



ITT

Interconnect Solutions  
Cannon, VEAM, BIW

Providing over **20 years**  
of shipboard navigational **guidance and safety**  
**without a single failure**

Photo courtesy of DOD



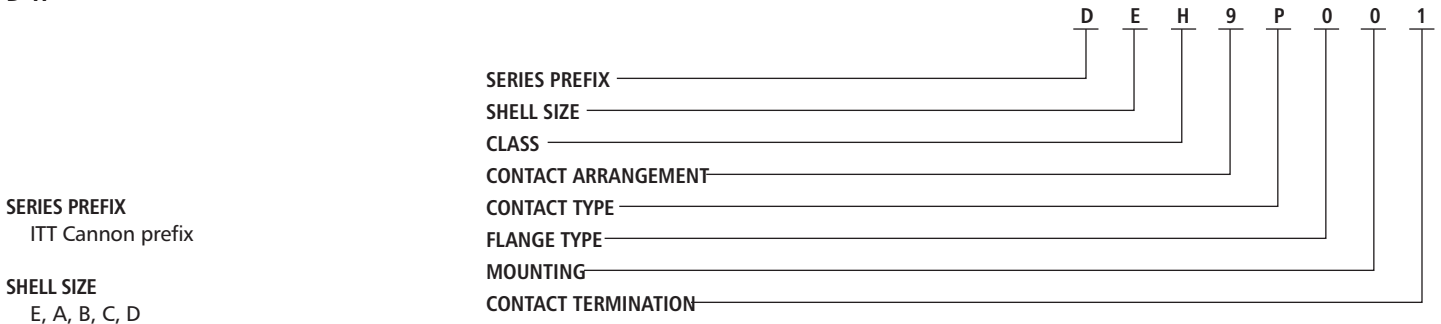
*Engineered for life*



D\*H hermetically sealed connectors are designed to meet environmental conditions of extreme pressure differential. These connectors are part of the ITT Cannon D Subminiature series and are qualified to MIL-C-24308 (refer to page 41 for cross reference information). The hermetic seal prevents leakage and subsequent accumulation of corrosive moisture behind the connector. There are five basic shell sizes in both standard and thru-bulkhead designs which can accommodate from nine to 50 contacts. Polarization is achieved by the keystone shape of the shell, a feature of all connectors within the D Subminiature series.

**How to Order**

**D\*H**



**SERIES PREFIX**  
ITT Cannon prefix

**SHELL SIZE**  
E, A, B, C, D

**CLASS**  
H — Hermetic

**CONTACT ARRANGEMENT**  
See page 41.

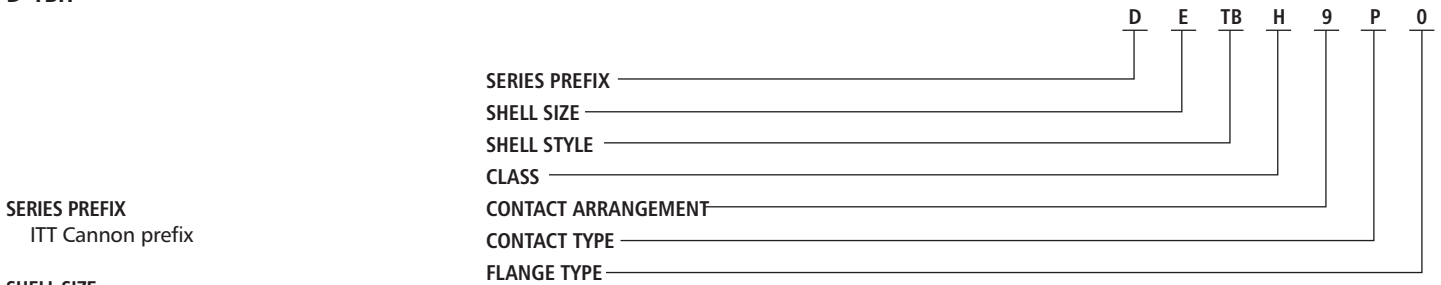
**CONTACT TYPE**  
P — Pin only

**FLANGE TYPE**  
0 — Solid flange, no mounting or locking facilities  
1 — Two .120 dia. mounting holes  
2 — Two jackposts accepting No. 4-40 screws

**MOUNTING**  
0 — Standard  
4 — Shell brazed to plate; can be front or rear panel mounted

**CONTACT TERMINATION**  
1 — Eyelet  
2 — Solder pot  
Printed circuit contacts — Consult factory

**D\*TBH**



**SERIES PREFIX**  
ITT Cannon prefix

**SHELL SIZE**  
E, A, B, C, D

**SHELL STYLE**  
TB — Thru-bulkhead

**CLASS**  
H — Hermetic

**CONTACT ARRANGEMENT**  
See page J-48.

**CONTACT TYPE**  
P — Pin only

**FLANGE TYPE**  
00 — Solid flange, no mounting or locking facilities  
10 — Two .120 (3.05) dia. mounting holes  
20 — Two jackposts accepting #4-40 screws on layout identification side  
30 — Two jackposts on both sides (D\*TBH only)



**Hermetic Connectors**

### Materials and Finishes

Shell —	In accordance with ASTM 620, 619, 568 —	Low carbon steel, plated with electro-deposited tin over cadmium over copper flash
Insulator —	Compression glass	
Contacts —	In accordance with ASTM A108 —	Steel, plated with gold over nickel

### Military vs. ITT Cannon Current Ratings

The ITT Cannon rating for #20 contacts is 5 amps, which means 5 amps for all contacts simultaneously. MIL-W-5088 rates #20 contacts at 7.5 amps maximum. The explanation is as follows:

**MIL-W-5088B, Paragraph 3.9.2.1.2 specifies:**

“Table 1 current ratings for cables in bundles are based upon 15 or more cables carrying no more than 20% of the total carrying capacity of the bundle.”

Table 1 specifies a current rating of 7.5 amps maximum for single wires in bundles of 15 or more wires. NOTE: Wires and contacts are both considered to be in the category of conductors.

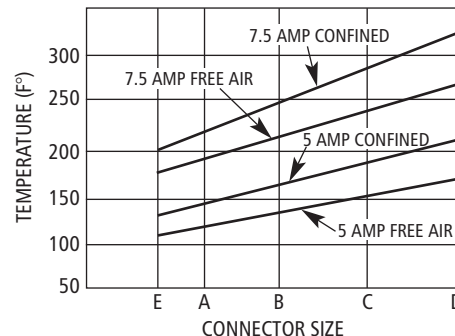
**Explanation**

If 15 wires (normally rated at 7.5 amps per wire maximum, or at least a total bundle current of 112.5 amps) are not to carry more than 20% of the total 112.5 amps, the average current rating per wire is 20% of 112.5 amps (total bundle capacity) divided by 15 (number of wires).

**Conclusion**

The Military rating of #20 contacts or wires is 1.5 amps average (based on 15 wires per bundle or 15 contacts per plug) vs an ITT Cannon rating of 5 amps.

**Average Maximum Temperature vs Connector Size for various current ratings of mated pairs of D Subminiature connectors**



**Notes:**

- Free air condition. Connectors not shielded from ambient condition in any manner.
- Confined condition. Connectors placed in insulated box (1 x 2 x 3.5) during test, with no moving air.
- Average maximum temperature stabilization: 1 hour or less in all cases.
- All contacts in each mated pair tested were wired in series with specified current flowing.
- Ambient conditions 77°F, 50% rh.

### Test Data

All voltages are measured from contact to shell, in unmated condition.

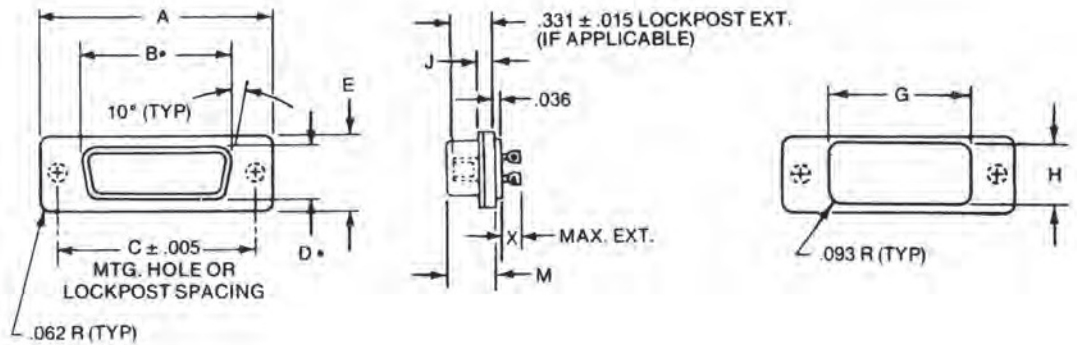
Voltage Rating (ac)	Altitude (feet)			
	Sea Level	20,000	50,000	70,000
Test (Max.)	750	625	225	175

- Insulation Resistance .....5,000 megohms min. when tested per MIL-STD-202A, Method 302
- Contact Voltage Drop .....6.67 millivolts per amp max. when mated with any Original D or GOLDEN-D connector receptacle
- Air Leakage Rate .....1 micron cubic ft/hour max. (1.04 x 10<sup>-5</sup> cc/sec.) at 1 atm pressure differential
- Vibration Resistance .....Exceeds test requirements of MIL-Ref. MIL-C-24308 STD-202, Method 204, Condition B
- Corrosion Resistance .....Exceeds requirements of 48 hour Ref. MIL-C-24308 salt spray exposure, tested in accordance with MIL-STD-202, Method 101
- Shock .....Exceeds tests for MIL-STD-202 Ref. MIL-C-24308 Method 213
- DWV .....750 VAC rms

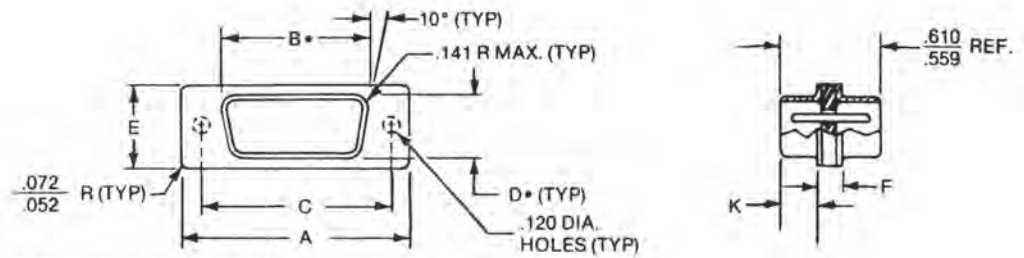


Standard

D\*H



D\*TBH



Note: Contact identification one side only.  
Mounting capability either side.

Part Number by Shell Size	A ± .010 (0.25)	B* ± .010 (0.25)	C ± .005 (0.13)	D* ± .010 (0.25)	E ± .010 (0.25)	F ± .014 (0.36) -.005 (0.13)	G ± .010 (0.25)	H ± .010 (0.25)	J ± .010 (0.25)	K ± .008 (0.20)	M ± .015 (0.38)	X Solder 238 (6.05)	X Eyelet .161 (4.09)
DEH9P*	1.208 (30.68)	.703 (17.86)	.984 (24.99)	.366 (9.30)	.498 (12.65)	—	.725 (18.42)	.369 (9.37)	.904 (2.39)	—	.334 (8.48)	.238 (6.05)	.161 (4.09)
DETBH9P*	1.208 (30.68)	.703 (17.86)	.984 (24.99)	.366 (9.30)	.498 (12.65)	.112 (2.84)	—	—	—	.236 (5.99)	—	—	—
DAH15P*	1.545 (39.24)	1.029 (26.14)	1.312 (33.32)	.366 (9.30)	.498 (12.65)	—	.932 (23.67)	.369 (9.37)	.904 (2.39)	—	.334 (8.48)	.238 (6.05)	.161 (4.09)
DATBH15P*	1.545 (39.24)	1.029 (26.14)	1.312 (33.32)	.366 (9.30)	.498 (12.65)	.112 (2.84)	—	—	—	.236 (5.99)	—	—	—
DBH25P*	2.093 (53.16)	1.589 (40.36)	1.852 (47.04)	.384 (9.75)	.498 (12.65)	—	1.479 (35.57)	.369 (9.37)	.103 (2.62)	—	.334 (8.48)	.238 (6.05)	.161 (4.09)
DBTBH25P*	2.093 (53.16)	1.589 (40.36)	1.852 (47.04)	.384 (9.75)	.498 (12.65)	.128 (3.25)	—	—	—	.226 (5.74)	—	—	—
DCH37P*	2.733 (69.42)	2.237 (56.82)	2.500 (63.50)	.384 (9.75)	.498 (12.65)	—	2.125 (53.98)	.369 (9.37)	.103 (2.62)	—	.334 (8.48)	.238 (6.05)	.161 (4.09)
DCTBH37P*	2.733 (69.42)	2.237 (56.82)	2.500 (63.50)	.384 (9.75)	.498 (12.65)	.128 (3.25)	—	—	—	.226 (5.74)	—	—	—
DDH50P*	2.640 (67.06)	2.133 (54.18)	2.406 (61.11)	.490 (12.45)	.610 (15.49)	—	2.000 (50.80)	.500 (12.70)	.103 (2.62)	—	.334 (8.48)	.238 (6.05)	.161 (4.09)
DDTBH50P*	2.640 (67.06)	2.133 (54.18)	2.406 (61.11)	.490 (12.45)	.610 (15.49)	.128 (3.25)	—	—	—	.226 (5.74)	—	—	—

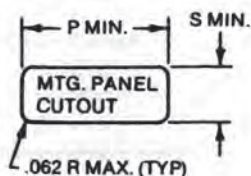
\*Add contact termination mounting, and flange type; see part number explanation.  
•Dimensions B and D are measured as outside dimensions from the start of the radius corner.

# MIL-C-24308 D Subminiature D\*H

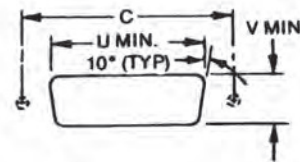
## Mounting Dimensions

Hermetic sealing is effective only when connectors are front panel mounted, except for brazed assemblies in which both shells are brazed to the plate. Brazed assemblies may be: front or rear panel mounting, and e tor is subject to leak test. Consul other rear mounting applications.

D\*H



D\*TBH



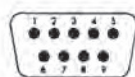
Part Number by Shell Size	C ± .005 (0.13)	P	S	U Min.	V Min.	Approx. Weight
DEH9P.*	.984 (24.99)	.735 (18.67)	.379 (9.63)	.794 (20.17)	.457 (11.61)	9g
DETBH9P.*	.984 (24.99)	—	—	.794 (20.17)	.457 (11.61)	
DAH15P.*	1.312 (33.32)	.942 (23.93)	.379 (9.63)	1.120 (28.45)	.457 (11.61)	
DATBH15P.*	1.312 (33.32)	—	—	1.120 (28.45)	.457 (11.61)	
DBH25P.*	1.852 (47.04)	1.489 (37.82)	.379 (9.63)	1.682 (42.72)	.477 (12.12)	
DBTBH25P.*	1.852 (47.04)	—	—	1.682 (42.72)	.477 (12.12)	
DCH37P.*	2.500 (63.50)	2.135 (54.23)	.379 (9.63)	2.330 (59.18)	.477 (12.12)	23g
DCTBH37P.*	2.500 (63.50)	—	—	2.330 (59.18)	.477 (12.12)	
DDH50P.*	2.406 (61.11)	2.010 (51.05)	.510 (12.95)	2.226 (56.54)	.583 (14.81)	25g
DDTBH50P.*	2.406 (61.11)	—	—	2.226 (56.54)	.583 (14.81)	

## Cross Reference Chart

Military Part No.	ITT Cannon Part No.	Military Part No.	ITT Cannon Part No.	Military Part No.	ITT Cannon Part No.
M24308/9-1	DEH9P002	M24308/9-8	DBH25P001	M24308/9-15	DDH50P202
M24308/9-2	DAH15P002	M24308/9-9	DCH37P001	M24308/9-16	DEH9P201
M24308/9-3	DBH25P002	M24308/9-10	DDH50P001	M24308/9-17	DAH15P201
M24308/9-4	DCH37P002	M24308/9-11	DEH9P202	M24308/9-18	DBH25P201
M24308/9-5	DDH50P002	M24308/9-12	DAH15P202	M24308/9-19	DCH37P201
M24308/9-6	DEH9P001	M24308/9-13	DBH25P202	M24308/9-20	DDH50P201
M24308/9-7	DAH15P001	M24308/9-14	DCH37P202		

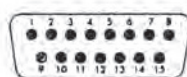
## Contact Arrangements

Face View  
Pin Insert

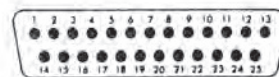


Shell Size  
No. of Contacts  
Contact Size

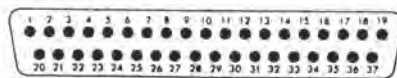
E  
9  
#20



A  
15  
#20



B  
25  
#25



Shell Size  
No. of Contacts  
Contact Size

C  
37  
#20



D  
50  
#20



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

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