



DEUTSCH H92 Series Filter Connectors

MIL-DTL-38999 SERIES II



MATING COMPATIBILITY

- MIL-DTL 38999 Series II connectors

SPACE AND WEIGHT SAVINGS

- Low profile
- Reduced weight

RELIABLE

- Positive bayonet coupling

VERSATILE

- Wide range of connector shell configurations
- Configurable filter topologies

DESIGNED FOR HARSH ENVIRONMENTS

- Vibration and shock
- Temperature extremes
- High humidity
- Altitude
- Salt spray

MIL-DTL-38999 Series II connectors are subminiature, environmental-class connectors with high and medium-density insert arrangements. They are used where a quick-disconnect coupling system is required for blind mating or other problem areas. They use the same three-point bayonet coupling method as the Series I, but feature a reduced interface length to minimize the overall length of the connector and thereby save space and weight. The reduced interface length means the connectors are not scoop proof. Available with crimp contacts, PC tails, solder cups and headers, they feature various plating options available and five keying options.

SPECIFICATIONS

Environmental

- **Temperature Range:** -55°C to 125°C
- **Physical Shock:** Typical to EIA-364-27 test condition C
- **Vibration:** Typical to EIA-364-28
- **Fungus Resistance:** Based on MIL-STD-810
- **Fluid Immersion:** Typically tested to EIA-364-10
- **Salt Spray:** Typically based on EIA/ECA-364-26
- **Humidity:** Typically EIA-364-31 test method IV
- **Durability:** 1500 cycles for Classes J and M and 500 cycles for all other connectors as per 38999 spec

Electrical

- **Grounded Line Resistance (Typ.):** 15 mΩ
- **Insulation Resistance (Typ.):** >5 GΩ
- **Dielectric Withstand (Typ.):** <5 μA
- **DWV:** up to 2000 VDC
- **Working Voltage:** up to 2000 VDC
- **Typical Test Specifications Used:**
MIL-STD-810: Test Method Standard
MIL-STD-202: Electrical & Electronic Component Parts
RTCA DO-160: Test Procedures for Airborne Equipment
EIA-364: Electrical Connector & Socket Test Procedures

Filtering

- **Capacitance Range:** 20 pF to 4 μF
- **Capacitance Tolerance:** Typically 20%
- **Unfiltered Line Cap (Typ.):** 15 pF
- **Filtering Topologies:** L, C, LC, CL, Pi, T, Double T

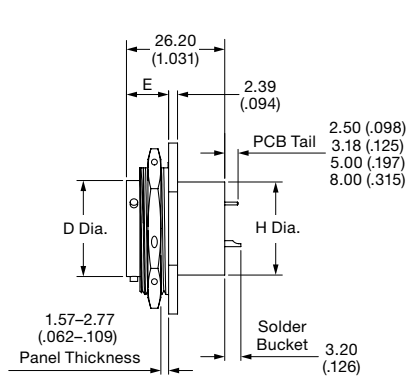
Transient protection available as per RTCA Publication DO 160 (see page 55).



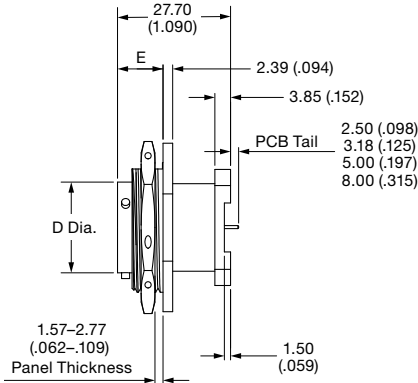
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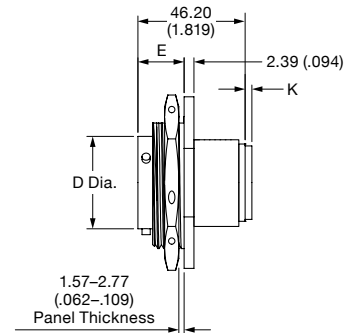
Jam Nut Receptacle Connectors



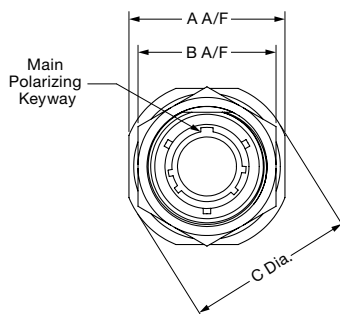
Single Flange



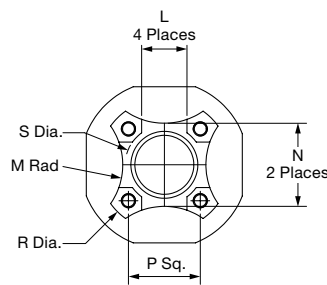
Double Flange



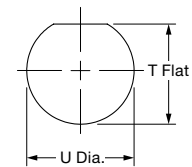
Single Flange, Crimp Contacts



Front View



Double Flange Footprint



Recommended Panel Cutout

Shell Size	A A/F	B A/F	C Dia.	D Dia.	E	H Dia. Max.	K	L Ref.	M Rad Ref.	N Ref.	P Sq.	R Dia.	S Dia.	Mounting Dims	
														T Flat	U Dia.
8	31.75 (1.250)	26.97 (1.062)	34.93 (1.375)	12.04 (0.474)		15.09 (0.594)		8.00 (0.315)	9.00 (0.354)	15.50 (0.610)	14.00 (0.551)	27.06 (1.065)	14.34 (0.565)	21.08 (0.830)	22.48 (0.885)
10	34.93 (1.375)	30.18 (1.188)	38.10 (1.500)	15.01 (0.591)		15.09 (0.594)		8.00 (0.315)	9.00 (0.354)	15.50 (0.610)	14.00 (0.551)	27.06 (1.065)	14.34 (0.565)	24.26 (0.955)	25.65 (1.010)
12	38.10 (1.500)	33.33 (1.312)	41.28 (1.625)	19.08 (0.751)		18.26 (0.719)		8.00 (0.315)	12.00 (0.472)	18.65 (0.734)	17.00 (0.669)	32.06 (1.262)	17.42 (0.686)	27.56 (1.085)	28.83 (1.135)
14	41.28 (1.625)	36.53 (1.438)	44.45 (1.750)	22.25 (0.876)	11.13 (0.438)	21.44 (0.844)	3.05 (0.120)	12.00 (0.472)	18.00 (0.709)	22.00 (0.866)	19.00 (0.748)	35.06 (1.380)	20.72 (0.816)	30.73 (1.210)	32.01 (1.260)
16	45.24 (1.781)	39.68 (1.562)	49.23 (1.938)	25.43 (1.001)		24.61 (0.969)		12.00 (0.472)	20.00 (0.787)	25.25 (0.994)	22.00 (0.866)	39.06 (1.538)	23.89 (0.941)	33.91 (1.335)	35.18 (1.385)
18	48.01 (1.890)	42.86 (1.688)	51.21 (2.016)	28.60 (1.126)		27.38 (1.078)		16.00 (0.630)	22.00 (0.866)	28.40 (1.118)	25.00 (0.984)	42.06 (1.656)	26.43 (1.041)	37.08 (1.460)	38.35 (1.510)
20	51.21 (2.016)	46.02 (1.812)	54.38 (2.141)	31.77 (1.251)		30.56 (1.203)		16.00 (0.630)	22.00 (0.866)	31.55 (1.242)	27.00 (1.063)	45.06 (1.774)	29.58 (1.165)	40.26 (1.585)	41.53 (1.635)
22	54.36 (2.140)	50.80 (2.000)	57.53 (2.265)	34.95 (1.376)	11.79 (0.464)	33.73 (1.328)		16.00 (0.630)	22.00 (0.866)	34.50 (1.358)	29.00 (1.142)	48.06 (1.892)	32.76 (1.290)	43.42 (1.709)	44.70 (1.760)
24	57.53 (2.265)	53.96 (2.125)	60.71 (2.390)	38.13 (1.501)		36.91 (1.453)	2.29 (0.090)	16.00 (0.630)	24.00 (0.945)	37.30 (1.469)	31.00 (1.221)	51.06 (2.010)	35.83 (1.411)	46.61 (1.835)	47.88 (1.885)

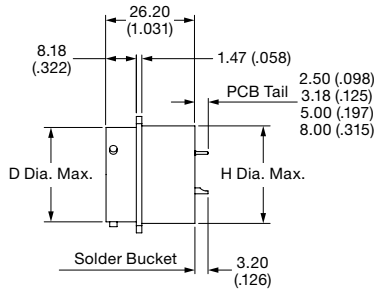
See page 29 for insert arrangements and back cover for configuration sheet.



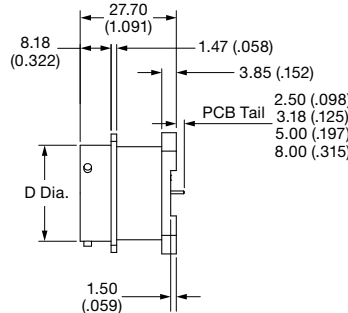
DEUTSCH H92 Series Filter Connectors

MIL-DTL-38999 SERIES II

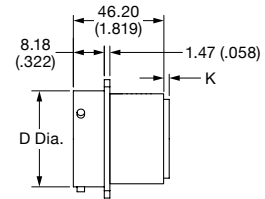
Square Flange Receptacle Connectors



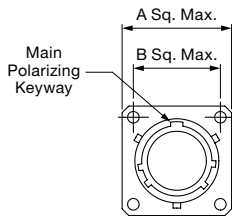
Single Flange



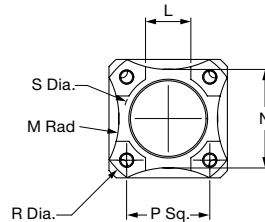
Double Flange



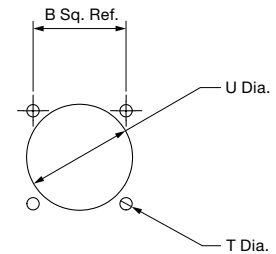
Single Flange, Crimp Contacts



Front View



Double Flange Footprint



Square Flange Mounting

Shell Size	A Sq. Max.	B Sq.	D Dia. Max.	H Dia. Max.	K	L Ref.	M Rad Ref.	N Ref.	P Sq.	R Dia.	S Dia.	Mounting Holes	
												T Dia.	U Dia. Min.
8	21.03 (0.828)	15.09 (0.594)	12.04 (0.474)	15.09 (0.594)		8.00 (0.315)	9.00 (0.354)	15.50 (0.610)	14.00 (0.551)	27.06 (1.065)	14.34 (0.565)		14.15 (0.557)
10	24.23 (0.954)	18.26 (0.719)	15.01 (0.591)	15.09 (0.594)		8.00 (0.315)	9.00 (0.354)	15.50 (0.610)	14.00 (0.551)	27.06 (1.065)	14.34 (0.565)		17.32 (0.682)
12	26.59 (1.047)	20.62 (0.812)	19.08 (0.751)	18.26 (0.719)		8.00 (0.315)	12.00 (0.472)	18.65 (0.734)	17.00 (0.669)	32.06 (1.262)	17.42 (0.686)		21.69 (0.854)
14	28.98 (1.141)	23.01 (0.906)	22.25 (0.876)	21.44 (0.844)	3.05 (0.120)	12.00 (0.472)	18.00 (0.709)	22.00 (0.866)	19.00 (0.748)	35.06 (1.380)	20.72 (0.816)	3.25 (0.128)	24.87 (0.979)
16	31.34 (1.234)	24.61 (0.969)	25.43 (1.001)	24.61 (0.969)		12.00 (0.472)	20.00 (0.787)	25.25 (0.994)	22.00 (0.866)	39.06 (1.538)	23.89 (0.941)		28.04 (1.104)
18	33.73 (1.328)	26.97 (1.062)	28.60 (1.126)	27.38 (1.078)		16.00 (0.630)	22.00 (0.866)	28.40 (1.118)	25.00 (0.984)	42.06 (1.656)	26.43 (1.041)		31.22 (1.229)
20	36.91 (1.453)	29.36 (1.156)	31.77 (1.251)	30.56 (1.203)		16.00 (0.630)	22.00 (0.866)	31.55 (1.242)	27.00 (1.063)	45.06 (1.774)	29.58 (1.165)		34.39 (1.354)
22	40.08 (1.578)	31.75 (1.250)	34.95 (1.376)	33.73 (1.328)		16.00 (0.630)	22.00 (0.866)	34.50 (1.358)	29.00 (1.142)	48.06 (1.892)	32.76 (1.290)	3.91 (0.154)	37.57 (1.479)
24	43.26 (1.703)	34.93 (1.375)	38.13 (1.501)	36.91 (1.453)	2.29 (0.090)	16.00 (0.630)	24.00 (0.945)	37.30 (1.469)	31.00 (1.221)	51.06 (2.010)	35.83 (1.411)	3.81 (0.150)	40.74 (1.604)

See page 29 for insert arrangements and back cover for configuration sheet.

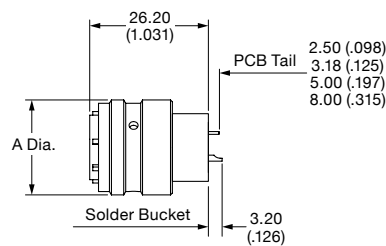


DEUTSCH H92 Series Filter Connectors

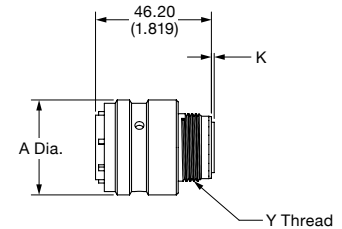
MIL-DTL-38999 SERIES II

Plug Connectors

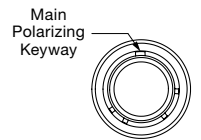
Shell Size	A Dia. Max.	K Max.	Y Thread*
8	17.75 (0.699)		0.4375 - 28
10	21.05 (0.829)		0.5625 - 24
12	24.60 (0.969)		0.6875 - 24
14	28.05 (1.104)	3.05 (0.120)	0.8125 - 20
16	31.10 (1.224)		0.9375 - 20
18	34.40 (1.354)		1.0625 - 18
20	37.65 (1.482)		1.1875 - 18
22	40.90 (1.610)		1.3125 - 18
24	44.10 (1.736)	2.29 (0.090)	1.4375 - 18



PCB/Solder Bucket Contacts



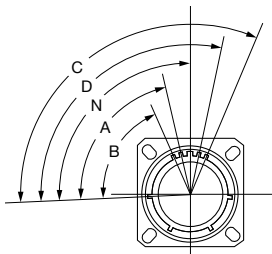
Crimp Contacts



Front View

Keying Options

(Viewed from Mating Face of the Receptacle Connector)



Shell Size	Key Position				
	N	A	B	C	D
9	95	77	—	—	113
11	95	81	67	123	109
13	95	75	63	127	115
15	95	74	61	129	116
17	95	77	65	125	113
19	95	77	65	125	113
21	95	77	65	125	113
23	95	80	69	121	110
25	95	80	69	121	110

See page 29 for insert arrangements and back cover for configuration sheet.



Insert Arrangements

- **Filter Connector Series:** H91, H92, H93, H94, HDJ, AS
- **Industry Specification:** MIL-DTL-38999
- **Insert Arrangement Specification:** MIL-STD-1560
- **Notes:** H91, H92, H93, H94 connectors use odd numbers for shell sizes
 HDJ and AS connectors use even numbers for shell sizes
 Shaded rows are TE-specific configurations not covered in MIL-STD-1560

Shell Size	Arrangement	Contact Size and Type													
		0	4	8 Twin	8 Coax	8 Power	12 Twin	12 Coax	10	12	16	20	22	23	24
9 (8)	09-98 (08-98)	–	–	–	–	–	–	–	–	–	–	3	–	–	–
	09-35 (08-35)	–	–	–	–	–	–	–	–	–	–	–	6	–	–
	09-07 (08-07)	–	–	–	–	–	–	–	–	–	–	–	7	–	–
	09-23 (08-23)	–	–	–	–	–	–	–	–	–	–	–	–	9	–
	09-11 (08-11)	–	–	–	–	–	–	–	–	–	–	–	–	–	11
11 (10)	11-02 (10-02)	–	–	–	–	–	–	–	–	–	2	–	–	–	–
	11-04 (10-04)	–	–	–	–	–	–	–	–	–	–	4	–	–	–
	11-05 (10-05)	–	–	–	–	–	–	–	–	–	–	5	–	–	–
	11-98 (10-98)	–	–	–	–	–	–	–	–	–	–	6	–	–	–
	11-99 (10-99)	–	–	–	–	–	–	–	–	–	–	7	–	–	–
	11-35 (10-35)	–	–	–	–	–	–	–	–	–	–	–	13	–	–
	11-23 (10-23)	–	–	–	–	–	–	–	–	–	–	–	–	19	–
11-23 (10-23)	–	–	–	–	–	–	–	–	–	–	–	–	–	23	
13 (12)	13-04 (12-04)	–	–	–	–	–	–	–	–	–	4	–	–	–	–
	13-08 (12-08)	–	–	–	–	–	–	–	–	–	–	8	–	–	–
	13-98 (12-98)	–	–	–	–	–	–	–	–	–	–	10	–	–	–
	13-35 (12-35)	–	–	–	–	–	–	–	–	–	–	–	22	–	–
	13-23 (12-23)	–	–	–	–	–	–	–	–	–	–	–	–	32	–
	13-41 (12-41)	–	–	–	–	–	–	–	–	–	–	–	–	–	41
15 (14)	15-05 (14-08)	–	–	–	–	–	–	–	–	–	5	–	–	–	–
	15-97 (14-97)	–	–	–	–	–	–	–	–	–	4	8	–	–	–
	15-15 (14-15)	–	–	–	–	–	–	–	–	–	1	14	–	–	–
	15-18 (14-18)	–	–	–	–	–	–	–	–	–	–	18	–	–	–
	15-19 (14-18)	–	–	–	–	–	–	–	–	–	–	19	–	–	–
	15-26 (14-26)	–	–	–	–	–	–	–	–	–	2	–	24	–	–
	15-35 (14-35)	–	–	–	–	–	–	–	–	–	–	–	37	–	–
	15-23 (14-23)	–	–	–	–	–	–	–	–	–	–	–	–	55	–
	15-64 (14-64)	–	–	–	–	–	–	–	–	–	–	–	–	–	64
17 (16)	17-22 (16-22)	–	–	2	–	–	–	–	–	2	–	–	–	–	–
	17-06 (16-06)	–	–	–	–	–	–	–	–	6	–	–	–	–	–
	17-08 (16-08)	–	–	–	–	–	–	–	–	–	8	–	–	–	–
	17-11 (16-11)	–	–	2	1	–	–	–	–	–	8	–	–	–	–
	17-19 (16-19)	–	–	–	–	–	–	–	–	–	4	11	4	–	–
	17-20 (16-20)	–	–	–	–	–	–	–	–	4	–	–	16	–	–
	17-99 (16-99)	–	–	–	–	–	–	–	–	–	2	21	–	–	–
	17-24 (16-24)	–	–	–	–	2	–	–	–	–	–	–	22	–	–
	17-26 (16-26)	–	–	–	–	–	–	–	–	–	–	26	–	–	–
	17-03 [17-02] (16-03)	–	–	–	–	–	–	–	–	–	–	–	38	–	–
	17-35 (16-35)	–	–	–	–	–	–	–	–	–	–	–	55	–	–
	17-23 (16-23)	–	–	–	–	–	–	–	–	–	–	–	–	73	–



Insert Arrangements

Shell Size	Arrangement	Contact Size and Type													
		0	4	8 Twin	8 Coax	8 Power	12 Twin	12 Coax	10	12	16	20	22	23	24
19 (18)	19-11 (18-11)	—	—	—	—	—	—	—	—	—	11	—	—	—	—
	19-19 [19-18] 18-18	—	—	4	—	—	—	—	—	—	—	—	14	—	—
	19-28 (18-28)	—	—	—	—	—	—	—	—	—	2	26	—	—	—
	19-32 (18-32)	—	—	—	—	—	—	—	—	—	—	32	—	—	—
	19-35 (18-35)	—	—	—	—	—	—	—	—	—	—	—	66	—	—
	19-23 (18-23)	—	—	—	—	—	—	—	—	—	—	—	—	88	—
	19-118 (18-118)	—	—	—	—	—	—	—	—	—	—	—	—	—	118
21 (20)	21-76 [21-75] (20-76)	—	—	4	—	—	—	—	—	—	—	—	—	—	—
	21-48 (20-48)	—	—	—	—	4	—	—	—	—	—	—	—	—	—
	21-11 (20-11)	—	—	—	—	—	—	—	11	—	—	—	—	—	—
	21-16 (20-16)	—	—	—	—	—	—	—	—	16	—	—	—	—	—
	21-20 (20-20)	—	—	2	—	—	—	—	—	—	18	—	—	—	—
	21-39 (20-39)	—	—	—	—	—	—	—	—	—	2	37	—	—	—
	21-41 (20-41)	—	—	—	—	—	—	—	—	—	—	41	—	—	—
	21-35 (20-35)	—	—	—	—	—	—	—	—	—	—	—	79	—	—
21-23 (20-23)	—	—	—	—	—	—	—	—	—	—	—	—	121	—	
23 (22)	23-100 (22-100)	1	—	—	—	—	—	—	—	—	—	—	—	—	—
	23-24320 (22-24320)	—	2	—	—	—	—	—	—	—	—	3	—	—	—
	23-68 (22-68)	—	—	—	—	6	—	—	—	—	—	—	—	—	—
	23-06 (22-06)	—	—	6	—	—	—	—	—	—	—	—	—	—	—
	23-21 (22-21)	—	—	—	—	—	—	—	—	21	—	—	—	—	—
	23-54 (22-54)	—	—	—	—	—	—	—	4	9	—	40	—	—	—
	23-53 (22-53)	—	—	—	—	—	—	—	—	—	53	—	—	—	—
	23-55 (22-55)	—	—	—	—	—	—	—	—	—	55	—	—	—	—
	23-63 (22-63)	—	—	—	—	—	—	—	4	4	—	49	—	—	—
23-35 (22-35)	—	—	—	—	—	—	—	—	—	—	100	—	—	—	
23-23 (22-23)	—	—	—	—	—	—	—	—	—	—	—	—	151	—	
25 (24)	25-44420 (24-44420)	—	4	—	—	—	—	—	—	—	—	4	—	—	—
	25-08 (24-08)	—	8	—	—	—	—	—	—	—	—	—	—	—	—
	25-11 (24-11)	—	—	—	—	—	—	—	9	—	—	2	—	—	—
	25-24 (24-24)	—	—	—	—	—	—	—	—	12	12	—	—	—	—
	25-21 [25-20] (24-21)	—	—	3	—	—	—	4	—	—	13	10	—	—	—
	25-19 (24-19)	—	—	—	—	—	—	—	—	19	—	—	—	—	—
	25-29 (24-29)	—	—	—	—	—	—	—	—	—	29	—	—	—	—
	25-37 (24-37)	—	—	—	—	—	—	—	—	—	37	—	—	—	—
	25-17 (24-17)	—	—	6	—	—	—	—	—	—	—	—	36	—	—
	25-43 (24-43)	—	—	—	—	—	—	—	—	—	20	23	—	—	—
	25-47 [25-46] (24-47)	—	—	—	2	—	—	—	—	—	4	40	—	—	—
	25-91 [25-90] (24-91)	—	—	2	—	—	—	—	—	—	4	40	—	—	—
	25-04 (24-04)	—	—	—	—	—	—	—	—	—	8	48	—	—	—
	25-35 (24-35)	—	—	—	—	—	—	—	—	—	—	—	128	—	—
	25-61 (24-61)	—	—	—	—	—	—	—	—	—	—	61	—	—	—
	25-09 [25-07] (24-09)	—	—	2	—	—	—	—	—	—	—	—	97	—	—
25-23 (24-23)	—	—	—	—	—	—	—	—	—	—	—	—	187	—	