



ITT

Interconnect Solutions
Cannon, VEAM, BIW

Defining **innovative**
aviation, military, and
industrial circulars since the DC-1,
over **70 years** ago



Engineered for life



A

Circular

- Intermatable with MIL-C-26482 Series 1
- Operating temperature – 55 C to + 200 C

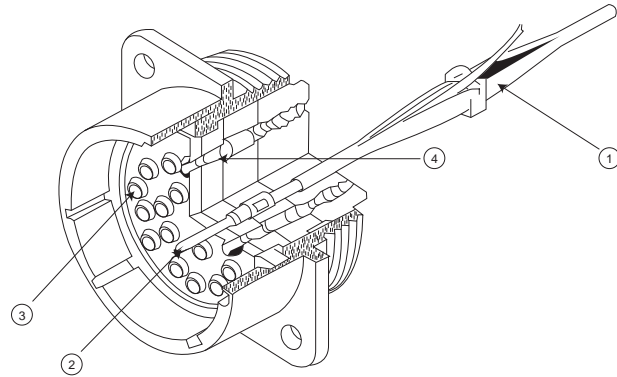
The PV Connector is designed to meet the rugged requirements of MIL-C-26482, Series 2/MIL-C-83723 Series 1*, the specification which delineates the critical requirements of space-age applications. PV Connectors have been used extensively on major aerospace programs requiring general-purpose, miniature cylindrical bayonet coupling connectors such as Space Shuttle, Apollo, ATM, OWS Minuteman, Skylab, Thor-Delta, Titan IIIC and Viking.

The PV series is an important member of the Universal Interconnect System (UIS) – the only system that can perform all interconnection missions. This system is adaptable for use with connectors of all shapes and sizes, including circular and rectangular configurations, standard, miniature, and subminiature sizes. UIS is a rear servicing system that evolved from the LITTLE CAESAR® rear release contact retention assembly, pioneered and developed by ITT Cannon. Since this time, ITT Cannon, and its licensees, have supplied to industry over 250 million interconnections utilizing this system.

PV7 connectors are available under numerous industrial specifications, some of which are listed below:

- CS512089 Jet Propulsion Laboratory
- 40M39569 NASA, George C. Marshall Space Flight Center
- 81D52 Martin Marietta, Denver Division
- MG414-0365 Rockwell International Space Division
- AC414-0013 Rockwell International Autonetics Division
- STS0003 McDonnell Douglas Astronautics

This connector series is manufactured to accommodate the following backshells: M85049/31 (MS3416), M85049/51 (MS3418), and M85049/52 (MS3417). Backshells are not included with connector and must be ordered separately. Backshells on page A-67 are Non-MS type.



- 1. Universal Insertion / Extraction Tool Style** – A single, expendable plastic tool is used for insertion and extraction of both pins and sockets.
- 2. Simple, Strong Contact Design** – One basic configuration eliminates undercuts and maximizes bend resistance for positive contact mating.

Closed-Entry Socket Insert – Hard dielectric socket face of mating connector has lead-in chambers for positive alignment of pins and sockets.

- 3. Interfacial Pin Insert Seal** – Universal interconnect permits design of raised moisture barriers around each pin which mate into lead-in chambers of hard face sockets insert for individual contact sealing. Interfacial sealing is never touched by service tools.
- 4. Superior Contact Stability** - Rear Contact Release System (LITTLE CAESAR contact assembly) features a stamped metal retaining clip captivated by molded-in shoulders of each contact cavity in the insulator. A rear-inserted plastic tool expands at tines beyond the contact shoulder, releasing the contact.

Polarized Backshells – Interlocking teeth on the front of the backshell and rear portion of the shell allow endbells to be positioned as desired, eliminating chafing of wire during assembly.

Military Specification Cross Reference

PV7 and MIL-C-26482 (Series 2) Replacement for	MS Standards	ITT Cannon Prefix Commercial Design	MIL-C-83723* Slash Sheet	Description	
MIL-C-26482 (Series 1)		MIL-C-26482	Socket	Pin	
MS3110, MS3120	MS3470	PV70	/1	/2	Narrow Flange Receptacle
MS3111, MS3121	MS3471	PV71	/7	/8	Cable Connecting Receptacle
MS3112, MS3122	MS3470	PV70	/1	/12	Narrow Flange Receptacle
MS3114, MS3124	MS3474	PV74	/5	/6	Jam Nut Receptacle
MS3116, MS3126	MS3476	PV76	/13	/14	Straight Plug
	MS3472	PV72	/3	/4	Wide Flange Receptacle
	MS3475	PV75	/43	/42	Straight Plug, RFI Shielded
NAS1599					
NAS 1650, NAS1699	MS3470		/1	/2	Narrow Flange Receptacle
NAS1651, NAS1700	MS3472		/3	/4	Wide Flange Receptacle
NAS1652, NAS1701	MS3474		/5	/6	Jam Nut Receptacle
NAS1653, NAS1702	MS3476		/13	/14	Straight Plug

* NOTE: M83723 series has been superseded by MIL-C-26482 Series 2



Performance and Material Specifications

MATERIALS AND FINISHES

Description	Material	Finish
Shell	Aluminum alloy per QQ-A-367, QQ-A-591 or QQ-A-225	Electoless nickel per MIL-C-2674, anodized per MIL-A-8625 or olive drab cadmium over nickel
Insulators	Rigid dielectric	None
Elastomers (grommets, interfacial and O ring seals)	Silicone rubber (ITT Cannon blend) or Fluorosilicone rubber (ITT Cannon blend)	None
Contacts	Copper alloy	Gold page per MIL-G-45204
Coupling Nut	Aluminum alloy per QQ-A-591	Electoless nickel per MIL-C-26074, anodized per MIL-A-8625 or olive drab cadmium over nickel
Jam Nut (on PV74)	Aluminum alloy per QQ-A-225	Electoless nickel per MIL-C-26074, anodized per MIL-A-8625 or olive drab cadmium over nickel

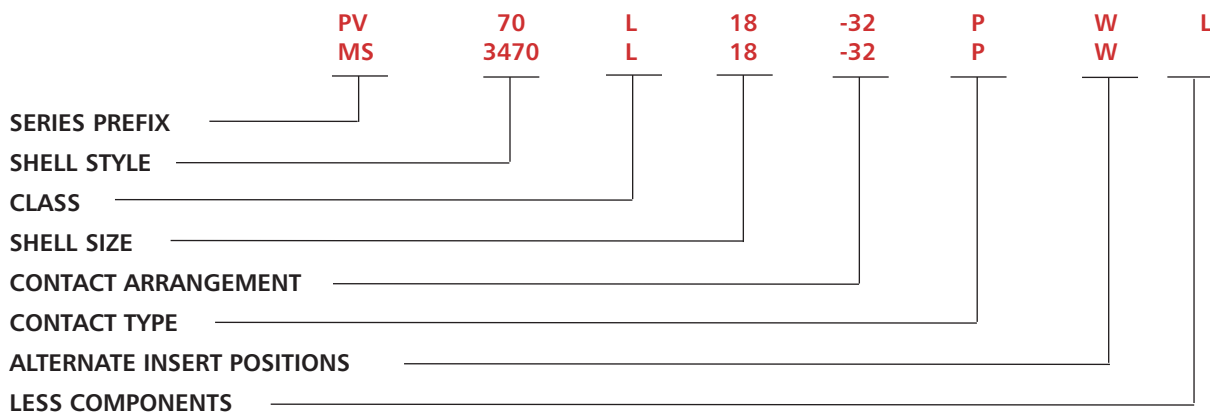
ELECTRICAL

Contact Size	Wire Size	Insulation O. D. Limits, Inch (mm)		Max. Current for Test (amps)	Potential Drop (Millivolts at 25° C)
		min.	max.		
12	12	.097 (2.46)	.158 (4.01)	23	50
	14			17	45
16	16	.053 (1.53)	.103 (2.62)	13	50
	20			7.5	45
20	20	.040 (1.02)	.083 (2.11)	7.5	55
	24			3.0	45

Dielectric Withstanding Voltage (Test Voltage)

Service Rating	Sea Level	70,000 ft. Altitude	(25° C)
I	1500 Vac rms	375 Vac rms	5000 megohms minimum
II	2300 Vac rms	500 Vac rms	5000 megohms minimum

How to Order



SERIES PREFIX

MS - Complies with MIL-C-26482 Series 2
PV - ITT Cannon interchangeable with MIL-C-26482, Series 2

SHELL STYLE

Part No.	Military	Description
PV70	MS3470	Narrow Flange Receptacle
PV71	MS3471	Cable Connecting Receptacle
PV72	MS3472	Wide Flange Receptacle
PV74	MS3474	Jam Nut Receptacle
PV75	MS3475	Straight Plug, RFI Shielded
PV76	MS3476	Straight Plug

**Consult Factory for availability

CLASS

(PV Series and MS Series)
**A - Fluid resistant, 200°C, non-conductive (anodized)
L - Fluid resistant, 200°C, conductive, finish (nickel)
W - Corrosive and fluid resistant, 175°C (cadmium over nickel)
R - RoHS Compliant Black Zinc Cobalt (PV Series Only)

SHELL SIZE

8, 10, 12, 14, 16, 18, 20, 22, and 24 (Size 8 available in PV70 & 76 only)

CONTACT ARRANGEMENTS

See page A-69

CONTACT TYPE

P - Pin contact
S - Socket contact
A - Less pin contact* (MS only)
B - Less socket contacts* (MS only)
* The "A" and "B" designators are used only when other than power contacts are to be installed (i. e. shielded, coaxial and thermocouple contacts)

ALTERNATE INSERT POSITIONS

No designation required for normal position. Standard MS alternate positions available.

LESS COMPONENTS

Use "L" if PV connectors are ordered less contacts, sealing plugs and insertion/extraction tool ("L" is not stamped on connectors). To order MS connectors *less contacts*, purchase order must state less contacts.





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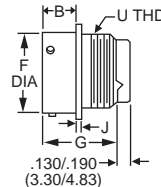
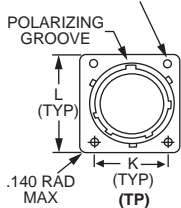
Circular

Narrow Flange Receptacle

MS3470

PV70

4 HOLES .125/.115 (3.18/2.92) DIA. SIZES 10-22
.152/.142 (3.86/3.61) DIA SIZE 24 ONLY

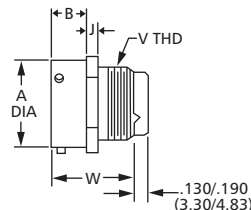
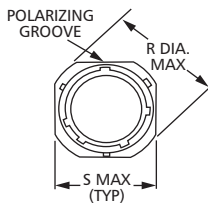


Shell Size	B Max.	F Max.	G Max.	J Max.	K	L	U Thread UNEF Class 2A
8	.462 (11.73)	.474 (12.04)	1.215 (30.85)	.078 (1.98)	.594 (15.09)	.828 (21.03)	1/2-20
10	.462 (11.73)	.594 (15.01)	1.215 (30.85)	.078 (1.98)	.719 (18.26)	.954 (24.23)	5/8-24
12	.462 (11.73)	.751 (19.08)	1.215 (30.85)	.078 (1.98)	.812 (20.62)	1.047 (26.59)	3/4-20
14	.462 (11.73)	.876 (22.25)	1.215 (30.85)	.078 (1.98)	.906 (23.01)	1.141 (28.98)	7/8-20
16	.462 (11.73)	1.001 (25.43)	1.215 (30.85)	.078 (1.98)	.969 (24.61)	1.234 (31.34)	1-20
18	.462 (11.73)	1.126 (28.60)	1.215 (30.85)	.078 (1.98)	1.062 (26.97)	1.328 (33.73)	1 1/16-18
20	.587 (14.91)	1.251 (31.78)	1.275 (32.40)	.110 (2.79)	1.156 (29.36)	1.453 (36.91)	1 3/16-18
22	.587 (14.91)	1.376 (34.95)	1.275 (32.40)	.110 (2.79)	1.250 (31.75)	1.578 (40.08)	1 5/16-18
24	.620 (15.75)	1.501 (38.13)	1.275 (32.40)	.110 (2.79)	1.375 (34.93)	1.703 (43.26)	1 7/16-18

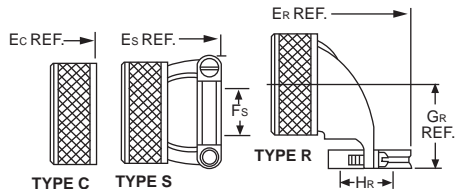
Cable Connecting Receptacle

MS3471

PV71



Shell Size	A Max.	B Max.	J Max.	R Dia. Max.	S Max.	W Max.	V Thread UNEF Class 2A
10	.591 (15.01)	.462 (11.73)	.078 (1.98)	1.082 (27.48)	.954 (24.23)	1.215 (30.86)	5/8-24
12	.751 (19.08)	.462 (11.73)	.078 (1.98)	1.176 (29.87)	1.047 (26.59)	1.215 (30.86)	3/4-20
14	.876 (22.25)	.462 (11.73)	.078 (1.98)	1.270 (32.26)	1.141 (28.98)	1.215 (30.86)	7/8-20
16	1.001 (25.43)	.462 (11.73)	.078 (1.98)	1.364 (34.64)	1.234 (31.34)	1.215 (30.86)	1-20
18	1.126 (28.60)	.462 (11.73)	.078 (1.98)	1.458 (37.03)	1.328 (33.73)	1.215 (30.86)	1 1/16-18
20	1.251 (31.78)	.587 (14.91)	.110 (2.79)	1.708 (43.38)	1.578 (40.08)	1.275 (32.38)	1 3/16-18
22	1.376 (34.95)	.587 (14.91)	.110 (2.79)	1.708 (43.38)	1.578 (40.08)	1.275 (32.38)	1 5/16-18
24	1.501 (38.13)	.620 (15.75)	.110 (2.79)	1.832 (46.53)	1.703 (43.26)	1.275 (32.38)	1 7/16-18



Receptacle Assembly with Backshell

Backshell Assemblies not supplied with MS connectors

Shell Size	TYPE C		TYPE S		TYPE R	
	Ec Max.	Fs Max.	Es Max.	Gr Max.	Hr Max.	Er Max.
10	1.492 (37.90)	.286 (7.26)	1.842 (46.79)	.880 (22.35)	.286 (7.26)	2.115 (53.72)
12	1.492 (37.90)	.416 (10.57)	1.842 (46.79)	.950 (24.13)	.416 (10.57)	2.250 (57.15)
14	1.492 (37.90)	.476 (12.09)	2.077 (52.76)	1.010 (25.65)	.476 (12.09)	2.340 (59.44)
16	1.492 (37.90)	.626 (15.90)	2.077 (52.76)	1.070 (27.18)	.626 (15.90)	2.475 (62.87)
18	1.492 (37.90)	.706 (17.93)	2.077 (52.76)	1.130 (28.70)	.706 (17.93)	2.574 (65.38)
20	1.552 (39.42)	.831 (21.11)	2.137 (54.28)	1.190 (30.23)	.831 (21.11)	2.767 (70.28)
22	1.552 (39.42)	.956 (24.28)	2.137 (54.28)	1.260 (32.00)	.956 (24.28)	2.890 (73.41)
24	1.552 (39.42)	1.081 (27.46)	2.137 (54.28)	1.320 (33.53)	1.081 (27.46)	3.012 (76.50)

Dimensions shown in inches (mm)
Specifications and dimensions subject to change





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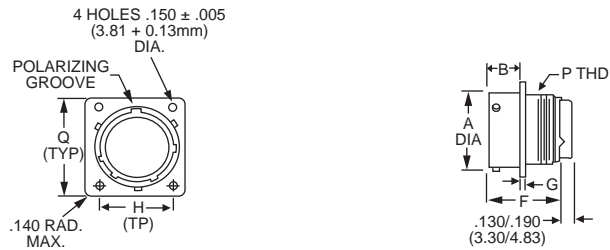
Circular

Wide Flange Receptacle

MS3472



PV72



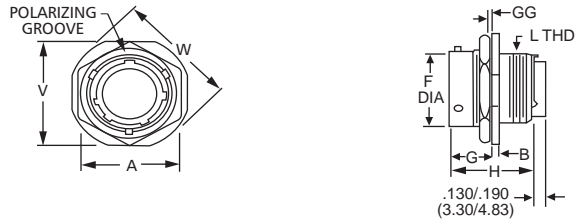
Shell Size	A Max.	B Max.	F Max.	G Max.	H Max.	Q Max.	P Thread UNEF Class A
10	.591 (15.01)	.493 (12.52)	1.215 (30.85)	.078 (1.98)	.812 (20.62)	1.141 (28.98)	5/8-24
12	.751 (19.08)	.493 (12.52)	1.215 (30.85)	.078 (1.98)	.938 (23.83)	1.266 (32.16)	3/4-20
14	.876 (22.25)	.493 (12.52)	1.215 (30.85)	.078 (1.98)	1.031 (26.19)	1.360 (34.54)	7/8-20
16	1.001 (25.43)	.493 (12.52)	1.215 (30.85)	.078 (1.98)	1.125 (28.58)	1.453 (36.91)	1-20
18	1.126 (28.60)	.493 (12.52)	1.215 (30.85)	.078 (1.98)	1.203 (30.56)	1.532 (38.91)	1 1/16-18
20	1.251 (31.78)	.587 (14.91)	1.275 (32.40)	.110 (2.79)	1.297 (32.94)	1.688 (42.88)	1 3/16-18
22	1.376 (34.95)	.587 (14.91)	1.275 (32.40)	.110 (2.79)	1.375 (34.93)	1.766 (44.86)	1 5/16-18
24	1.501 (38.13)	.620 (15.75)	1.275 (32.40)	.110 (2.79)	1.500 (38.10)	1.891 (48.03)	1 7/16-18

Jam Nut Receptacle

MS3474

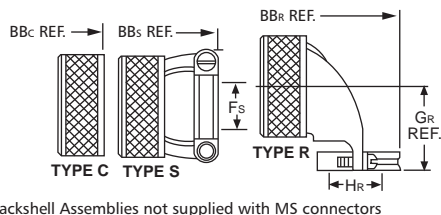


PV74



Shell Size	V Max.	A Max.	B Max.	F Max.	G Max.	GG Panel Thickness	H Max.	W Dia. Max.	L Thread UNEF Class 2
8	.954 (24.23)	.767 (19.48)	.113 (2.87)	.474 (12.04)	.707 (17.96)	.187/.062 (4.75/1.57)	1.215 (30.86)	1.078 (27.38)	1/2-20
10	1.078 (27.38)	.892 (22.66)	.113 (2.87)	.591 (15.01)	.707 (17.96)	.187/.062 (4.75/1.57)	1.215 (30.86)	1.203 (30.56)	5/8-24
12	1.266 (32.16)	1.079 (27.41)	.113 (2.87)	.751 (19.08)	.707 (17.96)	.187/.062 (4.75/1.57)	1.215 (30.86)	1.391 (35.33)	3/4-20
14	1.391 (35.33)	1.205 (30.61)	.113 (2.87)	.876 (22.25)	.707 (17.96)	.187/.062 (4.75/1.57)	1.215 (30.86)	1.516 (38.51)	7/8-20
16	1.516 (38.51)	1.329 (33.76)	.113 (2.87)	1.001 (25.43)	.707 (17.96)	.187/.062 (4.75/1.57)	1.215 (30.86)	1.641 (41.68)	1-20
18	1.641 (41.68)	1.455 (36.96)	.113 (2.87)	1.126 (28.60)	.707 (17.96)	.187/.062 (4.75/1.57)	1.215 (30.86)	1.766 (44.86)	1 1/16-18
20	1.828 (46.43)	1.579 (40.11)	.148 (3.76)	1.251 (31.78)	.772 (19.61)	.250/.062 (6.35/1.57)	1.275 (32.40)	1.954 (49.63)	1 3/16-18
22	1.954 (49.63)	1.705 (43.31)	.148 (3.76)	1.376 (34.95)	.772 (19.61)	.250/.062 (6.35/1.57)	1.275 (32.40)	2.078 (52.78)	1 5/16-18
24	2.078 (52.78)	1.829 (46.46)	.148 (3.76)	1.501 (38.13)	.772 (19.61)	.219/.062 (5.56/1.57)	1.275 (32.40)	2.203 (55.96)	1 7/16-18

Receptacle Assembly with Backshell



Backshell Assemblies not supplied with MS connectors

Shell Size	TYPE C		TYPE S		TYPE R		
	BBc Max.	BBs Max.	Fs Max.	Gr Max.	Hr Max.	BBr Max.	
10	1.492 (37.90)	1.842 (46.79)	.286 (7.26)	.880 (23.35)	.286 (7.26)	2.115 (53.72)	
12	1.492 (37.90)	1.842 (46.79)	.416 (10.57)	.950 (24.13)	.416 (10.57)	2.250 (57.15)	
14	1.492 (37.90)	2.077 (52.76)	.476 (12.09)	1.010 (25.65)	.476 (12.09)	2.340 (59.44)	
16	1.492 (37.90)	2.077 (52.76)	.626 (15.90)	1.070 (27.18)	.626 (15.90)	2.475 (62.87)	
18	1.492 (37.90)	2.077 (52.76)	.706 (17.93)	1.130 (28.70)	.706 (17.93)	2.574 (65.38)	
20	1.552 (39.42)	2.137 (54.28)	.831 (21.11)	1.190 (30.23)	.831 (21.11)	2.767 (70.28)	
22	1.552 (39.42)	2.137 (54.28)	.956 (24.28)	1.260 (32.00)	.956 (24.28)	2.890 (73.41)	
24	1.552 (39.42)	2.137 (54.28)	1.081 (27.46)	1.320 (33.53)	1.081 (27.46)	3.012 (76.50)	





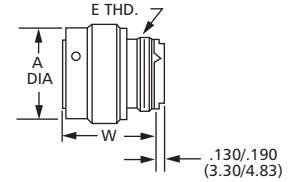
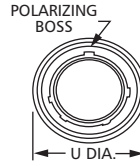
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Circular

Straight Plug

MS3476

PV76



Shell Size	A Dia. Max.	U Max.	W Max.	E Thread UNEF Class 2A
8	.765 (19.43)	.782 (19.86)	1.230 (31.24)	1/2-20
10	.840 (21.34)	.926 (23.52)	1.230 (31.24)	5/8-24
12	.999 (25.37)	1.043 (26.49)	1.230 (31.24)	3/4-20
14	1.139 (28.93)	1.183 (30.05)	1.230 (31.24)	7/8-20
16	1.261 (32.03)	1.305 (33.15)	1.230 (31.24)	1-20
18	1.337 (33.96)	1.391 (35.33)	1.230 (31.24)	1-1/16-18
20	1.477 (37.52)	1.531 (38.89)	1.230 (31.24)	1-3/16-18
22	1.602 (40.69)	1.656 (42.06)	1.230 (31.24)	1-5/16-18
24	1.723 (43.76)	1.777 (45.14)	1.230 (31.24)	1-7/16-18

MS3475

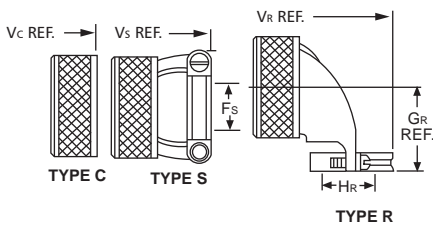
PV75

Straight Plug, RFI Shielded



Shell Size	A Dia. Max.	U Max.	W Max.	E Thread UNEF Class 2A
10	.840 (21.34)	.926 (21.72)	1.230 (31.24)	5/8-24
12	.999 (25.37)	1.043 (26.42)	1.230 (31.24)	3/4-20
14	1.139 (28.93)	1.183 (29.97)	1.230 (31.24)	7/8-20
16	1.261 (32.03)	1.305 (33.15)	1.230 (31.24)	1-20
18	1.337 (33.96)	1.391 (35.33)	1.230 (31.24)	1-1/16-18
20	1.477 (37.52)	1.531 (38.89)	1.230 (31.24)	1-3/16-18
22	1.602 (40.69)	1.656 (42.06)	1.230 (31.24)	1-5/16-18
24	1.723 (43.76)	1.777 (45.14)	1.230 (31.24)	1-7/16-18

Plug Assembly with Backshell



Backshell Assemblies not supplied with MS connectors

Shell Size	TYPE C		TYPE S		TYPE R	
	Vc Max.	Vs Max.	Fs Max.	GR Max.	HR Max.	VR Max.
10	1.507 (38.28)	1.857 (47.17)	.286 (7.26)	.880 (22.35)	.286 (7.26)	2.130 (54.10)
12	1.507 (38.28)	1.857 (47.17)	.416 (10.57)	.950 (24.13)	.416 (10.57)	2.265 (57.53)
14	1.507 (38.28)	2.092 (53.14)	.476 (12.09)	1.010 (25.65)	.476 (12.09)	2.355 (59.82)
16	1.507 (38.28)	2.092 (53.14)	.626 (15.90)	1.070 (27.18)	.626 (15.90)	2.490 (63.25)
18	1.507 (38.28)	2.092 (53.14)	.706 (17.93)	1.130 (28.70)	.706 (17.93)	2.589 (65.76)
20	1.507 (38.28)	2.092 (53.14)	.831 (21.11)	1.190 (30.23)	.831 (21.11)	2.722 (69.14)
22	1.507 (38.28)	2.092 (53.14)	.956 (24.28)	1.260 (32.00)	.956 (24.28)	2.845 (72.26)
24	1.507 (38.28)	2.092 (53.14)	1.081 (27.46)	1.320 (33.53)	1.081 (27.46)	2.967 (75.36)

Backshells (Non-MS)



Type C

Type S

Type R

Shell Size	TYPE C (Short) ITT CANNON Conductive (Nickel finish)	TYPE S (Straight) ITT CANNON Conductive (Nickel finish)	TYPE R (90°) ITT CANNON Conductive (Nickel finish)
10	057-0716-002	057-0683-002	057-0704-001
12	057-0717-002	057-0684-002	057-0705-001
14	057-0718-002	057-0685-002	057-0706-001
16	057-0719-002	057-0686-002	057-0707-001
18	057-0720-002	057-0687-002	057-0708-001
20	057-0721-002	057-0688-002	057-0709-001
22	057-0722-002	057-0689-002	057-0710-001
24	057-0723-002	057-0713-002	057-0711-001

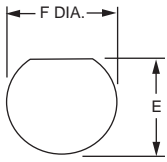
Dimensions shown in inches (mm)
Specifications and dimensions subject to change

www.ittcannon.com



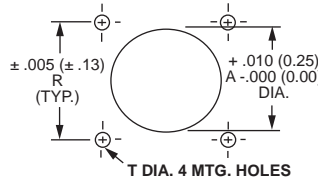
Panel Cutouts

Jam Nut Receptacle



Shell Size	E ±.005 (0.13)	F. Dia. ±.005 (0.13)
10	.661 (16.79)	.697 (17.70)
12	.824 (20.93)	.895 (22.73)
14	.948 (24.08)	1.010 (25.65)
16	1.072 (27.23)	1.135 (28.33)
18	1.197 (30.40)	1.260 (32.00)
20	1.322 (33.58)	1.385 (35.18)
22	1.447 (36.75)	1.510 (38.35)
24	1.572 (39.93)	1.635 (41.53)

Narrow Flange and Thru-Bulkhead/Wide Flange

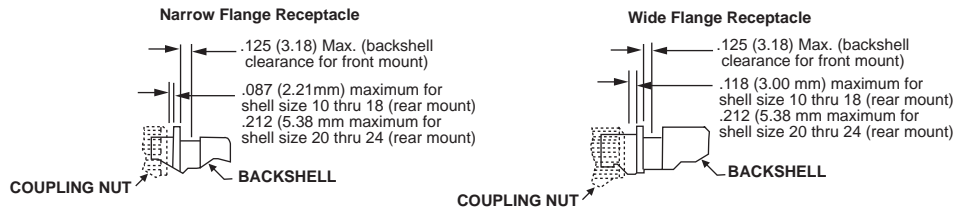


Shell Size	Flange Front and Rear Mounting		Mounting Hole	
	A Dia.	R	T Dia.	Screw Size
8	.620 (15.75)	.594 (15.09)	.125 (3.14)	#4
10	.740 (18.80)	.719 (18.26)	.125 (3.14)	#4
12	.864 (21.95)	.812 (20.62)	.125 (3.14)	#4
14	.990 (25.15)	.906 (23.01)	.125 (3.14)	#4
16	1.118 (28.40)	.969 (24.61)	.125 (3.14)	#4
18	1.240 (31.50)	1.062 (26.97)	.125 (3.14)	#4
20	1.366 (34.70)	1.156 (29.36)	.125 (3.14)	#4
22	1.490 (37.85)	1.250 (31.75)	.125 (3.14)	#4
24	1.616 (41.05)	1.375 (34.92)	.155 (3.97)	#6

Shell Size	Flange Front and Rear Mounting		Mounting Hole	
	A Dia.	R	T Dia.	Screw Size
10	.740 (18.80)	.812 (20.62)	.155 (3.97)	#6
12	.864 (21.95)	.938 (23.93)	.155 (3.97)	#6
14	.990 (25.15)	1.031 (26.19)	.155 (3.97)	#6
16	1.118 (28.40)	1.125 (28.58)	.155 (3.97)	#6
18	1.240 (31.50)	1.203 (30.56)	.155 (3.97)	#6
20	1.366 (34.70)	1.297 (32.94)	.155 (3.97)	#6
22	1.490 (37.85)	1.375 (34.92)	.155 (3.97)	#6
24	1.616 (41.05)	1.500 (38.10)	.155 (3.97)	#6

Panel Thickness

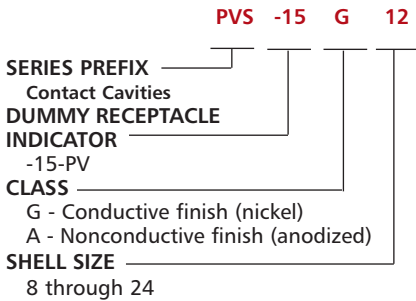
Shown here are the maximum panel thickness including screw head height allowable to ensure complete connector operation.



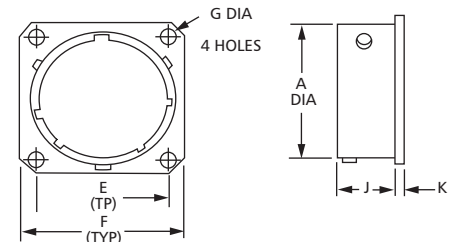
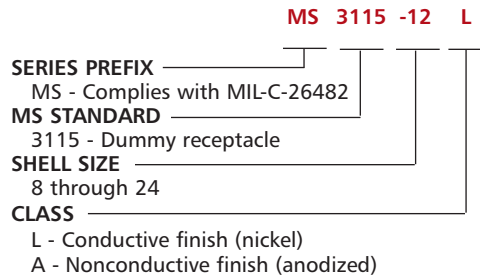
Dummy Storage Receptacles

How To Order

PV Description



MS Description



NOTE: Usable on KPT/KPSE series also.

Shell Size	A Dia. Max.	E (TYP)	F Max.	G Max.	J Max.	K Max.
8	.474 (12.04)	.594 (15.09)	.828 (21.03)	.125 (3.18)	.493 (12.52)	.078 (1.98)
10	.591 (15.01)	.719 (18.26)	.954 (24.23)	.125 (3.18)	.493 (12.52)	.078 (1.98)
12	.751 (19.08)	.812 (20.62)	1.047 (26.59)	.125 (3.18)	.493 (12.52)	.078 (1.98)
14	.876 (22.25)	.906 (23.01)	1.141 (28.98)	.125 (3.18)	.493 (12.52)	.078 (1.98)
16	1.001 (25.43)	.969 (24.61)	1.234 (31.34)	.125 (3.18)	.493 (12.52)	.078 (1.98)
18	1.126 (28.60)	1.062 (26.97)	1.328 (33.73)	.125 (3.18)	.493 (12.52)	.078 (1.98)
20	1.251 (31.78)	1.156 (29.36)	1.453 (36.91)	.125 (3.18)	.587 (14.91)	.110 (2.79)
22	1.376 (34.95)	1.250 (31.75)	1.578 (40.08)	.125 (3.18)	.587 (14.91)	.110 (2.79)
24	1.501 (38.13)	1.375 (34.92)	1.703 (43.26)	.152 (3.86)	.620 (15.75)	.110 (2.79)



Dimensions shown in inches (mm)
Specifications and dimensions subject to change



A

Circular

Contact Arrangements

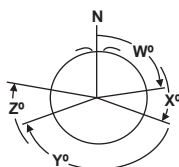
Face view, pin insert

Shell Size No. of Contacts Service Rating	 8-33* 3-#20 I	 8-98* 3-#20 I	 10-6 6-#20 I	 12-3 3-#16 II	 12-8 8-#20 I	 12-10 10-#20 I	 14-4 4-#12 I	 14-5 5-#16 II
Shell Size No. of Contacts Service Rating	 14-12 4-#16, 8-#20 I	 14-15 1-#16, 14-#20 I	 14-18 18-#20 I	 14-19 19-#20 I	 16-8 8-#16 II	 16-23 1-#16, 22-#20 I	 16-26 26-#20 I	 18-8 8-#12 I
Shell Size No. of Contacts Service Rating	 18-11 11-#10 II	 18-32 32-#20 I	 20-16 16-#16 II	 20-39 2-#16, 37-#20 I	 20-41 41-#20 I	 22-21 21-#16 II		
Shell Size No. of Contacts Service Rating	 22-41 24-#20, 14-#16 I	 22-55 55-#20 I	 24-19 19-#12 II	 24-31 31-#16 I	 24-61 61-#20 I			

* Layouts are available in shell styles MS3470 and MS3476 only.

Alternate Insert Positions

Face view, pin insert



Contact arrangements requiring reduced diameter for lead-in chamfer on outer row of contact cavities as indicated below.

Shell	Contact Arrangements	Contact Cavities
8	33, -98	A, B, C
12	10	C, G
14	12	A, B, C, D, E, F, G, and H
14	18	A, C, E, G, J, and L
14	19	B, D, F, H, K, and M
16	26	A, B, C, D, E, F, G, H, J, K, L, M, N, P, and R
18	32	A, B, C, D, E, F, G, H, J, K, L, M, N, P, R, S, and T
22	41	A, B, C, D, E, F, G, H, J, K, L, M, N, P, R, S, T, U, V, W, X, and Y

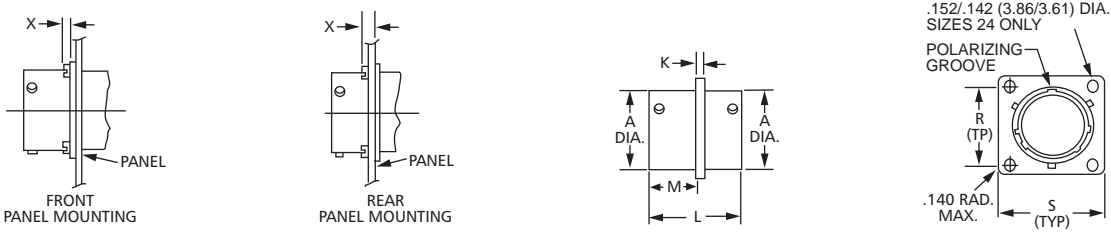
Shell Size	Arrangement	N	W	Pos Code		
				X	Y	Z
8	33	0°	90°	-	-	-
	98	0°	-	-	-	-
10	6	0°	90°	-	-	-
	3	0°	-	-	180°	-
12	8	0°	90°	112°	203°	292°
	10	0°	60°	115°	270°	295°
	4	0°	45°	-	-	-
	5	0°	40°	92°	184°	273°
14	12	0°	43°	90°	-	-
	15	0°	17°	110°	155°	234°
	18	0°	15°	90°	180°	270°
	19	0°	30°	165°	315°	-
16	8	0°	54°	152°	180°	331°
	23	0°	158°	270°	-	-
	26	0°	60°	-	275°	338°
18	8	0°	180°	-	-	-
	11	0°	62°	119°	241°	340°
20	32	0°	85°	138°	222°	265°
	16	0°	238°	318°	333°	347°
	39	0°	63°	144°	252°	333°
	41	0°	45°	126°	225°	-
22	21	0°	16°	135°	175°	349°
	41	0°	39°	135°	264°	-
	55	0°	30°	142°	226°	314°
24	19	0°	30°	165°	315°	-
	31	0°	90°	225°	225°	-
	61	0°	90°	180°	270°	324°

Dimensions shown in inches (mm)
Specifications and dimensions subject to change



Thru-Bulkhead Receptacle

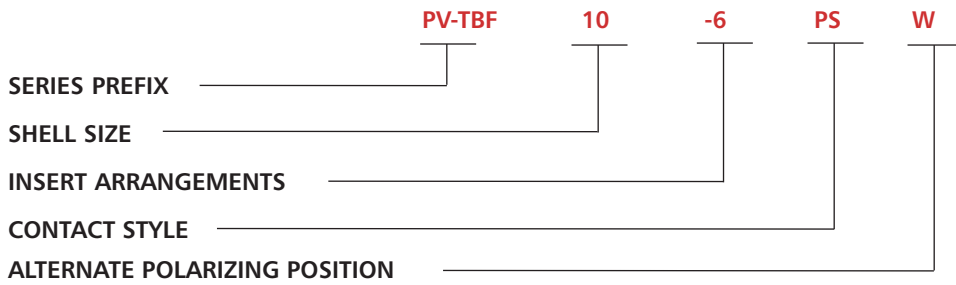
PV-TBF



Shell Size	A Dia. ± .003 (0.08)	K ± .016 (0.41)	L Max.	M ± .016 (0.41)	R (TP)	S Max.	X Max.
8	.471 (11.96)	.062 (1.57)	1.125 (28.58)	.577 (14.66)	.594 (15.09)	.828 (21.03)	.218 (5.54)
10	.588 (14.94)	.062 (1.57)	1.125 (28.58)	.577 (14.66)	.719 (18.26)	.954 (24.23)	.218 (5.54)
12	.748 (19.00)	.062 (1.57)	1.125 (28.58)	.577 (14.66)	.812 (20.62)	1.047 (26.59)	.218 (5.54)
14	.873 (22.17)	.062 (1.57)	1.125 (28.58)	.577 (14.66)	.906 (23.01)	1.141 (28.98)	.218 (5.54)
16	.998 (25.35)	.062 (1.57)	1.125 (28.58)	.577 (14.66)	.969 (24.61)	1.234 (31.34)	.218 (5.54)
18	1.123 (28.52)	.062 (1.57)	1.125 (28.58)	.577 (14.66)	1.062 (26.97)	1.328 (33.73)	.218 (5.54)
20	1.248 (31.70)	.094 (2.39)	1.406 (35.71)	.703 (17.86)	1.156 (29.36)	1.453 (36.91)	.344 (8.74)
22	1.373 (34.87)	.094 (2.39)	1.406 (35.71)	.703 (17.86)	1.250 (31.75)	1.578 (40.08)	.344 (8.74)
24	1.498 (38.05)	.094 (2.39)	1.406 (35.71)	.703 (17.86)	1.375 (34.92)	1.703 (43.26)	.311 (7.90)

Notes: 1) Shell available in conductive (nickel finish) only. 2) Contacts are nonremovable.

How to Order - PV-TBF



SERIES PREFIX
PV-TBF - ITT Cannon Prefix

SHELL SIZE
8 thru 24

INSERT ARRANGEMENTS
10-6, 14-19, 16-8, 16-26, 18-32, 20-39, 20-41, 22-41, 22-55, 24-61

CONTACT STYLE
Pin and socket

ALTERNATE POLARIZING POSITION
No designation required for normal. Standard MS alternate positions available.

Notes: 1) Shell available in conductive (nickel finish) only
2) Contacts are nonremovable.
3) Designed to MS3119 configuration and meets the performance requirements of MIL-C-26482 Series 2.

Tooling



Contact Size	Cannon Part Number	M81969 Part Number	Insertion Color Tip	Extraction Color Tip	Superseded Mil. Pt. No.	Unwired Contact Tools Cannon Pt. No.
20	CIET-20-11 (274-7001-006)	M81969/14-11	Red	White	MS27534-20, MS3447-20, NAS1664-20	274-7007-000
16	CIET-16-03 (274-7002-000)	M81969/14-03	Blue	White	MS27534-16, MS3447-16, NAS1664-16	274-7008-000
12	CIET-12-04 (274-7003-000)	M81969/14-04	Yellow	White	MS27534-12, MS3447-12, NAS1664-12	274-7009-000



Dimensions shown in inches (mm)
Specifications and dimensions subject to change

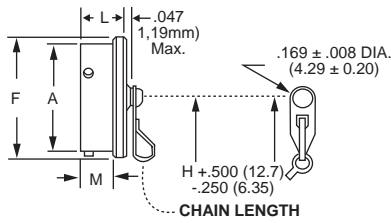


A

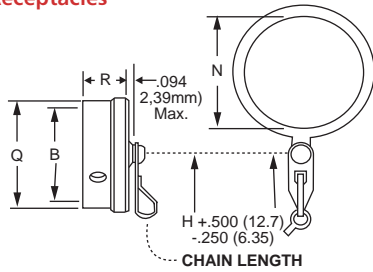
Circular

Protective Metal Caps

Plugs



Receptacles



PVS
MS 80 -12 C A
3180 -12 C A

SERIES PREFIX

PVS - ITT Cannon Prefix
MS - Complies with MIL-C-26482 (Series 2)

TYPE

80 or 3180 - Plug Cap
81 or 3181 - Receptacle Cap

SHELL SIZE

8 thru 24

TERMINATION STYLE

C -- Sash chain (MS approved)
N - Sash chain with ring (81 or 3181 type only) MS approved

FINISH

A - Hard anodic, non-conductive (MS approved)
G - Nickel, conductive (not MS) (PVS only)

NOTE: Usable on KPT/KPSE series also.
N style used primarily on Jam Nut Receptacle

Shell Size	A Max. Dia.	B Max.	F Max. Dia.	H	L Max.	M Max.	N Min. Dia.	Q Max.	R Max.
8	.474 (12.04)	.486 (12.34)	.719 (18.26)	3.000 (76.20)	.562 (14.27)	.399 (10.13)	.578 (14.68)	.734 (18.64)	.562 (14.27)
10	.591 (15.01)	.607 (15.42)	.844 (21.44)	3.000 (76.20)	.562 (14.27)	.399 (10.13)	.703 (17.86)	.859 (21.82)	.562 (14.27)
12	.751 (19.08)	.766 (19.46)	1.000 (25.40)	3.500 (88.90)	.562 (14.27)	.399 (10.13)	.891 (22.63)	1.000 (25.40)	.562 (14.27)
14	.876 (22.25)	.890 (22.60)	1.125 (28.58)	3.500 (88.90)	.562 (14.27)	.399 (10.13)	1.061 (25.81)	1.125 (28.58)	.562 (14.27)
16	1.001 (25.43)	1.015 (25.78)	1.250 (31.75)	3.500 (88.90)	.562 (14.27)	.399 (10.13)	1.141 (28.98)	1.250 (31.75)	.562 (14.27)
18	1.126 (28.60)	1.141 (28.98)	1.375 (34.93)	3.500 (88.90)	.562 (14.27)	.399 (10.13)	1.266 (32.16)	1.375 (34.93)	.562 (14.27)
20	1.251 (31.78)	1.265 (32.13)	1.500 (38.10)	4.000 (101.60)	.625 (15.88)	.461 (11.71)	1.391 (35.33)	1.500 (38.10)	.562 (14.27)
22	1.376 (34.96)	1.390 (35.31)	1.625 (41.26)	4.000 (101.60)	.625 (15.88)	.461 (11.71)	1.516 (38.51)	1.625 (41.26)	.562 (14.27)
24	1.501 (38.13)	1.515 (38.48)	1.750 (44.45)	4.000 (101.60)	.658 (16.71)	.494 (12.55)	1.641 (41.68)	1.750 (44.45)	.602 (15.29)

Contacts

Contact Size	Type	M39029 Number	1st	Color Brands	2nd	3rd	ITT Cannon
20	Socket	M39029/5-115	Brown	Brown	Brown	Green	980-0008-882
20	Pin	M39029/4-110	Brown	Brown	Brown	Black	980-0008-885
16	Socket	M39029/5-116	Brown	Brown	Brown	Blue	980-0008-883
16	Pin	M39029/4-111	Brown	Brown	Brown	Brown	980-0008-886
12	Socket	M39029/5-118	Brown	Brown	Brown	Grey	980-0008-884
12	Pin	M39029/4-113	Brown	Brown	Brown	Orange	980-0008-887

Thermocouple Contacts

Contact Size	Alumel	Chromal
20 Pin	030-1831-000	030-1832-000
20 Socket	031-1013-000	031-1014-000

Wire Hole Fillers

Contact Size	Part Number		Color Code
	Cannon	Military	
20	225-0070-000	MS27488-20-2	Red
16	225-0104-000	MS27488-16-2	Green
12	225-0105-000	MS27488-12-2	Orange

Dimensions shown in inches (mm)
Specifications and dimensions subject to change

