

MIL-C-26482 Series 2/-83723 Series 1 Filter Connectors

TPV



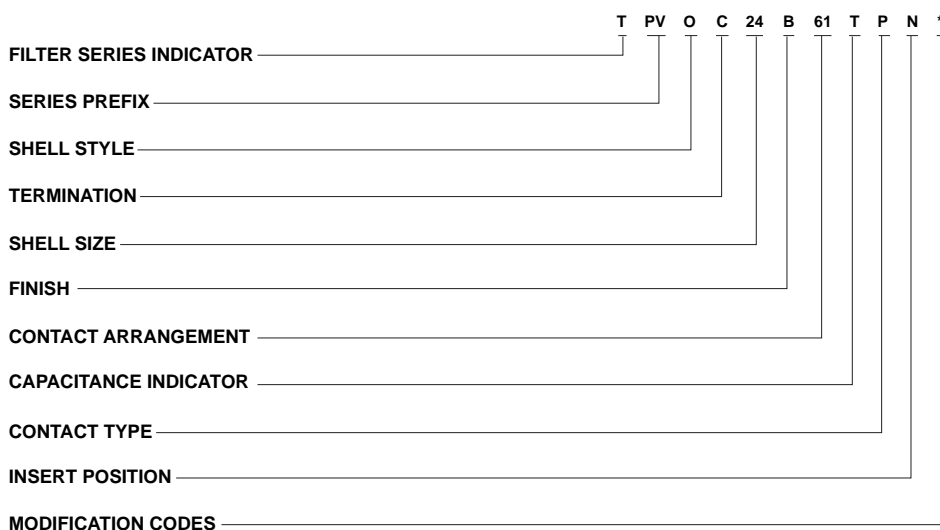
These miniature circular filter connectors are designed to combine the functions of a standard electrical connector and a feed-thru filter into one compact package.

TPV filter connectors are designed to meet the applicable portions of military specifications MIL-C-26482 and MIL-C-83723. They are also

intermateable with the NAS1599 and the NASA 40M39569 type connectors. These connectors feature three-point bayonet lock coupling, five keyway polarization, and have contact arrangements that will accommodate up to 61 contacts in shell sizes, with both pin and socket contact versions available.

Note: The TPV replaces the obsolete PVJ Series

How to Order - TPV



FILTER SERIES INDICATOR

T - Transverse monolith

SERIES PREFIX

PV - MIL-C-26482 Series 2, MIL-C-83723 Series 1 type filter connectors, solder termination. ITT Cannon designation.

SHELL STYLE

0 - Flange mounting receptacle
7 - Jam nut mounting receptacle

TERMINATION

C - Solder Pot Termination
E - P.C. Tail
S - Crimp Piggyback
W - Wire Wraps

SHELL SIZE

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

FINISH

A - Bright cadmium over nickel plate
B - Olive drab chromate over cadmium finish
G - Electroless nickel finish (preferred)

CONTACT ARRANGEMENTS

See page 311

CAPACITANCE INDICATOR

M - Mid-range frequency
L - Low frequency
T - Standard frequency
H - High frequency

CONTACT TYPE

P - Pin contacts
S - Socket contacts

INSERT POSITION

N - (Normal); Alternates - W, X, Y, Z
See page 162.

MODIFICATION CODES

For backshell assembly consult factory.

NOTES:

- 1) Backshell threads and teeh - none provided.
- 2) Hermetic versions of the filter connectors can be provided. Consult ITT Cannon for availability.

Contact Arrangements

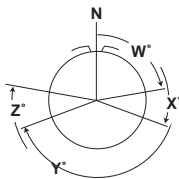
Face view, pin insert

| | | | | | | | | |
|-----------------|----------------|---------------|--------|---------------|--------|---------------|--------|-------|
| Shell Size | 8-33* | 8-98* | 10-6 | 12-3 | 12-8 | 12-10 | 14-4 | 14-5 |
| No. of Contacts | 3-#20 | 3-#20 | 6-#20 | 3-#16 | 8-#20 | 10-#20 | 4-#12 | 5-#16 |
| Service Rating | I | I | I | II | I | I | I | II |
| Shell Size | 14-12 | 14-15 | 14-18 | 14-19 | 16-8 | 16-23 | 16-26 | 18-8 |
| No. of Contacts | 4-#16, 8-#20 | 1-#16, 14-#20 | 18-#20 | 19-#20 | 8-#16 | 1-#16, 22-#20 | 26-#20 | 8-#12 |
| Service Rating | I | I | I | I | II | I | I | I |
| Shell Size | 18-11 | 18-32 | 20-16 | 20-39 | 20-41 | 22-21 | | |
| No. of Contacts | 11-#16 | 32-#20 | 16-#16 | 2-#16, 37-#20 | 41-#20 | 21-#16 | | |
| Service Rating | II | I | II | I | I | II | | |
| Shell Size | 22-41 | 22-55 | 24-19 | 24-31 | 24-61 | | | |
| No. of Contacts | 24-#20, 14-#16 | 55-#20 | 19-#12 | 31-#16 | 61-#20 | | | |
| Service Rating | I | I | II | I | 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, 38 | 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° | 155° | 270° | 295° |
| 14 | 4 | 0° | 45° | - | - | - |
| | 5 | 0° | 40° | 92° | 184° | 273° |
| | 12 | 0° | 43° | 90° | - | - |
| | 15 | 0° | 17° | 110° | 155° | 234° |
| | 18 | 0° | 15° | 90° | 180° | 270° |
| 16 | 19 | 0° | 30° | 165° | 315° | - |
| | 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° |
| 22 | 41 | 0° | 45° | 126° | 225° | - |
| | 21 | 0° | 16° | 135° | 175° | 349° |
| | 41 | 0° | 39° | 135° | 264° | - |
| 24 | 55 | 0° | 30° | 142° | 226° | 314° |
| | 19 | 0° | 30° | 165° | 315° | - |
| | 31 | 0° | 90° | 225° | 225° | - |
| | 61 | 0° | 90° | 180° | 270° | 324° |

Performance and Material Specification

MATERIALS AND FINISHES

| | | | |
|-------------------------------------|-----------|---|---|
| Jam Nut | Material: | Aluminum Alloy | |
| | Finish: | Class "B" Series Olive drab chromeplate over cadmium finish per QQ-P-416 | Class "G" Series Electroless nickel plating Per MIL-C-26074 |
| Coupling Pins | Material: | Copper Alloy | |
| | Finish: | Passivated | |
| Contacts | Material: | Copper Alloy | |
| | Finish: | Gold plated per MIL-G-45204, Type 1 Class 1 with nickel underplate per QQ-N-290 | |
| Insulator | Material: | Suitable high temperature plastic/epoxy | |
| | Finish: | none | |
| Interfacial and Peripheral Seals | Material: | Fluorosilicone rubber (ITT Cannon blend) | |
| | Finish: | none | |
| O ring (Jam Nut Mounting Only) | Material: | Silicone rubber (ITT Cannon blend) | |
| | Finish: | none | |
| Ground Spring | Material: | Beryllium Copper | |
| | Finish: | Silver Plated | |

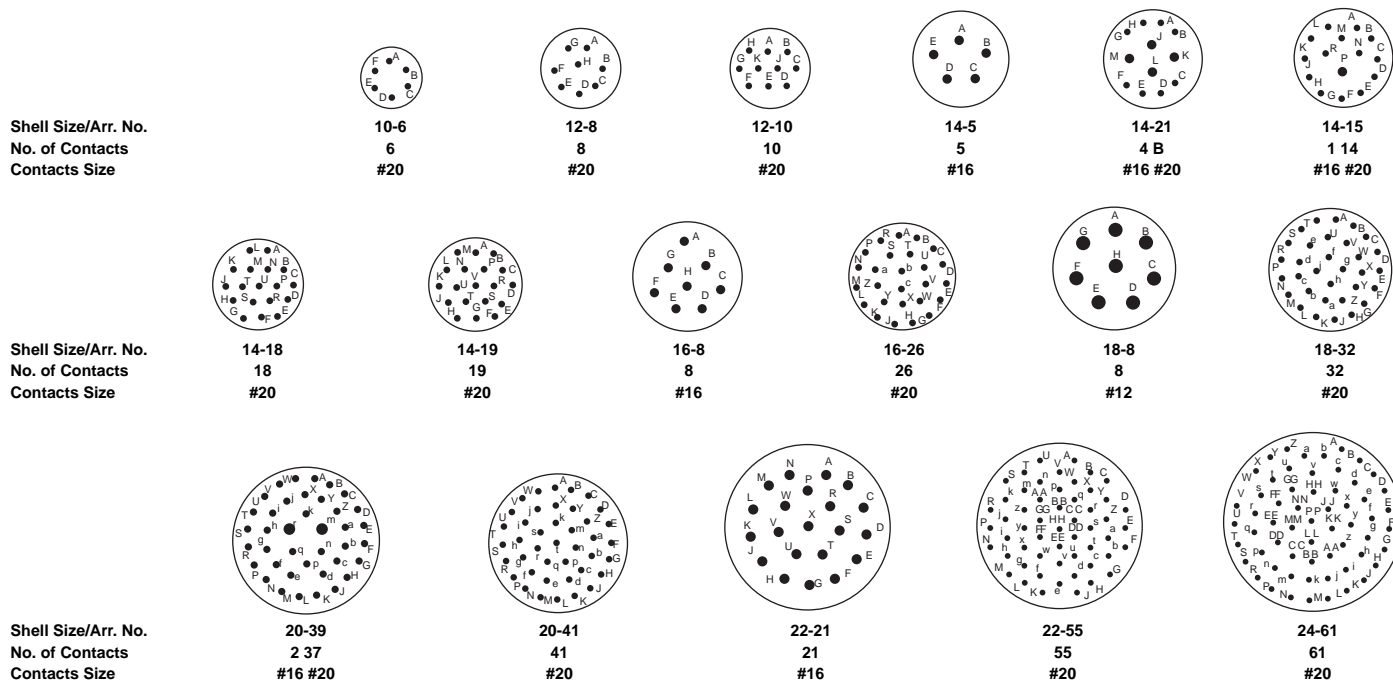
ELECTRICAL (Size #16 and #20 Contacts)

| Filter Description | Low Freq. | Mid Freq. | Std. Freq. | High Freq. |
|--|----------------------------------|---------------|--------------|-------------|
| Catalog Indicator | L | M | T | H |
| Voltage Rating | 200 VDC - 120 VAC rms 400 Hz | | | |
| Current Rating (amp DC) | 15 amp, size 16/7.5 amp, size 20 | | | |
| Insulation Resistance, 2 min. electrification time max. at 25°C | 5000, megohms min. @ 100 VDC | | | |
| DWV, sea level, with 500 microamps max. charge/discharge | 500 VDC size 16 & 20 | | 500 VDC | |
| Capacitance at 1 KHz 0.1V rms Picofarads | 32000 45000 | 8000 12000 | 3300 5000 | 850 1300 |
| | Freq. MHz | | | |
| Attenuation per MIL-STD-220 @ 25°C with no applied voltage or current. | 0.1 | 2 min. | - | - |
| | 1.0 | 10 min. | 2 min. | - |
| | 2 | 16 min. | 7 min. | 2 min. |
| | 10 | 40 min. | 18 min. | 8 min. |
| | 100 | 60 min. | 55 min. | 45 min. |
| | 500 to 1000 | 70 min. | 60 min. | 55 min. |
| Filter Type/Construction | Pi | Pi | Pi | Pi |

Consult factory for higher or mixed attenuation values and higher voltage ratings.

Contact Arrangements

(Face view, pin insert)



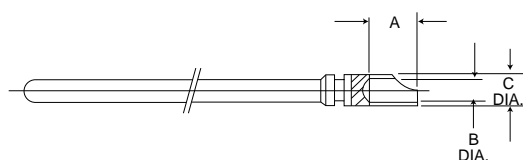
Consult factory for availability of other contact arrangements. Available for In-Line Adapters also.

Alternate Polarizing Positions - Page 162

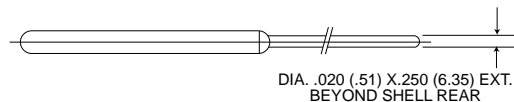
Contact - Pin and Socket

Standard Contact Terminations

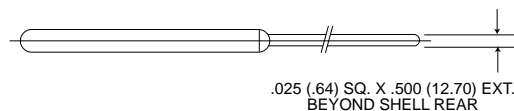
Finish: Gold plate per MIL-G-45204, Type 1,
Class 1, over nickel plate per QQ-N-290.



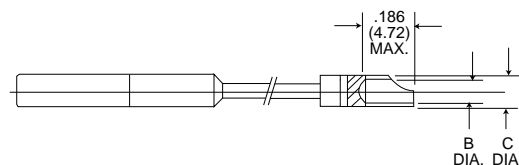
Pin/Solder Pot



Pin/Printed Circuit



Pin/Wire Wrap



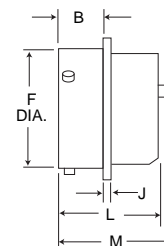
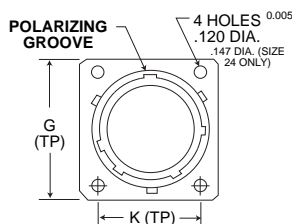
Socket/Solder Pot

| Contact Size | A | B Dia. | C Dia. |
|--------------|-------------|-------------|-------------|
| #20 | .125 (3.18) | .049 (1.24) | .073 (1.85) |
| | .110 (2.79) | .045 (1.14) | .068 (1.73) |
| #16 | .160 (4.06) | .077 (1.96) | .104 (2.64) |
| | .150 (3.81) | .068 (1.73) | .097 (2.46) |

Note: Solder pot extension typically will be .200 (5.08) max. beyond shell rear.

Flange Mounting Receptacle

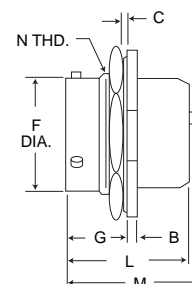
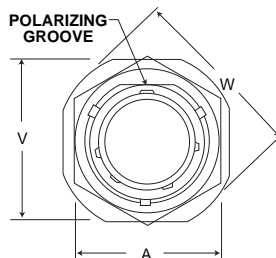
TPV0



| Shell Size | B Max. | F Max. | L Max. | M Max. | J Max. | K Basic | G Max. |
|------------|--------------|---------------|---------------|---------------|-------------|---------------|---------------|
| 10 | .462 (11.73) | .591 (15.01) | 1.215 (30.86) | 1.530 (38.86) | .078 (1.98) | .719 (18.26) | .954 (24.23) |
| 12 | .462 (11.73) | .751 (19.08) | 1.215 (30.86) | 1.530 (38.86) | .078 (1.98) | .812 (20.62) | 1.047 (26.59) |
| 14 | .462 (11.73) | .876 (22.25) | 1.215 (30.86) | 1.530 (38.86) | .078 (1.98) | .906 (23.01) | 1.141 (28.98) |
| 16 | .462 (11.73) | 1.001 (25.43) | 1.215 (30.86) | 1.530 (38.86) | .078 (1.98) | .969 (24.61) | 1.234 (31.34) |
| 18 | .462 (11.73) | 1.126 (28.60) | 1.215 (30.86) | 1.530 (38.86) | .078 (1.98) | 1.062 (26.97) | 1.328 (33.73) |
| 20 | .587 (14.91) | 1.251 (31.78) | 1.275 (32.39) | 1.590 (40.38) | .110 (2.79) | 1.156 (29.36) | 1.453 (36.91) |
| 22 | .587 (14.91) | 1.376 (34.95) | 1.275 (32.39) | 1.590 (40.38) | .110 (2.79) | 1.250 (31.75) | 1.578 (40.08) |
| 24 | .620 (15.75) | 1.501 (38.13) | 1.275 (32.39) | 1.590 (40.38) | .110 (2.79) | 1.375 (34.93) | 1.703 (43.26) |

Jam Nut Receptacle

TPV7



| Shell Size | V Max. | A Max. | B Max. | F Max. | G ± .009 (0.23) | C Panel Thickness | L Max. | M Max. | W Dia. | N Thread Class 2A |
|------------|---------------|---------------|-------------|---------------|-----------------|-------------------|---------------|---------------|---------------|-------------------|
| 10 | 1.078 (27.38) | .892 (22.66) | .113 (2.87) | .591 (15.01) | .698 (17.73) | .187 (4.75) | 1.215 (30.86) | 1.530 (38.86) | 1.203 (30.56) | 11/16-24UNEF |
| 12 | 1.266 (32.16) | 1.079 (27.41) | .113 (2.87) | .751 (19.08) | .698 (17.73) | .187 (4.75) | 1.215 (30.86) | 1.530 (38.86) | 1.391 (35.33) | 7/8-20 UNEF |
| 14 | 1.391 (35.33) | 1.205 (30.61) | .113 (2.87) | .876 (22.25) | .698 (17.73) | .187 (4.75) | 1.215 (30.86) | 1.530 (38.86) | 1.516 (38.51) | 1 -20UNEF |
| 16 | 1.516 (38.51) | 1.329 (33.76) | .113 (2.87) | 1.001 (25.43) | .698 (17.73) | .187 (4.75) | 1.215 (30.86) | 1.530 (38.86) | 1.641 (41.68) | 1-1/8-18UNEF |
| 18 | 1.641 (41.68) | 1.455 (36.96) | .113 (2.87) | 1.126 (28.60) | .698 (17.73) | .187 (4.75) | 1.215 (30.86) | 1.530 (38.86) | 1.766 (44.86) | 1-1/4-18UNEF |
| 20 | 1.828 (46.43) | 1.579 (40.11) | .148 (3.76) | 1.251 (31.78) | .763 (19.38) | .250 (6.35) | 1.275 (32.39) | 1.590 (40.39) | 1.954 (49.63) | 1-3/8-18UNEF |
| 22 | 1.954 (49.63) | 1.705 (43.31) | .148 (3.76) | 1.376 (34.95) | .763 (19.38) | .250 (6.35) | 1.275 (32.39) | 1.590 (40.39) | 2.078 (52.78) | 1-1/2-18UNEF |
| 24 | 2.078 (52.78) | 1.829 (46.46) | .148 (3.76) | 1.501 (38.13) | .763 (19.38) | .219 (5.56) | 1.275 (32.39) | 1.590 (40.39) | 2.203 (55.96) | 1-5/8-18UNEF |