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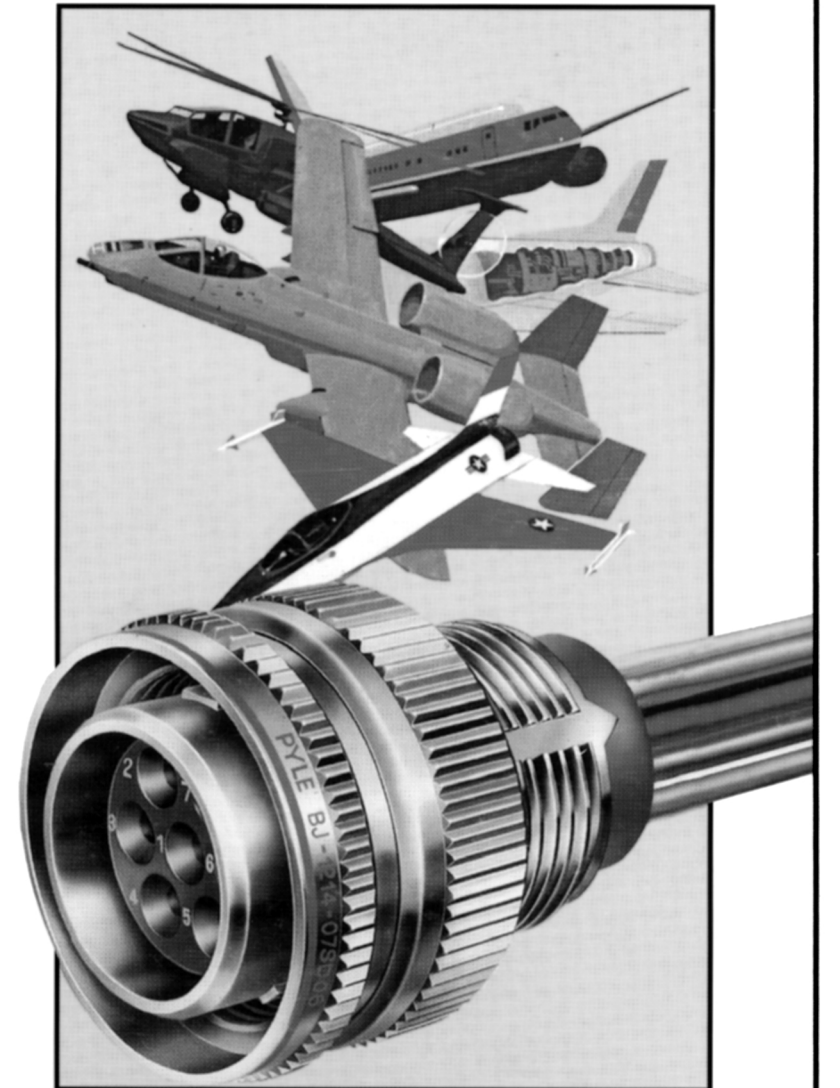
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# Amphenol® / Pyle® MIL-C-83723, Series III Connectors

MS-102-1

**Threaded or Bayonet  
Connectors for Demanding  
Environments.**  
**Including High Temperature  
Capability up to 260°C/500°F.**



**Amphenol**

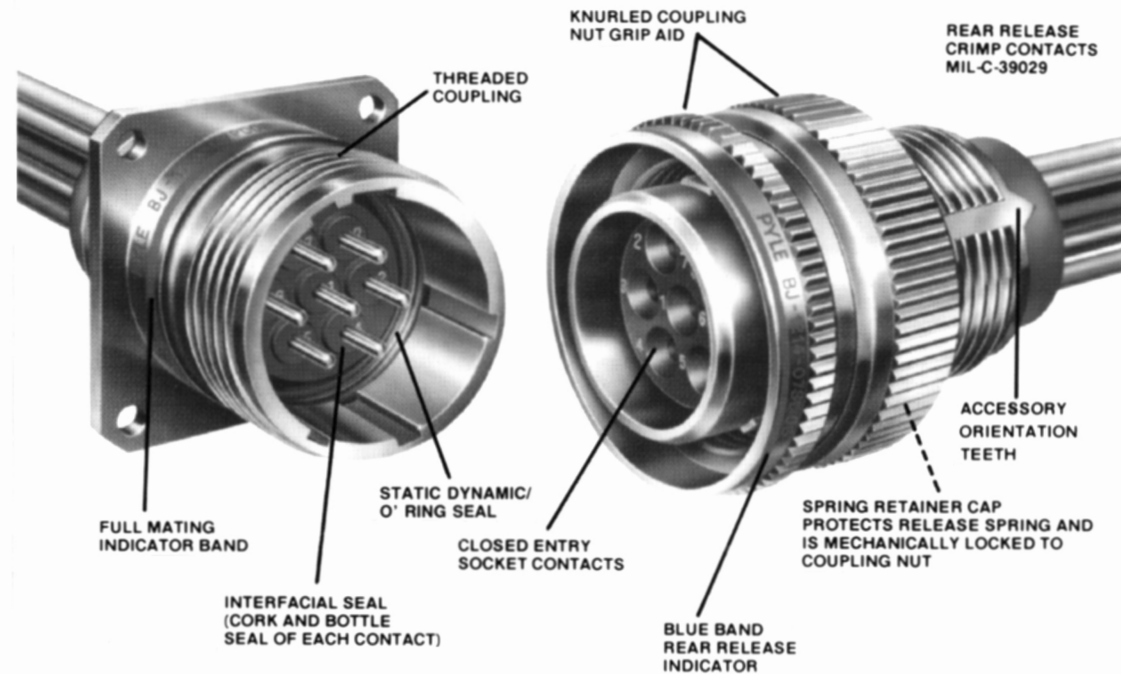
Notice: Specifications are subject to change without notice. Contact your nearest Amphenol Corporation Sales Office for the latest specifications. All statements, information and data given herein are believed to be accurate and reliable but are presented without guarantee, warranty, or responsibility of any kind expressed or implied. Statements or suggestions concerning possible use of our products are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent. The user should not assume that all safety measures are indicated or that other measures may not be required. Specifications are typical and may not apply to all connectors.

# MIL-C-83723

## SERIES III CONNECTORS

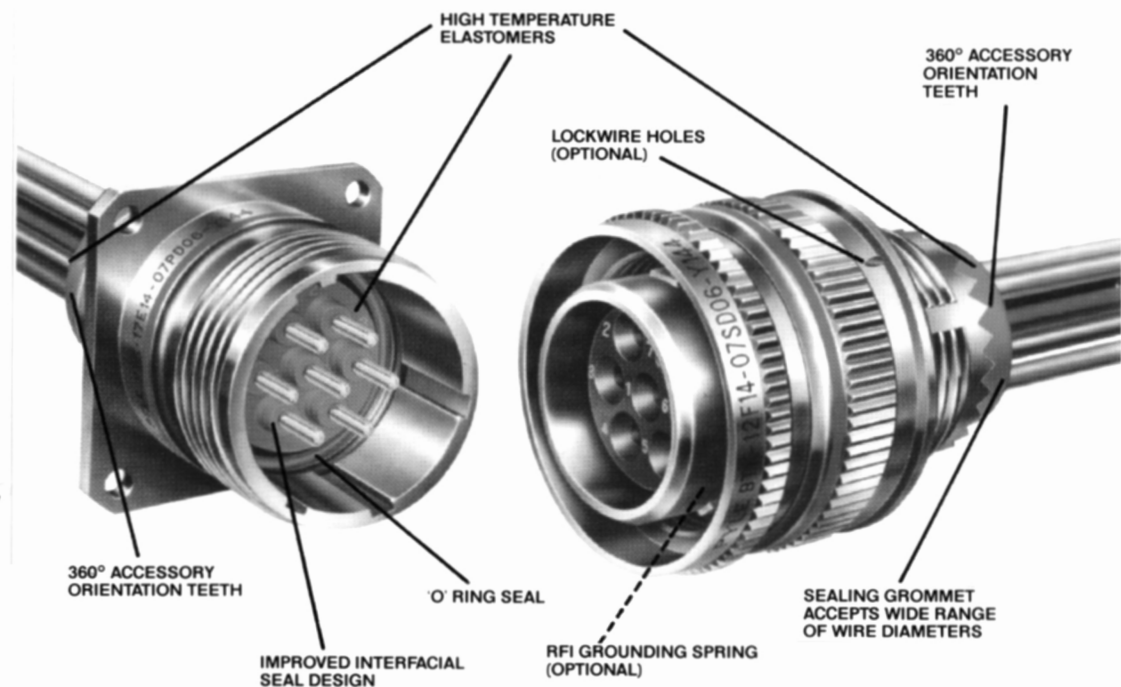
### MIL-C-83723 SERIES III— THREADED STYLE

- Patented non-decoupling device (torque differential)
- Metal to metal bottoming
- Unique sealing grommet accepts wide range of wire diameters



### MIL-C-83723 SERIES III— HIGH- TEMPERATURE STYLE

- High temperature materials
- High temperature contacts
- Improved metal to metal bottoming design
- Unique sealing grommet accepts 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 grounding spring



## CONTACT INFORMATION—EUROPEAN SPECIFICATION

### Standard Power Contacts

CONTACT SIZE	CONTACT PIN PART NUMBER		COLOR BANDS			SOCKET PART NUMBER	
	PYLE	EN3155	1st	2nd	DOT	PYLE	EN3155
20	BA-4020-36LD-Y165	EN3155-002M2020	Red	Red	—	BA-4120-36LD-Y165	EN3155-003F2020
20/18*	BA-402018-36LD-Y165	EN3155-002M2018	Red	Violet	—	BA-412018-36LD-Y165	EN3155-003F2018
16	BA-4016-36LD-Y165	EN3155-002M1616	Blue	Blue	—	BA-4116-36LD-Y165	EN3155-003F1616
12	BA-4012-36LD-Y165	EN3155-002M1212	Yellow	Yellow	—	BA-4112-36LD-Y165	EN3155-003F1212

### High Temperature Contacts

CONTACT SIZE	PIN PART NUMBER			COLOR BANDS		
	PYLE	ESC30	EN3155	1st	2nd	DOT
20	BA-4020-50LD	ESC30-P20BC	EN3155-004M2020	Red	Red	White
20/18*	BA-402018-50LD	—	EN3155-004M2018	Red	Violet	White
16	BA-4016-50LD	ESC30-P16BC	EN3155-004M1616	Blue	Blue	White
12	BA-4012-50LD	ESC30-P12BC	EN3155-004M1212	Yellow	Yellow	White

CONTACT SIZE	SOCKET PART NUMBER			COLOR BANDS		
	PYLE	ESC30	EN3155	1st	2nd	DOT
20	BA-4120-50LD	ESC30-S20BC	EN3155-005M2020	Red	Red	White
20/18*	BA-412018-50LD	—	EN3155-005M2018	Red	Violet	White
16	BA-4116-50LD	ESC30-S16BC	EN3155-005M1616	Blue	Blue	White
12	BA-4112-50LD	ESC30-S12BC	EN3155-005M1212	Yellow	Yellow	White

### Thermocouple Contacts

CONTACT SIZE	MATERIAL	PIN PART NUMBER		COLOR BANDS			SOCKET PART NUMBER	
		PYLE	ESC30	1st	2nd	DOT	PYLE	ESC30
20	Chromel	BT-4020-10P-Y165	ESC30-P20NC	Red	Red	Yellow	BT-4120-10P-Y165	ESC30-S20NC
20	Alumel	BT-4020-10R-Y165	ESC30-P20NA	Red	Red	Black	BT-4120-10R-Y165	ESC30-S20NA
20/18*	Chromel	BT-402018-10P-Y165	—	Red	Violet	Yellow	BT-412018-10P-Y165	—
20/18*	Alumel	BT-402018-10R-Y165	—	Red	Violet	Black	BT-412018-10R-Y165	—
16	Chromel	BT-4016-10P-Y165	ESC30-P16NC	Blue	Blue	Yellow	BT-4116-10P-Y165	ESC30-S16NC
16	Alumel	BT-4016-10R-Y165	ESC30-P16NA	Blue	Blue	Black	BT-4116-10R-Y165	ESC30-S16NA

\* #20 contacts with #18 crimpwell

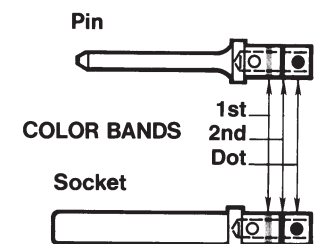
### High Temperature Seal Plug

CONTACT SIZE	PYLE	COLOR BAND
20	BT-4020-60P	RED
16	BT-4016-60P	BLUE
12	BT-4012-60P	YELLOW

Band 1: Color-contact size

Band 2: Color-AWG Wire

Dot: Identification marking — High Temperature/Thermal couple contacts



# CONTACT INFORMATION

## SHIELDED CONTACTS

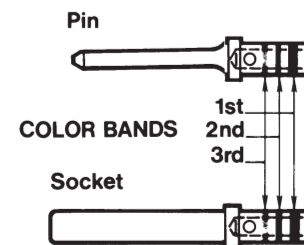
CONTACT SIZE	PIN	CABLE ACCOMMODATION	SOCKET
#8 Twinax	BA-46T08-LD	M17/176-00002	BA-47T08-LD
#8 Twinax	BA-46TA08-LD	PAN 6421 or JN1060ZB002	BA-47TA08-LD

## THERMOCOUPLE CONTACTS

CONTACT SIZE	MATERIAL	PIN PART NUMBER	SOCKET NUMBER
20	Chromel	BT-4020-10P	BT-4120-10P
20	Alumel	BT-4020-10R	BT-4120-10R
16	Chromel	BT-4016-10P	BT-4116-10P
16	Alumel	BT-4016-10R	BT-4116-10R

CONTACT SIZE	MATERIAL	PIN COLOR BANDS		
		1st	2nd	3rd
20	Chromel	Brown	Orange	Green
20	Alumel	Brown	Orange	Yellow
16	Chromel	Green	Brown	Violet
16	Alumel	Green	Brown	Blue

CONTACT SIZE	MATERIAL	SOCKET COLOR BANDS		
		1st	2nd	3rd
20	Chromel	Brown	Yellow	Brown
20	Alumel	Brown	Yellow	Black
16	Chromel	Green	Red	Red
16	Alumel	Green	Red	Brown



## Standard and High Temperature Wire Sealing Diameters/Stripping Length

CONTACT SIZE	WIRE SIZE (AWG)	FINISHED WIRE OUTSIDE				STRIPPING LENGTH	
		MINIMUM		MAXIMUM		MINIMUM INCHES	MAXIMUM INCHES
		INCH	METRIC	INCH	METRIC		
20	24, 22, 20	.033	.085	.083	2.1	.140	.202
16	20, 18, 16	.047	1.2	.106	2.7	.218	.280
12	14, 12	.075	1.9	.157	4	.218	.280

## MIL-C-83723 SERIES III

Pyle-National has a long history as a quality supplier of connectors for demanding environments. Proven technology and traditional Pyle attention to design details are incorporated into all styles and classes of the Pyle-National MIL-C-83723 Series III connectors.

In our M83723/95, 96 Series (featured on page 2), Pyle offers the user a major performance advantage through a unique threaded coupling mechanism that features a greater resistance to decoupling than to coupling. This device eliminates the need for safety wiring and tends to couple during vibration – thus offering the user added assurance and a margin of safety.

## MIL-C-83723 SERIES III-HIGH TEMPERATURE

Using MIL-C-83723 Series III design concepts, Pyle-National has also developed a series of High Temperature firewall connectors (featured on page 2), that are capable of operation at 260° C/500° F. A 100% scoop-proof version of the high temperature connector is also available under specification ESC 11/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.

This connector was developed for the higher operating temperatures inherent in today's newest high performance aircraft and aircraft engines. These connectors meet the performance requirements of the following specifications:

- Aerospatiale: ASN-EO44X Class KE/SE
- General Electric: M50TF3564
- European: AECMA EN2997
- Rolls Royce/SBAC:ESC 10/ESC 11

It is because of our history and proven design capability that we are able to offer connectors in environmental, firewall and hermetic classes that exceed even the most stringent specification requirements.

## PERFORMANCE CHARACTERISTICS

**Operating Temperature Data**  
Std: -85°F (-65°C) to 392°F (200°C).  
Class K types meet fireproof test per MIL-C-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 feet	500
70,000 feet	375
110,000 feet	200

**Current Rating**  
Size 20 contacts .....  
7.5 amperes maximum  
Size 16 contacts .....  
13.0 amperes maximum  
Size 12 contacts .....  
23 amperes maximum

**Contact Retention Strength**  
Exceeds MIL-C-83723 requirements.

**Connector Durability**  
500 cycles per MIL-C-83723 for threaded coupling.  
500 cycles per General Electric M50TF2321 for non-decoupling.

**Humidity**  
To 98% relative humidity, including condensation.

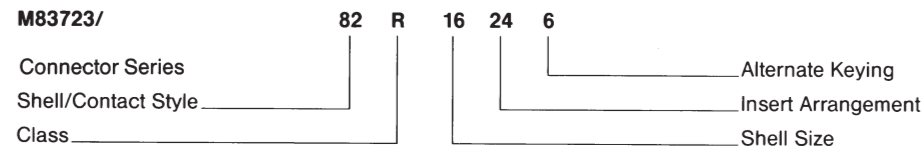
**Exposure** Freezing rain.  
**Non-Decoupling**  
Exceeds requirements of MIL-C-83723/95 and 96.  
Non-decoupling feature tends to tighten connectors under vibration.

**Vibration**  
Meets MIL-C-83723 of 41.7G's for 16 hours.  
Boeing BACC63BR/BT for 36 hours.  
General Electric vibration specifications.  
M50TF2321 and M50TF2238 for 36 hours, which includes:

TEMPERATURE	G	TIME
EXTREMES	LEVEL	LENGTH
Room Temp.	60 G's	12 hours
		(4 hours each axis)
-65F ± 5°F	60 G's	12 hours
		(4 hours each axis)
350 ± 5°F	60 G's	12 hours
		(4 hours each axis)

# ORDERING INFORMATION FOR THREADED/BAYONET SERIES

## Military Designation



### Shell/Contact Style

- 71—Bayonet, Square Flange Receptacle, Sockets
- 72—Bayonet, Square Flange Receptacle, Pins
- 73—Bayonet, Jam Nut Receptacle, Sockets
- 74—Bayonet, Jam Nut Receptacle, Pins
- 75—Bayonet, Plug, Sockets
- 76—Bayonet, Plug, Pins
- 82—Threaded, Square Flange Receptacle, Sockets
- 83—Threaded, Square Flange Receptacle, Pins
- 84—Threaded, Jam Nut Receptacle, Sockets
- 85—Threaded, Jam Nut Receptacle, Pins
- 86—Threaded, Straight Plug, Sockets
- 87—Threaded, Straight Plug, Pins
- 95—Threaded, Non-Decoupling Plug, Sockets
- 96—Threaded, Non-Decoupling Plug, Pins

### Class

- A Aluminum, Black Anodized, Non-Conductive
- G Stainless Steel
- K Stainless Steel Firewall
- R Aluminum, Electroless Nickel Plated
- W Aluminum, Olive Drab Cadmium

### Shell Size

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

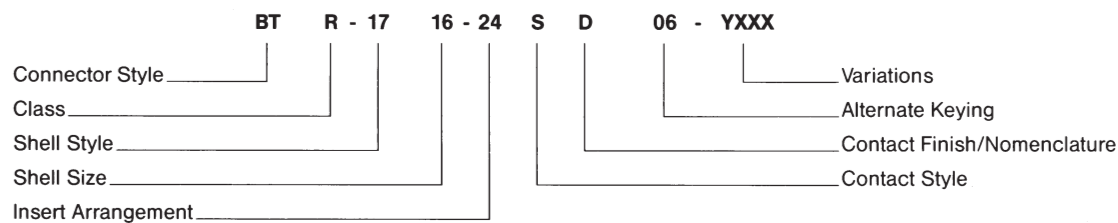
### Insert Arrangement

See Chart (page 9).

### Alternate Keying

N=Normal, 6, 7, 8, 9 and Y\* alternates.  
 \*Formerly 10 (see page 8).

## Pyle Designation



### Connector Style

#### Standard Design

- BT—Threaded—'O' ring seal in receptacle
- BY—Bayonet—'O' ring seal in receptacle

#### Alternate Design

- BJ—Threaded, Stainless Steel—  
 Static/Dynamic Seal in receptacle
- BN—Same as BJ except Electrodeposited  
 Nickel Plate

### Class

- A Aluminum, Black Anodized, Non-Conductive
- R Aluminum, Electroless Nickel Plated
- W Aluminum, Olive Drab Cadmium Over Nickel
- G Stainless Steel
- K Stainless Steel Firewall

### Shell Style

- 10—Bayonet Plug
- 11—Threaded Straight Plug
- 12—Threaded Non-Decoupling Plug
- 17—Square Flange Receptacle
- 19—Jam Nut Receptacle

### Shell Size

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

### Insert Arrangements

See Chart (page 9).

### Contact Style (Crimp)

P = Pin S = Socket

### Contact Finish/Nomenclature

D = gold per MIL-C-39029  
 E = without contacts

### Alternate Keying

(Omit for normal) 06, 07, 08, 09 and  
 10 alternate (see page 8).

### Variations

Consult factory for special variations.

# CONTACT INFORMATION

## Standard Contacts and Seal Plugs

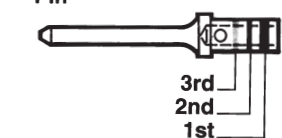
CONTACT SIZE	SPEC NUMBER	SUPERSEDED NUMBER	PIN PART NUMBERS	
			PYLE NUMBER	
			HIGH PERFORMANCE*	STANDARD CONTACT
20	M39029/4-110	M83723-33B20	BA-4020-36LD	BA-4020-96LD
16	M39029/4-111	M83723-33B16	BA-4016-36LD	BA-4016-96LD
12	M39029/4-113	M83723-33B12	BA-4012-36LD	BA-4012-96LD

\*Recommended for high vibration areas.

CONTACT SIZE	PIN COLOR BANDS		
	1st BAND	2nd BAND	3rd BAND
20	Brown	Brown	Black
16	Brown	Brown	Brown
12	Brown	Brown	Orange

### COLOR BANDS

Pin



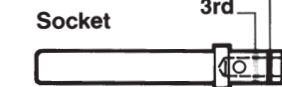
CONTACT SIZE	SPEC NUMBER	SUPERSEDED NUMBER	SOCKETS PART NUMBERS	
			PYLE NUMBER	
			HIGH PERFORMANCE*	STANDARD CONTACT
20	M39029/5-115	M83723-34B20	BA-4120-36LD	BA-4120-96LD
16	M39029/5-116	M83723-34B16	BA-4116-36LD	BA-4116-96LD
12	M39029/5-118	M83723-34B12	BA-4112-36LD	BA-4112-96LD

\*Recommended for high vibration areas. Sockets feature 4 tine construction with supporting spring bands.

CONTACT SIZE	SOCKET COLOR BANDS		
	1st BAND	2nd BAND	3rd BAND
20	Brown	Brown	Green
16	Brown	Brown	Blue
12	Brown	Brown	Gray

### COLOR BANDS

Socket



## Seal Plugs

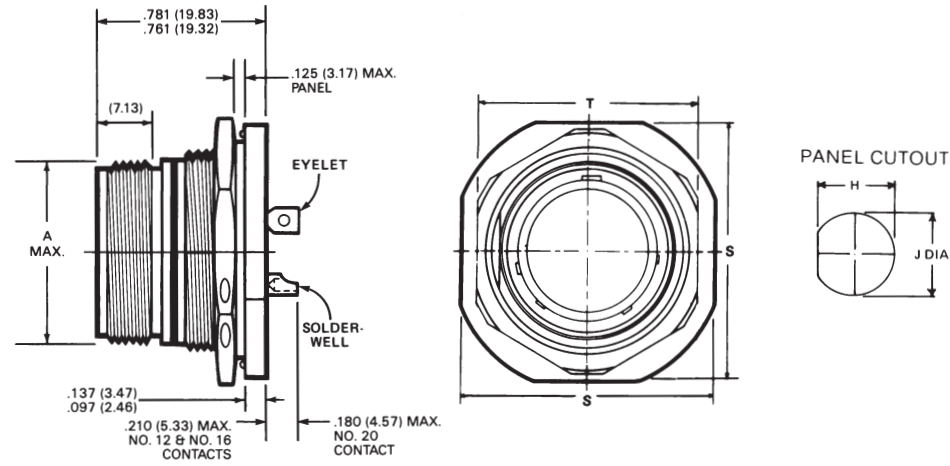
CONTACT SIZE	MS NUMBER	PYLE NUMBER
20	MS27488-20	BA-4020-59P
16	MS27488-16	BA-4016-59P
12	MS27488-12	BA-4012-59P

## Standard Contact Rating

CRIMP CONTACT SIZE	Test Current Standard	CRIMP WELL DATA	
		Well Diameter	Min. Well Depth
20	7.5	.049	.157
16	13.0	0.067	.250
12	23.0	.100	.250

# HERMETIC CONNECTORS SPECIFICATIONS

## HERMETIC D-HOLE MOUNT RECEPTACLE MIL-C-83723/89 THREADED TYPE



Shell Size	INCHES					MILLIMETERS				
	A Dia. (Max.)	H Flats ±.005	J Dia. ±.005	S Flats (Max.)	T Hex (Max.)	A Dia. (Max.)	H Flats ±.13	J Dia. ±.13	S Flats (Max.)	T Hex (Max.)
08	.562	.605	.635	.980	.828	14.27	15.37	16.13	24.89	21.03
10	.696	.730	.760	1.104	.953	17.68	18.54	19.30	28.04	24.21
12	.875	.917	.947	1.291	1.140	22.23	23.29	24.05	32.79	28.96
14	.936	.980	1.010	1.391	1.205	23.77	24.89	25.65	35.33	30.61
16	1.062	1.105	1.135	1.516	1.329	26.97	28.07	28.83	38.51	33.76
18	1.187	1.225	1.260	1.641	1.455	30.15	31.12	32.00	41.68	36.96
22	1.437	1.475	1.510	1.954	1.705	36.47	37.47	38.35	49.63	43.31

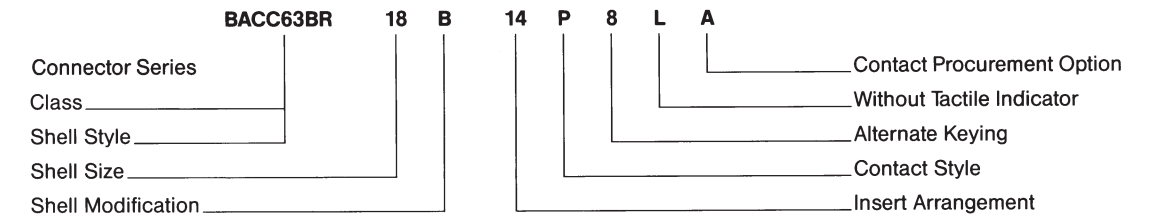
# TOOLS

CONTACT SIZE	Crimp Tool	Adjustable Turret	Checking Gauge For M22520/1-01 Crimping Tool	Insertion/Removal Tools
20	M22520/1-01 Pyle-National TP-201354	M22520/1-02 Pyle-National TP-201355	M22520/3 Pyle-National TP-201356	M81969/14-11 Pyle-National TP-201343-20-BA
16	M22520/1-01 Pyle-National TP-201354	M22520/1-02 Pyle-National TP-201355	M22520/3 Pyle-National TP-201356	M81969/14-03 Pyle-National TP-201343-16-BA
12	M22520/1-01 Pyle-National TP-201354	M22520/1-02 Pyle-National TP-201355	M22520/3 Pyle-National TP-201356	M81969/14-04 Pyle-National TP-201343-12-BA
8 Twinax*	-	-	-	TP-201391-08

\* See Bulletin MS-103 for details.

# ORDERING INFORMATION FOR BOEING COMPANY

## Boeing Designation (BACC63BR/BT Firewall)



**Shell Style**  
 BR—Non-Decoupling Plug, Firewall  
 BT—Square Flange Receptacle, Firewall

**Boeing Specification Qualified Shell Sizes**  
 12, 14, 16, 18, 20, 22, 24, 28

**Boeing Specification Qualified Insert Arrangements**  
 12-03, 14-04, 14-07, 16-10, 18-14, 20-16, 22-19, 24-30, 28-42

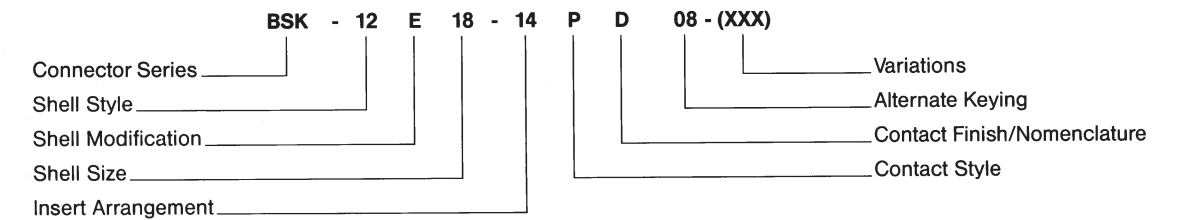
**Shell Modifications**  
 B = 360° Accessory Teeth per MS3155  
 D = 360° Accessory Teeth per MS3155 with Grounding Spring on plug  
 -- = Accessory Teeth per MIL-C-83723 III

**Contact Style**  
 P = Pin S = Socket  
 (Gold Plate per MIL-C-39029)

**Alternate Keying**  
 N = Normal, 6, 7, 8, 9 and 10 (see page 8).

**Contact Procurement Option**  
 A = Without Contacts and Seal Plugs (Letter 'A' to be used on Purchase Orders only and will not appear on Connector as part of Connector Part Number)

## Pyle Designation



**Connector Series**  
 BSK—Threaded, Stainless Steel Firewall Qualified to Boeing Co. BACC63BR/BT Specifications ("O" Ring Designation)

**Shell Style**  
 12—Threaded Non-Decoupling Plug  
 17—Square Flange Receptacle

**Shell Modification**  
 E = 360° Accessory Teeth per MS3155 plug & receptacle  
 F = 360° Accessory Teeth per MS3155 with Grounding Spring on plug only  
 (Blank) = Accessory Teeth per MIL-C-83723 III

**Shell Size**  
 12, 14, 16, 18, 20, 22, 24, 28

**Insert Arrangements**  
 See Chart (page 9).

**Contact Style**  
 P = Pin S = Socket

**Contact Finish/Nomenclature**  
 D = Gold per MIL-C-39029  
 E = Without Contacts

**Alternate Keying**  
 (Omit for Normal) 06, 07, 08, 09 and 10 (see page 8).

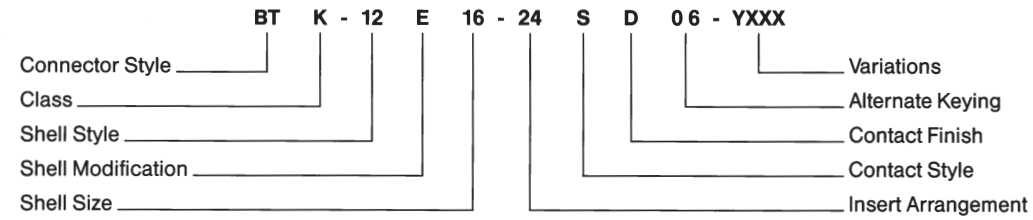
**Variations**  
 Y126—Contact Marking per MIL-C-83723/33 & 34 (Required with BACC63BR/BT Series)

## Service Class - Military and Pyle

**A** Non-Corrosive Anodized Aluminum      **K** Corrosion Resistant Stainless Steel, Firewall Capability  
**G** Corrosion Resistant Stainless Steel      **R** Conductive Finish Electroless Nickel Plated Aluminum  
**W** Olive Drab, Cadmium over Nickel Plated Aluminum

# ORDERING INFORMATION—EUROPEAN STANDARDS

## Pyle Designation



### Style

- BT Threaded, 'O' Ring Seal (Std)
- BJ Threaded, Static/Dynamic Seal (Optional)

### Class

- G Stainless Steel
- K Stainless Steel Firewall
- R Aluminum, Electroless Nickel Plated
- W Aluminum, Olive Drab Cadmium over Nickel

### Shell Style

- 12 Non-Decoupling Plug
- 17 Square Flange Receptacle
- 19 Jam Nut Receptacle

### Shell Modification

- E = 360° Accessory Teeth per MS3155
- F = 360° Accessory Teeth per MS3155 with Grounding Spring on plug

### Shell Size

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

### Insert Arrangement

See Chart (page 9)

### Contact Style

- P = Standard pin
- K = #20 pin with #18 crimpwell
- S = Standard socket
- L = #20 socket with #18 crimpwell

### Contact Finish

- D = Gold per MIL-C-39029 (Special High Temperature Contact—See Chart page 19)
- E = Without Contacts per ESC 10

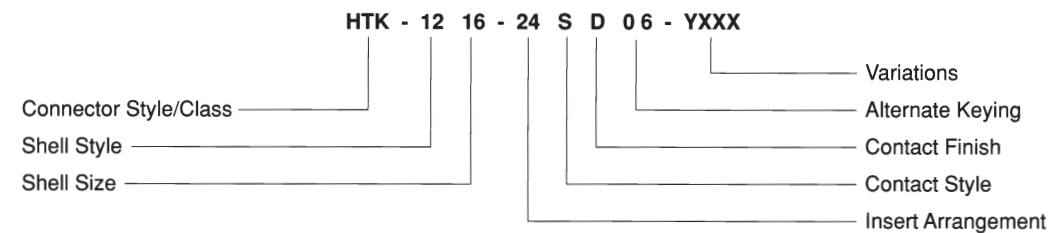
### Alternate Keying

(Omit for Normal) 06, 07, 08, 09 and 10 alternates

### Variations

- Y144 260°C Capability (Euro Market)
- Y163 200°C Capability (Euro Market)
- Y175 Superseded by Y144
- Y176 260°C per G.E. M50TF3564, Class B, No Accessory Teeth
- Y185 Superseded by Y163
- Y186 260°C Capability per G.E. M50TF3564 Class B
- Y188 200°C Capability per G.E. M50TF3564 Class A

## Pyle Designation—ESC 11 Series



### Style/Class

- HTK Standard ESC 11, Class K
- HNK Nickel Finish, Class K, Static/Dynamic Seal

### Shell Style

- 12 Non-Decoupling Plug
- 17 Square Flange Receptacle

### Shell Size

- 12, 14, 16, 18, 20, 22, 24

### Insert Arrangement

See Chart (page 9)

### Contact Style

- P = Pin
- S = Socket

### Contact Finish

- D = Gold per MIL-C-39029 (optional) (Special High Temperature Contacts—See page 19)
- E = Without Contacts per ESC 11

### Alternate Keying

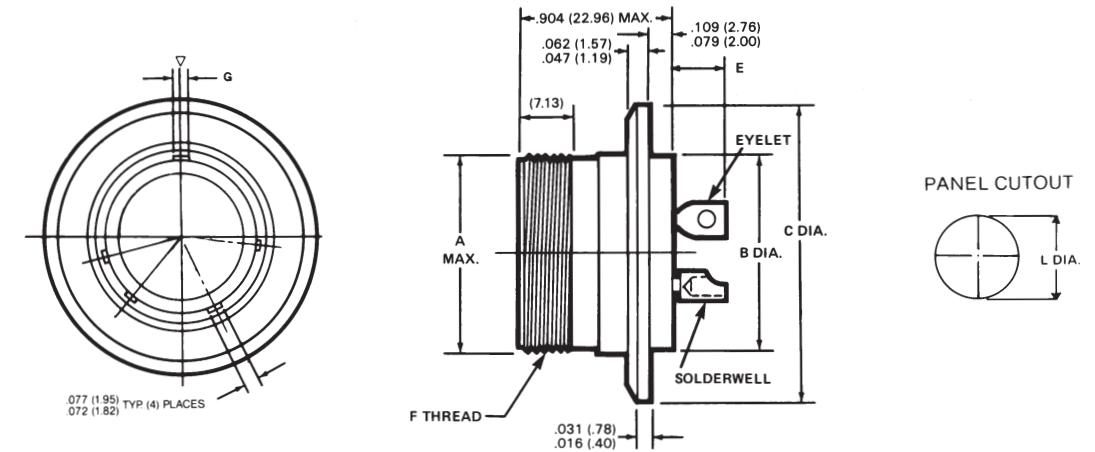
(Omit for Normal) 06, 07, 08 and 09 Alternates—Not intermateable with ESC 10 (See page 8)

### Variations

- Y144 260°C
- Y163 200°C
- Y186 260°C per GE M50TF3564, Class B
- Y188 200°C per GE M50TF3564, Class A

# HERMETIC CONNECTORS SPECIFICATIONS

## HERMETIC SOLDER MOUNT RECEPTACLE MIL-C-83723/90 THREADED TYPE



### INCHES

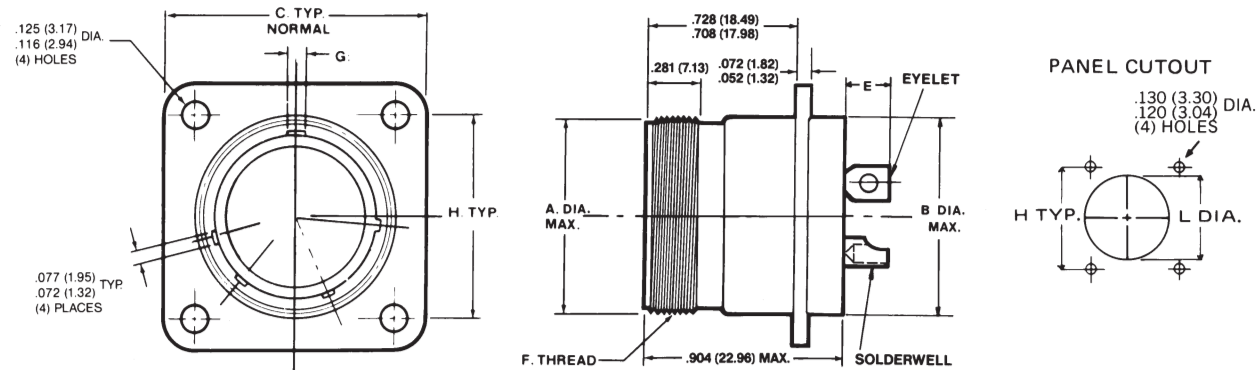
Shell Size	A Dia. (Max.)	B Dia. (Max.)	C Dia. ±.010	E		F Coupling Thread UNEF-2A	G Dim. ±.003	L Dia. ±.005
				#20 Contacts	#12 & #16 Contacts			
08	.562	.500	.713	.194/.134	.224/.164	.562-24	.094	.510
10	.696	.562	.840	.194/.134	.224/.164	.688-24	.094	.572
12	.875	.750	1.045	.194/.134	.224/.164	.875-20	.094	.760
14	.936	.812	1.090	.194/.134	.224/.164	.938-20	.094	.822
16	1.062	.937	1.210	.194/.134	.224/.164	1.062-18	.125	.947
18	1.187	1.062	1.340	.194/.134	.224/.164	1.188-18	.125	1.072
22	1.437	1.312	1.562	.194/.134	.224/.164	1.438-18	.125	1.322

### MILLIMETERS

Shell Size	A Dia. (Max.)	B Dia. (Max.)	C Dim. ±.25	E		G Dim. ±.08	L Dia. ±.13
				#20 Contacts	#12 & #16 Contacts		
08	14.27	12.70	18.11	4.93/3.40	5.69/4.17	2.39	12.95
10	17.68	14.27	21.34	4.93/3.40	5.69/4.17	2.39	14.53
12	22.23	19.05	26.54	4.93/3.40	5.69/4.17	2.39	19.30
14	23.77	20.62	27.69	4.93/3.40	5.69/4.17	2.39	20.88
16	26.97	23.80	30.73	4.93/3.40	5.69/4.17	3.18	24.05
18	30.15	26.97	34.04	4.93/3.40	5.69/4.17	3.18	27.23
22	36.50	33.32	39.67	4.93/3.40	5.69/4.17	3.18	33.58

# HERMETIC CONNECTORS SPECIFICATIONS

## HERMETIC FLANGE MOUNT RECEPTACLE MIL-C-83723/88 THREADED TYPE



INCHES

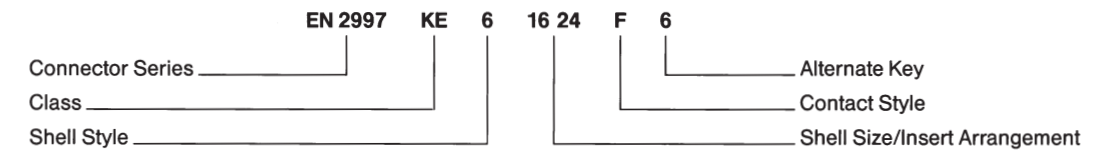
Shell Size	A Dia. (Max.)	B Dia. (Max.)	C Dim. ±.010	E		F Coupling Thread UNEF-2A	G Dim. ±.003	H ±.005	L Dia. ±.005
				#20 Contacts	#12 & #16 Contacts				
08	.562	.500	.812	.194/.134	.224/.164	.562-24	.094	.594	.572
10	.696	.562	.937	.194/.134	.224/.164	.688-24	.094	.719	.706
12	.875	.750	1.031	.194/.134	.224/.164	.875-20	.094	.812	.885
14	.936	.812	1.125	.194/.134	.224/.164	.938-20	.094	.906	.946
16	1.062	.937	1.250	.194/.134	.224/.164	1.062-18	.125	.969	1.072
18	1.187	1.062	1.343	.194/.134	.224/.164	1.188-18	.125	1.062	1.197
22	1.437	1.312	1.562	.194/.134	.224/.164	1.438-18	.125	1.250	1.447

MILLIMETERS

Shell Size	A Dia. (Max.)	B Dia. (Max.)	C Dim. ±.25	E		G Dim. ±.08	H ±.13	L Dia. ±.13
				#20 Contacts	#12 & #16 Contacts			
08	14.27	12.70	20.62	4.93/3.40	5.69/4.17	2.39	15.09	14.53
10	17.68	14.27	23.80	4.93/3.40	5.69/4.17	2.39	18.26	17.93
12	22.23	19.05	26.19	4.93/3.40	5.69/4.17	2.39	20.62	22.48
14	23.77	20.62	28.58	4.93/3.40	5.69/4.17	2.39	23.01	24.03
16	26.97	23.80	31.75	4.93/3.40	5.69/4.17	3.18	24.61	27.23
18	30.15	26.97	34.11	4.93/3.40	5.69/4.17	3.18	26.91	30.40
22	36.50	33.32	36.50	4.93/3.40	5.69/4.17	3.18	31.75	36.75

# ORDERING INFORMATION—EUROPEAN STANDARDS

## AECMA Designation



### Connector Series

EN 2997 AECMA designation  
NFL 54143 European designation

### Class

#### STANDARD TEMPERATURE

R Aluminum, Electroless Nickel Plated (200°C)  
RS Same as R with Grounding Spring on plug  
W Aluminum, Olive Drab Cadmium Over Nickel (175°C)  
WS Same as W with Grounding Spring on plug  
K Stainless Steel Firewall (200°C)  
S Same as K with Grounding Spring on plug  
Y Stainless Steel Hermetic with Solderwell Contact (200°C)

#### HIGH TEMPERATURE (260°C)

KE Stainless Steel Firewall  
SE Same as KE with Grounding Spring  
YE Stainless Steel Hermetic with Solderwell Contact

### Shell Style

0 Square Flange Receptacle  
1 Solder Mount Receptacle (Hermetic Only)  
6 Plug, Non-Decoupling  
7 Jam Nut Receptacle

### Shell Size

8, 10, 12, 14, 16, 18, 20, 24, 28

### Insert Arrangement

See Chart (Page 9)

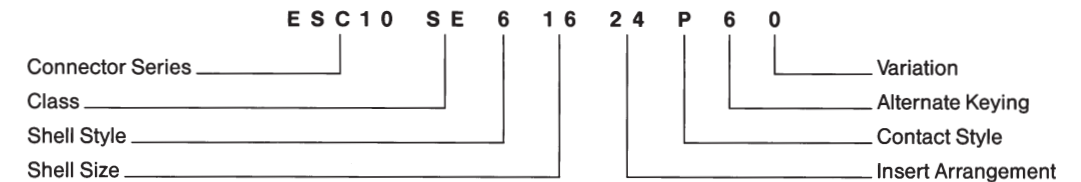
### Contact Style

M = Standard pin, C=#20 pin with #18 crimpwell  
A = Pin insert less contacts  
F = Standard socket  
D = #20 socket with #18 crimpwell  
B = Socket insert less contacts

### Alternate Keying

N=Normal, 6, 7, 8, 9 and Y

## Society of British Aerospace Companies/Rolls Royce Standards



### Connector Series

ESC 10 Basic High Temperature Connector  
ESC 11 100% Scoop Proof—High Temperature Connector

### Class

KE: Stainless Steel, Firewall (260°C)  
SE: Stainless Steel, Firewall (260°C) with Grounding Spring  
YE: Stainless Steel Hermetic (260°C)

### Shell Style

0 Square Flange Receptacle with 360° accessory teeth per MS3155  
1 Hermetic, Solder Mount  
2 Hermetic, Square Flange  
3 Hermetic, Jam Nut  
6 Plug, Non-decoupling with 360° accessory teeth per MS3155

### Shell Size

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

### Insert Arrangement

See Chart (page 9)

### Contact Style

P = Pin S = Socket  
(All connectors supplied w/o contacts except Shell Styles 1, 2, and 3)

### Alternate Keying

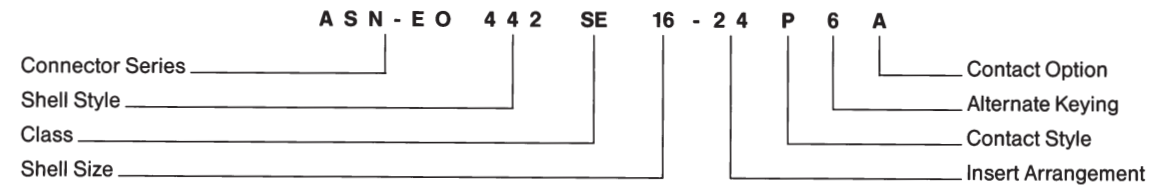
N = Normal, 6, 7, 8, and 9 alternates

### Variations

O = Basic Connector  
Alphabetic identifiers as assigned  
A = Lockwires holes on plug

# ORDERING INFORMATION—EUROPEAN STANDARDS

## Aerospatiale Designation



### Shell Style

- 195\*: Plug, Non-decoupling, accessory teeth per MIL-C-83723 III, Stainless steel
- 197\*: Square Flange Receptacle, accessory teeth per MIL-C-83723 III, Stainless steel
- 320\*: Plug, Non-decoupling, accessory teeth per MIL-C-83723 III, Aluminum
- 321\*: Jam Nut Rec., accessory teeth per MIL-C83723 III, Aluminum
- 322\*: Square Flange Rec., accessory teeth per MIL-C-83723 III, Aluminum
- 441: Plug, Non-decoupling, 360° accessory teeth per MS3155, Stainless steel
- 442: Plug, Non-decoupling, 360° accessory teeth per MS3155, with grounding spring, Stainless steel
- 443\*: Square flange Receptacle, accessory teeth per MIL-C-83723 III, Stainless steel
- 444: Same as 443 with 360° accessory teeth per MS3155
- 451: Plug, Non-decoupling, 360° accessory teeth per MS3155
- 452: Plug, Non-decoupling, 360° accessory teeth per MS3155, with grounding spring, aluminum
- 453\*: Square Flange Rec., 360° accessory teeth per MS3155, Aluminum
- 454: Same as 453 with 360° accessory teeth per MS3155

\*Not active for new design

### Class

- K: Stainless Steel, Firewall, 200°C
- KE: Stainless Steel, Firewall, 260°C
- R: Aluminum, Electroless Nickel Finish, 200°C
- RS: Aluminum Electroless Nickel Finish, 200°C, with grounding spring on plug
- S: Stainless Steel, Firewall, 200°C, with grounding spring on plug
- SE: Stainless Steel, Firewall, 260°C, with grounding spring on plug

### Shell Size

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

### Insert Arrangement

See Chart (page 9)

### Contact Style

P = Pin S = Socket

### Alternate Keying

N = Normal, 6, 7, 8, 9 and Y

### Contact Option

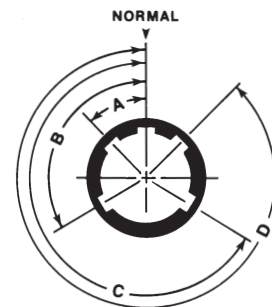
Omit = with Contacts

A = without Contacts

Note: Per ASN-E, #20 contacts with #18 crimpwell supplied standard when ordered with connectors.

## ALTERNATE KEYING

ALTERNATE POLARITY  
 KEYWAY ARRANGEMENTS  
 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.



### ESC 11 (ONLY)

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(10°)	25°	115°	220°	270°	98°	152°	268°	338°

\*Not Available in Size 8 Connector

Position	For Connectors Size 14 thru 24			
	A	B	C	D
Normal	95	145	220	255
6	101	168	211	342
7	18	138	208	268
8	26	156	208	276
9	120	161	225	336

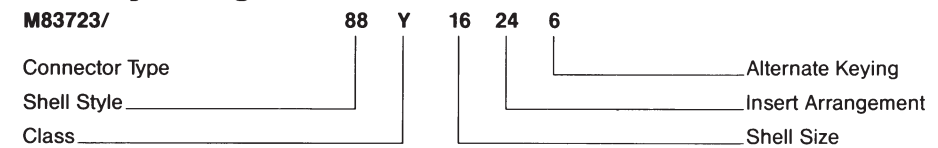
# MIL-C-83723 HERMETIC CONNECTORS

## PERFORMANCE CHARACTERISTICS

Thermal Shock (Unmated)	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.	Air Leakage (Unmated)	Less than .01 micron per cubic feet per hour on application of 15 PSI pressure differential across the connector.
Physical Shock (Mated)	300 g's	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 atmospheric pressure. While connectors submerged insulation resistance should remain 1000 megohms minimum and support 1500 volts RMS applied without flashover or breakdown.
Moisture Resistance (Mated)	500 Megohms	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:
Insulation Resistance High Temperature (Mated)	500 Megohms	Altitude	50,000/Service Rating I 500 AC-RMS 70,000 375 AC-RMS 110,000 200 AC-RMS
Corrosion (Unmated)	Comply with MIL-C-83723 Req.		
Temperature Life	Fully functional for 1000 hours at 200°C (392°F) ambient. Internal temperature 238°C (460°F)		

## HERMETIC ORDERING INFORMATION

### Military Designation



### Shell Style

- 88—Square Flange Receptacle
- 89—D-Hole Mounted Receptacle
- 90—Solder Mounted Receptacle

### Class

Y Stainless Steel

### Shell Size

8, 10, 12, 14, 16, 18, 22

### Insert Arrangements

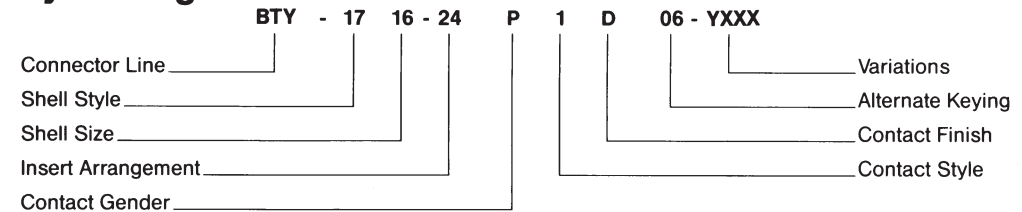
See Chart (page 9).

### Alternate Keying

N = Normal 6, 7, 8, 9 and Y\* alternates

\*Formerly 10 (see page 8).

### Pyle Designation



### Connector Line

- BTY—Threaded Hermetic—'O' Ring Seal—Stainless Steel Shell
- BFY—Threaded Hermetic—Static/Dynamic Seal—Stainless Steel Shell
- BNY—Threaded Hermetic—Static/Dynamic Seal, Stainless Steel, Electrodeposited Nickel

### Shell Style

- 17—Square Flange Receptacle
- 19—D-Hole Mounted Receptacle
- 14—Solder Mounted Receptacle

### Shell Size

08, 10, 12, 14, 16, 18, 22

### Insert Arrangements

See Chart (page 9).

### Contact Gender

P = Pin

### Contact Style

1 = Solderwell (Mil Spec. Type) 4 = Eyelet

### Contact Finish

D = .000050 (per MIL-C-83723 III) gold

V = .000100 gold

### Alternate Keying

(Omit for Normal) 06, 07, 08, 09 and 10 (see page 8).

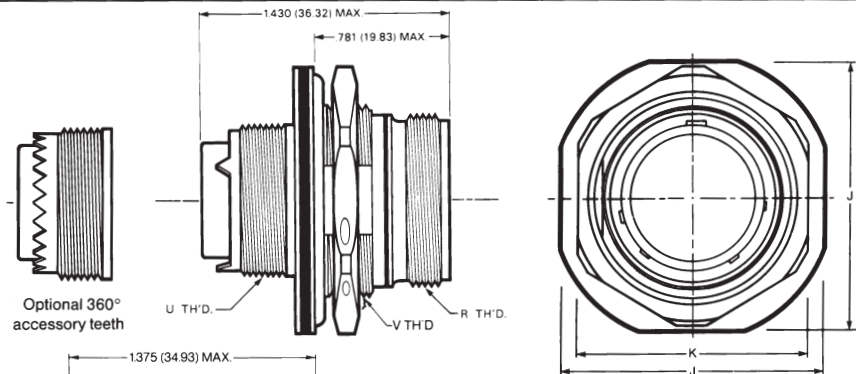
### Variations

- 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
- Consult factory for other special variations.

# SPECIFICATIONS

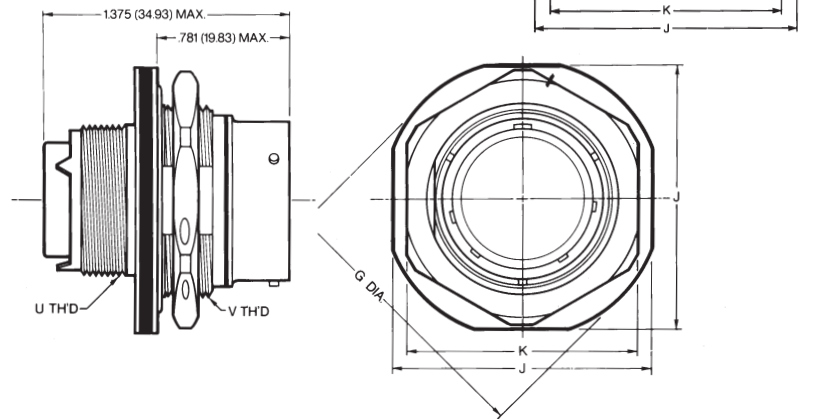
## D-HOLE MOUNTED RECEPTACLES

### MIL-C-83723/ 84 & 85 Threaded Type



### MIL-C-83723/ 73 & 74 Bayonet Type

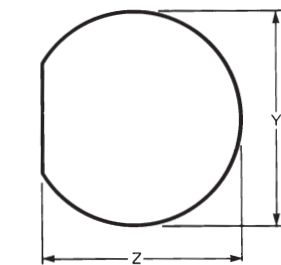
SHELL SIZE 28 NOT AVAILABLE.



INCHES								
Shell Size	U Th'd. Access End	V Th'd.	R Th'd. Mating End	G Dia. (Max.)	J (Max.)	K (Hex)	Y Dia.	Z
08	.500-20	.625-20	.562-24	1.068	.979	.828	.635	.605
10	.625-24	.750-20	.688-24	1.192	1.104	.953	.760	.730
12	.750-20	.938-20	.875-20	1.380	1.291	1.140	.947	.917
14	.875-20	1.000-20	.938-20	1.505	1.391	1.205	1.010	.980
16	1.000-20	1.125-18**	1.062-18	1.630	1.516	1.329	1.135	1.105
18	1.062-18	1.250-18	1.188-18	1.756	1.641	1.455	1.260	1.225
20	1.188-18	1.375-18	1.312-18	1.860	1.766	1.574	1.385	1.350
22	1.312-18	1.500-18	1.438-18	2.068	1.954	1.705	1.510	1.475
24	1.438-18	1.625-18	1.562-18	2.160	2.074	1.830	1.635	1.600
28	1.750-18	1.875-20	1.812-16	—	2.329	2.080	1.885	1.850

\*\*V Th'd. = 1.125-20 For Bayonet Style

MILLIMETERS					
Shell Size	G Dia. (Max.)	J (Max.)	K (Hex)	Y Dia.	Z
08	27.13	24.87	21.03	16.13	15.37
10	30.28	28.04	24.21	19.30	18.54
12	35.05	32.79	28.96	24.05	23.29
14	38.23	35.33	30.61	25.65	24.89
16	41.40	38.51	33.76	28.83	28.07
18	44.60	41.68	36.96	32.00	31.12
20	47.24	44.86	39.98	35.18	34.29
22	52.53	49.63	43.31	38.35	37.47
24	80.26	52.68	46.48	41.53	40.64
28	—	59.16	52.83	47.88	46.99



Panel Cutout Hole  
(Panel Thickness .125/.062)

# INSERT ARRANGEMENTS

Front Face of Pin Inserts Illustrated

\*Non-Military Arrangement.

Insert arrangement size of contacts service rating

08-98 3 #20	08-03 3 #20	10-05 5 #20	10-06 6 #20	10-20 2 #16	12-03 3 #16	12-12 12 #20	14-04 4 #12	14-07 7 #16
14-12 9 #20, 3 #16	14-15 15 #20	16-10 10 #16	16-24 24 #20	18-08 8 #12	18-14 14 #16	18-31 31 #20	20-16 16 #16	20-25 19 #20, & 6 #12
20-39 37 #20, & 2 #16	20-41 41 #20	22-19 19 #16	22-55 55 #20	24-19 19 #12	24-30* 30 #16	24-46* 40 #20, 4 #16, 2 #8 Twinax Δ	24-57 55 #20, & 2 #12	24-61 61 #20
28-42* 42 #16								

Δ Grounded to shell

## SERVICE RATING

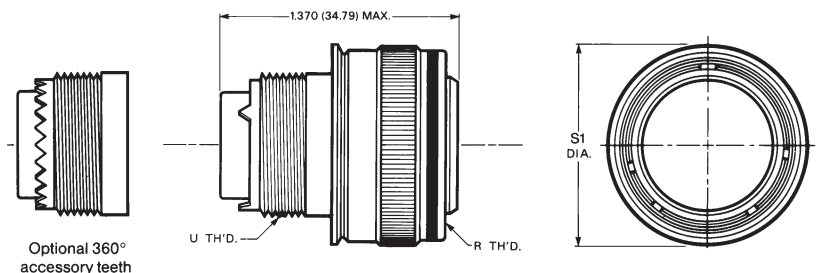
Service Rating	Test Voltage (Sea Level)	Test Voltage 50,000 Ft.	Test Voltage 70,000 Ft.	Test Voltage 110,000 Ft.
I	1500 AC-RMS	500 AC-RMS	375 AC-RMS	200 AC-RMS

Please note that the establishment of electrical safety factors is left entirely in the designer's hands, since he is in the best position to know what peak voltages, switching surges, transients, etc. can be expected in a particular circuit.

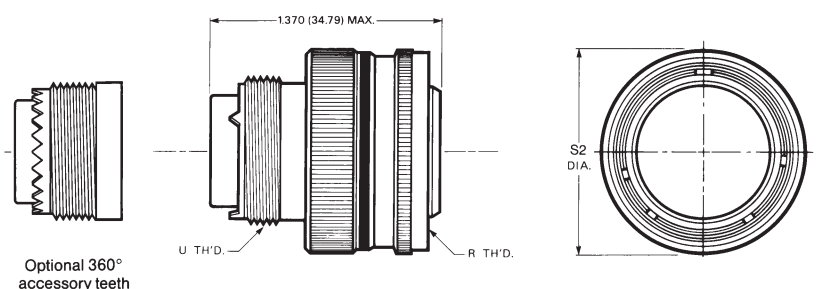
# SPECIFICATIONS

## PLUGS

### Standard Plug MIL-C-83723/ 86 & 87 Type

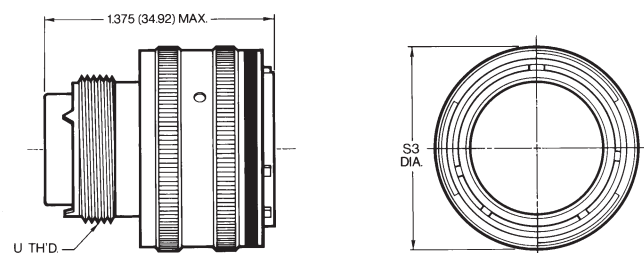


### Non-Decoupling Plug MIL-C-83723/ 95 & 96 Type



### Bayonet Plug MIL-C-83723/ 75 & 76 Type

SHELL SIZE 28 NOT AVAILABLE.

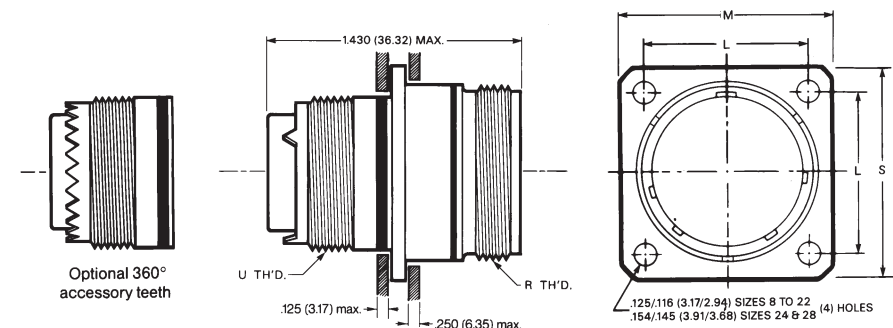


Shell Size	INCHES			MILLIMETERS				
	U Th'd. Access End	R Th'd. Mating End	S1 Dia. (Max.)	S2 Dia. (Max.)	S3 Dia. (Max.)	S1 Dia. (Max.)	S2 Dia. (Max.)	S3 Dia. (Max.)
08	.500-20	.562-24	.776	.832	.765	19.71	21.13	19.43
10	.625-24	.688-24	.906	.958	.906	23.01	24.33	23.01
12	.750-20	.875-20	1.078	1.090	1.078	27.38	27.68	27.38
14	.875-20	.938-20	1.141	1.203	1.125	28.98	30.55	28.57
16	1.000-20	1.062-18	1.266	1.326	1.266	32.15	33.68	32.15
18	1.062-18	1.188-18	1.375	1.432	1.375	34.92	36.37	34.92
20	1.188-18	1.312-18	1.500	1.557	1.505	38.1	39.54	38.22
22	1.312-18	1.438-18	1.625	1.682	1.625	41.27	42.72	41.27
24	1.438-18	1.562-18	1.750	1.817	1.755	44.45	46.15	44.57
28	1.750-18	1.812-16	2.000	2.122	—	50.8	53.89	—

# SPECIFICATIONS

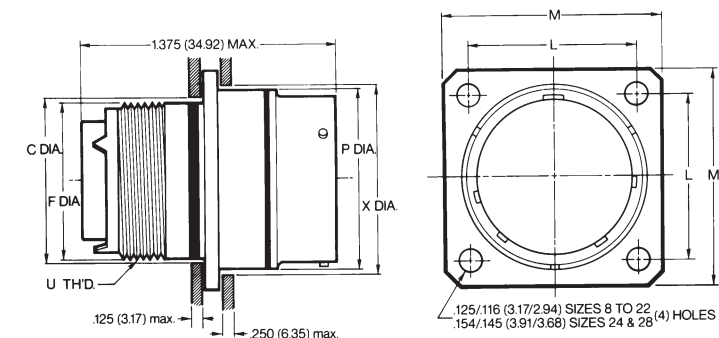
## FLANGE MOUNT RECEPTACLES

### MIL-C-83723/ 82 & 83 Threaded Type



### MIL-C-83723/ 71 & 72 Bayonet Type

SHELL SIZE 28 NOT AVAILABLE.



#### INCHES

Shell Size	U Th'd. Access End	R Th'd. Mating End	C Dia. Panel (Min.)	F Dia. Rear (Max.)	P Dia. Front (Max.)	X Dia. Panel (Min.)	L	M
08	.500-20	.562-24	.510	.500	.562	.620	.594	.812
10	.625-24	.688-24	.635	.625	.696	.748	.719	.937
12	.750-20	.875-20	.760	.750	.875	.913	.812	1.031
14	.875-20	.938-20	.885	.875	.936	.980	.906	1.125
16	1.000-20	1.062-18	1.010	1.000	1.062	1.107	.969	1.250
18	1.062-18	1.188-18	1.072	1.062	1.187	1.209	1.062	1.343
20	1.188-18	1.312-18	1.192	1.187	1.312	1.337	1.156	1.437
22	1.312-18	1.438-18	1.322	1.312	1.437	1.452	1.250	1.562
24	1.438-18	1.562-18	1.447	1.437	1.562	1.577	1.375	1.703
28	1.750-18	1.812-16	1.760	1.750	1.812	1.827	1.562	1.953

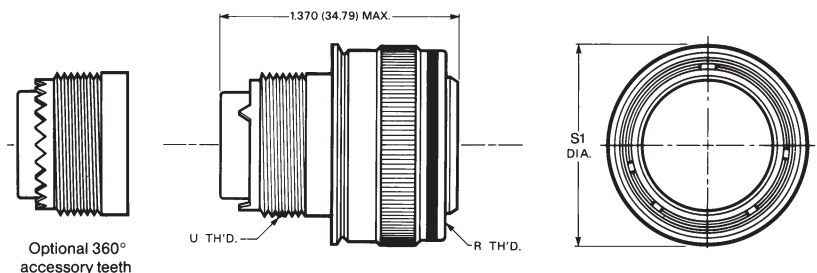
#### MILLIMETERS

Shell Size	C Dia. Panel (Min.)	F Dia. Rear (Max.)	P Dia. Front (Max.)	X Dia. Panel (Min.)	L	M
08	12.95	12.70	14.27	15.75	15.04	20.62
10	16.13	15.88	17.68	18.99	18.26	23.80
12	19.30	19.05	22.23	23.19	20.62	26.19
14	22.48	22.23	23.77	24.89	23.01	28.58
16	25.65	25.40	26.97	28.12	24.61	31.75
18	27.23	26.97	30.15	30.71	26.97	34.11
20	30.28	30.15	33.32	33.96	29.36	36.50
22	33.58	33.32	36.50	36.88	31.75	39.67
24	36.75	36.50	39.67	40.06	34.93	43.26
28	44.70	44.45	46.02	46.41	39.67	49.61

# SPECIFICATIONS

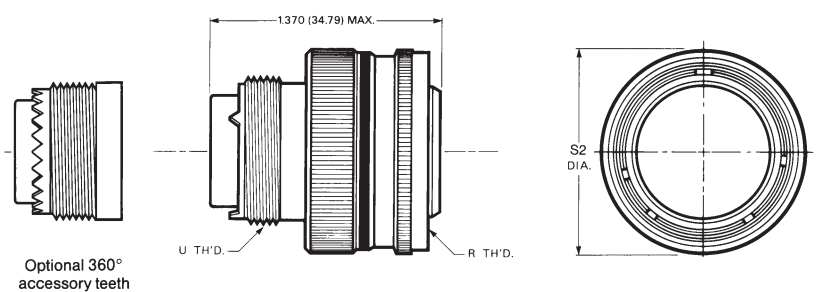
## PLUGS

### Standard Plug MIL-C-83723/ 86 & 87 Type



Optional 360° accessory teeth

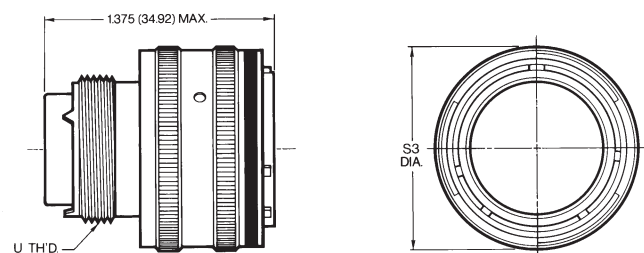
### Non-Decoupling Plug MIL-C-83723/ 95 & 96 Type



Optional 360° accessory teeth

### Bayonet Plug MIL-C-83723/ 75 & 76 Type

SHELL SIZE 28 NOT AVAILABLE.

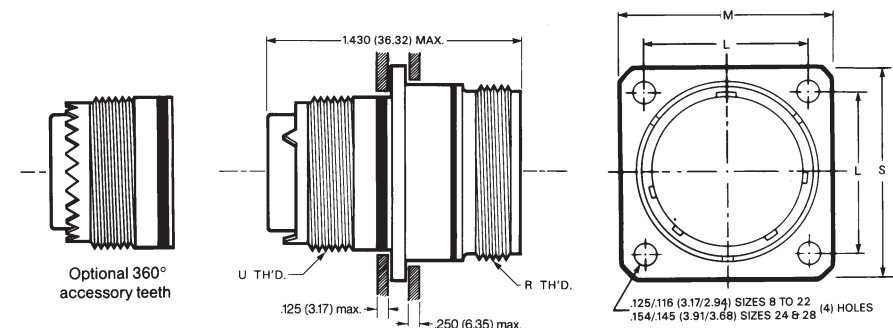


Shell Size	INCHES			MILLIMETERS				
	U Th'd. Access End	R Th'd. Mating End	S1 Dia. (Max.)	S2 Dia. (Max.)	S3 Dia. (Max.)	S1 Dia. (Max.)	S2 Dia. (Max.)	S3 Dia. (Max.)
08	.500-20	.562-24	.776	.832	.765	19.71	21.13	19.43
10	.625-24	.688-24	.906	.958	.906	23.01	24.33	23.01
12	.750-20	.875-20	1.078	1.090	1.078	27.38	27.68	27.38
14	.875-20	.938-20	1.141	1.203	1.125	28.98	30.55	28.57
16	1.000-20	1.062-18	1.266	1.326	1.266	32.15	33.68	32.15
18	1.062-18	1.188-18	1.375	1.432	1.375	34.92	36.37	34.92
20	1.188-18	1.312-18	1.500	1.557	1.505	38.1	39.54	38.22
22	1.312-18	1.438-18	1.625	1.682	1.625	41.27	42.72	41.27
24	1.438-18	1.562-18	1.750	1.817	1.755	44.45	46.15	44.57
28	1.750-18	1.812-16	2.000	2.122	—	50.8	53.89	—

# SPECIFICATIONS

## FLANGE MOUNT RECEPTACLES

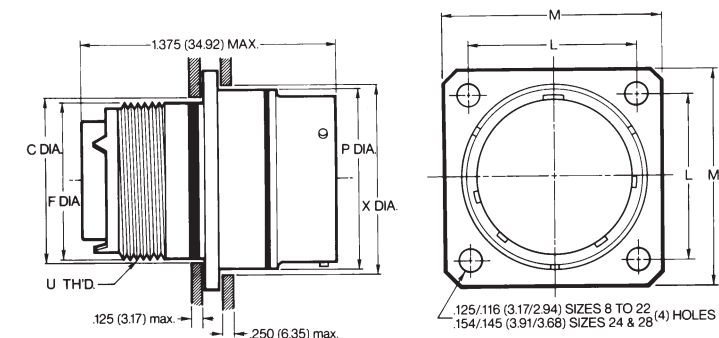
### MIL-C-83723/ 82 & 83 Threaded Type



Optional 360° accessory teeth

### MIL-C-83723/ 71 & 72 Bayonet Type

SHELL SIZE 28 NOT AVAILABLE.



INCHES

Shell Size	U Th'd. Access End	R Th'd. Mating End	C Dia. Panel (Min.)	F Dia. Rear (Max.)	P Dia. Front (Max.)	X Dia. Panel (Min.)	L	M
08	.500-20	.562-24	.510	.500	.562	.620	.594	.812
10	.625-24	.688-24	.635	.625	.696	.748	.719	.937
12	.750-20	.875-20	.760	.750	.875	.913	.812	1.031
14	.875-20	.938-20	.885	.875	.936	.980	.906	1.125
16	1.000-20	1.062-18	1.010	1.000	1.062	1.107	.969	1.250
18	1.062-18	1.188-18	1.072	1.062	1.187	1.209	1.062	1.343
20	1.188-18	1.312-18	1.192	1.187	1.312	1.337	1.156	1.437
22	1.312-18	1.438-18	1.322	1.312	1.437	1.452	1.250	1.562
24	1.438-18	1.562-18	1.447	1.437	1.562	1.577	1.375	1.703
28	1.750-18	1.812-16	1.760	1.750	1.812	1.827	1.562	1.953

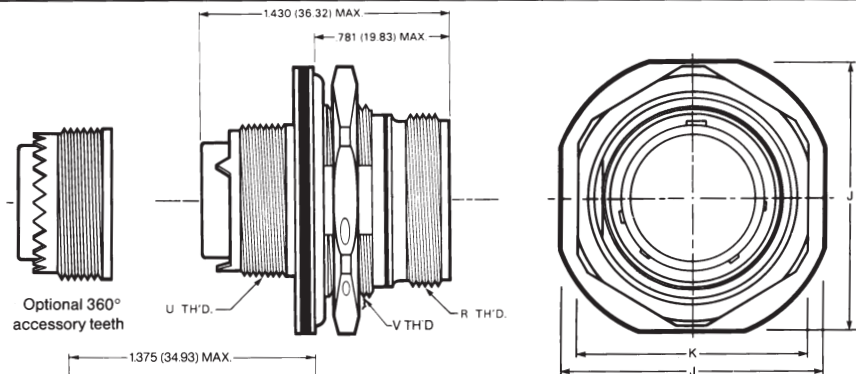
MILLIMETERS

Shell Size	C Dia. Panel (Min.)	F Dia. Rear (Max.)	P Dia. Front (Max.)	X Dia. Panel (Min.)	L	M
08	12.95	12.70	14.27	15.75	15.04	20.62
10	16.13	15.88	17.68	18.99	18.26	23.80
12	19.30	19.05	22.23	23.19	20.62	26.19
14	22.48	22.23	23.77	24.89	23.01	28.58
16	25.65	25.40	26.97	28.12	24.61	31.75
18	27.23	26.97	30.15	30.71	26.97	34.11
20	30.28	30.15	33.32	33.96	29.36	36.50
22	33.58	33.32	36.50	36.88	31.75	39.67
24	36.75	36.50	39.67	40.06	34.93	43.26
28	44.70	44.45	46.02	46.41	39.67	49.61

# SPECIFICATIONS

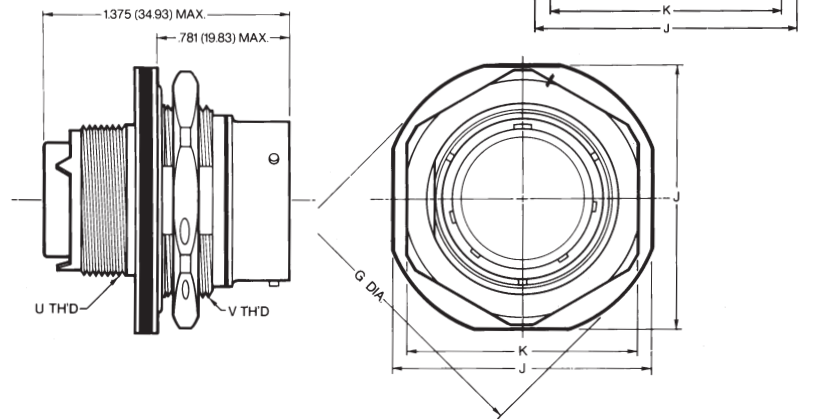
## D-HOLE MOUNTED RECEPTACLES

### MIL-C-83723/ 84 & 85 Threaded Type



### MIL-C-83723/ 73 & 74 Bayonet Type

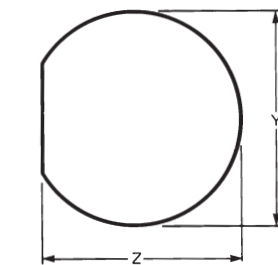
SHELL SIZE 28 NOT AVAILABLE.



Shell Size	INCHES							
	U Th'd. Access End	V Th'd.	R Th'd. Mating End	G Dia. (Max.)	J (Max.)	K (Hex)	Y Dia.	Z
08	.500-20	.625-20	.562-24	1.068	.979	.828	.635	.605
10	.625-24	.750-20	.688-24	1.192	1.104	.953	.760	.730
12	.750-20	.938-20	.875-20	1.380	1.291	1.140	.947	.917
14	.875-20	1.000-20	.938-20	1.505	1.391	1.205	1.010	.980
16	1.000-20	1.125-18**	1.062-18	1.630	1.516	1.329	1.135	1.105
18	1.062-18	1.250-18	1.188-18	1.756	1.641	1.455	1.260	1.225
20	1.188-18	1.375-18	1.312-18	1.860	1.766	1.574	1.385	1.350
22	1.312-18	1.500-18	1.438-18	2.068	1.954	1.705	1.510	1.475
24	1.438-18	1.625-18	1.562-18	2.160	2.074	1.830	1.635	1.600
28	1.750-18	1.875-20	1.812-16	—	2.329	2.080	1.885	1.850

\*\*V Th'd. = 1.125-20 For Bayonet Style

Shell Size	MILLIMETERS				
	G Dia. (Max.)	J (Max.)	K (Hex)	Y Dia.	Z
08	27.13	24.87	21.03	16.13	15.37
10	30.28	28.04	24.21	19.30	18.54
12	35.05	32.79	28.96	24.05	23.29
14	38.23	35.33	30.61	25.65	24.89
16	41.40	38.51	33.76	28.83	28.07
18	44.60	41.68	36.96	32.00	31.12
20	47.24	44.86	39.98	35.18	34.29
22	52.53	49.63	43.31	38.35	37.47
24	80.26	52.68	46.48	41.53	40.64
28	—	59.16	52.83	47.88	46.99



Panel Cutout Hole (Panel Thickness .125/.062)

# INSERT ARRANGEMENTS

Front Face of Pin Inserts Illustrated

\*Non-Military Arrangement.

Insert arrangement size of contacts service rating

08-98 3 #20	08-03 3 #20	10-05 5 #20	10-06 6 #20	10-20 2 #16	12-03 3 #16	12-12 12 #20	14-04 4 #12	14-07 7 #16
14-12 9 #20, 3 #16	14-15 15 #20	16-10 10 #16	16-24 24 #20	18-08 8 #12	18-14 14 #16	18-31 31 #20	20-16 16 #16	20-25 19 #20, & 6 #12
20-39 37 #20, & 2 #16	20-41 41 #20	22-19 19 #16	22-55 55 #20	24-19 19 #12	24-30* 30 #16	24-46* 40 #20, 4 #16, 2 #8 Twinax Δ	24-57 55 #20, & 2 #12	24-61 61 #20
28-42* 42 #16								

Δ Grounded to shell

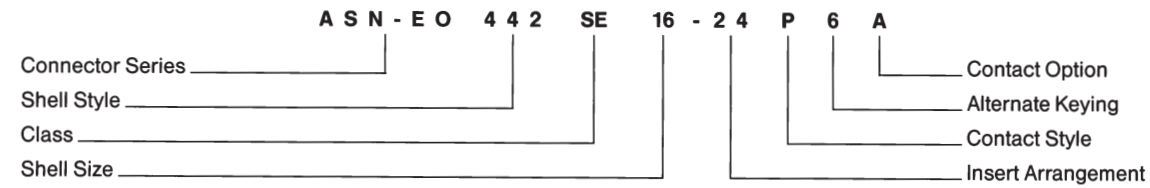
## SERVICE RATING

Service Rating	Test Voltage (Sea Level)	Test Voltage 50,000 Ft.	Test Voltage 70,000 Ft.	Test Voltage 110,000 Ft.
I	1500 AC-RMS	500 AC-RMS	375 AC-RMS	200 AC-RMS

Please note that the establishment of electrical safety factors is left entirely in the designer's hands, since he is in the best position to know what peak voltages, switching surges, transients, etc. can be expected in a particular circuit.

# ORDERING INFORMATION—EUROPEAN STANDARDS

## Aerospatiale Designation



### Shell Style

- 195\*: Plug, Non-decoupling, accessory teeth per MIL-C-83723 III, Stainless steel
- 197\*: Square Flange Receptacle, accessory teeth per MIL-C-83723 III, Stainless steel
- 320\*: Plug, Non-decoupling, accessory teeth per MIL-C-83723 III, Aluminum
- 321\*: Jam Nut Rec., accessory teeth per MIL-C83723 III, Aluminum
- 322\*: Square Flange Rec., accessory teeth per MIL-C-83723 III, Aluminum
- 441: Plug, Non-decoupling, 360° accessory teeth per MS3155, Stainless steel
- 442: Plug, Non-decoupling, 360° accessory teeth per MS3155, with grounding spring, Stainless steel
- 443\*: Square flange Receptacle, accessory teeth per MIL-C-83723 III, Stainless steel
- 444: Same as 443 with 360° accessory teeth per MS3155
- 451: Plug, Non-decoupling, 360° accessory teeth per MS3155
- 452: Plug, Non-decoupling, 360° accessory teeth per MS3155, with grounding spring, aluminum
- 453\*: Square Flange Rec., 360° accessory teeth per MS3155, Aluminum
- 454: Same as 453 with 360° accessory teeth per MS3155

\*Not active for new design

### Class

- K: Stainless Steel, Firewall, 200°C
- KE: Stainless Steel, Firewall, 260°C
- R: Aluminum, Electroless Nickel Finish, 200°C
- RS: Aluminum Electroless Nickel Finish, 200°C, with grounding spring on plug
- S: Stainless Steel, Firewall, 200°C, with grounding spring on plug
- SE: Stainless Steel, Firewall, 260°C, with grounding spring on plug

### Shell Size

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

### Insert Arrangement

See Chart (page 9)

### Contact Style

P = Pin S = Socket

### Alternate Keying

N = Normal, 6, 7, 8, 9 and Y

### Contact Option

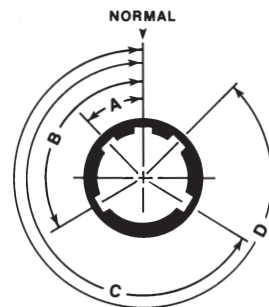
Omit = with Contacts

A = without Contacts

Note: Per ASN-E, #20 contacts with #18 crimpwell supplied standard when ordered with connectors.

## ALTERNATE KEYING

ALTERNATE POLARITY  
KEYWAY ARRANGEMENTS  
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.



### ESC 11 (ONLY)

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(10°)	25°	115°	220°	270°	98°	152°	268°	338°

\*Not Available in Size 8 Connector

Position	For Connectors Size 14 thru 24			
	A	B	C	D
Normal	95	145	220	255
6	101	168	211	342
7	18	138	208	268
8	26	156	208	276
9	120	161	225	336

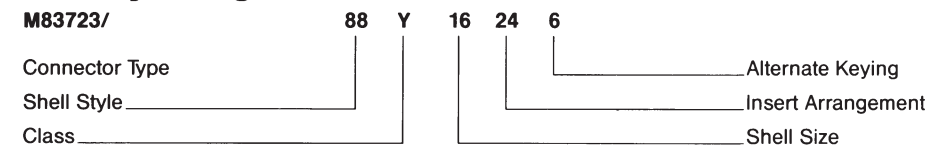
# MIL-C-83723 HERMETIC CONNECTORS

## PERFORMANCE CHARACTERISTICS

Thermal Shock (Unmated)	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.	Air Leakage (Unmated)	Less than .01 micron per cubic feet per hour on application of 15 PSI pressure differential across the connector.
Physical Shock (Mated)	300 g's	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 atmospheric pressure. While connectors submerged insulation resistance should remain 1000 megohms minimum and support 1500 volts RMS applied without flashover or breakdown.
Moisture Resistance (Mated)	500 Megohms	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:
Insulation Resistance High Temperature (Mated)	500 Megohms	Altitude	50,000/Service Rating I 500 AC-RMS 70,000 375 AC-RMS 110,000 200 AC-RMS
Corrosion (Unmated)	Comply with MIL-C-83723 Req.		
Temperature Life	Fully functional for 1000 hours at 200°C (392°F) ambient. Internal temperature 238°C (460°F)		

## HERMETIC ORDERING INFORMATION

### Military Designation



### Shell Style

- 88—Square Flange Receptacle
- 89—D-Hole Mounted Receptacle
- 90—Solder Mounted Receptacle

### Class

Y Stainless Steel

### Shell Size

8, 10, 12, 14, 16, 18, 22

### Insert Arrangements

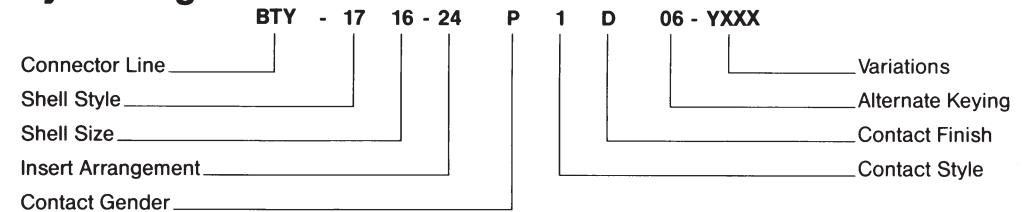
See Chart (page 9).

### Alternate Keying

N = Normal 6, 7, 8, 9 and Y\* alternates

\*Formerly 10 (see page 8).

### Pyle Designation



### Connector Line

- BTY—Threaded Hermetic—'O' Ring Seal—Stainless Steel Shell
- BFY—Threaded Hermetic—Static/Dynamic Seal—Stainless Steel Shell
- BNY—Threaded Hermetic—Static/Dynamic Seal, Stainless Steel, Electrodeposited Nickel

### Shell Style

- 17—Square Flange Receptacle
- 19—D-Hole Mounted Receptacle
- 14—Solder Mounted Receptacle

### Shell Size

08, 10, 12, 14, 16, 18, 22

### Insert Arrangements

See Chart (page 9).

### Contact Gender

P = Pin

### Contact Style

1 = Solderwell (Mil Spec. Type) 4 = Eyelet

### Contact Finish

D = .000050 (per MIL-C-83723 III) gold

V = .000100 gold

### Alternate Keying

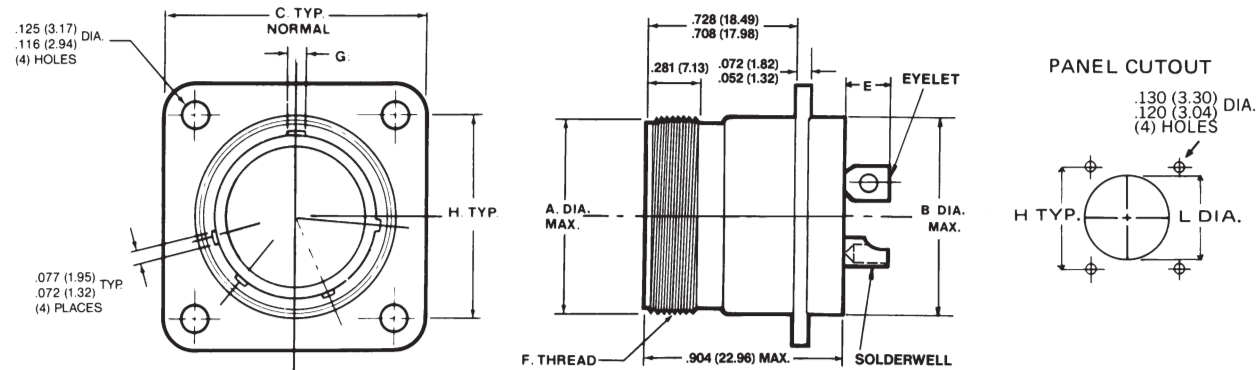
(Omit for Normal) 06, 07, 08, 09 and 10 (see page 8).

### Variations

- 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
- Consult factory for other special variations.

# HERMETIC CONNECTORS SPECIFICATIONS

## HERMETIC FLANGE MOUNT RECEPTACLE MIL-C-83723/88 THREADED TYPE

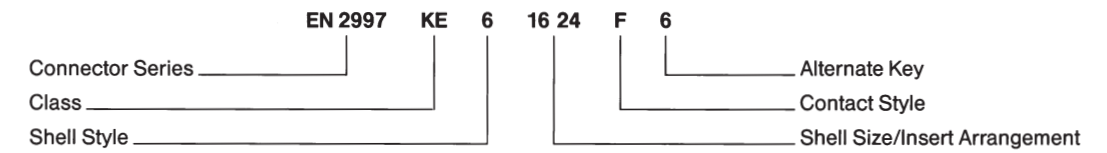


Shell Size	INCHES								
	A Dia. (Max.)	B Dia. (Max.)	C Dim. ±.010	E		F Coupling Thread UNEF-2A	G Dim. ±.003	H ±.005	L Dia. ±.005
				#20 Contacts	#12 & #16 Contacts				
08	.562	.500	.812	.194/.134	.224/.164	.562-24	.094	.594	.572
10	.696	.562	.937	.194/.134	.224/.164	.688-24	.094	.719	.706
12	.875	.750	1.031	.194/.134	.224/.164	.875-20	.094	.812	.885
14	.936	.812	1.125	.194/.134	.224/.164	.938-20	.094	.906	.946
16	1.062	.937	1.250	.194/.134	.224/.164	1.062-18	.125	.969	1.072
18	1.187	1.062	1.343	.194/.134	.224/.164	1.188-18	.125	1.062	1.197
22	1.437	1.312	1.562	.194/.134	.224/.164	1.438-18	.125	1.250	1.447

Shell Size	MILLIMETERS								
	A Dia. (Max.)	B Dia. (Max.)	C Dim. ±.25	E		G Dim. ±.08	H ±.13	L Dia. ±.13	
				#20 Contacts	#12 & #16 Contacts				
08	14.27	12.70	20.62	4.93/3.40	5.69/4.17	2.39	15.09	14.53	
10	17.68	14.27	23.80	4.93/3.40	5.69/4.17	2.39	18.26	17.93	
12	22.23	19.05	26.19	4.93/3.40	5.69/4.17	2.39	20.62	22.48	
14	23.77	20.62	28.58	4.93/3.40	5.69/4.17	2.39	23.01	24.03	
16	26.97	23.80	31.75	4.93/3.40	5.69/4.17	3.18	24.61	27.23	
18	30.15	26.97	34.11	4.93/3.40	5.69/4.17	3.18	26.91	30.40	
22	36.50	33.32	36.50	4.93/3.40	5.69/4.17	3.18	31.75	36.75	

# ORDERING INFORMATION—EUROPEAN STANDARDS

## AECMA Designation



**Connector Series**  
EN 2997 AECMA designation  
NFL 54143 European designation

### Class

#### STANDARD TEMPERATURE

R Aluminum, Electroless Nickel Plated (200°C)  
RS Same as R with Grounding Spring on plug  
W Aluminum, Olive Drab Cadmium Over Nickel (175°C)  
WS Same as W with Grounding Spring on plug  
K Stainless Steel Firewall (200°C)  
S Same as K with Grounding Spring on plug  
Y Stainless Steel Hermetic with Solderwell Contact (200°C)

#### HIGH TEMPERATURE (260°C)

KE Stainless Steel Firewall  
SE Same as KE with Grounding Spring  
YE Stainless Steel Hermetic with Solderwell Contact

### Shell Style

0 Square Flange Receptacle  
1 Solder Mount Receptacle (Hermetic Only)  
6 Plug, Non-Decoupling  
7 Jam Nut Receptacle

### Shell Size

8, 10, 12, 14, 16, 18, 20, 24, 28

### Insert Arrangement

See Chart (Page 9)

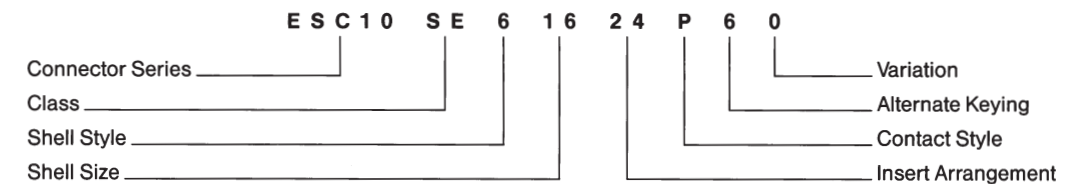
### Contact Style

M = Standard pin, C=#20 pin with #18 crimpwell  
A = Pin insert less contacts  
F = Standard socket  
D = #20 socket with #18 crimpwell  
B = Socket insert less contacts

### Alternate Keying

N=Normal, 6, 7, 8, 9 and Y

## Society of British Aerospace Companies/Rolls Royce Standards



### Connector Series

ESC 10 Basic High Temperature Connector  
ESC 11 100% Scoop Proof—High Temperature Connector

### Class

KE: Stainless Steel, Firewall (260°C)  
SE: Stainless Steel, Firewall (260°C) with Grounding Spring  
YE: Stainless Steel Hermetic (260°C)

### Shell Style

0 Square Flange Receptacle with 360° accessory teeth per MS3155  
1 Hermetic, Solder Mount  
2 Hermetic, Square Flange  
3 Hermetic, Jam Nut  
6 Plug, Non-decoupling with 360° accessory teeth per MS3155

### Shell Size

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

### Insert Arrangement

See Chart (page 9)

### Contact Style

P = Pin S = Socket  
(All connectors supplied w/o contacts except Shell Styles 1, 2, and 3)

### Alternate Keying

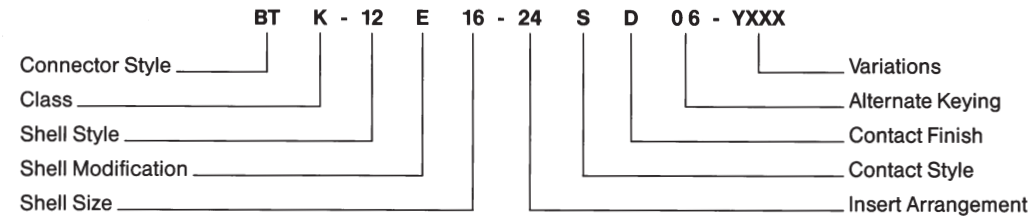
N = Normal, 6, 7, 8, and 9 alternates

### Variations

O = Basic Connector  
Alphabetic identifiers as assigned  
A = Lockwires holes on plug

# ORDERING INFORMATION—EUROPEAN STANDARDS

## Pyle Designation



### Style

- BT Threaded, 'O' Ring Seal (Std)
- BJ Threaded, Static/Dynamic Seal (Optional)

### Class

- G Stainless Steel
- K Stainless Steel Firewall
- R Aluminum, Electroless Nickel Plated
- W Aluminum, Olive Drab Cadmium over Nickel

### Shell Style

- 12 Non-Decoupling Plug
- 17 Square Flange Receptacle
- 19 Jam Nut Receptacle

### Shell Modification

- E = 360° Accessory Teeth per MS3155
- F = 360° Accessory Teeth per MS3155 with Grounding Spring on plug

### Shell Size

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

### Insert Arrangement

See Chart (page 9)

### Contact Style

- P = Standard pin
- K = #20 pin with #18 crimpwell
- S = Standard socket
- L = #20 socket with #18 crimpwell

### Contact Finish

- D = Gold per MIL-C-39029 (Special High Temperature Contact—See Chart page 19)
- E = Without Contacts per ESC 10

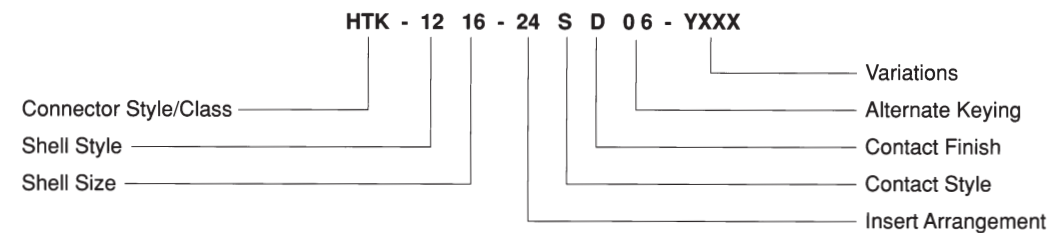
### Alternate Keying

(Omit for Normal) 06, 07, 08, 09 and 10 alternates

### Variations

- Y144 260°C Capability (Euro Market)
- Y163 200°C Capability (Euro Market)
- Y175 Superseded by Y144
- Y176 260°C per G.E. M50TF3564, Class B, No Accessory Teeth
- Y185 Superseded by Y163
- Y186 260°C Capability per G.E. M50TF3564 Class B
- Y188 200°C Capability per G.E. M50TF3564 Class A

## Pyle Designation—ESC 11 Series



### Style/Class

- HTK Standard ESC 11, Class K
- HNK Nickel Finish, Class K, Static/Dynamic Seal

### Shell Style

- 12 Non-Decoupling Plug
- 17 Square Flange Receptacle

### Shell Size

- 12, 14, 16, 18, 20, 22, 24

### Insert Arrangement

See Chart (page 9)

### Contact Style

- P = Pin
- S = Socket

### Contact Finish

- D = Gold per MIL-C-39029 (optional) (Special High Temperature Contacts—See page 19)
- E = Without Contacts per ESC 11

### Alternate Keying

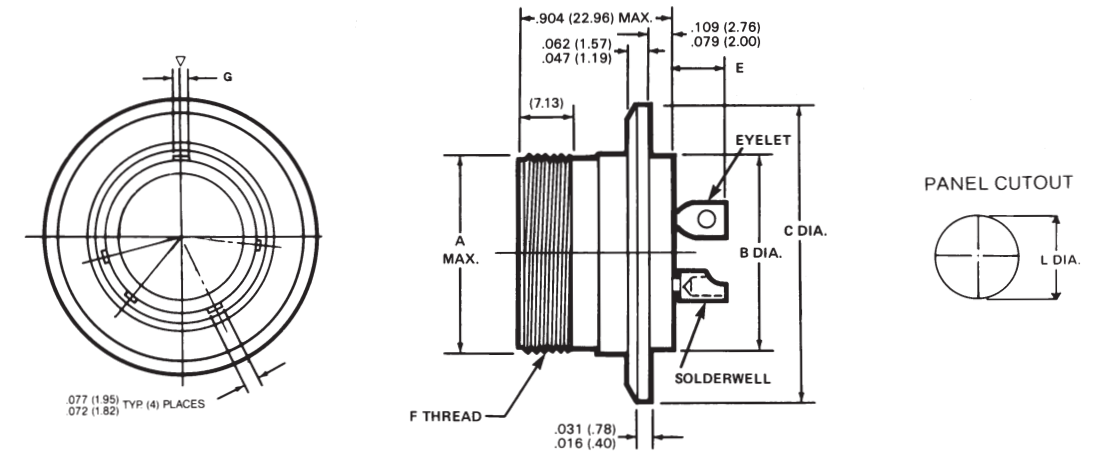
(Omit for Normal) 06, 07, 08 and 09 Alternates—Not intermateable with ESC 10 (See page 8)

### Variations

- Y144 260°C
- Y163 200°C
- Y186 260°C per GE M50TF3564, Class B
- Y188 200°C per GE M50TF3564, Class A

# HERMETIC CONNECTORS SPECIFICATIONS

## HERMETIC SOLDER MOUNT RECEPTACLE MIL-C-83723/90 THREADED TYPE



### INCHES

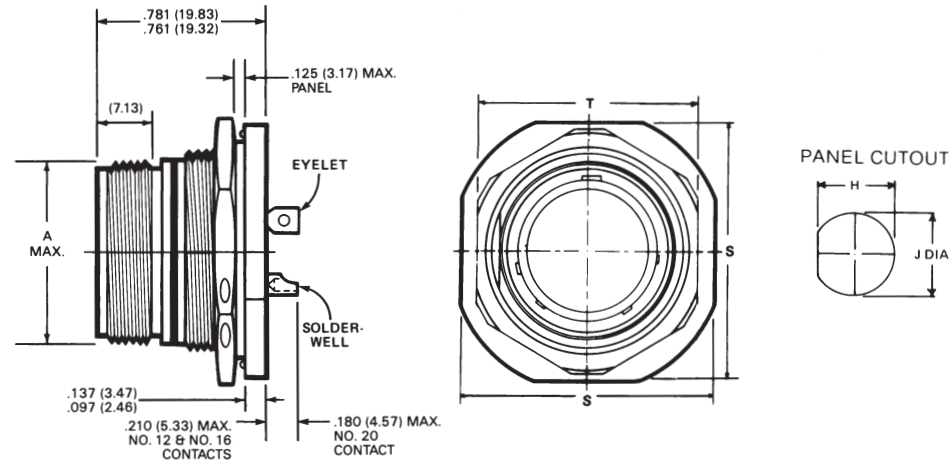
Shell Size	A Dia. (Max.)	B Dia. (Max.)	C Dia. ±.010	E		F Coupling Thread UNEF-2A	G Dim. ±.003	L Dia. ±.005
				#20 Contacts	#12 & #16 Contacts			
08	.562	.500	.713	.194/.134	.224/.164	.562-24	.094	.510
10	.696	.562	.840	.194/.134	.224/.164	.688-24	.094	.572
12	.875	.750	1.045	.194/.134	.224/.164	.875-20	.094	.760
14	.936	.812	1.090	.194/.134	.224/.164	.938-20	.094	.822
16	1.062	.937	1.210	.194/.134	.224/.164	1.062-18	.125	.947
18	1.187	1.062	1.340	.194/.134	.224/.164	1.188-18	.125	1.072
22	1.437	1.312	1.562	.194/.134	.224/.164	1.438-18	.125	1.322

### MILLIMETERS

Shell Size	A Dia. (Max.)	B Dia. (Max.)	C Dim. ±.25	E		G Dim. ±.08	L Dia. ±.13
				#20 Contacts	#12 & #16 Contacts		
08	14.27	12.70	18.11	4.93/3.40	5.69/4.17	2.39	12.95
10	17.68	14.27	21.34	4.93/3.40	5.69/4.17	2.39	14.53
12	22.23	19.05	26.54	4.93/3.40	5.69/4.17	2.39	19.30
14	23.77	20.62	27.69	4.93/3.40	5.69/4.17	2.39	20.88
16	26.97	23.80	30.73	4.93/3.40	5.69/4.17	3.18	24.05
18	30.15	26.97	34.04	4.93/3.40	5.69/4.17	3.18	27.23
22	36.50	33.32	39.67	4.93/3.40	5.69/4.17	3.18	33.58

# HERMETIC CONNECTORS SPECIFICATIONS

## HERMETIC D-HOLE MOUNT RECEPTACLE MIL-C-83723/89 THREADED TYPE



Shell Size	INCHES					MILLIMETERS				
	A Dia. (Max.)	H Flats ±.005	J Dia. ±.005	S Flats (Max.)	T Hex (Max.)	A Dia. (Max.)	H Flats ±.13	J Dia. ±.13	S Flats (Max.)	T Hex (Max.)
08	.562	.605	.635	.980	.828	14.27	15.37	16.13	24.89	21.03
10	.696	.730	.760	1.104	.953	17.68	18.54	19.30	28.04	24.21
12	.875	.917	.947	1.291	1.140	22.23	23.29	24.05	32.79	28.96
14	.936	.980	1.010	1.391	1.205	23.77	24.89	25.65	35.33	30.61
16	1.062	1.105	1.135	1.516	1.329	26.97	28.07	28.83	38.51	33.76
18	1.187	1.225	1.260	1.641	1.455	30.15	31.12	32.00	41.68	36.96
22	1.437	1.475	1.510	1.954	1.705	36.47	37.47	38.35	49.63	43.31

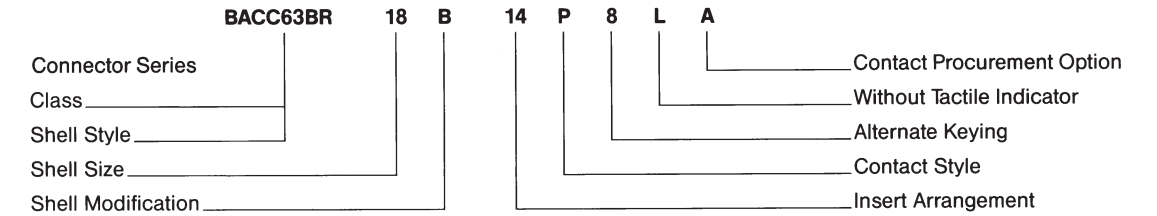
# TOOLS

CONTACT SIZE	Crimp Tool	Adjustable Turret	Checking Gauge For M22520/1-01 Crimping Tool	Insertion/Removal Tools
20	M22520/1-01 Pyle-National TP-201354	M22520/1-02 Pyle-National TP-201355	M22520/3 Pyle-National TP-201356	M81969/14-11 Pyle-National TP-201343-20-BA
16	M22520/1-01 Pyle-National TP-201354	M22520/1-02 Pyle-National TP-201355	M22520/3 Pyle-National TP-201356	M81969/14-03 Pyle-National TP-201343-16-BA
12	M22520/1-01 Pyle-National TP-201354	M22520/1-02 Pyle-National TP-201355	M22520/3 Pyle-National TP-201356	M81969/14-04 Pyle-National TP-201343-12-BA
8 Twinax*	-	-	-	TP-201391-08

\* See Bulletin MS-103 for details.

# ORDERING INFORMATION FOR BOEING COMPANY

## Boeing Designation (BACC63BR/BT Firewall)



**Shell Style**  
BR—Non-Decoupling Plug, Firewall  
BT—Square Flange Receptacle, Firewall

**Boeing Specification Qualified Shell Sizes**  
12, 14, 16, 18, 20, 22, 24, 28

**Boeing Specification Qualified Insert Arrangements**  
12-03, 14-04, 14-07, 16-10, 18-14, 20-16, 22-19, 24-30, 28-42

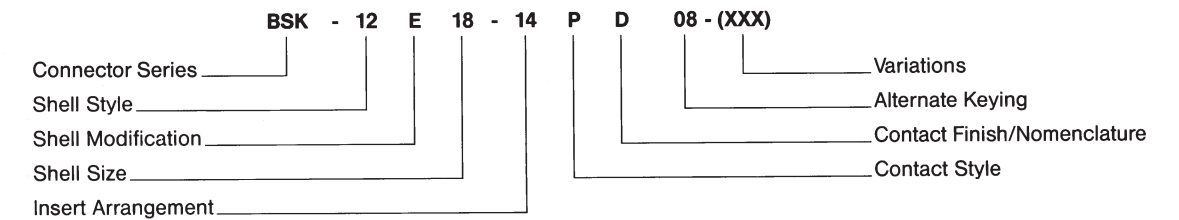
**Shell Modifications**  
B = 360° Accessory Teeth per MS3155  
D = 360° Accessory Teeth per MS3155 with Grounding Spring on plug  
— = Accessory Teeth per MIL-C-83723 III

**Contact Style**  
P = Pin S = Socket  
(Gold Plate per MIL-C-39029)

**Alternate Keying**  
N = Normal, 6, 7, 8, 9 and 10 (see page 8).

**Contact Procurement Option**  
A = Without Contacts and Seal Plugs (Letter 'A' to be used on Purchase Orders only and will not appear on Connector as part of Connector Part Number)

## Pyle Designation



**Connector Series**  
BSK—Threaded, Stainless Steel Firewall Qualified to Boeing Co. BACC63BR/BT Specifications ("O" Ring Designation)

**Shell Style**  
12—Threaded Non-Decoupling Plug  
17—Square Flange Receptacle

**Shell Modification**  
E = 360° Accessory Teeth per MS3155 plug & receptacle  
F = 360° Accessory Teeth per MS3155 with Grounding Spring on plug only  
(Blank) = Accessory Teeth per MIL-C-83723 III

**Shell Size**  
12, 14, 16, 18, 20, 22, 24, 28

**Insert Arrangements**  
See Chart (page 9).

**Contact Style**  
P = Pin S = Socket

**Contact Finish/Nomenclature**  
D = Gold per MIL-C-39029  
E = Without Contacts

**Alternate Keying**  
(Omit for Normal) 06, 07, 08, 09 and 10 (see page 8).

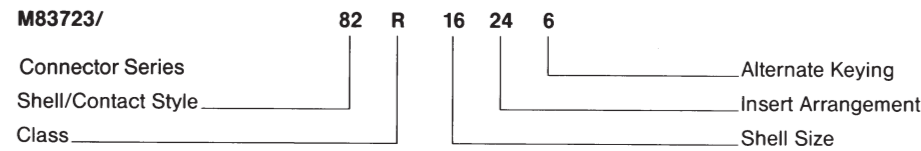
**Variations**  
Y126—Contact Marking per MIL-C-83723/33 & 34 (Required with BACC63BR/BT Series)

## Service Class - Military and Pyle

**A** Non-Corrosive Anodized Aluminum      **K** Corrosion Resistant Stainless Steel, Firewall Capability  
**G** Corrosion Resistant Stainless Steel      **R** Conductive Finish Electroless Nickel Plated Aluminum  
**W** Olive Drab, Cadmium over Nickel Plated Aluminum

# ORDERING INFORMATION FOR THREADED/BAYONET SERIES

## Military Designation



### Shell/Contact Style

- 71—Bayonet, Square Flange Receptacle, Sockets
- 72—Bayonet, Square Flange Receptacle, Pins
- 73—Bayonet, Jam Nut Receptacle, Sockets
- 74—Bayonet, Jam Nut Receptacle, Pins
- 75—Bayonet, Plug, Sockets
- 76—Bayonet, Plug, Pins
- 82—Threaded, Square Flange Receptacle, Sockets
- 83—Threaded, Square Flange Receptacle, Pins
- 84—Threaded, Jam Nut Receptacle, Sockets
- 85—Threaded, Jam Nut Receptacle, Pins
- 86—Threaded, Straight Plug, Sockets
- 87—Threaded, Straight Plug, Pins
- 95—Threaded, Non-Decoupling Plug, Sockets
- 96—Threaded, Non-Decoupling Plug, Pins

### Class

- A Aluminum, Black Anodized, Non-Conductive
- G Stainless Steel
- K Stainless Steel Firewall
- R Aluminum, Electroless Nickel Plated
- W Aluminum, Olive Drab Cadmium

### Shell Size

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

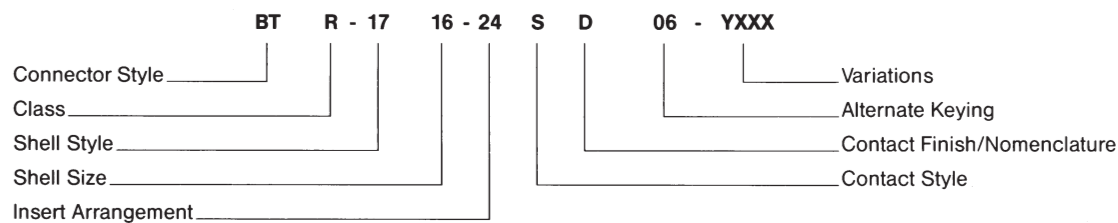
### Insert Arrangement

See Chart (page 9).

### Alternate Keying

N=Normal, 6, 7, 8, 9 and Y\* alternates.  
 \*Formerly 10 (see page 8).

## Pyle Designation



### Connector Style

#### Standard Design

- BT—Threaded—'O' ring seal in receptacle
- BY—Bayonet—'O' ring seal in receptacle

#### Alternate Design

- BJ—Threaded, Stainless Steel—  
 Static/Dynamic Seal in receptacle
- BN—Same as BJ except Electrodeposited  
 Nickel Plate

### Class

- A Aluminum, Black Anodized, Non-Conductive
- R Aluminum, Electroless Nickel Plated
- W Aluminum, Olive Drab Cadmium Over Nickel
- G Stainless Steel
- K Stainless Steel Firewall

### Shell Style

- 10—Bayonet Plug
- 11—Threaded Straight Plug
- 12—Threaded Non-Decoupling Plug
- 17—Square Flange Receptacle
- 19—Jam Nut Receptacle

### Shell Size

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

### Insert Arrangements

See Chart (page 9).

### Contact Style (Crimp)

P = Pin S = Socket

### Contact Finish/Nomenclature

D = gold per MIL-C-39029  
 E = without contacts

### Alternate Keying

(Omit for normal) 06, 07, 08, 09 and  
 10 alternate (see page 8).

### Variations

Consult factory for special variations.

# CONTACT INFORMATION

## Standard Contacts and Seal Plugs

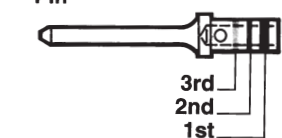
CONTACT SIZE	SPEC NUMBER	SUPERSEDED NUMBER	PIN PART NUMBERS	
			PYLE NUMBER	
			HIGH PERFORMANCE*	STANDARD CONTACT
20	M39029/4-110	M83723-33B20	BA-4020-36LD	BA-4020-96LD
16	M39029/4-111	M83723-33B16	BA-4016-36LD	BA-4016-96LD
12	M39029/4-113	M83723-33B12	BA-4012-36LD	BA-4012-96LD

\*Recommended for high vibration areas.

CONTACT SIZE	PIN COLOR BANDS		
	1st BAND	2nd BAND	3rd BAND
20	Brown	Brown	Black
16	Brown	Brown	Brown
12	Brown	Brown	Orange

### COLOR BANDS

Pin



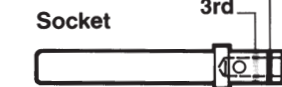
CONTACT SIZE	SPEC NUMBER	SUPERSEDED NUMBER	SOCKETS PART NUMBERS	
			PYLE NUMBER	
			HIGH PERFORMANCE*	STANDARD CONTACT
20	M39029/5-115	M83723-34B20	BA-4120-36LD	BA-4120-96LD
16	M39029/5-116	M83723-34B16	BA-4116-36LD	BA-4116-96LD
12	M39029/5-118	M83723-34B12	BA-4112-36LD	BA-4112-96LD

\*Recommended for high vibration areas. Sockets feature 4 tine construction with supporting spring bands.

CONTACT SIZE	SOCKET COLOR BANDS		
	1st BAND	2nd BAND	3rd BAND
20	Brown	Brown	Green
16	Brown	Brown	Blue
12	Brown	Brown	Gray

### COLOR BANDS

Socket



## Seal Plugs

CONTACT SIZE	MS NUMBER	PYLE NUMBER
20	MS27488-20	BA-4020-59P
16	MS27488-16	BA-4016-59P
12	MS27488-12	BA-4012-59P

## Standard Contact Rating

CRIMP CONTACT SIZE	Test Current Standard	CRIMP WELL DATA	
		Well Diameter	Min. Well Depth
20	7.5	.049	.157
16	13.0	0.067	.250
12	23.0	.100	.250

# CONTACT INFORMATION

## SHIELDED CONTACTS

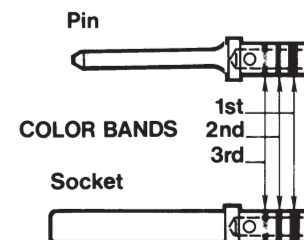
CONTACT SIZE	PIN	CABLE ACCOMMODATION	SOCKET
#8 Twinax	BA-46T08-LD	M17/176-00002	BA-47T08-LD
#8 Twinax	BA-46TA08-LD	PAN 6421 or JN1060ZB002	BA-47TA08-LD

## THERMOCOUPLE CONTACTS

CONTACT SIZE	MATERIAL	PIN PART NUMBER	SOCKET NUMBER
20	Chromel	BT-4020-10P	BT-4120-10P
20	Alumel	BT-4020-10R	BT-4120-10R
16	Chromel	BT-4016-10P	BT-4116-10P
16	Alumel	BT-4016-10R	BT-4116-10R

CONTACT SIZE	MATERIAL	PIN COLOR BANDS		
		1st	2nd	3rd
20	Chromel	Brown	Orange	Green
20	Alumel	Brown	Orange	Yellow
16	Chromel	Green	Brown	Violet
16	Alumel	Green	Brown	Blue

CONTACT SIZE	MATERIAL	SOCKET COLOR BANDS		
		1st	2nd	3rd
20	Chromel	Brown	Yellow	Brown
20	Alumel	Brown	Yellow	Black
16	Chromel	Green	Red	Red
16	Alumel	Green	Red	Brown



## Standard and High Temperature Wire Sealing Diameters/Stripping Length

CONTACT SIZE	WIRE SIZE (AWG)	FINISHED WIRE OUTSIDE				STRIPPING LENGTH	
		MINIMUM		MAXIMUM		MINIMUM INCHES	MAXIMUM INCHES
		INCH	METRIC	INCH	METRIC		
20	24, 22, 20	.033	.085	.083	2.1	.140	.202
16	20, 18, 16	.047	1.2	.106	2.7	.218	.280
12	14, 12	.075	1.9	.157	4	.218	.280

## MIL-C-83723 SERIES III

Pyle-National has a long history as a quality supplier of connectors for demanding environments. Proven technology and traditional Pyle attention to design details are incorporated into all styles and classes of the Pyle-National MIL-C-83723 Series III connectors.

In our M83723/95, 96 Series (featured on page 2), Pyle offers the user a major performance advantage through a unique threaded coupling mechanism that features a greater resistance to decoupling than to coupling. This device eliminates the need for safety wiring and tends to couple during vibration – thus offering the user added assurance and a margin of safety.

## MIL-C-83723 SERIES III-HIGH TEMPERATURE

Using MIL-C-83723 Series III design concepts, Pyle-National has also developed a series of High Temperature firewall connectors (featured on page 2), that are capable of operation at 260° C/500° F. A 100% scoop-proof version of the high temperature connector is also available under specification ESC 11/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.

This connector was developed for the higher operating temperatures inherent in today's newest high performance aircraft and aircraft engines. These connectors meet the performance requirements of the following specifications:

- Aerospatiale: ASN-EO44X Class KE/SE
- General Electric: M50TF3564
- European: AECMA EN2997
- Rolls Royce/SBAC:ESC 10/ESC 11

It is because of our history and proven design capability that we are able to offer connectors in environmental, firewall and hermetic classes that exceed even the most stringent specification requirements.

## PERFORMANCE CHARACTERISTICS

**Operating Temperature Data**  
Std: -85°F (-65°C) to 392°F (200°C).  
Class K types meet fireproof test per MIL-C-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 feet	500
70,000 feet	375
110,000 feet	200

**Current Rating**  
Size 20 contacts ..... 7.5 amperes maximum  
Size 16 contacts ..... 13.0 amperes maximum  
Size 12 contacts ..... 23 amperes maximum

**Contact Retention Strength**  
Exceeds MIL-C-83723 requirements.

**Connector Durability**  
500 cycles per MIL-C-83723 for threaded coupling.  
500 cycles per General Electric M50TF2321 for non-decoupling.

**Humidity**  
To 98% relative humidity, including condensation.

**Exposure** Freezing rain.

**Non-Decoupling**  
Exceeds requirements of MIL-C-83723/95 and 96.  
Non-decoupling feature tends to tighten connectors under vibration.

**Vibration**  
Meets MIL-C-83723 of 41.7G's for 16 hours.  
Boeing BACC63BR/BT for 36 hours.  
General Electric vibration specifications.  
M50TF2321 and M50TF2238 for 36 hours, which includes:

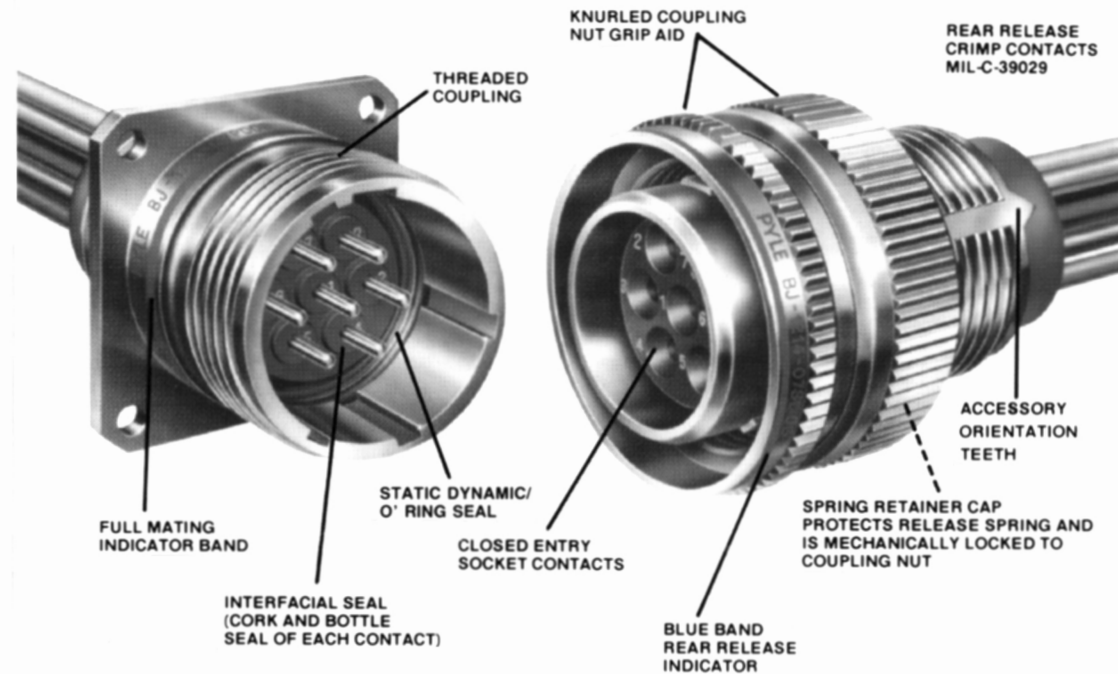
TEMPERATURE	G	TIME
EXTREMES	LEVEL	LENGTH
Room Temp.	60 G's	12 hours
		(4 hours each axis)
-65F ± 5°F	60 G's	12 hours
		(4 hours each axis)
350 ± 5°F	60 G's	12 hours
		(4 hours each axis)

# MIL-C-83723

## SERIES III CONNECTORS

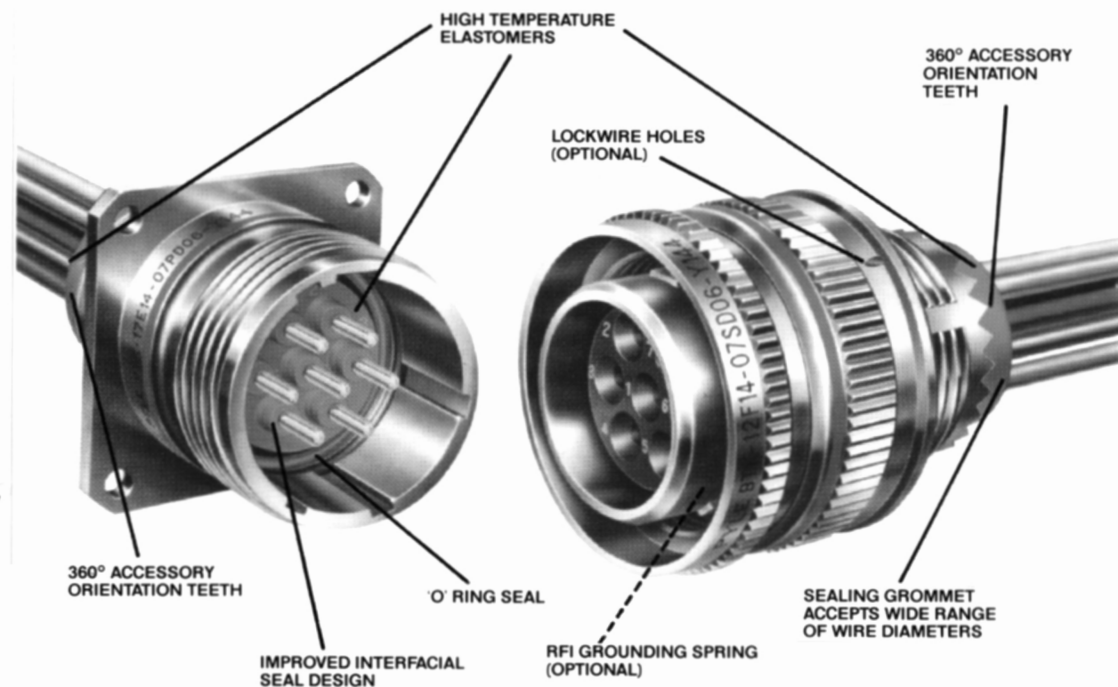
### MIL-C-83723 SERIES III— THREADED STYLE

- Patented non-decoupling device (torque differential)
- Metal to metal bottoming
- Unique sealing grommet accepts wide range of wire diameters



### MIL-C-83723 SERIES III— HIGH- TEMPERATURE STYLE

- High temperature materials
- High temperature contacts
- Improved metal to metal bottoming design
- Unique sealing grommet accepts 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 grounding spring



## CONTACT INFORMATION—EUROPEAN SPECIFICATION

### Standard Power Contacts

CONTACT SIZE	CONTACT PIN PART NUMBER		COLOR BANDS			SOCKET PART NUMBER	
	PYLE	EN3155	1st	2nd	DOT	PYLE	EN3155
20	BA-4020-36LD-Y165	EN3155-002M2020	Red	Red	—	BA-4120-36LD-Y165	EN3155-003F2020
20/18*	BA-402018-36LD-Y165	EN3155-002M2018	Red	Violet	—	BA-412018-36LD-Y165	EN3155-003F2018
16	BA-4016-36LD-Y165	EN3155-002M1616	Blue	Blue	—	BA-4116-36LD-Y165	EN3155-003F1616
12	BA-4012-36LD-Y165	EN3155-002M1212	Yellow	Yellow	—	BA-4112-36LD-Y165	EN3155-003F1212

### High Temperature Contacts

CONTACT SIZE	PIN PART NUMBER			COLOR BANDS		
	PYLE	ESC30	EN3155	1st	2nd	DOT
20	BA-4020-50LD	ESC30-P20BC	EN3155-004M2020	Red	Red	White
20/18*	BA-402018-50LD	—	EN3155-004M2018	Red	Violet	White
16	BA-4016-50LD	ESC30-P16BC	EN3155-004M1616	Blue	Blue	White
12	BA-4012-50LD	ESC30-P12BC	EN3155-004M1212	Yellow	Yellow	White

CONTACT SIZE	SOCKET PART NUMBER			COLOR BANDS		
	PYLE	ESC30	EN3155	1st	2nd	DOT
20	BA-4120-50LD	ESC30-S20BC	EN3155-005M2020	Red	Red	White
20/18*	BA-412018-50LD	—	EN3155-005M2018	Red	Violet	White
16	BA-4116-50LD	ESC30-S16BC	EN3155-005M1616	Blue	Blue	White
12	BA-4112-50LD	ESC30-S12BC	EN3155-005M1212	Yellow	Yellow	White

### Thermocouple Contacts

CONTACT SIZE	MATERIAL	PIN PART NUMBER		COLOR BANDS			SOCKET PART NUMBER	
		PYLE	ESC30	1st	2nd	DOT	PYLE	ESC30
20	Chromel	BT-4020-10P-Y165	ESC30-P20NC	Red	Red	Yellow	BT-4120-10P-Y165	ESC30-S20NC
20	Alumel	BT-4020-10R-Y165	ESC30-P20NA	Red	Red	Black	BT-4120-10R-Y165	ESC30-S20NA
20/18*	Chromel	BT-402018-10P-Y165	—	Red	Violet	Yellow	BT-412018-10P-Y165	—
20/18*	Alumel	BT-402018-10R-Y165	—	Red	Violet	Black	BT-412018-10R-Y165	—
16	Chromel	BT-4016-10P-Y165	ESC30-P16NC	Blue	Blue	Yellow	BT-4116-10P-Y165	ESC30-S16NC
16	Alumel	BT-4016-10R-Y165	ESC30-P16NA	Blue	Blue	Black	BT-4116-10R-Y165	ESC30-S16NA

\* #20 contacts with #18 crimpwell

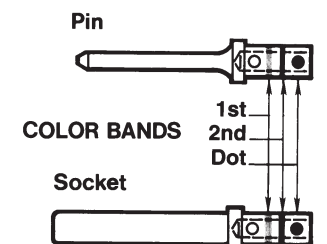
### High Temperature Seal Plug

CONTACT SIZE	PYLE	COLOR BAND
20	BT-4020-60P	RED
16	BT-4016-60P	BLUE
12	BT-4012-60P	YELLOW

Band 1: Color-contact size

Band 2: Color-AWG Wire

Dot: Identification marking — High Temperature/Thermal couple contacts



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