



RỒNG VÀNG
TECHNOLOGY



Connectors

MIL-DTL-38999

Series I, II, III

www.rong-vang-technology.vn



Connectors MIL-DTL-38999, series I



Technical features

Electrical

Contact resistance and current rating

Contact Size	Diameter (mm)	Resistance (mΩ)	Current (A)
#22D	Ø 0.76	≤ 12.0	5.0
#20	Ø 1.00	≤ 5.0	7.5
#16	Ø 1.60	≤ 2.5	13.0
#12	Ø 2.40	≤ 1.5	23.0
#10	Ø 3.15	≤ 1.0	40.0

EMI shielding:

At 1 GHz: minimum attenuation 85 dB

At 10 GHz: minimum attenuation 50 dB

Withstanding voltage (V):

Service rating	M	I	II	N
Sea level	1300	1800	2300	1000
21000 m	800	1000	1000	600

Insulation resistance:

Normal ≥ 5000 MΩ, damp heat ≥ 100 MΩ

Electrical continuity between shells:

B class ≤ 2.5 mΩ

F class ≤ 1.0 mΩ

E class ≤ 5.0 mΩ



Mechanical

Shell:	Aluminum alloy, stainless steel
Plating:	B class: Olive green cadmium plating C class: Anodic oxidation E class: Stainless steel passivated F class: Electroless nickel plating
Insulator:	Thermo-set plastic or PBT
Grommet and seal:	Silicon rubber
Contact:	Copper alloy with gold plated
Endurance:	500 cycles
Vibration:	Sinusoid vibration: frequency: 10~2000 Hz, acceleration: 294 m/s ² Random vibration: at frequency: 100~1000 Hz, density of power chart: 1 G ² /Hz
Random:	44.1 grms in high temperature 49.5 grms in ambient temperature
Shock:	At 3 ms half sinusoid, peak value of acceleration: 300 g
Contact retention:	#22D – 45 N, #20 – 67 N #16 – 111 N, #12 – 111 N #10 – 111 N, #8 – 111 N

Environmental

Operating temperature:	B, C class: -65°C ~ +175°C E, F class: -65°C~+200°C
Salt spray:	According to MIL-DTL-38999 standard C, F class: 48 h B class: 500 h E class: 1000 h
Relative humidity:	98% at 40°C
Operating height:	≤ 30480 m
Fluid resistant:	Various fuels, coolant and solvent



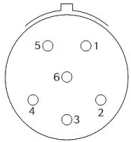
Ordering information

Basic series	RD	27467	T	17	B	35	P	N
Type of connector:								
27467 = Straight plug								
27466 = Wall mounting square receptacle, front								
27656 = Wall mounting square receptacle, rear								
27496 = Box square receptacle, front								
27505 = Box square receptacle, rear								
27468 = Jam nut receptacle								
Type of Shell:								
T = With thread and accessory								
E = Without thread or accessory								
Shell size: 09, 11, 13, 15, 17, 19, 21, 23, 25								
Material/Finish:								
B = Aluminum/Olive green cadmium								
C = Aluminum/Black anodized								
C1 = Aluminum/Oxide olive green								
C2 = Aluminum/Oxide black								
C3 = Aluminum/Black zinc nickel alloy (black chromium)								
E = Stainless steel/Passivated								
F = Aluminum/Bright electroless nickel								
F1 = Aluminum/Spray desertification nickel								
Contact layouts: See below								
Contact type:								
P = Male Crimp contact								
S = Female Crimp contact								
PH = Male solder cup								
SH = Female solder cup								
PL = Male long PC tail contact								
PC = Male Short PC tail contact								
SL = Female Long PC tail contact								
SC = Female Short PC tail contact								
Orientation: N, A, B, C, D								

Contact layouts

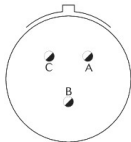
09 / A

35



6#22D
Service M

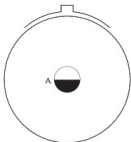
98



3#20
Service I

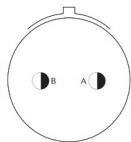
11 / B

01



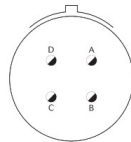
1#12
Service II

02



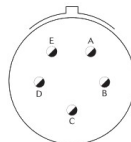
2#16
Service I

04



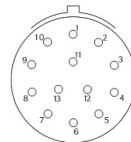
4#20
Service I

05



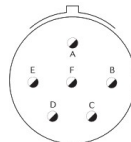
5#20
Service I

35



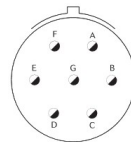
13#22D
Service M

98



6#20
Service I

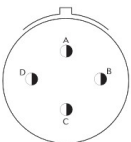
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7#20
Service I

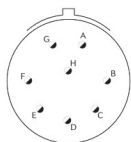
13 / C

04



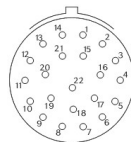
4#16
Service I

08



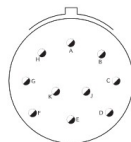
8#20
Service I

35



22#22D
Service M

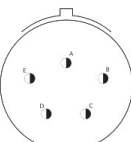
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10#20
Service I

15 / D

05



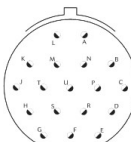
5#16
Service II

15



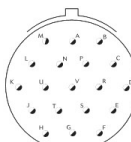
1#16, 14#20
Service I

18



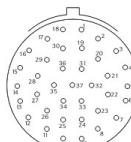
18#20
Service I

19



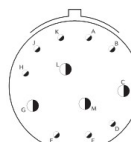
19#20
Service I

35



37#22D
Service M

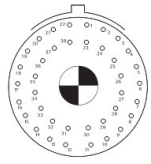
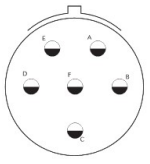
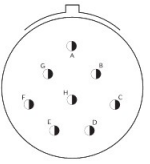
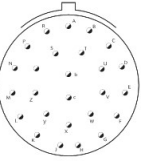
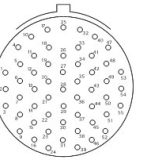
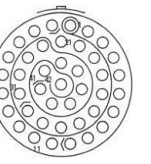
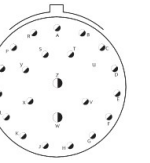
97



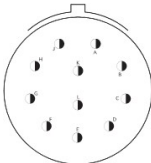
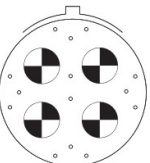
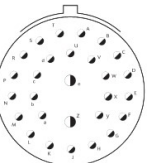
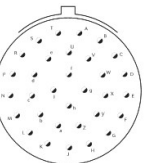
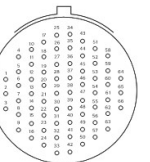
4#16, 8#20
Service I

Contact layouts

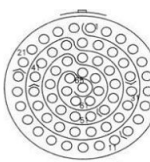
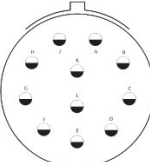
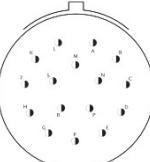
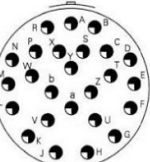
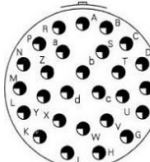
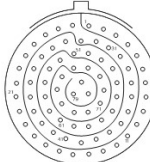
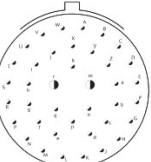
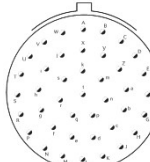
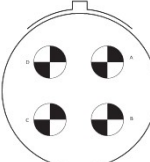
17 / E

02 	06 	08 	26 	35 	42 	99 
38#22D 1#8 Triax Service M	6#12 Service I	8#16 Service II	26#20 Service I	55#22D Service M	42#22D Service M	2#16, 21#20 Service I

19 / F

11 	18 	28 	32 	35 
11#16 Service II	14#22D 4#8 Triax Service M	26#20, 2#16 Service I	32#20 Service I	66#22D Service M

21 / G

02 	11 	16 	25 	27 	35 	39 
65#22D Service M	11#12 Service I	16#16 Service II	25#20 Service I	27#20 Service I	79#22D Service M	2#16, 37#20 Service I
41 	75 					
41#20 Service I	4#8 Triax Service M					

Contact layouts

23 / H

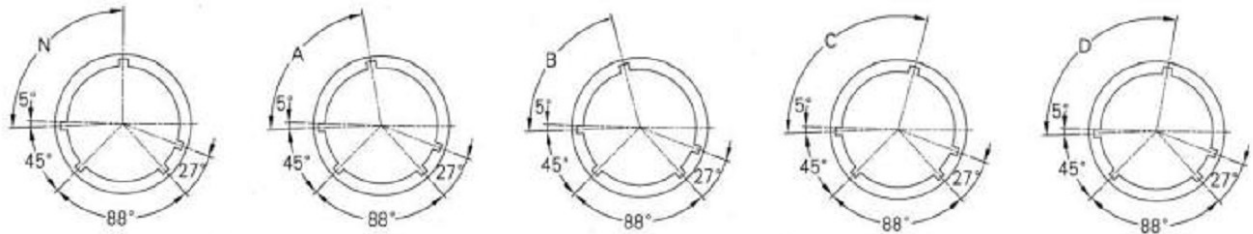
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6#8 Triax Service M	21#16 Service II	32#20 Service I	34#20 Service I	100#22D Service M	53#20 Service I	55#20 Service I
97 	99 					
16#16 Service II	11#16 Service II					

25 / J

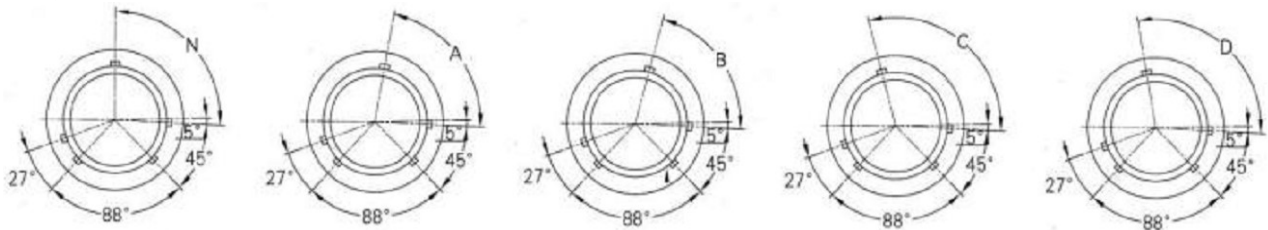
02 	04 	07 	19 	20 	24 	29
100#22D Service M	48#20 8#16 Service I	97#22D 2#8 Triax Service M	19#12 Service I	10#20, 13#16 4#12 Coax 3#8 Triax Service N	12#16 12#12 Service I	29#16 Service I
35 	37 	41 	43 	46 	61 	
128#22D Service M	37#16 Service II	22#22D, 3#20 11#16, 2#12 3#8 Triax Service M	23#20 20#16 Service I	40#20, 4#16 2#8 Coax Service I	61#20 Service I	
○ #22D	● #20	◐ #16	◑ #12	○ #10	◑ #8	● #8

Orientation

Receptacle



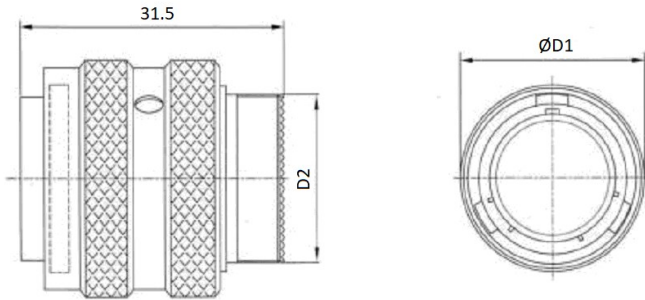
Plug



Orientation ID	9	11	13	15	17	19	21	23	25
N	95°	95°	95°	95°	95°	95°	95°	95°	95°
A	77°	81°	75°	74°	77°	77°	77°	80°	80°
B	–	67°	63°	61°	65°	65°	65°	69°	69°
C	–	123°	127°	129°	125°	125°	125°	121°	121°
D	113°	109°	115°	116°	113°	113°	113°	110°	110°

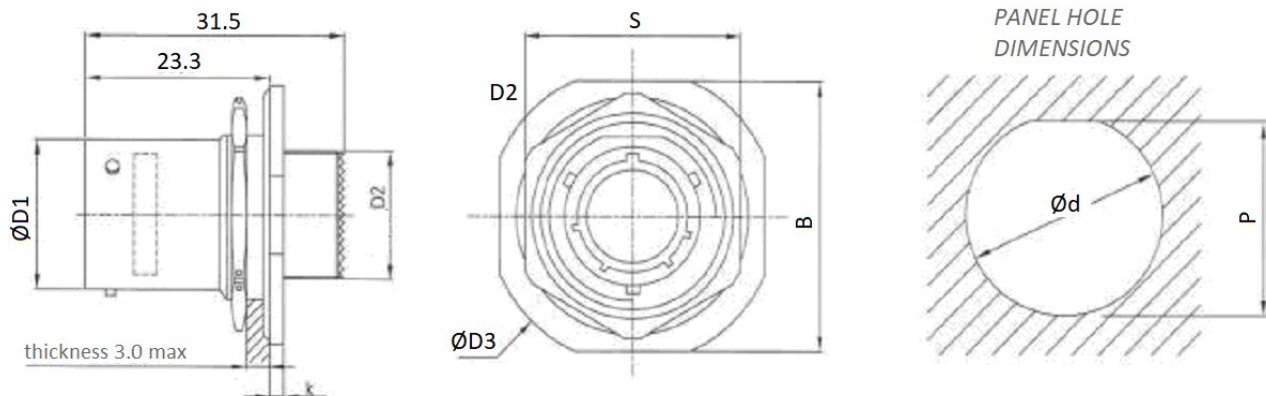
Dimensions

Plug (RD27467)



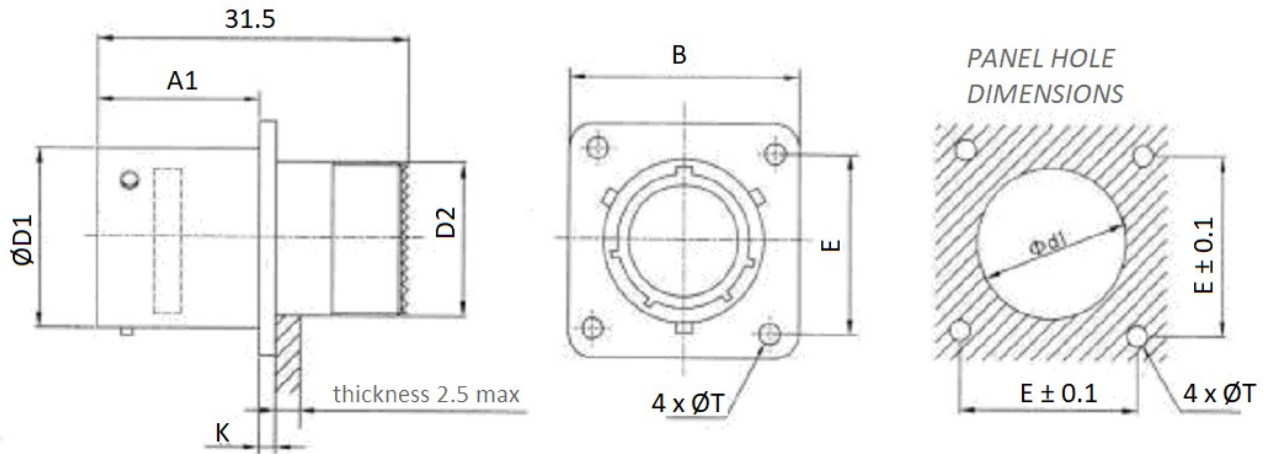
Shell Size	D1	Thread D UNEF-2A
09	21.7	0.4375-28
11	25.0	0.5625-24
13	28.2	0.6825-24
15	31.3	0.8125-20
17	34.4	0.9375-20
19	37.4	1.0625-18
21	40.5	1.1875-18
23	44.0	1.3125-18
25	46.8	1.4375-18

Jam nut receptacle (RD27468)

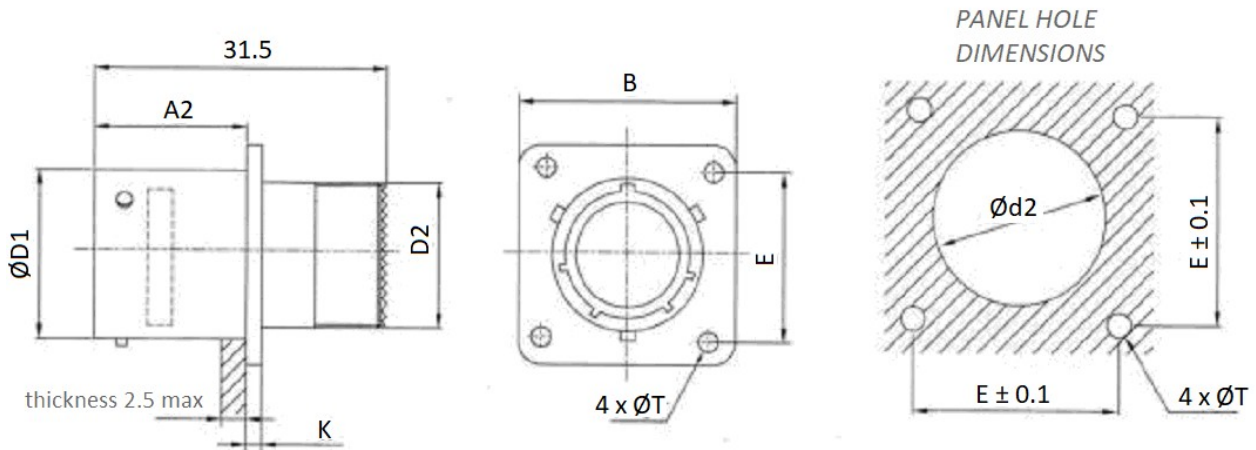


Shell Size	D1	Thread D UNEF-2A	D3	K	B	S	d	p
09	21.7	0.4375-28	30.2	2.4	27.0	22.3	17.7	17.0
11	25.0	0.5625-24	35.0	2.4	31.8	25.5	21.0	19.6
13	28.2	0.6825-24	38.1	2.8	35.0	30.2	25.6	24.3
15	31.3	0.8125-20	41.3	2.8	35.0	30.2	25.6	24.3
17	34.4	0.9375-20	44.5	2.8	41.3	36.6	32.0	30.7
19	37.4	1.0625-18	49.3	3.6	46.0	39.7	35.2	33.9
21	40.5	1.1875-18	52.4	3.6	49.2	42.9	38.3	37.1
23	44.0	1.3125-18	55.6	3.6	52.4	46.1	41.5	40.0
25	46.8	1.4375-18	58.8	3.6	55.6	50.8	44.7	43.4

Wall mounting square receptacle, front (RD27466)

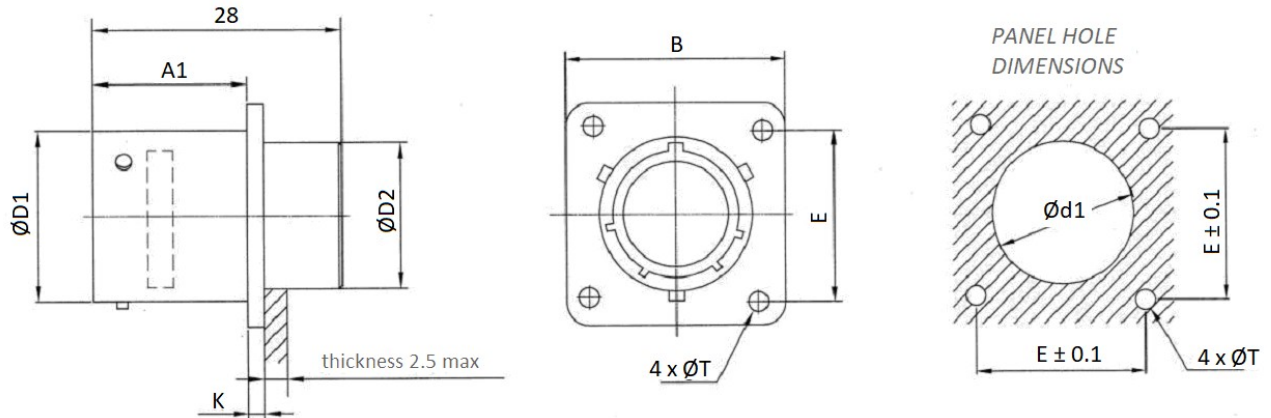


Wall mounting square receptacle, rear (RD27656)

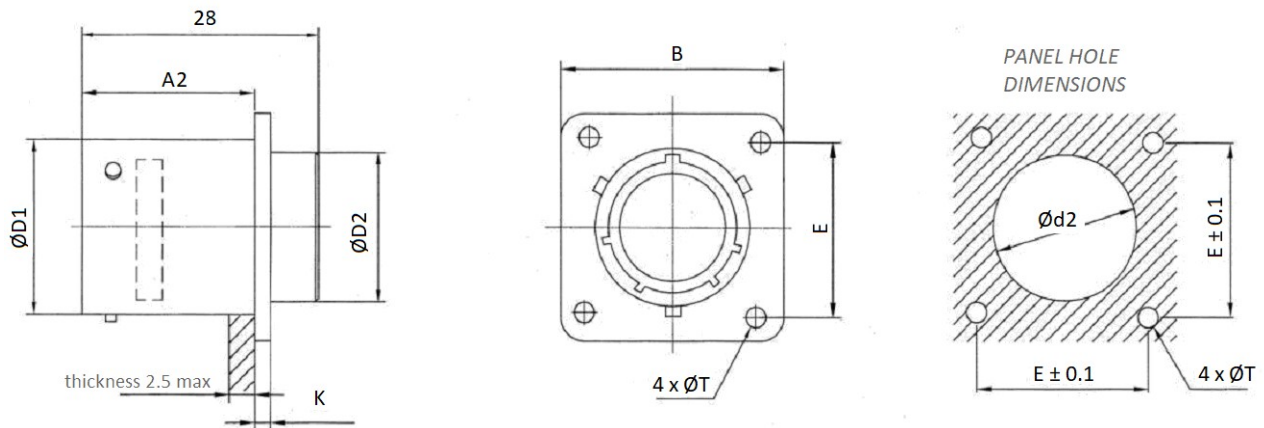


Shell Size	D1	Thread D UNEF-2A	A1	A2	k	B	E	T	d1	d2
09	14.6	0.4375-28	16.1	20.9	2.4	23.8	18.26	3.2	12.5	16.7
11	17.8	0.5625-24	16.1	20.9	2.4	26.2	20.62	3.2	15.5	20.2
13	21.6	0.6825-24	16.1	20.9	2.4	28.6	23.02	3.2	19.5	24.5
15	24.8	0.8125-20	16.1	20.9	2.4	31.0	24.62	3.2	21.5	27.7
17	28.0	0.9375-20	16.1	20.9	2.4	33.3	26.98	3.2	25.0	30.9
19	30.7	1.0625-18	16.1	20.9	2.4	36.5	29.36	3.2	28.0	32.9
21	33.8	1.1875-18	15.3	20.1	3.1	39.7	31.76	3.2	31.5	36.2
23	37.0	1.3125-18	15.3	20.1	3.1	42.9	34.92	3.7	34.5	39.3
25	40.2	1.4375-18	15.3	20.1	3.1	46.0	38.10	3.7	37.5	42.5

Box square receptacle, front (RD27496)



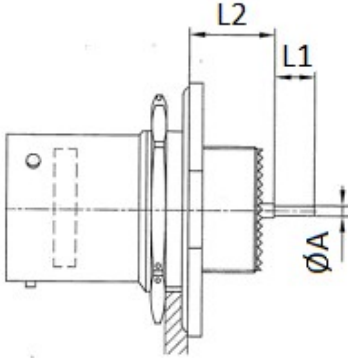
Box square receptacle, rear (RD27505)



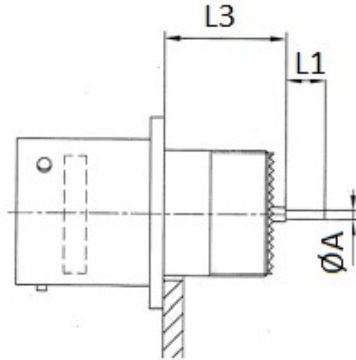
Shell Size	D1	D2	A1	A2	k	B	E	T	d1	d2
09	14.6	11.2	16.1	20.9	2.4	23.8	18.26	3.2	12.5	16.7
11	17.8	14.5	16.1	20.9	2.4	26.2	20.62	3.2	15.5	20.2
13	21.6	18.0	16.1	20.9	2.4	28.6	23.02	3.2	19.5	24.5
15	24.8	20.5	16.1	20.9	2.4	31.0	24.62	3.2	21.5	27.7
17	28.0	23.8	16.1	20.9	2.4	33.3	26.98	3.2	25.0	30.9
19	30.7	26.5	16.1	20.9	2.4	36.5	29.36	3.2	28.0	32.9
21	33.8	29.7	15.3	20.1	3.1	39.7	31.76	3.2	31.5	36.2
23	37.0	32.8	15.3	20.1	3.1	42.9	34.92	3.7	34.5	39.3
25	40.2	36.0	15.3	20.1	3.1	46.0	38.10	3.7	37.5	42.5

Receptacle with PCB contact

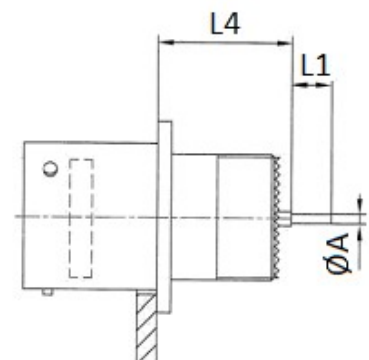
receptacle (RD27468)



receptacle (RD27466)



receptacle (RD27656)



Type for PCB contact		L1	A
#22D	Long PC tail contact	8.5	0.7
	Short PC tail contact	4.0	
#20	Long PC tail contact	8.5	0.7
	Short PC tail contact	5.1	
#16	Long PC tail contact	8.5	1.15
	Short PC tail contact	5.1	

Contact Type			Shell Size	Shell Size
			09, 11	13, 15, 17, 19, 21, 23, 25
L2	Male pin of #22D	min	10.06	10.06
		max	9.06	9.06
	Female pin of #22D	min	10.06	10.06
		max	8.74	8.74
	#20 or #16	min	10.23	10.23
		max	9.24	9.24
L3	Male pin of #22D	min	15.08	15.08
		max	13.91	13.91
	Female pin of #22D	min	15.08	15.08
		max	13.58	13.58
	#20 or #16	min	15.25	15.25
		max	14.08	14.08
L4	Male pin of #22D	min	12.47	13.22
		max	11.60	12.35
	Female pin of #22D	min	12.47	13.22
		max	11.27	12.02
	#20 or #16	min	12.64	13.99
		max	11.77	12.52



Crimp Contacts. Ordering Information

Contact size	Contact type	Part number	GJB Part number
# 22D	Pin	M39029/58-360	
	Socket	M39029/56-348	
# 20	Pin	M39029/58-363	
	Socket	M39029/56-351	
# 16	Pin	M39029/58-364	
	Socket	M39029/56-352	
# 12	Pin	M39029/58-365	J1216/58-365
	Socket	M39029/56-353	J1216/56-353
	Pin	M39029/107-623	J1216/107-623
	Socket	M39029/106-617	J1216/106-617
# 10	Pin	M39029/58-528	
	Socket	M39029/56-527	
# 22D	sealing contact	MS27488-22 (black)	JY27488-22 (black)
# 20	sealing contact	MS27488-20 (red)	JY27488-20 (red)
# 16	sealing contact	MS27488-16 (blue)	JY27488-16 (blue)
# 12	sealing contact	MS27488-12 (yellow)	JY27488-12 (yellow)
# 10	sealing contact	MS27488-10 (white)	JY27488-10 (white)
# 8	sealing contact	MS27488-8 (red)	JY27488-8 (red)

Size 8 Coaxial contacts		
Cable Accommodation	Type	Part Number
M17/095-RG180	Pin	M39029/60-367
	Socket	M39029/59-366
Size 8 Concentric Twinax contacts (Triax)		
Cable Accommodation	Type	Part Number
M17/176-00002	Pin	M39029/113-625
	Socket	M39029/114-628
	Pin	M39029/90-529
	Socket	M39029/91-530



Crimp Contacts. Ordering Information

Size 16 Coaxial contacts		
Cable Accommodation	Type	Part Number
M17/119-RG174, M17/113-RG316, , M17/094-RG179 Times AA3248, Teledyne 11299, Haveg 8100207 Thermax 75-738-BCCWXE, Tensolite 3088/L707YX-1	Pin	M39029/76-424
	Socket	M39029/77-428
M19/093-RG178	Pin	M39029/76-425
	Socket	M39029/77-429
Haveg 61-02051, Revere WH95623	Pin	M39029/76-426
	Socket	M39029/77-430
Haveg 30-00761, Haveg 30-02024, Haveg 30-02033, Tensolite 24713/A955KK1, Tensolite 26723/A955KK1	Pin	M39029/76-427
	Socket	M39029/77-431
Size 12 Coaxial contacts		
Cable Accommodation	Type	Part Number
M17/113-RG316 M17/094-RG179	Pin	M39029/102-558
	Socket	M39029/103-559
RG174, RG316, RG179, Haveg 8100207, Times AA3248, Teledyne 11299, Thermax 75-738-BCCWXE, Tensolite 3088/L707YX-1	Pin	M39029/28-211
	Socket	M39029/75-416
RG180	Pin	M39029/28-409
M17/095-RG, Raychem 9527D1514-2L, Raychem 9528A1318, Microdot 293-3922	Socket	M39029/75-417
Microdot 250-4070	Pin	M39029/28-410
	Socket	M39029/75-418
Raychem 48-502, 5022E5111	Pin	M39029/28-411
	Socket	M39029/75-419
Raychem 48-950, 9530D5117	Pin	M39029/28-412
	Socket	M39029/75-420
Raychem 762D1311, 9527A1318	Pin	M39029/28-413
	Socket	M39029/75-421
Gore GWN1159A, M17/152-00001	Pin	M39029/28-414
	Socket	M39029/75-422
1S50MU-16, -20, -40, -70 (D24643/28)	Pin	M39029/28-415
	Socket	M39029/75-423

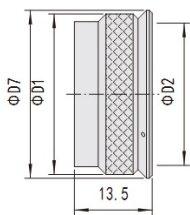


Accessories. MIL-DTL-38999, series I

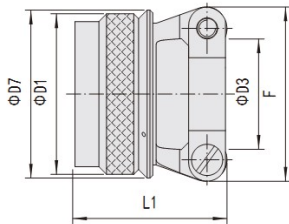
Backshells. Ordering information

Basic series	M85049/	27	-14	N
Type:				
27= back nut (Non-clamping and non-shielding cable accessory)				
49= straight cable clamp (Clamping and non-shielding cable accessory)				
47= elbow cable clamp (Clamping and non-shielding cable accessory)				
62= screen-termination accessory				
Dash Number	08 10 12 14 16 18 20 22 24			
Shell size	09 11 13 15 17 19 21 23 25			
Material/Finish:				
W = Aluminum/Olive green cadmium				
N = Aluminum/Electroless nickel				
S = Stainless steel/passivated				

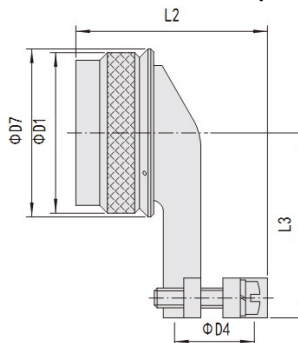
M85049/27-



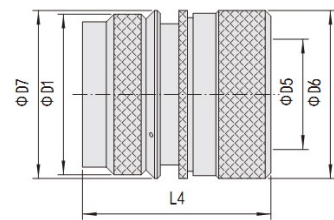
M85049/49-



M85049/47-



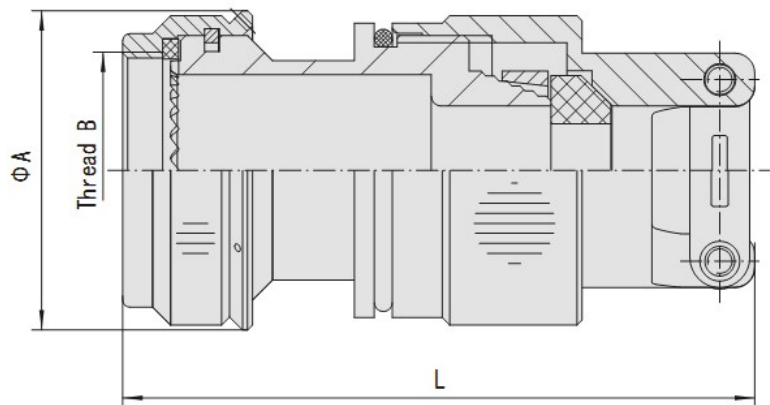
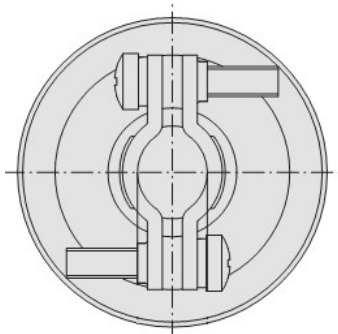
M85049/62-



D/N		08	10	12	14	16	18	20	22	24
D1	max	15.6	18.6	21.8	25.0	28.2	31.0	34.2	37.3	40.5
D2	max	7.9	10.8	13.6	16.9	20.1	22.4	25.6	28.8	31.9
D3	min	2.49	3.87	4.83	6.6	7.19	8.26	8.71	9.68	10.62
	max	5.94	5.94	8.33	11.61	15.6	16.1	17.73	20.9	21.66
D4	min	3.2	4.0	4.8	5.5	6.4	7.9	9.5	10.3	14.3
	max	6.4	9.5	11.1	14.3	15.9	19.1	22.2	23.8	25.4
D5	max	7.0	9.7	12.8	14.9	18.0	20.0	23.2	26.3	28.9
D6	max	17.0	19.9	23.1	26.3	29.5	32.5	35.7	38.9	42.0
D7	max	16.9	19.9	23.1	26.3	29.5	32.3	35.5	38.6	41.8
F	max	20.0	200	23.4	26.6	30.6	34.0	35.8	39.0	40.6
L1	max	23.4	23.4	23.4	27.8	27.8	27.8	27.8	29.9	29.9
L2	max	29.0	32.0	33.5	36.5	38.5	41.5	44.5	46.0	48.0
L3	max	25.0	26.0	27.5	31.0	32.5	34.0	34.5	36.5	43.5
L4	max	31.2	31.2	33.2	33.2	33.2	33.2	36.2	36.2	36.2

M85049/18A series (Shielding clamping cable accessory)

Basic series	M85049/ 18A- 25 N 09 A
Type: 18A-straight shielding cable clamp (applied for GJB599 I, II)	
Shell Size: See below	
Material/Finish: W = Aluminum/Olive green cadmium N = Aluminum/Electroless nickel S = Stainless steel/passivated	
Clamp Size: See below	
Length Code: See below	



Shell Size	Clamp Size	A	Thread B	Clamp Size	Cable Range
09	01~02	18	.4375-28	01	1.57~3.18
11	01~03	22	.5625-24	02	3.18~6.35
13	02~04	25	.6875-24	03	6.35~9.53
15	02~05	28	.8125-20	04	9.53~12.7
17	02~06	32	.9375-20	05	12.7~15.88
19	03~07	35	1.0625-18	06	15.88~19.05
21	03~08	38	1.1875-18	07	19.05~22.23
23	03~09	41	1.3125-18	08	22.23~25.40
25	04~10	44	1.4375-18	09	25.40~28.58
				10	28.58~31.75

Shell Size	Length Code	L
09~25	Standard (may omit)	62.7
09~25	A	88.1
15~25	B	113.5
21~25	C	138.9

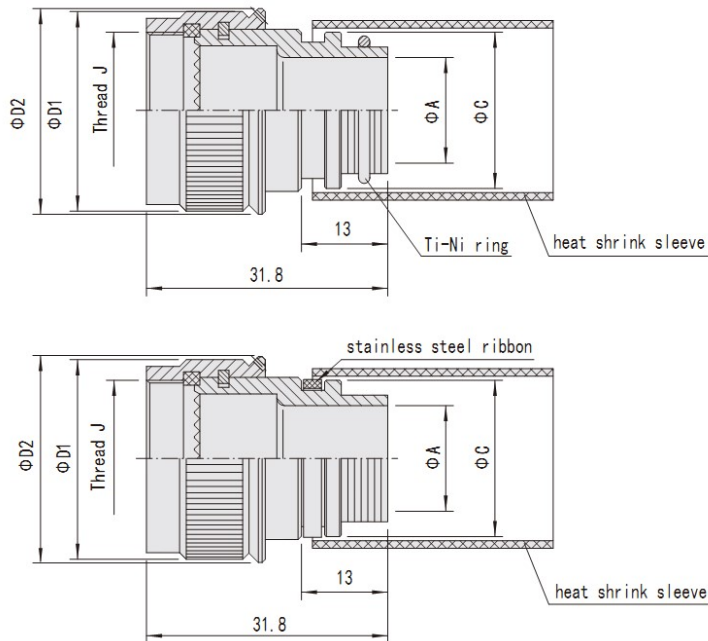


RD49/85 (RD599I-FJA00), RD49/87 (RD599I-FJA90) shielding backshell

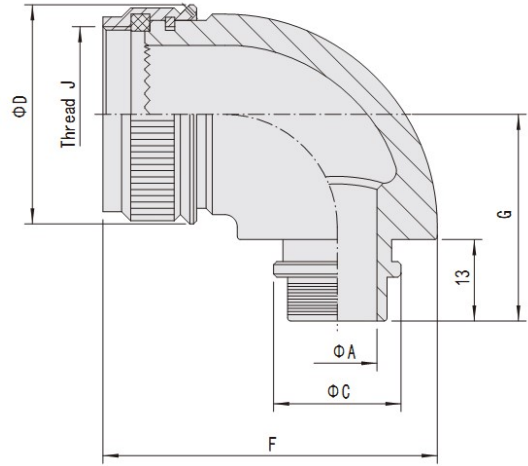
Basic series	RD49/	85-	10	N	A	-05
Type:						
85 = straight						
87 = right-angle						
Dash Number:	08 10 12 14 16 18 20 22 24					
Shell size	09 11 13 15 17 19 21 23 25					
Material/Finish:						
W = Aluminum/Olive green cadmium						
N = Aluminum/Electroless nickel						
S = Stainless steel/passivated						
Ti-Ni ring:						
Omit = Without Ti-Ni ring						
A = With Ti-Ni ring						
Clamp Size and Ti-Ni ring specification						

Basic series	RD899	I	15	FJA	00	F	A	-05
Series code:								
I = for connectors MIL-DTL-38999, I series								
II = for connectors MIL-DTL-38999, II series								
Dash Number:	09 11 13 15 17 19 21 23 25							
MIL-DTL-38999, I series	09 11 13 15 17 19 21 23 25							
MIL-DTL-38999, II series	08 10 12 14 16 18 20 22 24							
Accessory type: FJA, FJC, FJE								
Type of structure:								
00 = Straight backshell								
90 = 90° elbow backshell								
Material/Finish:								
B = Aluminum/Olive green cadmium								
F = Aluminum/Electroless nickel								
E = Stainless steel/passivated								
Ti-Ni ring:								
Omit = Without Ti-Ni ring								
A = With Ti-Ni ring (Only for FJA and FJC)								
Clamp Size or Ti-Ni ring size:								
Without Ti-Ni ring, specify Clamp Size								
With Ti-Ni ring, specify size of Ti-Ni ring								

Straight RD49/85 (RD899I-FJA00)



90°elbow RD49/87 (RD899I-FJA90)

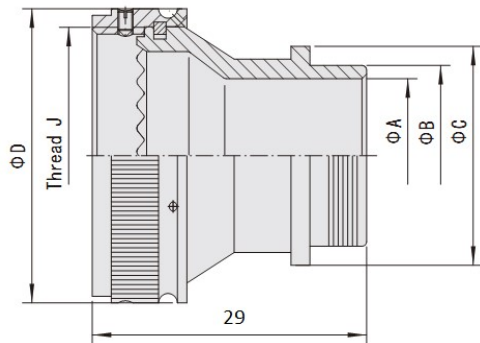


Shell size	Ti-Ni	Shielding net	A		C		F	D	G	Thread J	
			Straight	90°	Straight	90°					
09	TR-04	6×10 (0.15~0.20)	6.3	6.3	14.0	14.0	36.3	17	19	26	.437-285
	TR-05	10×16 (0.15~0.20)	7.9	7.9	15.5	15.0					
	TR-06	10×16 (0.15~0.20)	9.5	9.5	17.1	15.0					
11	TR-04	6×10 (0.15~0.20)	6.3	6.3	14.0	14.0	37.8	21	22	26	.5625-24
	TR-05	10×16 (0.15~0.20)	7.9	7.9	15.5	15.5					
	TR-06	10×16 (0.15~0.20)	9.5	9.5	17.1	17.1					
	TR-07	10×16 (0.12~0.20)	11.1	11.1	18.7	18.0					
	TR-08	16×24 (0.12~0.25)	12.7	12.7	20.3	18.0					
13	TR-04	6×10 (0.15~0.20)	6.3	6.3	14.0	14.0	43.3	24	25.1	29	.6875-24
	TR-05	10×16 (0.15~0.20)	7.9	7.9	15.5	15.5					
	TR-06	10×16 (0.15~0.20)	9.5	9.5	17.1	17.1					
	TR-07	10×16 (0.12~0.20)	11.1	11.1	18.7	18.7					
	TR-08	16×24 (0.12~0.25)	12.7	12.7	20.3	20.3					
	TR-10	16×24 (0.10~0.30)	16.0	16.0	23.5	23.0					
15	TR-05	10×16 (0.15~0.20)	7.9	—	15.5	—	45.1	27	29	29	.8125-20
	TR-06	10×16 (0.15~0.20)	9.5	9.5	17.1	17.1					
	TR-07	10×16 (0.12~0.20)	11.1	11.1	18.7	18.7					
	TR-08	16×24 (0.12~0.25)	12.7	12.7	20.3	20.3					
	TR-10	16×24 (0.10~0.30)	16.0	16.0	23.5	23.5					
	TR-12	16×24 (0.10~0.30)	19.0	19.0	26.7	25.5					



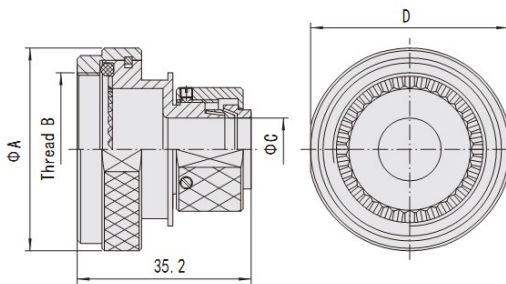
Shell size	Ti-Ni	Shielding net	A		C		F	D		G	Thread J
			Straight	90°	Straight	90°					
17	TR-05	10×16(0.15~0.20)	7.9	–	15.5	–	48.8	31	32.1	33	.9375-20
	TR-06	10×16(0.15~0.20)	9.5	9.5	17.1	17.1					
	TR-07	10×16(0.12~0.20)	11.1	11.1	18.7	18.7					
	TR-08	16×24(0.12~0.25)	12.7	12.7	20.3	20.3					
	TR-10	16×24(0.10~0.30)	16.0	16.0	23.5	23.5					
	TR-12	16×24(0.10~0.30)	19.0	19.0	26.7	26.7					
	TR-14	24×30(0.10~0.30)	22.2	22.2	30.0	28.8					
19	TR-08	16×24(0.12~0.25)	12.7	12.7	20.3	20.3	51.6	34	35.1	33	1.0625-18
	TR-10	16×24(0.10~0.30)	16.0	16.0	23.5	23.5					
	TR-12	16×24(0.10~0.30)	19.0	19.0	26.7	26.7					
	TR-14	24×30(0.10~0.30)	22.2	22.2	30.0	30.0					
	TR-16	24×30(0.10~0.30)	25.4	25.4	33.0	32.0					
21	TR-08	16×24(0.12~0.25)	12.7	12.7	20.3	20.3	53.8	37	38.1	39	1.1875-18
	TR-10	16×24(0.10~0.30)	16	16	23.5	23.5					
	TR-12	16×24(0.10~0.30)	19	19	26.7	26.7					
	TR-14	24×30(0.10~0.30)	22.2	22.2	30	30					
	TR-16	24×30(0.10~0.30)	25.4	25.4	33	33					
	TR-18	30×40(0.10~0.30)	28.5	–	36.2	–					
23	TR-10	16×24(0.10~0.30)	16	16	23.5	23.5	56.3	40	41.1	39	1.3125-18
	TR-12	16×24(0.10~0.30)	19	19	26.7	26.7					
	TR-14	24×30(0.10~0.30)	22.2	22.2	30	30					
	TR-16	24×30(0.10~0.30)	25.4	25.4	33	33					
	TR-18	30×40(0.10~0.30)	28.5	28.5	36.2	36.2					
	TR-20	30×40(0.10~0.30)	31.8	–	39.4	–					
25	TR-10	16×24(0.10~0.30)	16	16	23.5	23.5	61.8	43	44.1	44	1.4375-18
	TR-12	16×24(0.10~0.30)	19	19	26.7	26.7					
	TR-14	24×30(0.10~0.30)	22.2	22.2	30	30					
	TR-16	24×30(0.10~0.30)	25.4	25.4	33	33					
	TR-18	30×40(0.10~0.30)	28.5	28.5	36.2	36.2					
	TR-20	30×40(0.10~0.30)	31.8	31.8	39.4	39.4					
	TR-22	30×40(0.10~0.30)	35	35	42.5	42					

RD899IxxFJC00



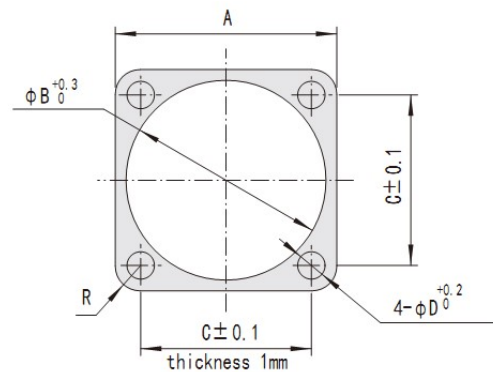
Shell Size	A	B	C	D	Thread J	Ti-Ni Ring type
11	8.3	11.0	19.0	18.6	.5625-24	TR-05
13	10.0	12.7	22.8	21.8	.6875-24	TR-06
15	11.1	14.3	25.8	25.0	.8125-20	TR-07
17	13.1	15.9	29.2	28.2	.9375-20	TR-8
19	16.2	19.0	32.0	30.9	1.0625-18	TR-10
21	16.2	19.0	35.1	34.1	1.1875-18	TR-10
23	19.5	22.2	38.2	37.5	1.3125-18	TR-12
25	19.5	22.2		40.5	1.4375-18	TR-12

RD899IxxFJE00



Shell Size	A	Thread B	C	D
09	22	.4375-28	6.3 – 9.5	20
11	25	.5625-24	6.3 – 12.7	23
13	28	.6875-24	6.3 – 16.0	27
15	32	.8125-20	7.9 – 19.0	30
17	35	.9375-20	7.9 – 22.2	33
23	44	1.3125-18	16.0 – 31.8	42
25	47	1.4375-18	19.0 – 35.0	45

Square flange cushion



Shell Size	Cushion	Conductive cushion	A	B	C	D	R
09	21E8.701.885-A1	21E8.701.886-A2	23.9	14.8	18.2	3.3	3.2
11	21E8.701.887-A1	21E8.701.888-A2	26.3	18.0	20.6	3.3	3.2
13	21E8.701.889-A1	21E8.701.890-A2	28.7	21.8	23.0	3.3	3.2
15	21E8.701.891-A1	21E8.701.892-A2	31.1	25.0	24.6	3.3	3.2
17	21E8.701.893-A1	21E8.701.894-A2	33.4	28.8	26.9	3.3	3.2
19	21E8.701.895-A1	21E8.701.896-A2	36.6	30.9	29.3	3.3	3.2
21	21E8.701.897-A1	21E8.701.898-A2	39.8	34.0	31.7	3.3	3.2
23	21E8.701.899-A1	21E8.701.900-A2	43.0	37.2	34.9	3.8	3.7
25	21E8.701.901-A1	21E8.701.902-A2	46.1	40.4	38.1	3.8	3.7



Dust caps of plugs and receptacles

Ordering information

Basic series	RD	27501	F	11	C	L
Type:						
27501 = protective cap for plug						
27502 = protective cap for receptacle						
Material/Finish:						
B = Aluminum/olive green cadmium						
F = Aluminum/electroless nickel						
Shell size: 09, 11, 13, 15, 17, 19, 21, 23, 25						
Attachment Style:						
A = without chain						
N = stainless steel chain with ring						
S = stainless steel string with connecting lug						
C = stainless steel chain with connecting lug						
R = nylon cord with connecting plate						
E = nylon cord with ring						
Attachment Length:						
Omit = standard length						
L = 127mm of chain length						
M = 152.4mm of chain length (for RD27501 only)						
N = 177.8mm of chain length (for RD27501 only)						

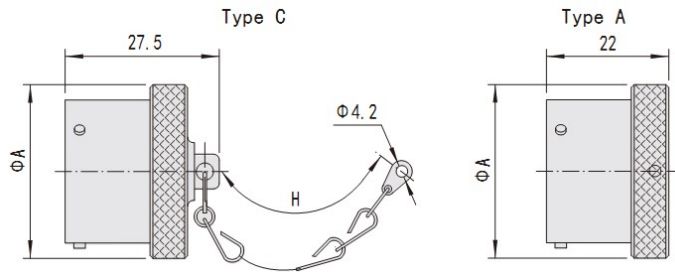
Notes:

1. RD27502 is composite-material protective cap. When Ordering RD27502, “-” means no plating.
2. The protective cap is ordered separately, not supplied with the connectors.
3. Part number RD27502 plus (J) means metal-shell protective cap, E refers to stainless steel plating.

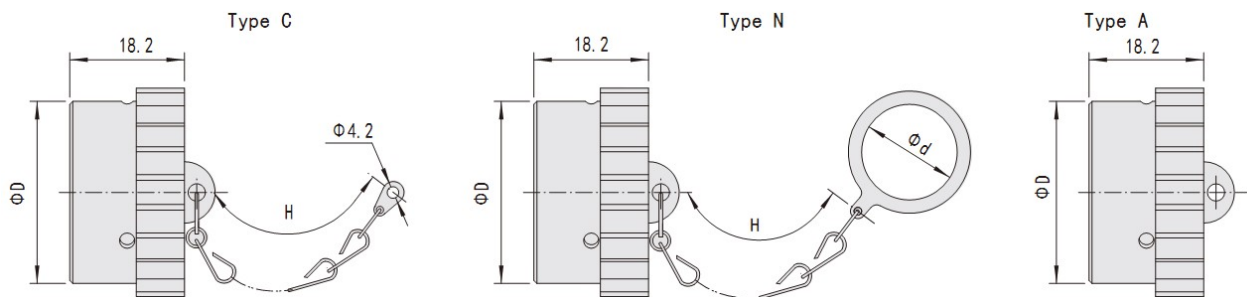
For example: RD27502E17C(J)

Dimensions

Plug protective cap RD27501



Receptacle protective cap RD27502



Shell Size	09	11	13	15	17	19	21	23	25
A max	20.5	23.7	26.9	30.1	33.2	36.4	39.6	42.8	45.9
D max	21.7	23.5	29.0	31.6	34.8	38.0	41.1	44.2	46.0
d min	18.0	21.1	26.0	29.0	32.4	35.5	38.6	42.0	44.7
H max	76.2	88.9	88.9	88.9	88.9	88.9	101.6	101.6	101.6



Connectors MIL-DTL-38999, series II



Technical features

Electrical

Contact resistance and current rating

Contact Size	Diameter (mm)	Resistance (mΩ)	Current (A)
#22D	∅ 0.76	≤ 12.0	5.0
#20	∅ 1.00	≤ 5.0	7.5
#16	∅ 1.60	≤ 2.5	13.0
#12	∅ 2.40	≤ 1.5	23.0

EMI shielding:

At 1 GHz: minimum attenuation 45 dB

Withstanding voltage (V):

Service rating	M	I	II	N
Sea level	1300	1800	2300	1000
21000 m	800	1000	1000	600

Insulation resistance:

Normal ≥ 5000 MΩ, damp heat ≥ 100 MΩ

Electrical continuity between shells:

B class ≤ 2.5 mΩ

F class ≤ 1.0 mΩ

E class ≤ 5.0 mΩ



Mechanical

Shell:	Aluminum alloy, stainless steel
Plating:	B class: Olive green cadmium plating C class: Anodic oxidation E class: Stainless steel passivated F class: Electroless nickel plating
Insulator:	Thermo-set plastic or PBT
Grommet and seal:	Silicon rubber
Contact:	Copper alloy with gold plated
Endurance:	500 cycles
Vibration:	Sinusoid vibration: frequency: 10~2000 Hz, acceleration: 294 m/s ² Random vibration: at frequency: 100~1000 Hz, density of power chart: 1 G ² /Hz
Random:	44.1 grms in high temperature 49.5 grms in ambient temperature
Shock:	At 3 ms half sinusoid, peak value of acceleration: 300 g
Contact retention:	#22D – 45 N, #20 – 67 N #16 – 111 N, #12 – 111 N

Environmental

Operating temperature:	B, C class: -65°C ~ +175°C E, F class: -65°C~+200°C
Salt spray:	According to MIL-DTL-38999 standard C, F class: 48 h B class: 500 h E class: 1000 h
Relative humidity:	98% at 40°C
Operating height:	≤ 30480 m
Fluid resistant:	Various fuels, coolant and solvent



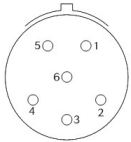
Ordering information

Basic series	RD	27472	T	14	F	35	P	N
Type of connector:								
27473 = Plug								
27484 = Shielded plug								
27472 = Wall mounting square receptacle, front								
27497 = Wall mounting square receptacle, rear								
27513 = Box square receptacle, front								
27508 = Box square receptacle, rear								
27474 = Jam nut receptacle								
Type of Shell:								
T = With thread and accessory								
E = Without thread or accessory								
Shell size: 08, 10, 12, 14, 16, 18, 20, 22, 24								
Material/Finish:								
B = Aluminum/Olive green cadmium								
C = Aluminum/Black anodized								
C1 = Aluminum/Oxide olive green								
C2 = Aluminum/Oxide black								
C3 = Aluminum/Black zinc nickel alloy (black chromium)								
E = Stainless steel/Passivated								
F = Aluminum/Bright electroless nickel								
F1 = Aluminum/Spray desertification nickel								
Contact layouts: See below								
Contact type:								
P = Male Crimp contact								
H = Male Crimp contact								
S = Female Crimp contact								
J = Female Crimp contact								
PH = Male solder cup								
HH = Male solder cup								
SH = Female solder cup								
JH = Female solder cup								
PL = Male long PC tail contact								
HL = Male long PC tail contact								
SL = Female Long PC tail contact								
HL = Female Long PC tail contact								
PC = Male Short PC tail contact								
HC = Male Short PC tail contact								
SC = Female Short PC tail contact								
JC = Female Short PC tail contact								
Orientation: N, A, B, C, D								

Contact layouts

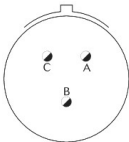
08

35



6#22D
Service M

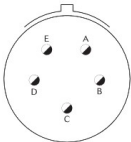
98



3#20
Service I

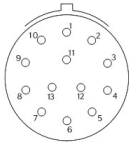
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05



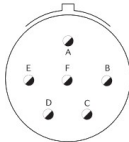
5#20
Service I

35



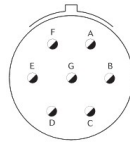
13#22D
Service M

98



6#20
Service I

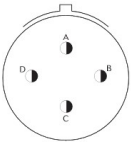
99



7#20
Service I

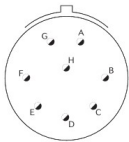
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04



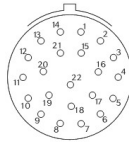
4#16
Service I

08



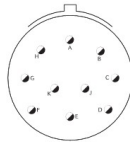
8#20
Service I

35



22#22D
Service M

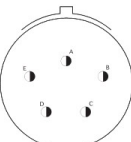
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10#20
Service I

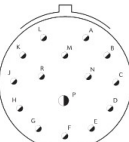
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05



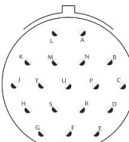
5#16
Service II

15



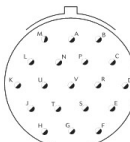
1#16, 14#20
Service I

18



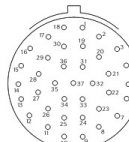
18#20
Service I

19



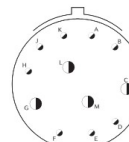
19#20
Service I

35



37#22D
Service M

97

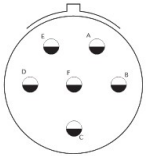


4#16, 8#20
Service I

Contact layouts

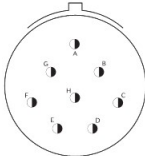
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06



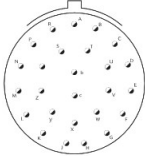
6#12
Service I

08



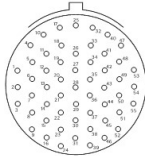
8#16
Service II

26



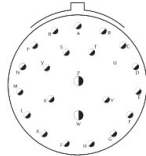
26#20
Service I

35



55#22D
Service M

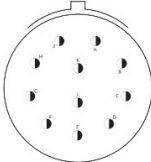
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2#16, 21#20
Service I

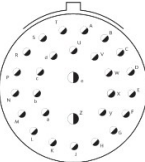
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11



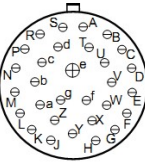
11#16
Service II

28



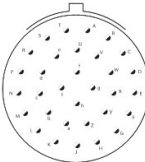
26#20, 2#16
Service I

30



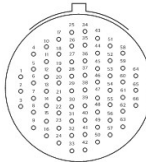
1#16, 29#20
Service I

32



32#20
Service I

35



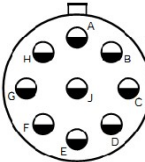
66#22D
Service M

53



53#22D
Service M

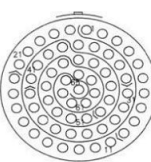
96



9#12
Service I

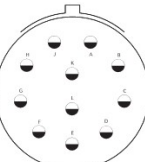
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02



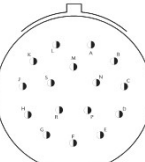
65#22D
Service M

11



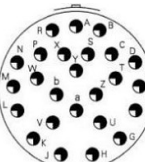
11#12
Service I

16



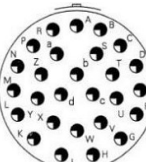
16#16
Service II

25



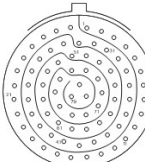
25#20
Service I

27



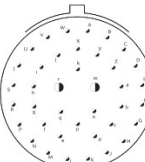
27#20
Service I

35



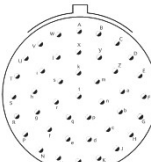
79#22D
Service M

39



2#16, 37#20
Service I

41

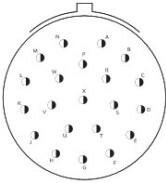


41#20
Service I

Contact layouts

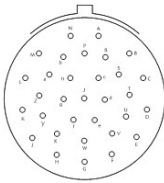
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21



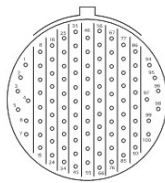
21#16
Service II

32



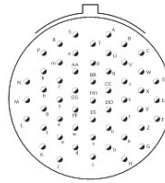
32#20
Service I

35



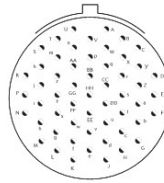
100#22D
Service M

53



53#20
Service I

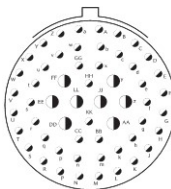
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55#20
Service I

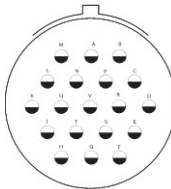
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04



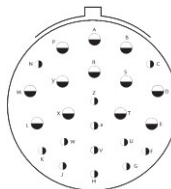
48#20
8#16
Service I

19



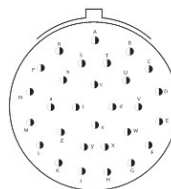
19#12
Service I

24



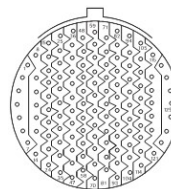
12#16
12#12
Service I

29



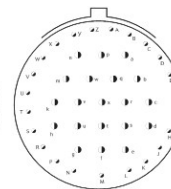
29#16
Service I

35



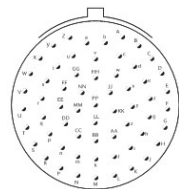
128#22D
Service M

43



23#20
20#16
Service I

61



61#20
Service I

○ #22D

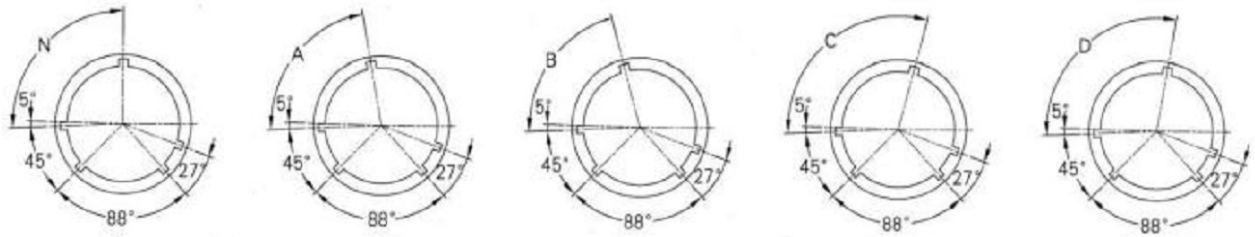
● #20

◐ #16

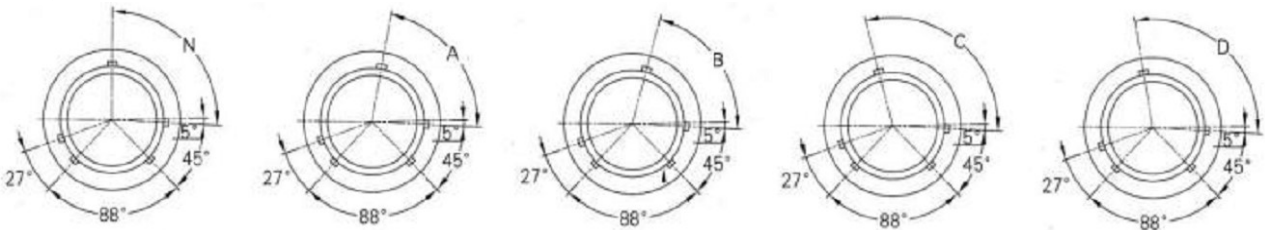
◑ #12

Orientation

Receptacle



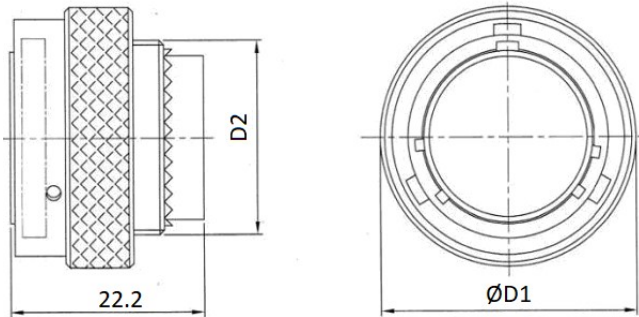
Plug



Orientation ID	08	10	12	14	16	18	20	22	24
N	100°	100°	100°	100°	100°	100°	100°	100°	100°
A	82°	86°	80°	79°	82°	82°	82°	85°	85°
B	–	72°	68°	66°	70°	70°	70°	74°	74°
C	–	128°	132°	134°	130°	130°	130°	126°	126°
D	118°	114°	120°	121°	118°	118°	118°	115°	115°

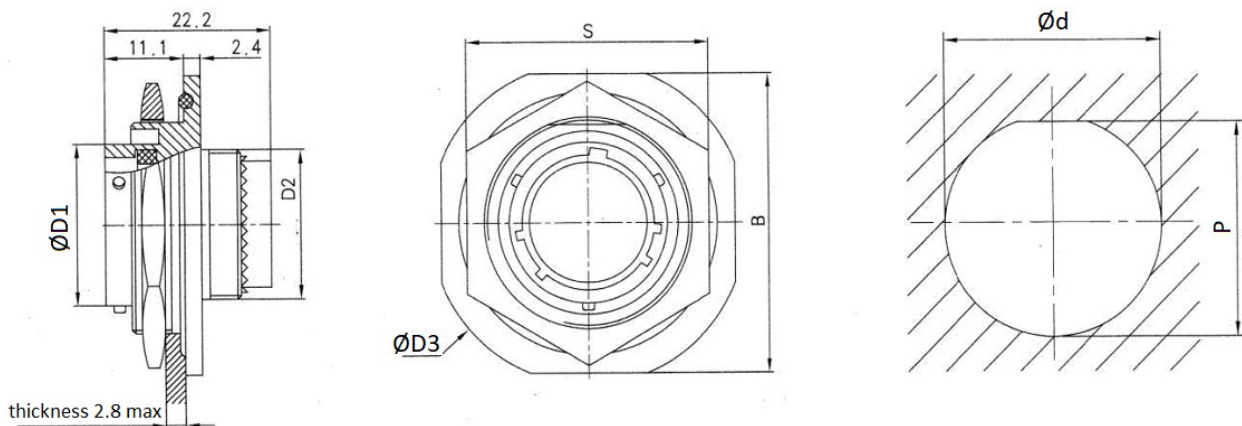
Dimensions

Plug (RD27473 and RD27484)



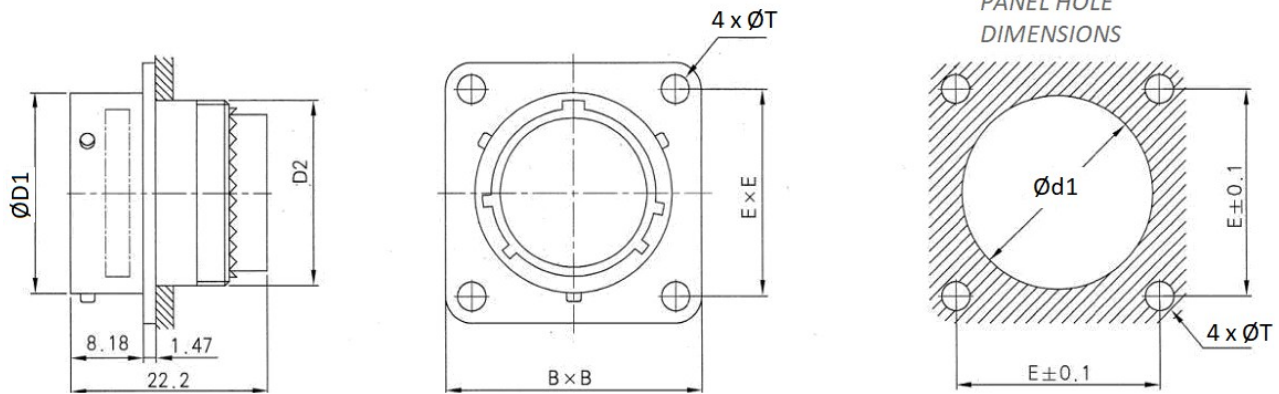
Shell Size	D1	Thread D2 UNEF-2A
08	19.00	0.4375-28
10	21.80	0.5625-24
12	26.20	0.6875-24
14	29.30	0.8125-20
16	32.50	0.9375-20
18	35.70	1.0625-18
20	38.80	1.1875-18
22	41.68	1.3125-18
24	44.86	1.4375-18

Jam nut receptacle (RD27474)

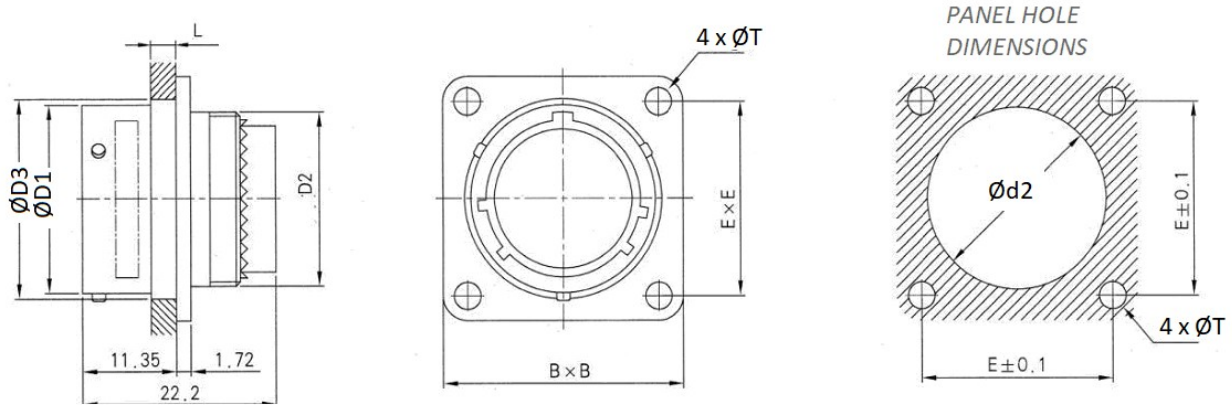


Shell Size	D1	Thread D2 UNEF-2A	D3	A	B	S	d	p
08	12.00	0.4375-28	34.95	11.1	31.75	27.40	22.46	21.08
10	15.00	0.5625-24	38.10	11.1	34.95	30.61	25.58	24.26
12	19.05	0.6875-24	41.28	11.1	38.10	33.75	28.80	27.53
14	22.23	0.8125-20	44.45	11.1	41.28	36.96	31.98	30.68
16	25.40	0.9375-20	49.23	11.1	45.24	40.10	35.15	33.86
18	28.58	1.0625-18	51.21	11.1	48.00	43.31	38.28	37.06
20	31.75	1.1875-18	54.38	11.8	51.21	46.45	41.50	40.03
22	34.93	1.3125-18	57.53	11.8	54.36	51.23	44.68	43.21
24	38.10	1.4375-18	60.71	11.8	57.53	54.41	47.85	46.38

Wall mounting square receptacle, front (RD27472)

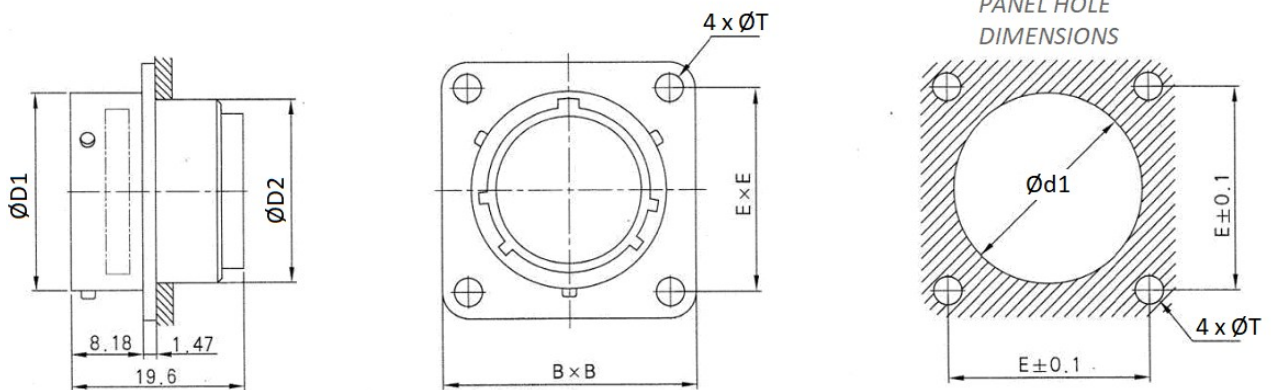


Wall mounting square receptacle, rear (RD27497)

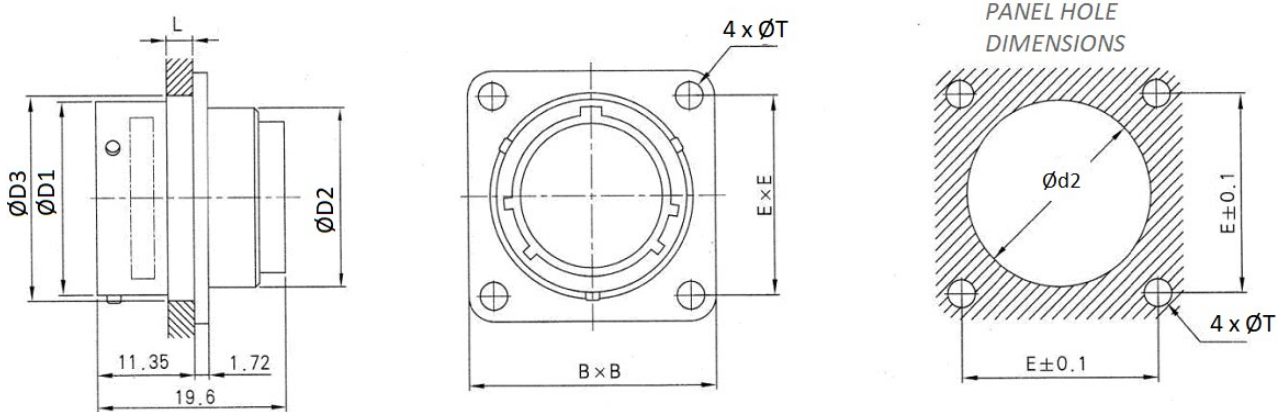


Shell Size	D1	Thread D2 UNEF-2A	D3	L (max)	B	E	T	d1	d2
08	12.00	0.4375-28	13.20	3.71	21.00	15.09	3.2	12.5	14.2
10	15.00	0.5625-24	16.14	3.71	24.10	18.26	3.2	15.5	17.5
12	19.05	0.6875-24	20.50	3.71	26.50	20.62	3.2	19.5	21.3
14	22.23	0.8125-20	23.60	3.71	28.90	23.01	3.2	21.5	25.0
16	25.40	0.9375-20	26.80	3.71	31.21	24.61	3.2	25.0	27.3
18	28.58	1.0625-18	30.00	3.71	33.60	26.97	3.2	28.0	31.3
20	31.75	1.1875-18	33.20	4.27	36.80	29.36	3.2	31.5	34.5
22	34.93	1.3125-18	36.35	4.27	40.00	31.75	3.2	34.5	37.5
24	38.10	1.4375-18	39.50	4.27	43.10	34.93	3.9	37.5	40.6

Box square receptacle, front (RD27513)



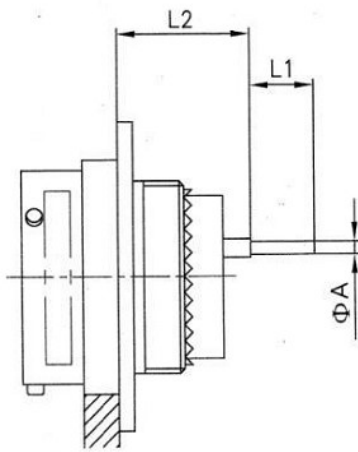
Box square receptacle, rear (RD27508)



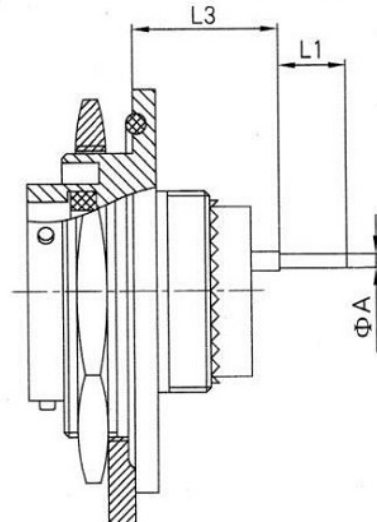
Shell Size	D1	D2	D3	L (max)	B	E	T	d1	d2
08	12.00	11.51	13.20	3.71	21.00	15.09	3.2	12.5	14.2
10	15.00	14.68	16.14	3.71	24.10	18.26	3.2	15.5	17.5
12	19.05	17.86	20.50	3.71	26.50	20.62	3.2	19.5	21.3
14	22.23	21.03	23.60	3.71	28.90	23.01	3.2	21.5	25.0
16	25.40	24.21	26.80	3.71	31.21	24.61	3.2	25.0	27.3
18	28.58	26.97	30.00	3.71	33.60	26.97	3.2	28.0	31.3
20	31.75	30.18	33.20	4.27	36.80	29.36	3.2	31.5	34.5
22	34.93	33.32	36.35	4.27	40.00	31.75	3.2	34.5	37.5
24	38.10	36.53	39.50	4.27	43.10	34.93	3.9	37.5	40.6

Receptacle with PCB contact

receptacle (RD27497)



receptacle (RD27474)



Type for PCB contact		L1	A
#22D	Long PC tail contact	8.5	0.7
	Short PC tail contact	4.0	
#20	Long PC tail contact	8.5	0.7
	Short PC tail contact	5.1	
#16	Long PC tail contact	8.5	1.15
	Short PC tail contact	5.1	

Contact Type		Shell Size	
		8, 10, 12, 14, 16, 18	20, 22, 24
L2	#22D	13.40	13.40
	#20 or #16	13.57	13.57
L3	#22D	13.61	12.95
	#20 or #16	13.78	13.12



Crimp Contacts. Ordering Information

Contact size	Contact type	Part number
# 22D	Pin	MS39029/58-360
	Socket	MS39029/57-354
# 20	Pin	MS39029/58-363
	Socket	MS39029/57-357
# 16	Pin	MS39029/58-364
	Socket	MS39029/57-358
# 12	Pin	MS39029/58-365
	Socket	MS39029/57-359
# 22D	sealing contact	MS27488-22 (black)
# 20	sealing contact	MS27488-20 (red)
# 16	sealing contact	MS27488-16 (blue)
# 12	sealing contact	MS27488-12 (yellow)
# 10	sealing contact	MS27488-10 (white)
# 8	sealing contact	MS27488-8 (red)



Crimp Contacts. Ordering Information

#16 Coaxial contacts		
Cable Accommodation	Type	Part Number
M17/119-RG174, M17/113-RG316, , M17/094-RG179 Times AA3248, Teledyne 11299, Haveg 8100207 Thermax 75-738-BCCWXE, Tensolite 3088/L707YX-1	Pin	M39029/76-424
	Socket	M39029/78-432
M19/093-RG178	Pin	M39029/76-425
	Socket	M39029/78-433
Haveg 61-02051, Revere WH95623	Pin	M39029/76-426
	Socket	M39029/78-434
Haveg 30-00761, Haveg 30-02024, Haveg 30-02033, Tensolite 24713/A955KK1, Tensolite 26723/A955KK1	Pin	M39029/76-427
	Socket	M39029/78-435
#12 Coaxial contacts		
Cable Accommodation	Type	Part Number
RG174, RG316, RG179	Pin	M39029/28-211
	Socket	M39029/27-210
RG180	Pin	M39029/28-409
	Socket	M39029/27-402
Microdot 250-4070	Pin	M39029/28-410
	Socket	M39029/27-403
Raychem 48-502, 5022E5111	Pin	M39029/28-411
	Socket	M39029/27-404
Raychem 48-950, 9530D5117	Pin	M39029/28-412
	Socket	M39029/27-405
Raychem 762D1311, 9527A1318	Pin	M39029/28-413
Raychem 7624D1311, 9527A1318	Socket	M39029/27-406
Gore GWN1159A, M17/152-00001	Pin	M39029/28-414
	Socket	M39029/27-407
1S50MU-16, -20, -40, -70 (D24643/28)	Pin	M39029/28-415
	Socket	M39029/27-408



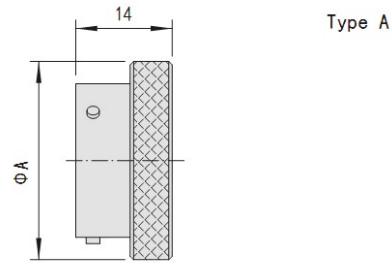
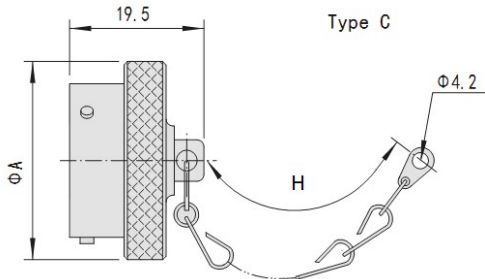
Dust caps of plugs and receptacles

Ordering information

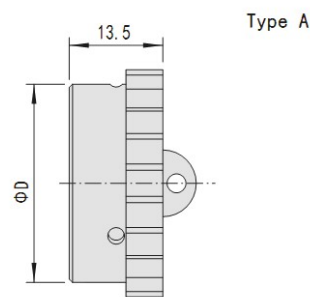
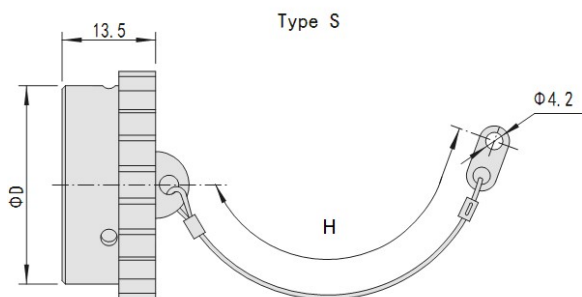
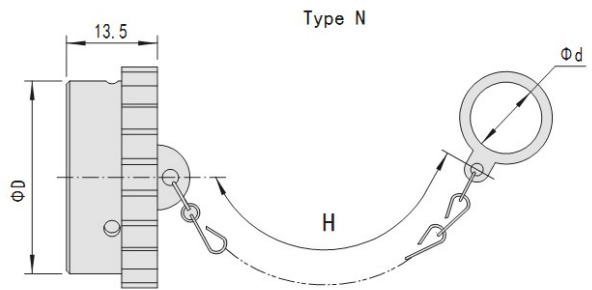
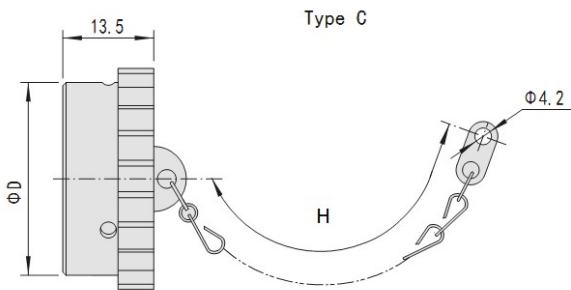
Basic series	RD	27510	F	10	C	L
Type:						
27510 = sealing cap for plug						
27511 = sealing cap for receptacle						
Material/Finish:						
B = aluminum/olive green cadmium						
F = aluminum/electroless nickel						
E = stainless steel/passivated						
Shell size: 08, 10, 12, 14, 16, 18, 20, 22, 24						
Attachment Style:						
C = stainless steel chain with connecting lug						
S = stainless steel string with connecting lug						
A = without chain						
N = stainless steel chain with ring						
R = nylon string with connecting lug						
E = nylon string with ring						
Attachment Length:						
Omit = standard length						
L = 127mm of chain length						
M = 152.4mm of chain length (for RD27510 only)						
N = 177.8mm of chain length (for RD27510 only)						

Dimensions

Plug protective cap RD27510



Receptacle protective cap RD27511



Shell Size	09	11	13	15	17	19	21	23	25
A max	20.5	23.7	26.9	30.1	33.2	36.4	39.6	42.8	45.9
D max	21.7	23.5	29.0	31.6	34.8	38.0	41.1	44.2	46.0
d min	18.0	21.1	26.0	29.0	32.4	35.5	38.6	42.0	44.7
H max	76.2	88.9	88.9	88.9	88.9	88.9	101.6	101.6	101.6



Connectors MIL-DTL-38999, series III



Technical features

Electrical

Contact resistance and current rating

Contact Size	Diameter (mm)	Resistance (mΩ)	Current (A)
#22D	∅ 0.76	≤ 12.0	5.0
#20	∅ 1.00	≤ 5.0	7.5
#16	∅ 1.60	≤ 2.5	13.0
#12	∅ 2.40	≤ 1.5	23.0
#10	∅ 3.15	≤ 1.0	40.0

EMI shielding:

At 1 GHz: minimum attenuation 85 dB (F and W)

At 10 GHz: minimum attenuation 65 dB (F)

At 10 GHz: minimum attenuation 50 dB (W)

Withstanding voltage (V):

Service rating	M	I	II	N
Sea level	1300	1800	2300	1000
21000 m	800	1000	1000	600

Insulation resistance:

Normal ≥ 5000 MΩ, damp heat ≥ 100 MΩ

Electrical continuity between shells:

W class ≤ 2.5 mΩ

F class ≤ 1.0 mΩ

K class ≤ 5.0 mΩ



Mechanical

Shell:	Aluminum alloy, stainless steel or marine bronze
Plating:	W class: Olive green cadmium plating K class: Stainless steel passivated F class: Electroless nickel plating
Insulator:	Thermo-set plastic
Grommet and seal:	Silicon rubber
Contact:	Copper alloy with gold plated
Endurance:	500 cycles
Vibration:	Sine: 60 g, with temperature cycling and simulated accessory (36 hours)
Random:	44.1 grms in high temperature 49.5 grms in ambient temperature
Shock:	At 3 ms half sinusoid, peak value of acceleration: 300 g
Contact retention:	#22D – 45 N, #20 – 67 N #16 – 111 N, #12 – 111 N #10 – 111 N, #8 – 111 N

Environmental

Operating temperature:	W class: -65°C ~ +175°C J class: -65°C ~ +175°C M class: -65°C ~ +200°C K, F class: -65°C ~ +200°C
Salt spray:	According to MIL-DTL-38999 standard F class: 48 h W class: 500 h K class: 1000 h
Seal:	Comply with the request of MIL-DTL-38999K low-pressure immersion
Damp heat:	10 cycles in 24 h according to MIL-DTL-38999K
Fluid resistant:	Various fuels, coolant and solvent



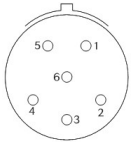
Ordering information

Basic series	RD38999/	20	W	B	35	P	N
Type of connector:							
20 = Square flange receptacle							
24 = Jam nut receptacle							
26 = Plug with RFI shielding							
Material/Finish:							
W = Aluminum/Olive green cadmium							
F = Aluminum/Electroless nickel							
T = Marine Bronze/without plating							
K = Stainless steel/passivated							
L = Aluminum/Black anodized							
J = Composite material/Olive green cadmium							
M = Composite material/Electroless nickel							
Shell size:							
09 (A), 11 (B), 13 (C), 15 (D), 17 (E), 19 (F), 21 (G), 23 (H), 25 (J)							
Contact layouts: See below							
Contact type:							
P = Male Crimp contact							
S = Female Crimp contact							
PL = Male long PC tail contact							
PC = Male Short PC tail contact							
SL = Female Long PC tail contact							
SC = Female Short PC tail contact							
Orientation: N, A, B, C, D							

Contact layouts

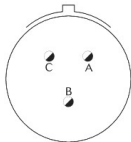
09 / A

35



6#22D
Service M

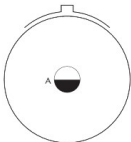
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3#20
Service I

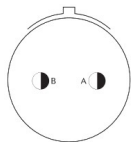
11 / B

01



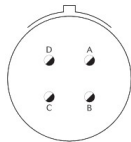
1#12
Service II

02



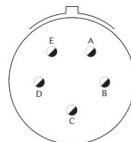
2#16
Service I

04



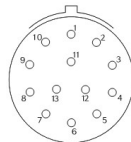
4#20
Service I

05



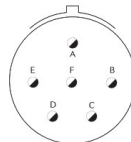
5#20
Service I

35



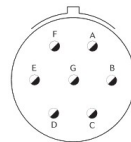
13#22D
Service M

98



6#20
Service I

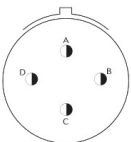
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7#20
Service I

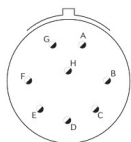
13 / C

04



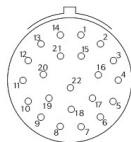
4#16
Service I

08



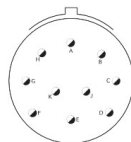
8#20
Service I

35



22#22D
Service M

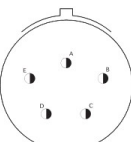
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10#20
Service I

15 / D

05



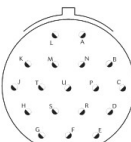
5#16
Service II

15



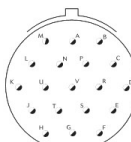
1#16, 14#20
Service I

18



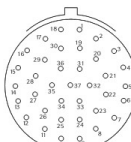
18#20
Service I

19



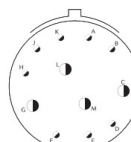
19#20
Service I

35



37#22D
Service M

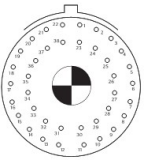
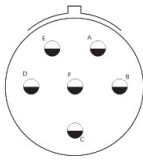
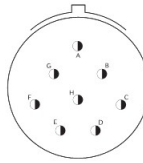
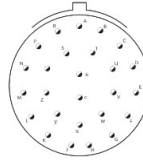
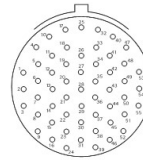
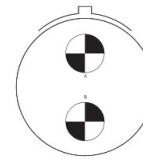
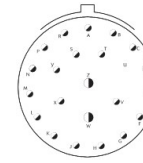
97



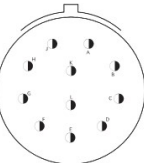
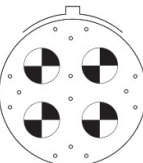
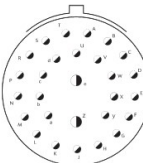
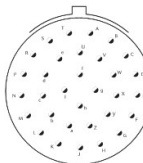
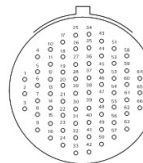
4#16, 8#20
Service I

Contact layouts

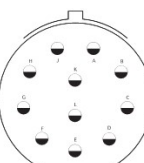


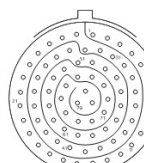
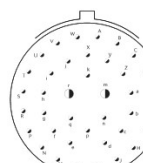
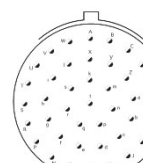
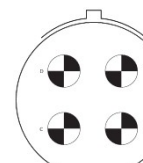
17 / E

02 	06 	08 	26 	35 	75 	99 
38#22D 1#8 Triax Service M	6#12 Service I	8#16 Service II	26#20 Service I	55#22D Service M	2#8 Triax Service M	2#16, 21#20 Service I

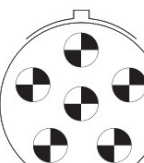
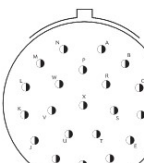
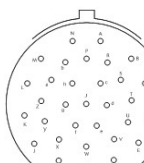
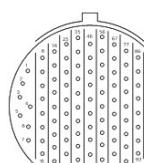
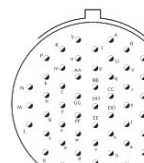
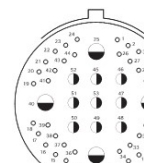
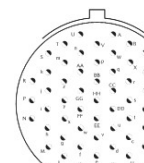
19 / F

11 	18 	28 	32 	35 
11#16 Service II	14#22D 4#8 Triax Service M	26#20, 2#16 Service I	32#20 Service I	66#22D Service M

21 / G

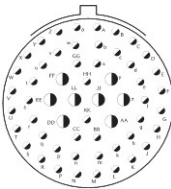
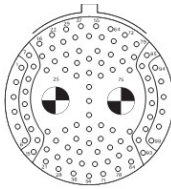
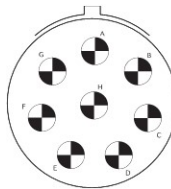
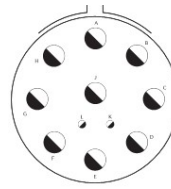
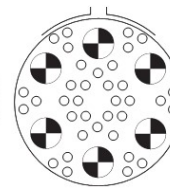
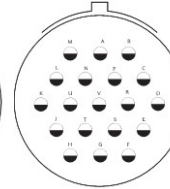
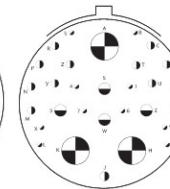
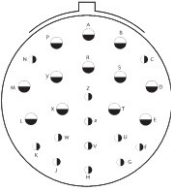
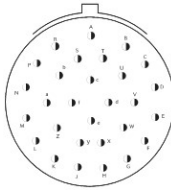
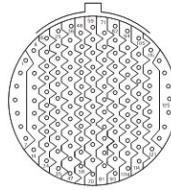
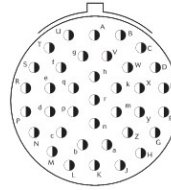
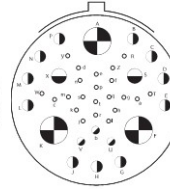
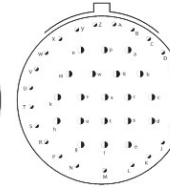
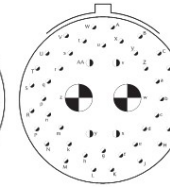
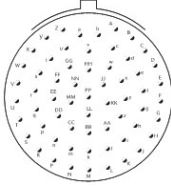

11 	16 	20 	35 	39 	41 	75 
11#12 Service I	16#16 Service II	18#20 2#8 Triax Service M	79#22D Service M	2#16, 37#20 Service I	41#20 Service I	4#8 Triax Service M

23 / H

06 	21 	32 	35 	53 	54 	55 
6#8 Triax Service M	21#16 Service II	32#20 Service I	100#22D Service M	53#20 Service I	4#12, 9#16 40#22D Service M	55#20 Service I

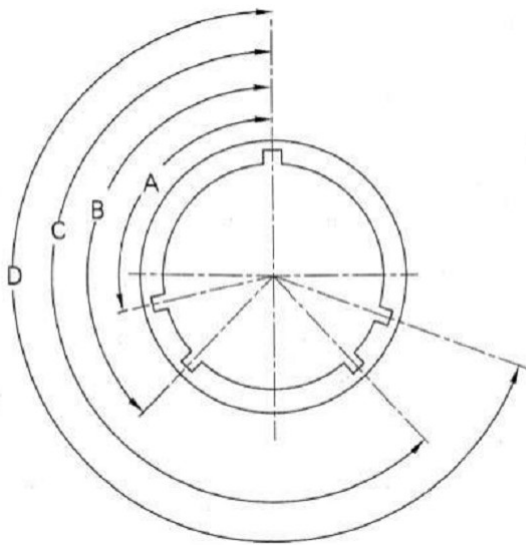
Contact layouts

25 / J

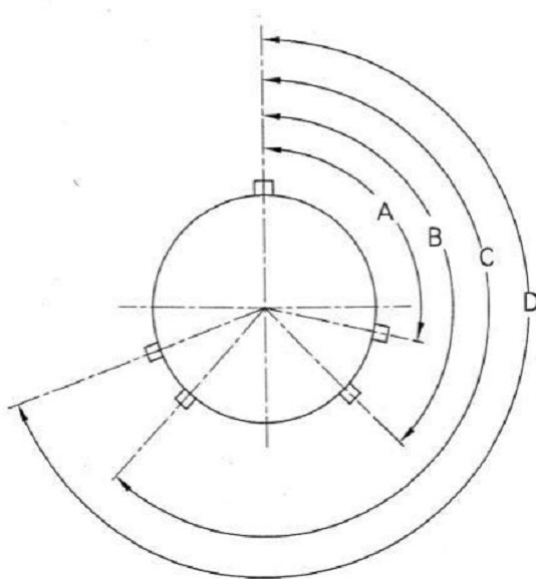
<p>04</p>  <p>48#20 8#16 Service I</p>	<p>07</p>  <p>97#22D 2#8 Triax Service M</p>	<p>08</p>  <p>8#8 Triax Service M</p>	<p>11</p>  <p>2#20, 9#10 Service N</p>	<p>17</p>  <p>36#22D 6#8 Triax</p>	<p>19</p>  <p>19#12 Service I</p>	<p>20</p>  <p>10#20, 13#16 4#12 Coax 3#8 Triax Service N</p>
<p>24</p>  <p>12#16 12#12 Service I</p>	<p>29</p>  <p>29#16 Service I</p>	<p>35</p>  <p>128#22D Service M</p>	<p>37</p>  <p>37#16 Service II</p>	<p>41</p>  <p>22#22D, 3#20 11#16, 2#12 3#8 Triax Service M</p>	<p>43</p>  <p>23#20 20#16 Service I</p>	<p>46</p>  <p>40#20, 4#16 2#8 Coax Service I</p>
<p>61</p>  <p>61#20 Service I</p>	<p>90</p>  <p>40#20, 4#16 2#8 Triax Service I</p>					
○ #22D	● #20	● #16	◐ #12	◎ #10	◑ #8	● #8

Orientation

Receptacle



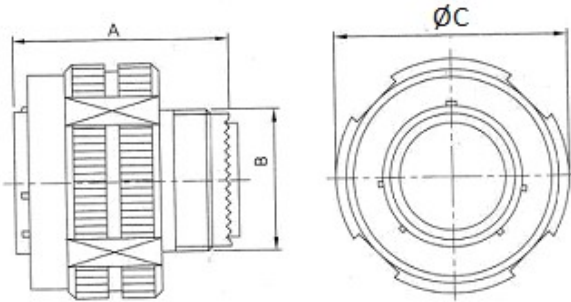
Plug



Shell Size	Angle	N	A	B	C	D	E
9	A°	105	102	80	35	64	91
	B°	140	132	118	140	155	131
	C°	215	248	230	205	234	197
	D°	265	320	312	275	304	240
11	A°	95	113	90	53	119	51
	B°	141	156	145	156	146	141
	C°	208	182	195	220	176	184
	D°	236	292	252	255	298	242
13	A°	95	113	90	53	119	51
	B°	141	156	145	156	146	141
	C°	208	182	195	220	176	184
	D°	236	292	252	255	298	242
15	A°	95	113	90	53	119	79
	B°	141	156	145	156	146	153
	C°	208	182	195	220	176	197
	D°	236	292	252	255	298	272
17	A°	80	135	49	66	62	79
	B°	142	170	169	140	145	153
	C°	196	200	200	200	180	197
	D°	293	310	244	257	280	272
19	A°	80	135	49	66	62	79
	B°	142	170	169	140	145	153
	C°	196	200	200	200	180	197
	D°	293	310	244	257	280	272
21	A°	80	135	49	66	62	79
	B°	142	170	169	140	145	153
	C°	196	200	200	200	180	197
	D°	293	310	244	257	280	272
23	A°	80	135	49	66	62	79
	B°	142	170	169	140	145	153
	C°	196	200	200	200	180	197
	D°	293	310	244	257	280	272
25	A°	80	135	49	66	62	79
	B°	142	170	169	140	145	153
	C°	196	200	200	200	180	197
	D°	293	310	244	257	280	272

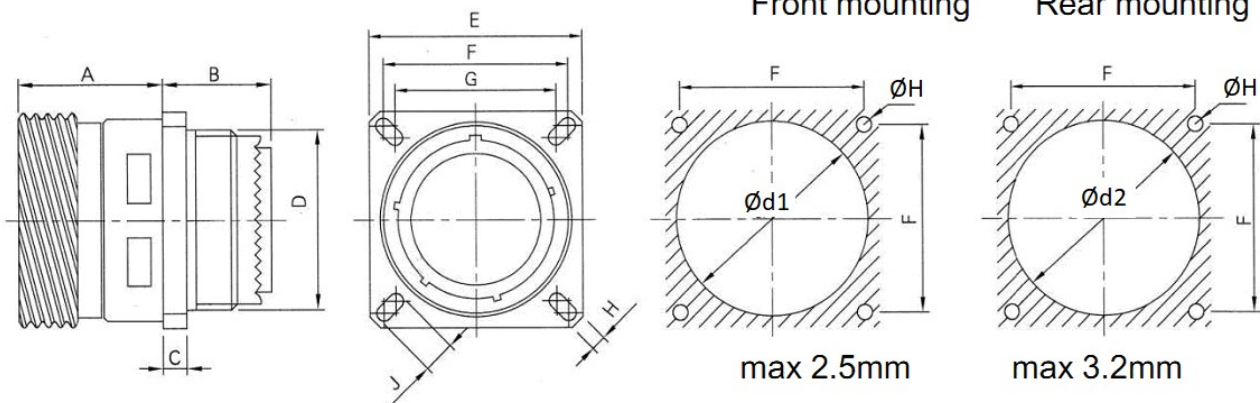
Dimensions

Shielding plug (RD38999/26)



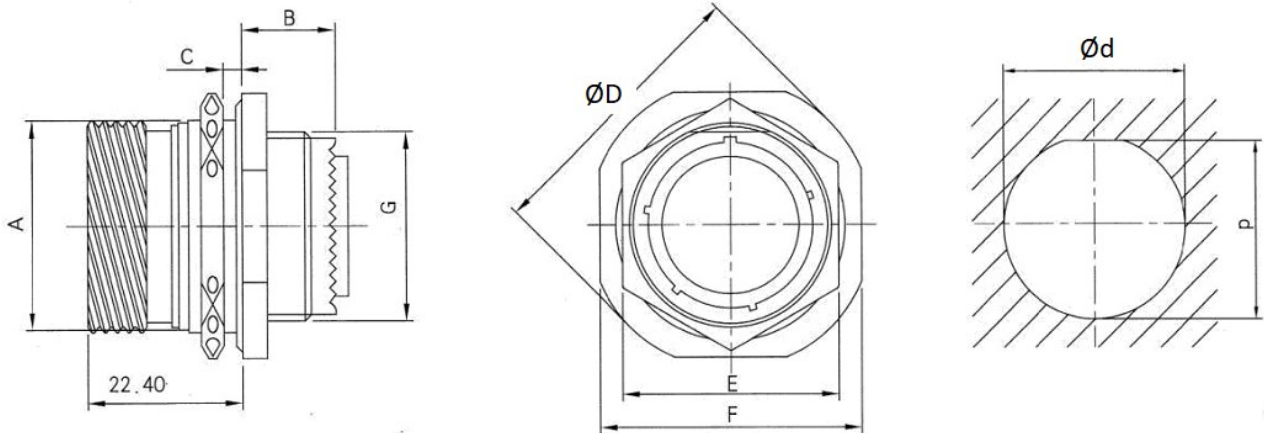
Shell Size	A (max)	B Thread	C (max)
09	31.00	M12*1-6g	21.80
11	31.00	M15*1-6g	25.00
13	31.00	M18*1-6g	29.40
15	31.00	M22*1-6g	32.40
17	31.00	M25*1-6g	35.60
19	31.00	M28*1-6g	38.50
21	31.00	M31*1-6g	41.70
23	31.00	M34*1-6g	44.90
25	31.00	M37*1-6g	48.00

Square receptacle (RD38999/20)



Shell Size	A (max)	B (max)	C (max)	D Thread	E	F	G	H	J	d1 (min)	d2 (min)
09	20.90	10.60	2.50	M12*1-6g	23.80	18.26	15.09	3.25	5.49	16.66	13.11
11	20.90	10.60	2.50	M15*1-6g	26.20	20.62	18.26	3.25	4.93	20.22	15.88
13	20.90	10.60	2.50	M18*1-6g	28.60	23.01	20.62	3.25	4.93	23.42	19.05
15	20.90	10.60	2.50	M22*1-6g	31.00	24.61	23.01	3.25	4.39	26.59	23.01
17	20.90	10.60	2.50	M25*1-6g	33.30	26.97	24.61	3.25	4.93	30.96	25.81
19	20.90	10.60	2.50	M28*1-6g	36.50	29.36	26.97	3.25	4.93	32.94	28.98
21	20.10	11.40	3.20	M31*1-6g	39.70	31.75	29.36	3.25	4.93	36.12	32.16
23	20.10	11.40	3.20	M34*1-6g	42.90	34.93	31.75	3.91	6.15	39.29	34.93
25	20.10	11.40	3.20	M37*1-6g	46.00	38.10	34.93	3.91	6.15	42.47	37.69

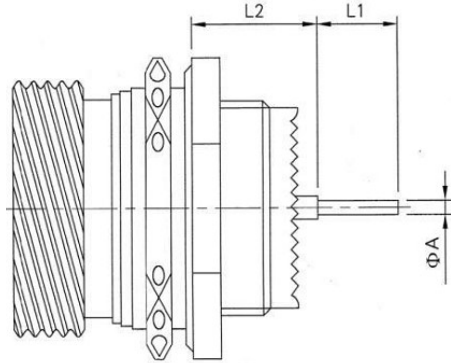
Jam nut receptacle (RD38999/24)



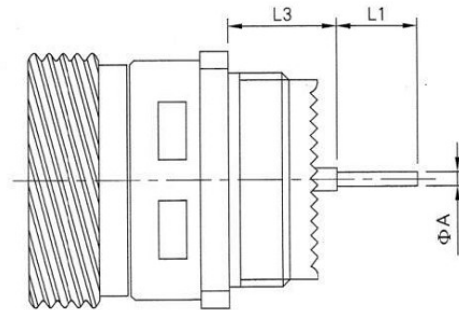
Shell Size	A (max)	B (max)	C (max)	D (max)	E (max)	F	G Thread	d	p
09	16.50	9.90	3.20	30.50	24.00	27.00	M12*1-6g	17.70	16.99
11	19.30	9.90	3.20	35.20	27.00	31.80	M15*1-6g	20.88	19.53
13	24.00	9.90	3.20	38.40	32.00	34.90	M18*1-6g	25.58	24.26
15	27.20	9.90	3.20	41.60	36.00	38.10	M22*1-6g	28.80	27.53
17	30.40	9.90	3.20	44.80	37.00	41.30	M25*1-6g	31.98	30.68
19	33.40	9.90	3.20	49.30	41.00	46.00	M28*1-6g	35.15	33.86
21	36.50	9.90	3.20	52.70	46.00	49.20	M31*1-6g	38.28	37.06
23	39.70	9.90	3.20	55.90	50.00	52.40	M34*1-6g	41.50	40.24
25	42.80	9.90	3.20	59.00	51.23	55.60	M37*1-6g	44.68	43.41

Receptacle with PCB contact

Jam nut receptacle (RD38999/24)



Square receptacle (RD38999/20)



Type for PCB contact		L1	A
#22D	Long PC tail contact	8.5	0.7
	Short PC tail contact	4.0	
#20	Long PC tail contact	8.5	0.7
	Short PC tail contact	5.1	
#16	Long PC tail contact	8.5	1.15
	Short PC tail contact	5.1	

Contact Type			Shell Size	Shell Size
			09, 11	13, 15, 17, 19, 21, 23, 25
L2	Male pin of #22D	min	10.52	10.34
		max	11.46	11.28
	Female pin of #22D	min	10.19	10.01
		max	11.46	11.28
	#20 or #16	min	10.69	10.51
		max	11.63	11.45
L3	Male pin of #22D	min	9.48	9.48
		max	10.58	10.58
	Female pin of #22D	min	9.15	9.15
		max	10.58	10.58
	#20 or #16	min	9.65	9.65
		max	10.75	10.75



Crimp Contacts. Ordering Information

Contact size	Contact type	Part number	GJB Part number
# 22D	Pin	M39029/58-360	
	Socket	M39029/56-348	
# 20	Pin	M39029/58-363	
	Socket	M39029/56-351	
# 16	Pin	M39029/58-364	
	Socket	M39029/56-352	
# 12	Pin	M39029/58-365	J1216/58-365
	Socket	M39029/56-353	J1216/56-353
	Pin	M39029/107-623	J1216/107-623
	Socket	M39029/106-617	J1216/106-617
# 10	Pin	M39029/58-528	
	Socket	M39029/56-527	
# 22D	sealing contact	MS27488-22 (black)	JY27488-22 (black)
# 20	sealing contact	MS27488-20 (red)	JY27488-20 (red)
# 16	sealing contact	MS27488-16 (blue)	JY27488-16 (blue)
# 12	sealing contact	MS27488-12 (yellow)	JY27488-12 (yellow)
# 10	sealing contact	MS27488-10 (white)	JY27488-10 (white)
# 8	sealing contact	MS27488-8 (red)	JY27488-8 (red)

Size 8 Coaxial contacts		
Cable Accommodation	Type	Part Number
M17/095-RG180	Pin	M39029/60-367
	Socket	M39029/59-366
Size 8 Concentric Twinax contacts (Triax)		
Cable Accommodation	Type	Part Number
M17/176-00002	Pin	M39029/113-625
	Socket	M39029/114-628
	Pin	M39029/90-529
	Socket	M39029/91-530



Crimp Contacts. Ordering Information

Size 16 Coaxial contacts		
Cable Accommodation	Type	Part Number
M17/119-RG174, M17/113-RG316, , M17/094-RG179 Times AA3248, Teledyne 11299, Haveg 8100207 Thermax 75-738-BCCWXE, Tensolite 3088/L707YX-1	Pin	M39029/76-424
	Socket	M39029/77-428
M19/093-RG178	Pin	M39029/76-425
	Socket	M39029/77-429
Haveg 61-02051, Revere WH95623	Pin	M39029/76-426
	Socket	M39029/77-430
Haveg 30-00761, Haveg 30-02024, Haveg 30-02033, Tensolite 24713/A955KK1, Tensolite 26723/A955KK1	Pin	M39029/76-427
	Socket	M39029/77-431
Size 12 Coaxial contacts		
Cable Accommodation	Type	Part Number
M17/113-RG316 M17/094-RG179	Pin	M39029/102-558
	Socket	M39029/103-559
RG174, RG316, RG179, Haveg 8100207, Times AA3248, Teledyne 11299, Thermax 75-738-BCCWXE, Tensolite 3088/L707YX-1	Pin	M39029/28-211
	Socket	M39029/75-416
RG180	Pin	M39029/28-409
M17/095-RG, Raychem 9527D1514-2L, Raychem 9528A1318, Microdot 293-3922	Socket	M39029/75-417
Microdot 250-4070	Pin	M39029/28-410
	Socket	M39029/75-418
Raychem 48-502, 5022E5111	Pin	M39029/28-411
	Socket	M39029/75-419
Raychem 48-950, 9530D5117	Pin	M39029/28-412
	Socket	M39029/75-420
Raychem 762D1311, 9527A1318	Pin	M39029/28-413
	Socket	M39029/75-421
Gore GWN1159A, M17/152-00001	Pin	M39029/28-414
	Socket	M39029/75-422
1S50MU-16, -20, -40, -70 (D24643/28)	Pin	M39029/28-415
	Socket	M39029/75-423



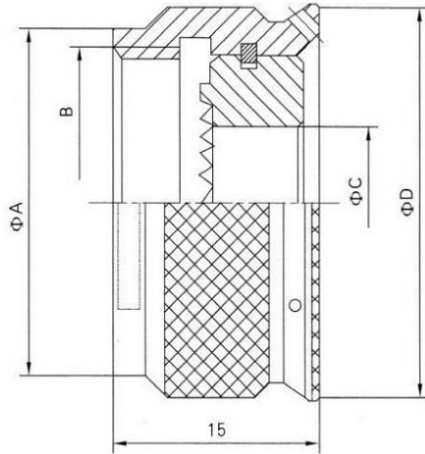
Accessories. MIL-DTL-38999, series III

Backshells. Ordering information

Basic series	M85049/	38	-15	N	09	A
Type:						
14 = Back nut						
16 = 90° elbow cable clamp						
18 = Straight cable clamp with shielding						
20 = Crimp Ring Backshell						
38 = Straight cable clamp						
39 = 90° elbow cable clamp with shielding						
69 = Heat shrinkable sleeve						
01 = Earthing and impaction						
06 = Spring thread-guard						
91 = Straight cable clamp (composite material)						
92 = 90° elbow cable clamp (composite material)						
Shell size: 09, 11, 13, 15, 17, 19, 21, 23, 25						
Material/Finish:						
W = Aluminum/Olive green cadmium						
N = Aluminum/Electroless nickel						
S = Stainless steel/passivated						
A = Aluminum/Black anodized						
J = Composite material/Olive green cadmium						
M = Composite material/Electroless nickel						
Clamp Size:						
01 = 1.57 ~ 3.18 mm						
02 = 3.18 ~ 6.35 mm						
03 = 6.35 ~ 9.53 mm						
04 = 9.53 ~ 12.70 mm						
05 = 12.70 ~ 15.88 mm						
06 = 15.88 ~ 19.05 mm						
07 = 19.05 ~ 22.23 mm						
08 = 22.23 ~ 25.40 mm						
09 = 25.40 ~ 28.58 mm						
10 = 28.58 ~ 31.75 mm						
Length Code:						
Omit = Standard length (64.4 mm)						
A = 89.8 mm						
B = 115.2 mm						
C = 140.6 mm						

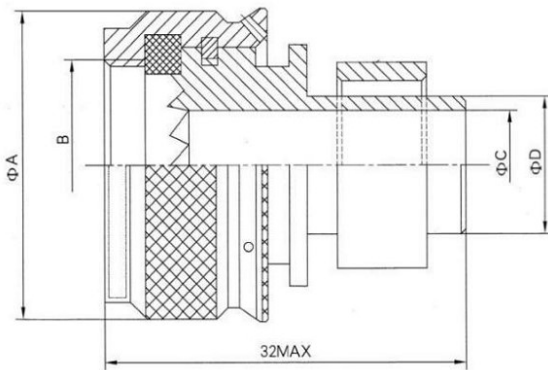
Dimensions

Back nut (M85049/14)



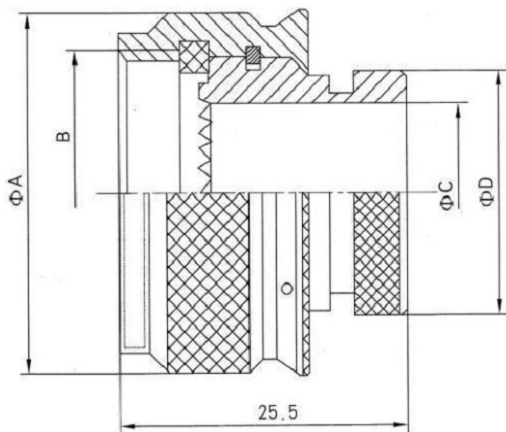
Shell Size	A	Thread B	C	D
09	15.2	M12*1	6.7	18.0
11	18.2	M15*1	9.9	21.0
13	21.2	M18*1	12.8	24.0
15	25.1	M22*1	16.0	28.0
17	28.1	M25*1	19.2	31.0
19	31.1	M28*1	21.4	34.0
21	34.0	M31*1	24.6	37.0
23	37.0	M34*1	27.7	40.0
25	40.0	M37*1	30.9	43.0

Crimp Ring Backshell (M85049/20)



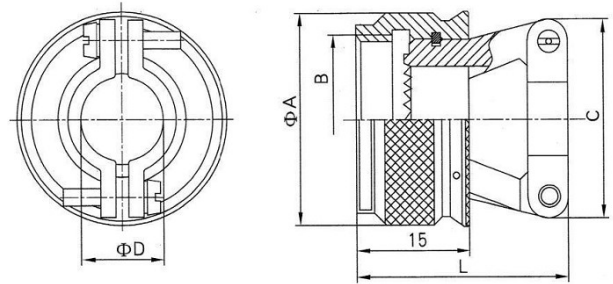
Shell Size	A	Thread B	C	D
09	18.	M12*1	6.5	8.8
11	21.	M15*1	8.6	12.65
13	24.	M18*1	10.90	12.95
15	28.	M22*1	14.10	16.00
17	31.	M25*1	17.25	19.30
19	34.	M28*1	20.40	22.61
21	37.	M31*1	23.60	25.65
23	40.	M34*1	26.40	28.70
25	43.	M37*1	28.49	30.53

Heat shrinkable sleeve (M85049/69)



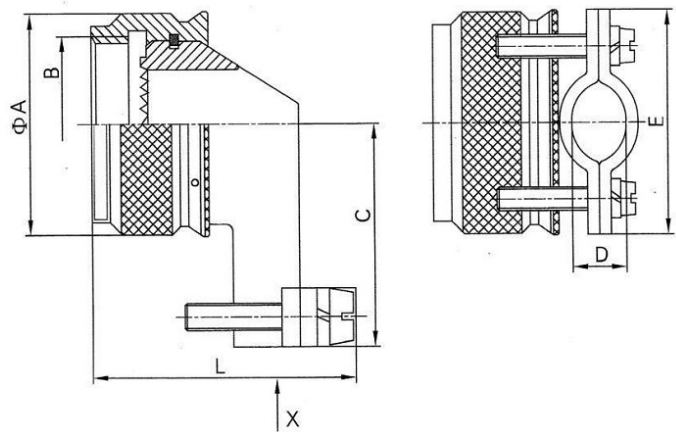
Shell Size	A	Thread B	C	D
09	18.	M12*1	6.	13.5
11	21.	M15*1	9.	15.3
13	24.	M18*1	12.8	19.6
15	28.	M22*1	16.0	21.2
17	31.	M25*1	19.2	24.4
19	34.	M28*1	21.4	26.4
21	37.	M31*1	24.6	30.9
23	40.	M34*1	27.7	34.4
25	43.	M37*1	30.9	36.6

Straight cable clamp (M85049/38)



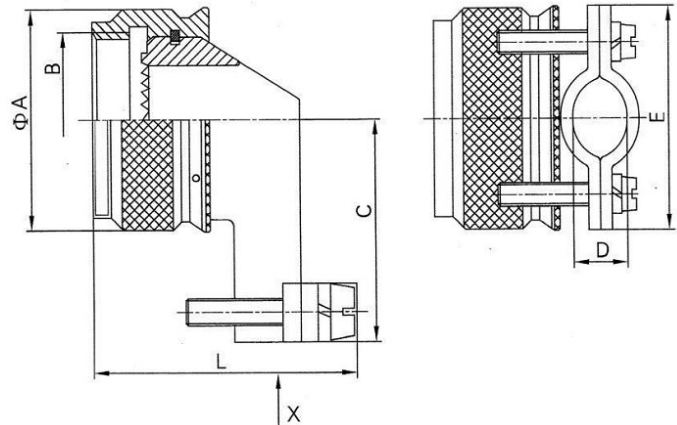
Shell Size	A max	Thread B	C max	D min	D max	L max
09	18.0	M12*1	20.0	2.49	5.94	27.0
11	21.0	M15*1	21.0	3.87	5.94	28.5
13	24.0	M18*1	23.4	4.83	8.33	30.0
15	28.0	M22*1	26.6	6.60	11.61	31.5
17	31.0	M25*1	30.6	7.19	15.60	33.5
19	34.0	M28*1	34.0	8.26	16.10	36.6
21	37.0	M31*1	35.8	8.71	17.73	39.8
23	40.0	M34*1	39.0	9.68	20.90	42.9
25	43.0	M37*1	40.6	10.62	21.66	45.0

90° elbow cable clamp with shielding (M85049/39)



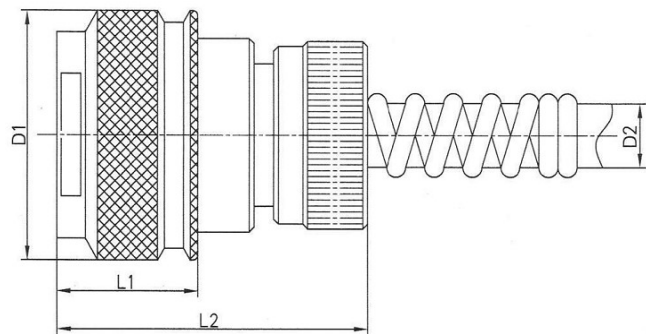
Shell Size	A	Thread B	C	D min	D max	E max	L max
09	18.0	M12*1	20.6	2.49	5.94	21.6	29.5
11	21.0	M15*1	22.0	3.87	5.94	22.8	29.5
13	24.0	M18*1	23.6	4.83	8.33	26.0	31.9
15	28.0	M22*1	25.2	6.60	11.61	29.0	35.1
17	31.0	M25*1	26.8	7.19	15.60	30.6	39.1
19	34.0	M28*1	31.3	8.26	16.10	37.0	41.5
21	37.0	M31*1	32.9	8.71	17.73	39.0	43.3
23	40.0	M34*1	34.5	9.68	20.90	41.0	46.5
25	43.0	M37*1	36.1	10.62	21.66	42.0	47.1

90° elbow cable clamp (M85049/16)



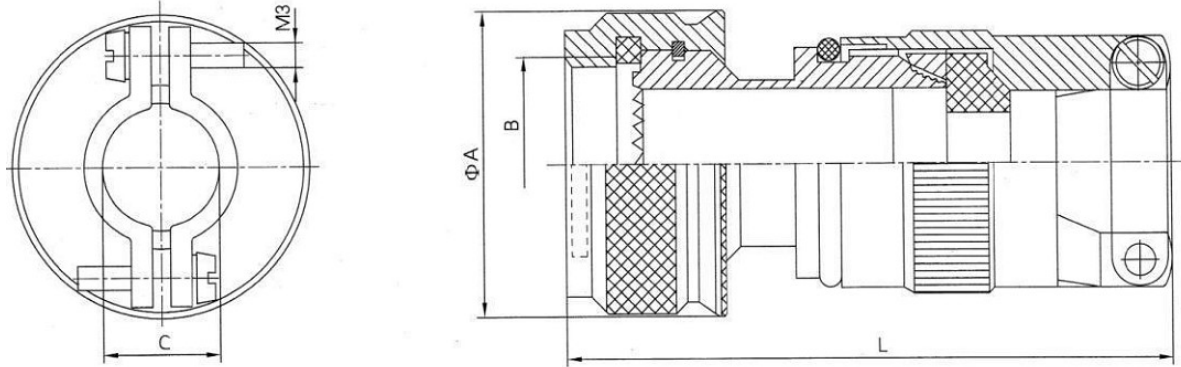
Shell Size	A	Thread B	C	D min	D max	E max	L max
09	19.0	M12*1	20.0	2.85	6.71	21.0	25.9
11	22.0	M15*1	21.5	6.00	9.96	26.5	29.2
13	25.1	M18*1	23.0	8.45	12.85	31.5	32.0
15	29.0	M22*1	25.0	12.00	16.03	36.5	35.2
17	32.1	M25*1	27.0	11.10	19.20	31.0	36.4
19	35.1	M28*1	28.5	13.75	21.46	37.0	40.7
21	38.1	M31*1	29.5	19.30	24.64	35.0	43.8
23	41.1	M34*1	31.0	21.40	27.81	35.0	43.0
25	44.1	M37*1	33.0	23.50	30.99	37.0	44.2

Protecting cable by spring (M85049/06)



Shell Size	D1	D2	L1	L2
09	18.0	7.0	14.8	37.0
11	21.0	10.0	14.8	37.0
13	24.0	13.0	14.8	37.0
15	28.0	15.0	14.8	40.0
17	31.0	18.0	14.8	40.0
19	34.0	20.0	14.8	40.0
21	37.0	23.5	14.8	45.0
23	40.0	26.5	14.8	45.0
25	43.0	29.0	14.8	45.0

Straight cable clamp with shielding (M85049/18)

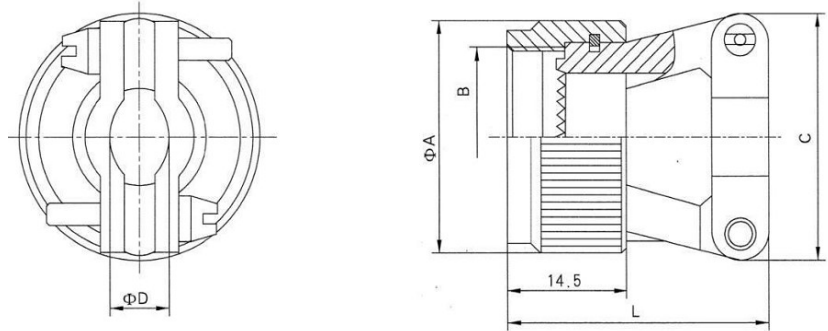


Shell Size	Clamp Size	A	Thread B
09	01~02	19	M12*1
11	01~03	22	M15*1
13	02~04	25.1	M18*1
15	02~05	29	M22*1
17	02~06	32	M25*1
19	03~07	35	M28*1
21	03~08	38	M31*1
23	03~09	41.1	M34*1
25	04~10	41.1	M37*1

Clamp Size	Cable Range
01	1.57~3.18
02	3.18~6.35
03	6.35~9.53
04	9.53~12.7
05	12.7~15.88
06	15.88~19.05
07	19.05~22.23
08	22.23~25.40
09	25.40~28.58
10	28.58~31.75

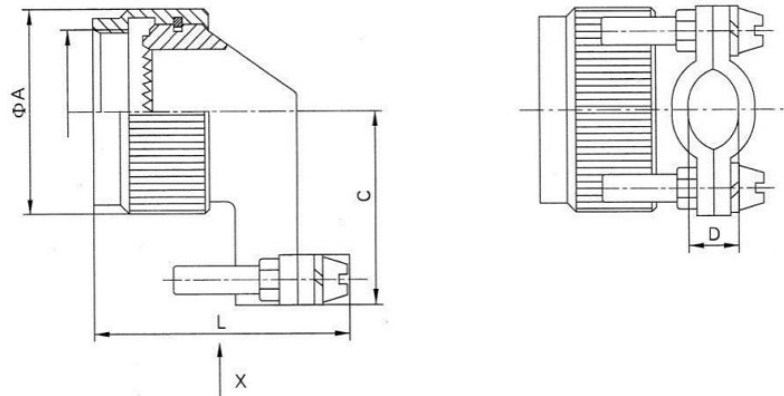
Shell Size	Number for hole of cable	L
09~25	Standard(may omit)	64.4
09~25	A	89.8
15~25	B	115.2
21~25	C	140.0

Straight cable clamp (RD85049/91-J)



Shell Size	A max	Thread B	C max	D min	D max	L max
09	21.8	M12*1	20.0	4.00	5.94	27.0
11	25.0	M15*1	20.0	4.00	5.94	28.5
13	29.5	M18*1	23.4	4.83	8.33	30.0
15	32.5	M22*1	26.6	6.60	11.61	31.5
17	35.5	M25*1	30.6	7.19	15.60	33.5
19	38.5	M28*1	34.0	8.26	16.10	36.6
21	41.5	M31*1	35.8	8.71	17.73	39.6
23	45.0	M34*1	39.0	9.68	20.90	42.9
25	48.0	M37*1	40.6	10.62	21.66	45.0

90° elbow cable clamp (M85049/92-J)

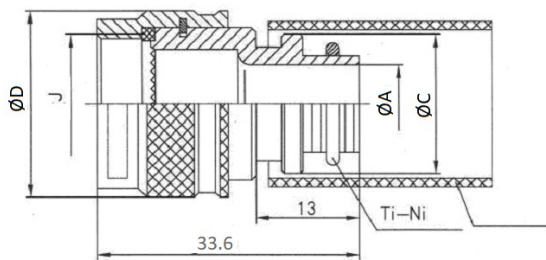


Shell Size	A max	Thread B	C max	D min	D max	L max
09	21.8	M12*1	20.6	2.49	5.94	29.5
11	25.0	M15*1	22.0	3.87	5.94	29.5
13	29.5	M18*1	23.6	4.83	8.33	31.9
15	32.5	M22*1	25.2	6.60	11.61	35.1
17	35.5	M25*1	26.8	7.19	15.60	39.1
19	38.5	M28*1	31.3	8.26	16.10	41.5
21	41.5	M31*1	32.9	8.71	17.73	43.3
23	45.0	M34*1	34.5	9.68	20.90	46.5
25	48.0	M37*1	36.1	10.62	21.66	47.1

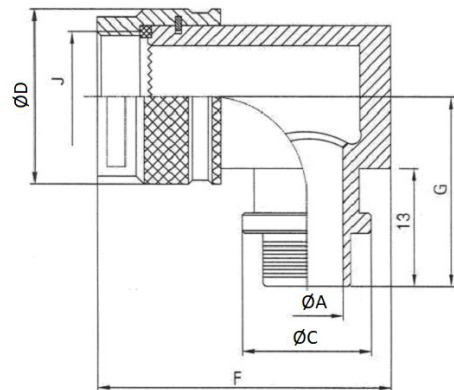
Special backshells. Ordering information

Basic series	RD38999/	15	FJA	00	F	A	-05
Shell size: 09, 11, 13, 15, 17, 19, 21, 23, 25							
Type of backshell: See below							
Type of structure:							
00 = Straight backshell							
90 = 90° elbow backshell							
Material/Finish:							
F = Aluminum/Electroless nickel							
W = Aluminum/Olive drab cadmium							
Ti-Ni ring:							
Omit = Without Ti-Ni ring							
A = With Ti-Ni ring (Only for FJA and FJC)							
Clamp Size and Ti-Ni ring specification							

Straight (RD38999/FJA00)



90° elbow (RD38999/FJA90)

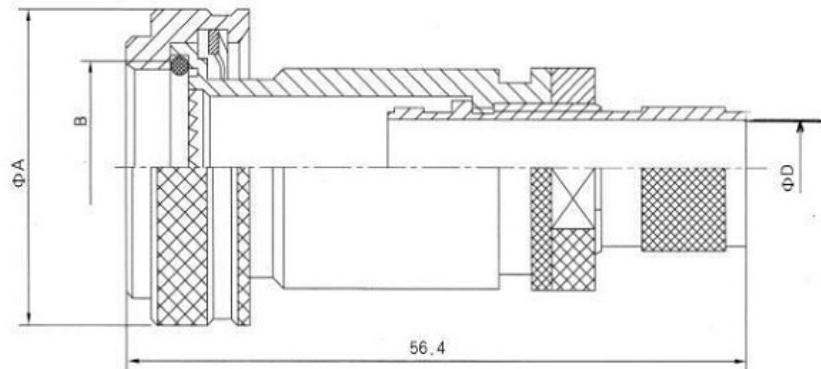


Shell size	Ti-Ni	Shielding net	A		C		F	D	G	Thread J
			Straight	90° Elbow	Straight	90° Elbow				
09	TR-04	6×10 (0.15~0.20)	6.3	6.3	14.0	14.0	38.2	19	26	M12*1-6H
	TR-05	10×16 (0.15~0.20)	7.9	7.9	15.5	15.0				
	TR-06	10×16 (0.15~0.20)	9.5	—	17.1	—				
11	TR-04	6×10 (0.15~0.20)	6.3	6.3	14.0	14.0	39.7	22	26	M15*1-6H
	TR-05	10×16 (0.15~0.20)	7.9	7.9	15.5	15.5				
	TR-06	10×16 (0.15~0.20)	9.5	9.5	17.1	17.1				
	TR-07	10×16 (0.12~0.20)	11.1	11.1	18.7	18.0				
	TR-08	16×24 (0.12~0.25)	12.7	—	20.3	—				
13	TR-04	6×10 (0.15~0.20)	6.3	6.3	14.0	14.0	45.2	25.1	29	M18*1-6H
	TR-05	10×16 (0.15~0.20)	7.9	7.9	15.5	15.5				
	TR-06	10×16 (0.15~0.20)	9.5	9.5	17.1	17.1				
	TR-07	10×16 (0.12~0.20)	11.1	11.1	18.7	18.7				
	TR-08	16×24 (0.12~0.25)	12.7	12.7	20.3	20.3				
	TR-10	16×24 (0.10~0.30)	16.0	16.0	23.5	23.0				



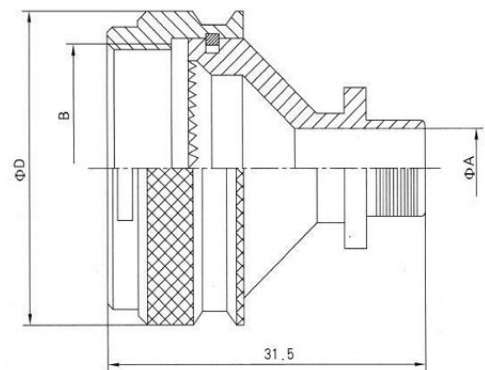
Shell size	Ti-Ni	Specification of shielding net	A		C		F	L	G	Thread J
			Straight	90° Elbow	Straight	90° Elbow				
15	TR-05	10×16 (0.15~0.20)	7.9	–	15.5	–	47.0	29	29	M22*1-6H
	TR-06	10×16 (0.15~0.20)	9.5	9.5	17.1	17.1				
	TR-07	10×16 (0.12~0.20)	11.1	11.1	18.7	18.7				
	TR-08	16×24 (0.12~0.25)	12.7	12.7	20.3	20.3				
	TR-10	16×24 (0.10~0.30)	16.0	16.0	23.5	23.5				
	TR-12	16×24 (0.10~0.30)	19.0	19.0	26.7	25.5				
17	TR-05	10×16(0.15~0.20)	7.9	–	15.5	–	50.7	32.1	33	M25*1-6H
	TR-06	10×16(0.15~0.20)	9.5	–	17.1	–				
	TR-07	10×16(0.12~0.20)	11.1	11.1	18.7	18.7				
	TR-08	16×24(0.12~0.25)	12.7	12.7	20.3	20.3				
	TR-10	16×24(0.10~0.30)	16.0	16.0	23.5	23.5				
	TR-12	16×24(0.10~0.30)	19.0	19.0	26.7	26.7				
	TR-14	24×30(0.10~0.30)	22.2	–	30.0	–				
19	TR-08	16×24(0.12~0.25)	12.7	12.7	20.3	20.3	53.5	35.1	33	M28*1-6H
	TR-10	16×24(0.10~0.30)	16.0	16.0	23.5	23.5				
	TR-12	16×24(0.10~0.30)	19.0	19.0	26.7	26.7				
	TR-14	24×30(0.10~0.30)	22.2	22.2	30.0	30.0				
	TR-16	24×30(0.10~0.30)	25.4	25.4	33.0	32.0				
21	TR-08	16×24(0.12~0.25)	12.7	12.7	20.3	20.3	55.7	38.1	39	M31*1-6H
	TR-10	16×24(0.10~0.30)	16	16	23.5	23.5				
	TR-12	16×24(0.10~0.30)	19	19	26.7	26.7				
	TR-14	24×30(0.10~0.30)	22.2	22.2	30	30				
	TR-16	24×30(0.10~0.30)	25.4	25.4	33	33				
	TR-18	30×40(0.10~0.30)	28.5	–	36.2	–				
23	TR-10	16×24(0.10~0.30)	16	16	23.5	23.5	58.2	41.1	39	M34*1-6H
	TR-12	16×24(0.10~0.30)	19	19	26.7	26.7				
	TR-14	24×30(0.10~0.30)	22.2	22.2	30	30				
	TR-16	24×30(0.10~0.30)	25.4	25.4	33	33				
	TR-18	30×40(0.10~0.30)	28.5	28.5	36.2	36.2				
	TR-20	30×40(0.10~0.30)	31.8	–	39.4	–				
25	TR-10	16×24(0.10~0.30)	–	16	–	23.5	63.7	44.1	44	M37*1-6H
	TR-12	16×24(0.10~0.30)	19	19	26.7	26.7				
	TR-14	24×30(0.10~0.30)	22.2	22.2	30	30				
	TR-16	24×30(0.10~0.30)	25.4	25.4	33	33				
	TR-18	30×40(0.10~0.30)	28.5	28.5	36.2	36.2				
	TR-20	30×40(0.10~0.30)	31.8	31.8	39.4	39.4				
	TR-22	30×40(0.10~0.30)	35	35	42.5	42				

Straight (RD38999/FJB00F)



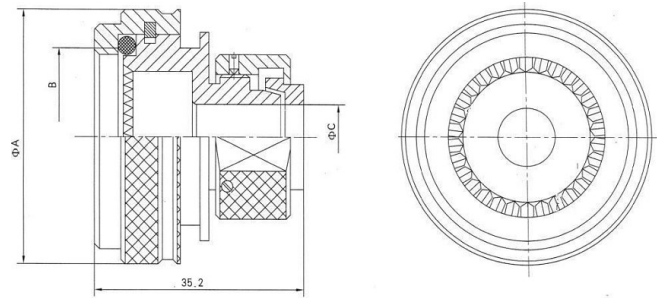
Part Number	A	Thread B	D
RD38999/11FJB00F	23	M15*1	6.5
RD38999/15FJB00F	30	M22*1	12.5
RD38999/17FJB00F	33	M25*1	19.5
RD38999/21FJB00F	39	M31*1	25.5

Straight (RD38999/FJC00)



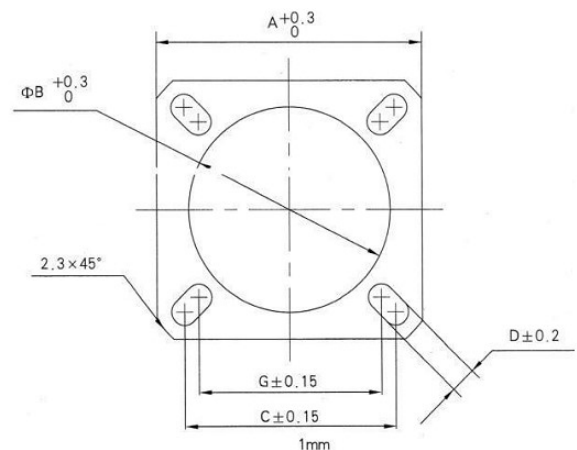
Shell Size	A (diameter of hole)	Thread B	D	Model for Ti-Ni
11	7.9	M15*1	19.0	TR-05
13	9.5	M18*1	22.8	TR-06
15	12.7	M22*1	25.8	TR-08
17	16.0	M25*1	29.2	TR-10
19	19.0	M28*1	32.0	TR-12
21	22.2	M31*1	35.1	TR-14
23	25.4	M34*1	38.2	TR-16

Straight (RD38999/FJE00)



Shell Size	A	Thread B	C (diameter of hole for cable)
09	21.8	M12*1	6.3 – 9.5
11	25.0	M15*1	6.3 – 12.7
13	29.5	M18*1	6.3 – 16.0
15	32.5	M22*1	7.9 – 19.0
17	35.5	M25*1	7.9 – 22.2
19	38.5	M28*1	12.7 – 25.4
21	41.5	M31*1	12.7 – 28.5
23	45.0	M34*1	16.0 – 31.8
25	48.0	M37*1	19.0 – 35.0

Square flange cushion



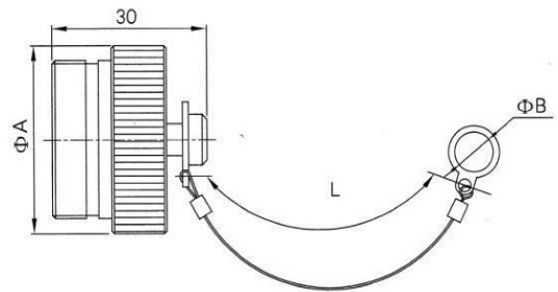
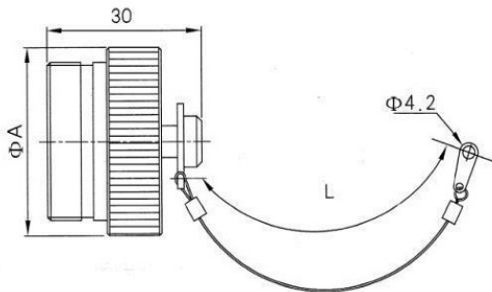
Shell Size	Square	Conductive square	A	B	C	G	D
09	21E8.701.885-A1	21E8.701.886-A2	23.9	16.1	18.2	15.0	3.3
11	21E8.701.887-A1	21E8.701.888-A2	26.3	19.2	20.6	18.2	3.3
13	21E8.701.889-A1	21E8.701.890-A2	28.7	22.4	23.0	20.6	3.3
15	21E8.701.891-A1	21E8.701.892-A2	31.1	25.6	24.6	23.0	3.3
17	21E8.701.893-A1	21E8.701.894-A2	33.4	30.4	26.9	24.6	3.3
19	21E8.701.895-A1	21E8.701.896-A2	36.6	32.0	29.3	26.9	3.3
21	21E8.701.897-A1	21E8.701.898-A2	39.8	34.9	31.7	29.3	3.3
23	21E8.701.899-A1	21E8.701.900-A2	43.0	38.3	34.9	31.7	4.0
25	21E8.701.901-A1	21E8.701.902-A2	46.1	41.4	38.1	34.9	4.0

Dust caps of plugs and receptacles

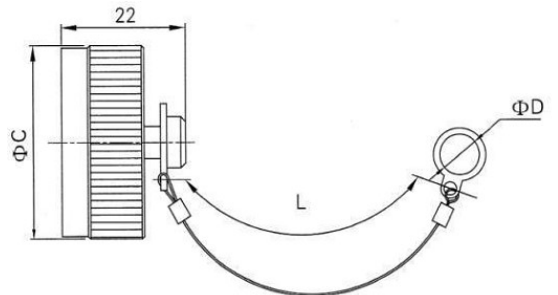
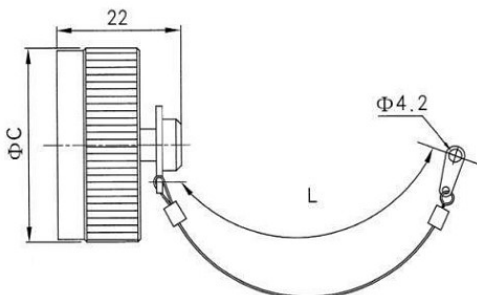
Ordering information

Basic series	RD38999/	32	W	09	R
Type: 32 = Dust cap of plug 33 = Dust cap of receptacle Material/Finish: W = Aluminum/Olive green cadmium F = Aluminum/Electroless nickel J = Composite material/Olive green cadmium M = Composite material/Electroless nickel Shell size: 09, 11, 13, 15, 17, 19, 21, 23, 25 Chain type: N = Stainless steel rope with ring R = Stainless steel rope with hole					

Dust cap for plug



Dust cap for receptacle



Shell Size	09	11	13	15	17	19	21	23	25
A Max	22.86	25.40	30.48	33.02	36.83	39.37	43.18	44.45	48.26
B Min	12.92	17.78	19.27	22.60	25.62	28.95	31.97	34.03	38.32
C Max	22.86	27.86	30.48	31.75	36.83	38.10	41.91	44.45	48.26
D Min	17.78	21.33	25.62	28.95	31.97	35.30	38.32	41.65	44.45
L Max	127.00	127.00	127.00	127.00	127.00	127.00	127.00	127.00	127.00

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