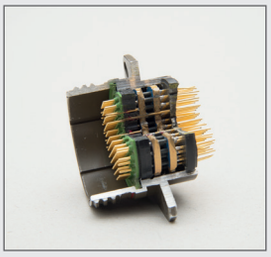
Klemsan®



MIL-DTL-38999
Series III

Klemsan®

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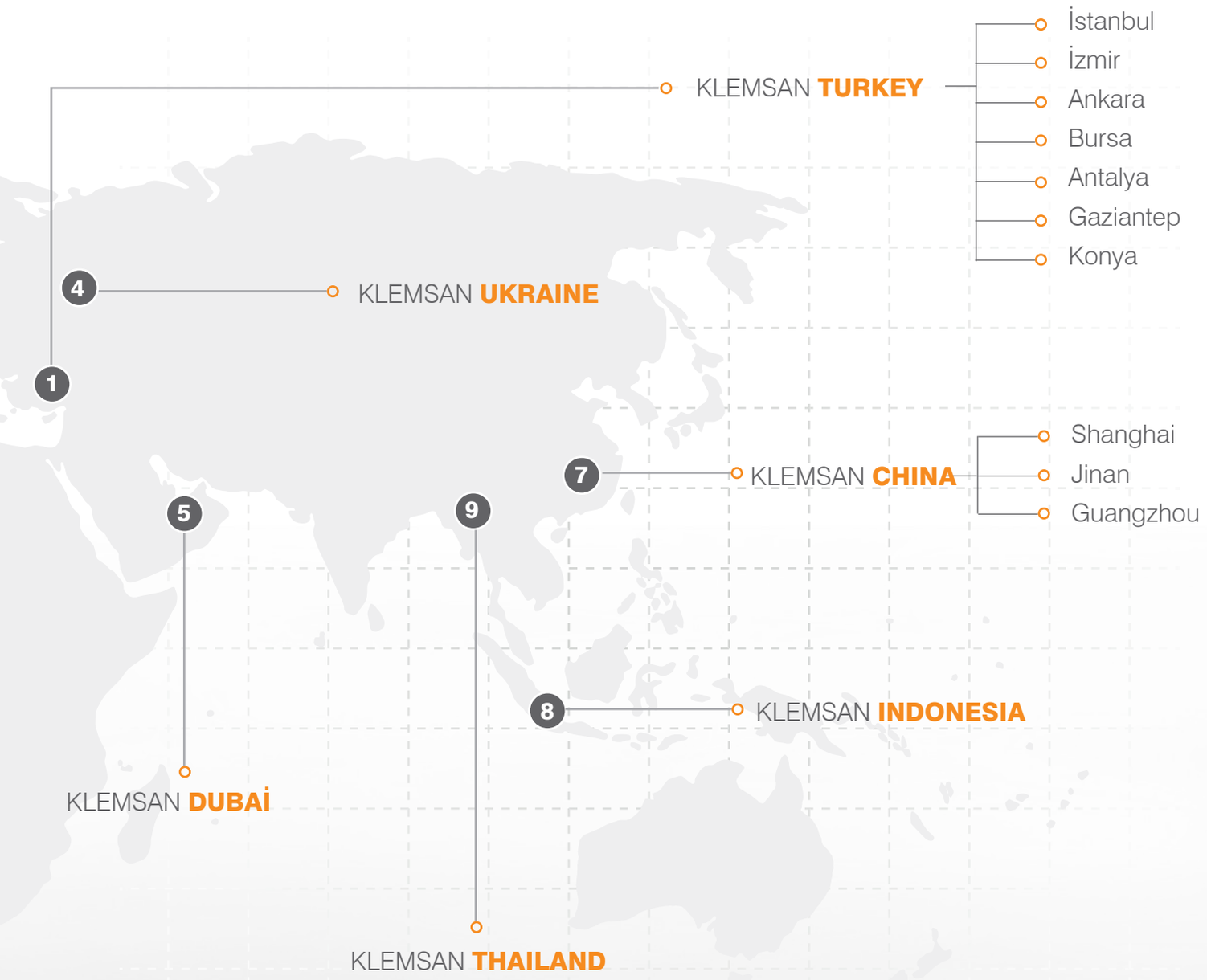
Visit our website for detailed info !

Klemsan continues to grow with 7 offices in Turkey and 9 offices worldwide


KLEMSAN TURKEY
İstanbul
İzmir
Ankara
Bursa
Antalya
Gaziantep
Konya
4
KLEMSAN UKRAINE
1
7
KLEMSAN CHINA
Shanghai
Jinan
Guangzhou
5
9
8
KLEMSAN INDONESIA
KLEMSAN DUBAİ
KLEMSAN THAILAND

Klemsan®

MIL-DTL-38999 Series III

We Are Progressing by Renewing Every Day...

- 2017 — IRIS Certification — International Railway Industry Standard
- 2017 — (Klemsan Internet Objects)
- 2016 — StoP Series Terminal Block
- 2014 — systemon
- 2013 — Export to **78** Countries
- 2012 — Export to **75** Countries
- 2011 — Export to **55** Countries
- 2010 — **New** District Offices
- 2009 — Manufacturing of **First Practical Spring-Loaded** in Turkey
- 2008 — **IECEX** certificate
- 2007 — Establishment of **SMD** Assembly Line and Electronic Manufacturing Facility
- 2006 — **Full Automatic** Assembly Line Investments
- 2005 — Moving to The New Factory in **Kemalpaşa,** İzmir
- 2004 — **UK** Cross Connector
- 2003 — **ATEX** and **CSA** Canadian standards certificates
- 2001 — **Adana** Regional Office Opened
- 2000 — First Participation in **Hannover** Messe
- 1998 — Acquisition by **Feka** Group
- 1991 — **PEK** Series
- 1986 — İzmir **Pınarbaşı**
- 1974 — Klemsan Establishment in **İstanbul**

CERTIFICATES

INTERNATİONAL RAİLWAY INDUSTRY STANDARD

RoHS2 2011/65/EU
OHSAS 18001 : 2007
ISO 9001 : 2008
ISO 14001 : 2004
ISO 50001 : 2011
REACH COMPLIANCE

ENERJİ YÖNETİM SİSTEMİ • ENERGY MANAGEMENT SYSTEM
TÜV NORD
TÜV NORD CERT GmbH
DIN EN ISO 50001

Klemsan®

Short View On Klemsan

Established in 1974, KLEMSAN has become a global brand with its 7 offices in Turkey and 12 offices worldwide and its extensive dealer network by the investments made.

It extends the product range and production capacity every day with its investments on R&D and manufacturing.

Performing the design and manufacturing of Electrotechnical, Electronics and Wire & Cable Management products;

Design and manufacturing of embedded software and hardware for electronic products, and special software for test apparatus-devices;

Design and manufacturing of non-standard, process-specific machines internally and manufacturing these products as per the international standards and compliances,

KLEMSAN ensures that its products are delivered to the customers always with the same quality at all conditions and everywhere.

MIL-DTL-38999
Series III

Klemsan D38999 Series of circular connectors compliant with MIL-DTL-38999 III series requirements, adopt Triple-start threaded quick connection, with an anti-loose mechanism, featuring small size, light weight, high-density contacts, EMI/RFI shielding, removable crimp contacts, and anti-oblique-mating; This product has a fireproof shell, a variety of coatings, and vibration performance of high strength under high temperature, suitable for use in harsh sandstorm and damp circumstances. With quick connection, anti-loose mechanism, EMI/RFI shielding, interface sealing, anti-oblique-mating design, the material of shell is optional in aluminium-alloy, naval brass, stainless steel or composite.

APPLICATIONS

- Military Aviation
- Commercial Aviation
- Communication
- Armed Ground Vehicles
- High Temperature Applications
- Missiles
- Marine

MIL-STD-38999 Series III Part Numbering

	D38999/	20	W	B	35	P	N
Product Family							
Connector Shell Type							
20 = Square Flanged Receptacle							
24 = Jamnut Receptacle							
26 = Shielding Cable Plug							
Plating							
W= Olive Drab Cadmium Plating							
F = Electroless nickel plating							
T = Marine Bronze (copper aluminium alloy)							
K = Stainless Steel Passivated							
L = Black anodized							
J = Composite material olive drab cadmium							
M= Composite material electroless nicked plating							
Shell Sizes							
09 (A), 11 (B), 13 (C), 15 (D), 17 (E), 19 (F), 21 (G), 23 (H), 25 (J)							
Contact Layout (Page 10-11)							
Contact Type							
P = Crimp male pin							
S = Crimp female socket							
PL = Long PCB male pin							
PC= Short PCB Male pin							
SL = Long PCB Female socket							
SC = Short PCB Female socket							
Orientation							
N = Normal							
A, B, C, D = Alternatives							

Electrical Specifications

Contact resistance and current rating

Contact Type	**Çap**	Resistance	**Current (A)**	**Lost at 25C'de (mV)**
22D#	Ø 0.76	≤ 12.0	5.0	< 55
20#	Ø 1.00	≤ 5.0	7.0	< 45
16#	Ø 1.60	≤ 2.5	13.0	< 50
12#	Ø 2.40	≤ 1.5	23.0	< 50
10#	Ø 3.15	≤ 1.0	40.0	< 50
Withstanding Voltage (V):				
Service Rating	M	N	I	II
Sea Level	1300	1000	1800	2300
21.000 m	800	600	1000	1000

EMI Shielding	Min Attenuation @ 1 GHz. 85dB (F and W)
	Min Attenuation @ 10 GHz. 65dB (F)
	Min Attenuation @ 10 GHz. 50dB (W)
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 Specifications

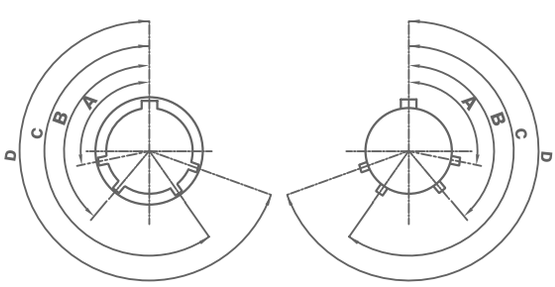
Shell	Aluminium alloy, stainless steel or copper alloy
Plating	W class: Olive Drab Cadmium
	K class: Stainless Steel
	F class: Electrolyses Nickel Plating
Insert	Thermo-set plastic
Grommet and Seal	Silicon rubber
Contact	Copper alloy with gold plated
EMI Spring	Beryllium copper
Endurance	500 cycles
Vibration	Sine: 60gr, @ 55C according to MIL-DTL-38999
	Random: 44,1 grms @ high temperature
	49,5 grms @ ambient temperature
Shock	300gr @ 3 ms half sinusoid, peak value of acceleration
Contact Retention	22D,45N / 20,67N / 16,111N / 12,111N / 10,111N / 8,111N

Environmental

Operating Temperature	W,J class: -65oC ~ +175oC M,K,F class: -65oC ~ +200oC
Salt Spray	N and F class 48 hours
	W and L class 500 hours
	T, K, J and M class 1000 hours
Seal	Comply with the request of MIL-DTL-38999K low-pressure immersion.
Damp heat	10 cycles in 24 hours according to MIL-DTL-38999K
Fluid Resistant	Various fuels, coolant and solvent
Altitude	Designed to use up to 100.000Ft from Sea Level

Rotation

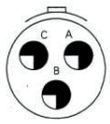
Shell Size	Angle	N	A	B	C	D	E
9	A°	105	102	80	35	64	91
	B°	140	132	118	140	155	131
	C°	215	248	230	205	234	197
	D°	265	320	312	275	304	240
11,13,15	A°	95	113	90	53	119	51
	B°	141	156	145	156	146	141
	C°	208	182	195	220	176	184
	D°	236	292	252	255	298	242
17,19,21,23,25	A°	80	135	49	66	62	79
	B°	142	170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



Plug **Receptacle**

Contact Layouts

09-35 M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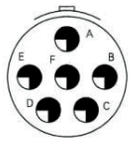
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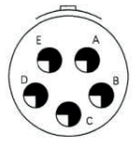
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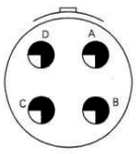
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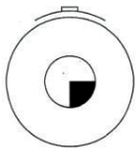
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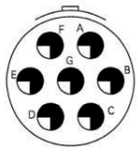
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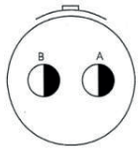
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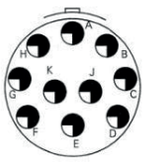
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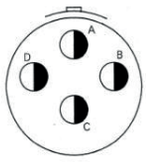
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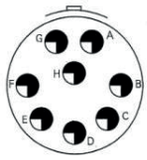
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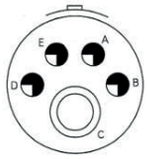
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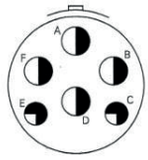
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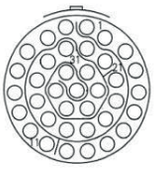
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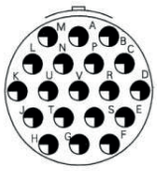
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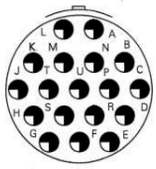
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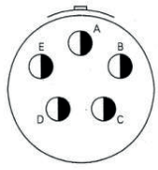
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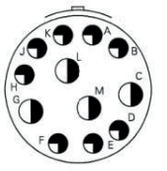
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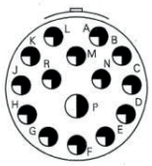
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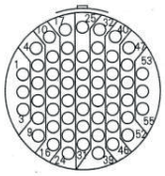
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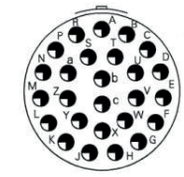
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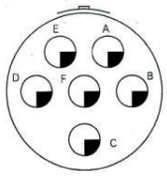
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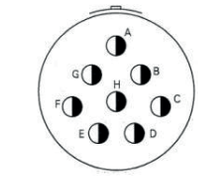
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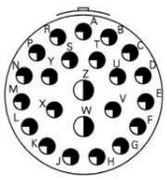
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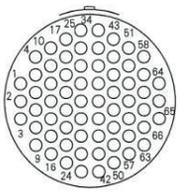
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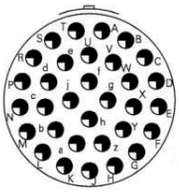
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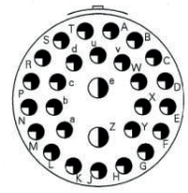
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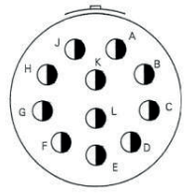
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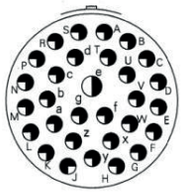
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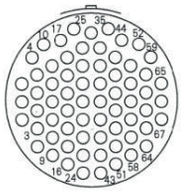
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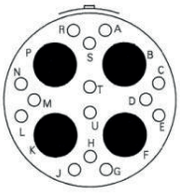
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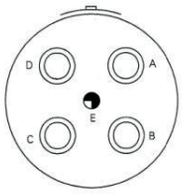
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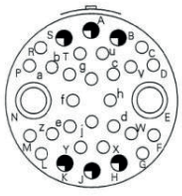
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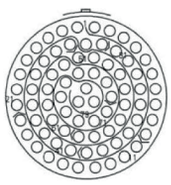
○ 22D# ◓ 20# ◑ 16# ◔ 12# ◯ 10# ● 8#

Contact Layouts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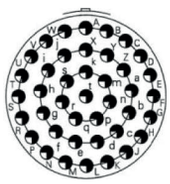
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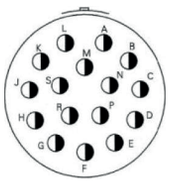
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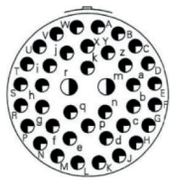
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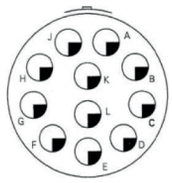
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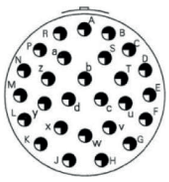
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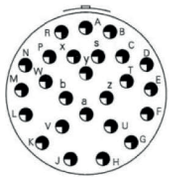
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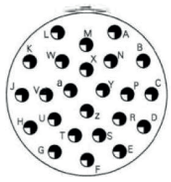
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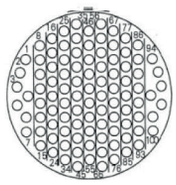
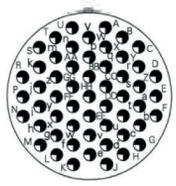

23-35 M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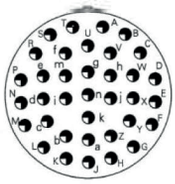
23-53 1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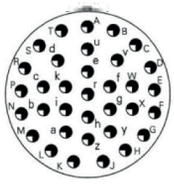
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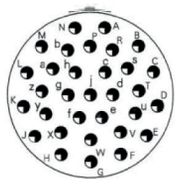
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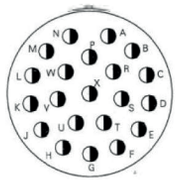
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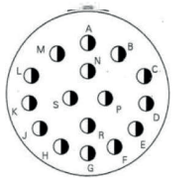
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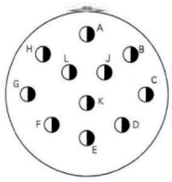
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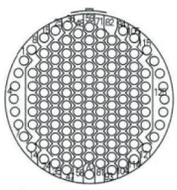
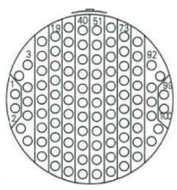

25-35 M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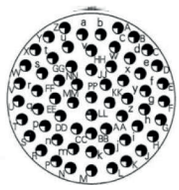
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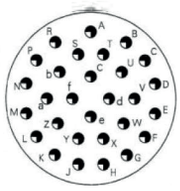
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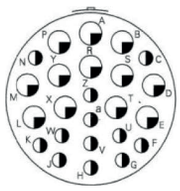
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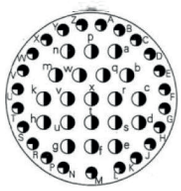
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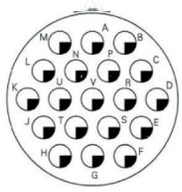
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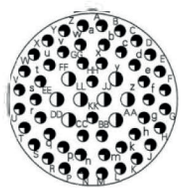
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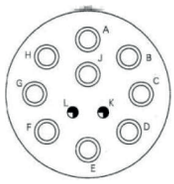
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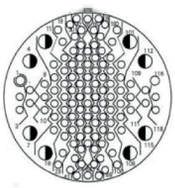

25-93 M

○22D# ◔ 20# ◑ 16# ◕ 12# ◯ 10# ● 8#

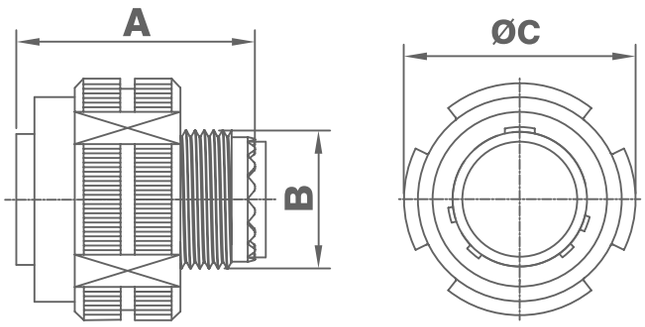
Number of Contacts

Military	Series I & III	Series II	Service Rating	Total # of Contacts	Contact Matrix				
					22D	20	16	12	8
A35	9-35	8-35	M	6	6				
A98	9-98	8-98	I	3		3			
	11-4		I	4		4			
B5	11-5	10-5	I	5		5			
B35	11-35	10-35	M	13	13				
B98	11-98	10-98	I	6		6			
B99	11-99	10-99	I	7		7			
		12-3	II	3			3		
C4	13-4	12-4	I	4			4		
C8	13-8	12-8	I	8		8			
C35	13-35	12-35	M	22	22				
C98	13-98	12-98	I	10		10			
D5	15-5	14-5	II	5			5		
D15	15-15	14-15	I	15		14	1		
D18	15-18	14-18	I	18		18			
D19	15-19		I	19		19			
D35	15-35	14-35	M	37	37				
D97	15-97	14-97	I	12		8	4		
E6	17-6	16-6	I	6				6	
E8	17-8	16-8	II	8			8		
E26	17-26	16-26	I	26		26			
E35	17-35	16-35	M	55	55				
E99	17-99	16-99	I	23		21	2		
F11	19-11	18-11	II	11			11		
F28	19-28	18-28	I	28		26	2		
	19-30	18-30	I	30		29	1		
F32	19-32	18-32	I	32		32			
F35	19-35	18-35	M	66	66				
G11	21-11		I	11				11	
G16	21-16	20-16	II	16			16		
G35	21-35	20-35	M	79	79				
G39	21-39	20-39	I	39		37	2		
G41	21-41	20-41	I	41		41			
G75	21-75		M	4					4***
H21	23-21	22-21	II	21			21		
	23-32	22-32	I	32		32			
H35	23-35	22-35	M	100	100				
H53	23-53	22-53	I	53		53			
H55	23-55	22-55	I	55		55			
J4	25-4	24-4	I	56		48	8		
J19	25-19		I	19				19	
J24	25-24	24-24	I	24			12	12	
J29	25-29	24-29	I	29			29		
J35	25-35	24-35	M	128	128				
J37	25-37		I	37			37		
J43	25-43		I	43		23	20		
J46	25-46		I, Twinax	46		40	4		2***
J8	25-8		Twinax	8					8***
J20	25-20		N,Coax, Twinax	30		10	13	4**	3***
J42	25-42		I, Coax	42		38			4*
J61	25-61	24-61	I	61		61			
	25-64		I	64	40	8	10	6	
	25-66		I	66	53	2	11		

* Coax Contact for RG-180 cable
** Coax Contact for RG-174, -179 and 316 cables
*** Twinax contacts for M17/176-00002 cables .
Please consult Klemsan for other special contacts….

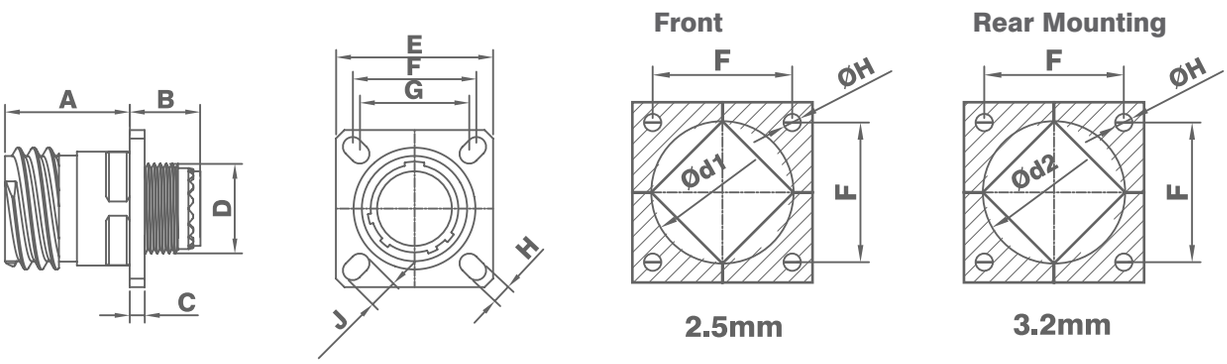
Dimension

EMI Shielding Plug (D38999/26)



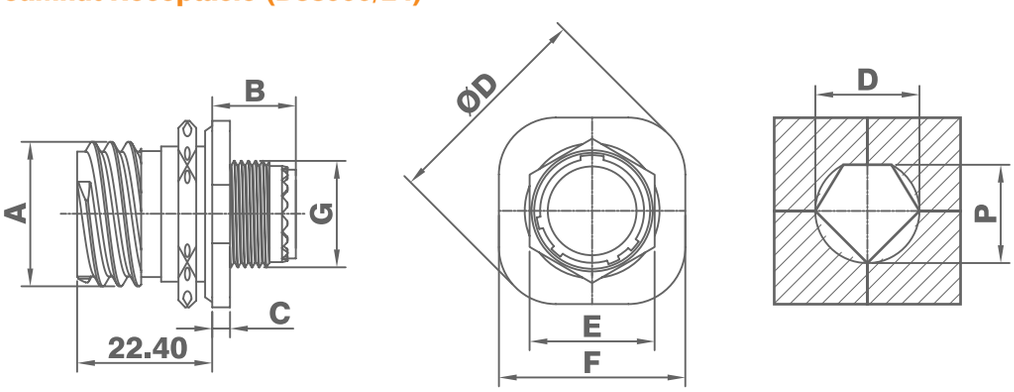
Shell	A (max)	B Thread	C (max)
09	31.00	M12*1-6g	21.80
11	31.00	M15*1-6g	25.00
13	31.00	M18*1-6g	29.40
15	31.00	M22*1-6g	32.40
17	31.00	M25*1-6g	35.60
19	31.00	M28*1-6g	38.50
21	31.00	M31*1-6g	41.70
23	31.00	M34*1-6g	44.90
25	31.00	M37*1-6g	48.00

Square Flanged Receptacle (D38999/20)



Shell	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

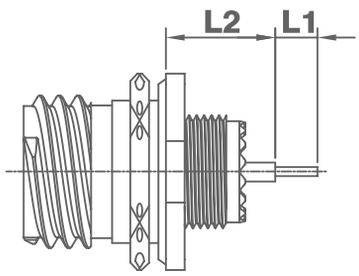
Jamnut Receptacle (D38999/24)

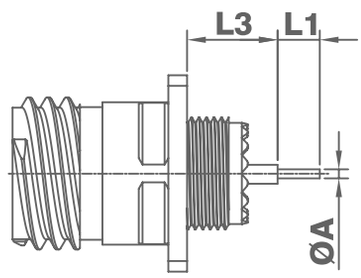


Shell	A	B (max)	C (max)	D (max)	E (max)	F	G Thread	d	p
09	16.50	9.90	3.20	30.50	24.00	27.00	M12*1-6g	17.70	16.99
11	19.30	9.90	3.20	35.20	27.00	31.80	M15*1-6g	20.88	19.53
13	24.00	9.90	3.20	38.40	32.00	34.90	M18*1-6g	25.58	24.26
15	27.20	9.90	3.20	41.60	36.00	38.10	M22*1-6g	28.80	27.53
17	30.40	9.90	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

Contact Layouts

Receptacle with PCB Contacts





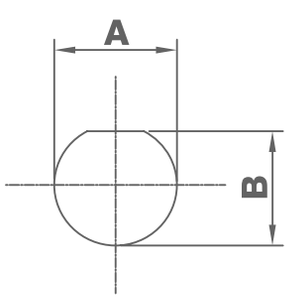
PCB Contat Type		L1	A
22D#	Long PCB Contact	8.5	0.7
	Short PCB Contact	4.0	
20#	Long PCB Contact	8.5	0.7
	Short PCB Contact	5.1	
16#	Uzun PCB Contact	8.5	1.15
	Kısa PCB Contact	5.1	

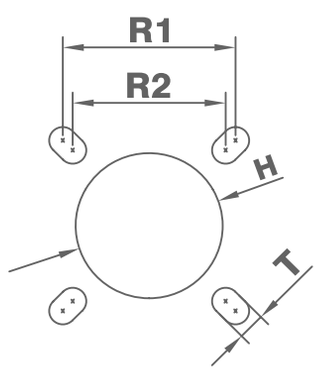
Jamnut Receptacle (D38999/24) **Square Flanged Receptacle (D38999/20)**

	Dimension		Shell 09, 11	Shell 13, 15, 17, 19, 21, 23, 25
L2	22D# Erkek	min	10.52	10.34
		max	11.46	11.28
	22D# Threadi	min	10.19	10.01
		max	11.46	11.28
	16# veya 20#	min	10.69	10.51
L3		max	11.63	11.45
	22D# Erkek	min	9.48	9.48
		max	10.58	10.58
	22D# Threadi	min	9.15	9.15
		max	10.58	10.58
	16# veya 20#	min	9.65	9.65
		max	10.75	10.75

Panel Cut Out

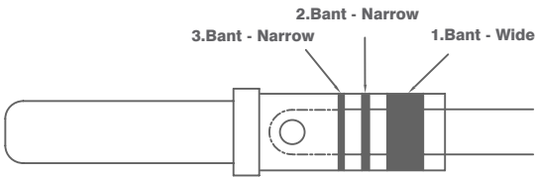
Square Flanged Receptacle (D38999/20) Jamnut Receptacle (D38999/24)





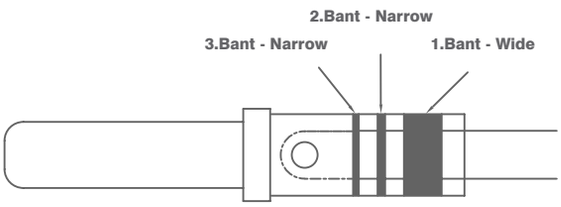
	A Dia		B Dia		H Dia							
+	0,250	0,010			0,000	0,000	0,250		0,010			
-	0,000	0,000	0,250	0,010	0,000	0,000	R1 (TP)		R2 (TP)		T (max)	T (max)
Shell	**mm**	**inç**	**mm**	**inç**	**mm**	**inç**	**mm**	**inç**	**mm**	**inç**	**mm**	**inç**
9	17,78	0,700	17,02	0,670	15,90	0,626	18,26	0,719	15,09	0,594	3,4	0,134
11	20,96	0,825	19,58	0,771	19,08	0,751	20,62	0,812	18,26	0,719	3,4	0,134
13	25,65	1,010	24,26	0,955	22,25	0,876	23,01	0,906	20,62	0,812	3,4	0,134
15	28,83	1,135	27,56	1,085	25,43	1,001	24,61	0,969	23,01	0,906	3,4	0,134
17	32,00	1,260	30,73	1,210	30,18	1,188	26,97	1,062	24,61	0,969	3,4	0,134
19	35,18	1,385	33,91	1,335	31,78	1,251	29,36	1,156	26,97	1,062	3,4	0,134
21	38,35	1,510	37,08	1,460	34,95	1,376	31,75	1,250	29,36	1,156	3,4	0,134
23	41,53	1,635	40,26	1,585	38,38	1,511	34,93	1,375	31,75	1,250	4,1	0,160
25	44,70	1,760	43,43	1,710	41,30	1,626	38,10	1,500	34,92	1,375	4,1	0,160

Contacts Male Pin - MIL-C-39029/58



	Color Bants				
Contact	**1**	**2**	**3**	**Klemsan Code**	**M39029 Military part**
22D	Orange	Blue	Black	KLM-0008-878	M39029/58-360
20	Orange	Blue	Orange	KLM-0008-879	M39029/58-363
16	Orange	Blue	Yellow	KLM-0008-880	M39029/58-364
12	Orange	Blue	Green	KLM-0008-881	M39029/58-365

Contactlar – Threadi Soket - MIL-C-39029/56



	Color Bants				
Contact	**1**	**2**	**3**	**Klemsan Code**	**M39029 Military part**
22D	Orange	Sarı	Grey	KLM-0008-870	M39029/56-348
20	Orange	Green	Browni	KLM-0008-871	M39029/56-351
16	Orange	Green	Red	KLM-0008-872	M39029/56-352
12	Orange	Green	Orange	KLM-0008-873	M39029/56-353

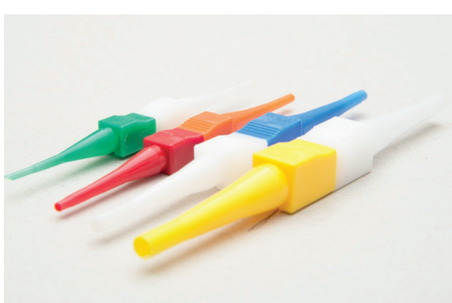
Cable sized and diameters

		Finished Cable Thread Size	
Contact Size	**Cable (AWG)**	**Minimum**	**Maximum**
22D	28, 26, 24, 22	0,76	1,37
22M*	28, 26, 24	0,76	1,27
22*	26, 24, 22	0,86	1,52
20	24, 22, 20	1,02	2,11
16	20, 18, 16	1,65	2,77
12	14, 12	2,46	3,61
8 Coax	RG-180	3,45	3,71
8 Twinax	M17/176-00002	3,15	3,40
12 Coax	RG174, 179, 316	2,39	2,59

* Only for reference

Torque Values

Shell	Newton meter (N*m)	Inch- Pounds (in*lbf)
09	3,39 / 4,07	30/36
11	4,52 / 5,20	40/46
13	6,21 / 6,78	55/60
15	7,91 / 8,47	70/75
17	9,04 / 9,60	80/85
19	10.17 / 10,73	90/95
21	11,30 / 12,43	100/110
23	12,43 / 13.56	110/120
25	13.56 / 14.69	120/130



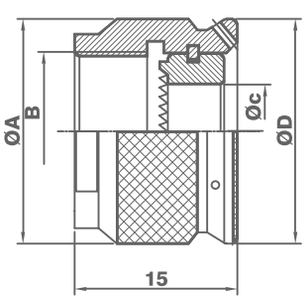
MIL-DTL-38999 Series III, IV Accessories

Backshell Part Numbering

	M85049/ 38	-15	N	9	A
Main Family					
Backshell Type					
14 = Back nut					
16 = 90o elbow cable clamp					
18 = Straight Cable clamp with shielding					
20 = Shielding Backshell					
38 = Straight cable clamp					
39 = 90o elbow cable clamp with shielding					
69 = Heat shrinkable sleeve					
01 = Grounding and impaction					
06 = Spring Thread guard					
91 = Straight cable clamp (composite)					
92 = 90o elbow cable clamp (composite)					
Shell size					
09, 11, 13, 15, 17, 19, 21, 23, 25					
Plating Type					
W = Olive Drab Cadmium					
N = Electrolyses Nickel Plating					
S = Stainless Steel passivated					
A = Black Anodise					
J = Olive Drab Cadmium (composite Shell)					
M = Electrolyses Nickel Plating(composite Shell)					
Cable Exit Diameter					
Omit = Standard					
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					
Omit = Standard length (64.4 mm)					
A = 89.8 mm					
B = 115.2 mm					
C = 140.6 mm					

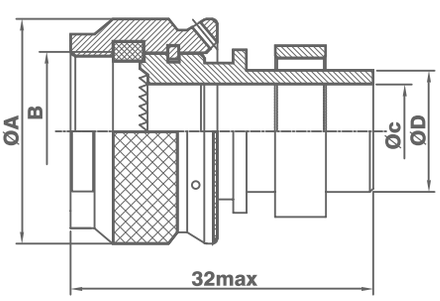
Backshell Dimension

MS85049/14 - Back Nut



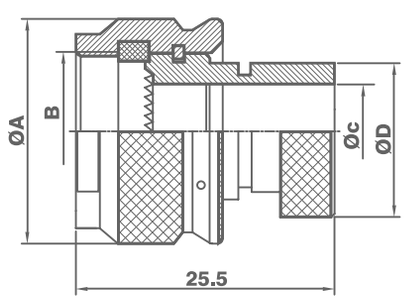
Shell	A	Thread Tipi	C	D
09	15.2	M12*1	6.7	18.0
11	18.2	M15*1	9.9	21.0
13	21.2	M18*1	12.8	24.0
15	25.1	M22*1	16.0	28.0
17	28.1	M25*1	19.2	31.0
19	31.1	M28*1	21.4	34.0
21	34.0	M31*1	24.6	37.0
23	37.0	M34*1	27.7	40.0
25	40.0	M37*1	30.9	43.0

MS85049/20 - Shielding Backshell



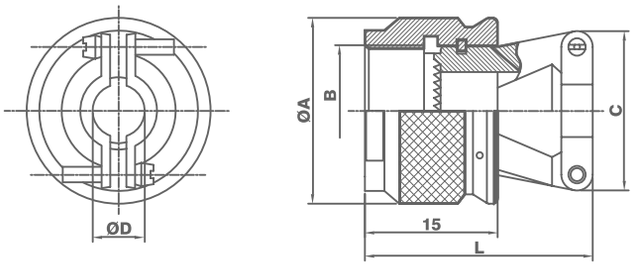
Shell	A	B Thread	C	D
09	18.	M12*1	6.5	8.8
11	21.	M15*1	8.6	12.65
13	24.	M18*1	10.90	12.95
15	28.	M22*1	14.10	16.00
17	31.	M25*1	17.25	19.30
19	34.	M28*1	20.40	22.61
21	37.	M31*1	23.60	25.65
23	40.	M34*1	26.40	28.70
25	43.	M37*1	28.40	30.53

MS85049/69 - Heat Shrinkable



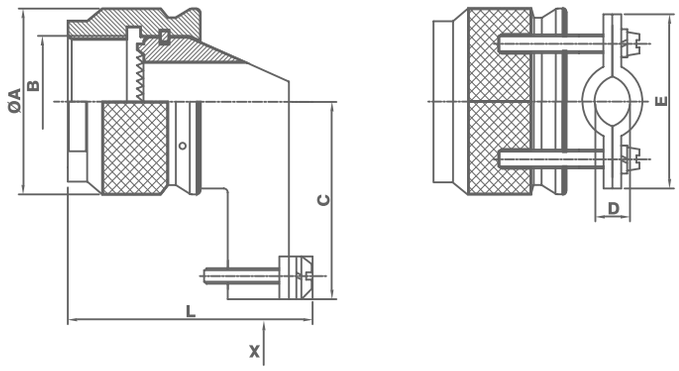
Shell	A	B Thread	C	D
09	18.0	M12*1	6.	13.5
11	21.0	M15*1	9.	15.3
13	24.0	M18*1	12.8	19.6
15	28.0	M22*1	16.0	21.2
17	31.0	M25*1	19.2	24.4
19	34.0	M28*1	21.4	26.4
21	37.0	M31*1	24.6	30.9
23	40.0	M34*1	27.7	34.4
25	43.0	M37*1	30.9	36.6

MS85049/38 - Straight cable clamp



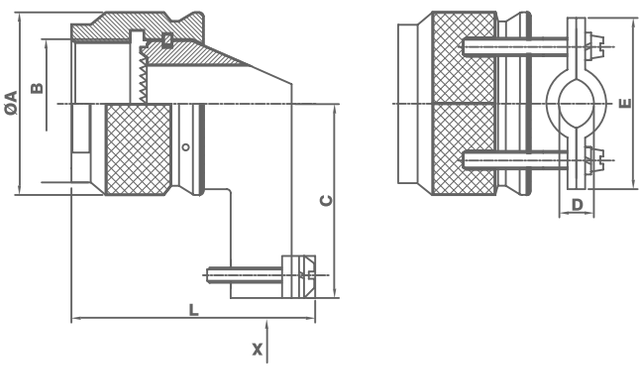
Shell	A (max)	B Thread	C (max)	D (min)	D (max)	L (max)
09	18.0	M12*1	20.0	2.49	5.94	27.0
11	21.0	M15*1	21.0	3.87	5.94	28.5
13	24.0	M18*1	23.4	4.83	8.33	30.0
15	28.0	M22*1	26.6	6.60	11.61	31.5
17	31.0	M25*1	30.6	7.19	15.60	33.5
19	34.0	M28*1	34.0	8.26	16.10	36.6
21	37.0	M31*1	35.8	8.71	17.73	39.8
23	40.0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

MS85049/39 - 90° Elbow cable clamp with shielding



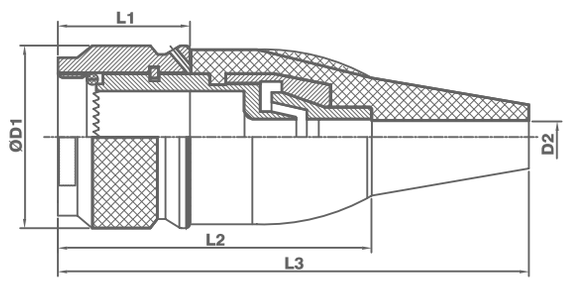
Shell	A	B Thread	C	D (min)	D (max)	E (max)	L (max)
09	18.0	M12*1	20.6	2.49	5.94	21.6	29.5
11	21.0	M15*1	22.0	3.87	5.94	22.8	29.5
13	24.0	M18*1	23.6	4.83	8.33	26.0	31.9
15	28.0	M22*1	25.2	6.60	11.61	29.0	35.1
17	31.0	M25*1	26.8	7.19	15.61	30.6	39.1
19	34.0	M28*1	31.3	8.26	16.10	37.0	41.5
21	37.0	M31*1	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

MS85049/16 - 90° Elbow cable clamp



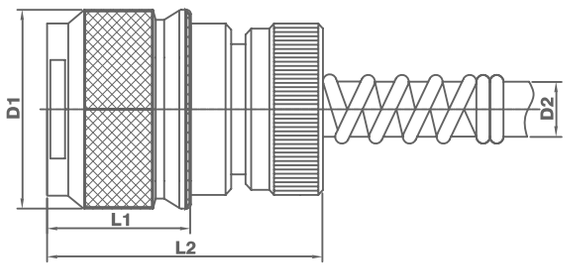
Shell	A	B Thread	C (max)	D (min)	D (max)	E (max)	L (max)
09	19.0	M12*1	20.0	2.85	6.71	21.0	25.9
11	22.0	M15*1	21.5	6.00	9.96	26.5	29.2
13	25.1	M18*1	23.0	8.45	12.85	31.5	32.0
15	29.0	M22*1	25.0	12.00	16.03	36.5	35.2
17	32.1	M25*1	27.0	11.10	19.20	31.0	36.4
19	35.1	M28*1	28.5	13.75	21.46	37.0	40.7
21	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

MS85049/01 - Grounding and impaction



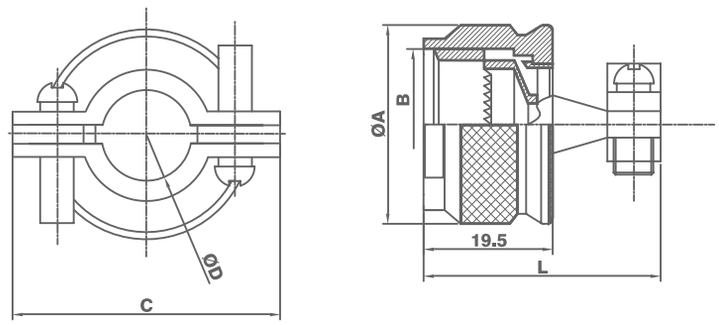
Part Number	D1	D2	L1	L2	L3	E (max)	L (max)
MS85049 01-08N	18.0	7.0	14.8	37.0	53.0	21.6	29.5
MS85049 01-10N	21.0	10.0	14.8	37.0	53.0	22.8	29.5
MS85049 01-12N	24.0	13.0	14.8	37.0	53.0	26.0	31.9
MS85049 01-14N	28.0	15.0	14.8	40.0	73.0	29.0	35.1
MS85049 01-16N	31.0	18.0	14.8	40.0	73.0	30.6	39.1
MS85049 01-18N	34.0	20.0	14.8	40.0	73.0	37.0	41.5
MS85049 01-20N	37.0	23.5	14.8	45.0	73.0	39.0	43.3
MS85049 01-22N	40.0	26.5	14.8	45.0	73.0	41.0	46.5
MS85049 01-24N	43.0	29.0	14.8	45.0	73.0	42.0	47.1

MS85049/06 - Spring Thread guard



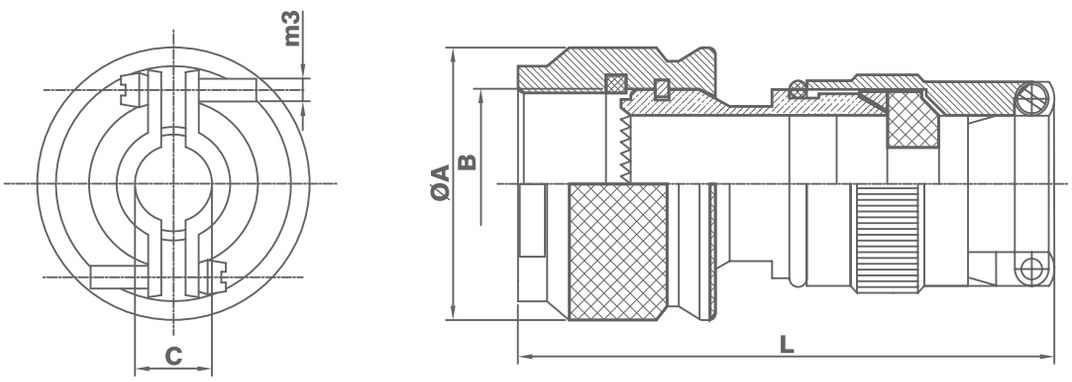
Part Number	D1	D2	L1	L2	D (max)	L (max)
MS85049 / 01-09N	18.0	7.0	14.8	37.0	5.94	27.0
MS85049 / 01-11N	21.0	10.0	14.8	37.0	5.94	28.5
MS85049 / 01-13N	24.0	13.0	14.8	37.0	8.33	30.0
MS85049 / 01-15N	28.0	15.0	14.8	40.0	11.61	31.5
MS85049 / 01-17N	31.0	18.0	14.8	40.0	15.60	33.5
MS85049 / 01-19N	34.0	20.0	14.8	40.0	16.10	36.6
MS85049 / 01-21N	37.0	23.5	14.8	45.0	17.73	39.8
MS85049 / 01-23N	40.0	26.5	14.8	45.0	20.90	42.9
MS85049 / 01-25N	43.0	29.0	14.8	45.0	21.66	45.0

MS85049/38-NB - Straight cable clamp



Part Number	A	B Thread	C	D (min)	D (max)	L	L (max)
MS85049 / 38-09N	16.4	M12*1	18.6	3.	5.	29.2	29.5
MS85049 / 38-11N	19.2	M15*1	20.6	5.	7.	29.2	29.5
MS85049 / 38-13N	23.0	M18*1	24.5	7.	11.	29.2	31.9
MS85049 / 38-15N	25.7	M22*1	26.0	9.	12.9	29.8	35.1
MS85049 / 38-17N	29.0	M25*1	33.0	12.8	17.0	31.0	39.1
MS85049 / 38-19N	31.5	M28*1	36.3	13.2	17.9	32.0	41.5
MS85049 / 38-21N	34.7	M31*1	39.0	14.8	21.1	32.0	43.3
MS85049 / 38-23N	37.5	M34*1	41.4	16.4	24.3	32.0	46.5
MS85049 / 38-25N	41.0	M37*1	44.5	18.0	27.5	32.0	47.1

MS85049/18 - Straight Cable clamp with shielding

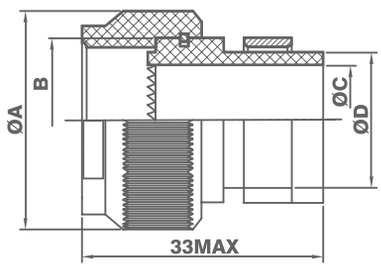


Shell	Cable Exit Dia	A	B Thread
09	01 ~ 02	19	M12*1
11	01 ~ 03	22	M15*1
13	02 ~ 04	25.1	M18*1
15	02 ~ 05	29	M22*1
17	02 ~ 06	32	M25*1
19	03 ~ 07	35	M28*1
21	03 ~ 08	38	M31*1
23	03 ~ 09	41.1	M34*1
25	04 ~ 10	41.1	M37*1

Cable Exit Dia	Min-Max Diameter
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

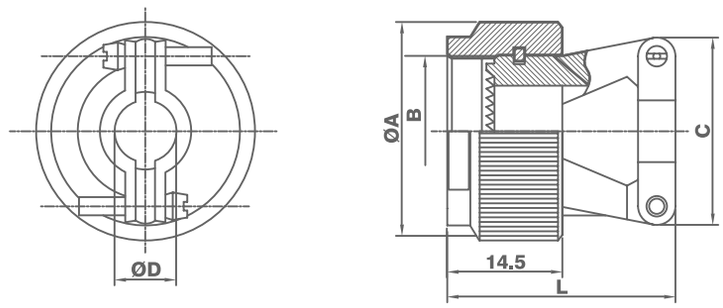
Shell	Length	L
09 ~ 25	Standard	64.4
09 ~ 25	A	89.8
15 ~ 25	B	115.2
21 ~ 25	C	140.

MS85049/20-J - Shielding Backshell



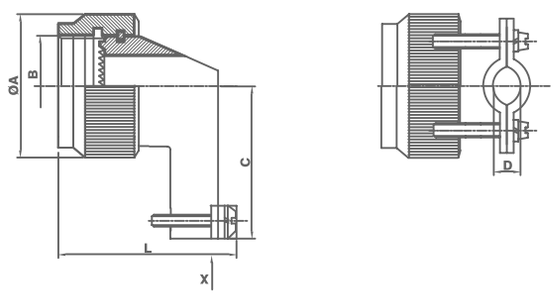
Part Number	A	B Thread	C	D
MS85049 / 20-09J	21.8	M12*1	6.73	12.65
MS85049 / 20-11J	25.0	M15*1	8.71	12.95
MS85049 / 20-13J	29.5	M18*1	11.10	16.00
MS85049 / 20-15J	32.5	M22*1	14.27	19.30
MS85049 / 20-17J	35.5	M25*1	17.45	22.61
MS85049 / 20-19J	38.5	M28*1	20.62	25.65
MS85049 / 20-21J	41.5	M31*1	23.80	28.70
MS85049 / 20-23J	45.0	M34*1	26.57	30.53
MS85049 / 20-25J	48.0	M37*1	28.58	34.52

MS85049/91-J - Straight cable clamp (composite)



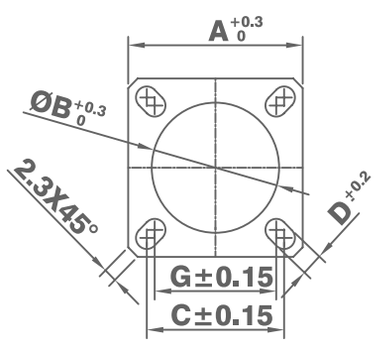
Shell	A (max)	B Thread	C (max)	D (min)	D (max)	L (max)
09	21.8	M12*1	20.0	4.00	5.94	27.0
11	25.0	M15*1	20.0	4.00	5.94	28.5
13	29.5	M18*1	23.4	4.83	8.33	30.0
15	32.5	M22*1	26.6	6.60	11.61	31.5
17	35.5	M25*1	30.6	7.19	15.60	33.5
19	38.5	M28*1	34.0	8.26	16.10	36.6
21	41.5	M31*1	35.8	8.71	17.73	39.8
23	45.0	M34*1	39.0	9.68	20.90	42.9
25	48.0	M37*1	40.6	10.62	21.66	45.0

MS85049/92-J - 90° Elbow cable clamp (composite)



Shell	A (max)	B Thread	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

Gaskets



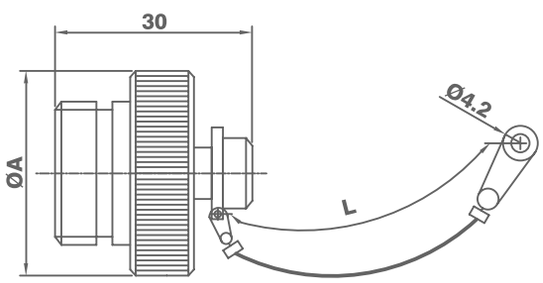
Shell	Gasket	Conductive Gasket	A	B	C	G	D
09	KLM.GS.885	KLM.GS.886	23.9	16.1	18.2	15.0	3.3
11	KLM.GS.887	KLM.GS.888	26.3	19.2	20.6	18.2	3.3
13	KLM.GS.889	KLM.GS.890	28.7	22.4	23.0	20.6	3.3
15	KLM.GS.891	KLM.GS.892	31.1	25.6	24.6	23.0	3.3
17	KLM.GS.893	KLM.GS.894	33.4	30.4	26.9	24.6	3.3
19	KLM.GS.895	KLM.GS.896	36.6	32.0	29.3	26.9	3.3
21	KLM.GS.897	KLM.GS.898	39.8	34.9	31.7	29.3	3.3
23	KLM.GS.899	KLM.GS.900	43.0	38.3	34.9	31.7	4.0
25	KLM.GS.901	KLM.GS.902	46.1	41.4	38.1	34.9	4.0

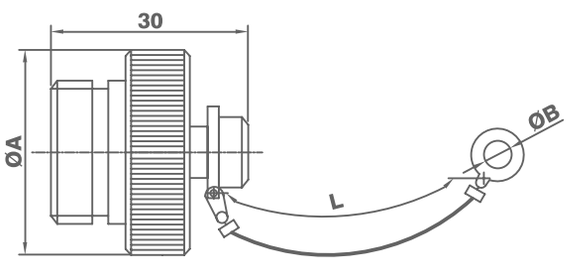
Dust Caps

Part Numbering

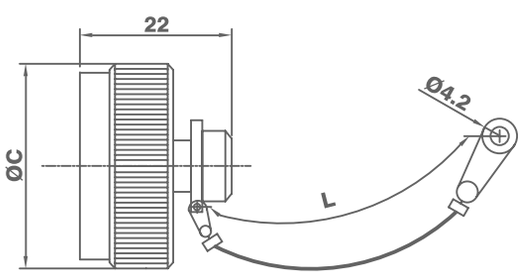
	D38999/	32	W	13	N
Main Series					
32 = Plug Dust Cap					
33 = Receptacle Dust Cap					
Plating					
W = Olive Drab Cadmium					
F = Electrolyses Nickel Plating					
J = Olive Drab Cadmium (Composite)					
M = Electrolyses Nickel Plating (Composite)					
J = Olive Drab Cadmium (Composite Shell)					
M = Electrolyses Nickel Plating (Composite Shell)					
Shell					
09, 11, 13, 15, 17, 19, 21, 23, 25					
Chain type					
N = Stainless Steel rope with Ring					
R = Stainless Steel rope with Hole					

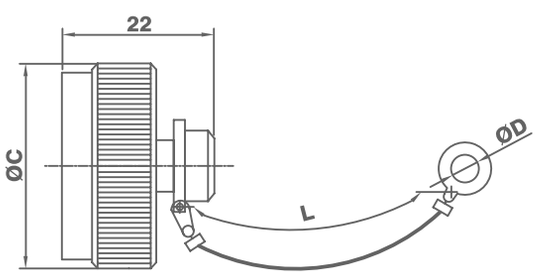
Dust Cap for Plug (D38999/26)





Dust Cap for Receptacle (D38999/20 and 24)





Shell		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
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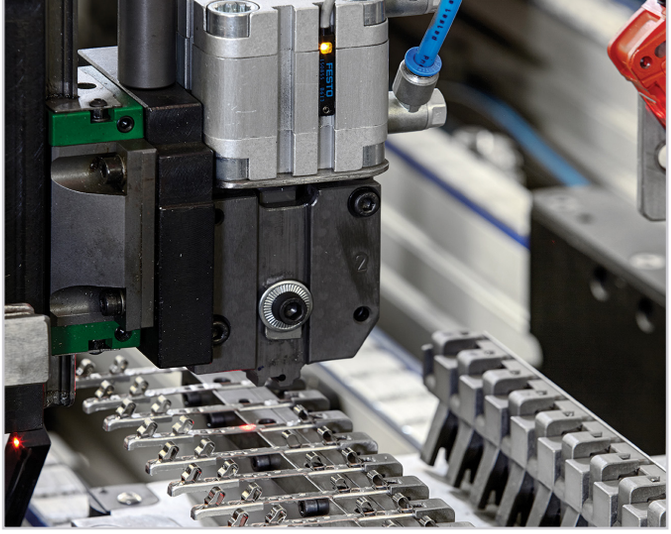
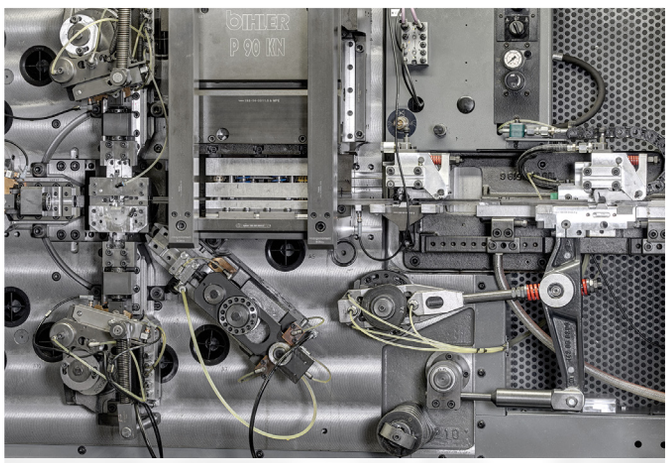

FESTO

OSCARMAX


P 90 KN

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