



## PRODUCTS

CIN::APSE  
MICROMINIATURE  
D-SUB

### Filter D

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## FILTER D TECHNICAL DATA

<b>Termination options</b>	Solder bucket, flow solder, Straight & 90°, Mini wrap.				
<b>Number of contacts</b>	9	15	25	27	50
<b>Maximum insertion and extraction force</b>	30	50	83	123	167N
<b>Performance level</b>	1, 2 & 3				
<b>Wire accommodation</b>	≤ 0.5mm (20AWG)				
<b>Plug contact material</b>	Copper alloy				
<b>Socket contact material</b>	Copper alloy				
<b>Current rating</b>	5A				
<b>Capacitance</b>	330pF Tol +50%-20%, 1000pF and 2000pF Tol +80%-20%				
<b>Working voltage</b>	200V d.c. or a.c. peak				
<b>Contact resistance</b>	5 X 10 <sup>-3</sup> ohm max.				
<b>Insulation resistance</b>	≥ 5 X 10 <sup>9</sup> ohm				
<b>Temperature range</b>	-25°C to +85°C				
<b>Insulator materials</b>	High impact Epoxy & GF Polyester UL94V-0 rated				
<b>Shell materials</b>	<b>Front:</b> Steel-Bright tin finish with grounding indents on plugs <b>Rear:</b> Electrolytic Nickel				

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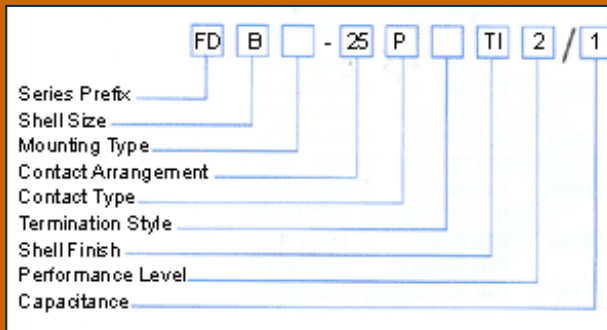
### IDC

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Accessories

### OTHER TECHNOLOGY



## FILTER D PART NUMBERING



<b>Series Prefix</b>	<b>FD</b>	Filtered D (Standard Prefix)
<b>Shell Size</b>	<b>E, A, B, C, or D</b>	(All standard)
<b>Mounting Type</b>	<b>B</b>	4-40 rivnut for rear panel mounting (Standard)
	<b>P</b>	M3 rivnut for rear panel mounting
	<b>D</b>	With female screw locks fitted
	<b>E</b>	4-40 clinch-nut for rear panel mounting with locking feature for high vibration applications
	<b>Y</b>	Universal float mount
	<b>No designation</b>	Ø3.05mm mounting hole (Standard) 90° Flow Solder versions are not available with float mounts
<b>Contact Arrangement</b>	<b>9, 15, 25, 37, or 50</b>	(All standard)
<b>Contact Type</b>	<b>P or S</b>	(Both Standard)
<b>Termination Style</b>	<b>90° Flow Solder</b>	
<b>European Footprint</b>	<b>1A0N</b>	Without brackets
	<b>1A2N</b>	With plastic brackets and keeper moulding*
	<b>1AEN</b>	With earthing straps on plastic brackets (Standard) with keeper moulding*
	<b>1ASN</b>	With board locks, earthing straps, plastic (Standard) brackets and keeper moulding*
	* Please specify rivnuts or screw locks, mounting types B, P, or D (rivnuts Standard)	
<b>Straight Flow Solder</b>	<b>OL2</b>	Termination 0.6mm, 5.3mm long.
	<b>BL2</b>	As OL2 with vertical Board locks 4/40 threads.
<b>Solder Bucket</b>	<b>No designation required (Standard)</b>	
<b>Shell Finish</b>	<b>T</b>	Bright tin (Standard) Bright tin with grounding indents (plug only)
	<b>TI</b>	Nickel on rear shell (Standard)
<b>Performance Level</b>	<b>1</b>	Exceeds Din Class 2
	<b>2</b>	Din Class 2 (Standard)
	<b>3</b>	Exceed DIN Class 3



<b>Capacitance</b>	<b>1</b>	1000pF
	<b>2</b>	2000pF
	<b>3</b>	330pF

Custom of selectively loaded products available.  
Consult sales or office

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## IDC

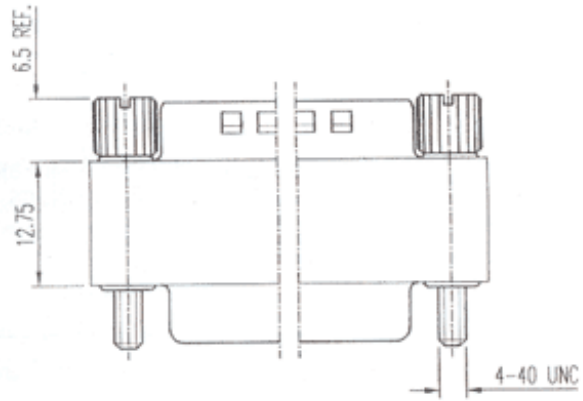
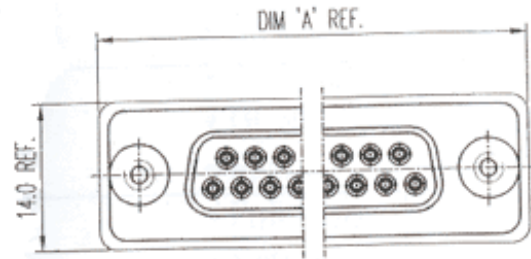
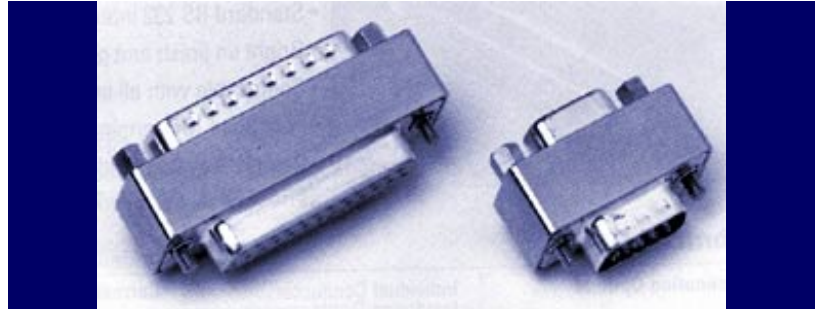
- Basic D
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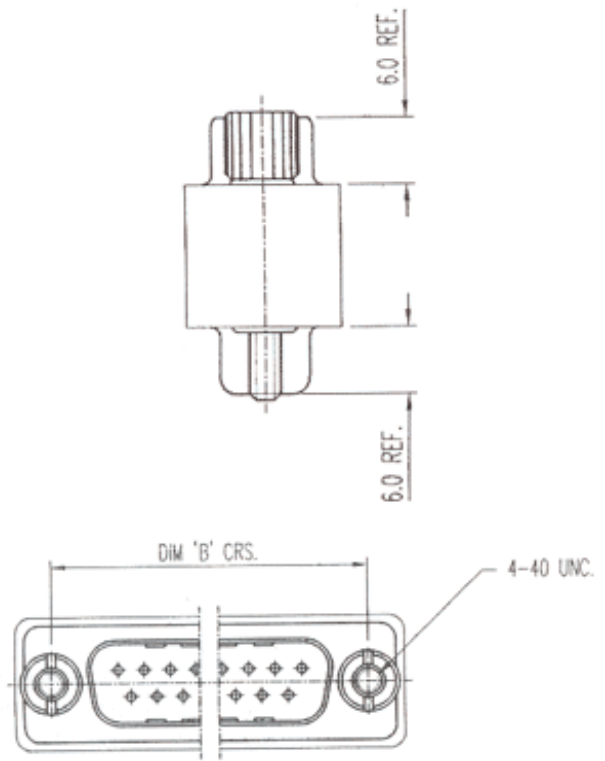
## OTHER TECHNOLOGY



# FILTER D FILTER ADAPTOR

Male / Female Filtering Adaptor





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## OTHER TECHNOLOGY



## FILTER D TECHNICAL INFORMATION

Part Number	Working Voltage	Proof Voltage	Capacitance To Ground	Capacitance Tolerance	Temperature Range	DIM "A" REF.	DIM "B" REF.
FA9 PS/1	200V *	500V	1000pF	+80% - 20%	-25°C to +85°C	32.7	24.99
FA9PS/3			330pF	+50% - 20%			
FA15 PS/1	200V *	500V	1000pF	+80% - 20%	-25°C to +85°C	41.0	33.32
FA15 PS/3			330pF	+50% - 20%			
FA25 PS/1	200V *	500V	1000pF	+80% - 20%	-25°C to +85°C	54.9	47.04
FA25 PS/3			330pF	+50% - 20%			
FA37 PS/1	200V *	500V	1000pF	+80% - 20%	-25°C to +85°C	71.2	63.50
FA37 PS/3			330pF	+50% - 20%			

\*DC or AC PEAK

**GENERAL SPECIFICATION** - MECHANICAL, ELECTRICAL & ENVIRONMENTAL PERFORMANCE IN LINE WITH REQUIREMENTS OF DIN CLASS 2

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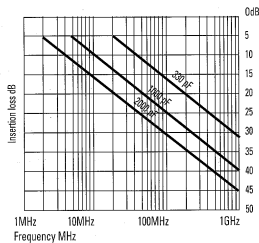
Edition 11/98

## FILTER D CONNECTORS

CINCH has been producing filter connectors for years and has acquired an in depth knowledge of EMC protection. CINCH offers fast delivery on a wide range of standard filtered connectors and will be your partner to design the product you need to meet European and FCC regulations.

### Features

- The Cinch Filter D Sub is a high quality turned pin contact connector.
- Tubular capacitors are individually inserted on each contact.
- The encapsulation of capacitors is made with epoxy for maximum resistance to hazardous environments.
- Cinch filter D Sub have the same size and footprint as standard D Sub connectors.
- Meets the relevant dimensional requirements of CECC 73301- 802, MIL-C 24308, DIN 41652, BS 9523 F0013, BT 217, HE501.
- Bright tin or nickel finish with grounding indent for EMI/RFI shielding.



Typical performance relates to 50  $\Omega$  system  
Mil -Std. - measured at 1 KHz 0.1 rms

1-1000 pF  
2-2000 pF  
3-330 pF

### Technical Data

Termination options	Solder bucket, Flow solder, Straight & 90°, Mini wrap.
Number of contacts	9 15 25 27 50
Maximum insertion and extraction force	30 50 83 123 167N
Performance level	1,2 & 3
Wire accommodation	$\leq 0,5$ mm <sup>2</sup> (20 AWG)
Plug contact material	Copper alloy
Socket contact material	Copper alloy

Current rating	5A
Capacitance	330 pF Tol + 50% - 20%, 1000 pF and 2000pF Tol + 80% - 20%
Working voltage	200 V d.c. or a.c. peak
Contact resistance	$5 \times 10^{-3} \Omega$ max
Insulation resistance	$\geq 5 \times 10^4 \Omega$
Temperature range	-40° to + 125°C
Insulator materials	High impact Epoxy & GF Polyester UL94V-0 rated
Shell materials	Front: Steel-Bright tin finish with grounding indents on plugs Rear: Electrolytic Nickel

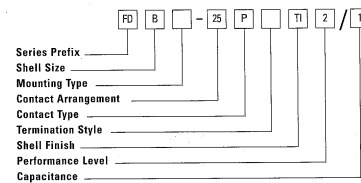
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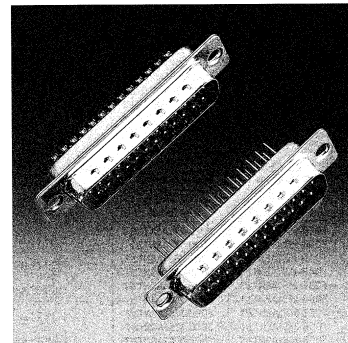
Edition 11/98

## FILTER D CONNECTORS

### Part Numbering



Series Prefix	FD	- Filtered D (Standard Prefix)
Shell Size	E, A, B, C or D (All Standard)	
Mounting Type	B	- 4-40 rivnut for rear panel mounting (Standard)
	P	- M3 rivnut for rear panel mounting
	D	- With female screw locks fitted
	E	- 4-40 clinch-nut for rear panel mounting with locking feature for high vibration applications
	F	- Float mount for rear panel mounting
	Y	- Universal float mount
No designation		- $\varnothing$ 3.05 mm mounting hole (Standard) 90° Flow Solder versions are not available with float mounts
Contact Arrangement	9, 15, 25, 37 or 50 (All Standard)	
Contact Type	P or S (Both Standard)	
Termination Style	90° Flow Solder	
European Footprint	1A0N	- Without brackets (Standard)
	1A2N	- With plastic brackets and keeper moulding
	1AEN	- With earthing straps on plastic brackets (Standard) with keeper moulding"
	1ASN	- With board locks, earthing straps, plastic (Standard) bracket and keeper moulding"
	*Please specify rivnuts or screw locks, mounting types B, P, or D (rivnuts Standard)	
Straight Flow Solder	OL2	- Termination 0.6 mm, 5.3 mm long (Standard)
	BL2	- As OL2 with vertical Boardlocks 4/40 threads
	F179A	- 0.61 mm square section pins for up to 3 wrap.
Solder Bucket No designation required (Standard)		
Shell Finish	T	- Bright tin (Standard)
	TI	- Bright tin with grounding indents (plugs only)
		- Nickel on rear shell
(Standard)		
Performance Level	1	- Exceeds Din Class 2
	2	- Din Class 2 (Standard)
	3	- Exceeds DIN Class 3
Capacitance	1	- 1000 pF
	2	- 2000 pF
	3	- 330 pF
	Custom or selectively loaded products available. Consult sales office.	



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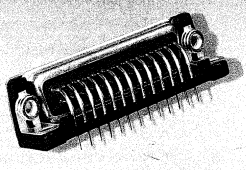
Best Sellers

### FILTERED D

Edition 11/88

#### Solder Bucket

Number of Contacts	Performance Level	Capacitance Value	Plug		Socket	
			Tin/Nickel Indent Plated Shell	Tin/Nickel Plated Shell	Tin/Nickel Indent Plated Shell	Tin/Nickel Plated Shell
9	2	330pf	FDE-9PTI2/3	FDE-9ST2/3	FDE-9PTI2/1	FDE-9ST2/1
15	2	330pf	FDA-15PTI2/3	FDA-15ST2/3	FDA-15PTI2/1	FDA-15ST2/1
25	2	330pf	FDB-25PTI2/3	FDB-25ST2/3	FDB-25PTI2/1	FDB-25ST2/1
37	2	330pf	FDC-37PTI2/3	FDC-37ST2/3	FDC-37PTI2/1	FDC-37ST2/1
50	2	330pf	FDD-50PTI2/3	FDD-50ST2/3	FDD-50PTI2/1	FDD-50ST2/1



#### Straight PCB Mount

Number of Contacts	Performance Level	Capacitance Value	Plug		Socket	
			Tin/Nickel Indent Plated Shell	Tin/Nickel Plated Shell	Tin/Nickel Indent Plated Shell	Tin/Nickel Plated Shell
9	2	330pf	FDE-9POL2T1/2/3	FDE-9POL2T1/2/3	FDE-9SOL2T1/2/3	FDE-9SBL2T1/2/3
15	2	330pf	FDA-15POL2T1/2/3	FDA-15POL2T1/2/3	FDA-15SOL2T1/2/3	FDA-15SBL2T1/2/3
25	2	330pf	FDB-25POL2T1/2/3	FDB-25POL2T1/2/3	FDB-25SOL2T1/2/3	FDB-25SBL2T1/2/3
37	2	330pf	FDC-37POL2T1/2/3	FDC-37POL2T1/2/3	FDC-37SOL2T1/2/3	FDC-37SBL2T1/2/3
50	2	330pf	FDD-50POL2T1/2/3	FDD-50POL2T1/2/3	FDD-50SOL2T1/2/3	FDD-50SBL2T1/2/3

#### 90° PCB - Plug

Number of Contacts	Performance Level	Capacitance Value	Open Frame		Earthing Straps		Snap In Boardlock	
			Tin/Nickel Indent Plated Shell	Tin/Nickel Plated Shell	Tin Indent Shell 4-40 Rivnut	Tin Indent Shell 4-40 Rivnut	Tin Indent Shell 4-40 Rivnut	Tin Indent Shell 4-40 Rivnut
9	2	330pf	FDE-9P1AONT1/2/3	FDE-9P1AONT1/2/3	FDEB-9P1AENT1/2/3	FDEB-9P1AENT1/2/3	FDEB-9P1ASNT1/2/3	FDEB-9P1ASNT1/2/3
15	2	330pf	FDA-15P1AONT1/2/3	FDA-15P1AONT1/2/3	FDEB-15P1AENT1/2/3	FDEB-15P1AENT1/2/3	FDEB-15P1ASNT1/2/3	FDEB-15P1ASNT1/2/3
25	2	330pf	FDB-25P1AONT1/2/3	FDB-25P1AONT1/2/3	FDEB-25P1AENT1/2/3	FDEB-25P1AENT1/2/3	FDEB-25P1ASNT1/2/3	FDEB-25P1ASNT1/2/3
37	2	330pf	FDC-37P1AONT1/2/3	FDC-37P1AONT1/2/3	FDEB-37P1AENT1/2/3	FDEB-37P1AENT1/2/3	FDEB-37P1ASNT1/2/3	FDEB-37P1ASNT1/2/3
50	2	330pf	FDD-50P1AONT1/2/3	FDD-50P1AONT1/2/3	FDEB-50P1AENT1/2/3	FDEB-50P1AENT1/2/3	FDEB-50P1ASNT1/2/3	FDEB-50P1ASNT1/2/3

#### 90° PCB - Socket

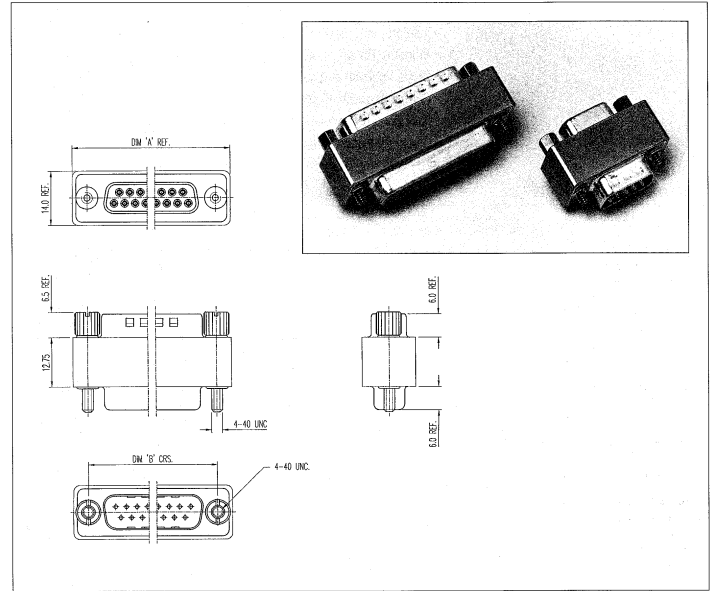
Number of Contacts	Performance Level	Capacitance Value	Open Frame		Earthing Straps		Snap In Boardlock	
			Tin/Nickel Indent Plated Shell	Tin/Nickel Plated Shell	Tin Shell 4-40 Rivnut	Tin Shell 4-40 Rivnut	Tin Shell 4-40 Rivnut	Tin Shell 4-40 Rivnut
9	2	330pf	FDE-9S1AONT2/3	FDE-9S1AONT2/3	FDEB-9S1AENT2/3	FDEB-9S1AENT2/3	FDEB-9S1ASNT2/3	FDEB-9S1ASNT2/3
15	2	330pf	FDA-15S1AONT2/3	FDA-15S1AONT2/3	FDEB-15S1AENT2/3	FDEB-15S1AENT2/3	FDEB-15S1ASNT2/3	FDEB-15S1ASNT2/3
25	2	330pf	FDB-25S1AONT2/3	FDB-25S1AONT2/3	FDEB-25S1AENT2/3	FDEB-25S1AENT2/3	FDEB-25S1ASNT2/3	FDEB-25S1ASNT2/3
37	2	330pf	FDC-37S1AONT2/3	FDC-37S1AONT2/3	FDEB-37S1AENT2/3	FDEB-37S1AENT2/3	FDEB-37S1ASNT2/3	FDEB-37S1ASNT2/3
50	2	330pf	FDD-50S1AONT2/3	FDD-50S1AONT2/3	FDEB-50S1AENT2/3	FDEB-50S1AENT2/3	FDEB-50S1ASNT2/3	FDEB-50S1ASNT2/3

### FILTER ADAPTOR



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#### Male / Female Filtering Adaptor



#### Technical, Part Numbering Information

	Working Voltage	Proof Voltage	Capacitance To Ground	Capacitance Tolerance	Temperature Range	DIM "A" REF.	DIM "B" REF.
FA 9 PS/1	200V DC OR AC PEAK	500V	1000 pF	+80% - 20%	-40° +125°C	32.7	24.99
FA 9 PS/3			330 pF	+50% - 20%			
FA 15 PS/1	200V DC OR AC PEAK	500V	1000 pF	+80% - 20%	-40° +125°C	41.0	33.32
FA 15 PS/3			330 pF	+50% - 20%			
FA 25 PS/1	200V DC OR AC PEAK	500V	1000 pF	+80% - 20%	-40° +125°C	54.9	47.04
FA 25 PS/3			330 pF	+50% - 20%			
FA 37 PS/1	200V DC OR AC PEAK	500V	1000 pF	+80% - 20%	-40° +125°C	71.2	63.50
FA 37 PS/3			330 pF	+50% - 20%			

GENERAL SPECIFICATION - MECHANICAL, ELECTRICAL & ENVIRONMENTAL PERFORMANCE IN LINE WITH REQUIREMENTS OF DIN CLASS 2