

MIL-C-38999 Series I, II, III, IV Filter Connectors



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. They are designed to meet the applicable portions of military specification MIL-C-38999 series I, II, III and IV. These connectors feature arrangements that will accommodate up to 12B contacts. Consult factory for socket versions.

Note: The TKJ replaces the obsolete KJJ Series

For detailed dimensional information, request a copy of the ITT Cannon *Filter Connectors* catalog.

How to Order - TKJL/TKJ/TKJA/TKJB

	T	KJ	L	O	C	*	A	*	L	P	N	*
FILTER SERIES INDICATOR												
SERIES PREFIX												
MODIFIER												
SHELL STYLE												
TERMINATION												
SHELL SIZE												
HARDWARE FINISH												
CONTACT ARRANGEMENTS												
CAPACITANCE INDICATOR												
CONTACT TYPE												
ALTERNATE SHELL POSITION												
SPECIAL MODIFIERS												

FILTER SERIES INDICATOR

T - Transverse Monolith

SERIES PREFIX

KJ - ITT Cannon prefix

MODIFIER

- L - Series I scoop-proof shell
(omit if Series II desired)
- A - Series III Triple Start Thread
(omit if Series II desired)
- B - Series IV - Available in receptacle only
(omit if Series II desired)

SHELL STYLE

- 0 - Wall mounting receptacle (front panel mounting)
- 2 - Box mounting (front panel mounting)
- 3 - Wall mounting (black panel mounting)
- 5 - Box mounting receptacle (back panel mounting)
- 7 - Jam nut receptacle

NOTES:

- 1) Backshell thread and teeth.
Series I and II - Provided only on shell types indicated on dimension sheets.
Series III - No threads or teeth provided.
Series IV - Provided with threads and teeth.
- 2) Hermetic versions of the filter connectors can be provided. Consult ITT Cannon for availability.
- 3) Series III and IV can only be shell style 0 or 7.

TERMINATION

- C - Solder pot termination
- E - P.C. tails
- S - Crimp Piggyback
- W - Wire wraps

SHELL SIZE

- Series I, III and IV:
11, 13, 15, 17, 19, 21, 23, and 25
- Series II:
10, 12, 14, 16, 18, 20, 22, and 24

HARDWARE FINISH

- A - Bright cadmium over nickel plate
- B - Olive drab cadmium over nickel plate
- N - Electroless nickel plate (preferred)

CONTACT ARRANGEMENTS

See page 315.

CAPACITANCE INDICATOR*

- L - 32,000-45,000 PF
- M - 8,000-12,000 PF
- T - 3,300-5,000 PF
- H - 850- 1,300 PF

CONTACT TYPE

P-pin; S-socket (Consult factory for availability of sockets)

ALTERNATE SHELL POSITION

N (normal), A, B, C, D

SPECIAL MODIFIERS

Consult factory for definition and availability

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Performance and Material Specifications

MATERIALS AND FINISHES

Shell	Aluminum alloy*
Insulator	High grade plastic/epoxy
Contacts	Copper alloy, gold plate
Grommet and Seal	Silicone base elastomer
Jam Nut	Aluminum alloy*
Grounding Spring	Beryllium copper, silver plate

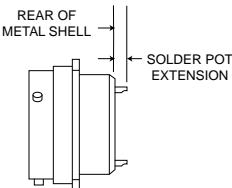
*Finish as noted in How to Order section.

ELECTRICAL (Size #16, #20 and #22)

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 20/5.0 amp, size 22			
Insulation Resistance, 2 min. electrification time max. at 25°C	5,000 megohms min. @ 100 VDC			
DWV, sea level, with 500 microamps max. charge/discharge	300 VDC size 22	500 VDC		
	500 VDC size 16 & 20			
Capacitance at 1 KHz, 0.1 V rms Picofarads	32,000	8,000	3300	850
	45,000	12,000	5000	1,300
Freq. MHz				
0.1	2 min.	-	-	-
1	10 min.	2 min.	-	-
2	16 min.	7 min.	2 min.	-
10	40 min.	18 min.	8 min.	2 min.
100	60 min.	55 min.	45 min.	30 min.
500 to 1000	70 min.	60 min.	55 min.	50 min.
Filter Type/Construction	Pi	Pi	Pi	Pi

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

Contact Extension - All Connectors

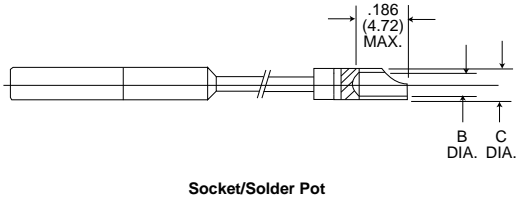
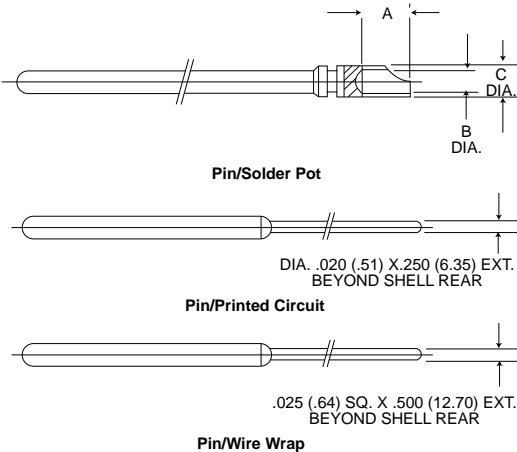


Note: Solder pot extension typically will be .200 (5.08) max. beyond shell rear.

Contact - Pin and Sockets

Standard Contact Terminations

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



Contact Size	A	B Dia.	C Dia.
#22	.115 (2.92)	.039 (0.97)	.056 (1.42)
	.095 (2.41)	.035 (0.89)	.051 (1.30)
#20	.125 (3.18)	.047 (1.19)	.066 (1.68)
	.110 (2.79)	.042 (1.07)	.061 (1.55)
#16	.170 (4.32)	.077 (1.96)	.104 (2.64)
	.150 (3.81)	.068 (1.73)	.097 (2.46)

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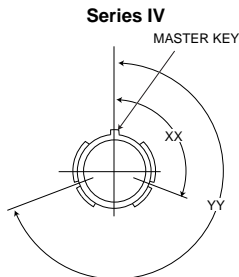
Contact Arrangements

Engaging view, pin insert

Series I, III & IV Series II No. of Contacts Service Ratings	 9-35 6 #22D M	 11-5 5 #20 I	 11-98 10-98 6 #20 I	 11-35 10-35 13 #22D M	 13-8 12-8 8 #20 I	 13-98 12-98 10 #20 I	 13-35 12-35 22 #22D M		
	Series I, III & IV Series II No. of Contacts Service Ratings	 15-5 14-5 5 #16 II	 15-18 14-18 18 #20 I	 15-19 14-19 19 #20 I	 15-35 14-35 37 #22D M	 - 16-99 21 #20, 2 #16 I	 17-8 16-8 8 #16 II	 17-26 16-26 26 #20 I	 17-35 16-35 55 #22D M
Series I, III & IV Series II No. of Contacts Service Ratings		 19-32 18-32 32 #20 I	 19-35 18-35 66 #22D M	 21-16 20-16 16 #16 II	 21-35 20-35 79 #22D M	 21-41 20-41 41- #20 I			
	Series I, III & IV Series II No. of Contacts Service Ratings	 23-21 22-21 21 #16 II	 23-35 22-35 100 #22D M	 23-53 22-53 53 #20 I	 23-55 22-55 55 #20 I				
Series I, III & IV Series II No. of Contacts Service Ratings		 25-29 24-29 29 #16 I	 25-35 24-35 128 #22D M	 25-61 24-61 61 #20 I					

Please consult factory for availability of layouts not shown.

Polarizign Positions



Front face of receptacle shown. Polarizing keys are external.

Key Arrangements	XX	YY
N	110°	250°
A	100°	260°
B	90°	270°
C	80°	280°
D	70°	290°

See page 131 for Series I, II and III polarization.