE COMMERCIAL DESIGNED TO MEET ASD & EUROPEAN STDS.	BT	G	-12	E	18-14	P	D	08	XXX

Step 1. Select a Commercial Connector Type Designed to Meet ASD/European Standards

	Designates
BT	Threaded with 'O' ring seal in receptacle
BJ	Threaded, Stainless Steel, Static/Dynamic Seal in receptacle

Step 2. Select a Service Class

	Designates
G	Stainless steel
K	Stainless steel Firewall

Step 3. Select a Shell Style

	Designates
-12	Threaded, Non-Decoupling Plug
-17	Threaded, Square Flange Receptacle
-19	Threaded, Jam Nut (D-Hole Mount) Receptacle

Step 4. Select a Shell Modification

No designation needed for shells with accessory teeth per MIL-DTL-83723, Series III (normally 3 teeth).

	Designates
E	360° Accessory Teeth per MS3155 Plug and Receptacle
F	360° Accessory Teeth per MS3155, EMI Grounding Spring on Plug only

Step 5. Select a Shell Size & Insert Arrangement from chart on pg. 371.

First number represents Shell Size, second number is the Insert Arrangement.

Step 6. Select a Contact Type (Crimp)

	Designates
P	Pin Contacts
S	Socket Contacts

Step 7. Alt. Contact Finish or without Contacts

	Designates
D	Gold per SAE AS39029*
E	Without contacts

Step 8. Select an Alternate Keying Position - Rotation of master key/keyway of shell.

Use N for normal. Use 06, 07, 08, 09 or Y for alternate keying positions. See page 371 for descriptions.

Step 9. Variations (Designed for Meeting European Specifications)

	Designates
Y144	260°C Capability (Euro Market)
Y163	200°C Capability (Euro Market)
Y175	Older designation superseded by Y144

*Supersedes MIL-C-39029

MIL-DTL-83723, Series III, Pyle®

How to Order – ESC10/11 for SBAC and Rolls Royce Standards

	1.	2.	3.	4.	5.	6.	7.
MIL-DTL-83723, Series III	Connector Type	Service Class	Shell Style	Shell Size/ Insert Arrangement	Contact Type	Alternate Keying Position of Shell	Variations
MEETS SOCIETY OF BRITISH AEROSPACE CO./ ROLLS ROYCE STANDARDS	ESC10	KE	0	16-24	S	6	X

Step 1. Select a Connector Type that Meets European Specifications for Society of British Aerospace Co./Rolls Royce Standards

	Designates
ESC10	Threaded, Basic High Temperature Connector, 260°C Firewall
ESC11	Threaded, High Temperature Connector (260°C Firewall) with 100% Scoop-Proof Recessed Pins

Step 2. Select a Service Class

	Designates High Temperature Class
KE	Threaded, Stainless Steel Firewall, 260°C
SE	Threaded, Stainless Steel, EMI Grounding Spring on Plug, 260°C
YE*	Threaded, Stainless Steel Hermetic with Solderwell Contacts, 260°C

* No longer approved QPL supplier. Commercially equivalent is available, please contact a representative for more information.

Step 3. Select a Shell Style

	Designates
0	Threaded, Square Flange Receptacle with 360° Accessory Teeth per MS3155
1	Threaded, Hermetic Solder Mount Receptacle
2	Threaded, Hermetic Square Flange Receptacle
3	Threaded, Hermetic Jam Nut (D-Hole Mount) Receptacle
6	Threaded, Non-Decoupling Plug with 360° Accessory Teeth per MS3155

Step 4. Select a Shell Size & Insert Arrangement from chart on pg. 371.

First number represents Shell Size, second number is the Insert Arrangement.

Step 5. Select a Contact Type (Crimp)

	Designates
P	Pin Contacts
S	Socket Contacts

All connectors are supplied without contacts except Shell Styles 1, 2 and 3

Step 7. Select an Alternate Keying Position - Rotation of master key/keyway of shell.

Use N for normal. Use 6, 7, 8, 9 or Y for alternate keying positions. See page 371 for descriptions.

Step 8. Variations

	Designates
O (Alpha)	Basic Connector, no Variations
A	Lockwire Holes on Plug

MIL-DTL-83723, Series III, Pyle®

How to Order – Pyle Commercial Equivalent to ESC11 European Specifications – Scoop-Proof only

	1.	2.	3.	4.	5.	6.	7.
MIL-DTL-83723, Series III	Connector Type	Shell Style	Shell Size/ Insert Arrangement	Contact Type	Contact Finish	Alternate Keying Position of Shell	Variations
COMMERCIAL	HTK	12	16-24	S	D	06	XXXX

Step 1. Select a Commercial Connector Type Equivalent to ESC11 European Specifications

	Designates
HTK	Threaded, Basic ESC-11, Class K (Choice of temperature rating 260° or 200° is in the Variations for this part number).
HNK	Same as HTK except Electroless Nickel Plated
HSK	Same as HTK, except this is a special designator for Boeing Company

Step 2. Select a Shell Style

	Designates
-12	Threaded Non-Decoupling Plug with 100% Scoop-Proof Recessed Pins
-17	Square Flange Receptacle with 100% Scoop-Proof Recessed Pins

Step 3. Select a Shell Size & Insert Arrangement from chart on pg. 371.

Shell Sizes 12, 14, 18, 20, 24, 28 are available.
Shell size and insert arrangement are written together. First number represents Shell Size, second number is the Insert Arrangement.

Step 4. Select a Contact Type (Crimp)

	Designates
P	Pin Contacts
S	Socket Contacts

Step 5. Select a Contact Finish or without Contacts

	Designates
D	Gold per AS39029*
E	Socket Contacts

Special High Temperature Contacts are another option - consult Amphenol Aerospace for ordering information.

Step 6. Select an Alternate Keying Position - Rotation of master key/keyway of shell.

Use N for normal. Use 06, 07, 08, 09 or Y for alternate keying positions. See page 371 for descriptions.

Step 7. Variations

	Designates
Y144	260°C
Y163	200°C

*Supersedes MIL-C-39029

MIL-DTL-83723, Series III, Pyle®

How to Order – Hermetic, Military or Pyle Commercial

	1.	2.	3.	4.	5.
MIL-DTL-83723, Series III	Connector Type	Connector Style and Contact Type (Crimp)	Service Class	Shell Size/ Insert Arrangement	Alternate Keying Position of Shell
MILITARY HERMETIC	M83723	/88	y	16-24	6

	1.	2.	3.	4.	5.	6.	7.	8.
Amphenol® Pyle® MIL-DTL-83723, Series III	Connector Style	Shell Style	Shell Size/ Insert Arrangement	Contact Type	Contact Style	Alternate Contact Finish	Alternate Keying Position of Shell	Varia-tions
COMMERCIAL HERMETIC	BTY	-17	16-24	S	1	D	06	XXXX

Step 1. Military Connector Type

M83723	Designates MIL-DTL-83723 Series III Connectors

Step 2. Select a Military Hermetic Connector Style

(Refer to military specification slash sheet number.)

	Designates
/88	Hermetic, Threaded Square Flange Receptacle
/89	Hermetic, Threaded Jam Nut (D-Hole Mount) Receptacle
/90	Hermetic, Threaded Solder Mounted Receptacle

Step 3. Select a Service Class

	Designates
Y	Hermetic, Stainless Steel, 200°C, with Solderwell Contacts
H	Hermetic, Tin Plated Carbon Steel, 150° C

For availability of a Plated Steel Shell, consult Amphenol Aerospace.

Step 4. Select a Shell Size & Insert Arrangement from chart on pg. 371.

(Except sizes 24 and 28 are not available in Hermetic Styles.)

First number represents Shell Size, second number is the Insert Arrangement

Step 5. Select an Alternate Keying Position - Rotation of master key/keyway of shell.

Use N for normal. Use 6, 7, 8, 9 or Y for alternate keying positions. See page 371 for descriptions.

Step 1. Select a Commercial Hermetic Connector Style

	Designates
BTY	Hermetic, Threaded, Stainless Steel, with 'O' ring seal
BFY	Hermetic, Threaded, Stainless Steel, with Static/Dynamic Seal
BNY	Hermetic, Threaded, Stainless Steel, Electro-deposited Nickel plated, with Static/Dynamic Seal

Step 2. Select a Shell Style

	Designates
-17	Square Flange Receptacle
-19	Jam Nut (D-Hole Mount) Receptacle
-14	Solder Mounted Receptacle

Step 3. Select a Shell Size & Insert Arrangement from chart on pg. 371.

(Except sizes 24 and 28 are not available in Hermetic Styles).
First number represents Shell Size, second number is the Insert Arrangement

Step 4. Select a Contact Type (Crimp)

	Designates
P	Pin Contacts

Step 5. Select a Contact Style

	Designates
1	Solderwell Contacts (Mil-Spec Type)
4	Eyelet Contacts

Step 6. Alternate Contact Finish

	Designates
D	.000050 (per MIL-DTL-83723, III) Gold
V	.000100 Gold

Step 7. Select an Alternate Keying Position - Rotation of master key/keyway of shell.

Omit for normal. Use 06, 07, 08, 09 or Y for alternate keying positions. See page 371 for descriptions.

Step 8. Variations

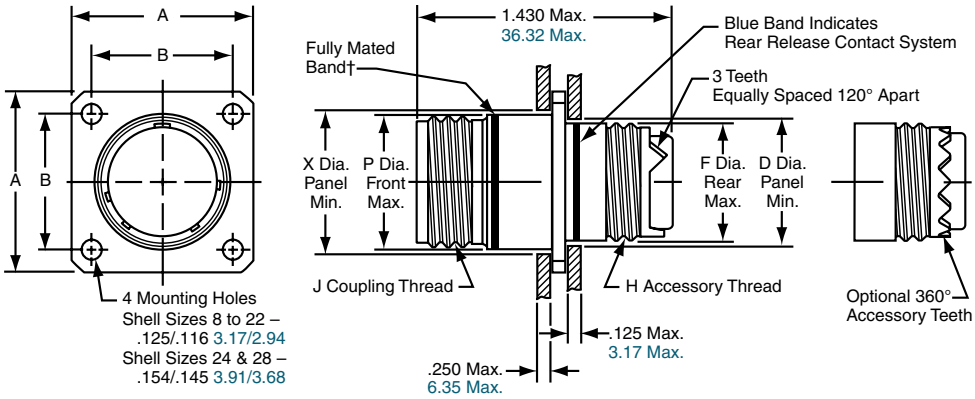
	Designates
Y144	260°C Capability (Euro Market)
Y163	200°C Capability (Euro Market)
Y186	260°C Capability per G.E. M50TF3564, Class B
Y188	200°C Capability per G.E. M50TF3564, Class A

MIL-DTL-83723, Series III, Pyle®

Square Flange Receptacle, Threaded Coupling

PART #

M83723/82 / M83723/83
BT( )-17
BJ/BJ8/BN/BN8/BNK-17
BACC63CN
BSK-17
EN2997( )0
BT( )/BJ( )-17
ESC10( )0
ESC11( )0
HTK/HNK/HSK-17



See Quick Reference page 365 for the variety of ordering options for square flange receptacles with threaded coupling.

The How to Order pages (374-381) give complete part number breakdowns.

† When fully mated with plug, this band will be covered. (Band is red on military types; can be red or blue on commercial types).

Inches

Shell Size	A ±.005	B ±.005	D Dia. Panel Min.	F Dia. Rear Max.	H Accessory Thread Class 2A	J Coupling Thread Class 2A	P Dia. Front Max.	X Dia. Panel Min.
8	.812	.594	.510	.500	.5000-20 UNF	.5625-24 UNF	.562	.620
10	.937	.719	.635	.625	.6250-24 UNEF	.6875-24 UNEF	.696	.748
12	1.031	.812	.760	.750	.7500-20 UNEF	.8750-20 UNEF	.875	.913
14	1.125	.906	.885	.875	.8750-20 UNEF	.9375-20 UNEF	.936	.980
16	1.250	.969	1.010	1.000	1.0000-20 UNEF	1.0625-18 UNEF	1.062	1.107
18	1.343	1.062	1.072	1.062	1.0625-18 UNEF	1.1875-18 UNEF	1.187	1.209
20	1.437	1.156	1.192	1.187	1.1875-18 UNEF	1.3125-18 UNEF	1.312	1.337
22	1.562	1.250	1.322	1.312	1.3125-18 UNEF	1.4375-18 UNEF	1.437	1.452
24	1.703	1.375	1.447	1.437	1.4375-18 UNEF	1.5625-18 UNEF	1.562	1.577
28	1.953	1.562	1.760	1.750	1.7500-18 UNEF	1.8125-16 UNEF	1.812	1.827

Millimeters

Shell Size	A ±.005	B ±.005	D Dia. Panel Min.	F Dia. Rear Max.	P Dia. Front Max.	X Dia. Panel Min.
8	20.62	15.09	12.95	12.70	14.27	15.75
10	23.80	18.26	16.13	15.88	17.68	18.99
12	26.19	20.62	19.30	19.05	22.23	23.19
14	28.58	23.01	22.48	22.23	23.77	24.89
16	31.75	24.61	25.65	25.40	26.97	28.12
18	34.11	26.97	27.23	26.97	30.15	30.71
20	36.50	29.36	30.28	30.15	33.32	33.96
22	39.67	31.75	33.58	33.32	36.50	36.88
24	43.26	34.93	36.75	36.50	39.67	40.06
28	49.61	39.67	44.70	44.45	46.02	46.41

Shell sizes 8 and 10 are not available in Boeing BACC63 styles and commercial ESC11 styles.

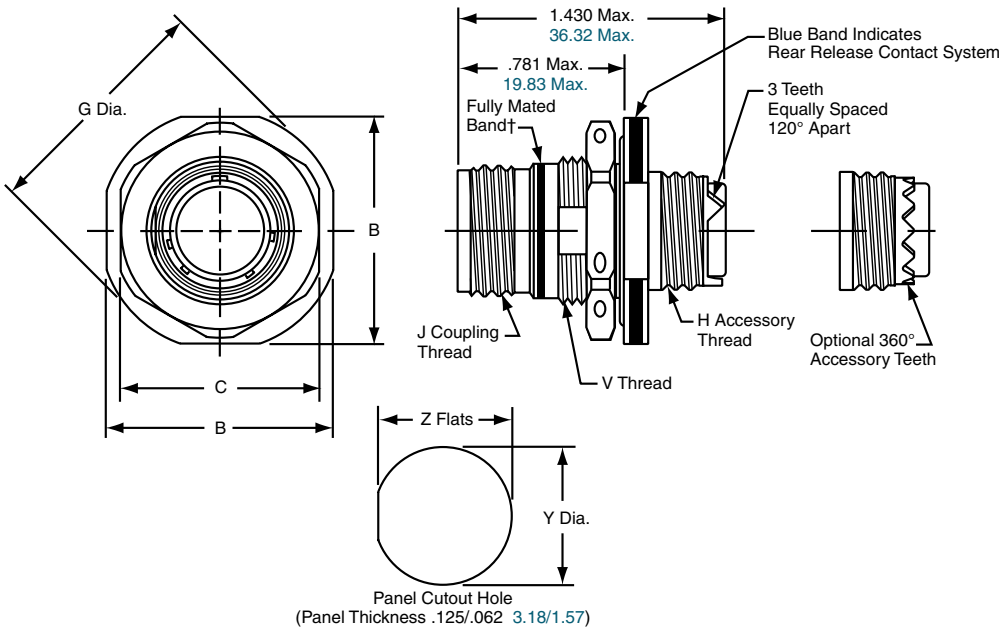
Bayonet style square flange receptacles are shown on page 385.

Hermetic threaded style square flange receptacles are shown on page 388.

All dimensions for reference only.

MIL-DTL-83723, Series III, Pyle®

Jam Nut (D-Hole Mount) Receptacle, Threaded Coupling



PART #

M83723/84 / M83723/85

BT( )-19

BJ/BJ8/BN/BN8/BNK-19

EN2997( )7

BT( )/BJ( )-19

See Quick Reference page 366 for the variety of ordering options for jam nut (D-hole mount) receptacles with threaded coupling.

The How to Order pages (374-381) give complete part number breakdowns.

† When fully mated with plug, this band will be covered. (Band is red on military types; can be red or blue on commercial types).

Inches

Shell Size	B Max.	C Hex Max.	G Dia. Max.	H Accessory Thread Class 2A	J Coupling Thread Class 2A	V Thread Class 2A	Y Dia. ±.005	Z Flats ±.005
8	.979	.828	1.068	.5000-20 UNF	.5625-24 UNF	.6250-20 UNEF	.635	.605
10	1.104	.953	1.192	.6250-24 UNEF	.6875-24 UNEF	.7500-20 UNEF	.760	.730
12	1.291	1.140	1.380	.7500-20 UNEF	.8750-20 UNEF	.9380-20 UNEF	.947	.917
14	1.391	1.205	1.505	.8750-20 UNEF	.9375-20 UNEF	1.0000-20 UNEF	1.010	.980
16	1.516	1.329	1.630	1.0000-20 UNEF	1.0625-18 UNEF	1.1250-18 UNEF	1.135	1.105
18	1.641	1.455	1.756	1.0625-18 UNEF	1.1875-18 UNEF	1.2500-18 UNEF	1.260	1.225
20	1.766	1.574	1.860	1.1875-18 UNEF	1.3125-18 UNEF	1.3750-18 UNEF	1.385	1.350
22	1.954	1.705	2.068	1.3125-18 UNEF	1.4375-18 UNEF	1.5000-18 UNEF	1.510	1.475
24	2.074	1.830	2.160	1.4375-18 UNEF	1.5625-18 UNEF	1.6250-18 UNEF	1.635	1.600
28	2.329	2.080	–	1.7500-18 UNEF	1.8125-16 UNEF	1.8750-20 UNEF	1.885	1.850

Millimeters

Shell Size	B Max.	C Hex Max.	G Dia. Max.	Y Dia. ±.13	Z Flats ±.13
8	24.87	21.03	27.13	16.13	15.37
10	28.04	24.21	30.28	19.30	18.54
12	32.79	28.96	35.05	24.05	23.29
14	35.33	30.61	38.23	25.65	24.89
16	38.51	33.76	41.40	28.83	28.07
18	41.68	36.96	44.60	32.00	31.12
20	44.86	39.98	47.24	35.18	34.29
22	49.63	43.31	52.53	38.35	37.47
24	52.68	46.48	80.26	41.53	40.64
28	59.16	52.83	–	47.88	46.99

No Boeing Designated jam nut receptacles.

Bayonet style jam nut receptacles shown on page 386.

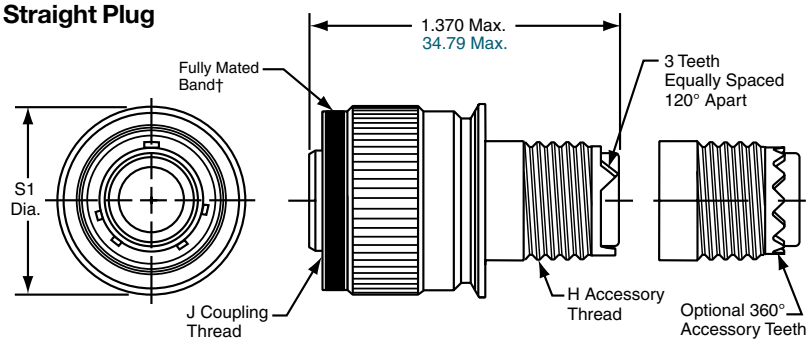
Hermetic threaded style jam nut receptacles shown on page 389.

All dimensions for reference only.

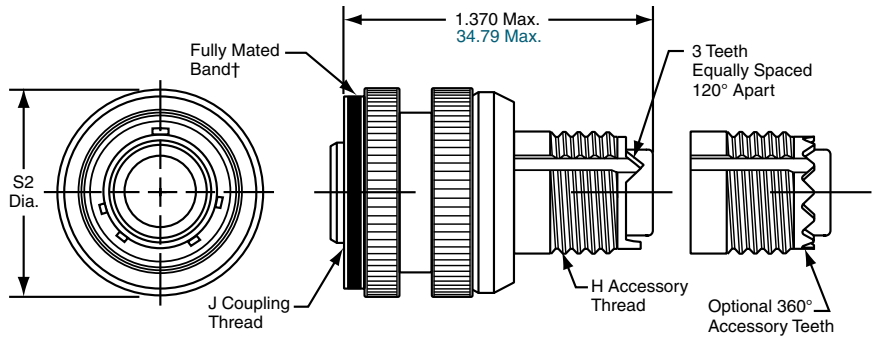
MIL-DTL-83723, Series III, Pyle®

Straight Plug and Non-Decoupling Plug,Threaded Coupling

Straight Plug



Non-Decoupling Plug



† When fully mated with receptacle, this band will be covered. (Band is red on military types; can be red or blue on commercial types).

Inches

Shell Size	H Accessory Thread Class 2A	J Coupling Thread Class 2A	S1 Dia. Max.	S2 Dia. Max.
8	.5000-20 UNF	.5625-24 UNF	.776	.832
10	.6250-24 UNEF	.6875-24 UNEF	.906	.958
12	.7500-20 UNEF	.8750-20 UNEF	1.078	1.090
14	.8750-20 UNEF	.9375-20 UNEF	1.141	1.203
16	1.0000-20 UNEF	1.0625-18 UNEF	1.266	1.326
18	1.0625-18 UNEF	1.1875-18 UNEF	1.375	1.432
20	1.1875-18 UNEF	1.3125-18 UNEF	1.500	1.557
22	1.3125-18 UNEF	1.4375-18 UNEF	1.625	1.682
24	1.4375-18 UNEF	1.5625-18 UNEF	1.750	1.817
28	1.7500-18 UNEF	1.8125-16 UNEF	2.000	2.122

Millimeters

Shell Size	S1 Dia. Max.	S2 Dia. Max.
8	19.71	21.13
10	23.01	24.33
12	27.38	27.68
14	28.98	30.55
16	32.15	33.68
18	34.92	36.37
20	38.10	39.54
22	41.27	42.72
24	44.45	46.15
28	50.80	53.89

All dimensions for reference only.

Shell sizes 8 and 10 are not available in Boeing BACC63 styles and commercial ESC11 styles.

Boeing designations are in non-decoupling plugs only; not in straight plug designations.

ASD and European/ESC10 or ESC11 are in non-decoupling plugs only, not in straight plug designations.

Bayonet style straight plugs shown on page 387. Bayonet style non-decoupling plugs are not available.

PART # STRAIGHT PLUG

M83723/86 / M83723/87

BT( )-11

BJ/BJ8/BN/BN8/BNK-11

See Quick Reference page 367 for the variety of ordering options for straight plugs with threaded coupling.

The How to Order pages (374-381) give complete part number breakdowns.

PART # NON-DECOUPLING PLUG

M83723/95 / M83723/96

M83723/97 / M83723/98

BT( )-12

BJ/BJ8/BN/BN8/BNK-12

BACC63CM

BSK-12

EN2997( )6

BT( )/BJ( )-12

ESC10( )6

ESC11( )6

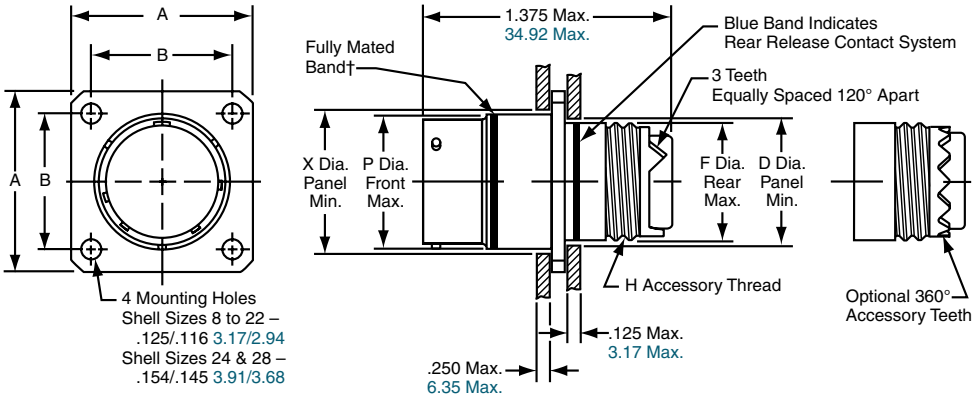
HTK/HNK/HSK-12

See Quick Reference page 367 for the variety of ordering options for non-decoupling plugs with threaded coupling.

The How to Order pages (374-381) give complete part number breakdowns.

MIL-DTL-83723, Series III, Pyle®

Square Flange Receptacle, Bayonet Coupling



PART #

M83723/71 / M83723/72

BY( )-17

See Quick Reference page 368 for the variety of ordering options for square flange receptacles with bayonet coupling.

The How to Order page 374 gives complete part number breakdowns.

† When fully mated with plug, this band will be covered. (Band is red on military types; can be red or blue on commercial types).

Inches

Shell Size	A ±.005	B ±.005	D Dia. Panel Min.	F Dia. Rear Max.	H Accessory Thread Class 2A	P Dia. Front Max.	X Dia. Panel Min.
8	.812	.594	.510	.500	.5000-20 UNF	.562	.620
10	.937	.719	.635	.625	.6250-24 UNEF	.696	.748
12	1.031	.812	.760	.750	.7500-20 UNEF	.875	.913
14	1.125	.906	.885	.875	.8750-20 UNEF	.936	.980
16	1.250	.969	1.010	1.000	1.0000-20 UNEF	1.062	1.107
18	1.343	1.062	1.072	1.062	1.0625-18 UNEF	1.187	1.209
20	1.437	1.156	1.192	1.187	1.1875-18 UNEF	1.312	1.337
22	1.562	1.250	1.322	1.312	1.3125-18 UNEF	1.437	1.452
24	1.703	1.375	1.447	1.437	1.4375-18 UNEF	1.562	1.577

Millimeters

Shell Size	A ±.005	B ±.005	D Dia. Panel Min.	F Dia. Rear Max.	P Dia. Front Max.	X Dia. Panel Min.
8	20.62	15.04	12.95	12.70	14.27	15.75
10	23.80	18.26	16.13	15.88	17.68	18.99
12	26.19	20.62	19.30	19.05	22.23	23.19
14	28.58	23.01	22.48	22.23	23.77	24.89
16	31.75	24.61	25.65	25.40	26.97	28.12
18	34.11	26.97	27.23	26.97	30.15	30.71
20	36.50	29.36	30.28	30.15	33.32	33.96
22	39.67	31.75	33.58	33.32	36.50	36.88
24	43.26	34.93	36.75	36.50	39.67	40.06

Bayonet coupling connectors are offered in Military 83723 and Commercial equivalent designations. They are not included in Boeing, GE, ASD and other European specified connectors.

Shell size 28 is not available in Bayonet coupling connectors.

All dimensions for reference only.

MIL-DTL-83723, Series III, Pyle®

Jam Nut (D-Hole Mount) Receptacle, Bayonet Coupling

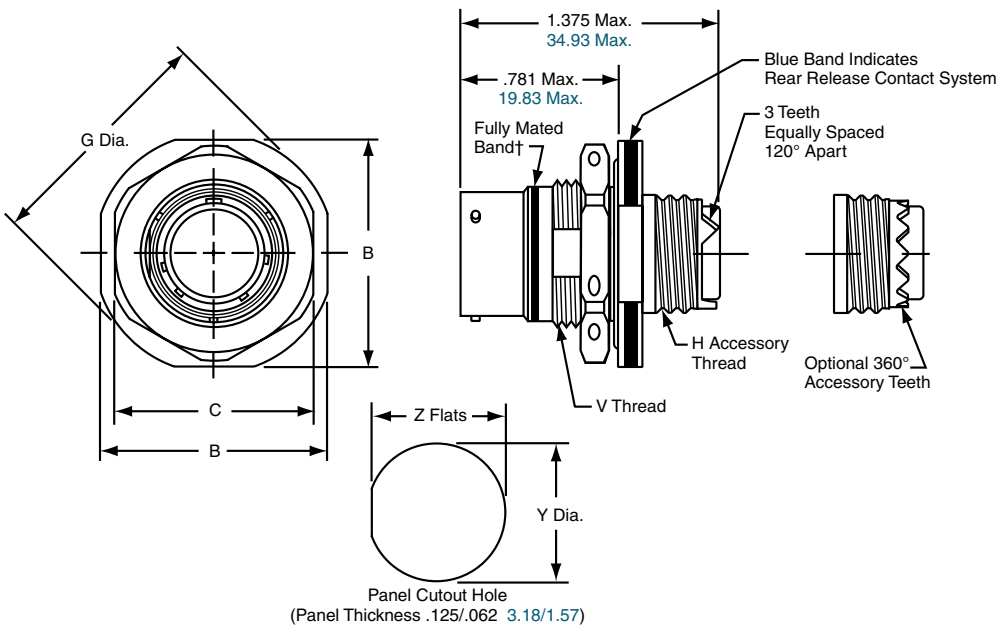
PART #

M83723/73 / M83723/74

BY( )-19

See Quick Reference page 368 for the variety of ordering options for jam nut D-hole mount receptacles with bayonet coupling.

The How to Order page 374 gives complete part number breakdowns.



† When fully mated with plug, this band will be covered. (Band is red on military types; can be red or blue on commercial types).

Inches

Shell Size	B Flats Max.	C Hex Max.	G Dia. Max.	H Accessory Thread Class 2A	V Thread Class 2A	Y Dia. ±.005	Z Flats ±.005
8	.979	.828	1.068	.5000-20 UNF	.6250-20 UNEF	.635	.605
10	1.104	.953	1.192	.6250-24 UNEF	.7500-20 UNEF	.760	.730
12	1.291	1.140	1.380	.7500-20 UNEF	.9380-20 UNEF	.947	.917
14	1.391	1.205	1.505	.8750-20 UNEF	1.0000-20 UNEF	1.010	.980
16	1.516	1.329	1.630	1.0000-20 UNEF	1.1250-20 UNEF	1.135	1.105
18	1.641	1.455	1.756	1.0625-18 UNEF	1.2500-18 UNEF	1.260	1.225
20	1.766	1.574	1.860	1.1875-18 UNEF	1.3750-18 UNEF	1.385	1.350
22	1.954	1.705	2.068	1.3125-18 UNEF	1.5000-18 UNEF	1.510	1.475
24	2.074	1.830	2.160	1.4375-18 UNEF	1.6250-18 UNEF	1.635	1.600

Millimeters

Shell Size	B Flats Max.	C Hex Max.	G Dia. Max.	Y Dia. ±.13	Z Flats ±.13
8	24.87	21.03	27.13	16.13	15.37
10	28.04	24.21	30.28	19.30	18.54
12	32.79	28.96	35.05	24.05	23.29
14	35.33	30.61	38.23	25.65	24.89
16	38.51	33.76	41.40	28.83	28.07
18	41.68	36.96	44.60	32.00	31.12
20	44.86	39.98	47.24	35.18	34.29
22	49.63	43.31	52.53	38.35	37.47
24	52.68	46.48	80.26	41.53	40.64

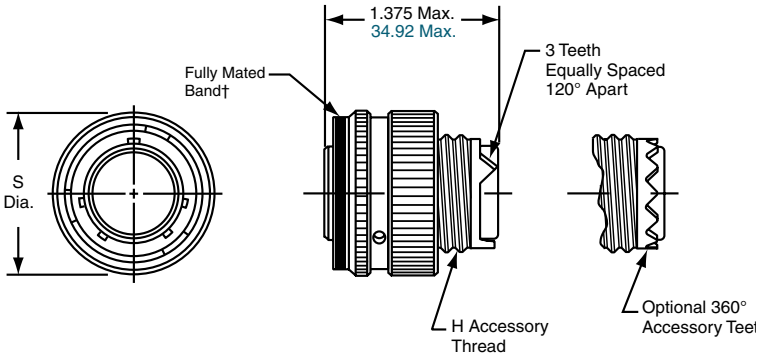
Bayonet coupling connectors are offered in Military 83723 and Commercial equivalent designations. They are not included in Boeing, GE, ASD and other European specified connectors.

Shell size 28 is not available in Bayonet coupling connectors.

All dimensions for reference only.

MIL-DTL-83723, Series III, Pyle®

Straight Plug, Bayonet Coupling



PART #

M83723/75 / M83723/76

BY( )-10

See Quick Reference page 368 for the variety of ordering options for straight plugs with bayonet coupling.

The How to Order page 374 gives complete part number breakdowns.

† When fully mated with receptacle, this band will be covered. (Band is red on military types; can be red or blue on commercial types).

Inches

Shell Size	H Accessory Thread Class 2A	S Dia. Max.
8	.5000-20 UNF	.765
10	.6250-24 UNEF	.906
12	.7500-20 UNEF	1.078
14	.8750-20 UNEF	1.125
16	1.0000-20 UNEF	1.266
18	1.0625-18 UNEF	1.375
20	1.1875-18 UNEF	1.505
22	1.3125-18 UNEF	1.625
24	1.4375-18 UNEF	1.755

Millimeters

Shell Size	S Dia. Max.
8	19.43
10	23.01
12	27.38
14	28.57
16	32.15
18	34.92
20	38.22
22	41.27
24	44.57

Bayonet coupling connectors are offered in Military 83723 and Commercial equivalent designations. They are not included in Boeing, GE, ASD and other European specified connectors.

Shell size 28 is not available in Bayonet coupling connectors.

All dimensions for reference only.

Amphenol Aerospace

MIL-DTL-83723, Series III, Pyle®

Hermetic Square Flange Mount Receptacle, Threaded Coupling

PART #

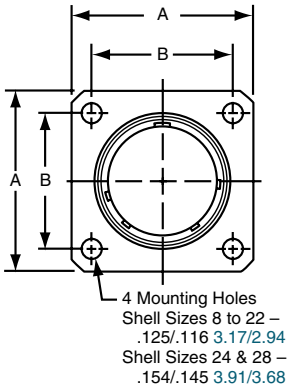
M83723/88Y / M83723/88P

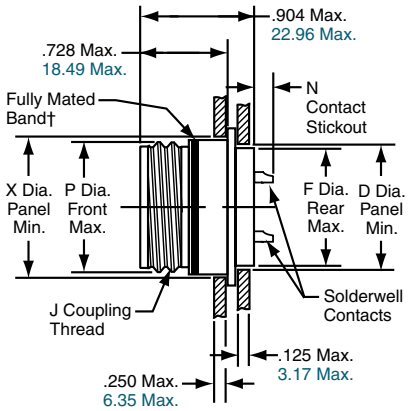
BTY/BFY/BNY-17

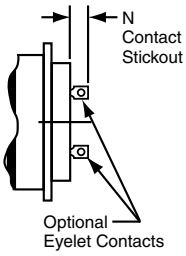
EN2997Y0 / YE0

ESC10YE2

ESC11YE2







See Quick Reference page 369 for the variety of ordering options for hermetic square flange mount receptacles with threaded coupling.

The How to Order pages (377, 379, 381) give complete part number breakdowns.

† When fully mated with plug, this band will be covered. (Band is red on military types; can be red or blue on commercial types).

Inches

Shell Size	A ±.010	B ±.005	D Dia. Panel Min.	F Dia. Rear Max.	J Coupling Thread Class 2A	N Contact Stickout		P Dia. Front Max.	X Dia. Panel Min.
						Size 20 Contacts	Size 12 & 16 Contacts		
8	.812	.594	.510	.500	.5625-24 UNF	.194 / .134	.224 / .164	.562	.572
10	.937	.719	.635	.625	.6875-24 UNEF	.194 / .134	.224 / .164	.696	.706
12	1.031	.812	.760	.750	.8750-20 UNEF	.194 / .134	.224 / .164	.875	.885
14	1.125	.906	.885	.875	.9375-20 UNEF	.194 / .134	.224 / .164	.936	.946
16	1.250	.969	1.010	1.000	1.0625-18 UNEF	.194 / .134	.224 / .164	1.062	1.072
18	1.343	1.062	1.072	1.062	1.1875-18 UNEF	.194 / .134	.224 / .164	1.187	1.197
22	1.562	1.250	1.322	1.312	1.4375-18 UNEF	.194 / .134	.224 / .164	1.437	1.447

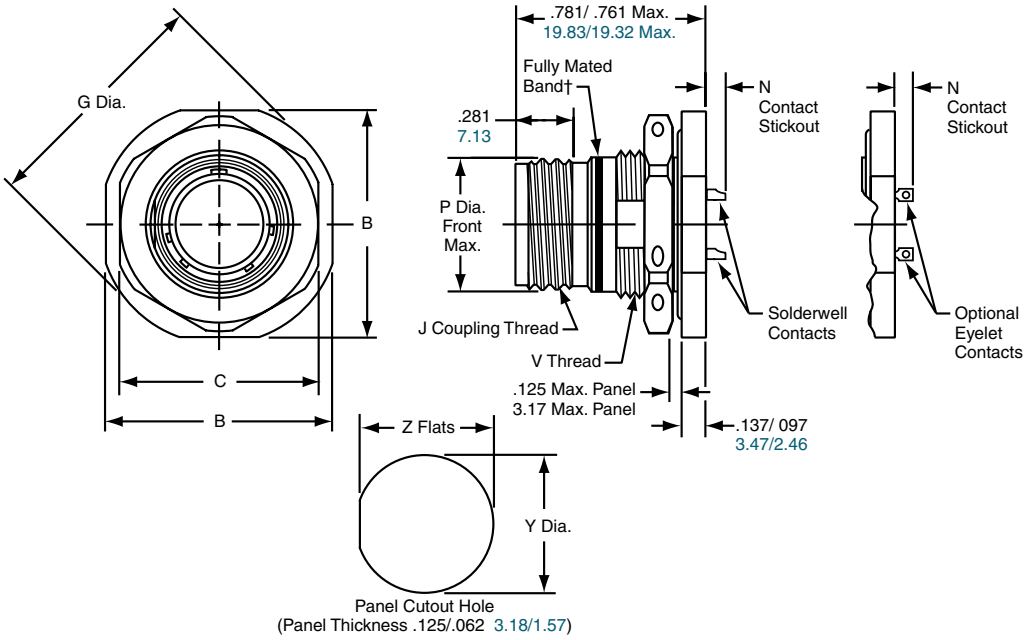
Millimeters

Shell Size	A ±.25	B ±.13	D Dia. Panel Min.	F Dia. Rear Max.	P Dia. Front Max.	X Dia. Panel Min.
8	20.62	15.09	12.95	12.70	14.27	15.75
10	23.80	18.26	16.13	15.88	17.68	18.99
12	26.19	20.62	19.30	19.05	22.23	23.19
14	28.58	23.01	22.48	22.23	23.77	24.89
16	31.75	24.61	25.65	25.40	26.97	28.12
18	34.11	26.97	27.23	26.97	30.15	30.71
22	39.67	31.75	33.58	33.32	36.50	36.88

Hermetic style receptacles are not included in Boeing designations.
Commercial hermetics meet some European and GE specifications.
Hermetic styles are threaded coupling only.
Shell sizes 20, 24 and 28, consult Amphenol for availability.
All dimensions for reference only.

MIL-DTL-83723, Series III, Pyle®

Hermetic Jam Nut (D-Hole Mount) Receptacle, Threaded Coupling



† When fully mated with plug,this band will be covered. (Band is red on military types; can be red or blue on commercial types).

PART #

M83723/89Y / M83723/89P

BTY/BFY/BNY-19

EN2997Y7 / YE7

ESC10YE3

ESC11YE3

See Quick Reference page 369 for the variety of ordering options for hermetic jam nut D-hole mount receptacles with threaded coupling.

The How to Order pages (377, 379, 381) give complete part number breakdowns.

Inches

Shell Size	B Flats Max.	C Hex Max.	G Dia. Max.	J Coupling Thread Class 2A	N Contact Stickout Size 20 Contacts	N Contact Stickout Size 12 & 16 Contacts	P Dia. Front Max.	V Thread Class 2A	Y Dia. ±.005	Z Flats ±.005
8	.980	.828	1.068	.5625-24 UNF	.180 / .120	.210 / .150	.562	.6250-20 UNF	.635	.605
10	1.104	.953	1.192	.6875-24 UNEF	.180 / .120	.210 / .150	.696	.7500-20 UNEF	.760	.730
12	1.291	1.140	1.380	.8750-20 UNEF	.180 / .120	.210 / .150	.875	.9380-20 UNEF	.947	.917
14	1.391	1.205	1.505	.9375-20 UNEF	.180 / .120	.210 / .150	.936	1.0000-20 UNEF	1.010	.980
16	1.516	1.329	1.630	1.0625-18 UNEF	.180 / .120	.210 / .150	1.062	1.1250-18 UNEF	1.135	1.105
18	1.641	1.455	1.756	1.1875-18 UNEF	.180 / .120	.210 / .150	1.187	1.2500-18 UNEF	1.260	1.225
22	1.954	1.705	2.068	1.4375-18 UNEF	.180 / .120	.210 / .150	1.437	1.5000-18 UNEF	1.510	1.475

Millimeters

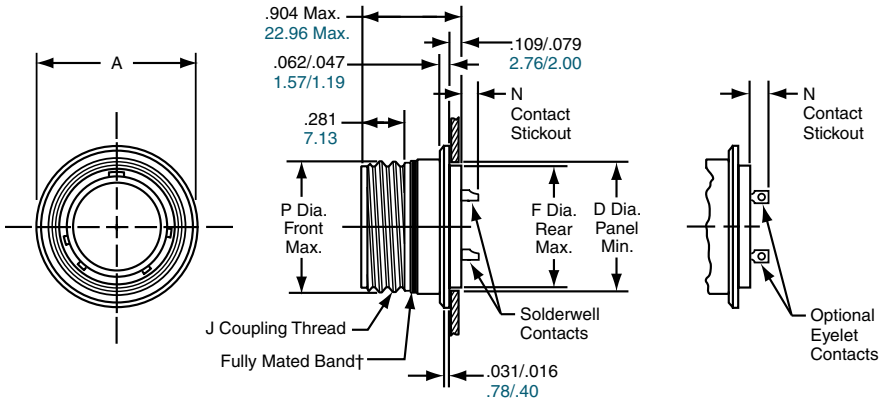
Shell Size	B Flats Max.	C Hex Max.	G Dia. Max.	N Contact Stickout Size 20 Contacts	N Contact Stickout Size 12 &16 Contacts	P Dia. Front Max.	Y Dia. ±.13	Z Flats ±.13
8	24.89	21.03	27.13	4.57 / 3.05	5.33 / 3.81	14.27	16.13	15.37
10	28.04	24.21	30.28	4.57 / 3.05	5.33 / 3.81	17.68	19.30	18.54
12	32.79	28.96	35.05	4.57 / 3.05	5.33 / 3.81	22.23	24.05	23.29
14	35.33	30.61	38.23	4.57 / 3.05	5.33 / 3.81	23.77	25.65	24.89
16	38.51	33.76	41.40	4.57 / 3.05	5.33 / 3.81	26.97	28.83	28.07
18	41.68	36.96	44.60	4.57 / 3.05	5.33 / 3.81	30.15	32.00	31.12
22	49.63	43.31	52.53	4.57 / 3.05	5.33 / 3.81	36.47	38.35	37.47

Hermetic style receptacles are not included in Boeing designations.
Commercial hermetics meet some European and GE specifications.
Hermetic styles are threaded coupling only.
Shell sizes 20, 24 and 28, consult Amphenol for availability.
All dimensions for reference only.

Amphenol® Aerospace

MIL-DTL-83723, Series III, Pyle®

Hermetic Solder Mount/Weld Mount Receptacle, Threaded Coupling



PART #

M83723/90Y / M83723/90P

BTY/BFY/BNY-14

EN2997Y1 / YE1

ESC10YE1

ESC11YE1

See Quick Reference page 370 for the variety of ordering options for hermetic solder mount / weld mount receptacles with threaded coupling.

The How to Order pages (377, 379, 381) give complete part number breakdowns.

† When fully mated with plug this band will be covered. (Band is red on military types; can be red or blue on commercial types).

Inches

Shell Size	A Dia. ±.010	D Dia. Panel Min.	F Dia. Rear Max.	J Coupling Thread Class 2A	N Contact Stickout		P Dia. Front Max.
					Size 20 Contacts	Size 12 & 16 Contacts	
8	.713	.510	.500	.5625-24 UNF	.194 / .134	.224 / .164	.562
10	.840	.572	.562	.6875-24 UNEF	.194 / .134	.224 / .164	.696
12	1.045	.760	.750	.8750-20 UNEF	.194 / .134	.224 / .164	.875
14	1.090	.822	.812	.9375-20 UNEF	.194 / .134	.224 / .164	.936
16	1.210	.947	.937	1.0625-18 UNEF	.194 / .134	.224 / .164	1.062
18	1.340	1.072	1.062	1.1875-18 UNEF	.194 / .134	.224 / .164	1.187
22	1.562	1.322	1.312	1.4375-18 UNEF	.194 / .134	.224 / .164	1.437

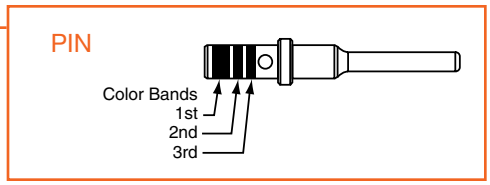
Millimeters

Shell Size	A Dia. ±.25	D Dia. Panel Min.	F Dia. Rear Max.	P Dia. Front Max.
8	18.11	12.95	12.70	14.27
10	21.34	14.53	14.27	17.68
12	26.54	19.30	19.05	22.23
14	27.69	20.88	20.62	23.77
16	30.73	24.05	23.80	26.97
18	34.04	27.23	26.97	30.15
22	39.67	33.58	33.32	36.50

Hermetic style receptacles are not included in Boeing designations.
Commercial hermetics meet some European and GE specifications.
Hermetic styles are threaded coupling only.
Shell sizes 20, 24 and 28, consult Amphenol for availability.
All dimensions for reference only.

STANDARD CRIMP CONTACTS - PIN PART NUMBERS / COLOR BANDS

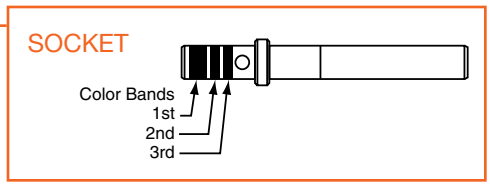
Contact Size	Pin MS Spec Number	Pin Pyle Part Number	Pin Color Bands		
			1st Band	2nd Band	3rd Band
20	M39029/4-110	BA-4020-36LD	Brown	Brown	Black
16	M39029/4-111	BA-4016-36LD	Brown	Brown	Brown
12	M39029/4-113	BA-4012-36LD	Brown	Brown	Orange



STANDARD CRIMP CONTACTS - SOCKET PART NUMBERS / COLOR BANDS

Contact Size	Socket MS Spec Number	Socket Pyle Part Number	Socket Color Bands		
			1st Band	2nd Band	3rd Band
20	M39029/5-115	BA-4120-36LD	Brown	Brown	Green
16	M39029/5-116	BA-4116-36LD	Brown	Brown	Blue
12	M39029/5-118	BA-4112-36LD	Brown	Brown	Gray

Sockets feature 4 tine construction with supporting spring bands.



STANDARD CRIMP CONTACT RATING

Contact Size	Test Current Standard	Crimp Well Data			
		Well Diameter		Min. Well Depth	
		Inches	Millimeters	Inches	Millimeters
20	7.5	.049	1.25	.157	3.99
16	13.0	.067	1.70	.250	6.35
12	23.0	.100	2.54	.250	6.35

STANDARD SEALING PLUGS

Contact Size	Sealing Plug MS Number	Sealing Plug Pyle Number	Color
20	MS27488-20	BA-4020-59P	Red
16	MS27488-16	BA-4016-59P	Blue
12	MS27488-12	BA-4012-59P	Yellow

TOOLS

Contact Size	Crimp Tool		Adjustable Turret		Checking Gauge for M22520/1-01 Crimping Tool		Insertion/Removal Tool		
	MS Number	Pyle Number	MS Number	Pyle Number	MS Number	Pyle Number	MS Number	Pyle Number	Amphenol Number*
20	M22520/1-01	TP-201354	M22520/1-02	TP-201355	M22520/3	TP-201356	M81969/14-11	TP-201343-20-BA	10-538988-201
16							M81969/14-03	TP-201343-16-BA	10-538988-016
12							M81969/14-04	TP-201343-12-BA	10-538988-012

* Amphenol part number for insertion/removal tool supersedes Pyle number

BACKSHELLS

The section of this catalog called “Backshells” covers the backshells for MIL-DTL-83723, Series III Pyle connectors that are provided through Amphenol PCD. Please refer to this section for:

- Backshells for Connector Family “J”, which includes MIL-DTL-26482 (Series II), MIL-DTL-5015 (MS3400), MIL-DTL-83723 (Series I & III).

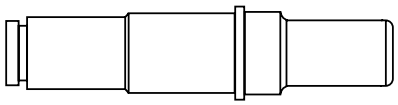
MIL-DTL-83723, Series III, Pyle®

Shielded Contacts, Thermocouple Contacts, Wire Sealing Information

SHIELDED CONCENTRIC TWINAX CONTACTS

Contact Size	Cable Accommodation	Concentric Twinax Pin
#8 Twinax	M17/176-00002	BA-46T08-LD
#8 Twinax	PAN 6421 or JN1060ZB002	BA-46TA08-LD

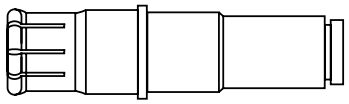
CONCENTRIC TWINAX PIN



Non-MS part; no color bands.

Contact Size	Cable Accommodation	Concentric Twinax Socket
#8 Twinax	M17/176-00002	BA-47T08-LD
#8 Twinax	PAN 6421 or JN1060ZB002	BA-47TA08-LD

CONCENTRIC TWINAX SOCKET



Non-MS part; no color bands.

Concentric Twinax contacts are designed for protection from magnetic and electrostatic interference including nuclear electromagnetic pulse. Consult Amphenol for other size twinax and coax contacts available for use in MIL-DTL-83723, Series III Pyle connectors.

THERMOCOUPLE - PIN PART NUMBERS / COLOR BANDS

Contact Size	Material	Thermocouple Pin Pyle Part Number	Thermocouple Pin Color Bands		
			!st Band	2nd Band	3rd Band
20	Chromel	BT-4020-10P	Brown	Orange	Green
20	Alumel	BT-4020-10R	Brown	Orange	Yellow
16	Chromel	BA-4016-10P	Green	Brown	Violet
16	Alumel	BA-4016-10R	Green	Brown	Blue

THERMOCOUPLE - SOCKET PART NUMBERS / COLOR BANDS

Contact Size	Material	Thermocouple Socket Pyle Part Number	Reference Thermocouple Socket MS Part Number	Thermocouple Socket Color Bands		
				1st Band	2nd Band	3rd Band
20	Chromel	BT-4120-10P	–	Brown	Yellow	Brown
20	Alumel	BT-4120-10R	–	Brown	Yellow	Black
16	Chromel	BT-4116-10P	Ref M39029/10-522	Green	Red	Red
16	Alumel	BT-4116-10R	Ref M39029/10-521	Green	Red	Brown

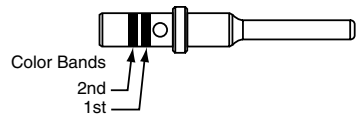
STANDARD & HIGH TEMPERATURE CRIMP CONTACTS WIRE SEALING DIAMETERS / STRIPPING LENGTHS

Contact Size	Wire Size (AWG)	Finished Wire Outside				Stripping Lengths			
		Minimum		Maximum		Minimum		Maximum	
		Inches	Millimeters	Inches	Millimeters	Inches	Millimeters	Inches	Millimeters
20	24, 22, 20	.033	.84	.083	2.11	.140	3.56	.202	5.13
16	20, 18, 16	.047	1.19	.106	2.69	.218	5.54	.280	7.11
12	14, 12	.075	1.91	.157	3.99	.218	5.54	.280	7.11

CONTACTS THAT MEET EUROPEAN SPECIFICATIONS
STANDARD CRIMP - PIN
PART NUMBERS / COLOR BANDS

Contact Size	Pin Pyle Part Number	Pin Color Bands		
		1st Band	2nd Band	Dot
20	BA-4020-36LD-Y165	Red	Red	–
20/18*	BA-402018-36LD-Y165	Red	Violet	–
16	BA-4016-36LD-Y165	Blue	Blue	–
12	BA-4012-36LD-Y165	Yellow	Yellow	–

STANDARD PIN
EUROPEAN SPEC

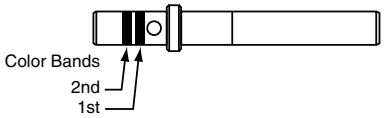


First band color is for contact size
2nd band color is for AWG wire size

CONTACTS THAT MEET EUROPEAN SPECIFICATIONS
STANDARD CRIMP - SOCKET
PART NUMBERS / COLOR BANDS

Contact Size	Socket Pyle Part Number	Socket Color Bands		
		1st Band	2nd Band	Dot
20	BA-4120-36LD-Y165	Red	Red	–
20/18*	BA-412018-36LD-Y165	Red	Violet	–
16	BA-4116-36LD-Y165	Blue	Blue	–
12	BA-4112-36LD-Y165	Yellow	Yellow	–

STANDARD SOCKET
EUROPEAN SPEC

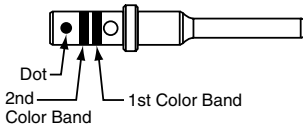


First band color is for contact size
2nd band color is for AWG wire size

CONTACTS THAT MEET EUROPEAN SPECIFICATIONS
HIGH TEMPERATURE - PIN
PART NUMBERS / COLOR BANDS

Contact Size	Pin Pyle Part Number	Pin ESC30 Part Number	Pin Color Bands		
			1st Band	2nd Band	Dot
20	BA-4020-50LD	ESC30-P20BC	Red	Red	White
20/18*	BA-402018-50LD	–	Red	Violet	White
16	BA-4016-50LD	ESC30-P16BC	Blue	Blue	White
12	BA-4012-50LD	ESC30-P12BC	Yellow	Yellow	White

HIGH TEMPERATURE PIN
EUROPEAN SPEC



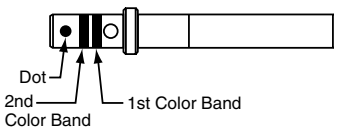
First band color is for contact size
2nd band color is for AWG wire size
Dot identifies High Temperature or
Thermocouple contacts

CONTACTS THAT MEET EUROPEAN SPECIFICATIONS
HIGH TEMPERATURE - SOCKET
PART NUMBERS / COLOR BANDS

Contact Size	Socket Pyle Part Number	Socket ESC30 Part Number	Socket Color Bands		
			1st Band	2nd Band	Dot
20	BA-4120-50LD	ESC30-S20BC	Red	Red	White
20/18*	BA-412018-50LD	–	Red	Violet	White
16	BA-4116-50LD	ESC30-S16BC	Blue	Blue	White
12	BA-4112-50LD	ESC30-S12BC	Yellow	Yellow	White

* #20 contacts with #18 crimpwell

HIGH TEMPERATURE SOCKET
EUROPEAN SPEC



First band color is for contact size
2nd band color is for AWG wire size
Dot identifies High Temperature or
Thermocouple contacts

CONTACTS THAT MEET EUROPEAN SPECIFICATIONS
THERMOCOUPLE - PIN
PART NUMBERS / COLOR BANDS

Contact Size	Material	Pin Pyle Part Number	Pin ESC30 Part Number	Pin Color Bands		
				1st Band	2nd Band	Dot
20	Chromel	BT-4020-10P-Y165	ESC30-P20NC	Red	Red	Yellow
20	Alumel	BT-4020-10R-Y165	ESC30-P20NA	Red	Red	Black
20/18*	Chromel	BT-402018-10P-Y165	–	Red	Violet	Yellow
20/18*	Alumel	BT-402018-10R-Y165	–	Red	Violet	Black
16	Chromel	BT-4016-10P-Y165	ESC30-P16NC	Blue	Blue	Yellow
16	Alumel	BT-4016-10R-Y165	ESC30-P16NA	Blue	Blue	Black

CONTACTS THAT MEET EUROPEAN SPECIFICATIONS
THERMOCOUPLE - SOCKET
PART NUMBERS / COLOR BANDS

Contact Size	Material	Socket Pyle Part Number	Socket ESC30 Part Number	Socket Color Bands		
				1st Band	2nd Band	Dot
20	Chromel	BT-4120-10P-Y165	ESC30-S20NC	Red	Red	Yellow
20	Alumel	BT-4120-10R-Y165	ESC30-S20NA	Red	Red	Black
20/18*	Chromel	BT-412018-10P-Y165	–	Red	Violet	Yellow
20/18*	Alumel	BT-412018-10R-Y165	–	Red	Violet	Black
16	Chromel	BT-4116-10P-Y165	ESC30-S16NC	Blue	Blue	Yellow
16	Alumel	BT-4116-10R-Y165	ESC30-S16NA	Blue	Blue	Black

HIGH TEMPERATURE SEALING PLUGS

Contact Size	Sealing Plug Pyle Number	Color
20	BT-4020-60P	Red
16	BT-4016-60P	Blue
12	BT-4012-60P	Yellow