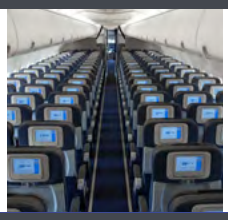
MMA

FILTERED AND RETANGULAR CONNECTORS



MMA

Multi - Compact Blind Mate

Modular - Infinite possibilities

ARINC Contact - Proven Design

Amphenol CANADA

MILITARY & AEROSPACE

Amphenol CANADA
MILITARY & AEROSPACE

For more than 50 years, Amphenol Canada Corp. a subsidiary of Amphenol Corporation has been an international leader in the manufacture of Rectangular I/O and EMI Filtered Connectors.

We design, manufacture and test EMI / EMP filter and non-filter connectors, which are used worldwide in military, aerospace, and commercial applications. As part of Amphenol Corporation, we have the advantage of access to technologies and processes of Amphenol's worldwide facilities. Our expertise in understanding and supporting our customers' interconnect needs has earned us a reputation of excellence among the world's leading users of electronic components.

CUSTOMER SERVICE

At Amphenol Canada, customer service is a solid commitment from all our employees. Our product managers, application engineers, product specialists, and sales representatives are able to answer your questions and assist you in choosing the right connectors for your applications.

Whether you need standard or custom designed connectors, our marketing department is your liaison with Amphenol Canada's engineering, quality and manufacturing experts.

QUALITY AND RELIABILITY

Certified to ISO 9001:2015+ AS9100D Amphenol Canada's broad base of customers and the high levels of technology in which they are involved make it essential that Amphenol's own products are of the highest quality and reliability.

Please contact us for RoHS requirements.

MMA CONNECTORS

TABLE OF CONTENTS

MMA SERIES

MULTI — Compact Blind Mate
MODULAR — Infinite Possibilities
ARINC CONTACTS — Proven Design

The MMA connectors from Amphenol Canada combine the best features of leading product lines. They offer ARINC 600's power, RF, fiber optic, and quadrax contacts, with low mating forces and shrouded size 22 pins. With M83527-level sealing and modular inserts for easy customization, they ensure robust performance. For enhanced shielding, choose our 360° EMI spring.

APPLICATIONS

FEATURES

- Unique market offering for a rectangular blind-mating interconnect, for custom and high-density arrangements
- Low mating force contact system per ARINC 600 standards
- Versatile enough for easy customization
- Commercial and military LRU and FRU applications
- Ideal for space in-orbit satellite servicing applications
- All plating options and termination options are available

NEED CONNECTOR FILTERING?

Tackle EMI with Amphenol's low-pass filter connectors. Our solderless, space-saving designs ensure top performance and reliability.

Amphenol Canada can filter any connector design that you may need.

See our *EMI Filter Connector Catalog* or contact Amphenol Canada directly for more information

Infinite Possibilities

MMA SERIES
Horizontal Size 1

MMB SERIES
Horizontal Size 2

MMC SERIES
Vertical Power Inserts (C)

MMD SERIES
Vertical Signal Inserts (A/B)

ONLINE CONFIGURATOR

Download 2D drawings & 3D models using our *online configurator*

SPECIFICATIONS

Component	Materials	Finish
Shell	» Aluminum alloy » Composite	» Zinc Nickel (Black Chromate) » Olive Drab (OD) Cadmium » Electroless Nickel » Yellow Cadmium » Nickel-PTFE (Durmalon) » Chem Film » RoHS Chem Film » Tin
Insert	Aluminum alloy	Nickel
	» Thermoplastic » Thermoset	N/A
Hardware & Polarizing Keys	Stainless Steel	» Passivated » Nickel
Grommets & Face Seal	Fluorosilicone Elastomer	N/A
EMI Spring	Copper Alloy	» Nickel » Gold
O-Ring	Fluorosilicone Elastomer	N/A
Contacts	Copper Alloy	Gold over Nickel, Solder Dipping is available in both RoHS and non-RoHS Compliance

PERFORMACE

D.W.V.	1500 Vrms 500 Vrms at 50,000 ft. (15,240m)	
Insulation Resistance	5 GΩ min. at 500 VDC	
Engagement/Separation Force	**Shell size 1:** 27 lbs. (120N) max. **Shell size 2:** 60 lbs. (267N) max. **Shell size 3:** 105 lbs. (467N) max.	
Temperature Range	-65° C (-86° F) to 125° C (275° F)	
Fluid Immersion Resistance (Class A only)	**1 -** Hydraulic fluid per MIL-H-5606 **2 -** Lubricanting oil (synthetic) per MIL-L-23699	**3 -** 1:3 mix of isopropyl alcohol & mineral spirits per FED. Specs. TT-I-735 & TT-T-291, respectively
Vibration	MIL-STD-1344, Method 2005.1, condition E: random - 16.4G, minimum severity: 8 hrs in each of 3 mutually perpendicular planes with 100mA electrical load. No visible damage or discontinuities exceeding 1 microsecond.	
Shock	MIL-STD-1344, Method 2004.1, condition A: Three shocks in each direction along each of 3 perpendicular axes. No visible damage or discontinuities exceeding 1 microsecond.	
Durability	500 cycles min. (matting & unmating)	

Contacts

Sizes	Continuous Current Rating		Resistance
	Initial (max.)	Conditioned (max.)	
12	2 mΩ	2.5 mΩ	23 A
16	3.5 mΩ	5 mΩ	13 A
20	7 mΩ	8.5 mΩ	7.5 A
22	8 mΩ	11 mΩ	5 A

AVAILABLE **NEXT GEN ARINC**

Amphenol Canada's Next Gen ARINC technology offers significant advantages, including up to 25% weight and cost savings. The size 22 socket PCB contact is meticulously precision stamped and over-molded, resulting in superior performance and reduced weight.

These innovative contacts are fully compatible with MMA connectors, meeting stringent ARINC 600 specifications. Additionally, they are intermateable with existing plugs, ensuring seamless integration. Available in both PC Tail and press-fit styles, these contacts provide versatile options for various applications.

Amphenol CANADA
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PART NUMBER KEY

RoHS Compliance	Series	Direction of Cavity		Shell Style	Shell Size	Insert Arrangement	Termination	Sealing Options	Shell Finish	Polarization Code		Deviation Code
1	2	3		4	5	6	7	8	9	10		11
E	MM	A	–	P	2	AA	2	E	1	AB	–	000

RoHS Compliance 1

E	RoHS Compliant
	Blank for Non-RoHS

Series 2

MM	Multi-Modular series

Direction of Cavity 3

A	Horizontal, Size 1
B	Horizontal, Size 2
C	Vertical, Power Inserts (C) Size 1 and 2
D	Vertical, Signal Inserts (A/B) Size 1 and 2

Shell Style 4

P	Plug, thru hole mount
R	Receptacle, #4-40 tapped mount
C	Plug, #4-40 tapped mount
T	Receptacle, Thru hole mount
D*	Plug, Float & Spring Mount
V*	Receptacle, Float & Spring Mount

** Consult factory for dimensions*

Shell Size 5

0 Custom (additional inserts, multiple rows, mixed layouts, etc.)

MMA			MMC		
1	Size 1 (C & C) 2 Power inserts		1	Size 1 (C & C), 2 Power Inserts	
2	Size 1 (A/B & C) 1 Signal & 1 Power Inserts		2	Size 2 & 1(C & C), 2 Power Inserts, Mixed Cavity	
3	Size 1 (A/B & A/B) 2 Signal Inserts		3	Size 2 (C & C), 2 Power Inserts	
4	Size 1 (C & A/B) 1 Power & 1 Signal Inserts (Reverse #2)		4	Size 1 & 2 (C & C), 2 Power Inserts, Mixed Cavity (Reverse #2)	
5	Size 1 (C) 1 Power Insert		5	Size 1 (C), 1 Power Insert	
6	Size 1 (A/B), 1 Signal Insert		6	Size 2 (C), 1 Power Insert	
MMB			MMD		
1	Size 2 (C & C), 2 Power Inserts		1	Size 1 (A/B & A/B), 2 Signal Inserts	
2	Size 2 (A/B & C), 1 Signal & 1 Power Inserts		2	Size 2 & 1 (A/B & A/B), 2 Signal Inserts, Mixed Cavity	
3	Size 2 (A/B & A/B), 2 Signal Inserts		3	Size 2 (A/B & A/B), 2 Signal Inserts	
4	Size 2 (C & A/B), 1 Power & 1 Signal Inserts (Reverse #2)		4	Size 1 & 2 (A/B & A/B), 2 Signal Inserts, Mixed Cavity (Reverse #2)	
5	Size 2 (C), 1 Power Insert		5	Size 1 (A/B), 1 Signal Insert	
6	Size 2 (A/B), 1 Signal Insert		6	Size 2 (A/B), 1 Signal Insert	

Insert Arrangement * 6

AA	2 Cavities (use letter) - (A/B & A/B), (C & C), (A/B & C) and (C & A/B)
A	1 Cavity
ZZ	Custom

** 1st letter for Cavity A & 2nd letter for Cavity B. See insert patterns for coded letters on page X*

Termination * 7

0	Custom
1	Crimp style, contacts not included
2	Crimp style, contacts included
3	PC Tail, .150" Tail ext
4	PC Tail, .250" Tail ext
5	PC Tail, .375" Tail ext
6	PC Tail, Right Angle
7	Mix of Crimp & PC Tail

** Fiber & RF Contacts are **not** Included*

Sealing Options 8

E	Environmental Inserts with Face Seal, Shell Seal (plug only) & Grommet
N	Non-environmental Inserts, no Face Seal or Grommet

Shell Finish 9

1	Electroless Nickel
2	OD Chromate
3	Tin
4	Gold
5	Zinc Nickel
6	Yellow CAD
7	Chem Film
8	Nickel Fluorocarbon Polymer (Durmalon)

Polarization Code 10

XX	1st letter for Cavity A, 2nd for Cavity B
KK	Supplied but not installed
NN	Polarization not suppliedd

Polarization Code Letter	Mating Face	
	Recept.	Plug
A		
B		
C		
D		
E		
F		
K	Supplied as a Kit, but not installed	
N	Not supplied	

Deviation Code 11

000	Standard connector, no options
F00	Fixed Inserts
001	EMI spring (plug only)
F01	EMI spring (plug only) + fixed inserts
002	Shell seal
XXX	Custom code

SIGNAL (A/B)

B	30C2 30T2
Qty.	Size
28	22
2	8

J	30Q2
Qty.	Size
28	22
2	8

P	60
Qty.	Size
60	22

R	4Q4
Qty.	Size
4	8

S	4C4 4T4
Qty.	Size
4	8

T	20
Qty.	Size
20	16

U	8
Qty.	Size
8	16

V	42
Qty.	Size
42	20

W	32
Qty.	Size
8	16
24	20

Y	DUMMY

POWER (C)

A	40
Qty.	Size
40	22

B	5C2 5T2
Qty.	Size
2	16
1	12
2	5

C	3Q3
Qty.	Size
3	8

D	12F12
Qty.	Size
12	16

E	30
Qty.	Size
30	20

F	6
Qty.	Size
6	12

G	17
Qty.	Size
3	12
14	20

H	22
Qty.	Size
6	16
16	20

J	5Q2
Qty.	Size
28	22
2	8
2	8

P	4
Qty.	Size
4	12

Y	DUMMY

C COAX T TWINAX OR TRIAX F FIBER Q QUADRAX

Amphenol CANADA MILITARY & AEROSPACE

SIGNAL (A/B)

A	4C4 4T4
Qty.	Size
4	1

B	2C2 2T2
Qty.	Size
2	1

C	68Q4
Qty.	Size
62	22
6	16
4	8

D	11Q11
Qty.	Size
11	8

E	24
Qty.	Size
24	12

F	18C8 18T8
Qty.	Size
10	16
8	8

G	10C10 10T10
Qty.	Size
10	8

H	35
Qty.	Size
35	16

I	60
Qty.	Size
60	20

J	71C1 71T1
Qty.	Size
70	22
1	1

K	47C2 47T2
Qty.	Size
47	20
2	8

L	110
Qty.	Size
100	22
5	20
5	12

M	120C2 120T2
Qty.	Size
118	22
2	8

N	120Q2
Qty.	Size
118	22
2	8

O	121
Qty.	Size
110	22
6	20
5	16

P	150
Qty.	Size
150	22

Q	126
Qty.	Size
120	22
6	16

R	17CF5
Qty.	Size
12	12
5	16

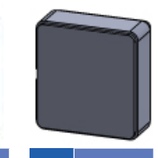
S	18Q6
Qty.	Size
12	16
6	8

T	20F12Q8
Qty.	Size
12	16
8	8

U	82C12 82T12
Qty.	Size
70	22
12	12

V	28C8 28T8
Qty.	Size
10	22
10	16
8	8

W	36F36
Qty.	Size
36	16



Y	DUMMY

C COAX T TWINAX OR TRIAX F FIBER Q QUADRAX

POWER (C)

A	13C2 13T2
Qty.	Size
4	20
3	16
4	12
2	5

B	100
Qty.	Size
100	22

C	85
Qty.	Size
80	22
4	20
1	16

D	59
Qty.	Size
50	22
5	16
4	12

E	62C2 62T2
Qty.	Size
50	22
2	16
2	8

F	34
Qty.	Size
24	20
10	16

G	11Q2
Qty.	Size
4	20
3	16
4	12
2	5

H	6Q6
Qty.	Size
6	8

I	6C6 6T6
Qty.	Size
6	8

J	68Q2
Qty.	Size
68	22
2	8

K	24Q4
Qty.	Size
20	20
4	8

L	24
Qty.	Size
12	20
12	12

M	10C4Q1 10T4Q1
Qty.	Size
5	20
4	8
1	8

N	24C4 24T4
Qty.	Size
20	20
4	8

O	16
Qty.	Size
16	12

P	11C4 11T4
Qty.	Size
11	16
4	8

Q	25
Qty.	Size
25	16

R	28
Qty.	Size
14	22
14	12

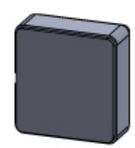
S	24F24
Qty.	Size
24	16

T	20F12
Qty.	Size
4	20
4	12
12	16

U	12F5C2 12F5T2
Qty.	Size
1	16
4	12
2	8
12	16

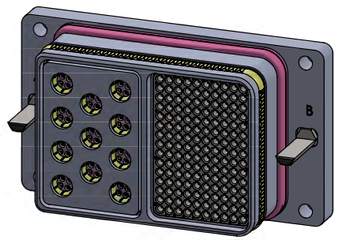
V	17F12C2 17F12T2
Qty.	Size
3	16
2	8
12	16

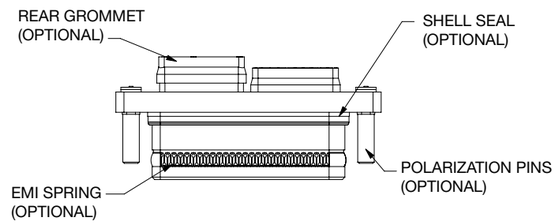
W	18C4Q2 18T4Q2
Qty.	Size
10	22
2	12
4	12
2	8

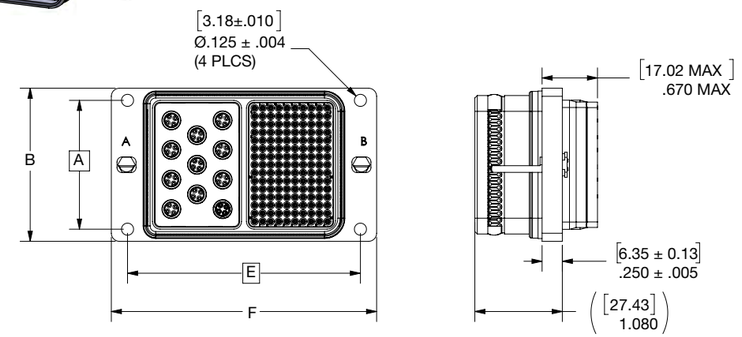


Y	DUMMY

C COAX **T** TWINAX OR TRIAX **F** FIBER **Q** QUADRAX



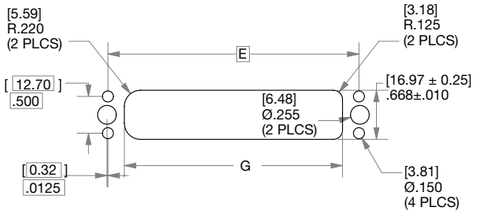




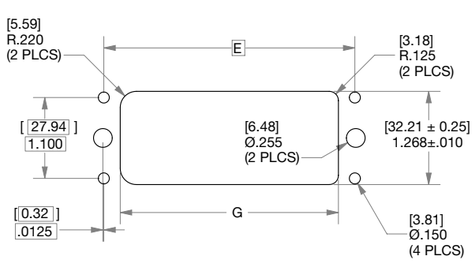
Dimensions are in inch (mm)

Series	Shell Size	A	B ±.010 (±.25)	E	F ±.010 (±.25)	AR600 Size		Nº of Cavities
						Insert	Cavity	
MMA Horizontal Size 1 Signal & Power	0	Custom						
	1	0.500 (12.7)	0.v800 (20.32)	2.975 (75.57)	3.375 (85.725)	1	C-C	2
	2			3.415 (86.74)	3.815 (96.901)	1	A-C	2
	3			3.855 (97.92)	4.255 (108.077)	1	A-A	2
	4			3.415 (86.74)	3.815 (96.901)	1	C-A	2
	5			1.765 (44.83)	2.165 (54.991)	1	C	1
	6			2.205 (56.01)	2.605 (66.167)	1	A	1
MMB Horizontal Size 2 Signal & Power	0	Custom						
	1	1.1 (27.94)	1.4 (35.56)	2.975 (75.57)	3.375 (85.73)	2	C-C	2
	2			3.415 (86.74)	3.815 (96.90)	2	A-C	2
	3			3.855 (97.92)	4.255 (108.08)	2	A-A	2
	4			3.415 (86.74)	3.815 (96.90)	2	C-A	2
	5			1.765 (44.83)	2.165 (54.99)	2	C	1
	6			2.205 (56.01)	2.605 (66.17)	2	A	1
MMC Vertical Size C Power	0	Custom						
	1	1.15 (29.21)	1.45 (35.56)	1.675 (42.55)	2.075 (52.71)	1	C-C	2
	2			2.275 (57.79)	2.675 (67.95)	2-1	C-C	2
	3			2.875 (73.03)	3.275 (83.19)	2	C-C	2
	4			2.275 (57.79)	2.675 (67.95)	1-2	C-C	2
	5			1.115 (28.32)	1.515 (38.48)	1	C	1
	6			1.715 (43.56)	2.115 (53.72)	2	C	1
MMD Vertical Size A Signal	0	Custom						
	1	1.59 (40.39)	1.89 (36.83)	1.675 (42.55)	2.075 (52.71)	1	A-A	2
	2			2.275 (57.79)	2.675 (67.95)	2-1	A-A	2
	3			2.875 (73.03)	3.275 (83.19)	2	A-A	2
	4			2.275 (57.79)	2.675 (67.95)	1-2	A-A	2
	5			1.115 (28.32)	1.515 (38.48)	1	A	1
	6			1.715 (43.56)	2.115 (53.72)	2	A	1

MMA



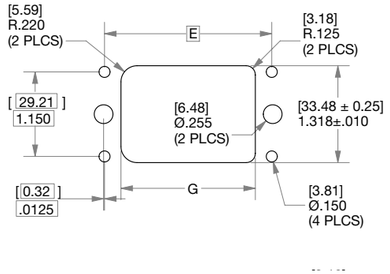
MMB



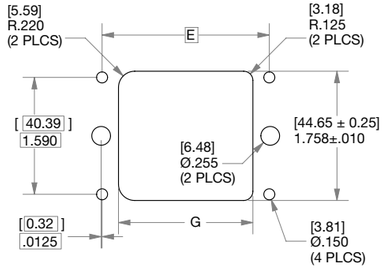
Dimensions are in inch (mm)

MMA & MMB		
Shell Size	**E ±.010 (±.25)**	**G ±.010 (±.25)**
1	2.975 (75.57)	2.528 (64.21)
2	3.415 (86.74)	2.968 (75.39)
3	3.855 (97.92)	3.408 (85.56)
4	3.415 (86.74)	2.968 (75.39)
5	1.765 (44.83)	1.318 (33.48)
6	2.205 (56.01)	1.758 (44.65)

MMC

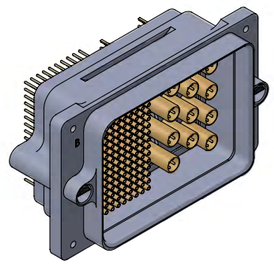


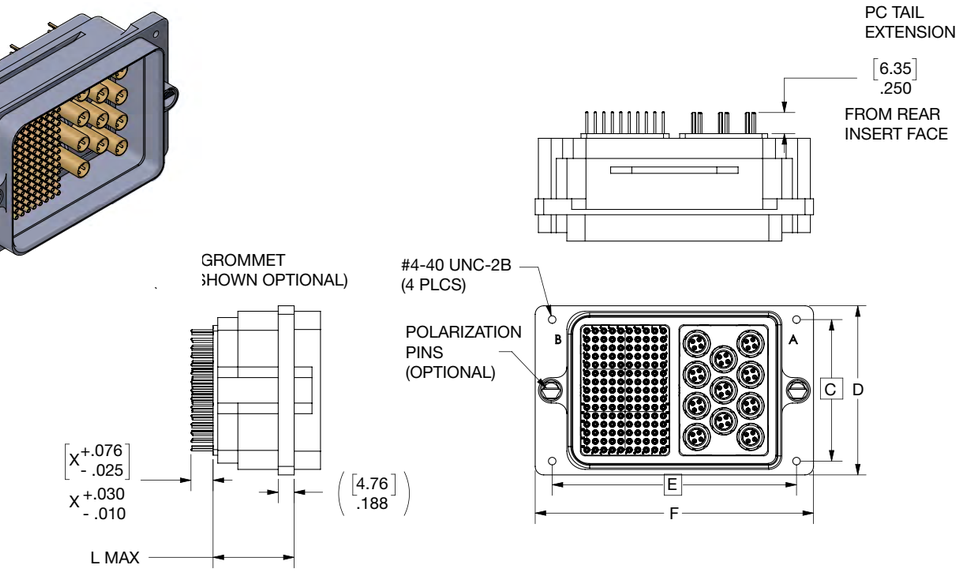
MMD



Dimensions are in inch (mm)

MMC & MMD		
Shell Size	**E ±.010 (±.25)**	**G ±.010 (±.25)**
1	1.675 (42.54)	1.228 (31.19)
2	2.275(57.79)	1.828 (46.43)
3	2.875 (73.03)	2.428 (61.67)
4	2.275(57.79)	1.828 (46.43)
5	1.115 (28.32)	0.668 (16.97)
6	1.715 (43.56)	1.268 (32.21)





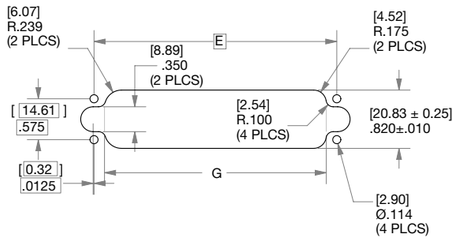
Dimensions are in inch (mm)

Series	Shell Size	A	B ±.010 (±.25)	E	F ±.010 (±.25)	AR600 Size		N° of Cavities
						Insert	Cavity	
MMA Horizontal Size 1 Signal & Power	0	Custom						
	1	0.575 (14.61)	0.900 (22.86)	2.975 (75.57)	3.375 (85.725)	1	C-C	2
	2			3.415 (86.74)	3.815 (96.901)	1	A-C	2
	3			3.855 (97.92)	4.255 (108.077)	1	A-A	2
	4			3.415 (86.74)	3.815 (96.901)	1	C-A	2
	5			1.765 (44.83)	2.165 (54.991)	1	C	1
	6			2.205 (56.01)	2.605 (66.167)	1	A	1
MMB Horizontal Size 2 Signal & Power	0	Custom						
	1	1.175 (29.85)	1.5 (38.10)	2.975 (75.57)	3.375 (85.73)	2	C-C	2
	2			3.415 (86.74)	3.815 (96.90)	2	A-C	2
	3			3.855 (97.92)	4.255 (108.08)	2	A-A	2
	4			3.415(86.74)	3.815 (96.90)	2	C-A	2
	5			1.765 (44.83)	2.165 (54.99)	2	C	1
	6			2.205 (56.01)	2.605 (66.17)	2	A	1
MMC Vertical Size C Power	0	Custom						
	1	1.225 (31.12)	1.55 (39.37)	1.675 (42.55)	2.075 (52.71)	1	C-C	2
	2			2.275 (57.79)	2.675 (67.95)	2-1	C-C	2
	3			2.875 (73.03)	3.275 (83.19)	2	C-C	2
	4			2.275 (57.79)	2.675 (67.95)	1-2	C-C	2
	5			1.115 (28.32)	1.515 (38.48)	1	C	1
	6			1.715 (43.56)	2.115 (53.72)	2	C	1
MMD Vertical Size A Signal	0	Custom						
	1	1.665 (42.29)	1.99 (50.55)	1.675 (42.55)	2.075 (52.71)	1	A-A	2
	2			2.275 (57.79)	2.675 (67.95)	2-1	A-A	2
	3			2.875 (73.03)	3.275 (83.19)	2	A-A	2
	4			2.275 (57.79)	2.675 (67.95)	1-2	A-A	2
	5			1.115 (28.32)	1.515 (38.48)	1	A	1
	6			1.715 (43.56)	2.115 (53.72)	2	A	1

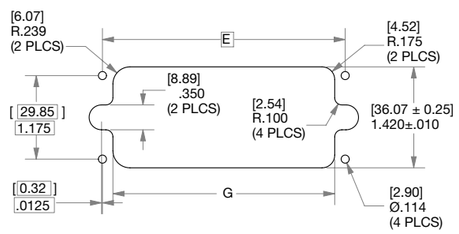
Termination Styles		
Termination	**L**	**X**
1	1.280 Max (Grommet)	N/A
2		
3	0.990 Max	0.150
4		0.250
5		0.375

RECEPTACLES
PANEL CUTOUTS

MMA



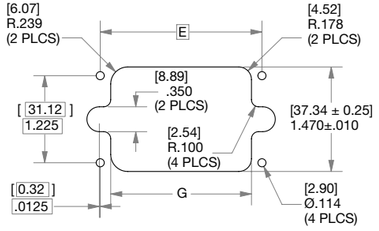
MMB



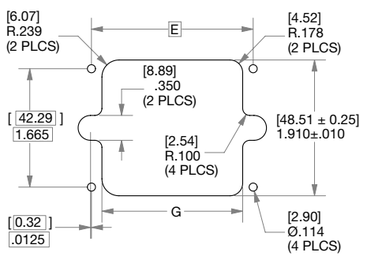
Dimensions are in inch (mm)

MMA & MMB		
Shell Size	**E ±.010 (±.25)**	**G ±.010 (±.25)**
1	2.975 (75.57)	2.680 (67.07)
2	3.415 (86.74)	3.120 (79.25)
3	3.855 (97.92)	3.560 (90.42)
4	3.415 (86.74)	3.120 (79.25)
5	1.765 (44.83)	1.470 (37.34)
6	2.205 (56.01)	1.910 (48.51)

MMC



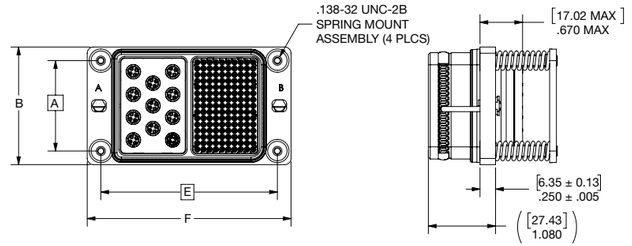
MMD

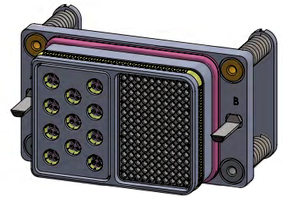


Dimensions are in inch (mm)

MMC & MMD		
Shell Size	**E ±.010 (±.25)**	**G ±.010 (±.25)**
1	1.675 (42.54)	1.380 (35.05)
2	2.275(57.79)	1.980 (50.29)
3	2.875 (73.03)	2.580 (65.53)
4	2.275(57.79)	1.980 (50.29)
5	1.115 (28.32)	0.820 (20.83)
6	1.715 (43.56)	1.420 (36.07)

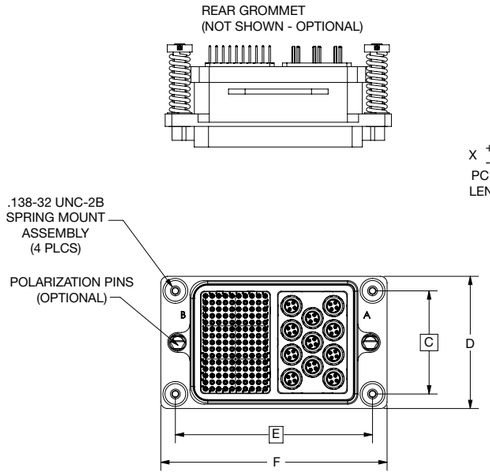
PLUG — FLOAT MOUNT SPRINGS
DIMENSIONS





Dimensions are in inch (mm)

Series	Shell Size	A	B ±.010 (±.25)	E	F ±.010 (±.25)	AR600 Size		N° of Cavities
						Insert	Cavity	
MMA Horizontal Size 1 Signal & Power	0	0.481 (12.21)	0.8 (20.32)	Custom				
	1			2.906 (73.81)	3.375 (85.725)	1	C-C	2
	2			3.346 (84.99)	3.815 (96.901)	1	A-C	2
	3			3.786 (96.16)	4.255 (108.077)	1	A-A	2
	4			3.346 (84.99)	3.815 (96.901)	1	C-A	2
	5			1.696 (43.08)	2.165 (54.991)	1	C	1
	6			2.136 (54.25)	2.605 (66.167)	1	A	1
MMB Horizontal Size 2 Signal & Power	0	1.081 (27.46)	1.4 (35.56)	Custom				
	1			2.906 (73.81)	3.375 (85.725)	2	C-C	2
	2			3.346 (84.99)	3.815 (96.901)	2	A-C	2
	3			3.786 (96.16)	4.255 (108.077)	2	A-A	2
	4			3.346 (84.99)	3.815 (96.901)	2	C-A	2
	5			1.696 (43.08)	2.165 (54.991)	2	C	1
	6			2.136 (54.25)	2.605 (66.167)	2	A	1
MMC Vertical Size C Power	0	1.131 (28.73)	1.45 (36.83)	Custom				
	1			1.606 (40.79)	2.075 (52.71)	1	C-C	2
	2			2.206 (56.03)	2.675 (67.95)	2-1	C-C	2
	3			2.806 (71.27)	3.275 (83.19	2	C-C	2
	4			2.206 (56.03)	2.675 (67.95)	1-2	C-C	2
	5			1.046 (26.57	1.515 (38.48)	1	C	1
	6			1.646 (41.81)	2.115 (53.72)	2	C	1
MMD Vertical Size A Signal	0	1.571 (39.91)	1.89 (48.01)	Custom				
	1			1.606 (40.79)	2.075 (52.71)	1	A-A	2
	2			2.206 (56.03)	2.675 (67.95)	2-1	A-A	2
	3			2.806 (71.27)	3.275 (83.19	2	A-A	2
	4			2.206 (56.03)	2.675 (67.95)	1-2	A-A	2
	5			1.046 (26.57	1.515 (38.48)	1	A	1
	6			1.646 (41.81)	2.115 (53.72)	2	A	1



Dimensions are in inch (mm)

Series	Shell Size	A	B ±.010 (±.25)	E	F ±.010 (±.25)	AR600 Size		Nº of Cavities
						Insert	Cavity	
MMA Horizontal Size 1 Signal & Power	0			Custom				
	1	0.556 (14.13)	0.9 (22.86)	2.906 (73.81)	3.506 (89.05)	1	C-C	2
	2			3.346 (84.99)	3.946 (100.23)	1	A-C	2
	3			3.786 (96.16)	4.386 (111.40)	1	A-A	2
	4			3.346 (84.99)	3.946 (100.23)	1	C-A	2
	5			1.696 (43.08)	2.296 (58.32)	1	C	1
	6			2.136 (54.25)	2.736 (69.49)	1	A	1
MMB Horizontal Size 2 Signal & Power	0			Custom				
	1	1.156 (29.37)	1.5 (38.10)	2.906 (73.81)	3.506 (89.05)	2	C-C	2
	2			3.346 (84.99)	3.946 (100.23)	2	A-C	2
	3			3.786 (96.16)	4.386 (111.40)	2	A-A	2
	4			3.346 (84.99)	3.946 (100.23)	2	C-A	2
	5			1.696 (43.08)	2.296 (58.32)	2	C	1
	6			2.136 (54.25)	2.736 (69.49)	2	A	1
MMC Vertical Size C Power	0			Custom				
	1	1.206 (30.64)	1.55 (39.37)	1.606 (40.79)	2.206 (56.03)	1	C-C	2
	2			2.206 (56.03)	2.806 (71.27)	2-1	C-C	2
	3			2.806 (71.27)	3.406 (86.51)	2	C-C	2
	4			2.206 (56.03)	2.806 (71.27)	1-2	C-C	2
	5			1.046 (26.57)	1.646 (41.81)	1	C	1
	6			1.646 (41.81)	2.246 (57.05)	2	C	1
MMD Vertical Size A Signal	0			Custom				
	1	1.646 (41.81)	1.99 (50.55)	1.606 (40.79)	2.206 (56.03)	1	A-A	2
	2			2.206 (56.03)	2.806 (71.27)	2-1	A-A	2
	3			2.806 (71.27)	3.406 (86.51)	2	A-A	2
	4			2.206 (56.03)	2.806 (71.27)	1-2	A-A	2
	5			1.046 (26.57)	1.646 (41.81)	1	A	1
	6			1.646 (41.81)	2.246 (57.05)	2	A	1

Contacts for Amphenol ARINC 600 Rack and Panel Connectors can be ordered separately. Use part numbers shown in the charts below for ordering contacts and applicable tools. For further information consult Amphenol Canada Corporation

CRIMP CONTACTS

Contact Type	Size	Receptacle		Plug		Installation/ Removal Tool	Crimp Tool	Positioner	AWG	MAX Insulation Ø
		Type	Part Nº	Type	Part Nº					
Signal	22	Socket	AC-782222-301	Pin	AC-772222-301	M81969/1-01	M22520/2-01	M22520/2-23	22, 24 & 26	0.052"
Power	20	Pin	AC-772020-302	Socket	AC-782020-302	M81969/1-02	M22520/2-01	M22520/2-08	20, 22 & 24	0.060"
	16		AC-771616-303		AC-781616-303	M81969/1-03	M22520/1-01	M22520/1-02	16, 18 & 20	0.080"
	12		AC-771212-304		AC-781212-304	M81969/28-02	M22520/1-01	M22520/1-11	12 & 14	0.114"

Contacts are rear release

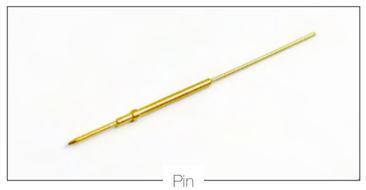

Pin


Socket

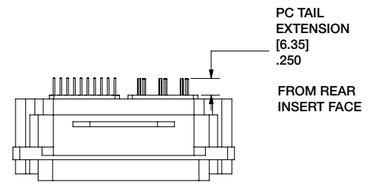
PCB TAILS CONTACTS

Contact Type	Size	PCB STD ± .002" Ø	Receptacle		Plug		PC Tail Ext "XX"				PC Tail Dip	Removal Tool
			Type	Part Nº	Type	Part Nº	0.250"	0.150"	0.375"	0.500"		
Signal	22	0.025"	Socket	AC-7822XX-801	Pin	AC-7722XX-Z01	00	02	03	04	G = Gold S = Solder T = Tin	485-937-22
Power	20	0.032"	Pin	AC-7720XX-Z01	Socket	AC-7820XX	00	02	03	04		485-937-20
	16	0.050"		AC-7716XX-Z01		AC-7816XX	00	02	03	04		485-937-16
	12	0.081"		AC-7712XX-Z01		AC-7812XX	00	02	06	04		485-937-12

Receptacles are front release & Plugs are rear release


Pin


Socket



** For RoHS compliance add "E" in front of contact part number*

CRIMP CONTACTS

Type	Size	Part Number		Cable Type	Technical Notes				
		Receptacle (Pin)	Plug (Socket)		Inner Crimp	Positioner	Outer	Die	Removal Tool
Coax	1	AC-6C01PC01-01	AC-6C01SC01-01	RG214 & RG393	NA	NA	NA	NA	NA
	5	AC-6C05PC01-01 X	AC-6C05SC01-01 X	RG142, RG400	M22520/2-01	"K345 SETTING 8 (RG142) SETTING 6 (RG400)"	M22520/5-01	M22520/5-05	M81969/28-01
		AC-6C05PC01-02 X	AC-6C05SC01-02 X	RG58/U		"K345 SETTING 5"		"Y586 SETTING B"	
		AC-6C05PC01-03 X	AC-6C05SC01-03 X	RD174, RG179, RG316		"K345 SETTING 5 or 6"		M22520/5-05	
	8	AC-6C08PC01-01 X	AC-6C08SC01-01 X	RG179		"K345 SETTING 7"		"M22520/5-05 HEX B (.178 FLATS)"	"M81969/29-2 (or 485-952)"
Quadrax	8	AC-6Q08PC01-01 X	AC-6Q08SC01-01 X	DRAKA FILICA F4703-3 & F4704-4 NEXANS FILOTEK ABS1503KD24/ ET2PF870"	M22520/2-01	"K709 SETTING 5"	M22520/5-01	"M22520/5-45 SETTING B"	485-952
		AC-6Q08PC01-02 X	AC-6Q08SC01-02 X	TENSOLITE NF24Q100, 24443/03130X-4(LD), 24443/9P025X-4(LD), BOEING S280W502-4					
		AC-6Q08PC01-03 X	AC-6Q08SC01-03 X	TENSOLITE 26743102006X-4(LD) GORE RCN8328"				"M22520/5-45 SETTING A"	
Twinax	8	AC-6T08PC01-01 X	AC-6T08SC01-01 X	TENSOLITE 24463/9P025X-2(LD)	AFM-2	"K1168 SETTING 6"	M22520/5-01	"Y586 SETTING B"	M81969/28-03
		AC-6T08PC01-02 X	AC-6T08SC01-02 X	GORE GSC-12-2548-00					
		AC-6T08PC01-03 X	AC-6T08SC01-03 X	GRUMMAN GC875TM24H					

Boot Type "X"

A = Non-Environmental with Alignment Boot

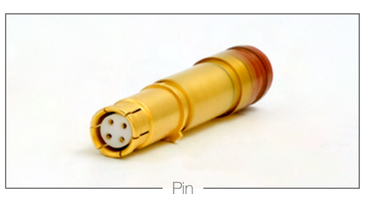
N = Non-Environmental without Alignment Boot (NO BOOT)

E = Environmental with Sealing & Alignment Boot

T = Environmental for Tight Spacing with Sealing & Alignment Boot

B = Environmental for Sealing to the insert without Grommet with Sealing Boot

Socket



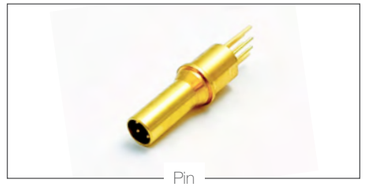
Pin

** For RoHS compliance add "E" in front of contact part number*

PCB TAILS CONTACTS

Contact Type	Size	Part Number		PC Tail EXT "XX"			
		Receptacle (Pin)	Plug (Socket)	0.250"	0.150"	0.375"	0.500"
Coax	5	AC-6C05PP01-XX	AC-6C05SP01-XX	00	02	03	04
	8	AC-6C08PP01-XX	AC-6C08SP01-XX				
Quadrax	8	AC-6Q08PP01-XX	AC-6Q08SP01-XX				
Twinax	8	AC-6T08PP01-XX	AC-6T08SP01-XX			06	

Receptacles are front release & Plugs are rear release



Pin

Socket

TRANSCEIVERS

Protocol	Size	Transmitting Pin	Receiving Pin
801	8	AC-6A08PP01-01	AC-6B08PP01-01
ELIO		AC-6A08PP02-01	AC-6B08PP02-01

FILLER PLUGS

Contact Cavity Size	Amphenol Part Numbers	EMI Electroless Nickel Plated
22	AC-660022-701	AC-660022-E01
20	AC-660020-701	AC-660020-E01
16	AC-660016-701	AC-660016-E01
16 Fiber	AC-660016F-701	AC-660016F-E01
12	AC-660012-701	AC-660012-E01
8 Coax	AC-660008-701	AC-660008-E01
5 Coax (Plug)	AC-660005-701	AC-660005-E01
5 Coax (Recept.)	AC-660004-701	AC-660004-E01

Filler plugs are for non-environmental connectors

SEALING PLUGS

Contact Cavity Size	Amphenol Part Numbers	Color
22	AC-660022-801	Black
20	AC-660020-801	Red
16	AC-660016-801	Blue
12	AC-660012-801	Yellow
8 Coax	AC-660008-801	Red

** For RoHS compliance add "E" in front of contact part number*

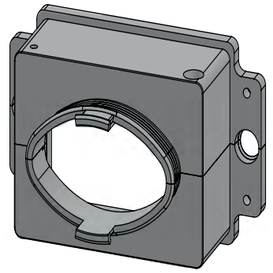
Conductive covers for MMA, MMB, MMC and MMD connectors can be ordered from the charts below. These covers are designed to protect equipment against the risks of electrostatic discharge, and are made of self-extinguishing polyethylene with graphite filler.

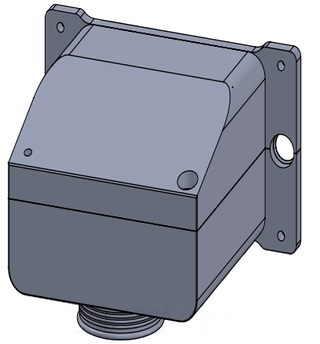
RECEPTACLE CONDUCTIVE COVERS

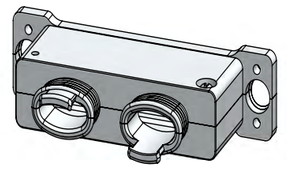
Shell Size	MMA	MMB	MMC	MMD
1	EMMA-2000-110	EMMB-2000-110	EMMC-2000-110	EMMD-2000-110
2	EMMA-2000-210	EMMB-2000-210	EMMC-2000-210	EMMD-2000-210
3	EMMA-2000-310	EMMB-2000-310	EMMC-2000-310	EMMD-2000-310
4	EMMA-2000-410	EMMB-2000-410	EMMC-2000-410	EMMD-2000-410
5	EMMA-2000-510	EMMB-2000-510	EMMC-2000-510	EMMD-2000-510
6	EMMA-2000-610	EMMB-2000-610	EMMC-2000-610	EMMD-2000-610

PLUG CONDUCTIVE COVERS

Shell Size	MMA	MMB	MMC	MMD
1	EMMA-2000-100	EMMB-2000-100	EMMC-2000-100	EMMD-2000-100
2	EMMA-2000-200	EMMB-2000-200	EMMC-2000-200	EMMD-2000-200
3	EMMA-2000-300	EMMB-2000-300	EMMC-2000-300	EMMD-2000-300
4	EMMA-2000-400	EMMB-2000-400	EMMC-2000-400	EMMD-2000-400
5	EMMA-2000-500	EMMB-2000-500	EMMC-2000-500	EMMD-2000-500
6	EMMA-2000-600	EMMB-2000-600	EMMC-2000-600	EMMD-2000-600







PART NUMBER KEY

RoHS Compliance	Connector Series	Direction of Cavity		Backshell	Shell Style	Size	Backshell Style	Plating		Deviation Code
1	2	3		4	5	6	7	8		9
E	MM	A	-	B	R	1	2	E	-	000

RoHS Compliance 1

E	RoHS Compliant
	Blank for Non-RoHS

Series 2

MM	Multi-Modular series

Direction of Cavity 3

A	Horizontal, Size 1
B	Horizontal, Size 2
C	Vertical, Power Inserts (C) Size 1 and 2
D	Vertical, Signal Inserts (A/B) Size 1 and 2

Backshell 4

B	Backshell indicator

Shell Style 5

P	Plug
R	Receptacle
D	Dual use (Plug & Receptacle)

Size 6

1	CAV C-C (Dual Bay)
2	CAV A-C (Dual Bay)
3	CAV A-A (Dual Bay)
4	CAV C (Single Bay)
5	CAV A (Single Bay)

Backshell Style 7

A	Split, Saddle Clamp
B	Split, EMI Band
C	Sealed, EMI Band
D	Threaded Adapter
E	Split, Strain Relief
F	Sealed, Strain Relief
G	Sealed, Saddle Clamp

Shell Finish 8

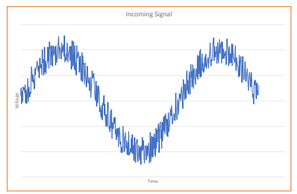
1	Electroless Nickel
2	OD Chromate
3	Tin
4	Gold
5	Zinc Nickel
6	Yellow CAD
7	Chem Film
8	Nickel Fluorocarbon Polymer (Durmalon)

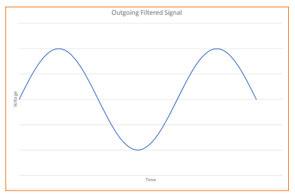
Shell Finish 9

1	Electroless Nickel
2	OD Chromate
3	Tin
4	Gold
5	Zinc Nickel
6	Yellow CAD
7	Chem Film
8	Nickel Fluorocarbon Polymer (Durmalon)

Filter connectors play a crucial role in the ongoing battle against electromagnetic interference (EMI), particularly in challenging domains such as military and aerospace applications. For over three decades, industry pioneers like Amphenol Canada have been at the forefront of crafting sophisticated and compact solutions to address intricate EMI challenges.

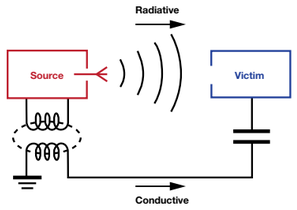
At its core, a filter connector functions as a vital component by filtering out noise and cleaning signals through a low pass filter. These connectors permit low-frequency signals to pass through while effectively filtering out higher-frequency signals and noise/EMI. This capability is paramount in ensuring the integrity of signals in complex systems.





Understanding the types of electromagnetic interference (EMI) is essential in appreciating the importance of filter connectors. EMI can manifest in two main types: conducted and radiated.

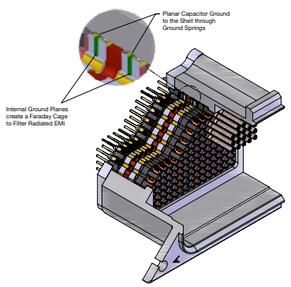
- Conducted EMI travels through physically connected lines, often caused by other electronic devices in the system.
- Radiated EMI travels through airwaves, potentially affecting physically isolated lines.



WHY USE AN ACC FILTER CONNECTOR?

Amphenol Canada excels in electromagnetic compatibility, evident in connectors designed to surpass technological requirements. ACC's stress-isolated planar array, using retention clips instead of solder, ensures a robust design, outperforming discrete filters by blocking radiated and filtering conducted EMI.

Innovative features, like the ground plate or internal ground electrodes, showcase Amphenol Canada's commitment to new connectivity standards, influencing space utilization, weight distribution, and assembly processes. This forward-thinking approach positions Amphenol Canada as a leader in delivering connectors meeting the stringent demands of aerospace applications.



ADVANTAGES

- Cost-Effective with Fewer Components
- Space Efficiency on PCB
- Reliability through Solder-less Designs
- Versatility for Retrofit or Late Design-In
- Dual Defense Against Radiated and Conducted EMI

FILTER CONNECTOR DESIGN

For military or avionics applications, two capacitor types are commonly used in filter connectors: planar arrays and tubular capacitors. Both capacitor types are efficient filters at high frequencies (> 1 GHz) and have been proven to be extremely reliable when assembled suitably into a connector. The unique solderless construction of both planar and tubular designs reduces stress on the ceramic elements and results in superior physical and thermal shock capabilities, which is a hallmark of Amphenol Canada's approach.

PLANAR ARRAY

Amphenol Canada's planar design consists of planar ceramic capacitor arrays with optional ferrites assembled concentrically over the contacts and into the connector shell. The planars are compressed between rubber gaskets and have contact springs in each position which form a stress isolated connection with the contact body. The planars are grounded to the shell via a ground spring.

TUBULAR CAPACITOR

Amphenol Canada's tubular design consists of a ceramic tubular capacitor assembled onto a achined contact. The filter tube is connected to the contact with conductive rubber washers to provide a stress-isolated contact assembly. Grounding is achieved via a ground plate.

FILTER CONNECTOR SELECTION

Choosing the right filter circuit involves aligning insertion loss characteristics with the system's source and load impedances. Combining capacitive and inductive elements creates diverse equivalent circuits, and our ferrite elements are strategically placed on the low impedance side. Amphenol Canada provides versatile filter variants with a wide range of capacitance and voltage values, offering flexibility in connector insert selection.

Beyond filter contacts, Amphenol Canada also offers insulated contacts, ground contacts, and sealing plugs. This comprehensive product range ensures tailored solutions for diverse application requirements while adhering to professional standards.

The following factors may affect the filter performance, and should be considered when selecting a filter connector and Amphenol Canada takes these into account when designing your filter solution

OPERATING CURRENTS

Operating currents induce magnetic saturation in filter ferrites, shifting their behavior towards a capacitor as currents rise, typically above 0.1 A. Selecting a filter connector requires careful consideration of operating currents to prevent saturation issues and ensure optimal performance.

OPERATING TEMPERATURE RANGE

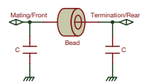
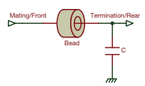
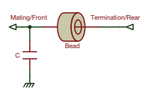
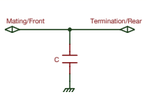
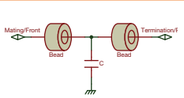
Operating temperature impacts connector performance in capacitance and insertion loss. Common dielectrics remain stable within +/- 15% from -55°C to +125°C. Choose a filter connector mindful of this range for consistent performance in various conditions.

OPERATING VOLTAGE

Operating/working voltage is specified for the normal signal line voltage. Dielectric Withstanding Voltage (DWV) is specified for the transient voltage surges.

TRANSIENT VOLTAGE REQUIREMENTS

Some transient voltage suppression requirements such as lightning strikes may necessitate the addition of diodes or MOV's to the PCB or in the connector.

FILTER TYPES	FILTER CIRCUIT	BEST FILTERING APPLICATION
PI		Unknown or medium source and load Impedance
LC		Low impedance on mating side, high impedance on termination side
CL		High impedance on mating side, low impedance on termination side
C		High source and high load impedance
T		Low source and low load impedance

High source/load impedance > 100Ω | Low source/load impedance < 100Ω

FILTER TYPES

T FILTER (L-C-L)

- 20 dB per frequency Decade Typical Increase in Attenuation Slope
- Used where applications contain Low Source and Load Impedance
- Switch-mode Power Supplies are Typical Applications

L FILTER (L-C)

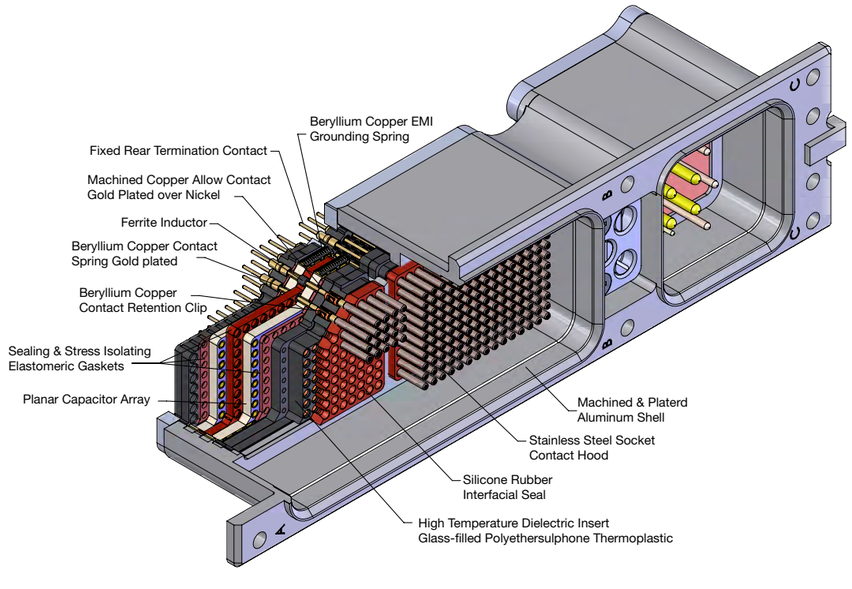
- 20 dB per frequency decade typical increase in attenuation slope
- Used where source and load impedance are dissimilar
- Ferrite side of filter is connected to lower impedance side of circuit
- Capacitor side to higher impedance side

PI FILTER (C-L-C)

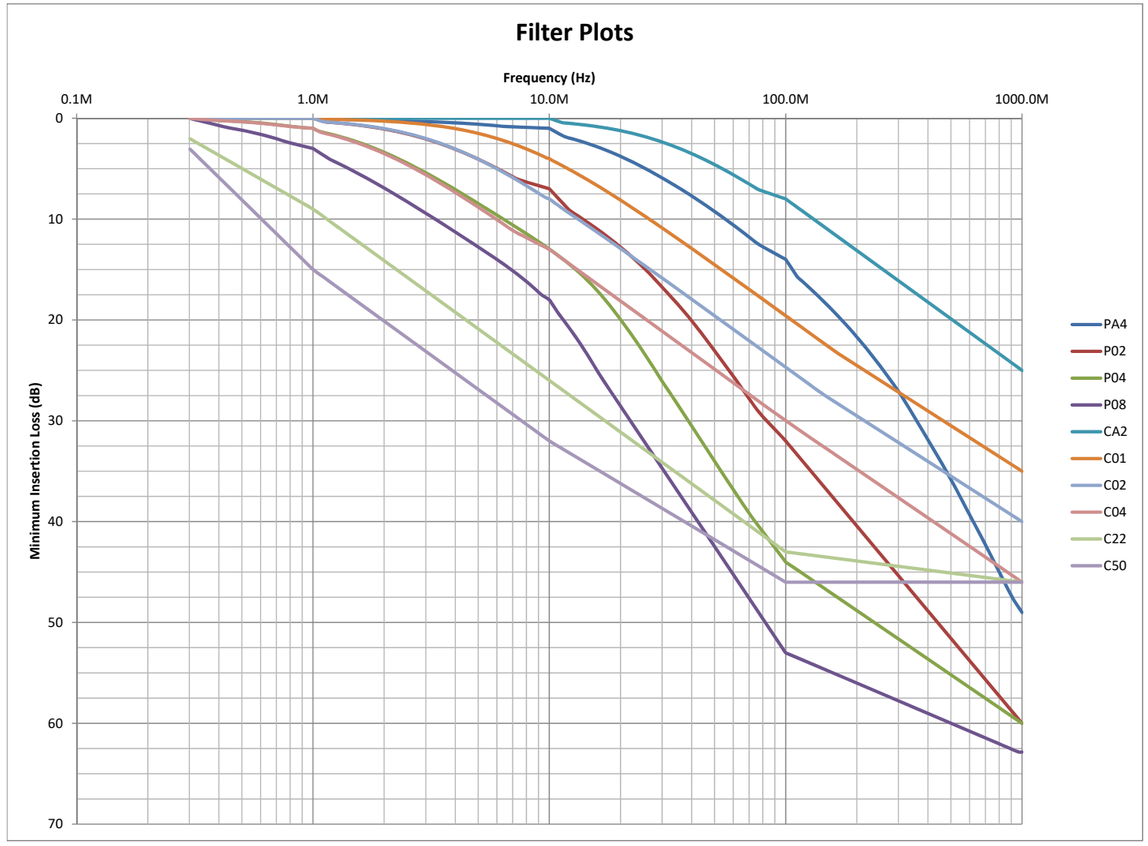
- 40 dB per Frequency Decade Typical Increase in Attenuation Slope
- Used where Applications Contain Relatively Higher Source and Load Impedance

CAPACITOR FILTER (C)

- 20 dB per Frequency Decade Typical Increase in Attenuation Slope
- Used mainly for High Frequency Noise
- With High Source and Load Impedance



Specs. / Filter Type		PI				C, LC, CL, T					
		PA4	P02	P04	P08	CA2	C01	C02	C04	C22	C50
Capacitance (nF)		0.4 - 0.8	1.8 - 3.6	4.0 - 8.0	8.0 - 16.0	0.2 - 0.4	0.9 - 1.8	1.8 - 3.6	4.0 - 8.0	22.0 - 40.0	50.0 - 100.0
Insertion Loss (dB)	300 KHz	-	-	-	-	-	-	-	-	2	3
	1 MHz	-	-	1	3	-	-	-	1	9	15
	10 MHz	1	7	13	18	-	4	8	13	26	32
	100 MHz	14	32	44	53	8	20	25	30	43	46
	1 GHz	49	60	60	63	25	35	40	46	46	46
Working voltage (VDC) @ 25° & sea level		200									
Dielectric Withstand voltage (VDC) 25°C & 50 mA max charging current		500									
Insulation Resistance (Gohms) (min) @ 25°C & working voltage		10									
Current Rating by Contact Size continuous max, DC amperes		#12 = 23 A		#16 = 13 A		#20 = 7.5 A			#22 = 23 A		
Dissipation Factor @ 1kHz		3% Max									



HOW TO ORDER

PART NUMBER KEY

1 Filter Series		2 Connector Series	3 Class	4 Shell Style	5 Termination Style	6 Connector Size	7 Polarizing Position		8 Customer Number
485	-	M	1	A	S	1	XX	-	XXX

1 Filter Series

485	Filter Connector

2 Connector Series

M	MMA SERIES

3 Class

1	Unsealed	2	Sealed

4 Shell Style

A	Adapter
P	Plug
R	Receptacle

5 Termination Style

B	PCB
S	Solder Cup
T	Crimp

6 Connector Size

0	Custom	4	Size 4
1	Size 1	5	Size 5
2	Size 2	6	Size 6
3	Size 3		

7 Polarizing Position

XX	Polarization Code
KK	Supplied but not installed
NN	Polarization not supplied

8 Customer Number

3 digits deviation code

Amphenol CANADA
MILITARY & AEROSPACE

Micro-D Connectors Catalog

Product Overview Brochure

Multi-Modular ARINC Catalog

Visit amphenolcanada.com/media
for literature, product data sheets, videos and Patents

R58 Catalog

ARINC 600 Catalog

ARINC 404 Catalog

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