

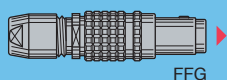
T Series

T series connectors have been specifically designed for outdoor applications. They include an inner sleeve and seals to prevent penetration of solids or liquids. This series is watertight when mated to give a protection index of IP68 as per IEC 60529 standard and have the following main features:

- IP68 mated
- Push-Pull self-latching system
- Mechanical key (FGG) with multiple keys to avoid cross-mating
- High packing density for space savings
- 360° shielding for full EMC shielding
- Compatible with existing B sockets
- Same mounting hole as B sockets
- Black-chrome plated brass and plastic outershell available
- Multipole types 2 to 32 contacts
- For cables 1.0 up to 10.5 mm
- Solder, crimp or print contacts

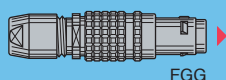
Metal housing models (page 52)

Straight plug



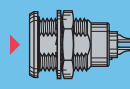
FFG

Straight plugs



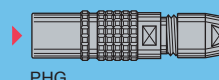
FGG

Fixed sockets



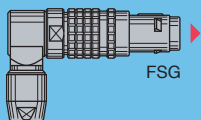
EGG

Free sockets

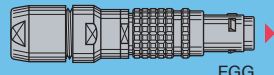


PHG

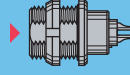
Elbow plug



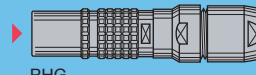
FSG



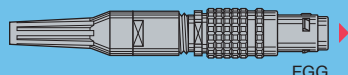
FGG



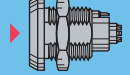
EEG



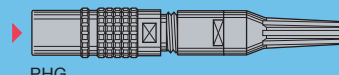
PHG



FGG



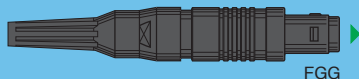
LGG



PHG

Plastic housing models (page 56)

Straight plug



FGG

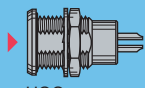
Fixed socket



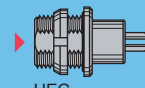
EGG

Watertight or vacuumtight models (page 55)

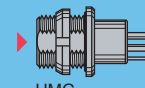
Fixed sockets



HGG



HEG

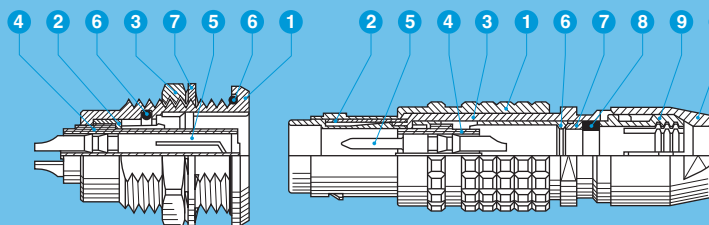


HMG

Part Section Showing Internal Components

Fixed socket

- 1 outer shell
- 2 earthing crown
- 3 hexagonal nut
- 4 insulator
- 5 female contact
- 6 o-ring
- 7 locking washer



Straight plug

- 1 outer shell
- 2 latch sleeve
- 3 inner shell
- 4 insulator
- 5 male contact
- 6 split insert carrier
- 7 earthing cone
- 8 gasket
- 9 collet
- 10 collet nut

Алматы (7273)495-231
 Ангарск (3955)60-70-56
 Архангельск (8182)63-90-72
 Астрахань (8512)99-46-04
 Барнаул (3852)73-04-60
 Белгород (4722)40-23-64
 Благовещенск (4162)22-76-07
 Брянск (4832)59-03-52
 Владивосток (423)249-28-31
 Владикавказ (8672)28-90-48
 Владимир (4922)49-43-18
 Волгоград (844)278-03-48
 Вологда (8172)26-41-59
 Воронеж (473)204-51-73
 Екатеринбург (343)384-55-89

Иваново (4932)77-34-06
 Ижевск (3412)26-03-58
 Иркутск (395)279-98-46
 Казань (843)206-01-48
 Калининград (4012)72-03-81
 Калуга (4842)92-23-67
 Кемерово (3842)65-04-62
 Киров (8332)68-02-04
 Коломна (4966)23-41-49
 Кострома (4942)77-07-48
 Краснодар (861)203-40-90
 Красноярск (391)204-63-61
 Курск (4712)77-13-04
 Курган (3522)50-90-47
 Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13
 Москва (495)268-04-70
 Мурманск (8152)59-64-93
 Набережные Челны (8552)20-53-41
 Нижний Новгород (831)429-08-12
 Новокузнецк (3843)20-46-81
 Ноябрьск (3496)41-32-12
 Новосибирск (383)227-86-73
 Омск (3812)21-46-40
 Орел (4862)44-53-42
 Оренбург (3532)37-68-04
 Пенза (8412)22-31-16
 Петрозаводск (8142)55-98-37
 Псков (8112)59-10-37
 Пермь (342)205-81-47

Ростов-на-Дону (863)308-18-15
 Рязань (4912)46-61-64
 Самара (846)206-03-16
 Санкт-Петербург (812)309-46-40
 Саратов (845)249-38-78
 Севастополь (8692)22-31-93
 Саранск (8342)22-96-24
 Симферополь (3652)67-13-56
 Смоленск (4812)29-41-54
 Орел (4862)225-72-31
 Ставрополь (8652)20-65-13
 Сургут (3462)77-98-35
 Сыктывкар (8212)25-95-17
 Тамбов (4752)50-40-97
 Тверь (4822)63-31-35

Тольятти (8482)63-91-07
 Томск (3822)98-41-53
 Тула (4872)33-79-87
 Тюмень (3452)66-21-18
 Саратов (845)249-38-78
 Улан-Удэ (3012)59-97-51
 Уфа (347)229-48-12
 Хабаровск (4212)92-98-04
 Чебоксары (8352)28-53-07
 Челябинск (351)202-03-61
 Череповец (8202)49-02-64
 Чита (3022)38-34-83
 Якутск (4112)23-90-97
 Ярославль (4852)69-52-93

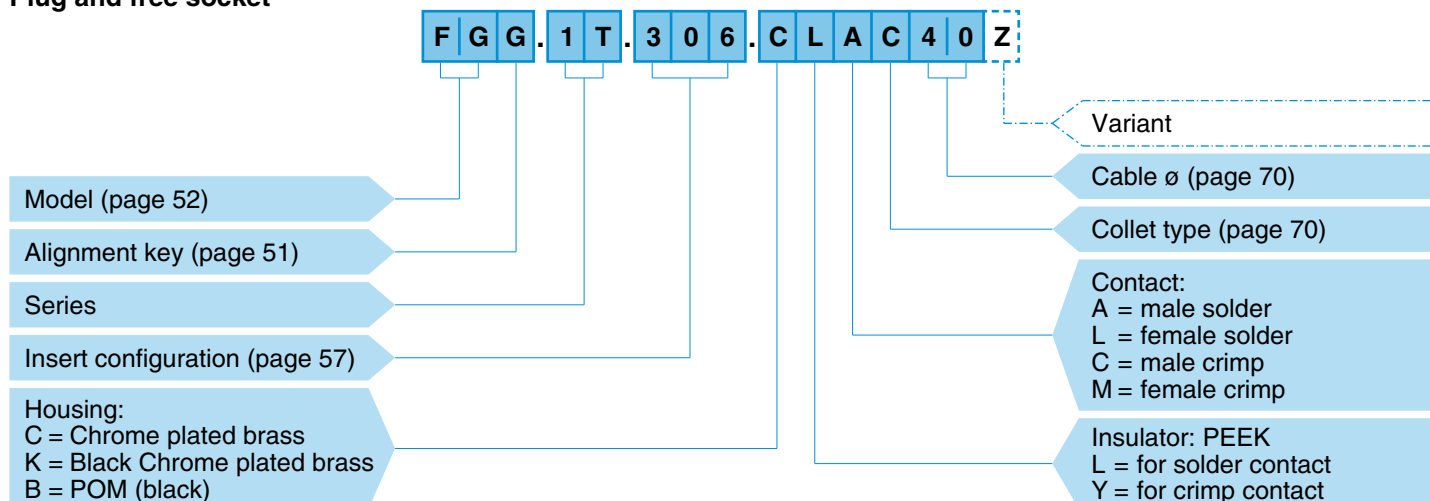
Россия +7(495)268-04-70

Казахстан +7(7172)727-132

Киргизия +996(312)96-26-47

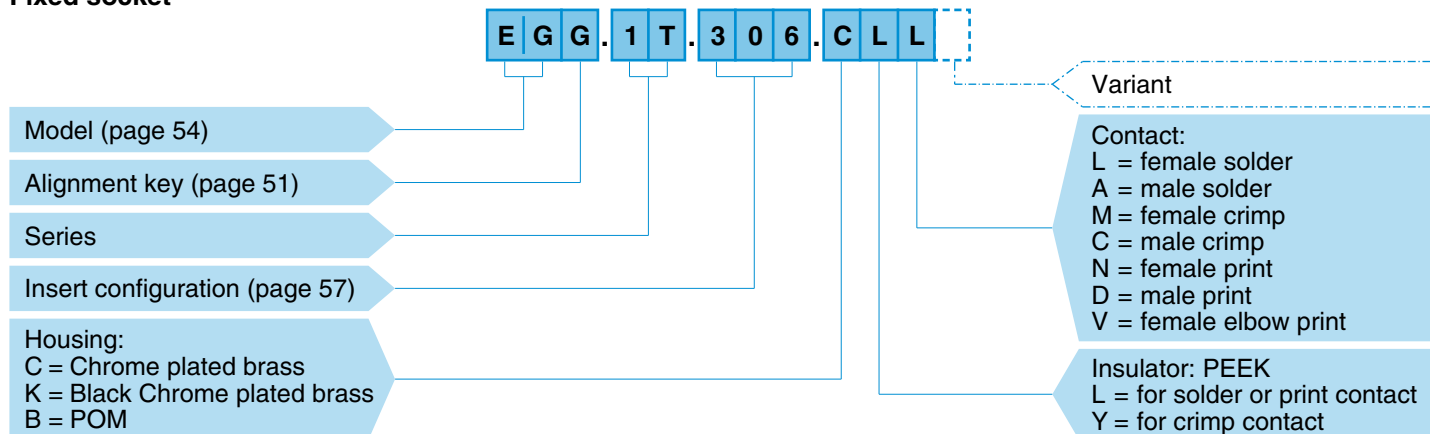
Part Numbering System

Plug and free socket

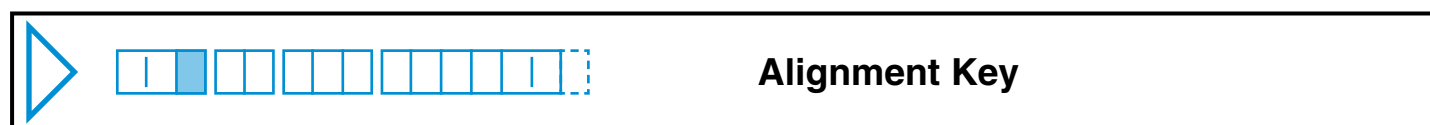


FGG.1T.306.CLAC40Z = Straight plug with key (G) and cable collet for bend relief, 1T series, multipole type with 6 contacts, outer shell in chrome-plated brass, PEEK insulator, male solder contacts, C type collet for 4.0 mm diameter cable and nut for fitting a bend relief.

Fixed socket

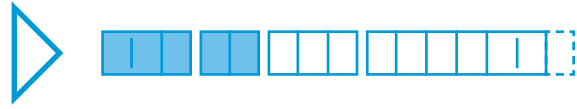


EGG.1T.306.CLL = fixed socket, nut fixing, with key (G), 1T series, multipole type with 6 contacts, outer shell in chrome-plated brass, PEEK insulator, female solder contacts.



	Key	Contact type	
		Plug	Socket
	G	male	female
	A	male	female
	D	male	female
	L	female	male
	J	female	male
	J¹⁾	female	male

Note: ¹⁾ for 2T and 3T series.



Metal housing models

Technical Characteristics

Mechanical and Climatical

Characteristics	Value	Standard
Endurance ¹⁾	> 3000 cycles	IEC 60512-5 test 9a
Humidity	up to 95% at 60° C	
Temperature range ²⁾	- 55° C, + 200° C / (-20° C, +80° C)	
Resistance to vibrations	10-2000 Hz, 15g	IEC 60512-4 test 6d
Shock resistance	100 g, 6 ms	IEC 60512-4 test 6c
Salt spray corrosion test ⁶⁾	> 1000h	IEC 60512-6 test 11f
Protection index (mated) ³⁾	IP 68/IP 66	IEC 60529
Latching retention force ^{4) 5)}	From 85 N up to 300 N	
Climatical category	50/175/21	IEC 60068-1

Note:

- ¹⁾ see page 189, contact resistance after mating cycles. See page 185, mechanical endurance latching force.
²⁾ operating temperature is -20°C, +80°C for watertight or vacuumtight models fitted with an FPM (Viton®) o-ring and Epoxy.
³⁾ IP68 achieved providing that the cable is perfectly circular and that assembly process ensures a high integrity seal.
⁴⁾ average value.
⁵⁾ depending of the size.
⁶⁾ for chrome plated product (« C » material code).

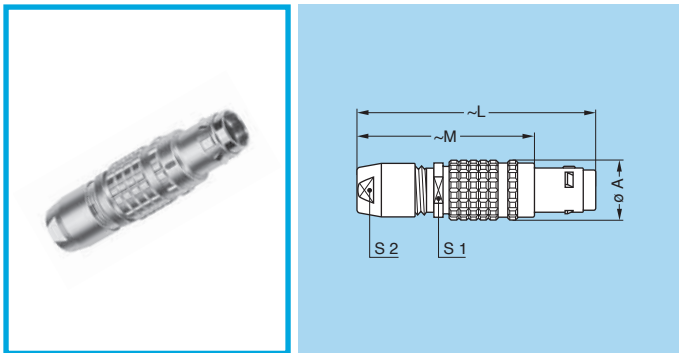
Electrical

Characteristics	Value	Standard	
Shielding efficiency	at 10 MHz	> 75 dB	IEC 60169-1-3
	at 1 GHz	> 40 dB	IEC 60169-1-3

Note:

the various tests have been carried out with FGG and EGG connector pairs, with chrome-plated brass shell and PEEK insulator. Detailed electrical characteristics, as well as materials and treatment are presented in the chapter Technical Characteristics on page 182.

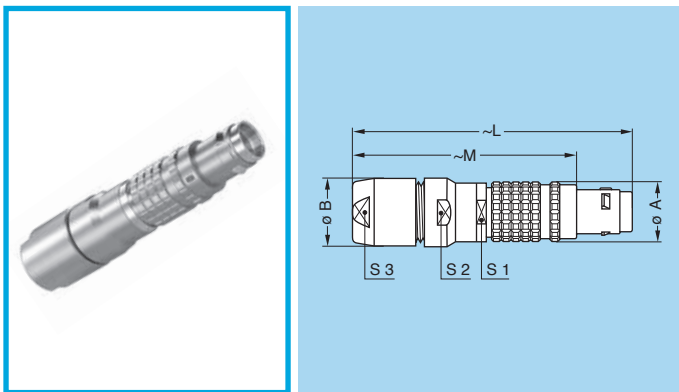
FGG Straight plug, cable collet



Reference		Dimensions (mm)					Cable ø	
Model	Series	A	L	M	S1	S2	min.	max.
FGG	TT	7.0	33.2	25.2	5.5	5	2.4	3.0
FGG	0T	9.5	39.0	29.0	7.5	7	1.0	4.5
FGG	1T	12.0	46.0	35.0	11.0	9	1.3	6.5
FGG	2T	15.0	55.0	43.0	14.0	12	1.3	8.5
FGG	3T	18.8	64.0	49.0	16.0	14	2.6	10.5

M1 Cable assembly (page 174)

FGG Straight plug, cable collet and oversize cable collet ¹⁾



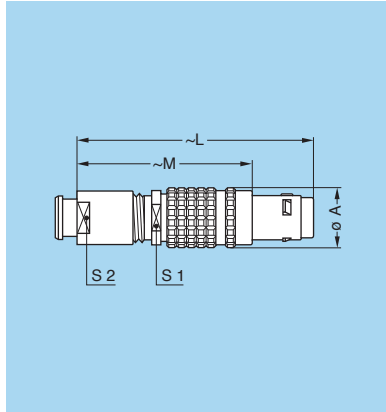
Reference		Dimensions (mm)							Cable ø	
Model	Series	A	B	L	M	S1	S2	S3	min.	max.
FGG	0T	9.5	10.9	50.7	40.9	8.5	10	9	4.6	6.5
FGG	1T	12.0	13.9	60.2	49.1	11.0	13	12	6.6	8.5
FGG	2T	15.0	16.5	69.1	57.0	14.0	15	14	8.6	10.5
FGG	3T	18.8	23.0	87.7	72.7	16.0	20	20	10.6	15.0

M2 Cable assembly (page 174)

Note: ¹⁾ correspond to K type of collet, the fitting of oversize collets onto this model allows them to be fitted to the cables that can be accommodated by the next housing size up (see page 70).



FGG Straight plug, cable collet and nut for fitting a bend relief ¹⁾

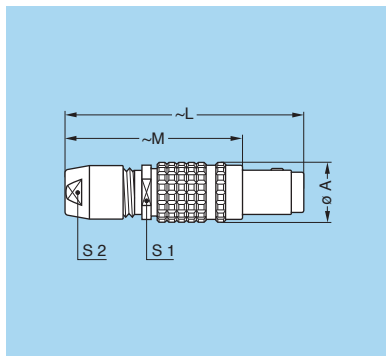


Reference		Dimensions (mm)					Cable ø	
Model	Series	A	L	M	S1	S2	min.	max.
FGG	TT	7.0	32.7	24.7	5.5	6	2.4	3.0
FGG	0T	9.5	38.0	28.0	7.5	7	1.0	4.5
FGG	1T	12.0	45.0	34.0	11.0	9	1.3	6.5
FGG	2T	15.0	54.0	42.0	14.0	12	1.3	8.5
FGG	3T	18.8	62.0	47.0	16.0	15	2.6	10.5

M1 Cable assembly (page 174)

Note: ¹⁾ to order, add a «Z» at the end of the reference. The bend relief must be ordered separately (see page 145).

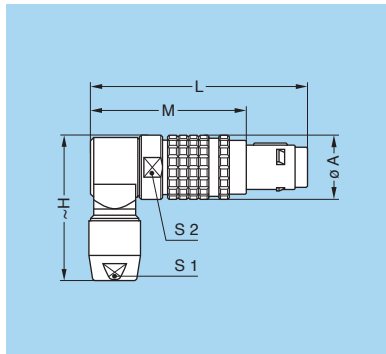
FFG Straight plug, non latching, cable collet



Reference		Dimensions (mm)					Cable ø	
Model	Series	A	L	M	S1	S2	min.	max.
FFG	TT	7.0	33.2	25.2	5.5	5	2.4	3.0
FFG	0T	9.5	39.0	29.0	8.0	7	1.0	4.5
FFG	1T	12.0	46.0	35.0	10.0	9	1.3	6.5
FFG	2T	15.0	55.0	43.0	13.0	12	1.3	8.5
FFG	3T	18.8	64.0	49.0	16.0	14	2.6	10.5

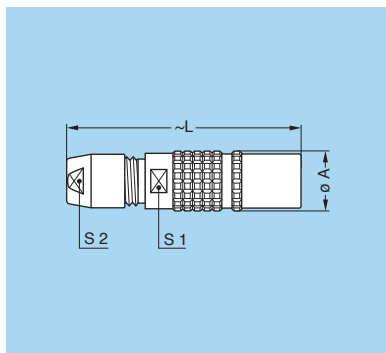
M1 Cable assembly (page 174)

FSG Adjustable right angle plug



Reference		Dimensions (mm)						Cable ø	
Model	Series	A	H	L	M	S1	S2	min.	max.
FSG	TT	8	20.0	28.5	20.5	5	7.5	2.4	3.0
FSG	0T	10	23.0	36.0	26.0	7	9.5	1.0	4.5
FSG	1T	13	30.0	43.5	32.5	9	12.0	1.3	6.5
FSG	2T	17	37.5	54.0	42.0	12	16.0	1.3	8.5

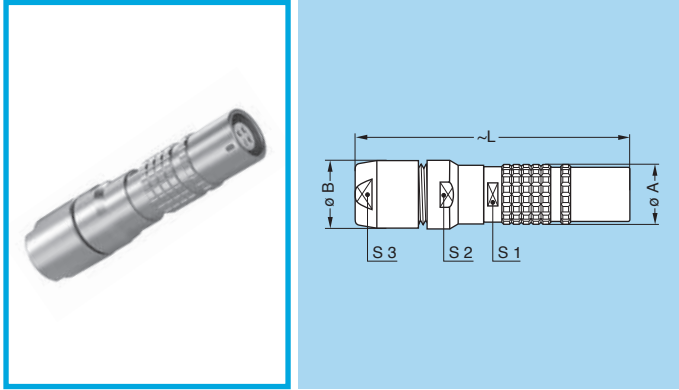
PHG Free socket, cable collet



Reference		Dimensions (mm)				Cable ø	
Model	Series	A	L	S1	S2	min.	max.
PHG	TT	7.0	32.0	5.5	5	2.4	3.0
PHG	0T	9.5	38.0	8.0	7	1.0	4.5
PHG	1T	12.0	43.5	10.0	9	1.3	6.5
PHG	2T	15.0	52.0	13.0	12	1.3	8.5
PHG	3T	18.8	61.5	16.0	14	2.6	10.5

M1 Cable assembly (page 174)

PHG Free socket, cable collet and oversize cable collet ¹⁾

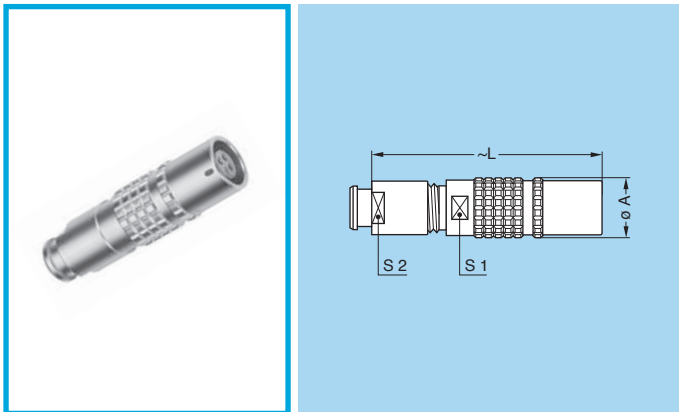


Reference		Dimensions (mm)						Cable ø	
Model	Series	A	B	L	S1	S2	S3	min.	max.
PHG	0T	9.5	10.9	49.7	8	10	9	4.6	6.5
PHG	1T	12.0	13.9	58.2	10	13	12	6.6	8.5
PHG	2T	15.0	16.5	66.6	13	15	14	8.6	10.5
PHG	3T	18.8	23.0	85.5	16	20	20	10.6	15.0

M2 Cable assembly (page 174)

Note: ¹⁾ correspond to K type of collet, the fitting of oversize collets onto this model allows them to be fitted to the cables that can be accommodated by the next housing size up (see page 70).

PHG Free socket, cable collet and nut for fitting a bend relief ¹⁾

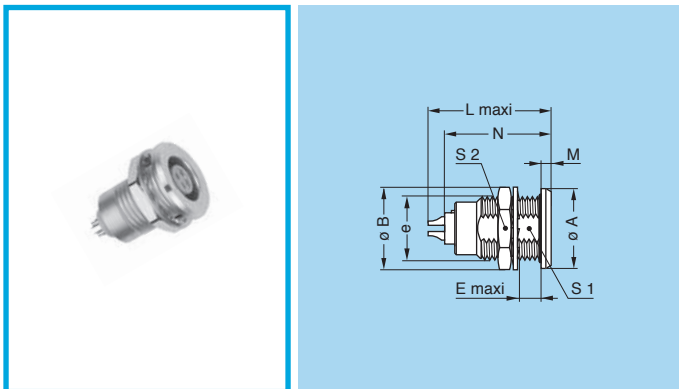


Reference		Dimensions (mm)				Cable ø	
Model	Series	A	L	S1	S2	min.	max.
PHG	TT	7.0	31.5	5.5	6	2.4	3.0
PHG	0T	9.5	37.0	8.0	7	1.0	4.5
PHG	1T	12.0	42.5	10.0	9	1.3	6.5
PHG	2T	15.0	51.0	13.0	12	1.3	8.5
PHG	3T	18.8	60.0	16.0	15	2.6	10.5

M1 Cable assembly (page 174)

Note: ¹⁾ to order, add a «Z» at the end of the reference. The bend relief must be ordered separately (see page 145).

EGG Fixed socket, nut fixing

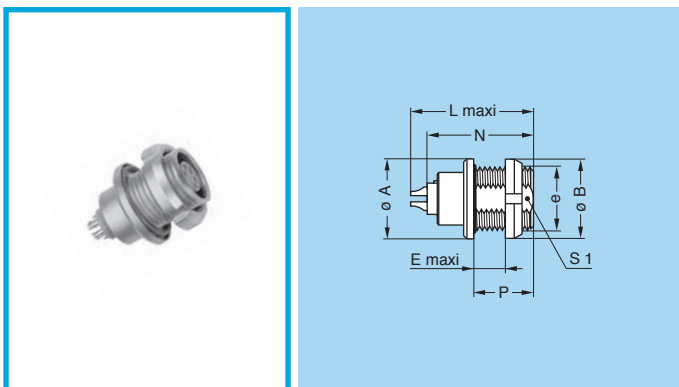


Reference		Dimensions (mm)								
Model	Series	A	B	e	E	L	M	N ¹⁾	S1	S2
EGG	TT	10.0	10.2	M7x0.5	5.5	16.0	1.2	13.5	6.3	9
EGG	0T	12.0	12.5	M9x0.6	6.0	21.0	1.5	19.1	8.2	11
EGG	1T	15.5	16.0	M12x1.0	6.0	23.0	1.8	21.5	10.5	14
EGG	2T	18.5	19.6	M15x1.0	7.5	26.5	1.8	24.6	13.5	17
EGG	3T	23.5	25.1	M18x1.0	9.6	30.1	2.5	25.0	16.5	22

P1 Panel cut-out (page 157)

Note: ¹⁾ maximum length with crimp contacts.

EEG Fixed socket, nut fixing (back panel mounting)



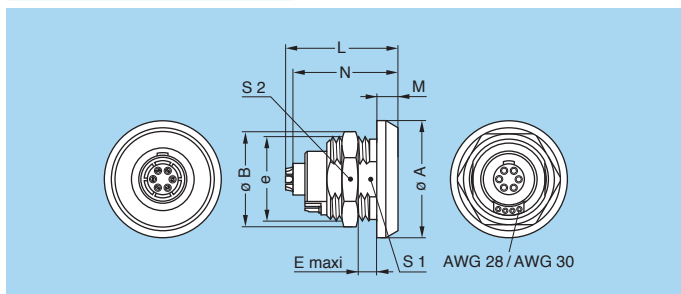
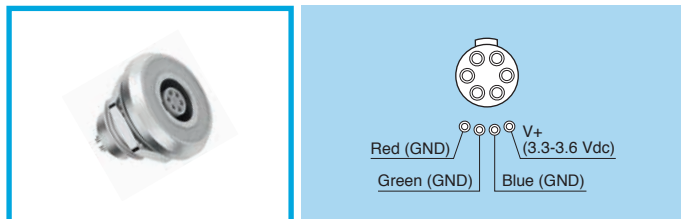
Reference		Dimensions (mm)							
Model	Series	A	B	e	E	L	N ¹⁾	P	S1
EEG	TT	10.0	10.0	M7x0.5	4.5	16.0	13.5	7	6.3
EEG	0T	12.0	12.0	M9x0.6	6.5	21.0	19.1	9	8.2
EEG	1T	15.5	16.0	M12x1.0	6.5	23.0	21.5	10	10.5
EEG	2T	18.5	20.0	M15x1.0	7.5	26.5	24.6	11	13.5
EEG	3T	23.5	24.0	M18x1.0	7.5	30.1	25.0	12	16.5

P1 Panel cut-out (page 157)

Note: ¹⁾ maximum length with crimp contacts.

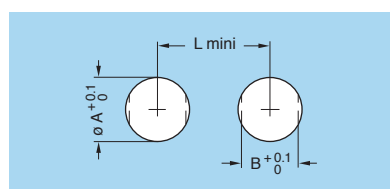


LoG Fixed socket, nut fixing, key (G) or keys (A...L)



Reference		Dimensions (mm)									
Model	Series	A	B	e	E	L	M	N	S1	S2	
LoG	0T	19	18.2	M13x0.75	4.0	18.5	5	16.0	11.5	16	
LoG	1T	21	19.2	M15x1.00	5.8	21.0	5	18.5	13.5	17	
LoG	2T	25	27.0	M20x1.00	6.5	24.1	5	21.5	18.5	24	

Note: Only available with solder or crimp contacts. LEG model is with LED flange, LNG model is with narrow LED flange and LMG model is with single standby LED flange.



Series	Dim. (mm)		
	A	B	L
0T	13.1	11.6	24
1T	15.1	13.6	26
2T	20.1	18.6	29

▶ Watertight or vacuumtight models

These models are identified by a letter «P» at the end of the reference. Most of these models are also available in a vacuumtight version. Such models are identified by an additional letter «V» at the end of the part number (certificate on request). Epoxy resin is used to seal these models. The temperature range is -20°C / +80°C.

Part Number Example

HGG.0T.305.CLLP (5 contacts, resin potted) / HGG.0T.305.CLLPV (5 contacts, resin potted and vacuumtight tested)

Mechanical and Climatical Characteristics

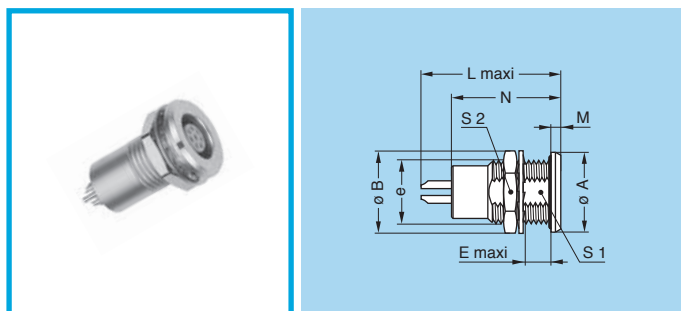
Characteristics	Value	Standard
Endurance ¹⁾	> 3000 cycles	IEC 60512-5 test 9a
Humidity	up to 95% at 60° C	
Temperature range ²⁾	-20°C, +80°C	
Resistance to vibrations	10-2000 Hz, 15g	IEC 60512-4 test 6d
Shock resistance	100 g, 6 ms	IEC 60512-4 test 6c
Salt spray corrosion test ⁶⁾	> 1000h	IEC 60512-6 test 11f
Protection index (mated) ³⁾	IP 68/IP 66	IEC 60529
Latching retention force ^{4) 5)}	From 85 N up to 300 N	
Climatical category	50/175/21	IEC 60068-1
Leakage rate (He)	< 10 ⁻⁷ mbar.l.s ⁻¹	IEC 60512-7 test 14b

Characteristics	Value	Standard	
Maximum operating pressure ⁷⁾	TT	60 bar	IEC 60512-7 test 14d
	0T	60 bar	IEC 60512-7 test 14d
	1T	60 bar	IEC 60512-7 test 14d
	2T	40 bar	IEC 60512-7 test 14d

Note:

- 1) see page 189, contact resistance after mating cycles. See page 185, mechanical endurance latching force.
- 2) operating temperature is -20°C, +80°C for watertight or vacuumtight models fitted with an FPM (Viton®) o-ring and Epoxy.
- 3) IP68 achieved providing that the cable is perfectly circular and that assembly process ensures a high integrity seal.
- 4) average value.
- 5) depending of the size.
- 6) for chrome plated product («C» material code).
- 7) this value corresponds to the maximum allowed pressure difference for the assembled socket.

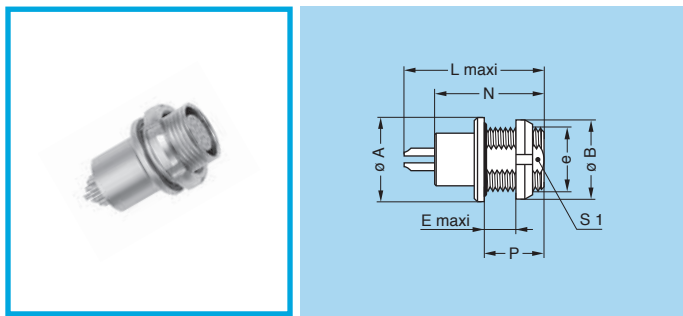
HGG Fixed socket, nut fixing, watertight or vacuumtight



Reference		Dimensions (mm)									
Model	Series	A	B	e	E	L	M	N ¹⁾	S1	S2	
HGG	TT	10.0	10.2	M7x0.5	5.5	18.0	1.2	15.0	6.3	9	
HGG	0T	12.0	12.5	M9x0.6	6.5	22.0	1.5	18.5	8.2	11	
HGG	1T	15.5	16.0	M12x1.0	6.0	26.0	1.8	21.5	10.5	14	
HGG	2T	18.5	19.6	M15x1.0	8.0	30.5	1.8	25.0	13.5	17	

P9 Panel cut-out (page 157)

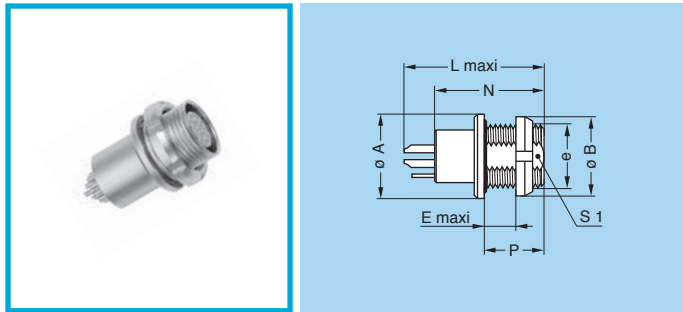
HEG Fixed socket, nut fixing, watertight or vacuumtight (back panel mounting)



Reference		Dimensions (mm)							
Model	Series	A	B	e	E	L	N	P	S1
HEG	TT	10.0	10.0	M7x0.5	4.5	18.0	15.0	7	6.3
HEG	0T	12.0	12.0	M9x0.6	6.5	22.0	18.5	9	8.2
HEG	1T	15.5	16.0	M12x1.0	6.5	26.0	21.5	10	10.5
HEG	2T	18.5	20.0	M15x1.0	7.5	30.5	25.0	11	13.5

P9 Panel cut-out (page 157)

HMG Fixed socket with earthing tag, nut fixing, watertight or vacuumtight (back panel mounting)

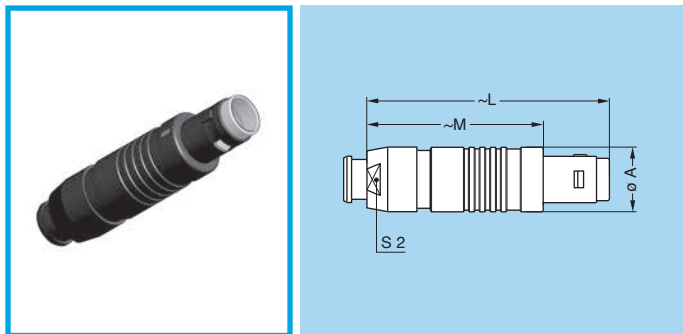


Reference		Dimensions (mm)							
Model	Series	A	B	e	E	L	N	P	S1
HMG	TT	10.0	10.0	M7x0.5	4.5	18.0	15.0	7	6.3
HMG	0T	12.0	12.0	M9x0.6	6.5	22.0	18.5	9	8.2
HMG	1T	15.5	16.0	M12x1.0	6.5	26.0	21.5	10	10.5
HMG	2T	18.5	20.0	M15x1.0	7.5	30.5	25.0	11	13.5

P9 Panel cut-out (page 157)

Plastic housing models

FGG Straight plug, cable collet and nut for fitting a bend relief, POM outer shell ¹⁾

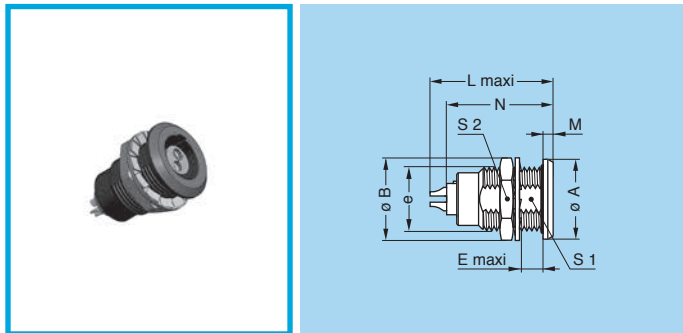


Reference		Dimensions (mm)				Cable ϕ	
Model	Series	A	L	M	S2	min.	max.
FGG	0T	9.7	38.5	28.5	8	1.0	4.5
FGG	1T	13.0	45.0	34.0	10	1.3	6.5

M1 Cable assembly (page 174)

Note: ¹⁾ to order, add a «Z» at the end of the reference. The bend relief must be ordered separately (see page 145).

EGG Fixed socket, nut fixing, POM outer shell



Reference		Dimensions (mm)								
Model	Series	A	B	e	E	L	M	N ¹⁾	S1	S2
EGG	0T	12.0	12.5	M9x0.6	6.0	21.0	1.5	19.1	8.2	11
EGG	1T	15.5	16.0	M12x1.0	6.0	23.0	1.8	21.5	10.5	14

P1 Panel cut-out (page 157)

Note: ¹⁾ maximum length with crimp contacts.

Алматы (7273)495-231
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
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Екатеринбург (343)384-55-89

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Иркутск (395)279-98-46
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Киров (8332)68-02-04
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Красноярск (391)204-63-61
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Курган (3522)50-90-47
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Магнитогорск (3519)55-03-13
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Набережные Челны (8552)20-53-41
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Орел (4862)44-53-42
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Саранск (8342)22-96-24
Симферополь (3652)67-13-56
Омск (3812)21-46-40
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Ярославль (4852)69-52-93

Россия +7(495)268-04-70

Казахстан +7(7172)727-132

Киргизия +996(312)96-26-47