M SERIES CONNECTORS RATCHET COUPLING



SERIES









Introduction

This catalogue gives the complete description of LEMO M series connectors. M series connectors are lightweight triplestart ratchet coupling type connectors designed for avionics, aerospace, military, security, motorsport and heavy duty applications.

The LEMO manufacturing programme has been extended to almost 40 series divided into 7 product families with specific mating and environmental characteristics. Each series includes a wide variety of plug, socket and coupler models, available in contact configurations adapted to all round cables. Watertight models are also available. Since LEMO connectors are perfectly screened and designed to guarantee very low resistance to shell electrical continuity, they are particularly adapted to applications where electromagnetic compatibility (EMC) is important.

Technical Characteristics

Materials and Treatments

		Shell			Surfac	e trea	atmer	nt (µm)	
Component	ma	terial c	ode	Material (Standard)	chrome	nic	kel	gold	Notes
							Х	golu	
Outer shall	Brass (UNS C 38500)		0.3	-	_	_			
Outer shell				Aluminium alloy (AA 6262A or AA 6023)	-	14	5	-	1)
Conical nut				Brass (UNS C 38500)	0.3	-	-	-	
Conical nut				Aluminium alloy (AA 6262A or AA 6023)	-	14	5	-	1)
Earthing crown				Bronze (UNS C 54400) or special brass	-	-	-	1.5	
Coupling put				Brass (UNS C 38500)	-	-	3	-	-
Coupling nut				Aluminium alloy (AA 6262A or AA 6023)	-	14	3	-	1)
Ratchet				Special PEEK					
Llove genel put				Brass (UNS C 38500)	-	-	3	-	
Hexagonal nut				Aluminium alloy (AA 6262A or AA 6023)	-	-	5	-	
Male crimp contact				Brass (UNS C 34500)	-	-	-	1.0	-
Female crimp contact				Bronze (UNS C 54400)	-	-	-	1.5	-
Clips				Cu-Be or special steel	with	nout t	reatm	nent	
Insulator				PEEK		-	-		
				Silicone		-	-		
O-ring				FPM/FKM (Viton◎)		-	-		
Sealing resin				Epoxy (Araldite [®] or Stycast [®]) –					
Cable rear seal			Fluorosilicone –						
Spring				Stainless steel		-	-		

Notes: standards for surface treatment are as follows: chrome-plated SAE AMS 2460; nickel-plated SAE AMS QQ N 290 or MIL DTL 32119; gold-plated ISO 27874. ¹⁾ anthracite colour.

Environmental performance

Characteristics	Value	IEC international	MIL-spec tests
Operating temperature (mated)	-55°C/+200°C (HE• model: -20°C/+80°C)		
Ingress protection index	IP 68 (at 2 m, 15Hr)	IEC 60529	
Fungus	Satisfied - by material analysis		MIL-STD 810F-508.5
Flammability	60 sec. front and back face		EIA-364-104A
Fluid contamination 1)	Fuels, gasoline, hydraulic oils, solvents, de-icing		MIL-STD-810F method 504
Sand and dust ²⁾	6 hr, 55°C, blowing < 150 μm dust		MIL-STD 810F-510.4
Lightning strike	10 K amps - 6 times		EIA-364-75
Altitude-low temp 3)	-65°C; 40'000 feet and 400 VAC		EIA-364-105A
Salt fog ⁴⁾	Alum. shell (up to 500Hr), Brass shell (1000Hr)	IEC 60512-6 test 11f	EIA-364-26
Thermal shock	5 cycles: -65° C to +150° C	IEC 60512-11-4	EIA-364-32 test condition IV
Altitude immersion	No moisture on contacts		EIA-364-03
Humidity	21 days at 95%	IEC 60068-2	EIA-364-31 method IV

Note: ¹⁾ Connectors immersed at both 70°C and 25°C according to specification. Connectors are then inspected, no visual signs of damage seen. Fuels: Kerosene, JP4, (Nato F40) at 70°C +/- 2°C. Gasoline: ASTM 4814. Hydraulic oils: Mineral oil based MIL-H-5606. Solvents: Isopropanol. De-icing fluids: 25% ethylene glycol. ²⁾ No signs of damage, connectors opened and closed without difficulty. Dust or sand was not inside connector.

³⁾ Wired mated connectors = no voltage breakdown, shell to all contacts (connected together) w/400 VAC after 1 hour at 65° C at 40'000 feet altitude. ⁴⁾ Corrosion resistance. Inspection: salt deposits shall be removed by gentle wash in running water with light brushing using soft brush. Aluminium Shell (material code: X) max: 48 hours, (material code: I) max: 500 hours. Brass shell (material code: C) over 1000 hours.



Electrical performance

Characteristics	Value	IEC international	MIL-spec tests
Insulation resist. (at ambient temp.) 6)	> $10^{12} \Omega$, > $10^{10} \Omega$ (after humidity)	IEC 60512-2 test 3a	EIA-364-21
Dielectric withstanding volt. (sea level)	See table page 22-23-24	IEC 60512-2 test 4a	EIA-364-20
Contact resistance	See table below 7)	IEC 60512-2 test 2a	EIA-364-06
Current rating	See insulator configuration page 22-23-24	IEC 60512-3 test 5a	
Shell to shell conductivity	< 1.5mΩ	IEC 60512-2-6	EIA-364-83
Shielding effectiveness, low frequency	≥ 80 dB up to 1GHz		EIA-364-66
Shielding effectiveness, high frequency	≥ 70 dB (3GHz), ≥ 58 dB (6GHz), ≥ 40 dB (10GHz)		EIA-364-66

Note: 6) After humidity test: 21 days at 95% RH according to IEC 60068-2. Insulation resistance measured between the contacts and contact/shell.

	ntact re C 60512			Value
0.5	0.7	0.9	1.3	ø A (mm)
≤ 8.7	≤ 6.1	≤ 4.8	≤ 3.6	mΩ

Notes: 7) after 5000 mating cycles and the salt spray test according to IEC 60512-6 test 11 f.

Mechanical performance

Characteristics	Value	IEC international	MIL-spec tests
Endurance	3000 cycles	IEC 60512-5 test 9a	EIA-364-09
Gunfire vibration	25 to 2000 Hz, 3 axis (Apache helicopter)		MIL-STD-810F method 519.5
Vibration-Sine ⁸⁾	30 g, 3 axis, 12 hr		MIL-STD-202 method 204-G
Vibration-Random	50-2000 Hz, 37.8 g rms-3 axes; 4h amb	IEC 60512-6-4	EIA-364-28 test cond. V letter I
Shock	300 g - 3 msec	IEC 60512-6-3	EIA-364-27 condition D
Acceleration	50 g acceleration		MIL-STD-1344 - 2011-1, A
Contact retention	> 22 N (ø 0.7 mm), > 30 N (ø 0.9 mm)	IEC 60512-8 test 15a	
Torque	See table below		

Note: ⁸⁾ Amplitude: 30G. Frequency: 10 to 2000 Hz. Time per axis: 4 hours (X, Y, Z). No signal discontinuity above 1 µs.

Series	Coupling torque tightning (N.cm)	Coupling torque untightning (N.cm)	Series	Coupling torque tightning (N.cm)	Coupling torque untightning (N.cm)
MM	8	4	TM	26	30
OM	4	5	4M	26	25
1M	10	11	LM	48 ⁹⁾	43
2M	20	14	5M	91 ⁹⁾	54
ЗM	34	29			

Note: ⁹⁾ Higher contact density = larger torque force.



M Series

The M Series connector offers a new innovative design for avionics, aerospace, military, security, motorsport and heavy duty applications.

Made of high-strength aluminium, this connector is one of the lightest and most compact of the LEMO product line. A one-grip ratchet screw system enables quick and secure coupling of the connectors. The arctic grip makes it easy to manipulate the connector while wearing gloves or when the connector is located in a difficult to access area.

Features

- Ratchet-coupling mechanism
 Compact design for space savings
- Oil and fuel resistant
- 360° screening for full EMC shielding
- Colour coding / keying
- Scoop proof
- Threaded for MIL-DTL-38999L backshell

Metal housing models (page 5)

- Quick mating: less than 3/4 turn to seat
- Lightweight
- High vibration and shock resistance
- Sealed to IP68 when mated
- Reverse gender configuration
- Pin configuration from 2 to 114 contacts



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Part Numbering System



Part Number Example

Straight plug: FMN.1M.305.XLC = straight plug with key (N), 1M series, multipole type with 5 contacts, outer shell in anthracite nickelplated aluminium alloy, PEEK insulator, male crimp contacts.

Straight plug:

FGN.1M.305.XLCM = straight plug with key (N), arctic grip, 1M series, multipole type with 5 contacts, outer shell in anthracite nickel-plated aluminium alloy, PEEK insulator, male crimp contacts and with MIL-DTL-38999L thread for additional backshell (not supplied).

Free socket:

PMN.1M.305.XLMT = free socket with key (N), 1M series, multipole type with 5 contacts, outer shell in anthracite nickelplated aluminium alloy, PEEK insulator, female crimp contacts and mold stop.

Fixed socket:

HEN.1M.305.XLNP = fixed socket, nut fixing, with key (N), 1M series, multipole type with 5 contacts, outer shell in anthracite nickel-plated aluminium alloy, PEEK insulator, female print contacts, watertight.

Note: 1) anthracite colour / 48 hours salt fog resistance. anthracite colour / 500 hours salt fog resistance RoHS 2/REACH.

Part Section Showing Internal Components







Metal housing models

FM• Straight plug, key (N) or keys (P, R, S, T, U, V, W and X) with knurled grip

Refe	rence		Dimensions (mm)										
Model	Series	Α	В	С	D	Ls	Lr	Ρ	Х				
FMe	MM	11.1	6.4	10.7	5.6	21.3	21.3	5.5	5.8				
FMe	0M	13.1	8.8	12.7	8.0	24.1	24.1	3.9	6.7				
FMe	1M	14.6	10.5	14.2	9.7	24.1	24.1	3.9	6.7				
FMe	2M	17.6	14.0	17.2	13.0	24.5	24.5	3.9	7.1				
FMe	ЗM	19.6	16.0	19.2	15.0	24.5	24.5	3.9	7.1				
FMe	TM	22.5	17.9	22.0	16.7	28.6	28.6	3.4	7.6				
FMe	4M	25.0	20.7	24.5	19.5	28.6	28.6	3.4	7.6				
FMe	LM	28.5	23.9	28.0	22.7	28.6	28.6	3.4	7.6				
FM●	5M	34.0	29.7	33.5	28.5	28.6	28.6	3.4	7.6				

Part number example: FMN.1M.305.XLC

Note: Ls = standard gender, Lr = reverse gender

FMo Straight plug, key (N) or keys (P, R, S, T, U, V, W and X) with knurled grip and mold stop

Refe	rence				Din	nensio	ons (m	nm)			
Model	Series	Α	В	С	D	Ls	Lr	М	Ρ	х	
FM●	MM	11.1	6.4	10.7	5.6	7.8	24.3	24.3	8.8	5.5	5.8
FMe	OM	13.1	8.8	12.7	8.0	10.7	27.1	27.1	9.7	3.9	6.7
FMe	1M	14.6	10.5	14.2	9.7	12.4	27.1	27.1	9.7	3.9	6.7
FMe	2M	17.6	14.0	17.2	13.0	15.5	27.5	27.5	10.1	3.9	7.1
FMe	ЗM	19.6	16.0	19.2	15.0	17.5	27.5	27.5	10.1	3.9	7.1
FM●	TM	22.5	17.9	22.0	16.7	19.8	31.6	31.6	10.6	3.4	7.6
FMe	4M	25.0	20.7	24.5	19.5	22.6	31.6	31.6	10.6	3.4	7.6
FM●	LM	28.5	23.9	28.0	22.7	25.8	31.6	31.6	10.6	3.4	7.6
FM●	5M	34.0	29.7	33.5	28.5	31.4	31.6	31.6	10.6	3.4	7.6

Part number example: FMN.1M.305.XLCT

Note: Ls = standard gender, Lr = reverse gender

FMe Straight plug, key (N) or keys (P, R, S, T, U, V, W and X) with knurled grip and MIL-DTL-38999L shell thread

Refe	rence	Dimensions (mm)										
Model	Series	Α	С	е	Ls	Lr	Ρ	Code ¹⁾				
FMe	1M	14.6	14.2	M12x1.0	26.4	26.4	3.9	A				
FM●	2M	17.6	17.2	M15x1.0	26.4	26.4	3.9	В				
FMe	ЗM	19.6	19.2	M18x1.0	26.4	26.4	3.9	С				
FMe	ТМ	22.5	22.0	M18x1.0	30.0	30.0	3.4	С				
FMe	4M	25.0	24.5	M22x1.0	30.0	30.0	3.4	D				
FMe	LM	28.5	28.0	M25x1.0	30.0	30.0	3.4	E				
FMe	5M	34.0	33.5	M31x1.0	30.0	30.0	3.4	G				

Part number example: FMN.1M.305.XLCM

Note: Ls = standard gender, Lr = reverse gender. ¹⁾ MIL-DTL-38999L shell size code (backshell not supplied).













FG• Straight plug, key (N) or keys (P, R, S, T, U, V, W and X) with arctic grip

Refe	rence	Dimensions (mm)									
Model	Series	А	A B C D Ls Lr P >								
FGe	MM	12.0	6.4	10.7	5.6	21.3	21.3	5.5	5.8		
FGe	OM	14.4	8.8	12.7	8.0	24.1	24.1	3.9	6.7		
FGe	1M	15.9	10.5	14.2	9.7	24.1	24.1	3.9	6.7		
FGe	2M	18.9	14.0	17.2	13.0	24.5	24.5	3.9	7.1		
FGe	ЗM	20.9	16.0	19.2	15.0	24.5	24.5	3.9	7.1		
FGe	TM	23.4	17.9	22.0	16.7	28.6	28.6	3.4	7.6		
FG•	4M	25.9	20.7	24.5	19.5	28.6	28.6	3.4	7.6		
FGe	LM	29.4	23.9	28.0	22.7	28.6	28.6	3.4	7.6		
FGe	5M	34.9	29.7	33.5	28.5	28.6	28.6	3.4	7.6		

Part number example: FGN.1M.305.XLC

Note: Ls = standard gender, Lr = reverse gender





FG• Straight plug, key (N) or keys (P, R, S, T, U, V, W and X) with arctic grip and mold stop

Reference					Din	nensio	ons (m	ım)			
Model	Series	Α	В	С	D	F	Ls	Lr	М	Ρ	Х
FG•	MM	12.0	6.4	10.7	5.6	7.8	24.3	24.3	8.8	5.5	5.8
FG•	0M	14.4	8.8	12.7	8.0	10.7	27.1	27.1	9.7	3.9	6.7
FGe	1M	15.9	10.5	14.2	9.7	12.4	27.1	27.1	9.7	3.9	6.7
FG•	2M	18.9	14.0	17.2	13.0	15.5	27.5	27.5	10.1	3.9	7.1
FGe	3M	20.9	16.0	19.2	15.0	17.5	27.5	27.5	10.1	3.9	7.1
FGe	ТМ	23.4	17.9	22.0	16.7	19.8	31.6	31.6	10.6	3.4	7.6
FG•	4M	25.9	20.7	24.5	19.5	22.6	31.6	31.6	10.6	3.4	7.6
FG•	LM	29.4	23.9	28.0	22.7	25.8	31.6	31.6	10.6	3.4	7.6
FG•	5M	34.9	29.7	33.5	28.5	31.4	31.6	31.6	10.6	3.4	7.6

Part number example: FGN.1M.305.XLCT

Note: Ls = standard gender, Lr = reverse gender

FG• Straight plug, key (N) or keys (P, R, S, T, U, V, W and X) with arctic grip and MIL-DTL-38999L shell thread



Part number example: FGN.1M.305.XLCM

Note: Ls = standard gender, Lr = reverse gender. $^{1)}$ MIL-DTL-38999L shell size code (backshell not supplied).













FX• Straight plug with square flange, key (N) or keys (P, R, S, T, U, V, W and X) with knurled grip

Refe	rence		Dimensions (mm)											
Model	Series	А	A1	В	С	D	Е	G	н	к	Ls	Lr	Ν	V
FX●	MM	21.5	11.1	6.4	10.7	5.6	9.5	17.0	12.0	1.5	26.1	26.1	17.0	2.7
FX•	OM	26.9	13.1	8.8	12.7	8.0	12.2	18.9	15.1	1.5	29.1	29.1	20.6	2.7
FX•	1M	31.4	14.6	10.5	14.2	9.7	13.7	18.9	18.3	1.5	29.1	29.1	23.8	3.3
FX•	2M	34.6	17.6	14.0	17.2	13.0	16.7	18.9	20.6	1.5	29.5	29.5	26.1	3.3
FX•	ЗM	34.6	19.6	16.0	19.2	15.0	18.7	18.9	20.6	1.5	29.5	29.5	26.1	3.3
FX•	TM	38.0	22.5	17.9	22.0	16.7	21.5	22.5	23.0	2.0	34.8	34.8	28.5	3.3
FX●	4M	40.3	25.0	20.7	24.5	19.5	24.0	22.5	24.6	2.0	34.8	34.8	30.1	3.3
FX●	LM	43.7	28.5	23.9	28.0	22.7	27.5	22.5	27.0	2.0	34.8	34.8	32.5	3.3
FX•	5M	47.0	34.0	29.7	33.5	28.5	33.0	22.5	29.4	2.0	34.8	34.8	37.0	3.3

Part number example: FXN.1M.305.XLC

Note: The dimensions «P» and «X» are the same as the FM \bullet models. Ls = standard gender, Lr = reverse gender.

FX• Straight plug with square flange, key (N) or keys (P, R, S, T, U, V, W and X) with knurled grip and mold stop

Refe	rence					Di	mens	ions	(mm)					
Model	Series	Α	A1	В	С	D	Е	G	н	к	Ls	Lr	Ν	V
FX●	MM	21.5	11.1	6.4	10.7	5.6	9.5	17.0	12.0	1.5	29.1	29.1	17.0	2.7
FX•	OM	26.9	13.1	8.8	12.7	8.0	12.2	18.9	15.1	1.5	32.1	32.1	20.6	2.7
FX•	1M	31.4	14.6	10.5	14.2	9.7	13.7	18.9	18.3	1.5	32.1	32.1	23.8	3.3
FX•	2M	34.6	17.6	14.0	17.2	13.0	16.7	18.9	20.6	1.5	32.5	32.5	26.1	3.3
FX•	ЗM	34.6	19.6	16.0	19.2	15.0	18.7	18.9	20.6	1.5	32.5	32.5	26.1	3.3
FX•	TM	38.0	22.5	17.9	22.0	16.7	21.5	22.5	23.0	2.0	37.8	37.8	28.5	3.3
FX•	4M	40.3	25.0	20.7	24.5	19.5	24.0	22.5	24.6	2.0	37.8	37.8	30.1	3.3
FX●	LM	43.7	28.5	23.9	28.0	22.7	27.5	22.5	27.0	2.0	37.8	37.8	32.5	3.3
FX●	5M	47.0	34.0	29.7	33.5	28.5	33.0	22.5	29.4	2.0	37.8	37.8	37.0	3.3

Part number example: FXN.1M.305.XLCT

Note: The dimensions "F", "M", "P" and "X" are the same as the FM models. Ls = standard gender, Lr = reverse gender.

FX• Straight plug with square flange, key (N) or keys (P, R, S, T, U, V, W and X) with knurled grip and MIL-DTL-38999L shell thread

Refe	rence				Di	mens	sions	(mm)				
Model	Series	A	A1	С	е	Е	G	Н	К	Ls	Lr	Code ¹⁾
FX•	1M	31.4	14.6	14.2	M12x1.0	13.7	18.9	18.3	1.5	31.4	31.4	A
FX•	2M	34.6	17.6	17.2	M15x1.0	16.7	18.9	20.6	1.5	31.4	31.4	В
FX•	ЗM	34.6	19.6	19.2	M18x1.0	18.7	18.9	20.6	1.5	31.4	31.4	С
FX•	TM	38.0	22.5	22.0	M18x1.0	21.5	22.5	23.0	2.0	36.2	36.2	С
FX•	4M	40.3	25.0	24.5	M22x1.0	24.0	22.5	24.6	2.0	36.2	36.2	D
FX•	LM	43.7	28.5	28.0	M25x1.0	27.5	22.5	27.0	2.0	36.2	36.2	E
FX•	5M	47.0	34.0	33.5	M31x1.0	33.0	22.5	29.4	2.0	36.2	36.2	F

Part number example: FXN.1M.305.XLCM

Note: The dimensions «N» and «V» are the same as the FX• models and the dimension «P» is the same as the FM• models. Ls = standard gender, Lr = reverse gender. ¹⁾ MIL-DTL-38999L shell size code (backshell not supplied).







FW• Straight plug with square flange, key (N) or keys (P, R, S, T, U, V, W and X) with arctic grip

Refe	rence					Di	mens	ions	(mm)					
Model	Series	Α	A1	В	С	D	Е	G	н	к	Ls	Lr	Ν	V
FW•	MM	21.5	12.0	6.4	10.7	5.6	9.5	17.0	12.0	1.5	26.1	26.1	17.0	2.7
FW•	OM	26.9	14.4	8.8	12.7	8.0	12.2	18.9	15.1	1.5	29.1	29.1	20.6	2.7
FW•	1M	31.4	15.9	10.5	14.2	9.7	13.7	18.9	18.3	1.5	29.1	29.1	23.8	3.3
FW•	2M	34.6	18.9	14.0	17.2	13.0	16.7	18.9	20.6	1.5	29.5	29.5	26.1	3.3
FW•	ЗM	34.6	20.9	16.0	19.2	15.0	18.7	18.9	20.6	1.5	29.5	29.5	26.1	3.3
FW•	ТМ	38.0	23.4	17.9	22.0	16.7	21.5	22.5	23.0	2.0	34.8	34.8	28.5	3.3
FW•	4M	40.3	25.9	20.7	24.5	19.5	24.0	22.5	24.6	2.0	34.8	34.8	30.1	3.3
FW•	LM	43.7	29.4	23.9	28.0	22.7	27.5	22.5	27.0	2.0	34.8	34.8	32.5	3.3
FW●	5M	47.0	34.9	29.7	33.5	28.5	33.0	22.5	29.4	2.0	34.8	34.8	37.0	3.3

Part number example: FWN.1M.305.XLC

Note: The dimensions «P» and «X» are the same as the FM• models. Ls = standard gender, Lr = reverse gender.





FW• Straight plug with square flange, key (N) or keys (P, R, S, T, U, V, W and X) with arctic grip and mold stop

Refe	rence					Di	mens	ions	(mm)					
Model	Series	Α	A1	В	С	D	Е	G	н	к	Ls	Lr	Ν	V
FW•	MM	21.5	12.0	6.4	10.7	5.6	9.5	17.0	12.0	1.5	29.1	29.1	17.0	2.7
FW•	0M	26.9	14.4	8.8	12.7	8.0	12.2	18.9	15.1	1.5	32.1	32.1	20.6	2.7
FW•	1M	31.4	15.9	10.5	14.2	9.7	13.7	18.9	18.3	1.5	32.1	32.1	23.8	3.3
FW•	2M	34.6	18.9	14.0	17.2	13.0	16.7	18.9	20.6	1.5	32.5	32.5	26.1	3.3
FW•	ЗM	34.6	20.9	16.0	19.2	15.0	18.7	18.9	20.6	1.5	32.5	32.5	26.1	3.3
FW•	TM	38.0	23.4	17.9	22.0	16.7	21.5	22.5	23.0	2.0	37.8	37.8	28.5	3.3
FW•	4M	40.3	25.9	20.7	24.5	19.5	24.0	22.5	24.6	2.0	37.8	37.8	30.1	3.3
FW•	LM	43.7	29.4	23.9	28.0	22.7	27.5	22.5	27.0	2.0	37.8	37.8	32.5	3.3
FW●	5M	47.0	34.9	29.7	33.5	28.5	33.0	22.5	29.4	2.0	37.8	37.8	37.0	3.3

Part number example: FWN.1M.305.XLCT

Note: The dimensions "F", "M", "P" and "X" are the same as the FM• models. Ls = standard gender, Lr = reverse gender.

FW• Straight plug with square flange, key (N) or keys (P, R, S, T, U, V, W and X) with arctic grip and MIL-DTL-38999L shell thread

Refe	rence				Di	mens	sions	(mm)				
Model	Series	Α	A1	С	е	Е	G	Н	К	Ls	Lr	Code1)
FW•	1M	31.4	15.9	14.2	M12x1.0	13.7	18.9	18.3	1.5	31.4	31.4	Α
FWe	2M	34.6	18.9	17.2	M15x1.0	16.7	18.9	20.6	1.5	31.4	31.4	В
FW•	ЗM	34.6	20.9	19.2	M18x1.0	18.7	18.9	20.6	1.5	31.4	31.4	С
FW	ТМ	38.0	23.4	22.0	M18x1.0	21.5	22.5	23.0	2.0	36.2	36.2	С
FW•	4M	40.3	25.9	24.5	M22x1.0	24.0	22.5	24.6	2.0	36.2	36.2	D
FWe	LM	43.7	29.4	28.0	M25x1.0	27.5	22.5	27.0	2.0	36.2	36.2	E
FW•	5M	47.0	34.9	33.5	M31x1.0	33.0	22.5	29.4	2.0	36.2	36.2	F

Part number example: FWN.1M.305.XLCM

Note: The dimensions «N» and «V» are the same as the FW• models and the dimension «P» is the same as the FM• models. Ls = standard gender, Lr = reverse gender. ¹⁾ MIL-DTL-38999L shell size code (backshell not supplied).















FA• Straight plug with square flange, non-coupling, key (N) or keys (P, R, S, T, U, V, W and X)

Refe	rence					Di	mens	ions	(mm)				
Model	Series	А	В	С	D	Е	G	Н	К	Ls	Lr	Ν	Ρ	V
FA	MM	21.5	6.4	10.7	5.6	9.5	17.0	12.0	1.5	26.1	26.1	17.0	5.5	2.7
FA•	0M	26.9	8.8	12.7	8.0	12.2	18.9	15.1	1.5	29.1	29.1	20.6	3.9	2.7
FA	1M	31.4	10.5	14.2	9.7	13.7	18.9	18.3	1.5	29.1	29.1	23.8	3.9	3.3
FA•	2M	34.6	14.0	17.2	13.0	16.7	18.9	20.6	1.5	29.5	29.5	26.1	3.9	3.3
FA•	ЗM	34.6	16.0	19.2	15.0	18.7	18.9	20.6	1.5	29.5	29.5	26.1	3.9	3.3
FA	TM	38.0	17.9	22.0	16.7	21.5	22.5	23.0	2.0	34.8	34.8	28.5	3.4	3.3
FA	4M	40.3	20.7	24.5	19.5	24.0	22.5	24.6	2.0	34.8	34.8	30.1	3.4	3.3
FA	LM	43.7	23.9	28.0	22.7	27.5	22.5	27.0	2.0	34.8	34.8	32.5	3.4	3.3
FAe	5M	47.0	29.7	33.5	28.5	33.0	22.5	29.4	2.0	34.8	34.8	37.0	3.4	3.3

Part number example: FAN.1M.305.XLC

Note: The dimension «X» is the same as the FM \bullet models. Ls = standard gender, Lr = reverse gender.

FA• Straight plug with square flange, non-coupling, key (N) or keys (P, R, S, T, U, V, W and X) with mold stop

Refe	rence					Di	mens	ions	(mm)				
Model	Series	Α	В	С	D	Е	G	Н	К	Ls	Lr	Ν	Ρ	V
FA	MM	21.5	6.4	10.7	5.6	9.5	17.0	12.0	1.5	29.1	29.1	17.0	5.5	2.7
FA•	OM	26.9	8.8	12.7	8.0	12.2	18.9	15.1	1.5	32.1	32.1	20.6	3.9	2.7
FA•	1M	31.4	10.5	14.2	9.7	13.7	18.9	18.3	1.5	32.1	32.1	23.8	3.9	3.3
FA•	2M	34.6	14.0	17.2	13.0	16.7	18.9	20.6	1.5	32.5	32.5	26.1	3.9	3.3
FA•	ЗM	34.6	16.0	19.2	15.0	18.7	18.9	20.6	1.5	32.5	32.5	26.1	3.9	3.3
FA•	TM	38.0	17.9	22.0	16.7	21.5	22.5	23.0	2.0	37.8	37.8	28.5	3.4	3.3
FA•	4M	40.3	20.7	24.5	19.5	24.0	22.5	24.6	2.0	37.8	37.8	30.1	3.4	3.3
FA•	LM	43.7	23.9	28.0	22.7	27.5	22.5	27.0	2.0	37.8	37.8	32.5	3.4	3.3
FA•	5M	47.0	29.7	33.5	28.5	33.0	22.5	29.4	2.0	37.8	37.8	37.0	3.4	3.3

Part number example: FAN.1M.305.XLCT

Note: The dimensions «F», «M» and «X» are the same as the FM• models. Ls = standard gender, Lr = reverse gender.

FA• Straight plug with square flange, non-coupling, key (N) or keys (P, R, S, T, U, V, W and X) with MIL-DTL-38999L shell thread

Refe	rence				Di	nens	ions (mm)			
Model	Series	Α	С	е	Е	G	Н	к	Ls	Lr	Ν	Code ¹⁾
FA•	1M	31.4	14.2	M12x1.0	13.7	18.9	18.3	1.5	31.4	31.4	23.8	Α
FA•	2M	34.6	17.2	M15x1.0	16.7	18.9	20.6	1.5	31.4	31.4	26.1	В
FA•	ЗM	34.6	19.2	M18x1.0	18.7	18.9	20.6	1.5	31.4	31.4	26.1	С
FA•	TM	38.0	22.0	M18x1.0	21.5	22.5	23.0	2.0	36.2	36.2	28.5	С
FA	4M	40.3	24.5	M22x1.0	24.0	22.5	24.6	2.0	36.2	36.2	30.1	D
FA	LM	43.7	28.0	M25x1.0	27.5	22.5	27.0	2.0	36.2	36.2	32.5	E
FA•	5M	47.0	33.5	M31x1.0	33.0	22.5	29.4	2.0	36.2	36.2	37.0	F

Part number example: FAN.1M.305.XLCM

Note: The dimensions «P» and «V» are the same as the FA• models. Ls = standard gender, Lr = reverse gender. ¹) MIL-DTL-38999L shell size code (backshell not supplied).









EG• Fixed socket, nut fixing, key (N) or keys (P, R, S, T, U, V, W and X)

Refe	rence			Dir	nensi	ons (n	nm)			
Model	Series	С	D	е	Е	Ls	Lr	Ρ	S1	S2
EG•	MM	10.7	5.2	M7x0.5	4.5	15.0	15.0	3.7	6.3	9.0
EG•	0M	12.7	6.8	M9x0.6	5.0	18.3	18.3	5.3	8.2	11.0
EG•	1M	14.2	6.8	M11x1.0	4.5	18.3	18.3	5.3	9.5	13.0
EG•	2M	17.2	6.8	M14x1.0	4.5	18.3	18.3	5.3	12.5	17.0
EG•	ЗM	19.2	6.8	M16x1.0	4.0	18.3	18.3	5.3	14.5	19.0
EG•	TM	22.0	9.4	M18x1.0	4.0	20.0	21.9	7.9	16.5	22.0
EG•	4M	24.5	9.4	M21x1.0	4.0	20.0	21.9	7.9	19.5	25.0
EGe	LM	28.0	9.4	M24x1.0	4.0	20.0	21.9	7.9	22.5	30.0
EG•	5M	33.5	9.4	M30x1.0	4.0	20.0	21.9	7.9	28.5	36.0

Part number example: EGN.1M.305.XLM

Panel cut-out (page 31).

Note: Ls = standard gender, Lr = reverse gender

EG• Fixed socket, nut fixing, key (N) or keys (P, R, S, T, U, V, W and X) for printed circuit

Refe	rence				Dime	nsions	s (mm)			
Model	Series	С	D	е	Е	G	Ls	Lr	Р	S1	S2
EG●	MM	10.7	5.2	M7x0.5	4.5	13.8	15.0	15.0	3.7	6.3	9.0
EG●	OM	12.7	6.8	M9x0.6	5.0	16.8	18.3	18.3	5.3	8.2	11.0
EG●	1M	14.2	6.8	M11x1.0	4.5	16.8	18.3	18.3	5.3	9.5	13.0
EG●	2M	17.2	6.8	M14x1.0	4.5	16.8	18.3	18.3	5.3	12.5	17.0
EG●	ЗM	19.2	6.8	M16x1.0	4.0	16.8	18.3	18.3	5.3	14.5	19.0
EG●	ТМ	22.0	9.4	M18x1.0	4.0	18.9	20.0	21.9	7.9	16.5	22.0
EG●	4M	24.5	9.4	M21x1.0	4.0	18.9	20.0	21.9	7.9	19.5	25.0
EG●	LM	28.0	9.4	M24x1.0	4.0	18.9	20.0	21.9	7.9	22.5	30.0
EG●	5M	33.5	9.4	M30x1.0	4.0	18.9	20.0	21.9	7.9	28.5	36.0

Part number example: EGN.1M.305.XLN

Panel cut-out (page 31). PCB drilling pattern (page 32).

Note: Ls = standard gender, Lr = reverse gender

EC• Fixed socket with two nuts, key (N) or keys (P, R, S, T, U, V, W and X)

Refe	rence					Dimen	sions	(mm))				
Model	Series	A	В	С	Е	е	G	Ls	Lr	Ρ	S1	S2	S3
EC•	MM	14	2.85	13.5	5.0	M10x0.50	13.8	15.0	15.0	3.7	9.0	11.0	12.0
EC•	0M	17	4.72	18.2	5.0	M13x0.75	16.8	18.3	18.3	5.3	11.5	14.0	16.0
EC•	1M	18	5.95	19.2	5.0	M14x1.00	16.8	18.3	18.3	5.3	12.5	16.0	17.0
EC•	2M	21	8.95	21.5	4.0	M17x1.00	16.8	18.3	18.3	5.3	15.5	18.0	19.0
EC•	ЗM	23	10.95	25.0	4.0	M19x1.00	16.8	18.3	18.3	5.3	17.5	20.0	22.0
EC•	ТМ	27	12.30	28.0	2.5	M22x1.00	18.9	20.0	21.9	7.9	20.5	23.0	25.0
EC•	4M	29	13.95	34.0	2.5	M24x1.00	18.9	20.0	21.9	7.9	22.5	25.0	30.0
EC•	LM	33	17.95	36.0	2.5	M28x1.00	18.9	20.0	21.9	7.9	26.5	29.0	32.0
EC•	5M	38	22.90	41.0	2.5	M33x1.00	18.9	20.0	21.9	7.9	31.5	34.0	37.0

Part number example: ECN.1M.305.XLM

Panel cut-out (page 31).

Note: Ls = standard gender, Lr = reverse gender. This model is not IP68 (no panel sealing).













4.5

S 2





EC• Fixed socket with two nuts, key (N) or keys (P, R, S, T, U, V, W and X) for printed circuit

Refe	rence					Dimen	sions	(mm)				
Model	Series	А	В	С	Е	е	G	Ls	Lr	Р	S1	S2	S3
EC•	MM	14	2.85	13.5	5.0	M10x0.50	13.8	15.0	15.0	3.7	9.0	11.0	12.0
EC•	0M	17	4.72	18.2	5.0	M13x0.75	16.8	18.3	18.3	5.3	11.5	14.0	16.0
EC•	1M	18	5.95	19.2	5.0	M14x1.00	16.8	18.3	18.3	5.3	12.5	16.0	17.0
EC•	2M	21	8.95	21.5	4.0	M17x1.00	16.8	18.3	18.3	5.3	15.5	18.0	19.0
EC•	ЗM	23	10.95	25.0	4.0	M19x1.00	16.8	18.3	18.3	5.3	17.5	20.0	22.0
EC•	TM	27	12.30	28.0	2.5	M22x1.00	18.9	20.0	21.9	7.9	20.5	23.0	25.0
EC•	4M	29	13.95	34.0	2.5	M24x1.00	18.9	20.0	21.9	7.9	22.5	25.0	30.0
EC•	LM	33	17.95	36.0	2.5	M28x1.00	18.9	20.0	21.9	7.9	26.5	29.0	32.0
EC•	5M	38	22.90	41.0	2.5	M33x1.00	18.9	20.0	21.9	7.9	31.5	34.0	37.0

Part number example: ECN.1M.305.XLN

Panel cut-out (page 31). PCB drilling pattern (page 32).

Note: Ls = standard gender, Lr = reverse gender. This model is not IP68 (no panel sealing).

EDe Fixed socket with square flange, key (N) or keys (P, R, S, T, U, V, W and X)

Refe	rence				D	imens	ions	(mm)				
Model	Series	Α	В	С	G	Н	К	Ls	Lr	Ν	Ρ	V
ED•	MM	18.6	4.70	10.7	12.3	9.5	1.5	17.0	17.0	14.5	3.7	2.7
ED•	0M	20.6	4.72	12.7	12.8	11.0	1.5	18.3	18.3	16.0	5.3	2.7
ED•	1M	23.8	5.95	14.2	12.8	12.9	1.5	18.3	18.3	18.4	5.3	3.3
ED•	2M	26.9	8.95	17.2	12.8	15.1	1.5	18.3	18.3	20.6	5.3	3.3
ED•	ЗM	29.0	10.95	19.2	12.8	16.6	1.5	18.3	18.3	22.1	5.3	3.3
ED•	ТМ	31.4	12.30	22.0	14.5	18.3	2.0	20.0	21.9	23.8	7.9	3.3
ED•	4M	34.6	13.95	24.5	14.5	20.6	2.0	20.0	21.9	26.1	7.9	3.3
ED•	LM	38.0	17.95	28.0	14.5	23.0	2.0	20.0	21.9	28.5	7.9	3.3
ED•	5M	43.7	22.90	33.5	14.5	27.0	2.0	20.0	21.9	32.5	7.9	3.3

Part number example: EDN.1M.305.XLM

Panel cut-out (page 31).

Note: Ls = standard gender, Lr = reverse gender

ED• Fixed socket with square flange, key (N) or keys (P, R, S, T, U, V, W and X) for printed circuit

Refe	rence				D	imens	ions	(mm)				
Model	Series	Α	В	С	G	н	К	Ls	Lr	Ν	Ρ	V
ED•	MM	18.6	4.70	10.7	12.3	9.5	1.5	17.0	17.0	14.5	3.7	2.7
ED•	ОM	20.6	4.72	12.7	12.8	11.0	1.5	18.3	18.3	16.0	5.3	2.7
ED•	1M	23.8	5.95	14.2	12.8	12.9	1.5	18.3	18.3	18.4	5.3	3.3
ED•	2M	26.9	8.95	17.2	12.8	15.1	1.5	18.3	18.3	20.6	5.3	3.3
ED•	ЗM	29.0	10.95	19.2	12.8	16.6	1.5	18.3	18.3	22.1	5.3	3.3
ED•	ТМ	31.4	12.30	22.0	14.5	18.3	2.0	20.0	21.9	23.8	7.9	3.3
ED•	4M	34.6	13.95	24.5	14.5	20.6	2.0	20.0	21.9	26.1	7.9	3.3
ED•	LM	38.0	17.95	28.0	14.5	23.0	2.0	20.0	21.9	28.5	7.9	3.3
ED•	5M	43.7	22.90	33.5	14.5	27.0	2.0	20.0	21.9	32.5	7.9	3.3

Part number example: EDN.1M.305.XLN

Panel cut-out (page 31). PCB drilling pattern (page 32).

Note: Ls = standard gender, Lr = reverse gender







PE• Fixed socket, nut fixing, key (N) or keys (P, R, S, T, U, V, W and X) with mold stop (back panel mounting)

Refe	rence						Dimensio	ns (n	nm)					
Model	Series	А	В	С	D	Е	е	Ls	Lr	М	Р	R	S1	S2
PE•	MM	14	6.4	13.8	5.6	4.0	M10x0.50	21.4	21.4	8.8	3.7	10.5	9.0	11
PE•	0M	17	8.8	16.8	8.0	5.0	M13x0.75	25.6	25.6	9.7	5.3	13.8	11.5	14
PE	1M	18	10.5	17.8	9.7	5.0	M14x1.00	25.6	25.6	9.7	5.3	13.8	12.5	16
PE•	2M	21	14.0	20.8	13.0	5.0	M17x1.00	26.0	26.0	10.1	5.3	13.8	15.5	18
PE•	ЗM	23	16.0	22.8	15.0	5.0	M19x1.00	26.0	26.0	10.1	5.3	13.8	17.5	20
PE•	ТМ	27	17.9	25.8	16.7	4.0	M22x1.00	29.5	30.1	10.6	7.9	16.9	20.5	23
PE	4M	29	20.7	27.8	19.5	4.0	M24x1.00	29.5	30.1	10.6	7.9	16.9	22.5	25
PE●	LM	33	23.9	31.8	22.7	4.0	M28x1.00	29.5	30.1	10.6	7.9	16.9	26.5	29
PE●	5M	38	29.7	36.8	28.5	4.0	M33x1.00	29.5	30.1	10.6	7.9	16.9	31.5	34

Part number example: PEN.1M.305.XLMT

Panel cut-out (page 31).

Note: this model is only available with mold stop. The dimensions "F" and "X" are the same as the PB• models. Ls = standard gender, Lr = reverse gender.

PE• Fixed socket, nut fixing, key (N) or keys (P, R, S, T, U, V, W and X) with MIL-DTL-38999L shell thread

Refe	rence					Dimensio	ons (r	nm)				
Model	Series	А	С	Е	е	e1	Ls	Lr	R	S1	S2	Code ¹⁾
PE•	1M	18	17.8	5.0	M14x1.0	M12x1.0	26.4	26.4	13.8	12.5	16	Α
PE•	2M	21	20.8	5.0	M17x1.0	M15x1.0	26.4	26.4	13.8	15.5	18	В
PE•	ЗM	23	22.8	5.0	M19x1.0	M18x1.0	26.4	26.4	13.8	17.5	20	С
PE•	ТМ	27	25.8	4.0	M22x1.0	M18x1.0	28.2	30.1	16.9	20.5	23	С
PE•	4M	29	27.8	4.0	M24x1.0	M22x1.0	28.2	30.1	16.9	22.5	25	D
PE•	LM	33	31.8	4.0	M28x1.0	M25x1.0	28.2	30.1	16.9	26.5	29	E
PE•	5M	38	36.8	4.0	M33x1.0	M31x1.0	28.2	30.1	16.9	31.5	34	G

Part number example: PEN.1M.305.XLMM

Panel cut-out (page 31).

Note: Ls = standard gender, Lr = reverse gender. The dimension «P» is the same as the PB• models. ¹⁾ MIL-DTL-38999L shell size code (backshell not supplied).

PF• Fixed socket with square flange, key (N) or keys (P, R, S, T, U, V, W and X) with mold stop

Refe	rence					Dir	nens	ions ((mm)					
Model	Series	A	В	С	D	Е	F	G	н	к	Ν	Ss	Sr	۷
PF●	MM	18.6	6.4	10.7	5.6	7.8	7.8	12.3	9.5	1.5	14.5	10.6	10.6	2.7
PF•	OM	20.6	8.8	12.7	8.0	10.7	10.7	12.8	11.0	1.5	16.0	11.3	11.3	2.7
PF•	1M	23.8	10.5	14.2	9.7	12.4	12.4	12.8	12.9	1.5	18.4	11.3	11.3	3.3
PF•	2M	26.9	14.0	17.2	13.0	15.5	15.5	12.8	15.1	1.5	20.6	11.7	11.7	3.3
PF•	ЗM	29.0	16.0	19.2	15.0	17.5	17.5	12.8	16.6	1.5	22.1	11.7	11.7	3.3
PF●	TM	31.4	17.9	22.0	16.7	19.8	19.8	14.5	18.3	2.0	23.8	13.0	13.6	3.3
PF•	4M	34.6	20.7	24.5	19.5	22.6	22.6	14.5	20.6	2.0	26.1	13.0	13.6	3.3
PF●	LM	38.0	23.9	28.0	22.7	25.8	25.8	14.5	23.0	2.0	28.5	13.0	13.6	3.3
PF●	5M	47.0	29.7	33.5	28.5	33.0	31.4	14.5	29.4	2.0	37.0	13.0	13.6	3.3

Part number example: PFN.1M.305.XLMT

Panel cut-out (page 31).

Note: this model is only available with mold stop. The dimensions «M», «P» and «X» are the same as the PB• models. Ss = standard gender, Sr = reverse gender.





















PF• Fixed socket with square flange, key (N) or keys (P, R, S, T, U, V, W and X) with MIL-DTL-38999L shell thread

Refe	rence				Dir	nens	ions (mm)			
Model	Series	Α	С	е	Е	G	Н	к	Ν	Ss	Sr	Code ¹⁾
PF•	1M	23.8	14.2	M12x1.0	12.4	12.8	12.9	1.5	18.4	12.2	12.2	A
PF•	2M	26.9	17.2	M15x1.0	15.5	12.8	15.1	1.5	20.6	12.2	12.2	В
PF•	ЗM	29.0	19.2	M18x1.0	17.5	12.8	16.6	1.5	22.1	12.2	12.2	С
PF•	TM	31.4	22.0	M18x1.0	19.8	14.5	18.3	2.0	23.8	11.7	13.6	С
PF•	4M	34.6	24.5	M22x1.0	22.6	14.5	20.6	2.0	26.1	11.7	13.6	D
PF•	LM	38.0	28.0	M25x1.0	25.8	14.5	23.0	2.0	28.5	11.7	13.6	E
PF●	5M	47.0	33.5	M31x1.0	33.0	14.5	29.4	2.0	37.0	11.7	13.6	G

Part number example: PFN.1M.305.XLMM

Panel cut-out (page 31).

Note: The dimension «P» is the same as the PB• models. Ss = standard gender, Sr = reverse gender. ¹⁾ MIL-DTL-38999L shell size code (backshell not supplied).

PB• Fixed socket with antivibration flange, key (N) or keys (P, R, S, T, U, V, W and X), 2 holes fixing

Refe	rence				D	imen	sions	(mm))			
Model	Series	Α	В	С	D	G	Н	Ν	Ρ	Ss	Sr	Х
PB•	MM	21.0	6.4	11.3	5.6	6.7	16.2	12.5	3.7	13.2	13.2	5.8
PB•	OM	27.0	8.8	14.5	8.0	8.3	21.4	16.0	5.3	15.3	15.3	6.7
PB•	1M	29.0	10.5	16.5	9.7	8.3	23.4	18.0	5.3	15.3	15.3	6.7
PB•	2M	32.0	14.0	19.5	13.0	8.3	26.4	21.0	5.3	15.7	15.7	7.1
PB•	ЗM	35.0	16.0	21.5	15.0	8.3	29.0	23.0	5.3	15.7	15.7	7.1
PB•	TM	38.5	17.9	24.5	16.7	11.0	32.5	26.0	7.9	15.2	17.1	7.6
PB•	4M	41.0	20.7	27.5	19.5	11.0	35.0	29.0	7.9	15.2	17.1	7.6
PB•	LM	44.0	23.9	30.5	22.7	11.0	38.0	32.0	7.9	15.2	17.1	7.6
PB●	5M	51.0	29.7	37.5	28.5	11.0	45.0	39.0	7.9	15.2	17.1	7.6

Part number example: PBN.1M.305.XLM

Panel cut-out (page 31).

Note: Ss = standard gender, Sr = reverse gender

PB• Fixed socket with antivibration flange, key (N) or keys (P, R, S, T, U, V, W and X), 2 holes fixing with mold stop

Refe	rence					Di	mens	ions	(mm)					
Model	Series	Α	В	С	D	F	G	н	М	N	Ρ	Ss	Sr	Х
PB•	MM	21.0	6.4	11.3	5.6	7.8	6.7	16.2	8.8	12.5	3.7	16.2	16.2	5.8
PB•	0M	27.0	8.8	14.5	8.0	10.7	8.3	21.4	9.7	16.0	5.3	18.3	18.3	6.7
PB•	1M	29.0	10.5	16.5	9.7	12.4	8.3	23.4	9.7	18.0	5.3	18.3	18.3	6.7
PBe	2M	32.0	14.0	19.5	13.0	15.5	8.3	26.4	10.1	21.0	5.3	18.7	18.7	7.1
PBe	ЗM	35.0	16.0	21.5	15.0	17.5	8.3	29.0	10.1	23.0	5.3	18.7	18.7	7.1
PBe	TM	38.5	17.9	24.5	16.7	19.8	11.0	32.5	10.6	26.0	7.9	18.2	18.2	7.6
PB●	4M	41.0	20.7	27.5	19.5	22.6	11.0	35.0	10.6	29.0	7.9	18.2	18.2	7.6
PB●	LM	44.0	23.9	30.5	22.7	25.8	11.0	38.0	10.6	32.0	7.9	18.2	18.2	7.6
PB•	5M	51.0	29.7	37.5	28.5	31.4	11.0	45.0	10.6	39.0	7.9	18.2	18.2	7.6

Part number example: PBN.1M.305.XLMT

Panel cut-out (page 31).

Note: Ss = standard gender, Sr = reverse gender







PB• Fixed socket with antivibration flange, key (N) or keys (P, R, S, T, U, V, W and X), 2 holes fixing with MIL-DTL-38999L shell thread

Refe	rence				Dime	nsion	s (mr	n)			
Model	Series	Α	С	е	G	н	Ν	Ρ	Ss	Sr	Code ¹⁾
PB●	1M	29.0	16.5	M12x1.0	8.3	23.4	18.0	5.3	17.2	17.2	Α
PB●	2M	32.0	19.5	M15x1.0	8.3	26.4	21.0	5.3	17.2	17.2	В
PB●	ЗM	35.0	21.5	M18x1.0	8.3	29.0	23.0	5.3	17.2	17.2	С
PB●	ТМ	38.5	24.5	M18x1.0	11.0	32.5	26.0	7.9	16.2	17.1	С
PB●	4M	41.0	27.5	M22x1.0	11.0	35.0	29.0	7.9	16.2	17.1	D
PB●	LM	44.0	30.5	M25x1.0	11.0	38.0	32.0	7.9	16.2	17.1	E
PB●	5M	51.0	37.5	M31x1.0	11.0	45.0	39.0	7.9	16.2	17.1	G

Part number example: PBN.1M.305.XLMM

Panel cut-out (page 31).

Note: Ss = standard gender, Sr = reverse gender. 1) MIL-DTL-38999L shell size code (backshell not supplied).

Fixed socket with antivibration square flange, key (N) or keys (P, R, S, T, U, V, W and X) **PV**•

Refe	rence					Dime	ensio	ns (m	m)				
Model	Series	Α	В	С	D	G	н	Ν	Ρ	Ss	Sr	V	Х
PV•	MM	21.5	6.4	11.3	5.6	6.7	12.0	17.0	3.7	13.2	13.2	2.7	5.8
PV•	0M	26.9	8.8	14.5	8.0	8.3	15.1	20.6	5.3	15.3	15.3	2.7	6.7
PV•	1M	31.4	10.5	16.5	9.7	8.3	18.3	23.8	5.3	15.3	15.3	3.3	6.7
PV•	2M	34.6	14.0	19.5	13.0	8.3	20.6	26.1	5.3	15.7	15.7	3.3	7.1
PV•	ЗM	38.0	16.0	21.5	15.0	8.3	23.0	28.5	5.3	15.7	15.7	3.3	7.1
PV•	ТМ	40.3	17.9	24.5	16.7	11.0	24.6	30.1	7.9	15.2	17.1	3.3	7.6
PV•	4M	43.7	20.7	27.5	19.5	11.0	27.0	32.5	7.9	15.2	17.1	3.3	7.6
PV•	LM	47.1	23.9	30.5	22.7	11.0	29.4	34.9	7.9	15.2	17.1	3.3	7.6
PV•	5M	54.9	29.7	37.5	28.5	11.0	34.9	40.4	7.9	15.2	17.1	3.3	7.6

Part number example: PVN.1M.305.XLM

Panel cut-out (page 31).

Note: Ss = standard gender, Sr = reverse gender

PV• Fixed socket with antivibration square flange, key (N) or keys (P, R, S, T, U, V, W and X) with mold stop

Refe	rence					Di	mens	ions	(mm)					
Model	Series	A	В	С	D	F	G	н	М	Ν	Ρ	Ss	Sr	Х
PV•	MM	21.5	6.4	11.3	5.6	7.8	6.7	12.0	8.8	17.0	3.7	16.2	16.2	5.8
PV•	0M	26.9	8.8	14.5	8.0	10.7	8.3	15.1	9.7	20.6	5.3	18.3	18.3	6.7
PV•	1M	31.4	10.5	16.5	9.7	12.4	8.3	18.3	9.7	23.8	5.3	18.3	18.3	6.7
PV•	2M	34.6	14.0	19.5	13.0	15.5	8.3	20.6	10.1	26.1	5.3	18.7	18.7	7.1
PV•	ЗM	38.0	16.0	21.5	15.0	17.5	8.3	23.0	10.1	28.5	5.3	18.7	18.7	7.1
PV•	ТМ	40.3	17.9	24.5	16.7	19.8	11.0	24.6	10.6	30.1	7.9	18.2	18.2	7.6
PV•	4M	43.7	20.7	27.5	19.5	22.6	11.0	27.0	10.6	32.5	7.9	18.2	18.2	7.6
PV•	LM	47.1	23.9	30.5	22.7	25.8	11.0	29.4	10.6	34.9	7.9	18.2	18.2	7.6
PV•	5M	54.9	29.7	37.5	28.5	31.4	11.0	34.9	10.6	40.4	7.9	18.2	18.2	7.6

Part number example: PVN.1M.305.XLMT

Panel cut-out (page 31).

Note: Ss = standard gender, Sr = reverse gender. The dimension «V» is the same as the PV• models without mold stop.





















PV• Fixed socket with antivibration square flange, key (N) or keys (P, R, S, T, U, V, W and X) with MIL-DTL-38999L shell thread

Refe	rence				Dir	nensi	ions (mm)				
Model	Series	Α	С	е	G	н	Ν	Ρ	Ss	Sr	V	Code ¹⁾
PV•	1M	31.4	16.5	M12x1.0	8.3	18.3	23.8	5.3	17.2	17.2	3.3	Α
PV•	2M	34.6	19.5	M15x1.0	8.3	20.6	26.1	5.3	17.2	17.2	3.3	В
PV•	ЗM	38.0	21.5	M18x1.0	8.3	23.0	28.5	5.3	17.2	17.2	3.3	С
PV•	TM	40.3	24.5	M18x1.0	11.0	24.6	30.1	7.9	16.2	17.1	3.3	С
PV•	4M	43.7	27.5	M22x1.0	11.0	27.0	32.5	7.9	16.2	17.1	3.3	D
PV•	LM	47.1	30.5	M25x1.0	11.0	29.4	34.9	7.9	16.2	17.1	3.3	E
PV•	5M	54.9	37.5	M31x1.0	11.0	34.9	40.4	7.9	16.2	17.1	3.3	G

Part number example: PVN.1M.305.XLMM

Panel cut-out (page 31).

Note: Ss = standard gender, Sr = reverse gender. ¹⁾ MIL-DTL-38999L shell size code (backshell not supplied).

PM• Free socket, key (N) or keys (P, R, S, T, U, V, W and X) with knurled grip

Refe	rence	Dimensions (mm)										
Model	Series	Α	В	С	D	Ls	Lr	Ρ	Х			
PMe	MM	11.1	6.4	10.7	5.6	21.4	21.4	3.7	5.8			
PMe	0M	13.1	8.8	12.7	8.0	25.6	25.6	5.3	6.7			
PMe	1M	14.6	10.5	14.2	9.7	25.6	25.6	5.3	6.7			
PMe	2M	17.6	14.0	17.2	13.0	26.0	26.0	5.3	7.1			
PMe	ЗM	19.6	16.0	19.2	15.0	26.0	26.0	5.3	7.1			
PMe	TM	22.5	17.9	22.0	16.7	28.2	30.1	7.9	7.6			
PMe	4M	25.0	20.7	24.5	19.5	28.2	30.1	7.9	7.6			
PMe	LM	28.5	23.9	28.0	22.7	28.2	30.1	7.9	7.6			
PMe	5M	34.0	29.7	33.5	28.5	28.2	30.1	7.9	7.6			

Part number example: PMN.1M.305.XLM

Note: Ls = standard gender, Lr = reverse gender

PM• Free socket, key (N) or keys (P, R, S, T, U, V, W and X) with knurled grip and mold stop

Refe	rence	Dimensions (mm)											
Model	Series	А	В	С	D	F	Ls	Lr	М	Ρ	х		
PMe	MM	11.1	6.4	10.7	5.6	7.8	24.4	24.4	8.8	3.7	5.8		
PMe	0M	13.1	8.8	12.7	8.0	10.7	28.6	28.6	9.7	5.3	6.7		
PMe	1M	14.6	10.5	14.2	9.7	12.4	28.6	28.6	9.7	5.3	6.7		
PMe	2M	17.6	14.0	17.2	13.0	15.5	29.0	29.0	10.1	5.3	7.1		
PMe	ЗM	19.6	16.0	19.2	15.0	17.5	29.0	29.0	10.1	5.3	7.1		
PMe	TM	22.5	17.9	22.0	16.7	19.8	31.2	31.2	10.6	7.9	7.6		
PMe	4M	25.0	20.7	24.5	19.5	22.6	31.2	31.2	10.6	7.9	7.6		
PMe	LM	28.5	23.9	28.0	22.7	25.8	31.2	31.2	10.6	7.9	7.6		
PM•	5M	34.0	29.7	33.5	28.5	31.4	31.2	31.2	10.6	7.9	7.6		

Part number example: PMN.1M.305.XLMT

Note: Ls = standard gender, Lr = reverse gender





PM• Free socket, key (N) or keys (P, R, S, T, U, V, W and X) with knurled grip and MIL-DTL-38999L shell thread



Refe	rence		Dimensions (mm)									
Model	Series	Α	С	е	Ls	Lr	Ρ	Code ¹⁾				
РМ•	1M	14.6	14.2	M12x1.0	27.9	27.9	5.3	A				
PMe	2M	17.6	17.2	M15x1.0	27.9	27.9	5.3	В				
PMe	ЗM	19.6	19.2	M18x1.0	27.9	27.9	5.3	С				
PMe	ТМ	22.5	22.0	M18x1.0	29.6	30.1	7.9	С				
PMe	4M	25.0	24.5	M22x1.0	29.6	30.1	7.9	D				
РМ•	LM	28.5	28.0	M25x1.0	29.6	30.1	7.9	E				
PM•	5M	34.0	33.5	M31x1.0	29.6	30.1	7.9	G				

Part number example: PMN.1M.305.XLMM

Note: Ls = standard gender, Lr = reverse gender. $^{1)}$ MIL-DTL-38999L shell size code (backshell not supplied).

PH• Free socket, key (N) or keys (P, R, S, T, U, V, W and X) with arctic grip

Refe	rence			Din	nensio	ons (m	ım)		
Model	Series	Α	В	С	D	Ls	Lr	Ρ	Х
PHe	MM	12.0	6.4	10.7	5.6	21.4	21.4	3.7	5.8
PH●	0M	14.4	8.8	12.7	8.0	25.6	25.6	5.3	6.7
PHe	1M	15.9	10.5	14.2	9.7	25.6	25.6	5.3	6.7
PH●	2M	18.9	14.0	17.2	13.0	26.0	26.0	5.3	7.1
PH●	ЗM	20.9	16.0	19.2	15.0	26.0	26.0	5.3	7.1
PH●	TM	23.4	17.9	22.0	16.7	28.2	30.1	7.9	7.6
PHe	4M	25.9	20.7	24.5	19.5	28.2	30.1	7.9	7.6
PH•	LM	29.4	23.9	28.0	22.7	28.2	30.1	7.9	7.6
PH●	5M	34.9	29.7	33.5	28.5	28.2	30.1	7.9	7.6

Part number example: PHN.1M.305.XLM

Note: Ls = standard gender, Lr = reverse gender

PH• Free socket, key (N) or keys (P, R, S, T, U, V, W and X) with arctic grip and mold stop

Refe	rence		Dimensions (mm)											
Model	Series	А	В	С	D	F	Ls	Lr	М	Ρ	Х			
PH●	MM	12.0	6.4	10.7	5.6	7.8	24.4	24.4	8.8	3.7	5.8			
PHe	OM	14.4	8.8	12.7	8.0	10.7	28.6	28.6	9.7	5.3	6.7			
PHe	1M	15.9	10.5	14.2	9.7	12.4	28.6	28.6	9.7	5.3	6.7			
PHe	2M	18.9	14.0	17.2	13.0	15.5	29.0	29.0	10.1	5.3	7.1			
PHe	ЗM	20.9	16.0	19.2	15.0	17.5	29.0	29.0	10.1	5.3	7.1			
PHe	TM	23.4	17.9	22.0	16.7	19.8	31.2	31.2	10.6	7.9	7.6			
PHe	4M	25.9	20.7	24.5	19.5	22.6	31.2	31.2	10.6	7.9	7.6			
PHe	LM	29.4	23.9	28.0	22.7	25.8	31.2	31.2	10.6	7.9	7.6			
PH●	5M	34.9	29.7	33.5	28.5	31.4	31.2	31.2	10.6	7.9	7.6			

Part number example: PHN.1M.305.XLMT

Note: Ls = standard gender, Lr = reverse gender















PH• Free socket, key (N) or keys (P, R, S, T, U, V, W and X) with arctic grip and MIL-DTL-38999L shell thread

Refe	rence		Dimensions (mm)									
Model	Series	Α	С	е	Ls	Lr	Ρ	Code ¹⁾				
PH●	1M	15.9	14.2	M12x1.0	27.9	27.9	5.3	A				
PHe	2M	18.9	17.2	M15x1.0	27.9	27.9	5.3	В				
PHe	ЗM	20.9	19.2	M18x1.0	27.9	27.9	5.3	С				
PH●	TM	23.4	22.0	M18x1.0	29.6	30.1	7.9	С				
PHe	4M	25.9	24.5	M22x1.0	29.6	30.1	7.9	D				
PHe	LM	29.4	28.0	M25x1.0	29.6	30.1	7.9	E				
PH●	5M	34.9	33.5	M31x1.0	29.6	30.1	7.9	G				

Part number example: PHN.1M.305.XLMM

Note: Ls = standard gender, Lr = reverse gender. ¹⁾ MIL-DTL-38999L shell size code (backshell not supplied).



s/L

S 2

E maxi

R

Watertight model (unmated)

HE• Fixed socket, nut fixing, key (N) or keys (P, R, S, T, U, V, W and X) for printed circuit, watertight (back panel mounting)

Refe	rence				٢	Dimens	sions	(mm)					
Model	Series	A	С	е	Е	Н	Ls	Lr	Ν	Ρ	R	S1	S2
HE●	MM	14	13.8	M10x0.50	4.0	5.08	20.4	20.4	15.3	3.7	10.5	9.0	11
HEe	0M	17	16.8	M13x0.75	5.0	5.08	20.8	21.0	16.8	5.3	13.8	11.5	14
HE	1M	18	17.8	M14x1.00	5.0	7.62	20.8	21.0	16.8	5.3	13.8	12.5	16
HE●	2M	21	20.8	M17x1.00	5.0	8.89	20.8	21.0	16.8	5.3	13.8	15.5	18
HE●	ЗM	23	22.8	M19x1.00	5.0	10.16	20.8	21.0	16.8	5.3	13.8	17.5	20
HEe	ТМ	27	25.8	M22x1.00	4.0	12.70	24.6	24.6	19.9	7.9	16.9	20.5	23
HE●	4M	29	27.8	M24x1.00	4.0	13.97	24.6	24.6	19.9	7.9	16.9	22.5	25
HE●	LM	33	31.8	M28x1.00	4.0	16.51	24.6	24.6	19.9	7.9	16.9	26.5	29
HE●	5M	38	36.8	M33x1.00	4.0	20.32	24.6	24.6	19.9	7.9	16.9	31.5	34

Part number example: HEN.1M.305.XLNP

Panel cut-out (page 31). PCB drilling pattern (page 32).

Note: Ls = standard gender, Lr = reverse gender. Operating temperature: -20° C to $+80^{\circ}$ C.







Fibre optic models

FMo Straight plug, keys (N, S or W) with knurled grip

Part number		Dir	nensio	ns (m	m)	
	Α	С	L	Ρ	S1	S2
FM•.2M.03A.XLZT••Z	17.6	17.2	100.6	3.9	14	14
FM•.3M.95B.XLCT••Z	19.6	19.2	103.3	3.9	16	16
FM•.5M.03W.XLZT••Z	34.0	33.5	148.4	3.4	29	29

Contact part number (to be ordered separately): PSS.F7.12•.LCE23 (2M series). FFS.F7.12•.LCE23 (3M and 5M series).

Note: •• Cable adaptor defined upon request. The bend relief must be ordered separately (see page 29).

FG• Straight plug, keys (N, S or W) with arctic grip

Part number	Dimensions (mm)								
Faithumbei	А	С	L	Ρ	S1	S2			
FG•.2M.03A.XLZT••Z	18.9	17.2	100.6	3.9	14	14			
FG•.3M.95B.XLCT••Z	20.9	19.2	103.3	3.9	16	16			
FG•.5M.03W.XLZT••Z	34.9	33.5	148.4	3.4	29	29			

Contact part number (to be ordered separately): PSS.F7.12•.LCE23 (2M series). FFS.F7.12•.LCE23 (3M and 5M series).

Note: •• Cable adaptor defined upon request. The bend relief must be ordered separately (see page 29).

PM Free socket, keys (N, S or W) with knurled grip

Part number		Dir	mensio	ns (m	m)	
	Α	С	L	Ρ	S1	S2
PM•.2M.03A.XLZT••Z	17.6	17.2	105.8	5.3	16	14
PM•.3M.95B.XLMT••Z	19.6	19.2	113.3	5.3	18	16
PM•.5M.03W.XLZT••Z	34.0	33.5	155.2	7.9	32	29

Contact part number (to be ordered separately): FFS.F7.12•.LCL23 (2M series). PSS.F7.12•.LCL23 (3M and 5M series).

Note: •• Cable adaptor defined upon request. The bend relief must be ordered separately (see page 29).

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S 1

 \langle

S 2





Part number		Dir	nensio	ns (m	m)	
Fart number	А	С	L	Ρ	S1	S2
PH•.2M.03A.XLZT••Z	18.9	17.2	105.8	5.3	16	14
PH•.5M.03W.XLZT••Z	34.9	33.5	155.2	7.9	32	29

Contact part number (to be ordered separately): FFS.F7.12•.LCL23 (2M series). PSS.F7.12•.LCL23 (5M series).

Note: •• Cable adaptor defined upon request. The bend relief must be ordered separately (see page 29).

EG• Fixed socket, nut fixing, key (N) or keys (P, R, S, T, U, V, W and X)

	Part number		Dimensions (mm)										
		С	C D e E L P S1										
	EG•.2M.03A.XLZ	17.2	6.8	M14x1.0	4.5	28.9	5.3	12.5	17.0				
	EG•.5M.03W.XLZ	33.5	9.4	M30x1.0	4.0	30.8	7.9	28.5	36.0				

Panel cut-out (page 31).

Contact part number (to be ordered separately): FFS.F7.12•.LCE23 (2M series). PSS.F7.12•.LCE23 (5M series).

ED• Fixed socket with square flange, keys (N, S or W)

Part number			D	imens	sions (mm)			
T art humber	A	В	С	G	Н	К	L	Ν	Ρ
ED•.2M.03A.XLZT	26.9	8.95	17.2	12.8	15.1	1.5	28.9	20.6	5.3
ED•.3M.95B.XLM	29.0	10.95	19.2	12.8	16.6	1.5	32.2	22.1	5.3
ED•.5M.03W.XLZT	43.7	22.90	33.5	14.5	27.0	2.0	30.8	32.5	7.9

Panel cut-out (page 31).

Contact part number (to be ordered separately): FFS.F7.12•.LCE23 (2M series). PSS.F7.12•.LCE23 (3M and 5M series).

More information on F7 fibre optic contact in LEMO F7 catalog.











• First choice alternative O Special order alternative

Fibre Type

The choice of the ferrule hole diameter is dependent upon the fibre cladding size. LEMO offers a range of ferrule hole diameters to suit the users' specific requirements.

Reference	ø Core/Cladding (µm)	Ferrule hole diameter (µm)	Note
125	9/125	125	
126	50/125	126	
128	62.5/125	128	0

	Accessories
→8.2	PSS Alignment device for F7 fibre optic contact
	Part number Note: Alignment device should be ordered as replacement item.
	Tooling
	DCP Set of flat spanners for collet nuts
	Part numberDCP.2M.110.TNDCP.3M.110.TNDCP.5M.110.TN
	DCS F7 contact alignment device tool Simple tool with two threaded end for installation/extraction of the F7 contact alignment device.
C LEMO	of the F7 contact alignment device. Part number DCS.F7.035.PN
(Fit rem)	WST Cleaning kit
	Fibre optic cleaning kit of 2 cotton buds, 1 dry and 1 being soaked in Isopropyl Alcohol used for cleaning the fibre optic contacts.
	Part number WST.KI.125.34

See also F7 tooling in the F7 fibre optic catalog.





FMe.LM.U2A.XPAT Straight p

Straight plug, key (W) or key (R) with knurled grip and mold stop



EGe.LM.U2A.XPP

Fixed socket, female to female, nut fixing, key (W) or key (R)



EGe.LM.U2A.XPL

USB models

FGe.LM.U2A.XPAT

Fixed socket, nut fixing, key (W) or key (R)

ø 25.8⊸ ø 23.9 ø 22.7

Straight plug, key (W) or key (R)

with arctic grip and mold stop

-10.6-

76





Alignment Key

Alignment Key and Polarized Keying System

•• V

orange

M series connector model part numbers are composed of three letters. The LAST LETTER indicates the keys corresponding to a particular contact type.

For example, straight plugs with N, P, R, U or W keys, are fitted with male contacts; whereas with S, T, V or X keys, plugs are fitted with female contacts. Sockets with N, P, R, U or W keys, are fitted with female contacts; whereas with S, T, V or X keys, sockets are fitted with male contacts.

	Front view of a socket	Model	Colour	Conta	ct type	Nb of		Ang	les	
3M		Mc	code	Plug	Socket	keys	ĺ	3	γ	
6		۰N	blue				165° 150° 130°		3	0°
MM		۰P	yellow	male	female	3			6	0°
-		●●U	green						100°	
	Y Y	••S		female	male	3	15	55°	5	0°
		●●T	orange	lemale	male	3	13	35°	9	0°
	Front view of a socket	Model	Colour code	Conta	ct type	Nb of		Ang	gles	
to 5M	d'	Ŭ	code	Plug	Socket	keys	α	β	γ	δ
		••W	blue	and a			95°	115°	35°	25°
Σ		●●R	yellow	male	female	5	105°	115°	30°	20°
	1	••X	red	famala	mala	F	100°	125°	40°	20°

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male

5

110°

120°

35°

female

25°





Insert configuration

Multipole

				S			ntact pe		1S) 1)	1) 1)	
	Male crimp contacts for plug	Female crimp contacts for sockets	Reference	Number of contacts	ø A (mm)	Crimp	Print (straight) ²⁾	AWG	Test voltage (kV rms) ¹⁾ Contact-contact	Test voltage (kV rms) ¹⁾ Contact-shell	Rated current (A) ¹⁾
MM			303	3	0.5	•	•	28-30-32	1.15	0.95	3.0
			304	4	0.5	•	•	28-30-32	0.95	0.90	2.0
OM	*	8	302	2	0.9	•	•	20-22-24	1.45	1.00	10.0
			303	3	0.9	•	•	20-22-24	1.70	1.40	8.0
			304	4	0.7	•	•	22-24-26	1.35	0.90	7.0
			305	5	0.7	•	•	22-24-26	1.25	1.00	6.5
1M	(*)	(?)	302	2	1.3	•	•	16-18-20	1.55	1.10	19.0
			303	3	1.3	•	•	16-18-20	1.05	0.95	15.5
			305	5	0.9	•	•	20-22-24	1.30	1.30	9.0
			307	7	0.7	•	•	22-24-26	1.45	1.20	7.0
			308	8	0.7	•	•	22-24-26	1.30	1.10	5.0
2M		(c)	304	4	1.3	•	•	16-18-20	1.55	1.35	15.5
			308	8	0.9	•	•	20-22-24	1.95	1.10	10.0
			310	10	0.9	•	•	20-22-24	1.80	1.20	8.0
			312	12	0.7	•	•	22-24-26	1.65	1.15	7.0
			319	19	0.7	•	•	22-24-26	1.20	1.00	4.0
3M			322	22	0.7	•	•	22-24-26	1.25	1.15	4.0
			330	30	0.7	•	•	22-24-26	1.10	1.00	3.5

Note: 1) Test voltage according to IEC 60512-2 test 4a. 2) For EG•, EC•, ED•, HE• socket.





Multipole

				S			ntact pe		1) 1)	1) 1)	
	Male crimp contacts for plug	Female crimp contacts for sockets	Reference	Number of contacts	ø A (mm)	Crimp	Print (straight)2)	AWG	Test voltage (kV rms) ¹⁾ Contact-contact	Test voltage (kV rms) ¹⁾ Contact-shell	Rated current (A) ¹⁾
ТМ			325	25	0.9	•	•	20-22-24	1.10	1.25	5.0
			340	40	0.7	•	•	22-24-26	1.05	1.20	3.0
4M			340	40	0.7	•	•	22-24-26	1.20	1.35	3.5
			348	48	0.7	•	•	22-24-26	1.10	1.35	3.0
LM			355	55	0.9	•	•	20-22-24	1.65	1.95	3.5
			368	68	0.7	•	•	22-24-26	1.40	1.65	2.5
5M			366	66	0.9	•	•	20-22-24	1.60	1.70	3.0
			114	114	0.7	•	•	22-24-26	1.37	1.34	2.0

Note: 1) Test voltage according to IEC 60512-2 test 4a. 2) For EG•, EC•, ED•, HE• socket.





Mixed multipole

				S			ntact pe	_	rms) ¹⁾	rms)1)	
			Reference	ber of contacts	(mm)	d	(straight) ²⁾	(5	Test voltage (kV rn Contact-contact	Test voltage (kV rn Contact-shell	Rated current (A)1)
	Male crimp contacts for plug	Female crimp contacts for sockets	Refe	Number	Ø A (Crimp	Print	AWG	Test Cont	Test Cont	Rate
1M		(3)	304	2 2	0.7 1.3	•	•	22-24-26 16-18-20	1.20 1.45	1.30 2.00	11.0 18.5
2M			306	3 3	0.7 1.3	•	•	22-24-26 16-18-20	1.55 2.05	1.40 1.35	10.5 18.0
			308	6 2	0.7 1.3	•	•	22-24-26 16-18-20	1.95 1.75	1.40 1.60	7.0 23.0
			310	8 2	0.7 1.3	•	•	22-24-26 16-18-20	1.35 1.90	1.35 1.15	6.0 23.0

FGN.1M.304.XRCT2: straight plug with key (N), 1M series, multipole type with 4 mixed contacts (2 x ø 0.7 mm and 2 x ø 1.3 mm), outer shell with mold stop in anthracite nickel-plated aluminium alloy, PEEK insulator, male crimp contacts.

FGN.2M.308.XRC6: straight plug with key (N), 2M series, multipole type with 8 mixed contacts (6 x Ø 0.7 mm and 2 x Ø 1.3 mm), outer shell in anthracite nickel-plated aluminium alloy, PEEK insulator, male crimp contacts.

Note: 1) Test voltage according to IEC 60512-2 test 4a. 2) For EG•, EC•, ED•, HE• socket.

Multi fibre and Mixed fibre optic + LV



Note: 1) Test voltage according to IEC 60512-2 test 4a.





USB



Contacts

Reference

Μ

Ρ

Ν



Reference	Contact type
С	Male crimp with standard crimp barrel (fig. 1)
В	Male crimp with reduced crimp barrel (fig. 2)
D	Male straight print

Crimp contacts for plugs, free or fixed sockets



Dimension of crimp barrels

		Contac	:t	Ref. con	tact type		Conc	luctor		Part n	umber
	øΑ	øΟ	Form	Male	Female	AV	VG	Section	n (mm²)		
	(mm)	(mm)	per fig.	wate	remale	min.	max.	min.	max.	For male contacts	For female contacts
MM	0.5	0.42	1	С	М	32	28	0.035	0.090	FGG.00.554.ZZC	EGG.00.654.ZZM
~	1.3	1.60	1	С	М	20	16	0.616	2.000	FGN.0M.565.ZZC	EGN.0M.665.ZZM
3M	0.9	1.10	1	С	М	24	20	0.204	0.616	FGN.0M.560.ZZC	EGN.0M.660.ZZM
to	0.9	0.87	2	В	Р	26	22	0.128	0.382	FGN.0M.561.ZZC	EGN.0M.661.ZZM
Mo	0.7	0.87	1	С	М	26	22	0.128	0.382	FGN.0M.555.ZZC	EGN.0M.655.ZZM
0	0.7	0.44	2	В	Р	32	28	0.032	0.092	FGN.0M.556.ZZC	EGN.0M.656.ZZM
5	1.3	1.60	1	С	М	20	16	0.616	2.000	FGN.0M.565.ZZC	EGN.0M.665.ZZM
5 M	0.9	1.10	1	С	М	24	20	0.204	0.616	FGN.0M.560.ZZC	EGW.TM.660.ZZM
9	0.9	0.87	2	В	Р	26	22	0.128	0.382	FGN.0M.561.ZZC	EGW.TM.661.ZZM
Σ	0.7	0.87	1	С	М	26	22	0.128	0.382	FGN.0M.555.ZZC	EGW.TM.655.ZZM
H	0.7	0.44	2	В	Р	32	28	0.032	0.092	FGN.0M.556.ZZC	EGW.TM.656.ZZM

Note: In order to satisfy crimp pull-test requirements to the IEC 60352-2 standard, the use of single strand cables should be avoided.

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Female straight print

Contact type

Female crimp with standard crimp barrel (fig. 1)

Female crimp with reduced crimp barrel (fig. 2)



Accessories



BMF Blanking caps for plugs

Part number		Di	mensio	ons (m	m)	
Fait number	Α	С	L	Ν	Р	Х
BMF.MM.100.•AV	11.1	10.7	17.8	60.0	3.7	4.0
BMF.0M.100.•AV	13.1	12.7	24.6	85.0	5.3	6.0
BMF.1M.100.•AV	14.6	14.2	24.6	85.0	5.3	6.0
BMF.2M.100.•AV	17.6	17.2	24.6	85.0	5.3	6.0
BMF.3M.100.•AV	19.6	19.2	24.6	120.0	5.3	6.0
BMF.TM.100.•AV	22.5	22.0	31.1	120.0	7.9	10.0
BMF.4M.100.•AV	25.0	24.5	31.1	120.0	7.9	10.0
BMF.LM.100.•AV	28.5	28.0	31.1	150.0	7.9	10.0
BMF.5M.100.•AV	34.0	33.5	31.1	150.0	7.9	10.0

BGF Blanking caps for plugs

Part number		Di	mensio	ons (m	m)	
Fait number	Α	С	L	Ν	Р	Х
BGF.MM.100.•AV	12.0	10.7	17.8	60.0	3.7	4.0
BGF.0M.100.•AV	14.4	12.7	24.6	85.0	5.3	6.0
BGF.1M.100.•AV	15.9	14.2	24.6	85.0	5.3	6.0
BGF.2M.100.•AV	18.9	17.2	24.6	85.0	5.3	6.0
BGF.3M.100.•AV	20.9	19.2	24.6	120.0	5.3	6.0
BGF.TM.100.•AV	23.4	22.0	31.1	120.0	7.9	10.0
BGF.4M.100.•AV	25.9	24.5	31.1	120.0	7.9	10.0
BGF.LM.100.•AV	29.4	28.0	31.1	150.0	7.9	10.0
BGF.5M.100.•AV	34.9	33.5	31.1	150.0	7.9	10.0

BME Blanking caps for fixed sockets

Part number		Di	mensio	ons (m	m)	
i art number	Α	С	L	Ν	Р	Х
BME.MM.200.•AZ	11.1	10.7	19.5	60.0	5.5	4.0
BME.0M.200.•AZ	13.1	12.7	23.4	85.0	3.9	6.0
BME.1M.200.•AZ	14.6	14.2	23.4	85.0	3.9	6.0
BME.2M.200.•AZ	17.6	17.2	23.4	85.0	3.9	6.0
BME.3M.200.•AZ	19.6	19.2	23.4	120.0	3.9	6.0
BME.TM.200.•AZ	22.5	22.0	31.0	120.0	3.4	10.0
BME.4M.200.•AZ	25.0	24.5	31.0	120.0	3.4	10.0
BME.LM.200.•AZ	28.5	28.0	31.0	150.0	3.4	10.0
BME.5M.200.•AZ	34.0	33.5	31.0	150.0	3.4	10.0

BGE Blanking caps for fixed sockets

Part number		Di	mensio	ons (m	m)	
Fait number	Α	С	Р	Х		
BGE.MM.200.•AZ	12.0	10.7	19.5	60.0	5.5	4.0
BGE.0M.200.•AZ	14.4	12.7	23.4	85.0	3.9	6.0
BGE.1M.200.•AZ	15.9	14.2	23.4	85.0	3.9	6.0
BGE.2M.200.•AZ	18.9	17.2	23.4	85.0	3.9	6.0
BGE.3M.200.•AZ	20.9	19.2	23.4	120.0	3.9	6.0
BGE.TM.200.•AZ	23.4	22.0	31.0	120.0	3.4	10.0
BGE.4M.200.•AZ	25.9	24.5	31.0	120.0	3.4	10.0
BGE.LM.200.•AZ	29.4	28.0	31.0	150.0	3.4	10.0
BGE.5M.200.•AZ	34.9	33.5	31.0	150.0	3.4	10.0

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3.5





BGF Blanking caps for free sockets

Part number		Di	mensio	ons (m	m)	
Fait number	Α	С	L	Ν	Р	Х
BGF.MM.200.•AZ	12.0	10.7	19.5	60.0	5.5	4.0
BGF.0M.200.•AZ	14.4	12.7	23.4	85.0	3.9	6.0
BGF.1M.200.•AZ	15.9	14.2	23.4	85.0	3.9	6.0
BGF.2M.200.•AZ	18.9	17.2	23.4	85.0	3.9	6.0
BGF.3M.200.•AZ	20.9	19.2	23.4	120.0	3.9	6.0
BGF.TM.200.•AZ	23.4	22.0	31.0	120.0	3.4	10.0
BGF.4M.200.•AZ	25.9	24.5	31.0	120.0	3.4	10.0
BGF.LM.200.•AZ	29.4	28.0	31.0	150.0	3.4	10.0
BGF.5M.200.•AZ	34.9	33.5	31.0	150.0	3.4	10.0



sliding loop

BMK Blanking caps, large washer for EC•/PE•/HE• fixed sockets

Part number			Din	nensio	ns (mr	n)		
Faithumber	Α	В	С	Е	L	Ν	Р	Х
BMK.MM.200.•AZ	11.1	10.1	10.7	14.0	19.5	60.0	5.5	4.0
BMK.0M.200.•AZ	13.1	13.1	12.7	17.0	23.4	85.0	3.9	6.0
BMK.1M.200.•AZ	14.6	14.1	14.2	18.0	23.4	85.0	3.9	6.0
BMK.2M.200.•AZ	17.6	17.2	17.2	21.0	23.4	85.0	3.9	6.0
BMK.3M.200.•AZ	19.6	19.2	19.2	23.0	23.4	120.0	3.9	6.0
BMK.TM.200.•AZ	22.5	22.2	22.0	27.0	31.0	120.0	3.4	10.0
BMK.4M.200.•AZ	25.0	24.2	24.5	29.0	31.0	120.0	3.4	10.0
BMK.LM.200.•AZ	28.5	28.2	28.0	33.0	31.0	150.0	3.4	10.0
BMK.5M.200.•AZ	34.0	33.2	33.5	38.0	31.0	150.0	3.4	10.0



BGK Blanking caps, large washer for EC•/PE•/HE• fixed sockets

Part number			Din	nensio	ns (mr	n)		
Fait number	Α	В	С	Е	L	Ν	Р	Х
BGK.MM.200.•AZ	12.0	10.1	10.7	14.0	19.5	60.0	5.5	4.0
BGK.0M.200.•AZ	14.4	13.1	12.7	17.0	23.4	85.0	3.9	6.0
BGK.1M.200.•AZ	15.9	14.1	14.2	18.0	23.4	85.0	3.9	6.0
BGK.2M.200.•AZ	18.9	17.2	17.2	21.0	23.4	85.0	3.9	6.0
BGK.3M.200.•AZ	20.9	19.2	19.2	23.0	23.4	120.0	3.9	6.0
BGK.TM.200.•AZ	23.4	22.2	22.0	27.0	31.0	120.0	3.4	10.0
BGK.4M.200.•AZ	25.9	24.2	24.5	29.0	31.0	120.0	3.4	10.0
BGK.LM.200.•AZ	29.4	28.2	28.0	33.0	31.0	150.0	3.4	10.0
BGK.5M.200.•AZ	34.9	33.2	33.5	38.0	31.0	150.0	3.4	10.0

Note: these caps are suitable for use with any alignment key configuration. The position «•» of the part number indicates the housing material. See page 4.





GEA Hexagonal nuts for EC• model

Part number	Series		Dimer	nsions (mm)	
i art number	Series	Α	В	е	L
GEA.MM.241.RL	MM	12	13.5	M10x0.50	2.5
GEA.0M.241.RL	OM	16	18.2	M13x0.75	2.5
GEA.0E.240.RL	1M	17	19.2	M14x1.00	2.5
GEA.2M.241.RL	2M	19	21.5	M17x1.00	3.0
GEA.3M.241.RL	ЗM	25	22.0	M19x1.00	3.0
GEA.TM.241.RL	TM	25	28.0	M22x1.00	3.0
GEA.4M.241.RL	4M	30	34.0	M24x1.00	3.0
GEA.LM.241.RL	LM	32	36.0	M28x1.00	3.0
GEA.5M.241.RL	5M	37	41.0	M33x1.00	3.0

• Material: Nickel-plated aluminium alloy (anthracite colour)

GEA Hexagonal nuts for EG• model

Part number	Series		Dimer	nsions (mm)	
Faithumber	Selles	Α	В	е	L
GEA.00.240.RL	MM	9	10.2	M7x0.50	2.0
GEA.0S.240.RL	OM	11	12.4	M9x0.60	2.0
GEA.1M.240.RL	1M	13	14.5	M11x1.00	2.5
GEA.0E.240.RL	2M	17	19.2	M14x1.00	2.5
GEA.1E.240.RL	ЗM	19	21.5	M16x1.00	3.0
GEA.3S.240.RL	TM	22	25.0	M18x1.00	3.0
GEA.4M.240.RL	4M	25	28.0	M21x1.00	4.0
GEA.3E.240.RL	LM	30	34.0	M24x1.00	5.0
GEA.5M.240.RL	5M	36	40.5	M30x1.00	5.0

• Material: Nickel-plated aluminium alloy (anthracite colour)

GEC Conical nut for models HE •, EC •, PE •

Part number	Series		Dimer	nsions (mm))
T art number	Series	Α	В	е	L
GEC.MM.240.RN	MM	11	14	M10x0.50	2.5
GEC.0M.240.RN	OM	14	17	M13x0.75	3.2
GEC.0E.240.RN	1M	16	18	M14x1.00	3.0
GEC.2M.240.RN	2M	18	21	M17x1.00	3.2
GEC.3M.240.RN	ЗM	20	23	M19x1.00	3.2
GEC.TM.240.RN	TM	23	27	M22x1.00	5.0
GEC.4M.240.RN	4M	25	29	M24x1.00	5.0
GEC.LM.240.RN	LM	29	33	M28x1.00	5.0
GEC.5M.240.RN	5M	34	38	M33x1.00	5.0

• Material: Nickel-plated aluminium alloy (anthracite colour)







FGN M series constant force spring clips

A range of constant force spring clips are available for use with M Series connectors, which permits repair of cable terminations without having to discard any of the existing braid shield system. When used in conjunction with LEMO heatshrink boots, a fully sealed termination is achieved. An additional benefit of the constant force spring is that it provides excellent resistance to shock or vibration due to its self-tensioning properties.

Part number	Series	Braid grounding location diameter (mm)
FGN.0M.185.AZ	0M / 1M / 2M	8.0 / 9.7 / 13.0
FGN.3M.185.AZ	3M / TM	15.0 / 16.7
FGN.5M.185.AZ	4M / LM / 5M	19.5 / 22.7 / 28.5

Straight boot Elbow boot BEFORE HEATING BEFORE HEATING AFTER HEATING AFTER HEATING AFTER HEATING AFTER HEATING



Part number (Polyurethane)	Series	Part number (Silicone)
GMA.2B.0••.DG	2M	GMA.2B.0••.RG
GMA.4B.0DG	5M	GMA.4B.0••.RG

Note:

Please see unipole/multipole catalogue for bend relief dimensions. The last letter ${}^{\rm v}G{}^{\rm v}$ of the part number indicates the grey colour of the bend relief. For ordering a bend relief with another colour, see table on the right and replace the letter ${}^{\rm v}G{}^{\rm v}$ by the letter of the required colour.

Heatshrink boot

Supplier	Series	Part n	Part number				
Supplier	Series	Straight	Elbow 90°	Note	min. (mm)		
LEMO	MM	GMA.10.290.DN	GHA.10.210.DN	2)	2.2		
	0M-2M	202 A 111-25/86	222 A 111-25/86	1)	3.8		
Raychem®	2M-4M	202 A 121-25/86	222 A 121-25/86	1)	5.3		
	4M-5M	202 A 142-25/86	222 A 142-25/86	1)	7.4		

Note:

¹⁾ modified elastomer resistant to fluids with hot melt sealant.

²⁾ elastomer resistant to fluids. We recommend a thermosetting sealant with this type of boot.

GMA Bend relief (for M series fibre optic model only)

A bend relief made from thermoplastic polyurethane elastomer can be fitted over LEMO plugs and sockets that are supplied with nut for fitting such bend relief.

An other bend relief has been designed for connectors used in applications at high temperature or requiring vapour sterilization. These bend reliefs are different from previous ones as for their material, a silicone elastomer which is noted for its retention of flexibility over a wide temperature range.

Main characteristics

- Material: TPU (Thermoplastic Polyurethane)
- Temperature range in dry atmosphere: -40°C +80°C
- Material: Silicone elastomer VMQ
- Temperature range in dry atmosphere: -60°C +200°C
- Temperature range in water steam: +140°C

F	Ref.	Colour	Ref.	Colour	Ref.	Colour
	Α	blue	J	yellow	R	red
	В	white	М	brown	S	orange
	G	grey	Ν	black	V	green



Tooling

DCE Positioners for crimp contacts

Male





These positioners are suitable for use with both manual and pneumatic crimping tools according to the MIL-C-22520/7-01 standard.



Contact		Positioners part number
Contact ø	Size	For male contacts
1.3	0M-5M	DCE.91.130.5MVC
0.9	0M-5M	DCE.91.090.5MVC
0.7	0M-5M	DCE.91.070.5MVC
0.5	MM	DCE.91.050.0VC

Contact		Positioners part number
Contact ø	Size	For female contacts
1.3	0M-5M	DCE.91.130.5MVM
0.9	0M-3M	DCE.91.090.3MVM
0.9	TM-5M	DCE.91.09T.5MVM
0.7	0M-3M	DCE.91.070.3MVM
0.7	TM-5M	DCE.91.07T.5MVM
0.5	MM	DCE.91.050.0VM

DCF Extractors for crimp contacts

Contact ø	Part number
1.3	DCF.93.131.4LT
0.9	DCF.93.090.4LT
0.7	DCF.93.070.4LT
0.5	DCF.91.050.2LT

Note: this model is used for male and female contacts.



DCV Female contact insertion tool

Contact ø	Part number
1.3	DCV.13.05M.LA
0.9	DCV.09.05M.LA
0.7	DCV.07.05M.LA

Front conical nut Torque wrench

DCM Front conical nut tightening tools

Part number			Torque	For models
Front conical nut	Torque wrench	Series	(Nm)	I OI MODEIS
DCM.65.120.AZ		MM	1.0	EC●, HE●, PE●
DCM.65.140.AZ	DCM.65.000.4PA	0M	1.0	EC●, HE●, PE●
DCM.65.160.AZ		1M	1.5	EC●, HE●, PE●
DCM.65.180.AZ		2M	2.0	EC●, HE●, PE●
DCM.65.200.AZ		ЗM	2.5	EC●, HE●, PE●
DCM.65.230.AZ		TM	4.0	EC●, HE●, PE●
DCM.65.250.AZ	DCM.65.040.8PA	4M	5.0	EC●, HE●, PE●
DCM.65.290.AZ		LM	6.5	EC●, HE●, PE●
DCM.65.340.AZ		5M	8.0	EC●, HE●, PE●









DPC Manual crimping tool



According to specification MIL-C-22520/7-01. For LEMO contacts ø 0.5-0.7-0.9-1.3 mm

Banding tool

		Part number				
	GLEN-AIR®	TIE-DEX®	AXON®			
Banding tool	600-061	A30199	ACDBS100			
Tie wrap	600-057	A31189	AXCL0Z			

Note: the banding tool is to be used with screened cables to ensure a good ground contact.

Panel Cut-Out

Cut-outs



Series		EG●		EC●/HE●/PE●			
Selles	øΑ	В	L	øΑ	В	L	
MM	7.1	6.4	12.5	10.1	9.1	16.0	
OM	9.1	8.3	14.5	13.1	11.6	20.0	
1M	11.1	9.6	17.2	14.1	12.6	21.0	
2M	14.1	12.6	20.5	17.1	15.6	24.0	
ЗM	16.1	14.6	23.0	19.1	17.6	27.0	
ТМ	18.1	16.6	27.0	22.1	20.6	31.5	
4M	21.1	19.6	30.0	24.1	22.6	35.5	
LM	24.1	22.6	32.0	28.1	26.6	36.5	
5M	30.1	28.6	41.0	33.1	31.6	41.0	

Mounting nut torque (on panel)

Series	Torque (Nm)
MM	1.0
OM	1.0
1M	1.5
2M	2.0
ЗM	2.5
TM	4.0
4M	5.0
LM	6.5
5M	8.0

Cut-outs

ED•-FA•-FW•-FX•-PV•-PF•

Cut-outs



Series		ED●		FA	•/FW•/F	=X•		PV•			PF●	
Series	øΑ	В	Н	øΑ	В	Н	øΑ	В	Н	øΑ	В	Н
MM	5.0	M2.5	9.5	9.6	M2.5	12.0	11.8	M2.5	12.0	7.9	M2.5	9.5
OM	5.1	M2.5	11.0	12.3	M2.5	15.1	15.0	M2.5	15.1	10.8	M2.5	11.0
1M	6.1	M3.0	12.9	13.8	M3.0	18.3	17.0	M3.0	18.3	12.5	M3.0	12.9
2M	9.1	M3.0	15.1	16.8	M3.0	20.6	20.0	M3.0	20.6	15.6	M3.0	15.1
3M	11.1	M3.0	16.6	18.8	M3.0	20.6	22.0	M3.0	23.0	18.1	M3.0	16.6
ТМ	12.5	M3.0	18.3	21.6	M3.0	23.0	25.0	M3.0	24.6	19.9	M3.0	18.3
4M	14.1	M3.0	20.6	24.1	M3.0	24.6	28.0	M3.0	27.0	22.7	M3.0	20.6
LM	18.1	M3.0	23.0	27.6	M3.0	27.0	31.0	M3.0	29.4	25.9	M3.0	23.0
5M	23.2	M3.0	27.0	33.1	M3.0	29.4	38.0	M3.0	34.9	33.1	M3.0	29.4

Series	PB●					
Genes	øΑ	В	Н			
MM	11.8	M2.5	16.2			
OM	15.0	M3.0	21.4			
1M	17.0	M3.0	23.4			
2M	20.0	M3.0	26.4			
ЗM	22.0	M3.0	29.0			

Series	PB●					
Jenes	øΑ	В	Н			
TM	25.0	M3.0	32.5			
4M	28.0	M3.0	35.0			
LM	31.0	M3.0	38.0			
5M	38.0	M3.0	45.0			

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PCB drilling pattern

Fixed socket with straight print contact











Assembly instructions for plugs and sockets





Assembly instructions for plugs and sockets (with optional mold stop)





Notes



Product safety notice

PLEASE READ AND FOLLOW ALL INSTUCTIONS CAREFULLY AND CONSULT ALL RELEVENT NATIONAL AND INTERNATIONAL SAFETY REGULATIONS FOR YOUR APPLICATION. IMPROPER HANDLING, CABLE ASSEMBLY, OR WRONG USE OF CONNECTORS CAN RESULT IN HAZARDOUS SITUATIONS.

1. SHOCK AND FIRE HAZARD

Incorrect wiring, the use of damaged components, presence of foreign objects (such as metal debris), and / or residue (such as cleaning fluids), can result in short circuits, overheating, and / or risk of electric shock. Mated components should never be disconnected while live as this may result in an exposed electric arc and local overheating, resulting in possible damage to components.

2. HANDLING

Connectors and their components should be visually inspected for damage prior to installation and assembly. Suspect components should be rejected or returned to the factory for verification. Connector assembly and installation should only be carried out by properly trained personnel. Proper tools must be used during installation and / or assembly in order to obtain safe and reliable performance.

3. USE

Connectors with exposed contacts should never be live (or on the current supply side of a circuit). Under general conditions voltages above 30 VAC and 42 VDC are considered hazardous and proper measures should be taken to eliminate all risk of transmission of such voltages to any exposed metal part of the connector.

4. TEST AND OPERATING VOLTAGES

The maximum admissible operating voltage depends upon the national or international standards in force for the application in question. Air and creepage distances impact the operating voltage; reference values are indicated in the catalog however these may be influenced by PC board design and / or wiring harnesses. The test voltage indicated in the catalog is 75% of the mean breakdown voltage; the test is applied at 500 V/s and the test duration is 1 minute.

5. CE MARKING C€

CE marking **C** emeans that the appliance or equipment bearing it complies with the protection requirements of one or several European safety directives.

CE marking CE applies to complete products or equipment, but not to electromechanical components, such as connectors.

6. PRODUCT IMPROVEMENTS

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