

KPD miniature circular connectors

40M38298 (Qualified)
MIL-C-0026482 (Series II type)
MIL-C-83723 (Series I type)



KPD/AUGUST, 1976

CANNON ITT

Introduction

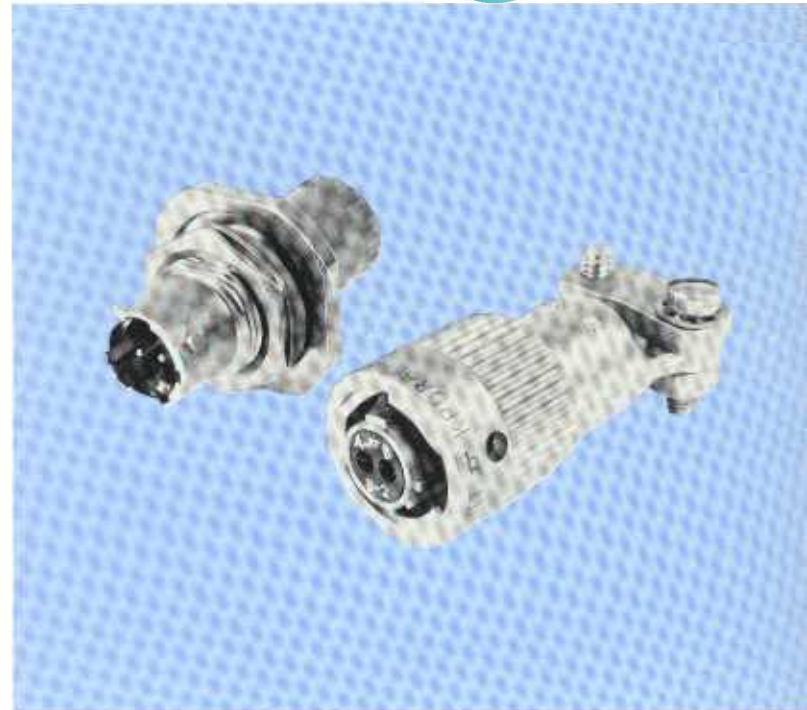
ITT Cannon Electric has designed, tooled and qualified a new KPD series of connectors. The new KPD meets industry's requirements for an upgraded MIL-C-26482 type shell size 8 connector for the higher reliability requirements of the space age.

The KPD is designed to operate in the rugged environments specified in MIL-C-26482 (Series II), MIL-C-83723 (Series I) and NASA 40M38298 specifications. It has been used on major programs such as Apollo, Viking, Skylab, Space Shuttle and ATM. KPD connectors are available under numerous industry specifications including Martin Marietta 81D127, Rockwell International MC414-0365 and Boeing 25062.

The KPD connector series is the newest addition to the Universal Interconnect system originally developed by ITT Cannon. The Universal Interconnect System features rear contact insertion, release and extraction. There is one insertion/extraction tool and one simple method of terminating, inserting and removing crimp contacts.

KPD monobloc-type hard insulators are made of strong, durable, thermosetting plastic. The pin cavities feature a closed-down effect resulting in superior pin stability and positive axial alignment of the contacts. The lead-in chamfer in the hard socket front face provides positive contact mating and a sealing surface for the raised barriers around each pin contact cavity.

Additional KPD features are shell polarization to assure alignment during engagement, 9 shell keying positions with five key/keyway and three point bayonet lock coupling for fast connect and disconnect. Complete environmental sealing is accomplished by an interfacial seal with individual raised sealing barriers around each pin contact; a peripheral seal, and a multiple ripple wire sealing grommet.



The new KPD connector series is available in four service classes:

Class "R". NASA Space Flight type, non-outgassing, high/low temperature rating (-150°C to $+200^{\circ}\text{C}$).

Class "L". Meets requirements of MIL-C-26482, Series 2 and MIL-C-83723, Series 1. Environmental, high temperature, fluid resistant.

Class "G". Same as Class "L" with addition of grounding fingers on the plug shell.

Class "B". Same as Class "R" with addition of grounding fingers on the plug shell.

For further information, please contact your nearest ITT Cannon sales office or write to ITT Cannon Electric, 666 East Dyer Road, Santa Ana, CA 92702. Telephone (714) 557-4700.

Standard Data

DESCRIPTION	MATERIAL	FINISH
SHELL	Aluminum alloy per QQ-A-200	Electroless nickel plating per MIL-C-26074
BARREL	Aluminum alloy per QQ-A-367	Electroless nickel plating per MIL-C-26074
COUPLING NUT ASSEMBLY Coupling Nut	Aluminum alloy per QQ-A-591	Electroless nickel plating per MIL-C-26074
ELASTOMERS (grommets, O rings, seal rings, and front seals)	Silicone base rubber	None
INSULATORS	High grade rigid dielectric plastic	None
RETAINING CLIPS	Beryllium copper	None
CONTACTS	Copper alloy	Gold plating per MIL-C-45204
BACKSHELL ASSEMBLY Backshell (Endbell)/Ferrule/Clamp Lockwashers/screws	Aluminum alloy Stainless steel	Electroless nickel plating per MIL-C-26074 None

How to Order



BACKSHELL MODIFIER
 O — Without backshell assembly
 E — Straight backshell assembly
 F — Cable clamp backshell assembly
 P — Potting cup
 See page 5 for additional information.

SHELL STYLE
 6 — Straight Plug
 7 — Jam Nut Receptacle
 8 — 90° plug with backshell

SHELL FINISH
 A — Black Anodize
 E — Electroless Nickel

ALTERNATE SHELL POLARIZATION POSITION
 N (normal) A, B, C, D, E, F, G, or H.

SHELL SIZE
 Size 8 connector only

CONTACT ARRANGEMENT
 B-2, B-3, B-4.

CONTACT STYLE
 F — Pin
 S — Socket

ALTERNATE INSERT POSITION (omit for normal)
 B-2 — W and X
 B-3 — W and X
 B-4 — W only

MODIFICATION CODE
 Modification codes are unique to the KPD connector line and will be limited to 2 digit numbers. Standard ITT Cannon Mod Codes, and the Mod Code of other connector lines will not be used.

SERIES

KPD — ITT Cannon prefix

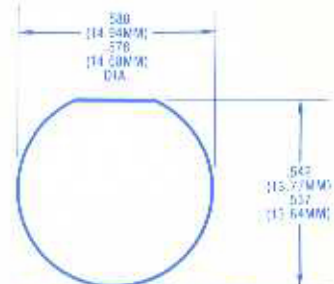
CONNECTOR CLASS

- B — Plugside only, NASA space flight type connectors; environmental, high/low temperature rating, Has RFI spring.
- G — Plugside only, MIL-C-002682, Series 2 and MIL-C-83723 Series 1 type connectors; environmental, high temperature, fluid resistant, Has RFI grounding spring.
- L — MIL-C-002682, Series 2 and MIL-C-83723 Series 1 type connectors; environmental, high temperature, fluid resistant.
- R — NASA space flight type connectors; environmental, high/low temperature rating.

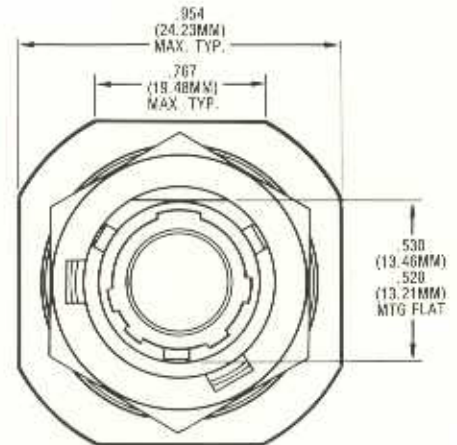
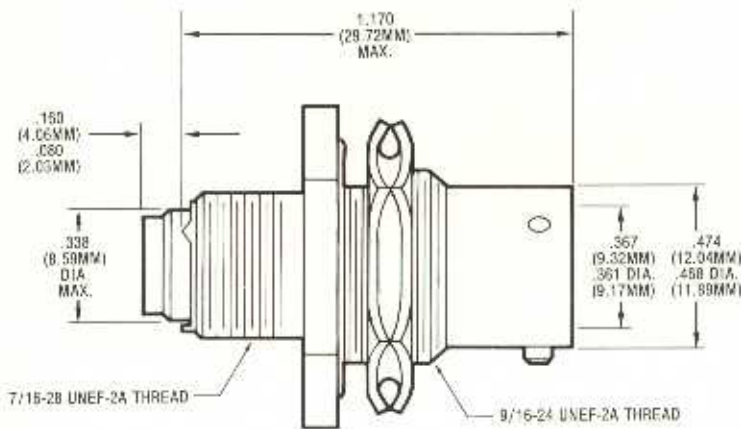
KPD Receptacle



NOTE: Metric conversions in parentheses



RECOMMENDED PANEL CUTOUT



Contact Arrangements



NO. OF CONTACTS	SHELL SIZE	ARR. NO.	Degrees of Rotation			
			W	X	Y	Z
2	8	8-2	58	122	—	—
3	8	8-3	60	210	—	—
4	8	8-4	45	—	—	—

Polarizing Position

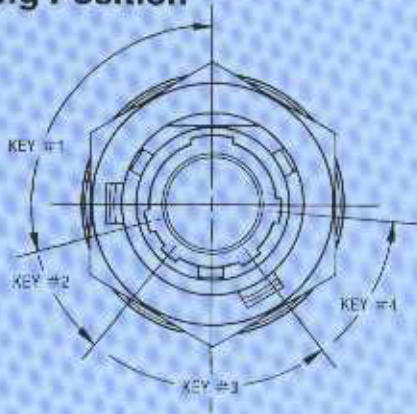


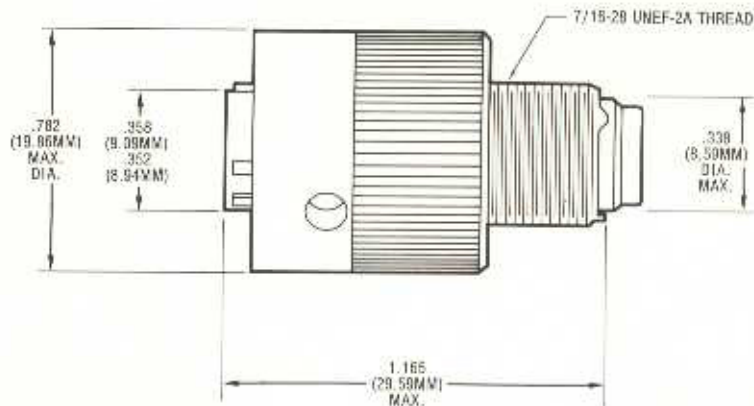
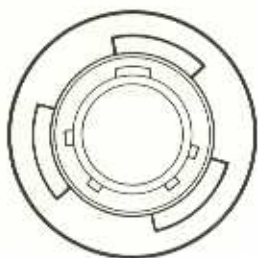
TABLE 1—SHELL POLARIZATION

Keying Arrangement	Keyway #1	Keyway #2	Keyway #3	Keyway #4
Normal	105°	140°	215°	265°
A	105°	140°	215°	320°
B	105°	140°	265°	320°
C	105°	215°	265°	320°
D	140°	215°	265°	320°
E	40°	105°	140°	215°
F	40°	105°	140°	265°
G	40°	165°	215°	265°
H	40°	140°	215°	265°

KPD Plug



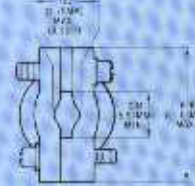
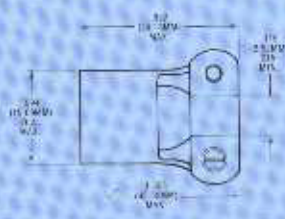
NOTE: Metric conversions in parenthesis



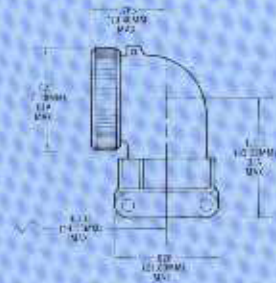
**Backshell Assembly
KPDR-E8**



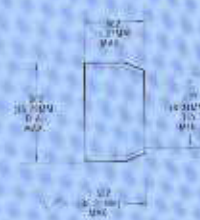
**Backshell Assembly
KPDR-F8**



90° Backshell Assembly



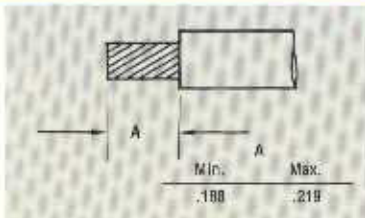
Potting



Tooling

CONTACT	WIRE ACCOM.	HAND CRIMP TOOL	INSERTION	EXTRACTION
20	24, 22, 20	M22520/2-01 with M22520/2-08 Locator	CIET-20HDB (Colored Tip)	(White Tip)

Crimping



Wire Stripping

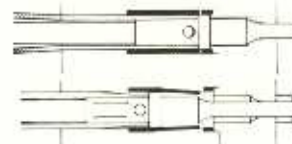
Cut wires to length. Strip insulation per above illustration. Check for broken or frayed wires.



M22520/2-01
M22520/2-08 Locator



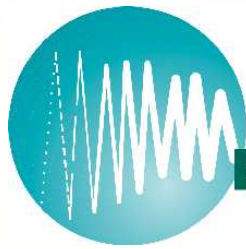
CIET-20-HDB
*Supplied With Connector



Contact Crimping

Insert contact and wire into proper crimp tool (and locator, if required). Crimp contact to wire. Inspect crimp.

Universal Insertion/Extraction Tool Style — A single, expandable plastic tool is used for insertion and extraction of both pins and sockets. The tool never touches the engaging ends of contacts, and cannot damage the insert. **Contact insertion** is accomplished with the white insertion tip of the tool that butts against the contact shoulder. When the contact is fully inserted, the tines snap behind the contact shoulder, **Contact extraction** is equally simple. Using the green ends of the tool, insert the tool tip into the rear of the plug (or receptacle), expanding the tines beyond the contact shoulder and releasing the contact.



PEI-Genesis



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