

西安思博瑞环保科技有限公司

XI' AN SPRING TECHNOLOGY CO.,LTD



单芯，多芯，圆形推拉自锁连接器

Single pin,Multipole Push-pull Self Latching Circular Connector



COMPANY PROFILE

Xi'an spring technology Co., Ltd. is a professional push pull connector manufacturer integrating connector research and development, production and sales, The company has advanced production equipment, high-standard CNC lathes and a rigorous and high-standard R& D team, dedicated to the development, production and sales of high-end optical and electrical connectors, as well as providing a full range of cable harness forming solutions and processing. We produce high-performance connectors independently.

COMPANY HISTORY

2007: Electrical engineer Mr Lu establish Dongguan Jinggutong Electronic Technology Co.,Ltd. Mainly manufacture push pull connector.

2009-2015: The product range extend to 12 series, C series, and only focus on high-class push pull metal connector

2016: The company cooperated with SZ DJI Technology Co., Ltd. (Unmanned Aerial Vehicle), Aviation Industry Corporation of China (AVIC), China north industries group hanglian technology co., Ltd. and supplied the connector to Chinese military. which is a well-known supplier of interconnect technology solutions for high-end manufacturing in china.

2017: Designed own product appearance, and get own appearance patent, and rename the company: Dongguan Yunyi Electronic Technology Co.,Ltd.

2018: In order to expand overseas markets, We establish" Xi'an SPRING Technology Co., Ltd" in the hometown of Mr Lu, and Xi'an SPRING Technology Co., Ltd focus on oversea marketing, and promote and supply push pull connector to Global customers.



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SPRING Push-Pull Connector Introduction

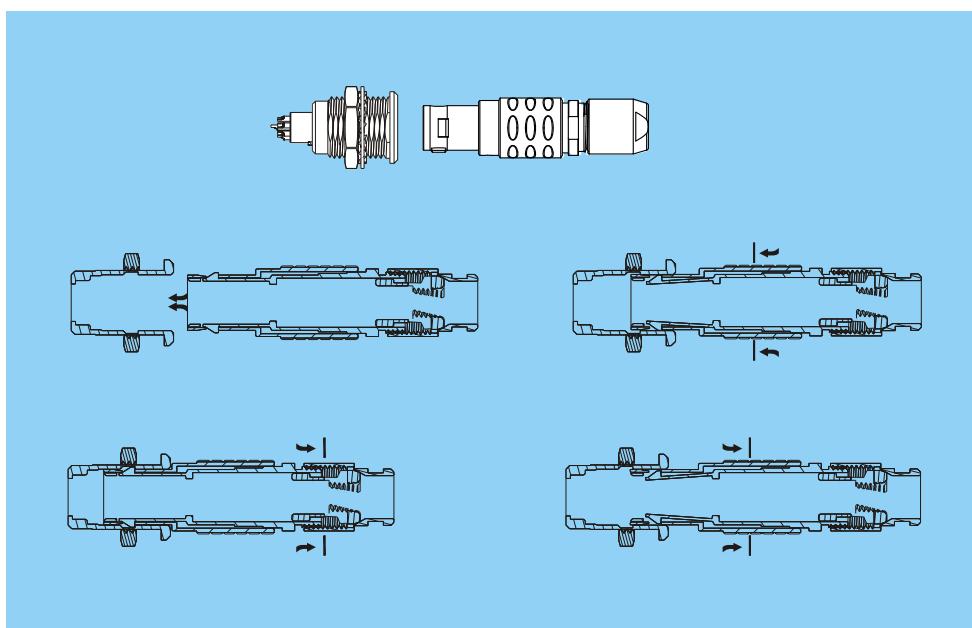
The push-pull self-locking system is known for its quick and easy insertion and removal, which can effectively resist vibration and impact, and can prevent the disconnection caused by pulling the cable; this structure is sometimes suitable for high reliability and high quality applications. Where a simple yet fast method to connect/disconnect is required, and are also suitable for high endurance and ease of operation in very limited spaces.

The SPRING circular connector uses this push-pull self-locking structure, which is widely used in electrical signal connections on electronic, instrumentation, video processing, medical and other equipment. It is especially suitable for electrical signal connections on instruments and equipment that require frequent connection and separation, and that need to be shielded.

Technical Features At A Glance

- Fast and easy to use
- Wire gauges range from 30 AWG to 12AWG.
- Audible and tactile feedback
- Mechanically keyed: ensures correct polarization and alignment.
- Thousands of mating/unmating endurance
- Contact layouts from 2 to 40 contacts.
- PCB or right angle PCB contacts.
- Space saving
- Excellent performance under harsh environmental conditions in both high temperature and high humidity.
- Robust housings
- 360° electromagnetic shielding
- Fire and smoke compliance
- Environmental level IP50-IP68

SPRING Push-Pull Connector Appearance Legend

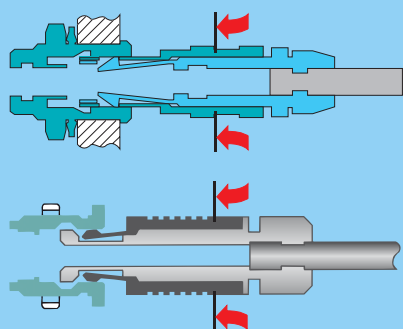
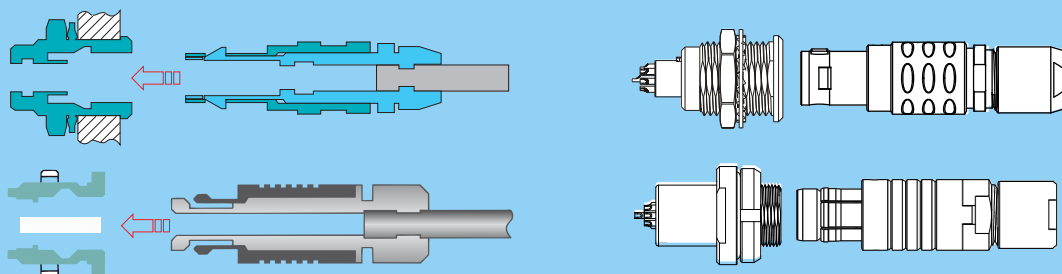




SPRING Push-Pull Self-Latching Connection System

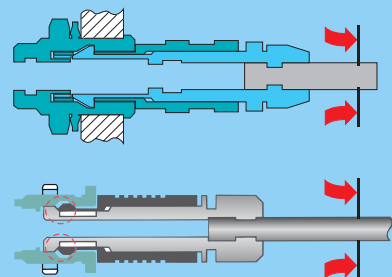
This self-latching system is renowned worldwide for its easy and quick mating and unmating features. It provides absolute security against vibration, shock or pull on the cable, and facilitates operation in a very limited space.

How does it work



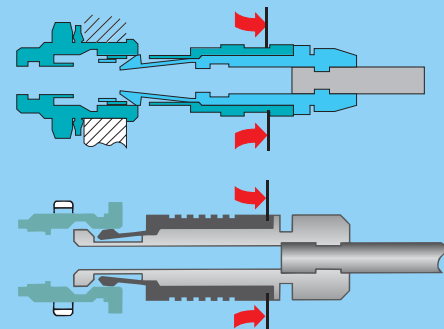
The self-latching system allows the connector to be mated by simply pushing the plug axially into the socket. The plug has an outer sleeve, with flexible fingers, which slides forward and backwards along the plug body.

when cable pulled



Once firmly latched, connection cannot be broken by pulling on the cable or any other component other than the outer release sleeve. The bevelled edges of the fingers are forced into the groove, securing the connection.

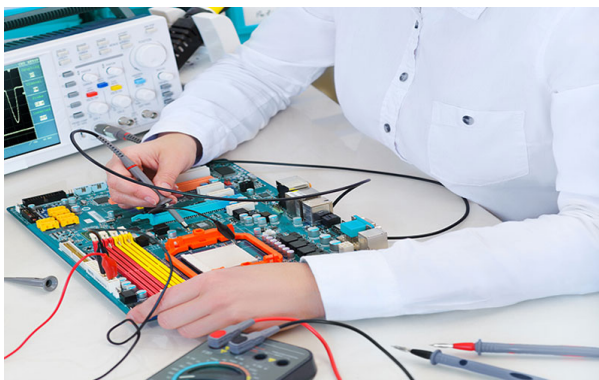
when Unplugging



When required, the connector is disengaged by a single axial pull on the outer release sleeve. It firstly disengages the latches and then withdraws the plug from the socket. Pulling on the outer sleeve of the plug unlocks the latching mechanism.

Medical

- Analyzers, Processing Equipment, UL61010
- Dental Equipment
- Electrosurgical Devices
- Pacemakers and Hearing Devices
- Surgical instrumentation
- Therapy applications
- Medical imaging
- Cardiac assist devices
- Disposable equipment

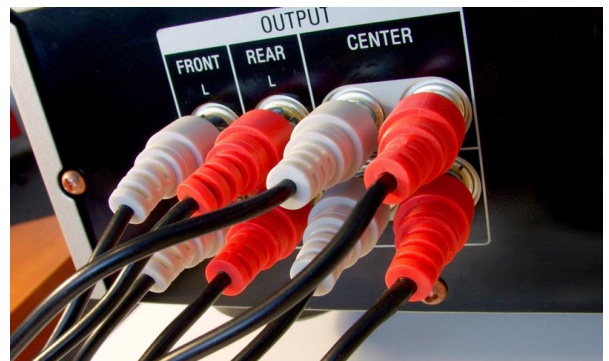


Test & Measurement Connector

- Sensors
- Data acquisition
- Automation
- Scientific research
- Vacuum
- GPS (portable or vehicle mounted)
- High Voltage Experiments
- Meters, Sources, Analyzers

Broadcast connector

- Studios and outside broadcasting
- TV and motion picture
- HD and SD cameras
- Remote camera control
- Analog Audio/Video
- Digital Audio



Defense & Security

- Communication systems
- Surveillance equipment
- Computers
- Target acquisition
- Airborne Devices (drone)
- Land Vehicles
- Satellites and Space Vehicles

Transport

- *Avionics*
- *Maritime*
- *Automotive*
- *Railways*
- *Crash Dummies*
- *Engine Compartments*
- *Emergency Vehicles*



Machines Connector and Industrial Control

- *Dirty/Hot Environment (e.g., milling)*
- *Process Control (e.g., sensors)*
- *Robot Handling (e.g., assembly line)*
- *Security/ Surveillance Indoors*
- *Security/ Surveillance Outdoors*
- *Networks*

Research Connector

- *Robots*
- *Sub-Atomic Research*
- *Physics Research*
- *Laboratories*
- *Vision and optical systems*
- *Networks*



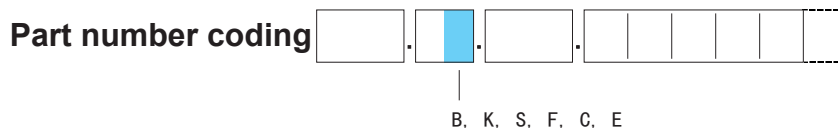
Energy

- *Petrol & gas*
- *Nuclear*
- *Renewable energies*
- *Batteries*
- *Fuel cells*

3 STEPS TO SELECT THE RIGHT CONNECTOR

Step 1 Select Connector Series

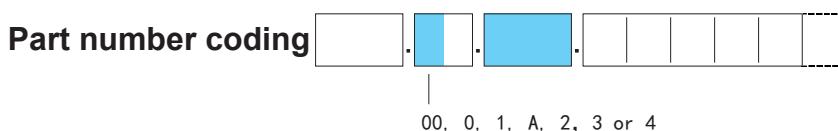
Select the appropriate SPRING connector series according to the environmental parameters that will affect your device or cable such as indoor, outdoor, temperature range, ingress protection of the mated connector and of your device.



Step 2 Select Connector Size

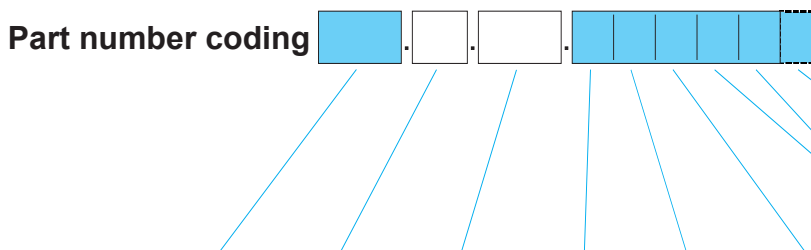
Use the section (mm²) or the AWG of your cable wire to select the optimal contact diameter (values vary between solder, crimp or print contact).

Use this optimal contact diameter to determine the right connector size as well as the insert configuration.



Step 3 Complete the Part Number

Now that you know the series, as well as the insulator configuration, complete the part numbering system with the help of the following table.



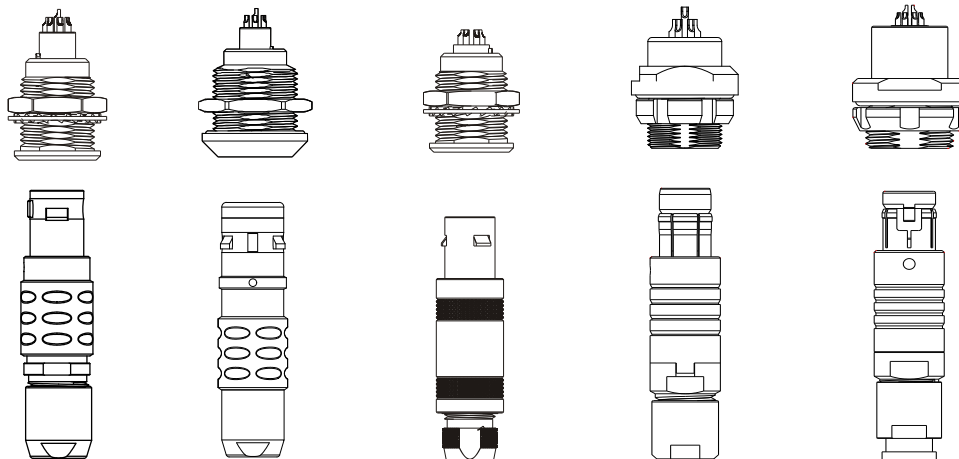
	Model	Series	Insert configuration	Housing Contact	Insulator material	Contact	Collet	Variant
B Series(indoor, keyed)	11	14	28	31	32	32	33	34
K Series(outdoor, keyed)	22	25	28	31	32	32	33	34
S Series(indoor, stepped insert)	42	45	49	50	51	51	52	53
P Series(indoor, keyed)	81	84	89	90	91	91	91	91
F Series(outdoor, mechanically coded)	56	59	69	75	76	76	77	78
C Series(outdoor, keyed)	56	68	73	75	76	76	77	78
Unipole Coaxial Series (indoor)	93	96	98	98	98	98	99	100
HR10 Series (indoor, multi-contact)	113	115	116	116	116	116	116	116
Customized Series (outdoor, keyed)	117	117	117	117	117	117	117	117

Select the appropriate SPRING connector series according to the environmental parameters that will affect your device or cable such as indoor, outdoor, temperature range, ingress protection of the mated connector and of your device.

Part number coding

	B							
--	---	--	--	--	--	--	--	--

B, K, S, F, C, E



series	B Series	K Series	S Series	F Series	C Series
Environment	Indoor	Outdoor or harsh environment	Indoor	Outdoor or harsh environment	
Ingress protection 1)	IP 50	IP 66 - IP 68	IP50	IP 66 - IP 68	
Ingress protection 2)	IP50-IP68 vacuumtight	IP66-IP68 vacuumtight	IP50-IP68 vacuumtight	IP66-IP68 vacuumtight	
Temperature range	45 to 125°C	-45 to 125°C	-45 to 125°C	-45 to 125°C	
Latching	Push-Pull self-latching				
Shell sizes	6 metal	3 metal	3 metal	5 metal	3 metal
Insulator type	Multipole		Unipole or multipole (hermaphroditic)		
Contact type	Solder, crimp or print				
Features	7 keyways	5 keyways	Stepped insert	3 Mechanical Code	5 keyways
Page	11- 21	22 - 27	42 - 46	56 - 65	66 - 68

SPRING unipole and multipole connectors

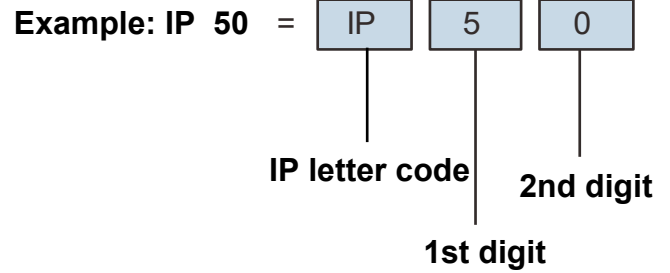
The standard keyed Series(B): The characteristic feature of these connector series is a keying system which allows higher contact density and prevents all errors in alignment. The various keying alternatives prevent unwanted cross mating of otherwise similar connectors. These connector series, include the 0B to 4B, some vacuumtight models are also available.

The watertight keyed Series(K,F,C): These series are watertight when mated and assembled to an appropriate cable. They include the 0K to 2K series (available in the same types as the 0B to 2B series). 102F to 105F series(This series are engineered with arc-shape metal guides,)

The Standard Series(S,E,F,C): The characteristic feature of these connector series is the hermaphroditic insulator in the multipole version. They include principally the 0S to 2S series, as well as the 00S unipole series, E series(These series are watertight and are available in the same types as the S series).Coax series

Definition of Ingress Protection (IP Code)

IEC 60529 outlines an international classification system for the sealing effectiveness of enclosures of electrical equipment against the intrusion into the equipment of foreign bodies (i.e. tools, dust, fingers) and moisture. This classification system utilizes the letters «IP» (Ingress Protection) followed by two digits.



degrees of protection-second digit

The first digit of the IP code indicates the degree to which persons are protected against contact with moving parts and the degree that equipment is protected against solid foreign bodies intruding into an enclosure.

Code	First digit description
0	No special protection
1	Protection from a large part of the body such as hand or from solid objects greater than 50 mm in diameter
2	Protection against objects not greater than 80 mm in length or 12mm in diameter
3	Protection from entry by tools, wires, etc., with a diameter or thickness greater than 2.5 mm
4	Protection from entry by solid objects with a diameter or thickness greater than 1.0 mm
5	Protection from the amount of dust that would inter-fere with the operation of the equipment
6	Dust-tight

degrees of protection-second digit

The second digit indicates the degree of protection of the equipment inside the enclosure against the harmful entry of various forms of moisture (e.g. dripping, spraying, submersion, etc.)

Code	Second digit description
0	No special protection
1	Protection from vertically dripping water
2	Protection from dripping water when tilted up to 15°
3	Protection from sprayed water
4	Protection from splashed water
5	Protection from water projected from a nozzle
6	Protection against heavy seas, or powerful jets of water
7	Protection against temporary immersion
8	Protection against complete continuous submersion in water

To be able to select the right connector size (0 to 4), it is important to define the contact diameter ($\varnothing A$).

Find out the available contact diameter ($\varnothing A$) of the SPRING connector depending on the number of contacts required and depending on the rating required.

The following table shows the contact diameter ($\varnothing A$).

Part number coding



00, 0, 1, A, 2, 3 or 4

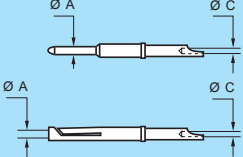
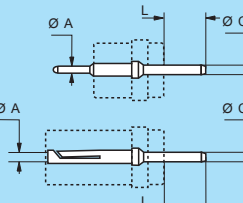
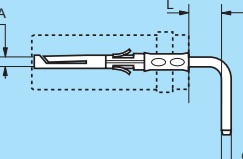
Number of contacts	Insert configuration	SERIES											
		00B	0B-0K	1B-1K	2B-2K	102F-0C	103F-1C	1031F	104F-2C	105F	00S	0S-0C	1S-1E-1C

Unipole	1	116					0.7					1.6	
	1	250					0.9					0.9	1.3
	1	275											1.6
	1	301								2.0			
	1	405											1.3

Multipoles	2	302	0.5	0.9	1.3	2.0	0.9	1.3		2.0	3.0		0.9	1.3
	3	303	0.5	0.9	1.3	1.6	0.9	1.3		1.6	2.0		0.7	0.9
	4	304	0.5	0.7	0.9	1.3	0.7	0.9		1.3	2.0		0.7	0.9
	5	305		0.7	0.9	1.3	0.7	0.9		1.3				0.7
	6	306		0.5	0.7	1.3	0.5	0.7		1.3				0.7
	7	307		0.5	0.7	1.3	0.5	0.7		1.3				
	8	308			0.7	0.9		0.7		0.9	1.3			
	9	309		0.5			0.5							
	10	310			0.5	0.9		0.5	0.7	0.9	1.3			
	12	312				0.7		0.5	0.7	0.7	1.3			
	14	314			0.5	0.7		0.5		0.7				
	16	316			0.5	0.7		0.5		0.7				
	18	318				0.7			0.5	0.7	0.9			
	19	319				0.7			0.5	0.7	0.9			
	24	324									0.7			
	26	326				0.5								
	27	327									0.7			
	37	337									0.5			
	40	340									0.5			

Verify the fitting to your wire

Verify if the selected contact diameter ($\varnothing A$) of the SPRING connector fits to your cable wire diameter (AWG number or max. available section).

Contact type	number		Contact			Conductor					
	male	female	ΦA (mm)	ΦC (mm)	Form Per Fig	Solid		Stranded			
						AWG max.	Section max. (mm ²)	AWG		Section(mm)	
								min.	max.	min.	max.
Solder 	A	L	0.5	0.40	-	28	0.09	-	30	-	0.05
			0.5	0.45	-	28	0.09	-	28	-	0.09
			0.7	0.60	-	24	0.25	-	26	-	0.14
			0.7	0.80	-	22	0.34	-	22	-	0.34
			0.9	0.80	-	22	0.34	-	22	-	0.34
			1.3	1.00	-	20	0.50	-	20	-	0.50
			1.6	1.40	-	16	1.00	-	18	-	1.00
			2.0	1.80	-	14	1.50	-	16	-	1.50
			3.0	2.70	-	10	4.00	-	12	-	4.00
			4.0	3.70	-	10	6.00	-	10	-	6.00
Print 	D	N	L dimensions and C are detailed in the section on PCB drilling pattern. See page 37								
Print (elbow) 	V	V	L dimensions and C are detailed in the section on PCB drilling pattern. See page 37								

Verify the fitting to your cable

Verify if the selected connector size fits to your cable diameter.

Series	Cable diameter range (mm)			
	Collet		Collet for fitting a bend relief	
	min.	max.	min.	max.
00B	1.1	3.4	1.1	3.4
0B	1.5	5.5	1.5	5.0
1B	2.2	7.5	2.2	7.0
2B	1.5	9.7	1.5	9.0
3B	4.1	11.7	4.1	11.0
4B	5.1	16.0	5.1	15.0
0K	1.0	5.0	1.0	5.0
1K	1.3	8.5	1.3	8.5
2K	1.3	10.5	1.3	10.5

Series	Cable diameter range (mm)			
	Collet		Collet for fitting a bend relief	
	min.	max.	min.	max.
00S	1.1	4.1	1.1	4.1
0S	1.3	6.7	1.3	6.1
1S	1.3	8.5	1.3	8.0

Series	Cable diameter range (mm)			
	Collet		Collet for fitting a bend relief	
	min.	max.	min.	max.
102F	3.2	8.1	3.5	5.5
103F	2.2	7.5	2.2	7.0
1031F	4.5	8.8	5.5	5.5
104F	1.5	9.7	1.5	9.0
105F	5.5	11.5	5.50	11.5

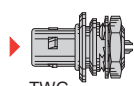
Series	Cable diameter range (mm)			
	Collet		Collet for fitting a bend relief	
	min.	max.	min.	max.
0C	1.5	5.5	1.5	5.0
1C	2.2	7.5	2.2	7.0
2C	1.5	9.7	1.5	9.0

B SERIES (Indoor, Keyed)

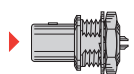


Metal housing models (page 14)

Fixed plugs

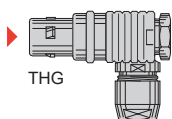


TWG



TAG

Elbow (90°) plug

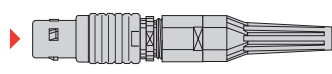


THG

Straight plugs



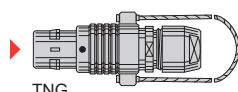
TGG



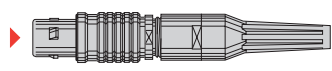
TGG



TFG

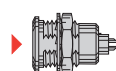


TNG

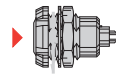


TEG

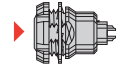
Fixed sockets



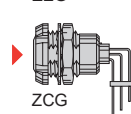
ZGG



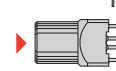
ZCG



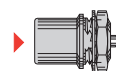
ZEG



ZCG



ZZG

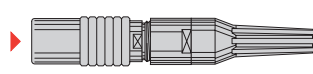


ZHG

Free sockets

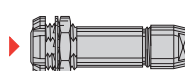


DHG



DHG

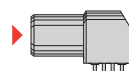
Fixed sockets



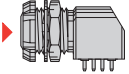
DFG

Elbow socket models (page 20)

Elbow sockets

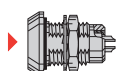


ZPG

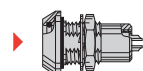


ZXG

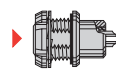
Watertight or vacuumtight models (page 18)



MGG

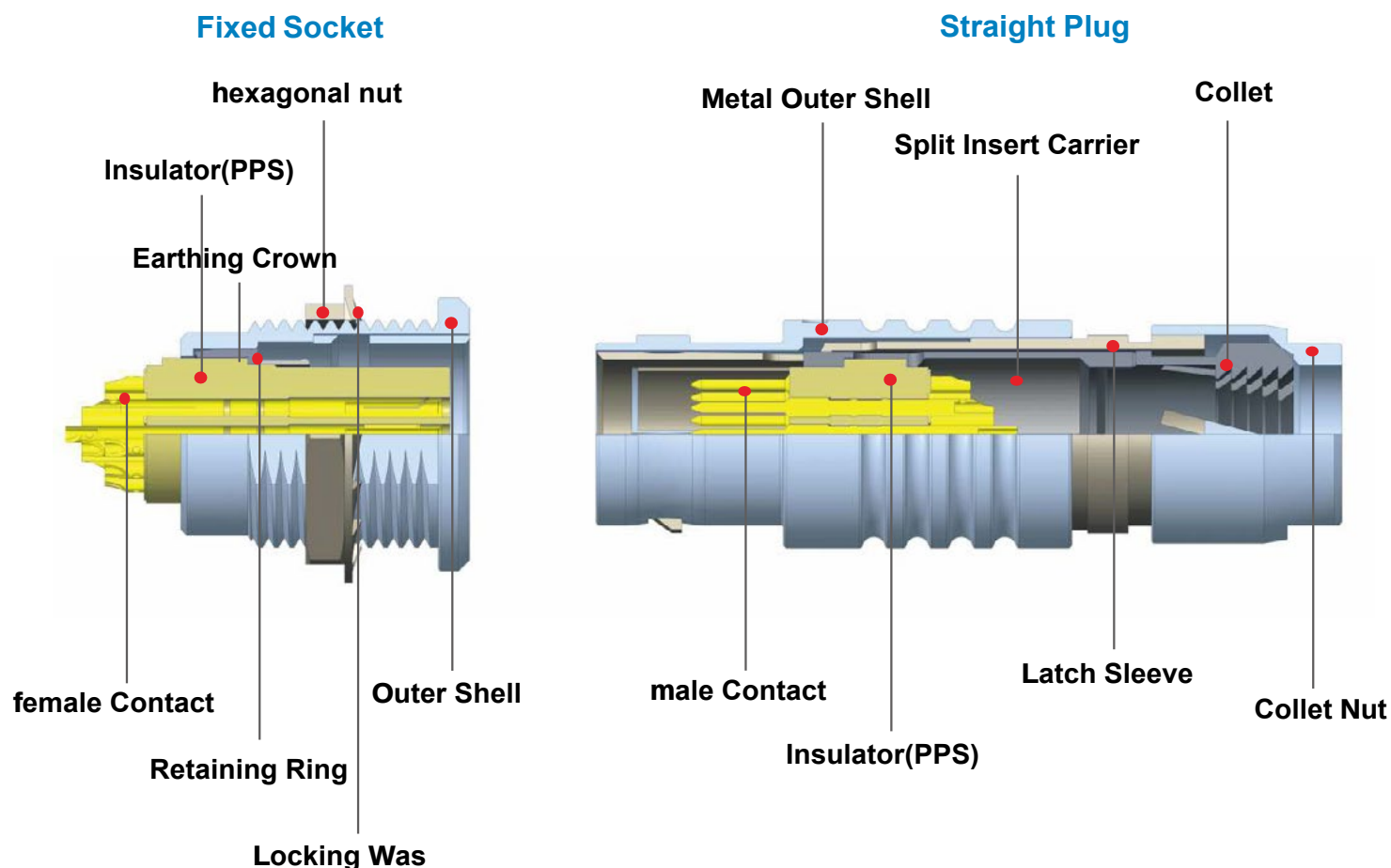


MHG



MEG

Part Section Showing Internal Components



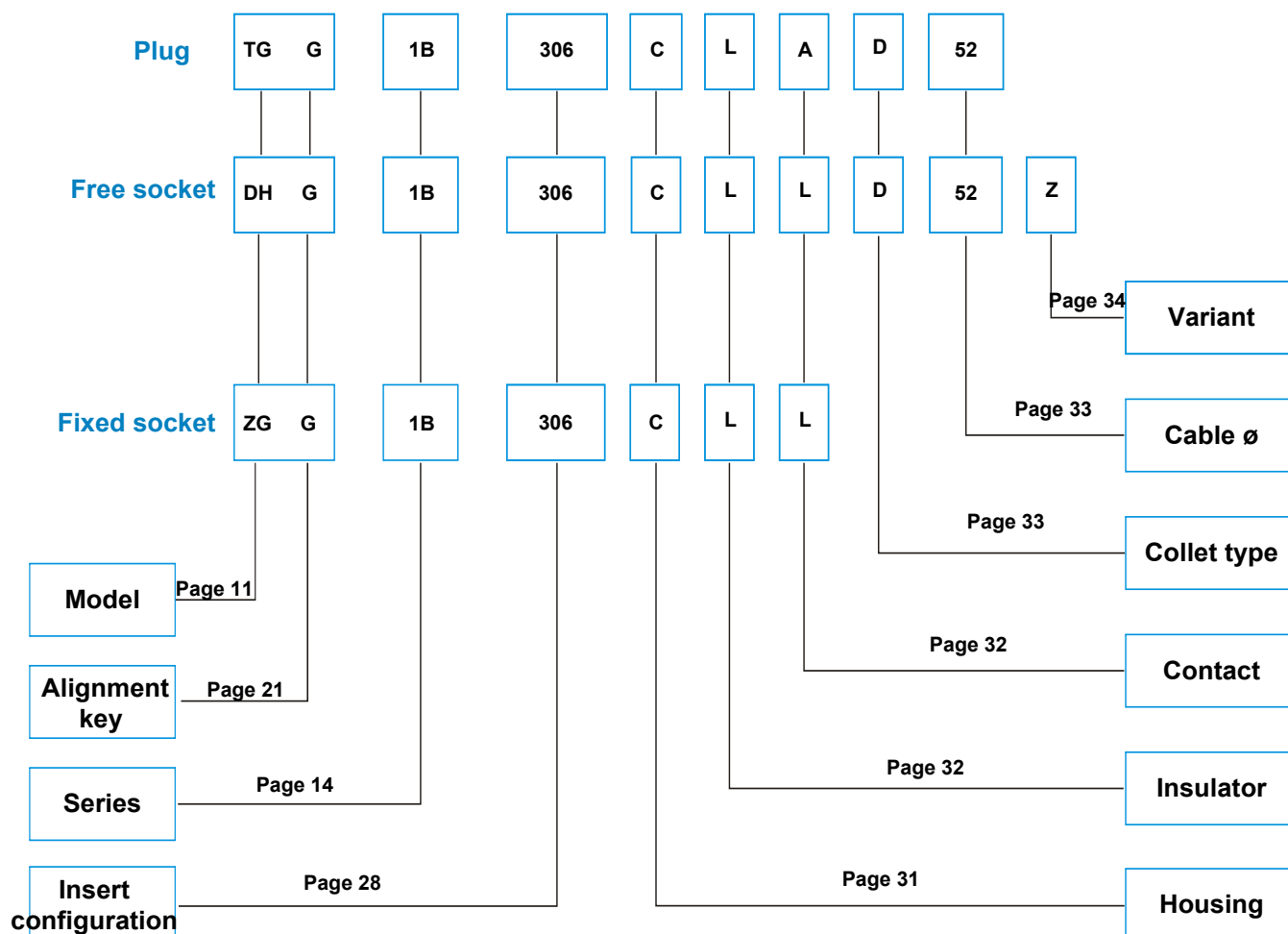
B Series Connectors Provide The Following Main Features:

- security of the Push-Pull self-latching system
- multipole types 2 to 26 contacts
- solder, crimp or print contacts (straight or elbow)
- high packing density for space savings
- multiple key options to avoid cross mating of similar connectors
- keying system («G» key standard) for connector alignment
- 360° screening for full EMC shielding.

B Series Connectors Technical Characteristics :

- Endurance: > 5000 cycles
- Humidity: up to 95% at 60° C
- Temperature range: - 45° C, + 125° C
- Resistance to vibrations: 10-2000 Hz, 15g
- Shock resistance: 100 g, 6 ms
- Salt spray corrosion test: > 48h
- Protection index (mated): IP 50

B Series Part Numbering System



Part Number Example

Straight Plug with Cable Collet:

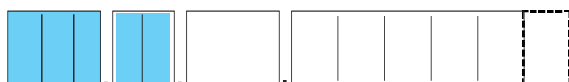
TGG.1B.306.CLAD52 = straight plug with key (G) and cable collet, 1B series, multipole type with 6 contacts, outer shell in chrome-plated brass, PPS insulator, male solder contacts, D type collet for 5.0 mm diameter cable.

Free socket:

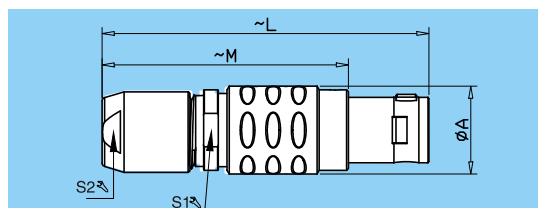
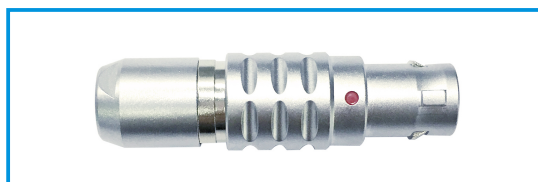
DHG.1B.306.CLLD52Z = free socket with key (G) and cable collet, 1B series, multipole type with 6 contacts, outer shell in chrome-plated brass, PPS insulator, female solder contacts, D type collet for 5.0 mm diameter cable and nut for fitting a bend relief.

Fixed Socket:

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

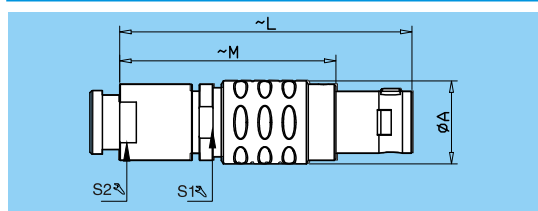
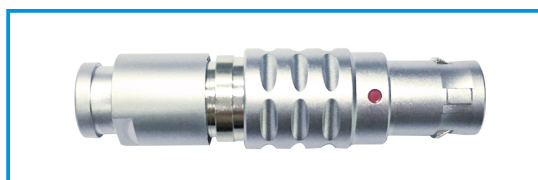


Metal Housing Models



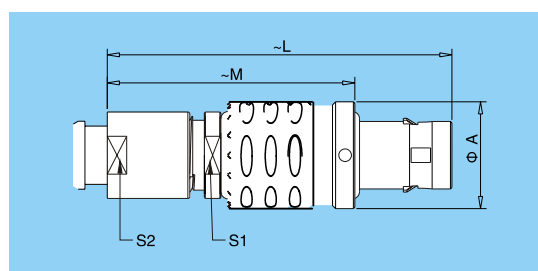
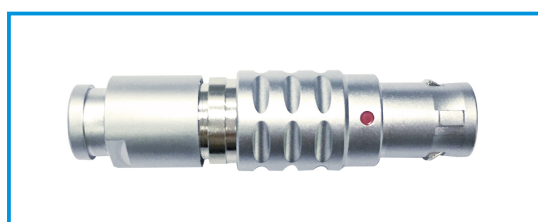
TGG Straight plug, key (G) or keys (A...M and R), cable collet

Reference		Dimensions (mm)				
Series	Model	A	L	M	S1	S2
00B	TGG	6.4	28.5	20.5	5.5	5.0
0B	TGG	9.5	36.0	26.0	8.0	7.0
1B	TGG	12.0	43.0	32.0	10.0	9.0
2B	TGG	15.0	50.0	38.0	13.0	12.0
3B	TGG	18.0	58.0	43.0	15.0	14.0



TGG Straight plug, key (G) or keys (A...M), cable collet and nut for fitting a bend relief

Reference		Dimensions (mm)				
Series	Model	A	L	M	S1	S2
00B	TGG	6.4	36.5	28.5	5.5	6.0
0B	TGG	9.5	35.5	25.0	8.0	7.0
1B	TGG	12.0	42.0	31.0	10.0	9.0
2B	TGG	15.0	49.0	37.0	13.0	13.0
3B	TGG	18.0	56.5	42.0	15.0	15.0

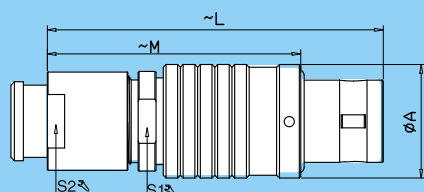


TEG Straight plug, key (G) or keys (A...L), cable collet, front seal and nut for fitting a bend relief (IP 54 protection index when mated)

Reference		Dimensions (mm)				
Series	Model	A	L	M	S1	S2
0B	TEG	11.0	35.0	25.0	8	7
1B	TEG	13.5	42.0	33.0	10	9
2B	TEG	16.5	48.0	36.0	13	12
3B	TEG	19.0	56.0	41.5	15	15



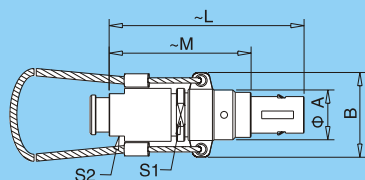
TFG Straight plug, non-latching, key (G) or keys (A...M), cable collet and nut for fitting a bend relief



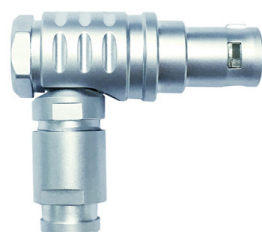
Reference		Dimensions (mm)				
Series	Model	A	L	M	S1	S2
0B	TFG	9.5	36	26	8.0	7.0
1B	TFG	12.0	43	32	10.0	9.0
2B	TFG	15.0	50	38	13.0	12.0
3B	TFG	18.0	58	43	15	14



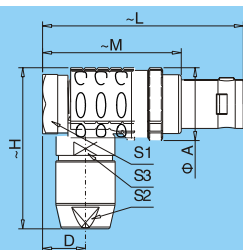
TNG Straight plug, key (G) or keys (A...M and R), cable collet and lanyard release



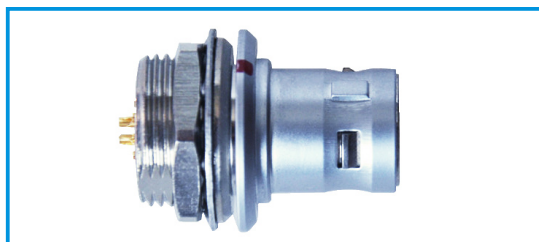
Reference		Dimensions (mm)						
Series	Model	A	B	L	M	N	S1	S2
0B	TNG	9.5	15.5	36.0	26.0	140	8	7
1B	TNG	12.0	18.0	43.0	32.0	140	10	9
2B	TNG	15.0	21.0	49.0	37.0	160	13	12
3B	TNG	18.0	25.0	58.0	43.0	190	15	14



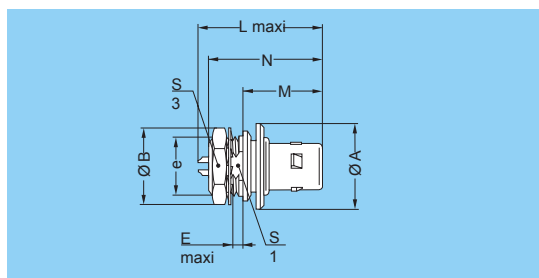
THG Elbow (90°) plug, key (G) or keys (A...M and R), cable collet



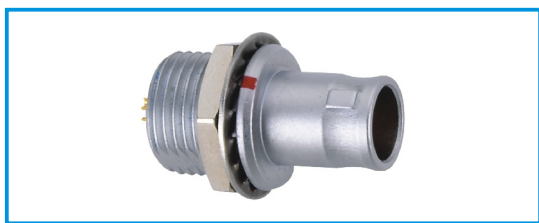
Reference		Dimensions (mm)							
Series	Model	A	D	H	L	M	S1	S2	S3
0B	THG	11.0	6.5	26.0	31.6	21.6	10	7	8.0
1B	THG	13.5	8.0	30.5	36.0	25.0	11	9	10.0
2B	THG	16.5	9.0	34.0	41.5	29.5	14	12	13.0
3B	THG	19.0	10.0	37.0	50.0	35.0	17	14	15.0



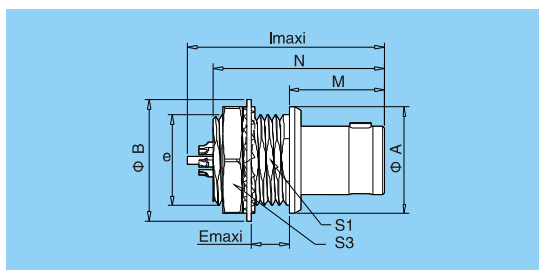
TWG Fixed plug, nut fixing, key (G) or keys (A...L)



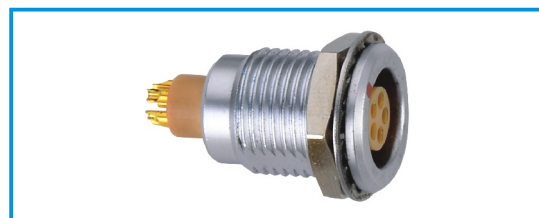
Reference		Dimensions (mm)							
Series	Model	A	B	e	E	L	M	S1	S3
1B	TWG	12	12.4	M9x0.6	2.4	2.5	18.3	8.2	11
2B	TWG	16	15.8	M12x1.0	6.0	3.5	20.3	10.5	14



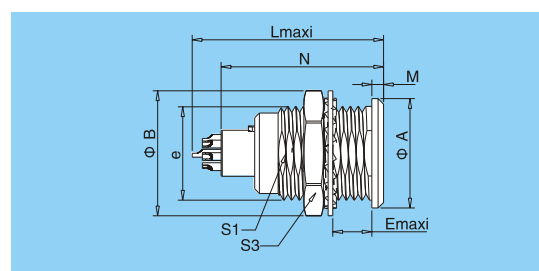
TAG Fixed plug, non-latching, nut fixing, key (G) or keys (A...M and R)



Reference		Dimensions (mm)							
Series	Model	A	B	e	E	L	M	N1)	S1
0B	TAG	10	12.4	M9x0.6	4.2	20.8	11.2	18.9	8.2
1B	TAG	14	15.8	M12x1.0	5.4	25.2	12.5	21.6	10.5
2B	TAG	18	19.2	M15x1.0	6.0	28.7	13.8	23.9	13.5
3B	TAG	22	25.0	M18x1.0	5.8	32.1	17.0	30.2	16.5



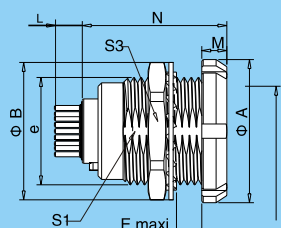
ZGG Fixed socket, nut fixing, key (G) or keys (A...M and R)(front panel mounting)



Reference		Dimensions (mm)								
Series	Model	A	B	e	E	L	M	N1)	S1	S3
00B	ZGG	8	10.2	M7x0.5	6.0	15.5	1.0	13.7	6.3	9
0B	ZGG	10	12.4	M9x0.6	7.0	20.7	1.2	19.1	8.2	11
1B	ZGG	14	15.8	M12x1.0	7.5	23.0	1.5	21.1	10.5	14
2B	ZGG	18	19.2	M15x1.0	8.5	26.7	1.8	24.6	13.5	17
3B	ZGG	22	25.0	M18x1.0	11.5	30.7	2.0	28.1	16.5	22



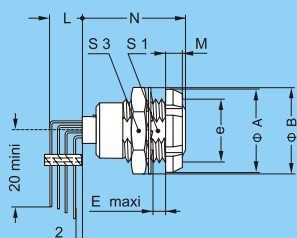
ZCG Fixed socket with two nuts, key (G) or keys (A...M and R) (back panel mounting)



Reference		Dimensions (mm)								
Series	Model	A	B	e	E	L	M	N	S1	S3
0B	ZCG	12	12.4	M9x0.6	5.5	20.7	2.5	19.1	8.2	11
1B	ZCG	16	15.8	M12x1.0	6.0	23.0	3.5	21.1	10.5	14
2B	ZCG	20	19.2	M15x1.0	6.5	26.7	3.5	24.6	13.5	17
3B	ZCG	24	25.0	M18x1.0	9.0	30.7	4.5	28.1	16.5	22



ZCG Fixed socket with two nuts, key (G) or keys (A...F) with elbow (90°) contact for printed circuit (back panel mounting)

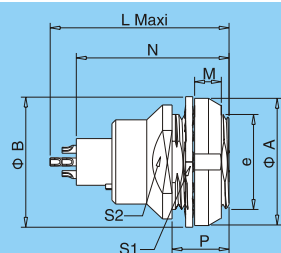


Reference		Dimensions (mm)							
Series	Model	A	B	e	E	M	N _{max}	S1	S3
0B	ZCG	12	12.4	M9x0.6	2.4	2.5	18.3	8.2	11
1B	ZCG	16	15.8	M12x1.0	6.0	3.5	20.3	10.5	14
2B	ZCG	20	19.2	M15x1.0	6.5	3.5	22.3	13.5	17
3B	ZCG	24	25.0	M18x1.0	9.0	4.5	25.8	16.5	22

Note: Length «L» depends on the number of contacts, see PCB drilling pattern on page 37.



ZEG Fixed socket, nut fixing, key (G) or keys (A...M and R) (back panel mounting)



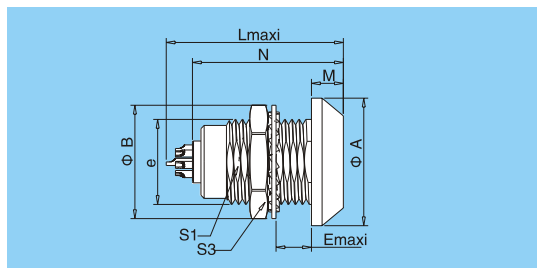
Reference		Dimensions (mm)								
Series	Model	A	B	e	E	L	M	N1)	P	S3
0B	ZEG	12	12.5	M9x0.6	2.4	20.7	2.5	19.1	6.3	8.2
1B	ZEG	16	16.0	M12x1.0	6.5	23.0	3.5	21.1	11.0	10.5
2B	ZEG	20	20.0	M15x1.0	3.0	26.7	3.5	24.6	9.0	13.5
3B	ZEG	24	25.0	M18x1.0	5.0	30.7	4.5	28.1	12.0	16.5



➤➤➤ B series



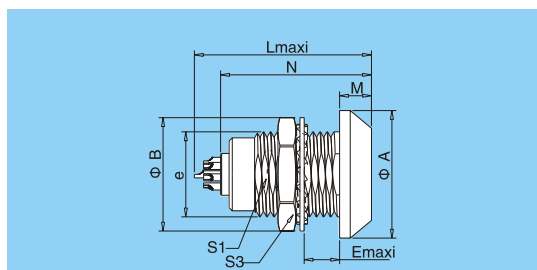
MGG Fixed socket, nut fixing, key (G) or keys (A...M and R), watertight or vacuumtight



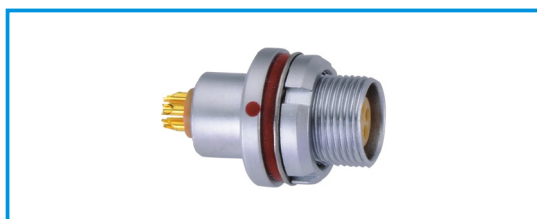
Reference		Dimensions (mm)							
Series	Model	A	B	e	E _{max}	L	M	S1	S3
0B	MGG	13	12.4	M9x0.6	7.0	20.2	3.0	8.2	11
1B	MGG	18	15.8	M12x1.0	7.0	26.6	4.5	10.5	14



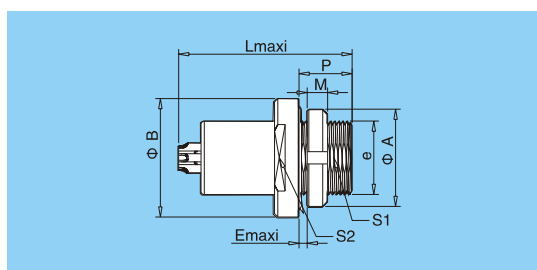
MHG Fixed socket, nut fixing, key (G) or keys (A...M), watertight or vacuumtight (watertight when mated)



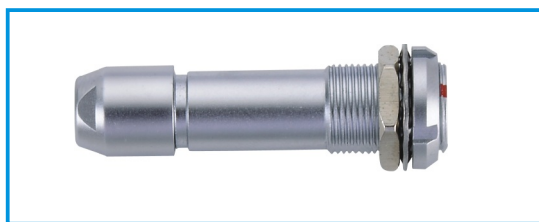
Reference		Dimensions (mm)							
Series	Model	A	B	e	E	L	M	S1	S3
0B	MHG	13	12.4	M9x0.6	7.0	23.2	4.8	8.2	11
1B	MHG	18	15.8	M12x1.0	7.0	30.3	5.2	10.5	14
2B	MHG	22	19.2	M15x1.0	8.0	35.6	6.0	13.5	17



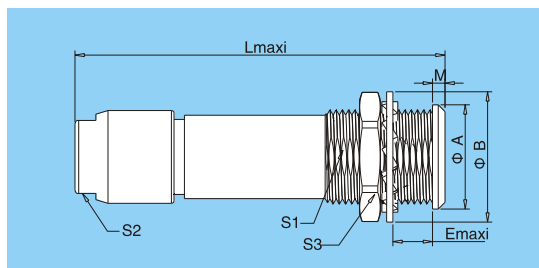
MEG Fixed socket, nut fixing, key (G) or keys (A...M), watertight or vacuumtight (back panel mounting)



Reference		Dimensions (mm)								
Series	Model	A	B	e	E	L	M	P	S1	S3
0B	MEG	12	13	M9x0.6	5.5	20.2	2.5	9.0	8.2	—
1B	MEG	16	18	M12x1.0	5.5	26.6	3.5	11.0	10.5	—
2B	MEG	20	20	M15x1.0	5.5	31.6	3.5	9.6	13.5	15



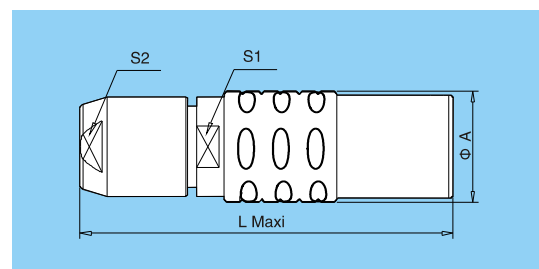
DFG Fixed socket, with two nuts, key (G) or keys (A...M and R), cable collet (back panel mounting)



Reference		Dimensions (mm)								
Series	Model	A	B	e	E	L	M	S1	S2	S3
0B	DFG	10	12.4	M9x0.6	7.0	35.5	1.2	8.2	7	11
1B	DFG	14	15.8	M12x1.0	7.5	40.5	1.5	10.5	9	14
2B	DFG	18	19.2	M15x1.0	8.5	47	1.8	13.5	12	17
3B	DFG	22	25.0	M18x1.0	11.5	56	2.0	16.5	14	22



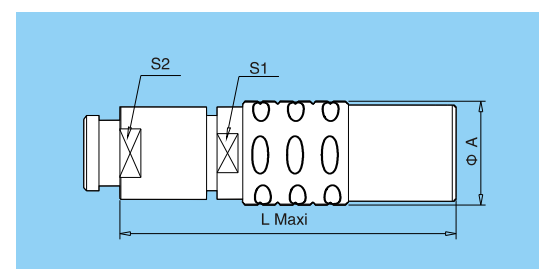
DHG Free socket, key (G) or keys (A...M and R), cable collet



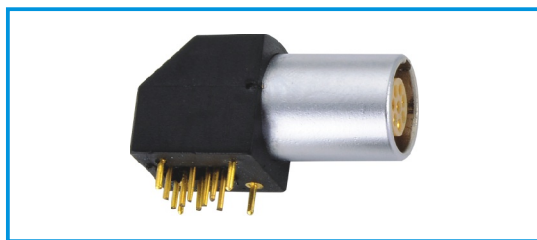
Reference		Dimensions (mm)			
Series	Model	A	L	S1	S2
0B	DHG	9.5	35.5	8.0	7.0
1B	DHG	12.5	40.5	10.0	9.0
2B	DHG	16.5	47.0	13.0	12.0
3B	DHG	19.0	56.0	15.0	15.0



DHG Free socket, key (K) or keys (A...M), cable collet and nut for fitting a bend relief

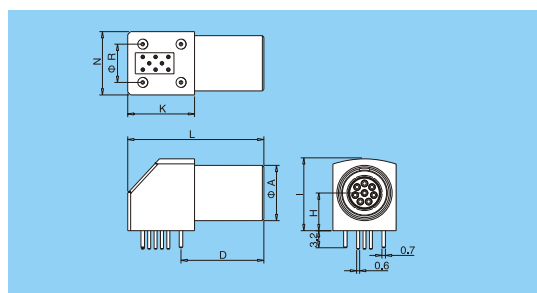


Reference		Dimensions (mm)			
Series	Model	A	L	S1	S2
0B	DHG	9.5	35.5	8.0	7
1B	DHG	12.5	40.5	10.0	9
2B	DHG	16.5	47.0	13.0	12
3B	DHG	19.0	56.0	15.0	14



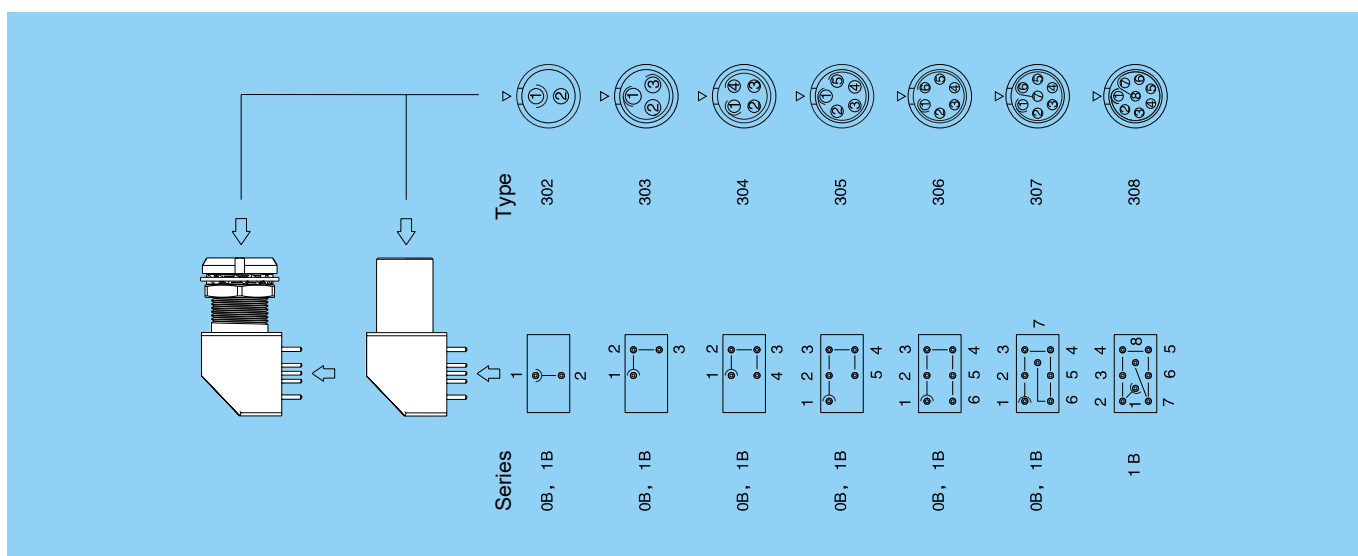
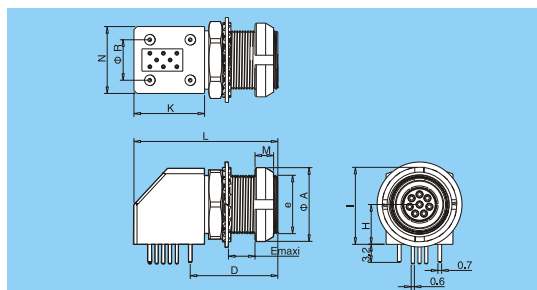
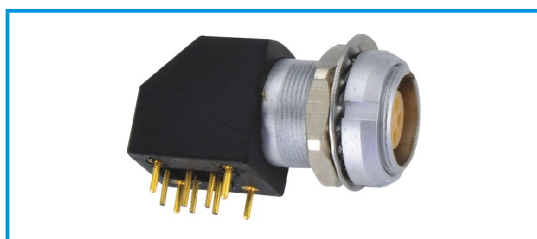
ZPG Elbow (90°) socket for printed circuit, key (G) or keys (A...F) (solder or screw fixing)

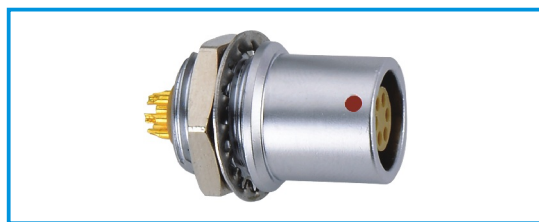
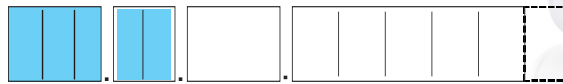
Part number	Dimensions (mm)							
	A	D	H	I	K	L	N	R
ZPG.0B.302.HLN ZPG.0B.303.HLN ZPG.0B.304.HLN ZPG.0B.305.HLN ZPG.0B.306.HLN ZPG.0B.307.HLN	9.0	14.6	6.7	12.7	13.3	25.0	11.7	7.62
ZPG.1B.302.HLN ZPG.1B.303.HLN ZPG.1B.304.HLN ZPG.1B.305.HLN ZPG.1B.306.HLN ZPG.1B.307.HLN ZPG.1B.308.HLN	11.0	16.6	7.5	14.0	13.3	27.0	12.6	7.62



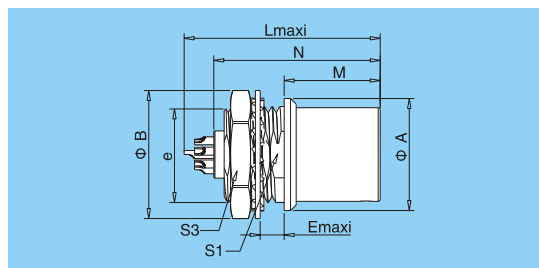
ZXG Elbow (90°) socket for printed circuit with two nuts, key (G) or keys (A...F) (solder or screw fixing)(back panel mounting)

Part number	Dimensions (mm)												
	A	B	D	e	E	H	I	K	L	M	N	R	S3
ZXG.0B.302.HLN ZXG.0B.303.HLN ZXG.0B.304.HLN ZXG.0B.305.HLN ZXG.0B.306.HLN ZXG.0B.307.HLN	12	12.4	14.6	M9x0.6	6.0	6.7	12.7	13.3	25.0	2.5	11.7	7.62	11
ZXG.1B.302.HLN ZXG.1B.303.HLN ZXG.1B.304.HLN ZXG.1B.305.HLN ZXG.1B.306.HLN ZXG.1B.307.HLN ZXG.1B.308.HLN	14	15.0	16.6	M11x0.5	7.5	7.5	14.0	13.3	27.0	3.5	12.6	7.62	13

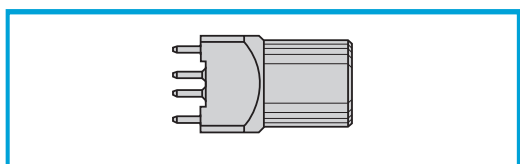




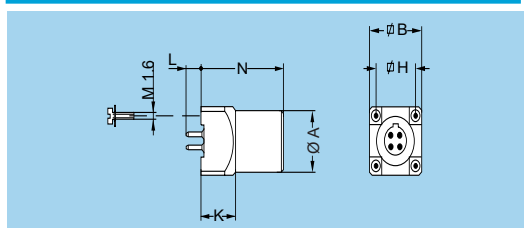
ZHG Fixed socket, nut fixing, key (G) or keys (A...M and R), and protruding shell



Reference		Dimensions (mm)								
Series	Model	A	B	e	E	L	M	N	S1	S3
0B	ZHG	10	12.4	M9x0.6	2	12.5	19.5	19.1	8.2	11
1B	ZHG	14	15.8	M12x1.0	4	12	21.7	21.1	10.5	14
2B	ZHG	18	19.2	M15x1.0	5.1	12.5	22.7	24.6	13.5	17
3B	ZHG	22	25	M18x1.0	7.1	13.5	30.7	30.3	16.5	22

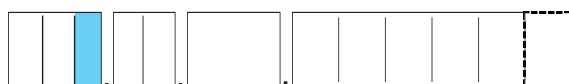


ZZG Straight socket for printed circuit, key (G) or keys (A...F)



Reference		Dimensions (mm)				
Model	Series	A	B	H	K	N
ZZG	0B	9	10	7.62	8	15.0
ZZG	1B	11	12	7.62	8	19.0
ZZG	2B	14	15	10.16	9	22.5

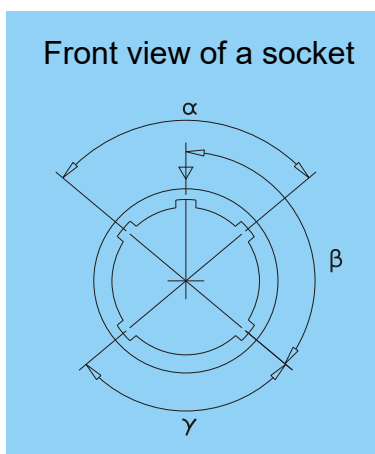
Note:Length «L» depends on the number of contacts



Alignment Key (B series)

Alignment Key and Polarized Keying System

B series connector model part numbers are composed of three letters. The LAST LETTER indicates the key position and the contact type (male or female)



Ref.	Nb of keys	Angles	Series		Nb of keys	Angles	Series		Contact type	
			0B	1B			2B	3B	Plug	Socket
G	1		0°	0°	1		0°	0°	male	female
A	2	α	30°	30°	2	α	30°	30°	male	female
B	2		60°	60°	2		45°	45°	male	female
C	2		90°	90°	2		60°	60°	male	female
D	2		135°	135°	2		95°	95°	male	female
E	2	β	145°	145°	2	β	120°	120°	male	female
F	2		155°	155°	2		145°	145°	male	female
J	2	γ	45°	45°	2	α	37.5°	37.5°	female	male

K SERIES(Outdoor, Keyed)

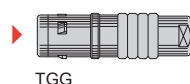
K series connectors have been specifically designed for outdoor applications.

They include an inner sleeve and two seals to prevent penetration of solids or liquids into the housing formed by the plug, free socket, fixed socket. All models of this series are watertight when mated to give a protection index of IP68 (in mated condition) when correctly assembled to an appropriate cable (IP66 otherwise).



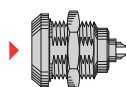
Metal housing models (page 25)

Straight plugs



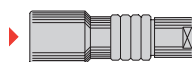
TGG

Fixed sockets



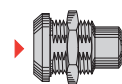
ZGG

Free sockets



DHG

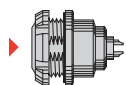
Fixed sockets



MGG



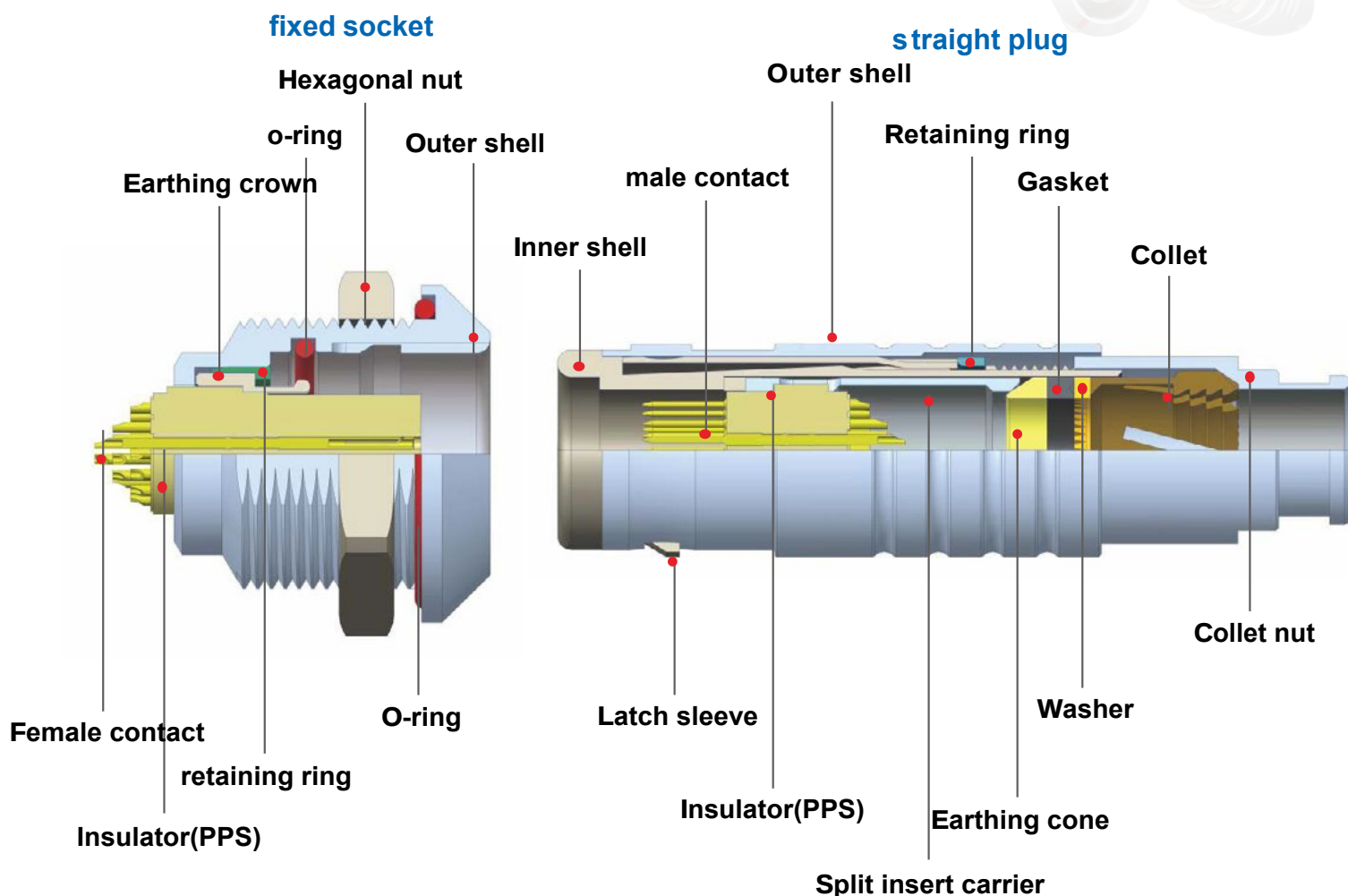
TGG



ZEG



DHG



K series connectors have the same insulators as the B series and have the following main features:

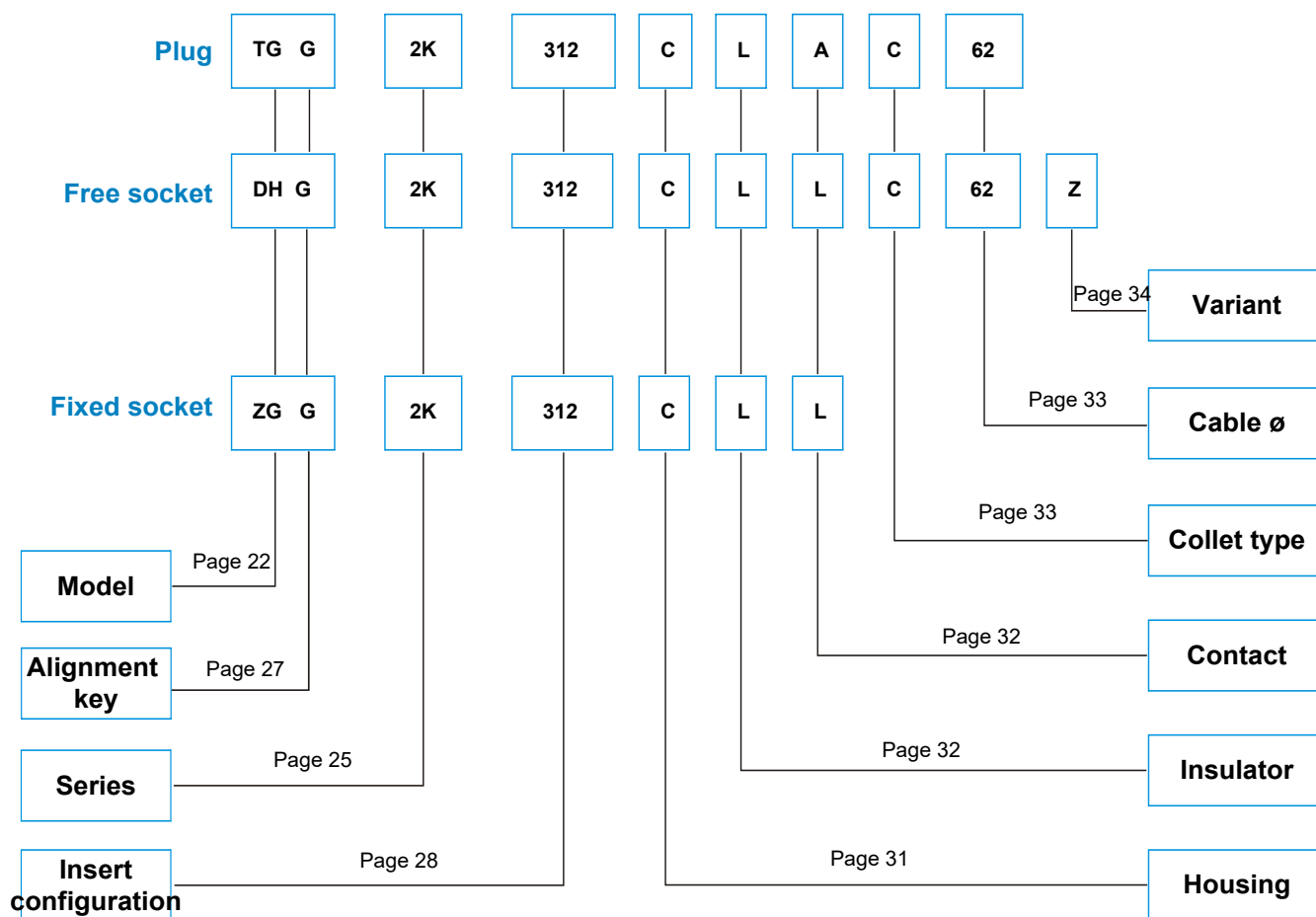
- security of the Push-Pull self-latching system
- rugged housing for extreme working conditions.
- multipole types 2 to 26 contacts
- solder, crimp or print contacts (straight or elbow)
- watertight connection (IP 68/IP 66)
- high packing density for space savings
- multiple key options to avoid cross mating of similar connectors
- keying system («G» key standard) for connector alignment
- 360° screening for full EMC shielding.

K Series Connectors Technical Characteristics:

- Endurance: > 5000 cycles
- Humidity: up to 95% at 60° C
- Temperature range: - 45° C, + 125° C
- Resistance to vibrations: 10-2000 Hz, 15g
- Shock resistance: 100 g, 6 ms
- Salt spray corrosion test: > 48h
- Protection index (mated): IP 68/IP 66



K Series Part Numbering System:



part number example

straight plug with cable collet:

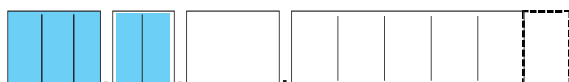
TGG.2K.312.CLAC62 = straight plug with key (G) and cable collet, 2K series, multipole type with 12 contacts, outer shell in chrome-plated brass, PPS insulator, male solder contacts, C type collet for 6.2 mm diameter cable.

Free socket:

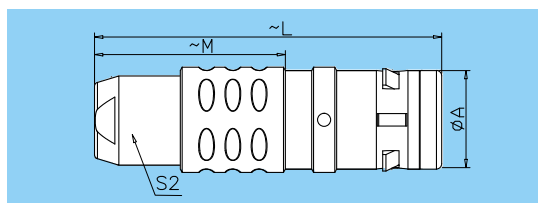
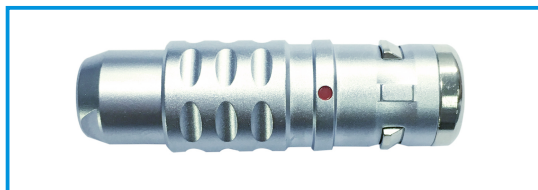
DHG.2K.312.CLLC62Z = free socket with key (G) and cable collet, 2K series, multipole type with 12 contacts, outer shell in chrome-plated brass, PPS insulator, female solder contacts, C type collet for 6.2 mm diameter cable and nut for fitting a bend relief.

fixed socket:

ZGG.2K.312.CLL = fixed socket, nut fixing, with key (G), 2K series, multipole type with 12 contacts, outer shell in chrome-plated brass, PPS insulator, female solder contacts.

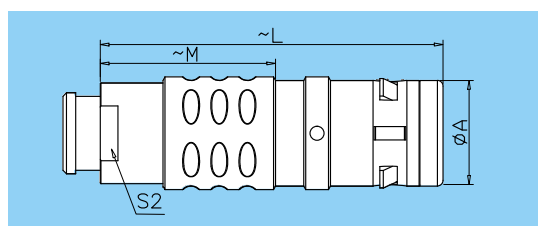
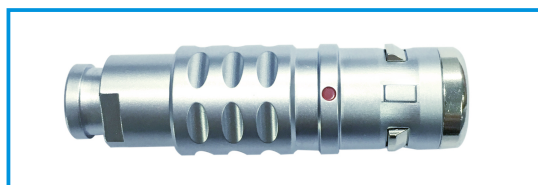


Metal Housing Models



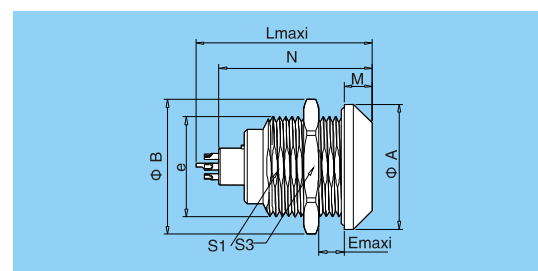
TGG Straight plug, key (G) or keys (A to F, L and R), cable collet

Reference		Dimensions (mm)			
Series	Model	A	L	M	S1
0K	TGG	11	34	23	8
1K	TGG	13	42	28	9
2K	TGG	16	52	36	12



TGG Straight plug, key (G) or keys (A to F, L and R), cable collet and nut for fitting a bend relief

Reference		Dimensions (mm)			
Series	Model	A	L	M	S2
0K	TGG	11	34	23	7
1K	TGG	13	42	28	9
2K	TGG	16	52	36	12

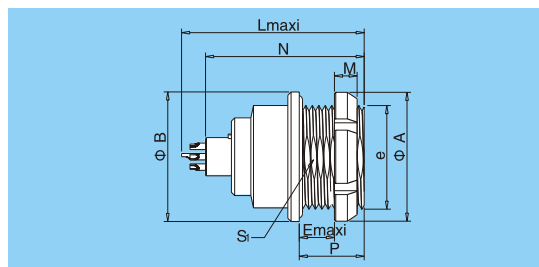


ZGG Fixed socket, nut fixing, key (G) or keys (A to F, L and R)

Reference		Dimensions (mm)								
Series	Model	A	B	e	E	L	M	N1)	S1	S3
0K	ZGG	18	19.2	M14x1.0	6	21.7	4.0	20.1	12.5	17
1K	ZGG	20	21.5	M16x1.0	9	27.0	4.5	25.1	14.5	19
2K	ZGG	25	27.0	M20x1.0	9	30.7	5.0	28.6	18.5	24



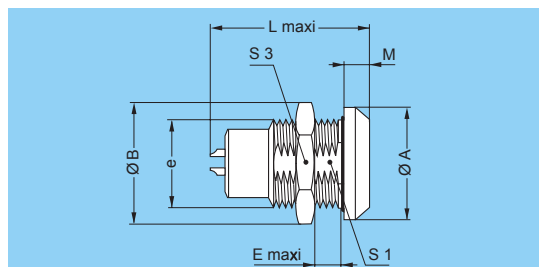
ZEG Fixed socket, nut fixing, key (G) or keys (A to F, L and R) (back panel mounting)



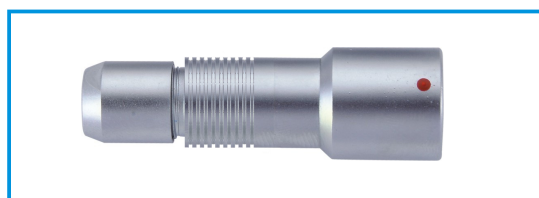
Reference		Dimensions (mm)								
Series	Model	A	B	e	E	L	M	N1)	P	S1
0K	ZEG	18	18	M14x1.0	3.4	21.7	3.5	20.1	7	12.5
1K	ZEG	20	20	M16x1.0	6.2	27.0	3.5	25.1	10	14.5
2K	ZEG	25	25	M20x1.0	5.0	30.7	3.5	28.6	10	18.5



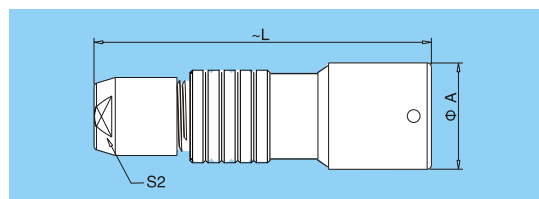
MGG Fixed socket, nut fixing, key (G) or keys (A to F and L), watertight or vacuumtight



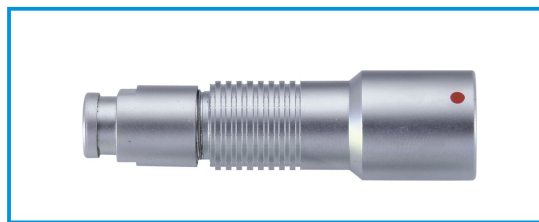
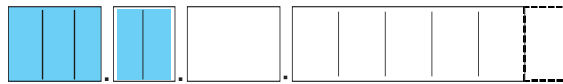
Reference		Dimensions (mm)							
Series	Model	A	B	e	E	L	M	S1	S3
0K	MGG	18	19.2	M14x1.0	5.5	21.7	4.0	12.5	17
1K	MGG	20	21.5	M16x1.0	9	30.0	4.5	14.5	19
2K	MGG	25	27.0	M20x1.0	13.0	33.7	5.0	18.5	24



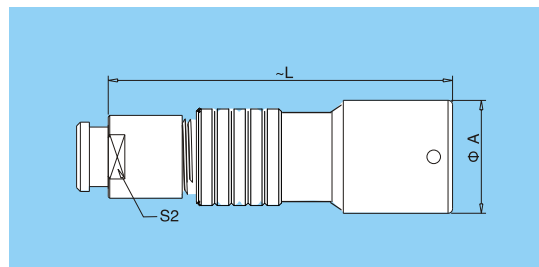
DHG Free socket, key (G) or keys (A to F, L and R), cable collet



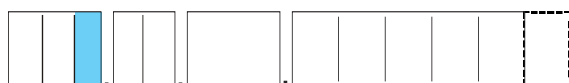
Reference		Dimensions (mm)		
Series	Model	A	L	S2
0K	DHG	13	34.0	8
1K	DHG	15	42.0	9
2K	DHG	19	52.0	12



DHG Free socket, key (G) or keys (A to F, L and R), cable collet and nut for fitting a bend relief



Reference		Dimensions (mm)		
Series	Model	A	L	S2
0K	DHG	13	34	7
1K	DHG	15	45	9
2K	DHG	19	54	12



Alignment Key (K series)

Alignment Key and Polarized Keying System:

K series connector model part numbers are composed of three letters. The LAST LETTER indicates the key position and the contact type (male or female).

Front view of a socket	Ref.	Nb of keys	Angles	Series						Contact type	
				0K	1K	2K	3K	4K	5K	Plug	Socket
	G	1		0°	0°	0°	0°	0°	0°	male	female
	A	2	α	30°	30°	30°	30°	30°	30°	male	female
	B	2		45°	45°	45°	45°	45°	45°	male	female
	C	2		60°	60°	60°	60°	60°	60°	male	female
	D	2	γ	95°	95°	95°	95°	95°	95°	male	female
	E	2	β	120°	120°	120°	120°	120°	120°	male	female
	F	2		145°	145°	145°	145°	145°	145°	male	female
	L	2	γ	75°	75°	75°	75°	75°	75°	female	male

Front view of a socket	Ref.	Nb of keys	Angles	Series						Contact type	
				0K	1K	2K	3K	4K	5K	Plug	Socket
	R	5	α	-	-	-	95°	-	-	male	female
			β	-	-	-	115°	-	-		
			γ	-	-	-	35°	-	-		
			δ	-	-	-	25°	-	-		



	Solder male contacts	Solder female contacts
00		
0B 0K		
1B 1K		

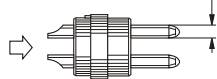
- First choice alternative
- Special order alternative

Reference	Multipole(contacts)	Φ A (mm)	Contact Type			Solder contact		Rated current (A)
			solder	Print (straight)	Print (elbow)	Test voltage (kV rms) Contact-contact	Test voltage (kV rms) Contact-shell	
302	2	0.5	●	●	●	1.00	0.95	5.0
303	3	0.5	●	●	●	0.80	0.95	3.0
304	4	0.5	●	●	●	0.80	0.65	2.0
302	2	0.9	●	●	●	1.30	1.05	10.0 ₁₎
303	3	0.9	●	●	●	1.20	0.90	8.0 ₁₎
304	4	0.7	●	●	●	0.85	0.70	7.0 ₁₎
305	5	0.7	●	●	●	1.00	0.70	6.5 ₁₎
306	6	0.5	●	●	●	0.85	0.65	2.5
307	7	0.5	●	●	●	0.80	0.70	2.5
309	9	0.5	●	●	○	0.60	0.50	2.0
302	2	1.3	●	●	●	1.50	1.35	15.0 ₂₎
303	3	1.3	●	●	●	1.30	1.55	12.0
304	4	0.9	●	●	●	1.35	1.45	10.0 ₁₎
305	5	0.9	●	●	●	1.25	1.15	9.0 ₁₎
306	6	0.7	●	●	●	1.05	1.20	7.0 ₁₎
307	7	0.7	●	●	●	0.95	1.05	7.0 ₁₎
308	8	0.7	●	●	●	0.95	1.15	5.0
310	10	0.5	●	●	●	0.90	1.50	2.5
314	14	0.5	●	●	●	0.80	1.20	2.0
316	16	0.5	●	●	○	0.80	1.25	1.5

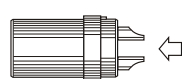
Note : 1) rated current = 6A for socket with elbow (90°) contact for printed circuit.
2) rated current = 12A for socket with elbow (90°) contact for printed circuit.
3) available only for connectors fitted with male contacts.



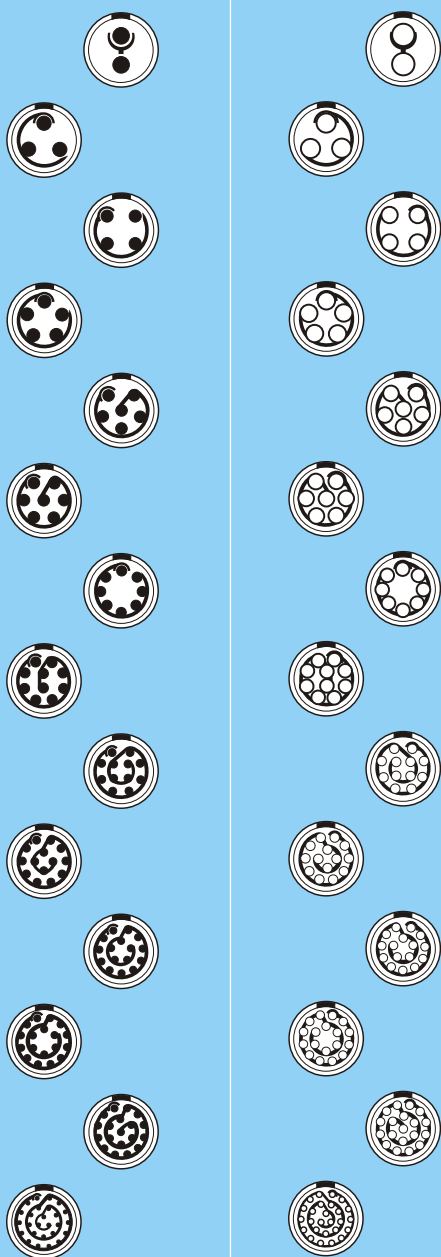
Solder male contacts



Solder female contacts



2B
2K



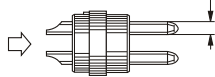
- First choice alternative
- special order alternative

Reference	Multipole(contacts)	Φ A (mm)	Contact Type			Solder contact		Rated current (A)
			Solder	Print (straight)	Print (elbow)	Test voltage (kV rms) Contact-contact	Test voltage (kV rms) Contact-shell	
302	2	2.0	●	●	●	2.10	1.75	30.0 ₂₎
303	3	1.6	●	●	●	2.40	1.85	17.0 ₂₎
304	4	1.3	●	●	●	1.85	1.85	15.0 ₂₎
305	5	1.3	●	●	●	1.75	1.60	14.0 ₂₎
306	6	1.3	●	●	●	1.35	1.45	12.0
307	7	1.3	●	●	●	1.75	1.60	11.0
308	8	0.9	●	●	●	1.50	1.25	10.0 ₁₎
310	10	0.9	●	●	●	1.45	1.30	8.0 ₁₎
312	12	0.7	●	●	●	1.25	1.35	7.0 ₁₎
314	14	0.7	●	●	●	1.15	1.35	6.5 ₁₎
316	16	0.7	●	●	●	0.95	1.25	6.0
318	18	0.7	●	●	●	0.85	1.20	5.5
319	19	0.7	●	●	●	0.95	1.25	5.0
326	26	0.5	●	●	○	0.95	1.30	2.0

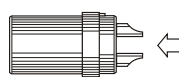
Note : 1) rated current = 6A for socket with elbow (90°) contact for printed circuit.
2) rated current = 12A for socket with elbow (90°) contact for printed circuit.



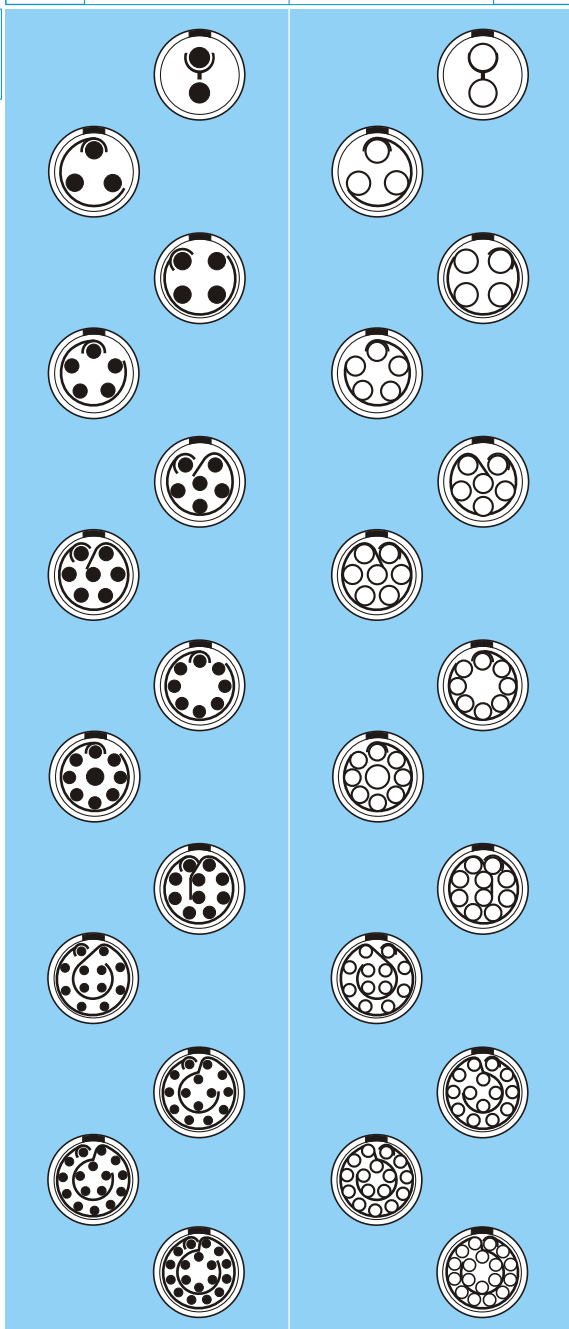
Solder male contacts



Solder female contacts



**3B
3K**



- First choice alternative
- Special order alternative

Reference	Multipole(contacts)	Φ A (mm)	Contact Type			Solder contact		Rated current (A)
			Solder	Print (straight)	Print (elbow)	Test voltage (kV rms) Contact-contact	Test voltage (kV rms) Contact-shell	
302	2	3.0	●	○	—	2.10	1.55	35.0
303	3	2.0	●	●	○	1.90	1.50	25.0
304	4	2.0	●	●	○	1.45	1.25	19.0
305	5	1.6	●	●	○	1.90	1.25	19.0
306	6	1.6	●	●	○	1.60	1.15	17.0
307	7	1.6	●	●	○	1.70	1.25	15.0
308	8	1.3	●	●	●	1.65	1.15	13.0
309	9	1.3	●	●	—	1.35	1.05	6.0
310	10	2.0	●	●	○	1.35	1.05	15.0
312	12	1.3	●	●	●	1.25	0.90	12.0
314	14	0.9	●	●	●	1.45	1.00	9.0
316	16	0.9	●	●	●	1.20	1.20	9.0 ₁₎
318	18	0.9	●	●	●	1.20	0.85	8.0

Note : 1) rated current = 6A for socket with elbow (90°) contact for printed circuit.
2) rated current = 12A for socket with elbow (90°) contact for printed circuit.
3) available only for connectors fitted with male contacts.



Ref.	Outer shell and collet nut		Latch sleeve + earthing crown		Other metallic components		Note
	Material	Surf. treatment	Material	Surf. treatment	Material	Surf. treatment	
C	Brass	chrome	brass/bronze	nickel	Brass	nickel	
N	Brass	chrome	brass/bronze	nickel	Brass	nickel	
H	Brass	black chrome	brass/bronze	nickel	Brass	nickel	
S	Stainless steel 304	anodized	brass/bronze	-	Brass	nickel	
L	Stainless steel 316L	anodized	Stainless steel 316L	-	Stainless steel 316L	-	
T	Brass	satın nickel	brass/bronze	nickel	Brass	nickel	
G	Brass	brown and black	brass/bronze	nickel	Brass	nickel	
F	Brass	High phosphorus chemical nickel	brass/bronze	nickel	Brass	nickel	
Z	Aluminium alloy	High phosphorus chemical nickel	brass/bronze	nickel	Brass	nickel	
Y	Brass	golden yellow	brass/bronze	nickel	Brass	nickel	

Note:

Brass

Connectors are mostly brass case, which can meet most military or civil application requirements. The white surface of brass shell has nickel-chromium protective layer, which has remarkable effect in resisting industrial waste, salt spray and most corrosives.

In addition, we also have nickel plating, nickel-gold plating, nickel-black chromium plating and other options for application in specific environments of the anti-corrosion coatings.

Aluminium alloy

In the aviation, aerospace industry, portable mobile devices and so on. It is suitable for the connector with aluminium alloy shell.

In addition to its high mechanical lightness and excellent corrosion resistance, the surface of aluminium alloys can be protected by anodic plating, with a variety of colors to choose from.

Stainless steel

For the use of harsh environment, the surface coating is easy to be damaged. We recommend the use of stainless steel materials. AISI304 stainless steel and AISI316L stainless steel are usually used.

AISI304 stainless steel is recommended for special fields such as nuclear industry. It can resist radiation and nitric acid corrosion.

AISI316L stainless steel is recommended for medical and shipping industries. It has no surface treatment and strong corrosion resistance.



Ref.	Material	Contact type	Note
T	Teflon	Solder or print	
L	PPS	Solder or print	

>>> Contacts (B, K series)



Soldering characteristics

- no need to order specific tools, a simple soldering iron is sufficient
- ideal for very small and fragile conductors
- contacts with solder cups to allow the solder to flow

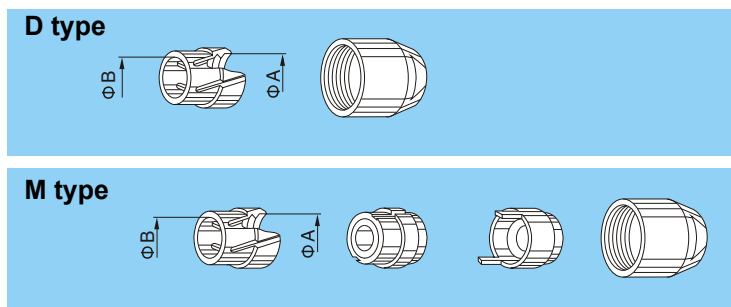
Note: see page 109 for more information.

Contacts reference for plugs, free or fixed sockets

Contact type	Reference		Contact			Conductor					
	Male	Female	Φ A (mm)	Φ C (mm)	Form per fig.	Solid		Stranded			
						AWG min.	Section max. (mm²)	AWG		Section (mm²)	
								min.	max.	min.	max.
Solder 	A	L	0.5	0.40	-	28	0.09	-	30	-	0.05
			0.5	0.45	-	28	0.09	-	28	-	0.09
			0.7	0.60	-	24	0.25	-	26	-	0.14
			0.7	0.80	-	22	0.34	-	22	-	0.34
			0.9	0.80	-	22	0.34	-	22	-	0.34
			1.3	1.00	-	20	0.50	-	20	-	0.50
			1.6	1.40	-	16	1.00	-	18	-	1.00
			2.0	1.80	-	14	1.50	-	16	-	1.50
			3.0	2.70	-	10	4.00	-	12	-	4.00
			4.0	3.70	-	10	6.00	-	10	-	6.00
Print 	D	N	L dimensions and C are detailed in the section on PCB drilling pattern. See page 37.								
Print (elbow) 	V	V	L dimensions and C are detailed in the section on PCB drilling pattern. See page 37.								

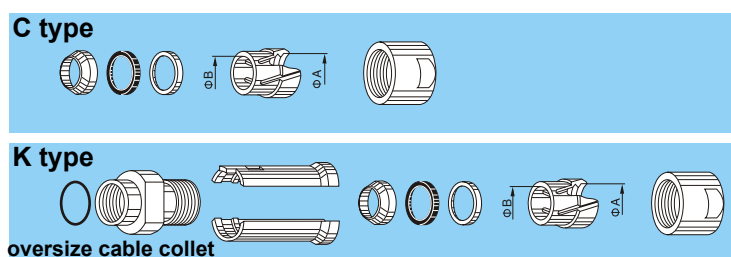


D and M type collets for B series



Reference			Collet ø		Cable ø	
Type	Code		Φ A	Φ B	max.	min.
00	D	27	2.7	—	2.6	2.1
	D	32	3.2	—	3.0	2.1
	D	42	4.2	—	4.0	3.1
0B	D	52	5.2	4.7	5.0	4.1
	M	31	3.1	—	3.0	2.6
	D	42	4.2	—	4.0	3.1
1B	D	52	5.2	—	5.0	4.1
	D	62	6.2	—	6.0	5.1
	D	72	7.2	6.7	7.0	6.1
2B	M	42	4.2	—	4.0	3.1
	D	52	5.2	—	5.0	4.1
	D	62	6.2	—	6.0	5.1
	D	72	7.2	—	7.0	6.1
	D	82	8.2	—	8.0	7.1
	D	92	9.2	8.6	9.0	8.1
	D	99	9.9	8.6	9.7	9.1

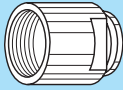
C and K type collets for K series



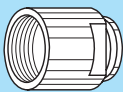
Reference			Collet ø		Cable ø	
Type	Code		Φ A	Φ B	max.	min.
0K	C	30	3.1	—	3.0	2.6
	C	40	4.2	4.2	4.0	3.6
	C	45	5.2	5.2	4.5	4.1
	C	50	5.2	5.2	5.0	4.6
	C	45	5.2	—	4.5	4.1
1K	C	50	5.2	—	5.0	4.6
	C	55	6.2	6.2	5.5	5.1
	C	60	6.2	6.2	6.0	5.6
	K	70	7.2	—	7.0	6.6
	C	65	7.2	—	6.5	6.1
2K	C	70	7.2	—	7.0	6.6
	C	85	9.2	8.6	8.5	8.1
	K	11	11.2	10.6	10.5	10.1



Bend relief for B series models with collet

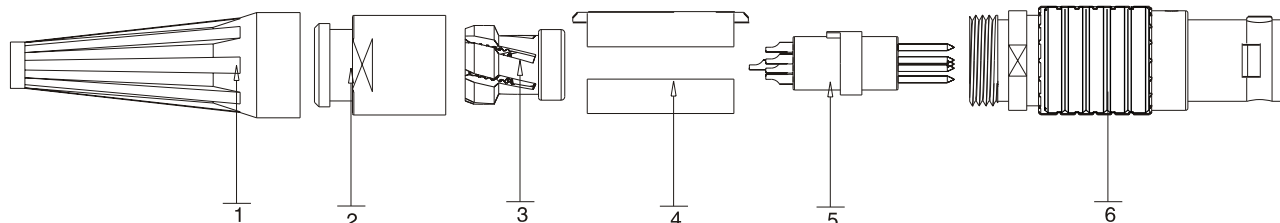
				Need to be ordered
				
	Ref.	Collet		Need to be ordered separately (see page 108)
		Type	Code	
00	z	D	17 to 35	GMA.00.... • GMB.00.... •
0B	z	D	21 to 52	GMA.0B.... •
1B	z	M	27 and 31	GMA.1B.... •
		D	42 to 72	GMA.1B.... •
2B	z	M	21 and 31	GMA.0B.... •
		D	42	GMA.2B.... •
		D	52 to 92	GMA.2B.... •
3B	z	M	52	GMA.1B.... •
		D	62 to 11	GMA.3B.... •
4B	z	M	62 and 72	GMA.2B.... •
		M	82 and 92	GMA.4B.... •
		D	10 to 15	GMA.4B.... •

Bend relief for K series models with collet

				Need to be ordered
				
	Ref.	Collet		Need to be ordered separately (see page 108)
		Type	Code	
0K	z	C	10 to 50	GMA.0B.... •
1K	z	C	15 to 65	GMA.1B.... •
		K	70 to 85	GMA.2B.... •
2K	z	C	15 to 85	GMA.2B.... •
		K	90 to 10	GMA.3B.... •

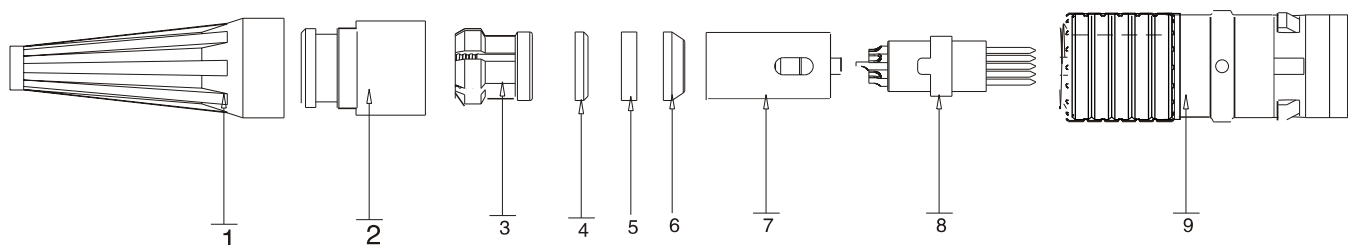
Note: all dimensions are in millimetres.

Plug assembly instructions for B series



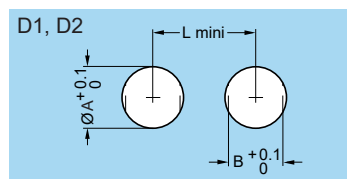
1. Pass the cable through the bend relief ①, the collet nut ②, the cable collet ③, and solder to the insulator with contacts ⑤ in order.
2. Attach two pieces of split insert carriers ④ to the welded insulator with contacts ⑤, noting that the window on the split insert carriers ④ corresponds to the protrusion on the insulator with contacts ⑤.
3. Install the cable collet ③ in the proper position of the cable. Note that the protrusion on the cable collet ③ corresponds to the groove on the split insert carriers ④.
4. Push the insulator with contacts ⑤, the split insert carriers ④ and the cable collet ③ into the plug assembly in turn, and note that the protrusions on the split insert carriers ④ are correspondingly inserted into the notches in the plug assembly.
5. Screw the collet nut ② onto the housing subassy ⑥
6. Insert the bend relief ① into the corresponding step of the collet nut ②.

Plug assembly instructions for K series



1. The cable is sequentially passed through the bend relief ①, the collet nut ②, the cable collet ③, the flexible gasket ④, the earthing cone ⑤, the earthing cone ⑥, and soldered to the corresponding pins of the split insert carriers ⑦ in order.
2. Attach the split insert carriers ⑦ to the insulator with contacts ⑧. Note that the protrusion of the split insert carriers ⑦ corresponds to the notch of the insulator with contacts ⑧, and the earthing cone ⑥ is sequentially replaced, the earthing cone ⑤, the flexible gasket ④, and the cable collet ③ Push it into the proper position and ensure that the complete outer skin of the cable is inserted into the earthing cone ⑥.
3. Install the mounted the insulator with contacts ⑧ into the housing subassy ⑨, noting that the notch in the split insert carriers ⑦ corresponds to the protrusion in the housing subassy ⑨.
4. Screw the collet nut ② onto the housing subassy ⑨.
5. Attach the bend relief ① to the collet nut ②.

B Series



series	D1			D2		
	ØA	B	L	ØA	B	L
00	7.1	6.4	12.5	7.1	-	12
0B	9.1	8.3	14.5	9.1	8.3	15
1B	12.1	10.6	18.5	12.1	10.6	19
2B	15.1	13.6	22.5	15.1	13.6	23
3B	18.2	16.6	27.0	18.2	16.6	27

Note: when using the tapered washer a round hole apply 00: ø 7.6 mm / 0B: ø 9.6 mm / 1B: ø 12.6 mm / 2B: ø 15.7 mm / 3B: ø 18.8 mm

Cut-out types

Model	Type
ZCG	D1
ZEG	D1
ZGG	D1
ZHG	D1
TAG	D1
DEG	D1

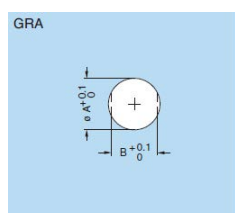
Model	Type
MEG	D2
MGG	D2
MHG	D2
TWG	D2

Mounting nut torque

series	Torque (Nm)
	Metal shell
00	1.0
0B	2.5
1B	4.5
2B	6.0
3B	9.0

Note: these values apply when metal shell are mounted with insulating washer.

Panel cut-out for mounting with insulating washer



series	D i m .(mm)	
	ØA	B
00	8.9	8.1
0B	10.9	10.1
1B	13.9	12.3
2B	18.0	16.3

K Series

series	D1		
	ØA	B	L
0K	14.1	12.6	20.5
1K	16.1	14.6	22.5
2K	20.2	18.6	29.0

Cut-out types

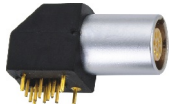
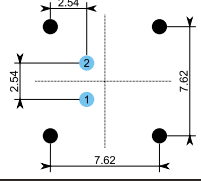
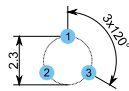
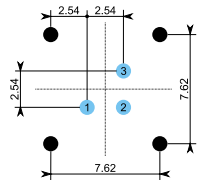
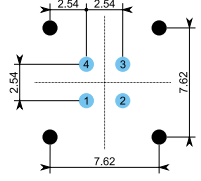
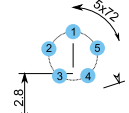
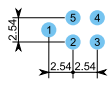
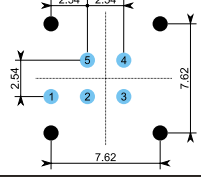
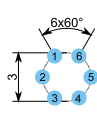
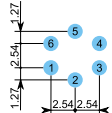
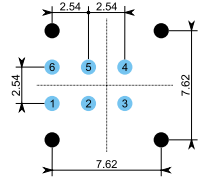
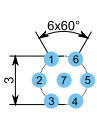
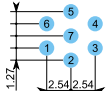
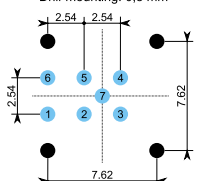
Model	Type
ZEG	D1
ZGG	D1
MGG	D1

Mounting nut torque

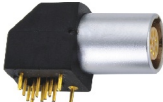
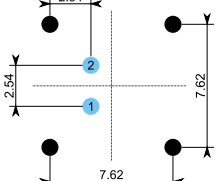
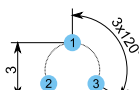
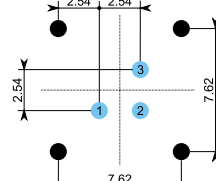
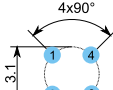
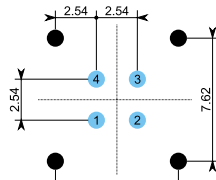
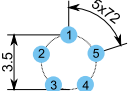
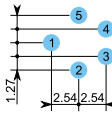
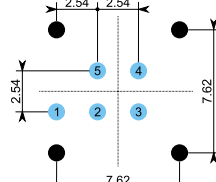
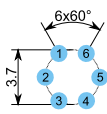
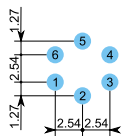
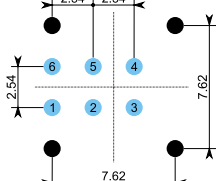
series	Torque (Nm)
0K	5
1K	7
2K	9

1 N = 0.102 kg

Type-0 PCB drilling pattern

	PCB(Straight Contact)	PCB(Elbow Contact)	PCB(ZPG/ZXG Elbow Socket)	
Contacts				
2	Drill: 0,8 mm 	Drill: 0,7 mm 	Drill-contact: 0,8 mm Drill-mounting: 0,8 mm 	
3	Drill: 0,8 mm 	Drill: 0,7 mm 	Drill-contact: 0,8 mm Drill-mounting: 0,8 mm 	
4	Drill: 0,6 mm 	Drill: 0,7 mm 	Drill-contact: 0,8 mm Drill-mounting: 0,8 mm 	
5	Drill: 0,6 mm 	Drill: 0,7 mm 	Drill-contact: 0,8 mm Drill-mounting: 0,8 mm 	
6	Drill: 0,6 mm 	Drill: 0,7 mm 	Drill-contact: 0,8 mm Drill-mounting: 0,8 mm 	
7	Drill: 0,6 mm 	Drill: 0,7 mm 	Drill-contact: 0,8 mm Drill-mounting: 0,8 mm 	

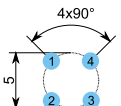
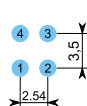
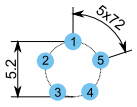
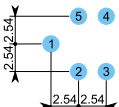
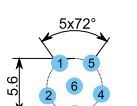
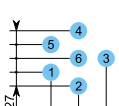
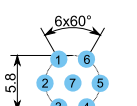
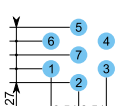
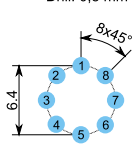
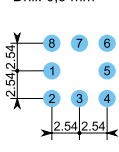
Type-1 PCB drilling pattern

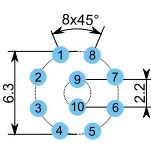
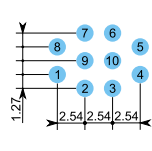
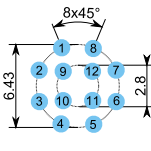
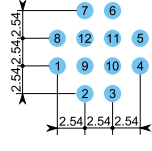
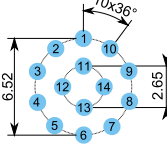
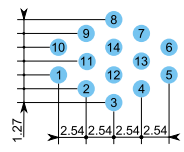
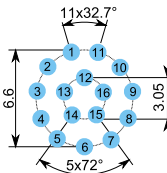
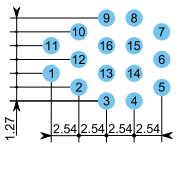
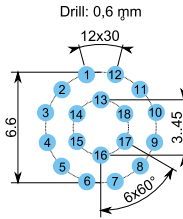
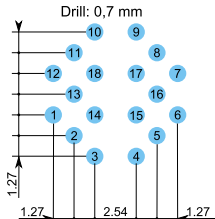
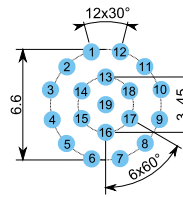
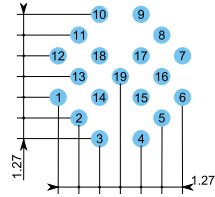
	PCB(Straight Contact)	PCB(Elbow Contact)	PCB(ZPG/ZXG Elbow Socket)	
Contact				
2	Drill: 0,8 mm 	Drill: 0,9 mm 	Drill-contact: 0,8 mm Drill-mounting: 0,8 mm 	
3	Drill: 0,8 mm 	Drill: 0,9 mm 	Drill-contact: 0,8 mm Drill-mounting: 0,8 mm 	
4	Drill: 0,6 mm 	Drill: 0,7 mm 	Drill-contact: 0,8 mm Drill-mounting: 0,8 mm 	
5	Drill: 0,8 mm 	Drill: 0,7 mm 	Drill-contact: 0,8 mm Drill-mounting: 0,8 mm 	
6	Drill: 0,6 mm 	Drill: 0,7 mm 	Drill-contact: 0,8 mm Drill-mounting: 0,8 mm 	

Type-1 PCB drilling pattern

Contact	PCB(Straight Contact)	PCB(Elbow Contact)	PCB(ZPG/ZXG Elbow Socket)	
7	Drill: 0,6 mm 	Drill: 0,7 mm 	Drill-contact: 0,8 mm Drill-mounting: 0,8 mm 	
8	Drill: 0,6 mm 	Drill: 0,7 mm 	Drill-contact: 0,8 mm Drill-mounting: 0,8 mm 	
10	Drill: 0,6 mm 	Drill: 0,7 mm 	Drill-contact: 0,8 mm Drill-mounting: 0,8 mm 	
14	Drill: 0,6 mm 	Drill: 0,7 mm 		
16	Drill: 0,6 mm 	Drill: 0,7 mm 		

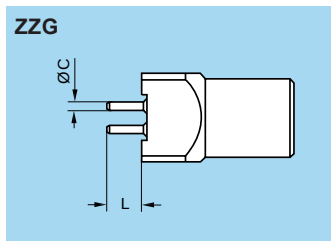
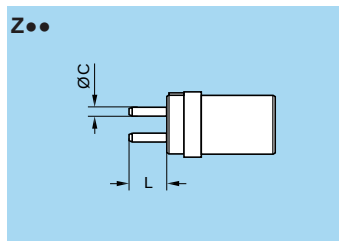
Type-2 PCB drilling pattern

Contact	PCB (Straight Contact)	PCB (Elbow Contact)
3	 Drill: 0,8 mm Bohrung: 0,8mm 3x120° 4.54 2.54	 Drill: 0,9 mm 2.54 2.54 2.54
4	 Drill: 0,8 mm 4x90° 5 2.54	 Drill: 0,9 mm 3.5 2.54
5	 Drill: 0,8 mm 5x72° 5.2 2.54	 Drill: 0,9 mm 2.54 2.54 2.54
6	 Drill: 0,8 mm 5x72° 5.6 2.54	 Drill: 0,9 mm 1.27 2.54 2.54
7	 Drill: 0,8 mm 6x60° 5.8 2.54	 Drill: 0,7 mm 1.27 2.54 2.54
8	 Drill: 0,8 mm 8x45° 6.4 2.54	 Drill: 0,9 mm 2.54 2.54 2.54

Contact	PCB (Straight Contact)	PCB (Elbow Contact)
10	 Drill: 0,8 mm 8x45° 6.3 2.2 2.54	 Drill: 0,7 mm 1.27 2.54 2.54 2.54
12	 Drill: 0,6 mm 8x45° 6.43 2.8 2.54	 Drill: 0,7 mm 2.54 2.54 2.54 2.54
14	 Drill: 0,6 mm 10x36° 6.52 2.65 2.54	 Drill: 0,7 mm 1.27 2.54 2.54 2.54
16	 Drill: 0,6 mm 11x32.7° 6.6 3.05 2.54	 Drill: 0,7 mm 1.27 2.54 2.54 2.54
18	 Drill: 0,6 mm 12x30° 6.6 3.45 2.54	 Drill: 0,7 mm 1.27 2.54 1.27
19	 Drill: 0,6 mm 12x30° 6.6 3.45 2.54	 Drill: 0,7 mm 1.27 2.54 1.27

Length of straight print contacts

For Socket Z●●



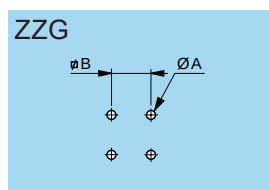
	Type	Size	
		ØC	L
00	302	0.5	3.0
	303	0.5	3.0
	304	0.5	3.0
0B 0K	302/303	0.7	3.2
	304/305	0.5	3.2
	306/307/309	0.5	3.2
1B 1K	302/303/304/305	0.7	3.0
	306/307/308	0.7	3.0
	310/314/316	0.5	4.0
2B 2K	303/304/305/306/307	0.7	3.0
	308/310/312/314/316/318/319	0.7	3.0
	326	0.7	3.0

	Type	ZZG	
		ØC	L
0B	302/303	0.7	4.5
	304/305	0.5	4.5
	306/307/309	0.5	3.0
1B	302/303/304/305	0.7	3.8
	306/307/308	0.7	3.8
	310/314/316	0.5	3.8
2B	303/304/305	0.7	5.5
	306/307/308/310	0.7	5.5
	312/314/316/318/319	0.7	5.5

Note: This table does not apply for socket M●●; socket ZH● and plugs TA●/TW●.

Fixed socket for printed circuit (ZZG)

Holes for fixing the housing



Serie	Size	
	A	B
00	0.8 ¹⁾	5.08
0B	1.7 ²⁾	7.62
1B	1.7 ²⁾	7.62
2B	1.7 ²⁾	10.16

Note: Mounting torque for screws: 0.1 Nm. 1) to solder. 2) to screw.

S SERIES (Indoor, Stepped insert)

E SERIES (Outdoor, Stepped insert)



S SERIES Metal housing models (page 45)

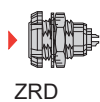
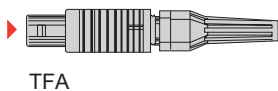
Straight plugs



Fixed sockets

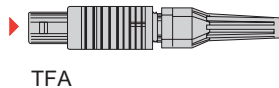


Free sockets

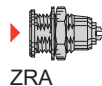


E SERIES Metal housing models (page 48)

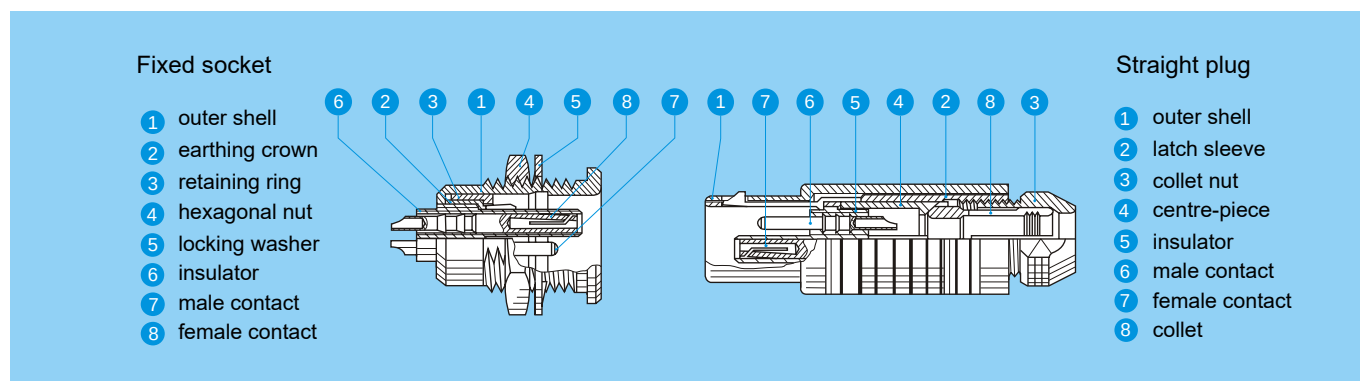
Straight plugs



Fixed sockets



Part Section Showing Internal Components



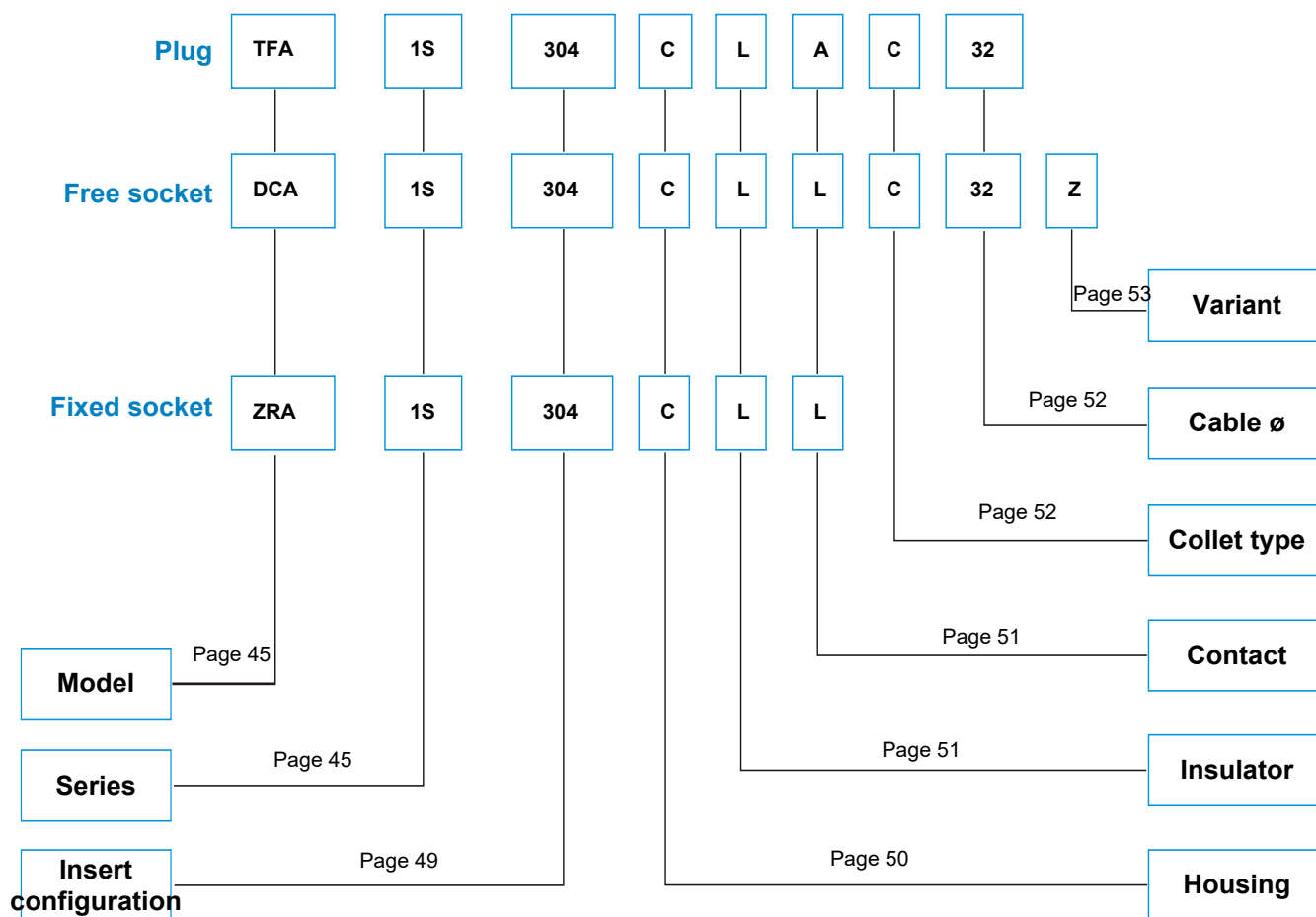
S series connectors have main features as follows:

- security of the Push-Pull self-latching system
- multipole types 2 to 6 contacts
- solder contacts
- high packing density for space savings
- polarisation by stepped insert (half-moon) fitted with male and female contacts
- 360°screening for full EMC shielding.

S Series Connectors Technical Characteristics:

- Endurance: > 5000 cycles
- Humidity: up to 95% at 60° C
- Temperature range: - 45° C, + 125° C
- Resistance to vibrations: 10-2000 Hz, 15g
- Shock resistance: 100 g, 6 ms
- Salt spray corrosion test: > 48h
- Protection index (mated): IP 50

S Series Part Numbering System:



part number example

straight plug with cable collet:

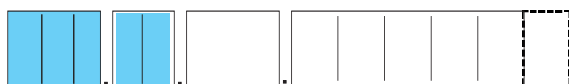
TFA.1S.304.CLAC32 = straight plug with cable collet, 1S series, multipole type with 4 contacts, outer shell in chrome-plated brass, PPS insulator, 2 male and 2 female solder contacts, C type collet for a 3.2 mm diameter cable.

Free socket:

DCA.1S.304.CLLC32Z = free socket, with cable collet, 1S series, multipole type with 4 contacts, outer shell in chrome-plated brass, PPS insulator, 2 female and 2 male solder contacts, C type collet for a 3.2 mm diameter cable and nut for fitting a bend relief.

fixed socket:

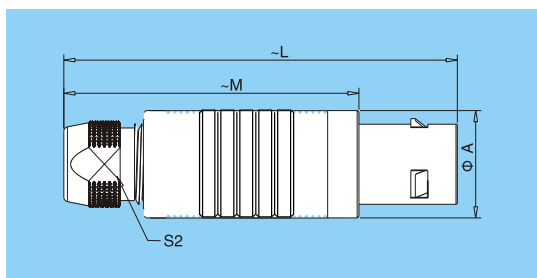
ZRA.1S.304.CLL = fixed socket, nut fixing, 1S series, multipole type with 4 contacts, outer shell in chrome-plated brass, PPS insulator, 2 female and 2 male solder contacts.



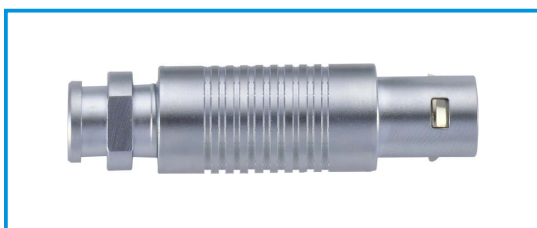
Metal Housing Models



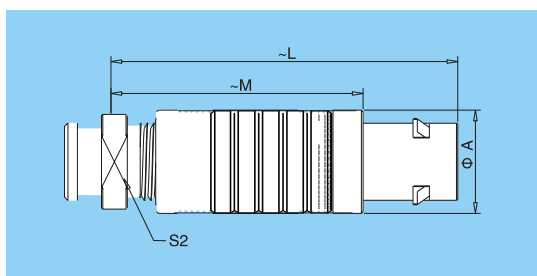
TFA Straight plug, cable collet



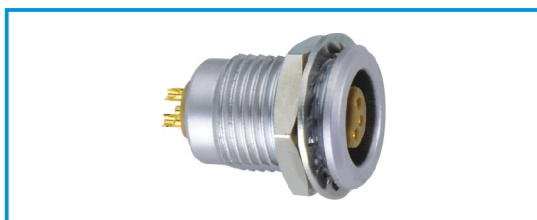
Reference		Dimensions (mm)			
Series	Model	A	L	M	S2
0S	TFA	8.8	34.5	24.5	6.5
1S	TFA	11.8	42.5	31.5	8.5
2S	TFA	14.8	52.0	40.0	11.0



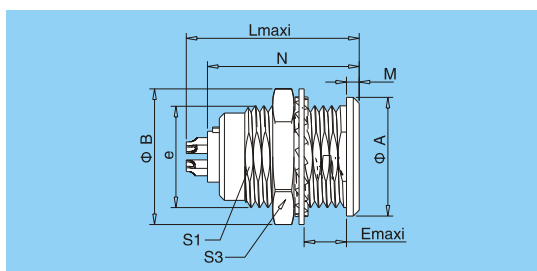
TFA Straight plug, cable collet and nut for fitting a bend relief



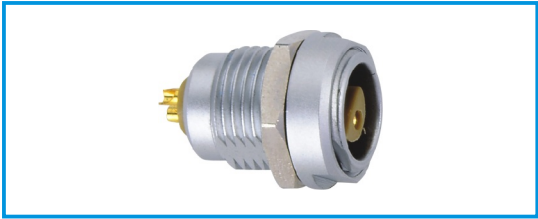
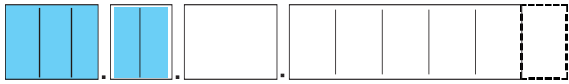
Reference		Dimensions (mm)			
Series	Model	A	L	S1	S2
00	TFA	6.4	26.0	18.0	6
0S	TFA	8.8	34.5	24.5	7
1S	TFA	11.8	42.5	31.5	9
2S	TFA	14.8	52.0	40.0	12



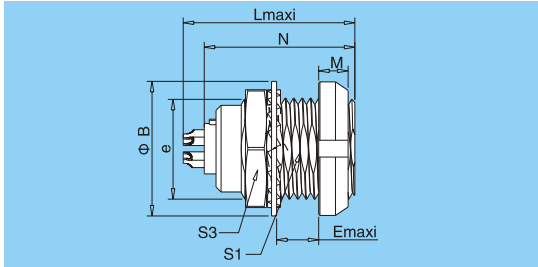
ZRA Fixed socket, nut fixing



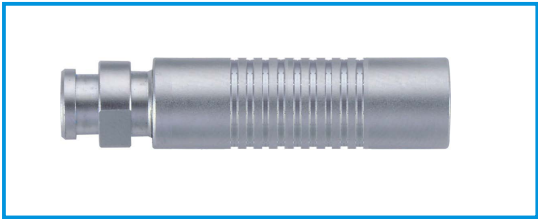
Reference		Dimensions (mm)							
Series	Model	A	B	e	E	L	M	S1	S3
00	ZRA	8	10.2	M7x0.5	5.5	14.5	1.0	6.3	9
0S	ZRA	10	12.3	M9x0.6	7.0	21.3	1.2	8.2	11
1S	ZRA	14	16.0	M12x1.0	7.5	23.2	1.5	10.5	14
2S	ZRA	18	19.2	M15x1.0	8.0	24.8	2.0	13.5	17



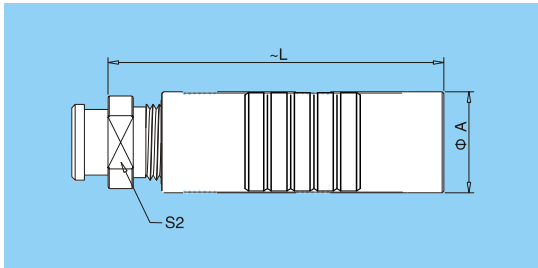
ZRD Fixed socket with two nuts (back panel mounting)



Reference		Dimensions (mm)								
Series	Model	A	B	e	E	L	M	N	S1	S3
0S	ZRD	12	12.5	M9x0.6	5.5	21.3	2.5	19.0	8.2	11
1S	ZRD	16	16.0	M12x1.0	6.0	23.2	3.2	2.01	10.5	14
2S	ZRD	20	20	M15x1.0	6.5	24.8	3.5	24.5	13.5	17

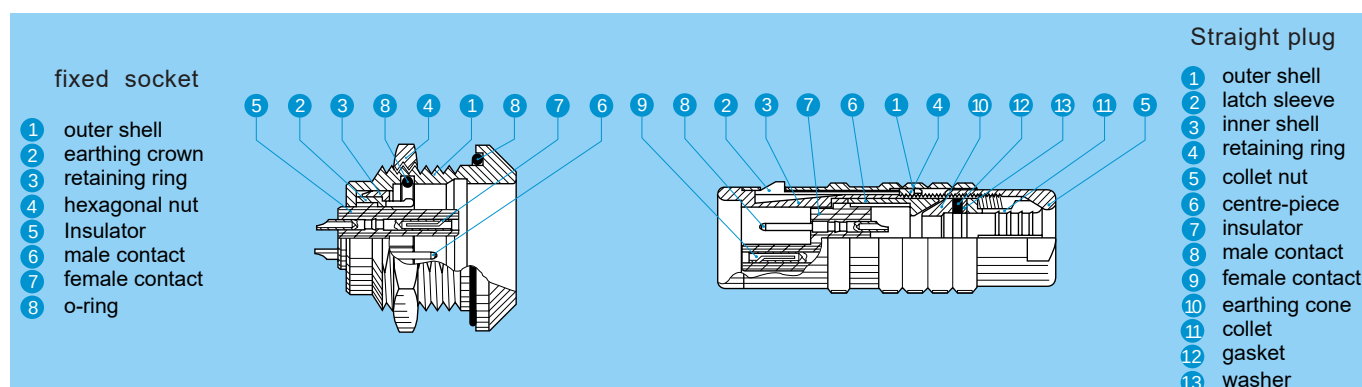


DCA Free socket, cable collet and nut for fitting a bend relief



Reference		Dimensions (mm)		
Series	Model	A	L	S2
0S	DCA	8.9	33.5	7
1S	DCA	11.9	40.5	9
2S	DCA	14.8	50.0	12

Part Section Showing Internal Components



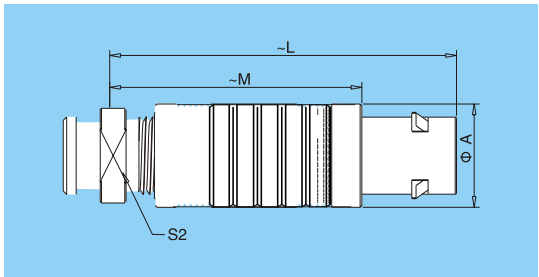
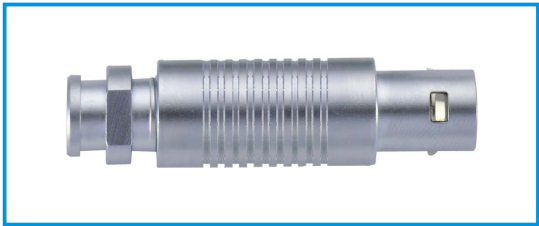
E series connectors have been specifically designed for outdoor applications.

They include an inner sleeve and two seals to prevent penetration of solids or liquids into the housing formed by the plug, fixed socket. All models of these series are watertight when mated and give a protection index of IP 68 (in mated condition) when correctly assembled to an appropriate cable (IP 66 other wise).

- security of the Push-Pull self-latching system
- multipole types 2 to 6 contacts
- solder contacts
- high packing density for space savings
- polarisation by stepped insert (half-moon) fitted with male and female contacts
- 360° screening for full EMC shielding.
- watertight connection (IP 68/IP 66)

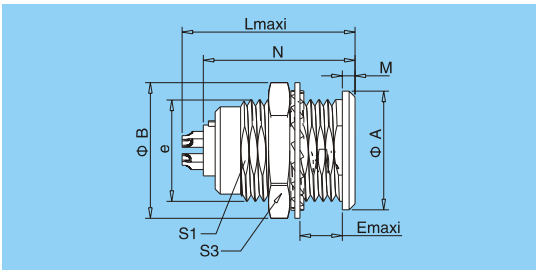
E Series Connectors Technical Characteristics:

- Endurance: > 5000 cycles
- Humidity: up to 95% at 60° C
- Temperature range: - 45° C, + 125° C
- Resistance to vibrations: 10-2000 Hz, 15g
- Shock resistance: 100 g, 6 ms
- Salt spray corrosion test: > 48h
- Protection index (mated): IP 68/IP 66



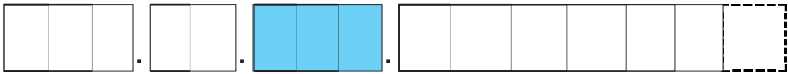
TFA Straight plug, cable collet and nut for fitting a bend relief

Reference		Dimensions (mm)			
Series	Model	A	L	M	S2
1E	TFA	13	42	28.0	9



ZRA Fixed socket, nut fixing

Reference		Dimensions (mm)							
Series	Model	A	B	e	E	L	M	S1	S3
1E	ZRA	20	21.5	M16x1.0	9.0	24.0	4.5	14.5	19



		Solder male contacts		Solder female contacts		Reference	Series		Multipole(contacts)	Φ A (mm)	Contact Type			Test voltage (kV rms)	Test voltage (kV dc)	Rated current (A)
							Standard	Watertight			solder	Print (straight)	Print (elbow)			
0S 0E						302	0S	0E	2	0.9	●	●	●	1.5	2.1	10
						303	0S	0E	3	0.7	●	●	●	1.0	1.5	7
						304	0S	0E	4	0.7	●	●	●	1.0	1.5	7
1S 1E						302	1S	1E	2	1.3	●	●	●	1.2	1.8	15
						303	1S	1E	3	0.9	●	●	●	1.2	1.8	10
						304	1S	1E	4	0.9	●	●	●	1.2	1.8	10
						305	1S	1E	2 3	0.9 0.7	●	●	●	1.5 1.5	2.1 2.1	10 7
						306	1S	1E	6	0.7	●	●	●	1.5	2.1	7

- First choice alternative
- Special order alternative

Note : 1) rated current = 6A for socket with elbow (90°) contact for printed circuit.
2) rated current = 12A for socket with elbow (90°) contact for printed circuit.
3) available only for connectors fitted with male contacts.



Ref.	Outer shell and collet nut		Latch sleeve + earthing crown		Other metallic components		Note
	Material	Surf. treatment	Material	Surf. treatment	Material	Surf. treatment	
C	Brass	chrome	brass/bronze	nickel	Brass	nickel	
N	Brass	chrome	brass/bronze	nickel	Brass	nickel	
H	Brass	black chrome	brass/bronze	nickel	Brass	nickel	
S	Stainless steel 304	anodized	brass/bronze	-	Brass	nickel	
L	Stainless steel 316L	anodized	Stainless steel 316L	-	Stainless steel 316L	-	
T	Brass	satın nickel	brass/bronze	nickel	Brass	nickel	
G	Brass	brown and black	brass/bronze	nickel	Brass	nickel	
F	Brass	High phosphorus chemical nickel	brass/bronze	nickel	Brass	nickel	
Z	Aluminium alloy	High phosphorus chemical nickel	brass/bronze	nickel	Brass	nickel	
Y	Brass	golden yellow	brass/bronze	nickel	Brass	nickel	

Note:

Brass

Connectors are mostly brass case, which can meet most military or civil application requirements. The white surface of brass shell has nickel-chromium protective layer, which has remarkable effect in resisting industrial waste, salt spray and most corrosives.

In addition, we also have nickel plating, nickel-gold plating, nickel-black chromium plating and other options for application in specific environments of the anti-corrosion coatings.

Aluminium alloy

In the aviation, aerospace industry, portable mobile devices and so on. It is suitable for the connector with aluminium alloy shell.

In addition to its high mechanical lightness and excellent corrosion resistance, the surface of aluminium alloys can be protected by anodic plating, with a variety of colors to choose from.

Stainless steel

For the use of harsh environment, the surface coating is easy to be damaged. We recommend the use of stainless steel materials. AISI304 stainless steel and AISI316L stainless steel are usually used.

AISI304 stainless steel is recommended for special fields such as nuclear industry. It can resist radiation and nitric acid corrosion.

AISI316L stainless steel is recommended for medical and shipping industries. It has no surface treatment and strong corrosion resistance.



Ref.	Material	Contact type	Note
T	Teflon	Solder or print	
L	PPS	Solder or print	

>>> Contacts (S, E series)



Soldering characteristics

- no need to order specific tools, a simple soldering iron is sufficient
- ideal for very small and fragile conductors
- contacts with solder cups to allow the solder to flow

Note: see page 109 for more information.

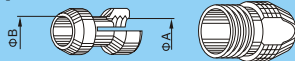
Contacts reference for plugs, free or fixed sockets

Contact type	Reference		Contact			Conductor					
	Male	Female	Φ A (mm)	Φ C (mm)	Form per fig.	Solid		Stranded			
						AWG min.	Section max. (mm²)	AWG		Section (mm²)	
								min.	max.	min.	max.
Solder 	A	L	0.5	0.40	-	28	0.09	-	30	-	0.05
			0.5	0.45	-	28	0.09	-	28	-	0.09
			0.7	0.60	-	24	0.25	-	26	-	0.14
			0.7	0.80	-	22	0.34	-	22	-	0.34
			0.9	0.80	-	22	0.34	-	22	-	0.34
			1.3	1.00	-	20	0.50	-	20	-	0.50
			1.6	1.40	-	16	1.00	-	18	-	1.00
			2.0	1.80	-	14	1.50	-	16	-	1.50
			3.0	2.70	-	10	4.00	-	12	-	4.00
			4.0	3.70	-	10	6.00	-	10	-	6.00
Print 	D	N	L dimensions and C are detailed in the section on PCB drilling pattern. See page 37.								
Print (elbow) 	V	V	L dimensions and C are detailed in the section on PCB drilling pattern. See page 37.								

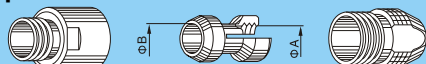


C, K and L type collets for S series

C type



K type



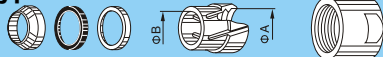
L type



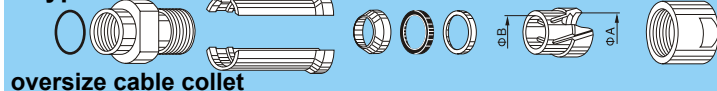
Reference			Collet ø		Cable ø	
Type	Code		Φ A	Φ B	max.	min.
00	C 27		2.7	–	2.6	2.2
	K 37		3.7	–	3.6	3.0
0S	C 27		2.7	–	2.6	2.2
	C 32		3.2	–	3.1	2.7
	C 42		4.2	3.7	4.1	3.3
	K 47		4.7	–	4.6	3.8
1S	C 32		3.2	–	3.1	2.6
	C 42		4.2	–	4.1	3.3
	C 47		4.7	–	4.6	3.8
	C 52		5.2	–	5.1	4.3

C, K type collets for E series

C type



K type



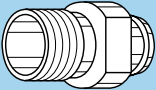
oversize cable collet

1E

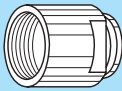
Reference		Collet ø		Cable ø	
Type	Code	Ø A	Ø B	max.	min.
C	15	1.6	-	1.5	1.3
C	20	2.2	-	2.0	1.6
C	25	3.2	-	2.5	2.1
C	30	3.2	-	3.0	2.6
C	35	4.2	-	3.5	3.1
C	40	4.2	-	4.0	3.6
C	45	5.2	-	4.5	4.1
C	50	5.2	-	5.0	4.6
C	55	6.2	6.2	5.5	5.1
C	60	6.2	6.2	6.0	5.6
C	65	7.2	6.7	6.5	6.1
K	70	7.2	-	7.0	6.6
K	75	8.2	8.2	7.5	7.1
K	80	8.2	8.2	8.0	7.6
K	85	9.2	8.6	8.5	8.1



Bend relief for S series models with collet

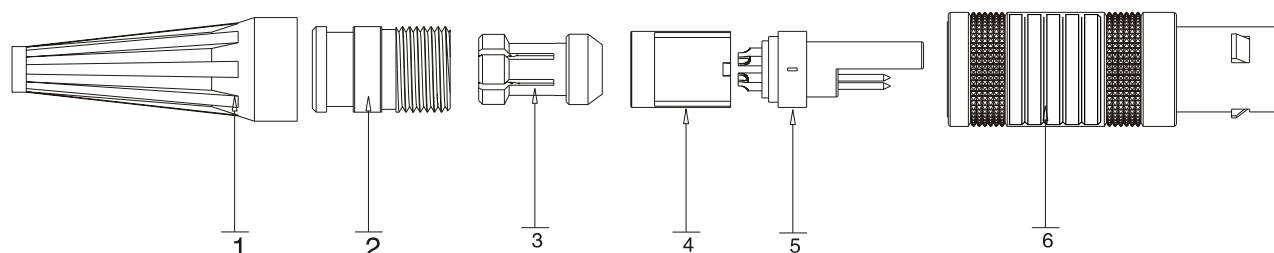
				Need to be ordered
				
	Ref.	Collet		Need to be ordered separately (see page 108)
		Type	Code	
00	Z	C	15 to 31	GMA.00.0..D.
		K	37 to 42	GMA.0B.0..D.
		L	17 to 31	GMA.00.0..D.
0S	Z	C	27 to 42	GMA.0B.0..D.
		K	47 to 62	GMA.1B.0..D.
		L	27 to 42	GMA.0B.0..D.
1S	Z	C	27 to 62	GMA.1B.0..D.
		K	72 to 82	GMA.2B.0..D.
		L	27 to 62	GMA.1B.0..D.
2S	Z	C	42 to 82	GMA.2B.0..D.
		K	92 to 10	GMA.3B.0..D.
		L	42 to 82	GMA.2B.0..D.

Bend relief for E series models with collet

				Need to be ordered
				
	Ref.	Collet		Need to be ordered separately (see page 108)
		Type	Code	
1E	Z	C	15 to 65	GMA.1B.... .
		K	70 to 85	GMA.2B.... .

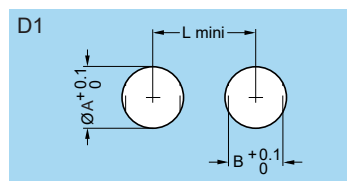
Note: all dimensions are in millimetres.

Plug assembly instructions for S series



1. The cable is passed through the bend relief ① in sequence, the collet nut ②, the collet ③, the split centre-pieces ④, and soldered to the insulator with contacts ⑤ in order.
2. Attach the split centre-pieces ④ to the insulator with contacts ⑤, noting that the projection of the split centre-pieces ④ corresponds to the notch of the insulator with contacts ⑤, pushing the the collet ③ to the appropriate position of the cable.
3. The assembled cable the collet ③, the the split centre-pieces ④, and insulator with contacts ⑤ are pushed into the housing subassy ⑥.
4. Screw the collet nut ② into housing subassy ⑥.

S Series



series	D1		
	ØA	B	L
00	7.1	6.4	12.5
0S	9.1	8.3	14.5
1S	12.1	10.6	18.5
2S	15.1	13.6	22.5

Cut-out types

Model	Type
ZRA	D1
ZRD	D1

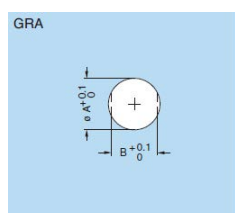
Mounting nut torque

series	Torque (Nm)
	Metal shell
00	1.0
0S	2.5
1S	4.5
2S	6.0

Note: when using the tapered washer a round hole apply 00: ø 7.6 mm / 0S: ø 9.6 mm / 1S: ø 12.6 mm / 2S: ø 15.7 mm

Note: these values apply when metal shell are mounted with insulating washer.

Panel cut-out for mounting with insulating washer



series	D i m .(mm)	
	ØA	B
00	8.9	8.1
0S	10.9	10.1
1S	13.9	12.3
2S	18.0	16.3

E Series

series	D1		
	ØA	B	L
1E	16.1	14.6	22.5

Cut-out types

Model	Type
ZRA	D1

Mounting nut torque

series	Torque (Nm)
1E	7

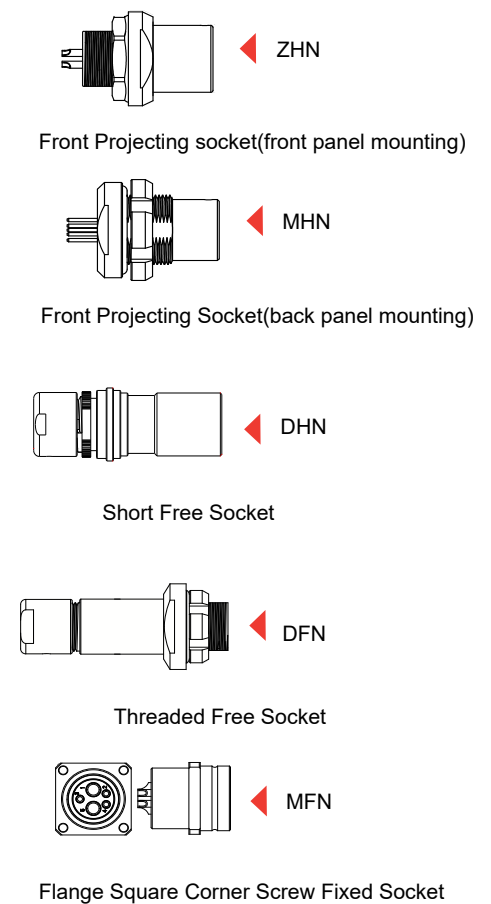
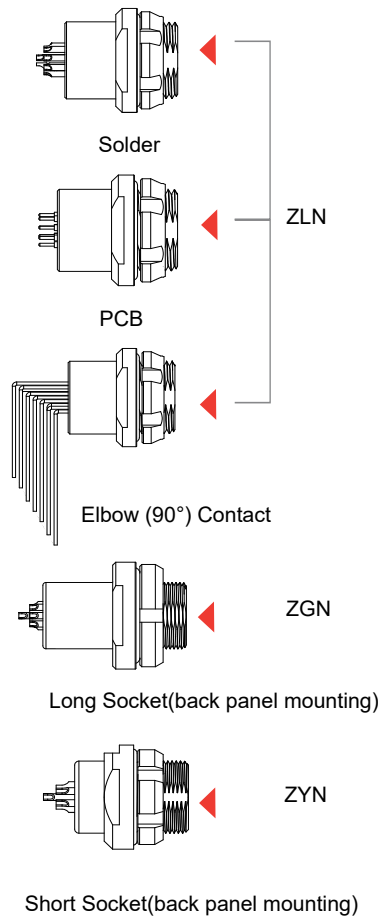
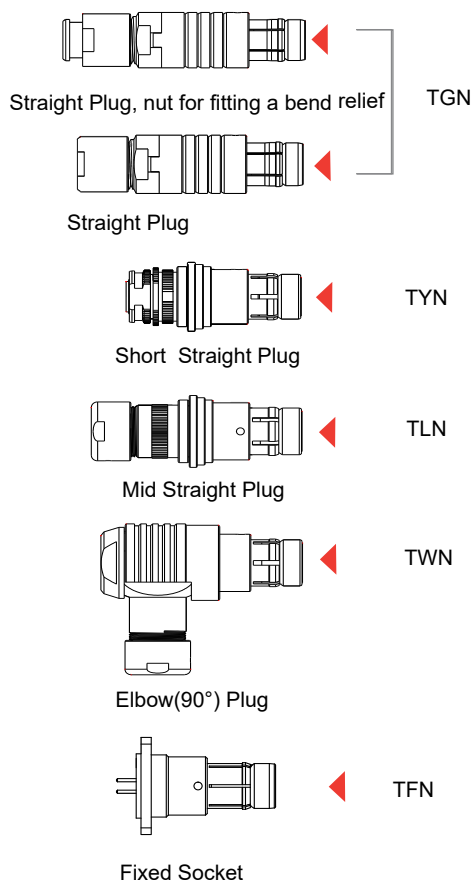
1 N = 0.102 kg

F SERIES (Outdoor, Multipole Mechanical Coding)

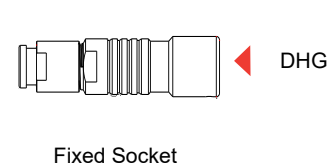
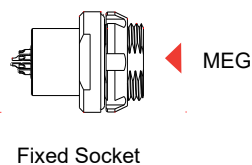
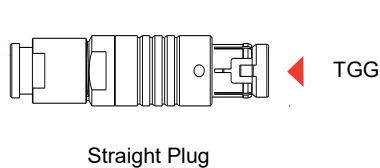
C SERIES (Outdoor, Multipole Mechanical Coding)



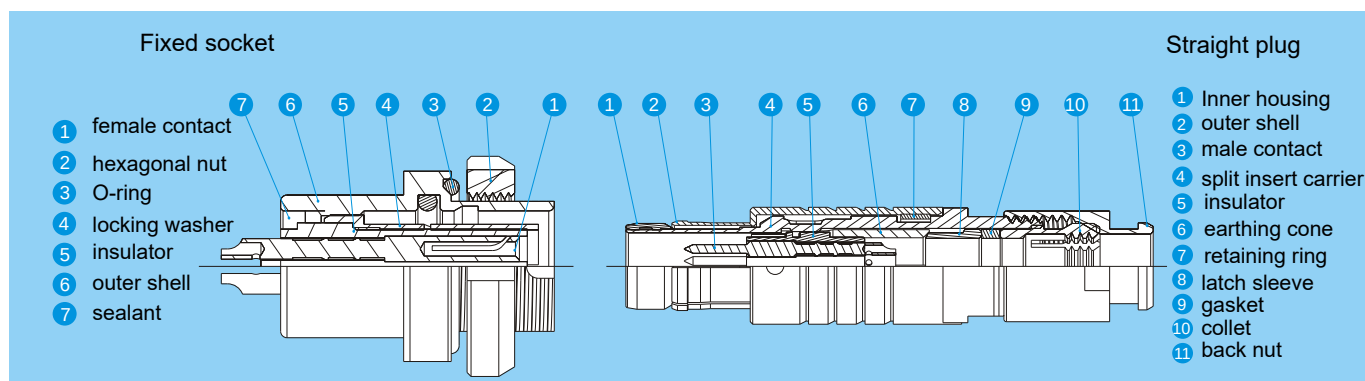
F SERIES Metal housing models (page 59)



C SERIES Metal housing models (page 68)



Part Section Showing Internal Components



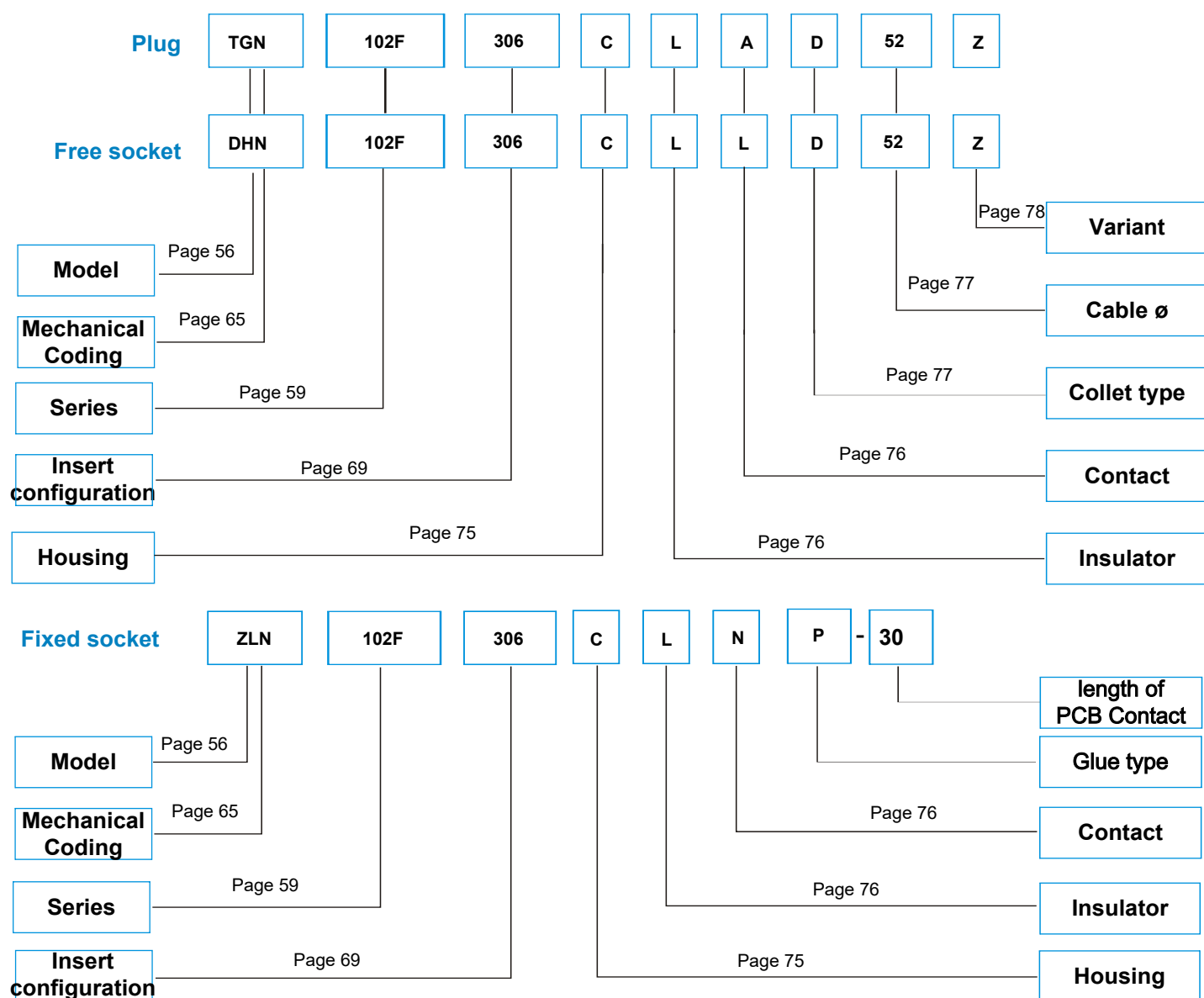
F series connectors have main features as follows:

- security of the Push-Pull self-latching system
- multipole types 1 to 40 contacts
- Easy mating, can be blind-mated (guiding mechanism ensures precise alignment)
- Increased equipment life span (guiding mechanism optimally protects the contacts)
- Robust and shock resistant (designs ideal for equipment used in the field)
- watertight connection (IP 68/IP 66), waterproof and sandproof;
- solder, print (straight or elbow) contacts
- high packing density for space savings
- 360° screening for full EMC shielding.

F Series Connectors Technical Characteristics :

- Endurance: > 3000 cycles
- Humidity: up to 95% at 40° C
- Temperature range: - 55° C, + 145° C
- Vibration: frequency 10-20000HZ, acceleration 147m/s², ≤1um instantaneous break
- Impact: acceleration 490m/s², ≤1um instantaneous break
- Protection index (mated): IP 68

F Series Part Numbering System:



Part number example

Straight plug with cable collet:

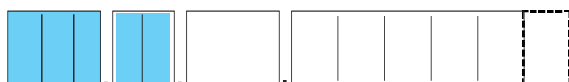
TGN.102F.306.CLAD52 = straight plug, mechanical coding(N), 102F series, multipole type with 6 contacts, outer shell in chrome-plated brass, PPS insulator, solder male contacts, D type collet for a 5.2 mm diameter cable.

Free socket:

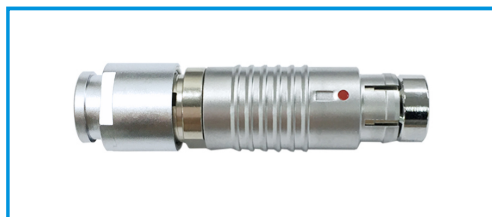
DHN.102F.306.CLAD52Z = free socket, mechanical coding(N), 102F series, multipole type with 6 contacts, outer shell in chrome-plated brass, PPS insulator, solder male contacts, D type collet for a 5.2 mm diameter cable and nut for fitting a bend relief.

Fixed socket:

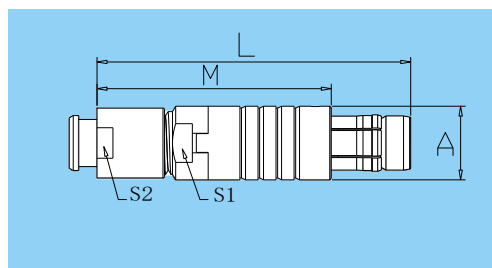
ZLN.102F.306.CLNP-30 = fixed socket, mechanical coding(N), 102F series, multipole type with 6 contacts, outer shell in chrome-plated brass, PPS insulator, solder female contacts, Epoxy resin (P) PCB contacts length is 30mm



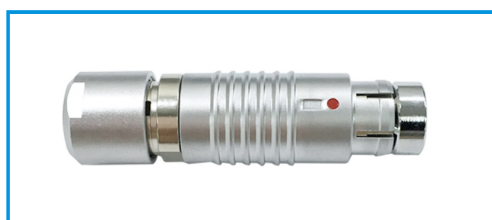
Metal Housing Models



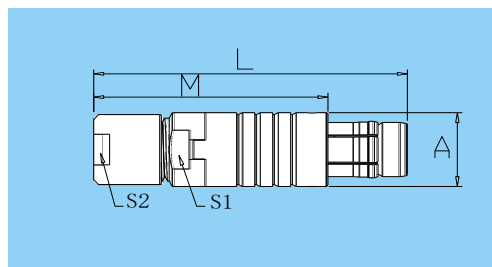
TGN Straight long plug, cable collet and nut for fitting a bend relief, with arc-shape metal guides, collet style clamp system for cable.



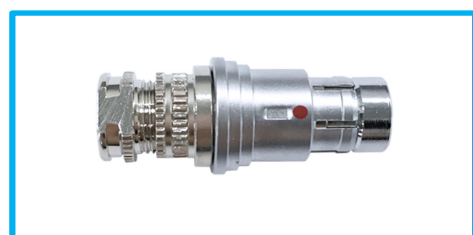
Reference		Dimensions (mm)				
Series	Model	A	L	M	S	S1
102F	TGN	9	36	26	7	7
103F	TGN	12	46	35	10	10
1031F	TGN	13	48	38	12	11
104F	TGN	15	50	38	12	13
105F	TGN	18	62	47	15	16



TGN Straight long plug, cable collet, with arc-shape metal guides, collet style clamp system for cable. (without bend relief)

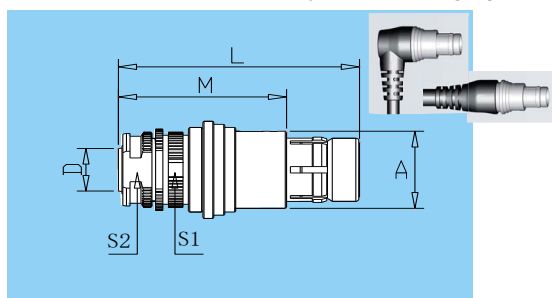


Reference		Dimensions (mm)				
Series	Model	A	L	M	S	S1
102F	TGN	9	36	26	7	7
103F	TGN	12	46	35	10	10
1031F	TGN	13	48	38	12	11
104F	TGN	15	50	38	12	13
105F	TGN	18	62	47	15	16



TYN Straight short plug, with arc-shape metal guides, back nut with threaded.

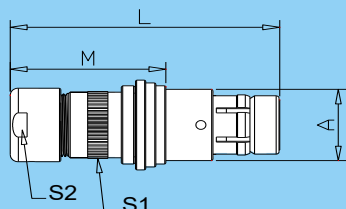
Cable Assembly: Overmolding Options



Reference		Dimensions (mm)					
Series	Model	A	L	M	S1	S1	D(max)
102F	TYN	9	30	20	8	7	3.8
103F	TYN	12	33	22	11	10	6
1031F	TYN	12.4	33	23	11	10	6.2
104F	TYN	15	38	26	13	12	8
105F	TYN	18	44	29	16	15	10



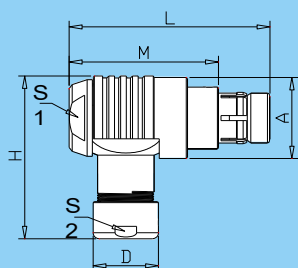
TLN Straight short plug, with arc-shape metal guides, back nut with threaded.



Reference		Dimensions (mm)				
Series	Model	A	L	M	S1	S1
102F	TLN	9	33	20	8	7
103F	TLN	12	37	22	11	10
1031F	TLN	12.4	40	23	11	10
104F	TLN	15	46	26	13	12
105F	TLN	18	53	29	16.5	16



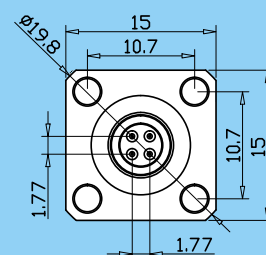
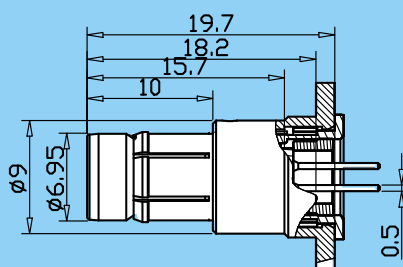
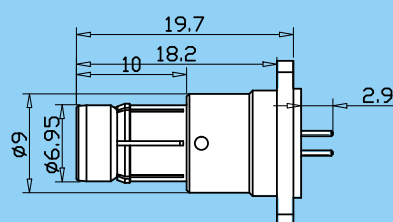
TWN Elbow(90°) plug, with arc-shape metal guides, collet style clamp system for cable.

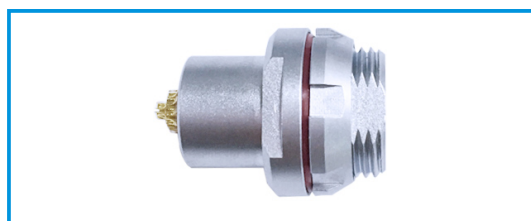


Reference		Dimensions (mm)					
Series	Model	A	L	M	H	S1	S1
102F	TWN	11.2	33	23	25	8	7
103F	TWN	15	38	27	31	11	10
1031F	TWN	17	39	29	33	12	12
104F	TWN	19	45	32	37	14	12
105F	TWN	23	53	38	45	17	15

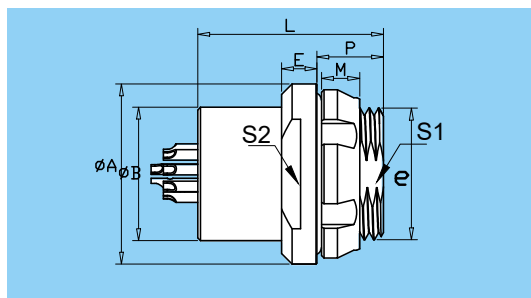


TFN Fixed Socket with square flange,

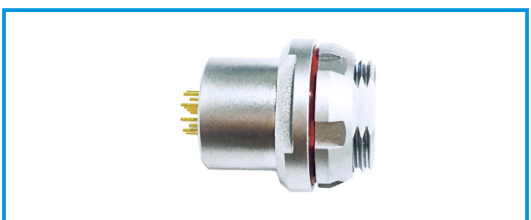




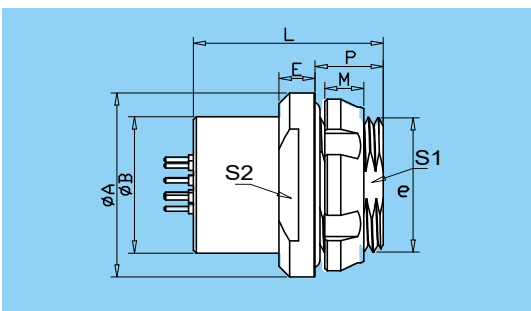
ZLN Hermetic Socket, back panel mounting, with arc-shape metal guides,



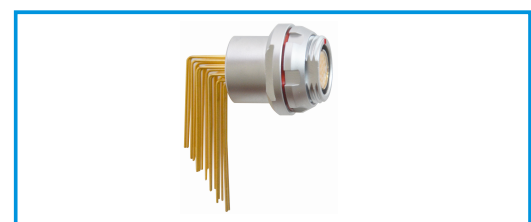
Reference		Dimensions (mm)								
Series	Model	A	B	e	L	E	M	P	S1	S2
102F	ZLN	13	9.0	M9x0.5	17	3.5	3	6.5	8.2	12
103F	ZLN	18	12	M14*1.0	21	4	4	8	12	15
1031F	ZLN	19	14	M14*1.0	19.5	4	4	7	12	15
104F	ZLN	22	16	M16*1.0	21.5	3.7	3.5	8	14.5	18
105F	ZLN	27	21	M20x1.0	22.5	4.5	5	10	18	22



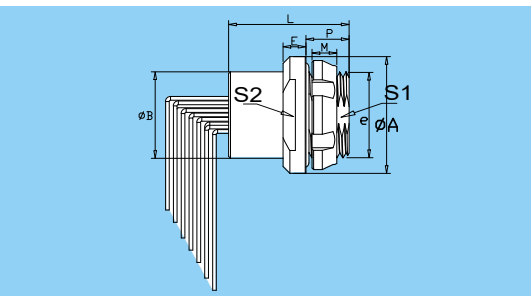
ZLN Hermetic Socket, back panel mounting, with arc-shape metal guides, (print contacts)



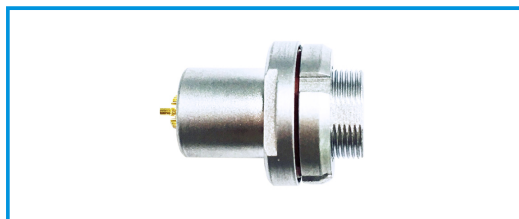
Reference		Dimensions (mm)								
Series	Model	A	B	e	L	E	M	P	S1	S2
102F	ZLN	13	9.0	M9x0.5	17	3.5	3	6.5	8.2	12
103F	ZLN	18	12	M14*1.0	21	4	4	8	12	15
1031F	ZLN	19	14	M14*1.0	19.5	4	4	7	12	15
104F	ZLN	22	16	M16*1.0	21.5	3.7	3.5	8	14.5	18
105F	ZLN	27	21	M20x1.0	22.5	4.5	5	10	18	22



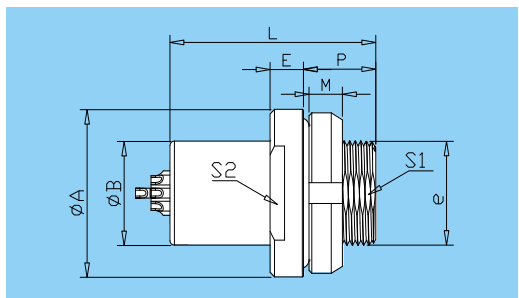
ZLN Hermetic Socket, back panel mounting, with arc-shape metal guides, (Elbow (90°) print Contacts)



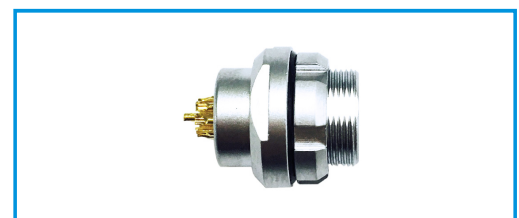
Reference		Dimensions (mm)								
Series	Model	A	B	e	L	E	M	P	S1	S2
102F	ZLN	13	9.0	M9x0.5	17	3.5	3	6.5	8.2	12
103F	ZLN	18	12	M14*1.0	21	4	4	8	12	15
1031F	ZLN	19	14	M14*1.0	19.5	4	4	7	12	15
104F	ZLN	22	16	M16*1.0	21.5	3.7	3.5	8	14.5	18
105F	ZLN	27	21	M20x1.0	22.5	4.5	5	10	18	22



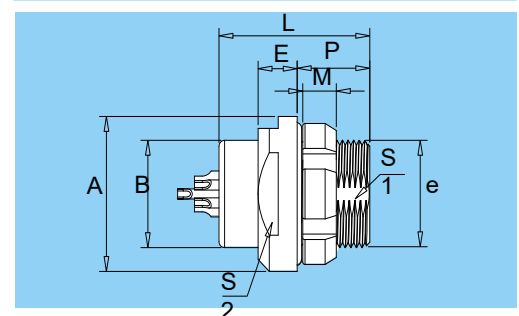
ZGN Hermetic Socket, back panel mounting, with arc-shape metal guides.



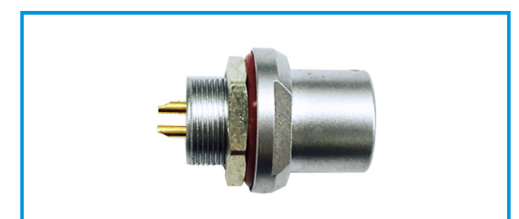
Reference		Dimensions (mm)								
Series	Model	A	B	e	L	E	M	P	S1	S2
102F	ZGN	14.5	9	M9x0.5	18.5	3	3	6.5	8.2	12
103F	ZGN	18	14	M14*1.0	22	3	4	9	12.5	15



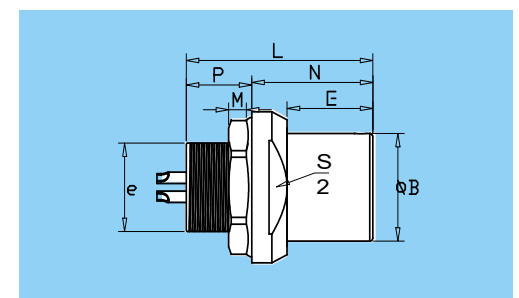
ZYN Hermetic Short Socket, back panel mounting, with arc-shape metal guides. waterproof (IP68)



Reference		Dimensions (mm)								
Series	Model	A	B	e	E	L	M	P	S1	S2
102F	ZYN	13	9.0	M9x0.5	3.5	13.5	3.0	6.5	8.2	11
103F	ZYN	18	12	M14x1.0	4.0	17	4	6.5	12	15



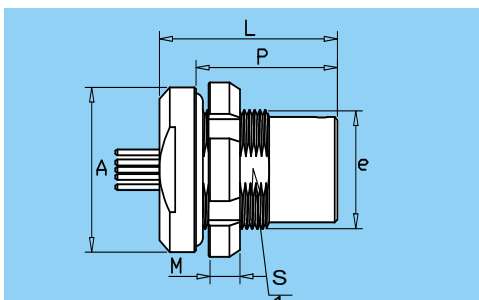
ZHN Front Projecting Socket, front panel mounting, with arc-shape metal guides. waterproof (IP68)



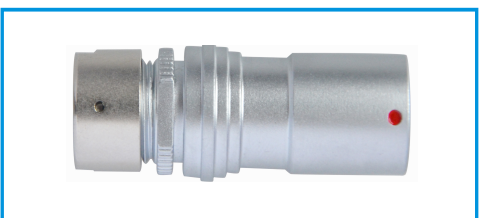
Reference		Dimensions (mm)								
Series	Model	A	B	e	L	E	M	P	S1	S2
102F	ZHN	14	10	M9x0.5	18.5	3.5	2.0	6.5	8.2	11
103F	ZHN	18	14	M14x1.0	21.0	3.5	2.5	6.5	12.5	15



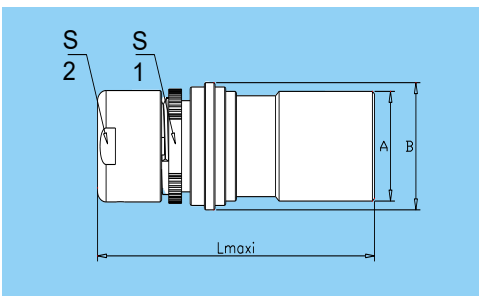
MHN Front Projecting Socket, back panel mounting, with arc-shape metal guides. waterproof (IP68)



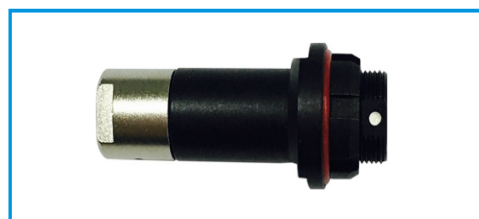
Reference		Dimensions (mm)					
Series	Model	A	e	E	M	P	S1
102F	MHN	14	M10x0.5	3.5	3.0	13.5	9
103F	MHN	18	M14x1.0	2	4.0	19	12.5



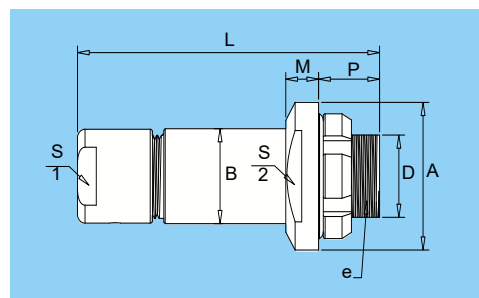
DHN Free Socket, with arc-shape metal guides, collet style clamp system for cable.



Reference		Dimensions (mm)				
Series	Model	A	B	L	S1	S2
102F	DHN	10	12	32	8	7
103F	DHN	12.5	14.5	39	11	12
1031F	DHN	13.5	15.5	40	11.5	12
104F	DHN	16	18	45.5	14	14
105F	DHN	19	21	51	16.5	11



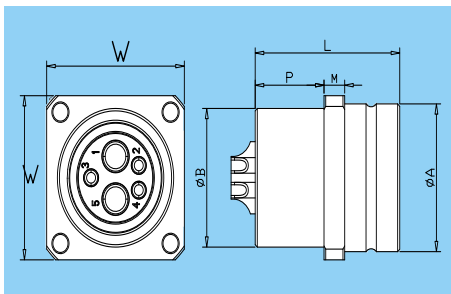
DFN Free Socket, with arc-shape metal guides, collet style clamp system for cable.



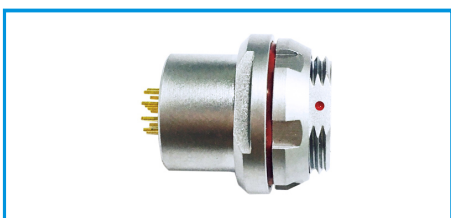
Reference		Dimensions (mm)								
Series	Model	A	B	e	E	L	M	D	S1	S2
102F	DFN	14	9.0	M9x0.5	3	32	3.5	11	7	7.5



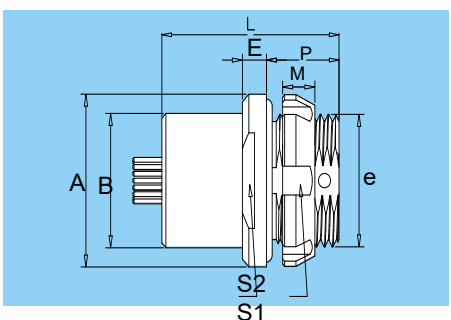
MFN Front Projecting Flange Square Corner Screw Socket, front panel mounting, with arc-shape metal guides. waterproof (IP68)



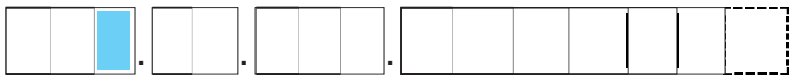
Reference		Dimensions (mm)					
Series	Model	A	B	M	P	L	W
103F	MFN	10.6	11.6	2.5	10	21	18
1031F	MFN	13	13	3.0	9.5	19.5	19
105F	MFN	18	17	3.0	10.0	21	20



GBN Hermetic Socket, back panel mounting, with arc-shape metal guides,



Reference		Dimensions (mm)								
Series	Model	A	B	e	L	E	M	P	S1	S2
102F	GBN	14	9	M9x0.5	21	3.5	3	6.5	8.0	11
103F	GBN	18	14	M14*1.0	22	3	4	9.0	12	15
1031F	GBN	19	14	M14*1.0	19.5	4	4	7	12	15
104F	GBN	21	14.5	M16*1.0	23	4	3.5	8	14.4	18
105F	GBN	27	21	M20x1.0	26.5	4.5	5	10	18	22

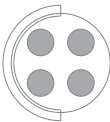


For Easy Connect / Disconnect Operations

Our contact blocks are engineered with arc-shape metal guides, which ensure precise alignment of connectors during the mating process.

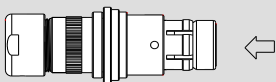
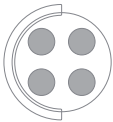
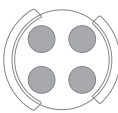
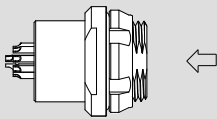
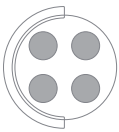
This guiding mechanism provides:

- Increased safety and user friendliness (by preventing misconnection).
- Easy mating cycles, can be blind-mated.
- Increased equipment life span by optimally (protecting the contacts).

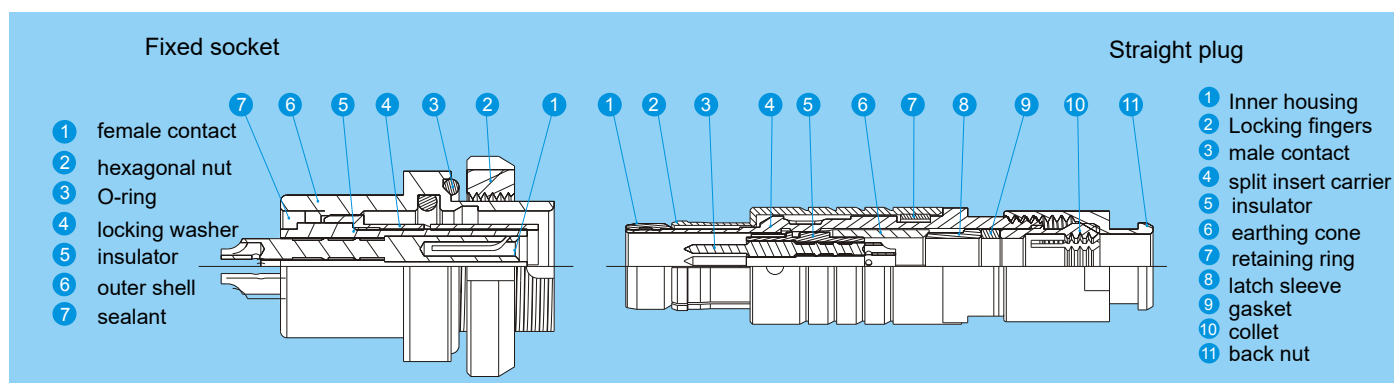


Keying Codes Options

All Multipole body styles are mechanically coded.
Code 1 is the standard, but other codes can be requested (See table below).

Plug/Socket			
	single metal guides	double metal guides 1	double metal guides 2
			
			
Reference	N	A	B

Part Section Showing Internal Components



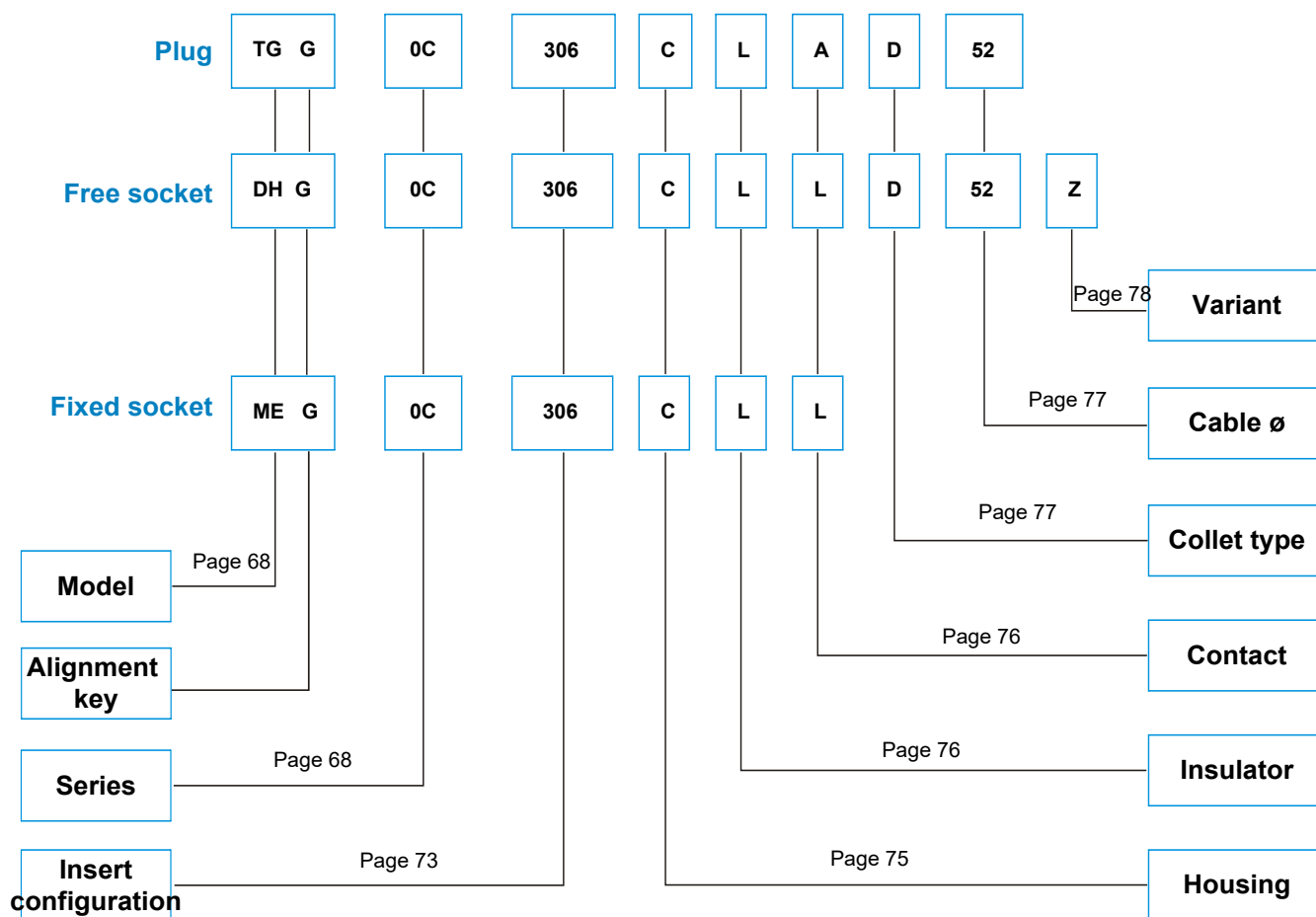
C series connectors have main features as follows:

- security of the Push-Pull self-latching system
- multipole types 1 to 19 contacts
- Easy mating, can be blind-mated (guiding mechanism ensures precise alignment)
- high packing density for space savings
- solder, print (straight or elbow) contacts
- keying system («G» key standard for connector alignment)
- multiple key options to avoid cross mating of similar connectors
- 360° screening for full EMC shielding

C Series Connectors Technical Characteristics:

- Endurance: > 5000 cycles
- Humidity: up to 95% at 60° C
- Temperature range: - 45° C, + 125° C
- Resistance to vibrations: 10-2000 Hz, 15g
- Shock resistance: 100 g, 6 ms
- Salt spray corrosion test: > 48h
- Protection index (mated): IP 68/IP 66

C Series Part Numbering System:



part number example

straight plug with cable collet:

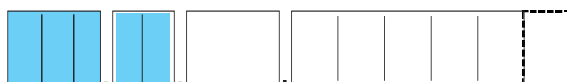
TGG.0C.306.CLAD52 = straight plug with key (G) and cable collet, 0C series, multipole type with 6 contacts, outer shell in chrome-plated brass, PPS insulator, male solder contacts, D type collet for 5.2 mm diameter cable.

Free socket:

DHG.0C.306.CLLD52Z = free socket with key (G) and cable collet, 0C series, multipole type with 6 contacts, outer shell in chrome-plated brass, PPS insulator, female solder contacts, D type collet for 5.2 mm diameter cable and nut for fitting a bend relief.

fixed socket:

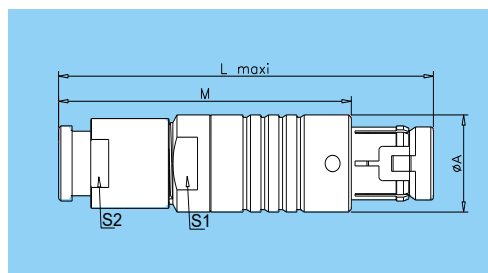
MEG.0C.306.CLL = fixed socket, nut fixing, with key (G), 0C series, multipole type with 6 contacts, outer shell in chrome-plated brass, PPS insulator, female solder contacts.



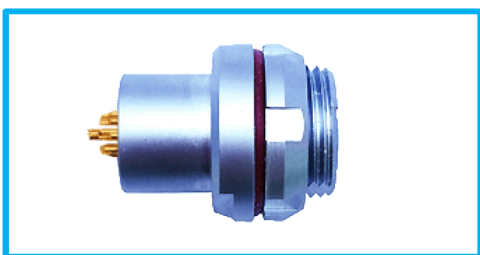
Metal Housing Models



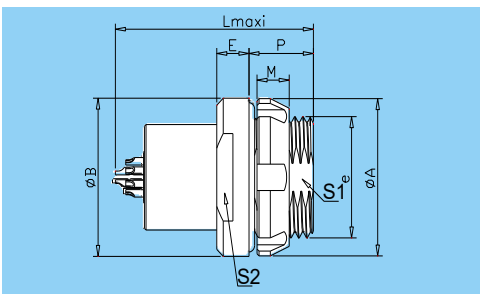
TGG Straight plug, key (G) or keys (A , B...), cable collet and nut for fitting a bend relief



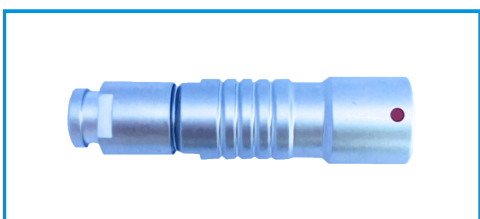
Reference		Dimensions (mm)				
Series	Model	A	L	M	S	S1
0C	TGG	9.4	37	28	8	7
1C	TGG	12	47	35	10	10
2C	TGG	15	50	38	13	12
3C	TGG	18	61	40	16	15



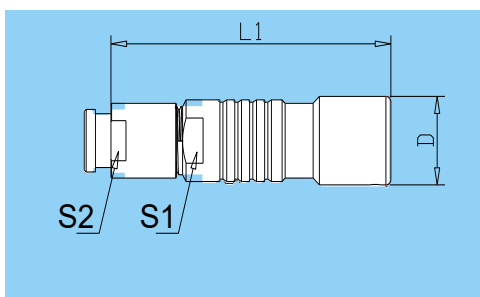
MEG Fixed socket, nut fixing, key (G) or keys (A, B...), watertight or vacuumtight



Reference		Dimensions (mm)								
Series	Model	A	B	e	L	E	M	P	S1	S2
0C	MEG	14	14.5	M9x0.5	21	3	3	6.5	8.2	12
1C	MEG	16	18	M14*1.0	26	4	4	8	12	15
2C	MEG	22	21	M16*1.0	29	4	4	7	14.8	18
3C	MEG	25	26	M20*1.0	33	4	3.5	8	18	22



DHG Free socket, key (G) or keys (A, B...),



Reference		Dimensions (mm)			
Series	Model	A	L	S1	S2
0C	DHG	9.5	35.5	8.0	7.0
1C	DHG	12.5	40.5	10.0	9.0
2C	DHG	16.5	47.0	13.0	12.0
3C	DHG	19.0	56.0	15.0	15.0



Level voltage rating M=AC500V; Ñ = AC750V; ñ = AC875V; 'n =AC1000V

	A side	B side	Reference	Number of LV contacts	Contact øA (mm)	Contact type			level		Rated current (A)	Resistance(mΩ)
						Solder	Print (straight)	Print (elbow)	Rated Voltage(V)	Withstanding voltage(V)		
102F			302	2	0.9	•	•	•	ñ	ñ	10.0 ¹⁾	≤5.0
			303	3	0.9	•	•	•	Ñ	Ñ	8.0 ¹⁾	≤5.0
			304	4	0.7	•	•	•	Ñ	Ñ	7.0 ¹⁾	≤12.5
			305	5	0.7	•	•	•	Ñ	Ñ	6.5 ¹⁾	≤12.5
			307	7	0.5	•	•	•	M	M	2.5	≤15.0
			309	9	0.5	•	•	•	M	M	2.0	≤15.0

• First choice alternative

Note: 1):rated current = 6A for socket with elbow (90°) contacts for printed circuit.

	A side	B side	Reference	Number of LV contacts	Contact øA (mm)	Contact type			level		Rated current (A)	Resistance(mΩ)
						Solder	Print (straight)	Print (elbow)	Rated Voltage(V)	Withstanding voltage(V)		
1031F			310	10	0.7	•	•	•	ñ	ñ	6.0	≤12.5
			312	12	0.7	•	•	•	ñ	ñ	6.0	≤12.5
			319	19	0.5	•	•	•	M	M	2.5	≤15.0

• First choice alternative

Note: 1):rated current = 6A for socket with elbow (90°) contacts for printed circuit.



Level voltage rating: M=AC500V; I = AC750V; II = AC875V; III=AC1000V

	 A side B side A side B side	Reference	Number of LV contacts	Contact øA (mm)	Contact type			level		Rated current (A)	Resistance (mΩ)
					Solder	Print (straight)	Print (elbow)	Rated Voltage(V)	Withstanding voltage(V)		
103F	 	302	2	1.3	•	•	•	III	III	12.0	≤5.0
	 	303	3	1.3	•	•	•	III	III	12.0	≤5.0
	 	304	4	0.9	•	•	•	II	II	10.0 ¹⁾	≤5.0
	 	305	5	0.9	•	•	•	II	II	9.0 ¹⁾	≤5.0
	 	306	6	0.7	•	•	•	II	II	7.0 ¹⁾	≤12.5
	 	307	7	0.7	•	•	•	II	II	7.0 ¹⁾	≤12.5
	 	308	8	0.7	•	•	•	M	M	5.0	≤12.5
	 	310	10	0.5	•	•	•	400V	400V	2.5	≤15.0
	 	312	12	0.5	•	•	•	400V	400V	2.0	≤15.0

• First choice alternative

Note: 1):rated current = 6A for socket with elbow (90°) contacts for printed circuit.



Level voltage rating: M=AC500V; I = AC750V; II = AC875V; III=AC1000V

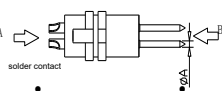
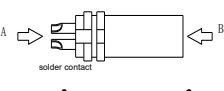
	 solder contact A side B side	 solder contact A side B side	Reference	Number of LV contacts	Contact øA (mm)	Contact type			level		Rated current (A)	Resistance (mΩ)
						Solder	Print (straight)	Print (elbow)	Rated Voltage(V)	Withstanding voltage(V)		
104F			302	2	1.6	●	●	●	III	III	15.0 ²⁾	≦3.0
			303	3	1.6	●	●	●	III	III	15.0 ²⁾	≦3.0
			304	4	1.3	●	●	●	II	II	14.0 ²⁾	≦5.0
			305	5	1.3	●	●	●	II	II	12.0	≦5.0
			306	6	0.9	●	●	●	II	II	10.0	≦5.0
			307	7	0.9	●	●	●	II	II	10.0	≦5.0
			308	8	0.9	●	●	●	II	II	8.0 ¹⁾	≦5.0
			309	8+1	0.9	●	●	●	II	II	6.0	≦5.0
					1.3	●	●	●	II	II	10.0 ¹⁾	≦3.0
			311	11	0.9	●	●	●	II	II	6.0	≦5.0
			316	16	0.7	●	●	●	I	I	5.0	≦12.5
			319	19	0.7	●	●	●	I	I	4.5	≦12.5

● First choice alternative

Note: 1):rated current = 6A for socket with elbow (90°) contacts for printed circuit.

2):rated current = 12A for socket with elbow (90°) contacts for printed circuit.

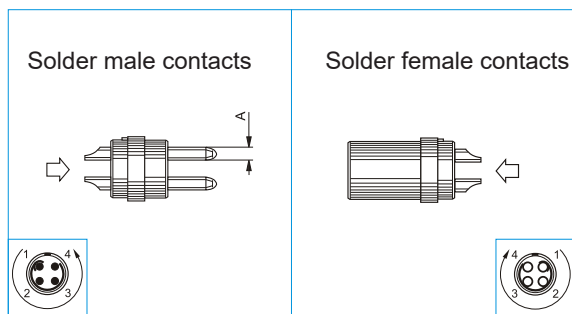
Level voltage rating: M=AC500V; I = AC750V; II = AC875V; III=AC1000V

			Reference	Number of LV contacts	Contact øA (mm)	Contact type			level		Rated current (A)	Resistance (mΩ)
						Solder	Print (straight)	Print (elbow)	Rated Voltage(V)	Withstanding voltage(V)		
105F			302	2	3.0	●	●	○	III	III	30.0 ²⁾	≤1.0
			303	3	2.0	●	●	○	III	III	25.0 ²⁾	≤2.0
			304	4	2.0	●	●	○	II	II	18.0 ²⁾	≤2.0
			307	6	1.3	●	●	○	II	II	7.0	≤5.0
				1	2.0	●	●	○	II	II	18.0 ²⁾	≤3.0
			308	8	1.3	●	●	○	II	II	10.0	≤5.0
			309	8	1.3	●	●	○	II	II	5.0	≤5.0
				1	2.0	●	●	○	II	II	18.0 ²⁾	≤3.0
			310	10	1.3	●	●	○	II	II	9.0 ¹⁾	≤5.0
			312	12	1.3	●	●	○	II	II	8.0 ¹⁾	≤5.0
			318	18	0.9	●	●	○	II	II	7.0 ¹⁾	≤5.0
			319	19	0.9	●	●	○	II	II	7.0 ¹⁾	≤5.0
			324	24	0.7	●	●	○	I	I	5.0	≤12.5
			327	27	0.7	●	●	○	I	I	5.0	≤12.5
			337	27	0.5	●	●	○	400	400	4.0	≤15.0
				10	0.7	●	●	○	M	M	4.0	≤12.5
			340	40	0.5	●	●	○	400	400	3.5	≤15.0

- First choice alternative
- Special order alternative

Note: 1):rated current = 6A for socket with elbow (90°) contacts for printed circuit.

2):rated current = 12A for socket with elbow (90°) contacts for printed circuit.



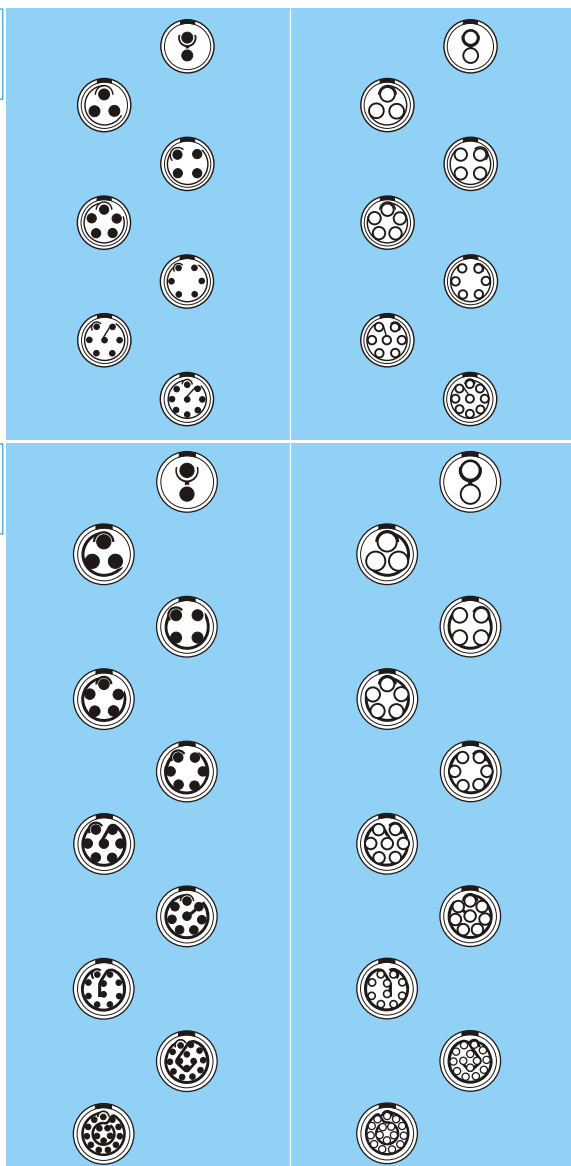
Reference	Multipole(contacts)	ΦA (mm)	Contact Type			Solder contact		Rated current (A)
			solder	Print (straight)	Print (elbow)	Test voltage (kV rms) Contact-contact	Test voltage (kV rms) Contact-shell	

302	2	0.9	●	●	○	1.30	1.05	10.0 ₁₎
303	3	0.9	●	●	○	1.20	0.90	8.0 ₁₎
304	4	0.7	●	●	○	0.85	0.70	7.0 ₁₎
305	5	0.7	●	●	○	1.00	0.70	6.5 ₁₎
306	6	0.5	●	●	○	0.85	0.65	2.5
307	7	0.5	●	●	○	0.80	0.70	2.5
309	9	0.5	●	●	○	0.60	0.50	2.0
302	2	1.3	●	●	○	1.50	1.35	15.0 ₂₎
303	3	1.3	●	●	○	1.30	1.55	12.0
304	4	0.9	●	●	○	1.35	1.45	10.0 ₁₎
305	5	0.9	●	●	○	1.25	1.15	9.0 ₁₎
306	6	0.7	●	●	○	1.05	1.20	7.0 ₁₎
307	7	0.7	●	●	○	0.95	1.05	7.0 ₁₎
308	8	0.7	●	●	○	0.95	1.15	5.0
310	10	0.5	●	●	○	0.90	1.50	2.5
314	14	0.5	●	●	○	0.80	1.20	2.0
316	16	0.5	●	●	○	0.80	1.25	1.5

Note : 1) rated current = 6A for socket with elbow (90°) contact for printed circuit.
2) rated current = 12A for socket with elbow (90°) contact for printed circuit.
3) available only for connectors fitted with male contacts.

0C

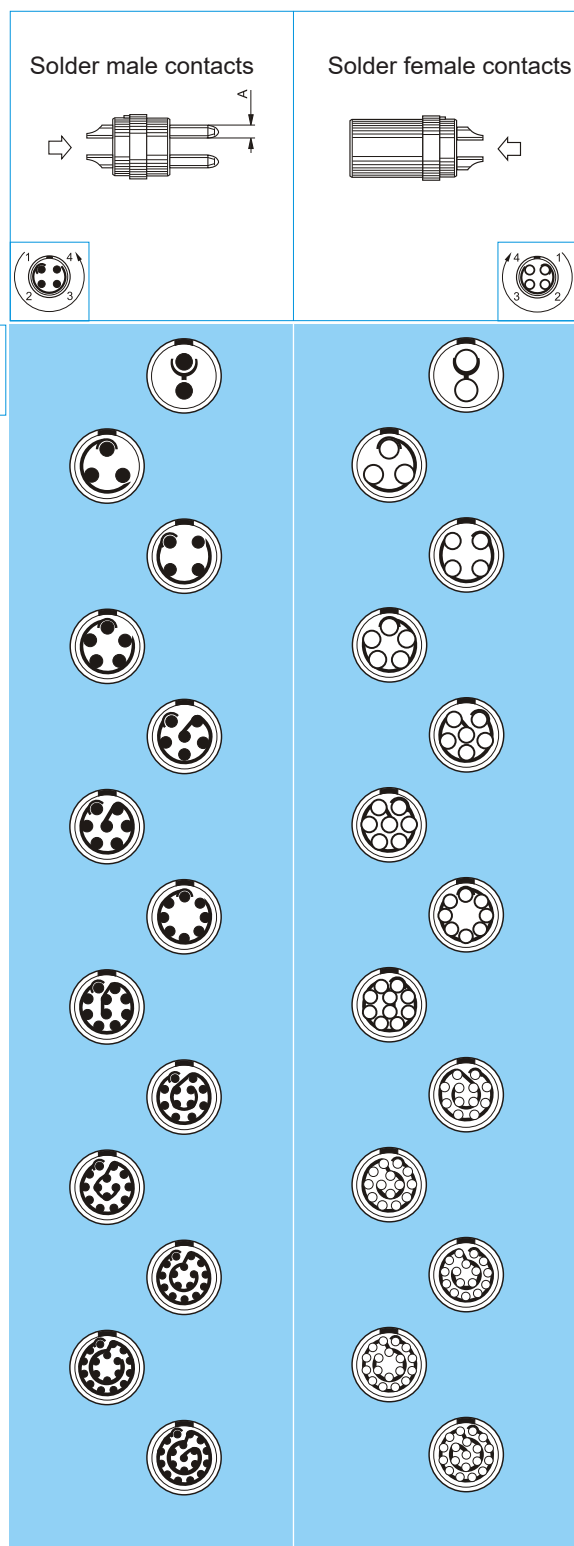
1C



- First choice alternative
- Special order alternative



2C



Reference	Multipole(contacts)	ΦA (mm)	Contact Type			Solder contact		Rated current (A)
			Solder	Print (straight)	Print (elbow)	Test voltage (kV rms) Contact-contact	Test voltage (kV rms) Contact-shell	
302	2	2.0	●	●	○	2.10	1.75	30.0 ₂₎
303	3	1.6	●	●	○	2.40	1.85	17.0 ₂₎
304	4	1.3	●	●	○	1.85	1.85	15.0 ₂₎
305	5	1.3	●	●	○	1.75	1.60	14.0 ₂₎
306	6	1.3	●	●	○	1.35	1.45	12.0
307	7	1.3	●	●	○	1.75	1.60	11.0
308	8	0.9	●	●	○	1.50	1.25	10.0 ₁₎
310	10	0.9	●	●	○	1.45	1.30	8.0 ₁₎
312	12	0.7	●	●	○	1.25	1.35	7.0 ₁₎
314	14	0.7	●	●	○	1.15	1.35	6.5 ₁₎
316	16	0.7	●	●	○	0.95	1.25	6.0
318	18	0.7	●	●	○	0.85	1.20	5.5
319	19	0.7	●	●	○	0.95	1.25	5.0

- First choice alternative
- special order alternative

Note : 1) rated current = 6A for socket with elbow (90°) contact for printed circuit.
2) rated current = 12A for socket with elbow (90°) contact for printed circuit.



Ref.	Outer shell and collet nut		Latch sleeve + earthing crown		Other metallic components		Note
	Material	Surf. treatment	Material	Surf. treatment	Material	Surf. treatment	
C	Brass	chrome	brass/bronze	nickel	Brass	nickel	
N	Brass	chrome	brass/bronze	nickel	Brass	nickel	
H	Brass	black chrome	brass/bronze	nickel	Brass	nickel	
S	Stainless steel 304	anodized	brass/bronze	-	Brass	nickel	
L	Stainless steel 316L	anodized	Stainless steel 316L	-	Stainless steel 316L	-	
T	Brass	satın nickel	brass/bronze	nickel	Brass	nickel	
G	Brass	brown and black	brass/bronze	nickel	Brass	nickel	
F	Brass	High phosphorus chemical nickel	brass/bronze	nickel	Brass	nickel	
Z	Aluminium alloy	High phosphorus chemical nickel	brass/bronze	nickel	Brass	nickel	
Y	Brass	golden yellow	brass/bronze	nickel	Brass	nickel	

Note:

Brass

Connectors are mostly brass case, which can meet most military or civil application requirements. The white surface of brass shell has nickel-chromium protective layer, which has remarkable effect in resisting industrial waste, salt spray and most corrosives.

In addition, we also have nickel plating, nickel-gold plating, nickel-black chromium plating and other options for application in specific environments of the anti-corrosion coatings.

Aluminium alloy

In the aviation, aerospace industry, portable mobile devices and so on. It is suitable for the connector with aluminium alloy shell.

In addition to its high mechanical lightness and excellent corrosion resistance, the surface of aluminium alloys can be protected by anodic plating, with a variety of colors to choose from.

Stainless steel

For the use of harsh environment, the surface coating is easy to be damaged. We recommend the use of stainless steel materials. AISI304 stainless steel and AISI316L stainless steel are usually used.

AISI304 stainless steel is recommended for special fields such as nuclear industry. It can resist radiation and nitric acid corrosion.

AISI316L stainless steel is recommended for medical and shipping industries. It has no surface treatment and strong corrosion resistance.



Ref.	Material	Contact type	Note
T	Teflon	Solder or print	
L	PPS	Solder or print	

>>> Contacts (F, C series)



Soldering characteristics

- no need to order specific tools, a simple soldering iron is sufficient
- ideal for very small and fragile conductors
- contacts with solder cups to allow the solder to flow

Note: see page 109 for more information.

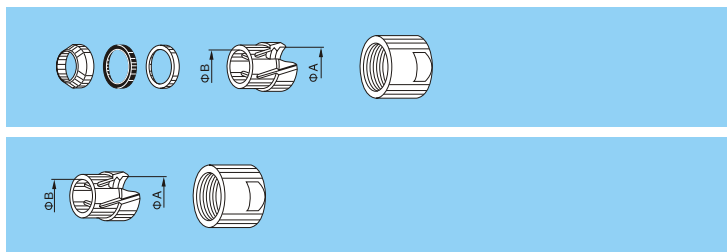
Contacts reference for plugs, free or fixed sockets

Contact type	Reference		Contact			Conductor					
	Male	Female	Φ A (mm)	Φ C (mm)	Form per fig.	Solid		Stranded			
						AWG min.	Section max. (mm ²)	AWG		Section (mm ²)	
								min.	max.	min.	max.
Solder 	A	L	0.5	0.40	-	28	0.09	-	30	-	0.05
			0.5	0.45	-	28	0.09	-	28	-	0.09
			0.7	0.60	-	24	0.25	-	26	-	0.14
			0.7	0.80	-	22	0.34	-	22	-	0.34
			0.9	0.80	-	22	0.34	-	22	-	0.34
			1.3	1.00	-	20	0.50	-	20	-	0.50
			1.6	1.40	-	16	1.00	-	18	-	1.00
			2.0	1.80	-	14	1.50	-	16	-	1.50
			3.0	2.70	-	10	4.00	-	12	-	4.00
			4.0	3.70	-	10	6.00	-	10	-	6.00
Print 	D	N	L dimensions and C are detailed in the section on PCB drilling pattern. See page 37.								
Print (elbow) 	V	V	L dimensions and C are detailed in the section on PCB drilling pattern. See page 37.								



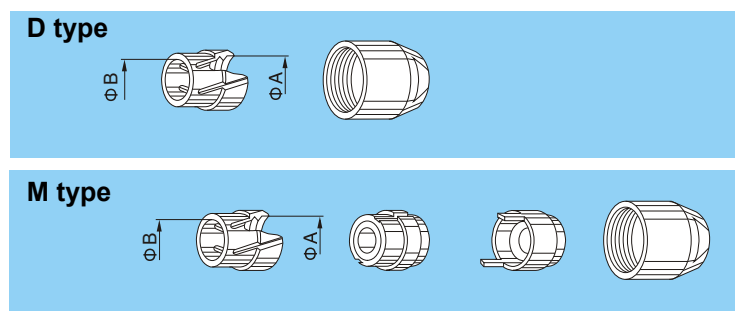
D type collets for F series

Reference		Collet ø		Cable ø	
Type	Code	Φ A	Φ B	max.	min.
102F	D _{TGN} 45	4.5	–	4.3	3.5
	D _{TGN} 52	5.2	–	5.0	4.1
	D _{TLN} 45	4.5	–	4.3	3.5
	D _{TLN} 52	5.2	–	5.0	4.1
	D _{TYN} 32	3.2	–	3.0	2.1
	D _{TYN} 42	4.2	–	4.0	3.1
	D _{TYN} 52	5.2	–	5.0	4.1
103F	D _{TGN} 42	4.2	–	4.0	3.1
	D _{TGN} 52	5.2	–	5.0	4.1
	D _{TGN} 62	6.2	6.2	6.0	5.6
	D _{TGN} 72	7.2	–	7.0	6.6
	D _{TLN} 55	5.5	–	5.5	4.5
	D _{TLN} 72	7.2	–	7.0	6.6
1031F	D _{TGN} 55	5.5	–	5.5	4.5
	D _{TGN} 55	5.5	–	5.5	4.5
	D _{TLN} 65	6.5	–	6.5	5.5
	D _{TLN} 82	8.2	–	8.5	7.2



Reference		Collet ø		Cable ø	
Type	Code	Φ A	Φ B	max.	min.
104F	D _{TGN} 52	5.2	–	5.0	4.1
	D _{TGN} 62	6.2	–	6.0	5.1
	D _{TGN} 72	7.2	–	7.0	6.1
	D _{TGN} 82	8.2	–	8.0	7.1
	D _{TGN} 92	9.2	8.6	9.0	8.1
	D _{TGN} 99	9.9	8.6	9.7	9.1
	D _{TLN} 52	5.2	–	5.0	4.1
	D _{TLN} 62	6.2	6.2	6.0	5.6
	D _{TLN} 72	7.2	–	7.0	6.6
	D _{TLN} 82	8.2	–	8.0	7.1
105F	D _{TGN} 55	5.5	–	5.5	4.5
	D _{TLN} 9.5	9.5	–	9.5	8.5
	D _{TLN} 11.5	11.5	–	11.5	9.5

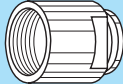
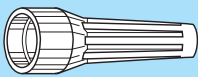
D and M type collets for C series



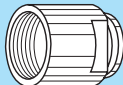
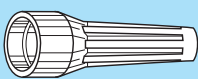
Reference		Collet ø		Cable ø	
Type	Code	Φ A	Φ B	max.	min.
0C	D 32	3.2	–	3.0	2.1
	D 42	4.2	–	4.0	3.1
	D 52	5.2	4.7	5.0	4.1
1C	M 31	3.1	–	3.0	2.6
	D 42	4.2	–	4.0	3.1
	D 52	5.2	–	5.0	4.1
	D 62	6.2	–	6.0	5.1
	D 72	7.2	6.7	7.0	6.1
2C	M 42	4.2	–	4.0	3.1
	D 52	5.2	–	5.0	4.1
	D 62	6.2	–	6.0	5.1
	D 72	7.2	–	7.0	6.1
	D 82	8.2	–	8.0	7.1
	D 92	9.2	8.6	9.0	8.1
	D 99	9.9	8.6	9.7	9.1



Bend relief for F series models with collet

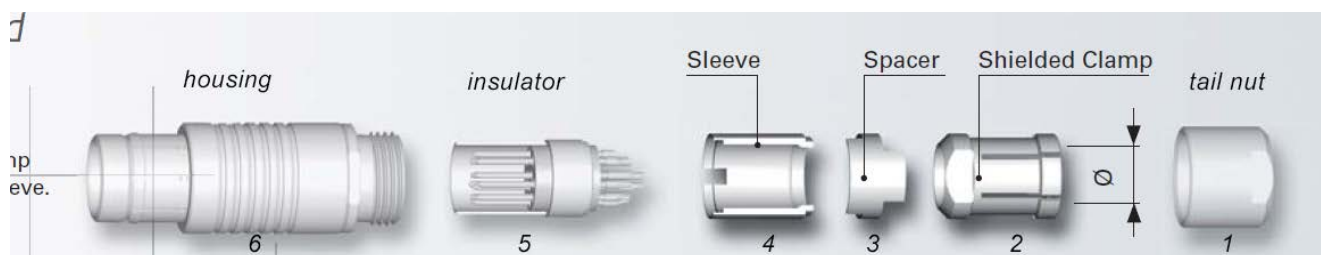
				Need to be ordered
				
Ref.	Type	Collet		Need to be ordered separately (see page 108)
		Type	Code	
102F	Z	D	17 to 35	GMA.00.***.●● GMB.00.***.●●
103F	Z	D	21 to 52	GMA.0B.***.●●
104F	Z	M	21 and 31	GMA.0B.***.●●
		D	24	GMA.2B.***.●●
		D	52 to 92	GMA.2B.***.●●

Bend relief for C series models with collet

				Need to be ordered
				
Ref.	Type	Collet		Need to be ordered separately (see page 108)
		Type	Code	
0C	Z	D	21 to 52	GMA.0B.***.●
1C	Z	M	27 and 31	GMA.1B.***.●
		D	42 to 72	GMA.1B.***.●
2C	Z	M	21 and 31	GMA.0B.***.●
		D	42	GMA.2B.***.●
		D	52 to 92	GMA.2B.***.●

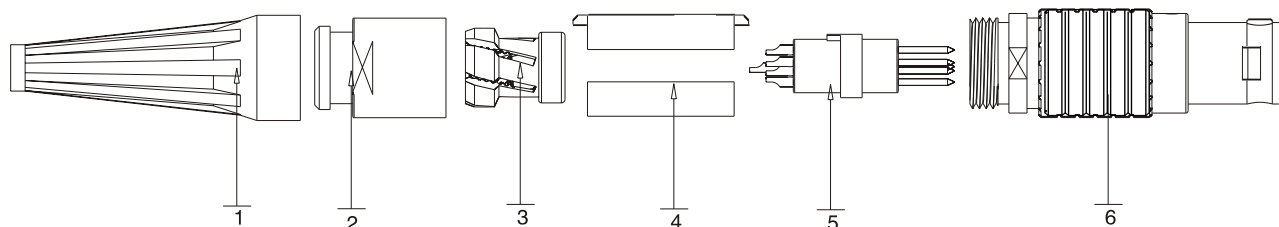
Note: all dimensions are in millimetres.

Plug assembly instructions for F series



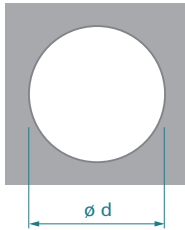
1. the cable is passed through the tail nut①, shielded clamp②, spacer③ and then soldered to the insulator⑤
2. Assemble the sleeve④ and the soldered insulator⑤, noting that the window on the Sleeve④ corresponds to the protrusion on the insulator⑤.
3. Insert the insulator⑤ with the sleeve④ into the housing⑥, and then install the spacer③, shielded clamp②, and the tail nut① into the housing⑥, and tighten.

Plug assembly instructions for C series



1. Pass the cable through the bend relief ①, the collet nut ②, the cable collet ③, and solder to the insulator with contacts ⑤ in order.
2. Attach two pieces of split insert carriers ④ to the welded insulator with contacts ⑤, noting that the window on the split insert carriers ④ corresponds to the protrusion on the insulator with contacts ⑤.
3. Install the cable collet ③ in the proper position of the cable. Note that the protrusion on the cable collet ③ corresponds to the groove on the split insert carriers ④.
4. Push the insulator with contacts ⑤, the split insert carriers ④ and the cable collet ③ into the plug assembly in turn, and note that the protrusions on the split insert carriers ④ are correspondingly inserted into the notches in the plug assembly.
5. Screw the collet nut ② onto the housing subassy ⑥
6. Insert the bend relief ① into the corresponding step of the collet nut ②.

F Series

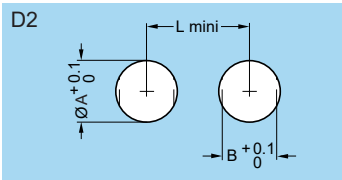


Cut-out types

series	D1
	ø d
102F	9.1
103F	12.1
1031F	14.1
104F	15.1
105F	18.1

Model	Type
ZLN	D1
ZGN	D1
ZYN	D1
ZHN	D1
MHN	D1
GBN	D1

C Series



Cut-out types

series	D2		
	ØA	B	L
0C	9.1	8.3	15
1C	12.1	10.6	19
2C	15.1	13.6	23

Model	Type
MEG	D2

Note: when using the tapered washer a round hole apply 0C: ø 9.6 mm / 1C: ø 12.6 mm / 2C: ø 15.7 mm

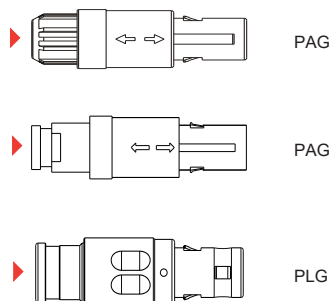
1P SERIES (Indoor, Keyed)

2P SERIES (Outdoor, Keyed)

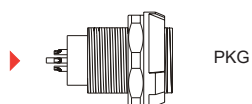


1P Series Plastic housing models (page 84)

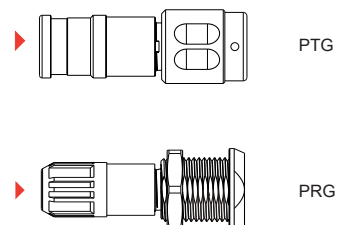
Straight plugs



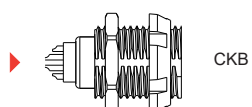
Fixed sockets



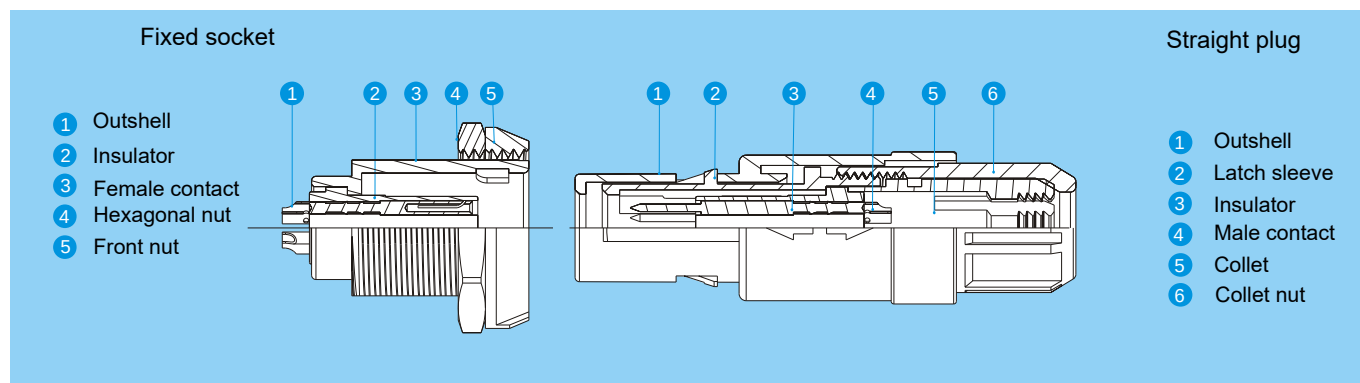
Free sockets



2P Series Plastic housing models (page 88)



Part Section Showing Internal Components



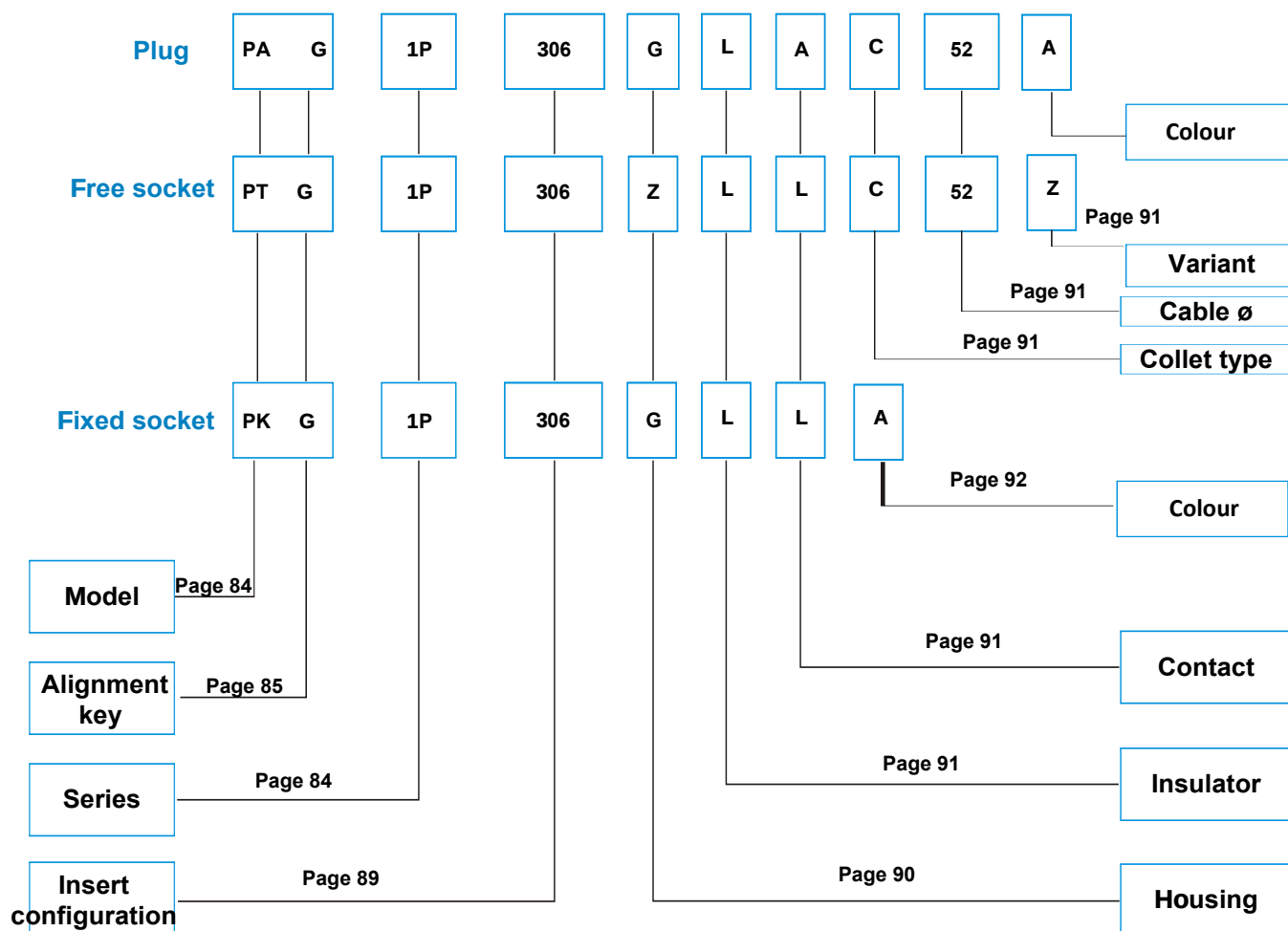
1P series connectors have main features as follows:

- security of the Push-Pull self-latching system
- multipole types 2 to 14 contacts
- solder, print contacts
- high packing density for space savings
- a keying system combined with colour coding can be incorporated on all connector types to assist in the prevention of mismatching.
- plastic shell, IP 50

1P Series Connectors Technical Characteristics:

- Endurance: > 1000 cycles
- Humidity: up to 95% at 60° C
- Temperature range: - 50° C, + 150° C
- Shock resistance: 100 g, 6 ms
- Resistance to vibrations: 10-2000 Hz, 15g
- Withstand voltage: 500V AC, 60S
- Protection index (mated): IP 50

1P Series Part Numbering System



Part Number Example

Straight Plug with Cable Collet:

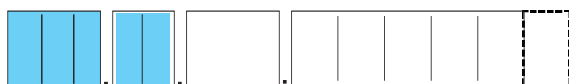
PAG.1P.306.GLAC52A = straight plug with key (G) and cable collet, 1P series, multipole type with 6 contacts, outer shell in grey PSU, PPS insulator, male solder contacts, collet for a cable 4.5 to 5.5 mm diameter and blue collet nut.

Free socket:

PTG.1P.306.ZLLC52Z = free socket with key (G) and cable collet, 1P series, multipole type with 6 contacts, outer shell in aluminium alloy, PPS insulator, female solder contacts, collet for a cable 4.5 to 5.5 mm diameter and nut for fitting a bend relief.

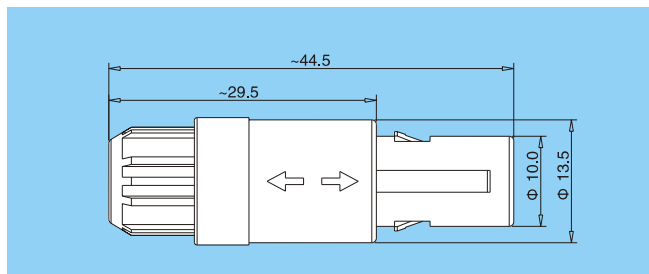
Fixed Socket:

PKG.1P.306.GLLA = fixed socket, nut fixing, with key (G), 1P series, multipole type with 6 contacts, outer shell in grey PSU, PPS insulator, female solder contacts.

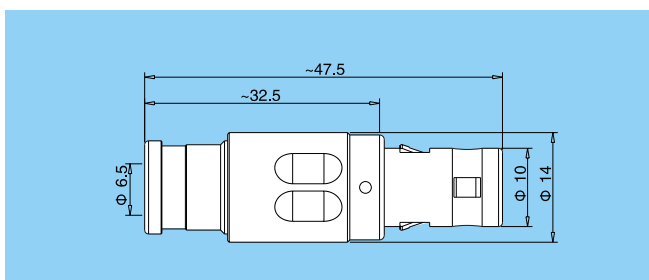


Plastic Housing Models:1P series

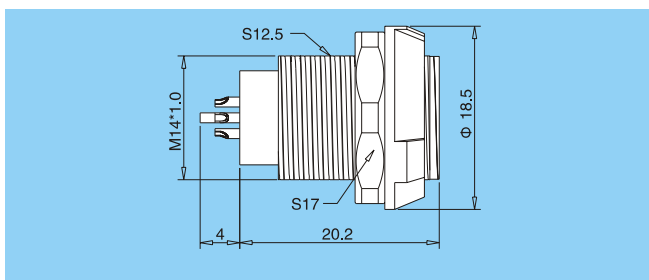
PAG Straight plug with cable collet



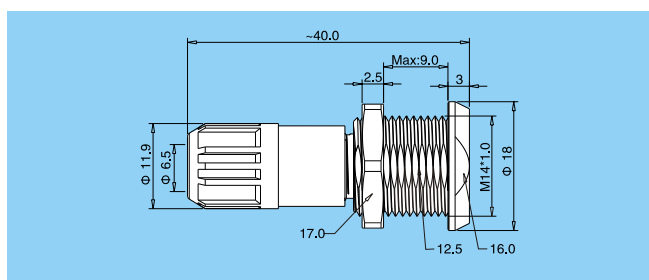
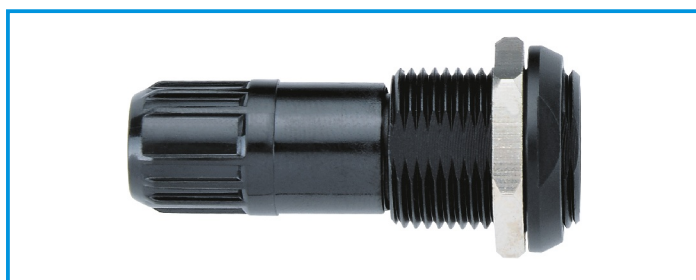
PLG Straight plug, out shell aluminum alloy, cable collet and nut for fitting a bend relief



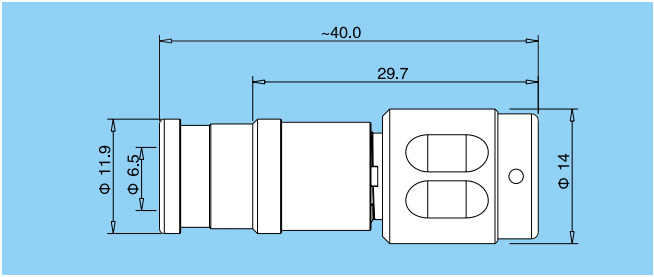
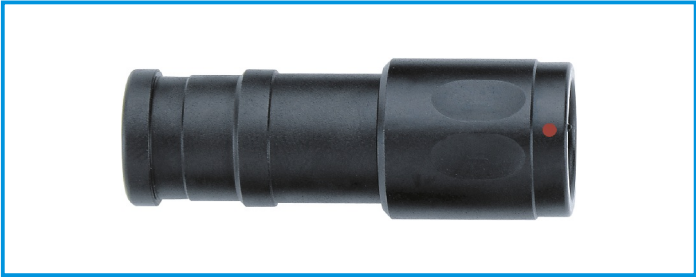
PKG Fixed socket with two nuts(back panel mounting)



PRG Fixed socket with two nuts and cable collet(back panel mounting), out shell aluminum alloy



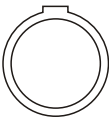
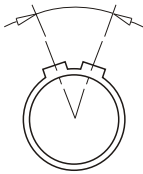
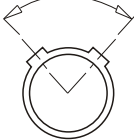
PTG Free socket,out shell aluminum alloy



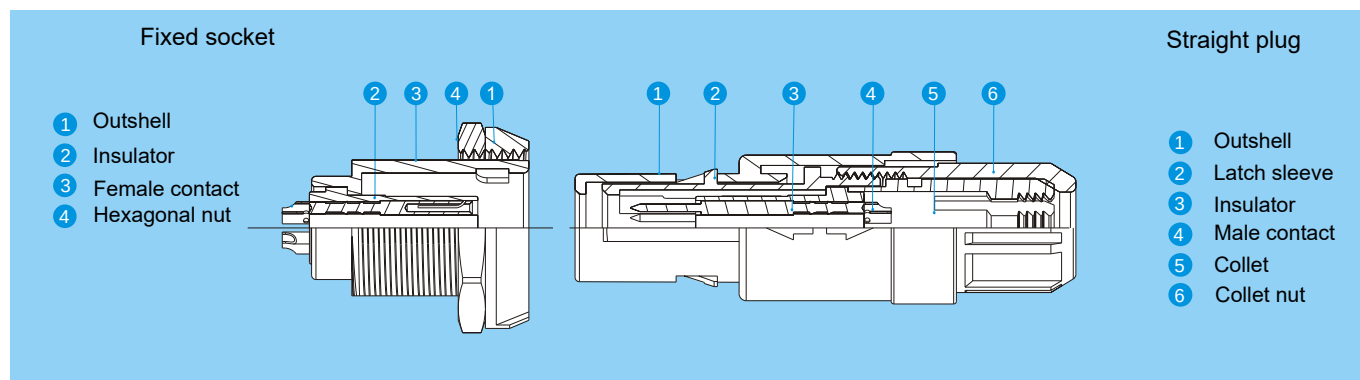
Alignment Key (1P series)

Alignment Key and Polarized Keying System

1P series connector model part numbers are composed of three letters. The LAST LETTER indicates the key position and the contact type (male or female)

	Graphical			
	0°	40°	60°	80°
				
Reference	G	A	B	C

Part Section Showing Internal Components



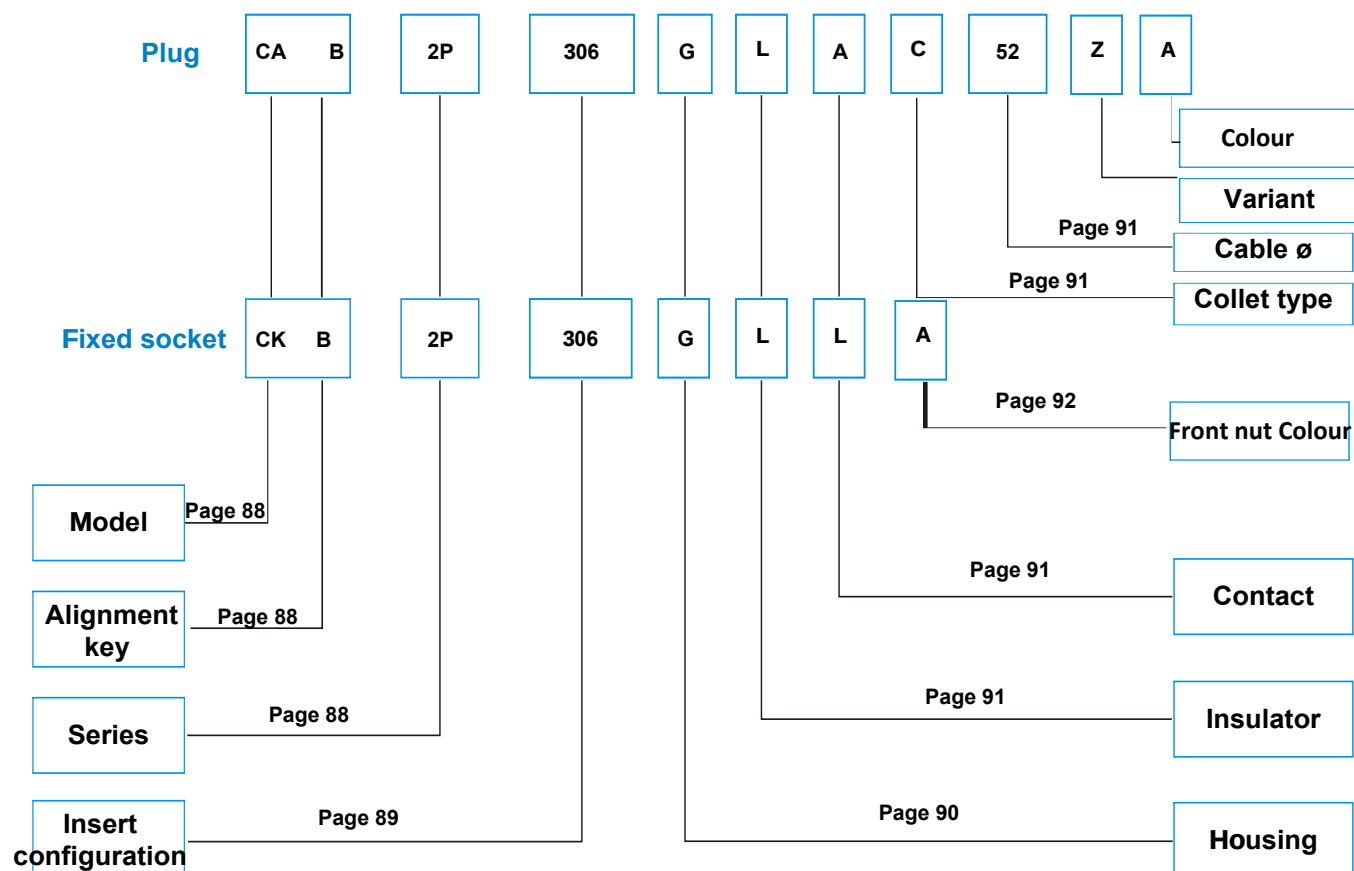
2P series connectors have main features as follows:

- security of the Push-Pull self-latching system
- multipole types 2 to 34 contacts
- ϕ 18 mm connector accommodates cable up to 9 mm and allows up to 34 solder contacts.
- high packing density for space savings
- colour coding of plug and socket flange will give an instant visual indication as to whether connectors are compatible or not.
- plastic shell, water resistant to IP 66 options are available.

2P Series Connectors Technical Characteristics:

- Endurance: > 1000 cycles
- Humidity: up to 95% at 60° C
- Temperature range: - 50° C, + 150° C
- Shock resistance: 100 g, 6 ms
- Resistance to vibrations: 10-2000 Hz, 15g
- Withstand voltage: 500V AC, 60S
- Protection index (mated): IP 66

2P Series Part Numbering System



Part Number Example

Straight Plug with Cable Collet:

CAB.2P.306.GLAC52A = straight plug with key (B) and cable collet, 2P series, multipole type with 6 contacts, outer shell in grey PSU, PPS insulator, male solder contacts, collet for a cable 4.5 to 5.5 mm diameter and blue collet nut.

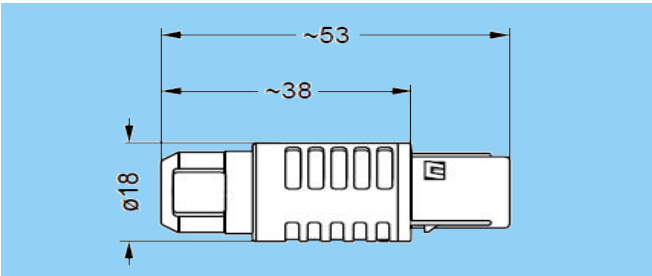
Fixed Socket:

CKB.2P.306.GLL = fixed socket, nut fixing, with key (G), 2P series, multipole type with 6 contacts, outer shell in grey PSU, PPS insulator, female solder contacts.

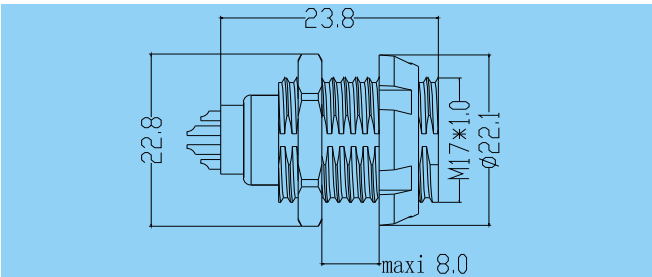


Plastic Housing Models:2P series

CAB Straight plug with cable collet



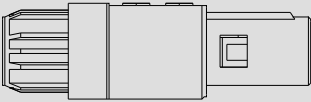
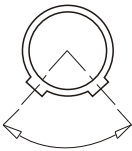
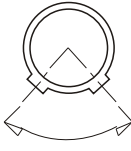
CKB Fixed socket with two nuts(back panel mounting)

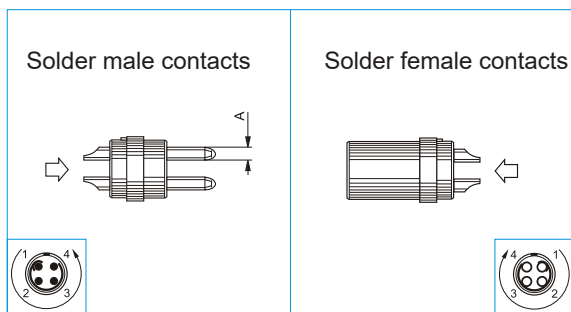


Alignment Key (2P series)

Alignment Key and Polarized Keying System

2P series connector model part numbers are composed of three letters. The LAST LETTER indicates the key position and the contact type (male or female)

	Graphical			
				
	60°	100°	110°	
Reference	B	C	D	



Reference	Multipole(contacts)	Φ A (mm)	Conductor Size(AWG)	Test voltage (kV rms) Contact-contact	Test voltage (kV rms) Contact-shell	Rated current (A)
302	2	1.3	20	1.20	1.30	10.0
303	3	1.3	20	1.15	1.25	9.0
304	4	0.9	22	1.20	1.20	8.0
305	5	0.9	22	1.05	0.80	7.0
306	6	0.7	22	1.05	0.85	6.0
307	7	0.7	22	1.05	0.85	5.0
308	8	0.7	22	1.05	0.60	5.0
309	9	0.5	28	0.85	0.60	3.0
310	10	0.5	28	0.85	0.45	3.0
314	14	0.5	28	0.65	0.50	2.0
302	2	2.0	14	2.10	1.60	30.0
303	3	1.6	16	2.40	1.50	17.0
304	4	1.3	20	1.85	1.80	15.0
305	5	1.3	20	1.75	1.10	14.0
306	6	1.3	20	1.35	0.85	12.0
307	7	1.3	20	1.75	0.95	11.0
308	8	0.9	22	1.50	1.00	10.0
310	10	0.9	22	1.45	0.75	8.0
312	12	0.7	22	1.25	0.85	7.0
314	14	0.7	22	1.50	0.65	6.5
316	16	0.7	22	1.40	0.60	6.0
318	18	0.7	22	0.85	1.20	5.5
319	19	0.7	22	0.95	1.25	5.0
326	26	0.5	28	1.00	0.55	2.0
332	32	0.5	28	0.70	0.35	1.5
334	34	0.5	28	0.70	0.30	1.5

1P

2P



Ref.	Outer shell and collet nut	Note
	Material	
G	Grey PSU	
Z	Aluminium alloy	
N	Black PSU	

Note:

PSU

Polysulfone (PSU) - A family of sulfur-containing thermoplastics, closely related to polyethersulfone (PES). The structure of the polysulfones is aromatic groups, generally with more than one benzene ring, joined by a sulfone group. Generally, polysulfone is a high cost, rigid, amorphous material with low moisture absorption. Reinforcement improves toughness and further enhances dimensional stability, but turns materials opaque. In addition, polysulfones are characterized by high strength, very high surface-temperature limits, low creep, good electrical characteristics, transparency, self-extinguishing ability, and resistance to greases, many solvents, and chemicals. Polysulfones may be processed by extrusion, injection molding, and blow molding.

Aluminium alloy

In the aviation, aerospace industry, portable mobile devices and so on. It is suitable for the connector with aluminium alloy shell.

In addition to its high mechanical lightness and excellent corrosion resistance, the surface of aluminium alloys can be protected by anodic plating, with a variety of colors to choose from.

A horizontal number line with vertical tick marks at every integer from 0 to 10. A solid blue square is placed on the tick mark for the number 5. The line continues to the right with a dashed line indicating it goes on.

Ref.	Material	Contact type	Note
T	Teflon	Solder or print	
L	PPS	Solder or print	

➤➤➤ Contacts (1P, 2P series)

Contact Type	Plug		Socket	
	Male	Female	Male	Female
Solder	A	L	A	L

➤➤➤ **Collets (1P, 2P series)**

Reference	Cable ø(mm)
42	3.5–4.5
52	4.5–5.5
62	5.5–6.5

➤➤➤ **Variant (1P, 2P series)**

To order a model with cable collet and nut for fitting a bendrelief ,you should write a "Z" in the variant position.

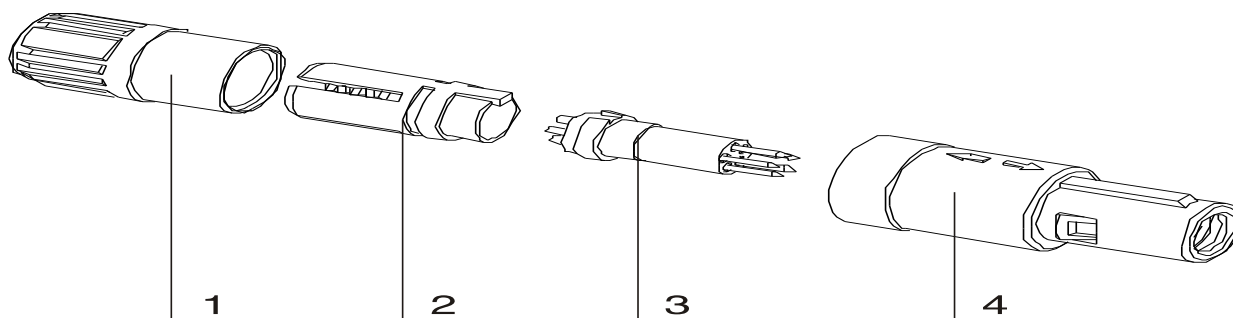
Bend reliefs to be ordered separately (see page 108)



Colours	blue	grey	yellow	black	red	green
Reference	A	G	J	N	R	V

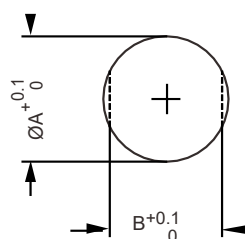
➤➤➤ Plug assembly instructions:
(1P, 2P series)

Plug assembly instructions for 1P, 2P series



1. The cable is passed through the collet nut ① in sequence, and the cable collet ② is soldered to the corresponding position of the insulator with contacts ③.
2. Attach the cable collet ② to the welded the insulator with contacts ③, paying attention to the projection of the cable collet ② and the groove of the insulator with contacts ③.
3. Insert the insulator with contacts ③ into the housing subassy ④, noting that the projections on the cable collet ② are to be correspondingly fitted to the recesses in the housing subassy ④.
4. Insert the collet nut ① into the housing subassy ④ and tighten the collet nut.

➤➤➤ Panel cut-out: (1P, 2P series)



Panel Cut-Outs

Series	Ø A	B
1P	14.1	12.6
2P	17.1	15.6

Mounting Nut Torque

Series	Torque (Nm)
1P	1.5
2P	0.8

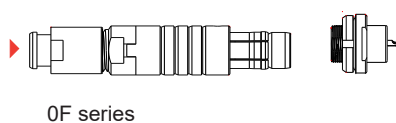
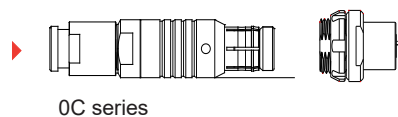
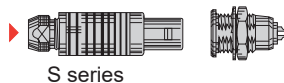
1N=0.102kg

Unipole Coaxial Series

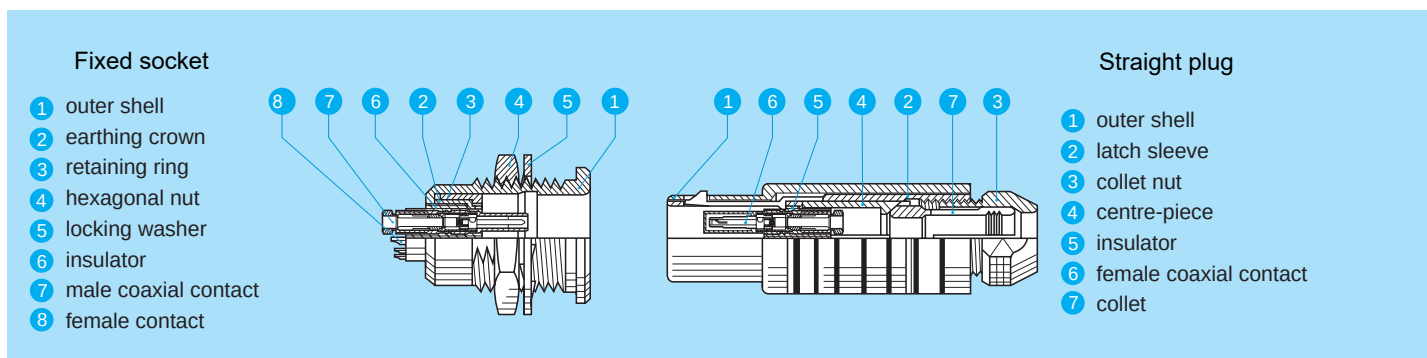
A unipole coaxial connector is generally considered to be an element attached to a cable or mounted on an instrument as an electrical connection or separate component of the transmission line.



Metal housing models (page 96)



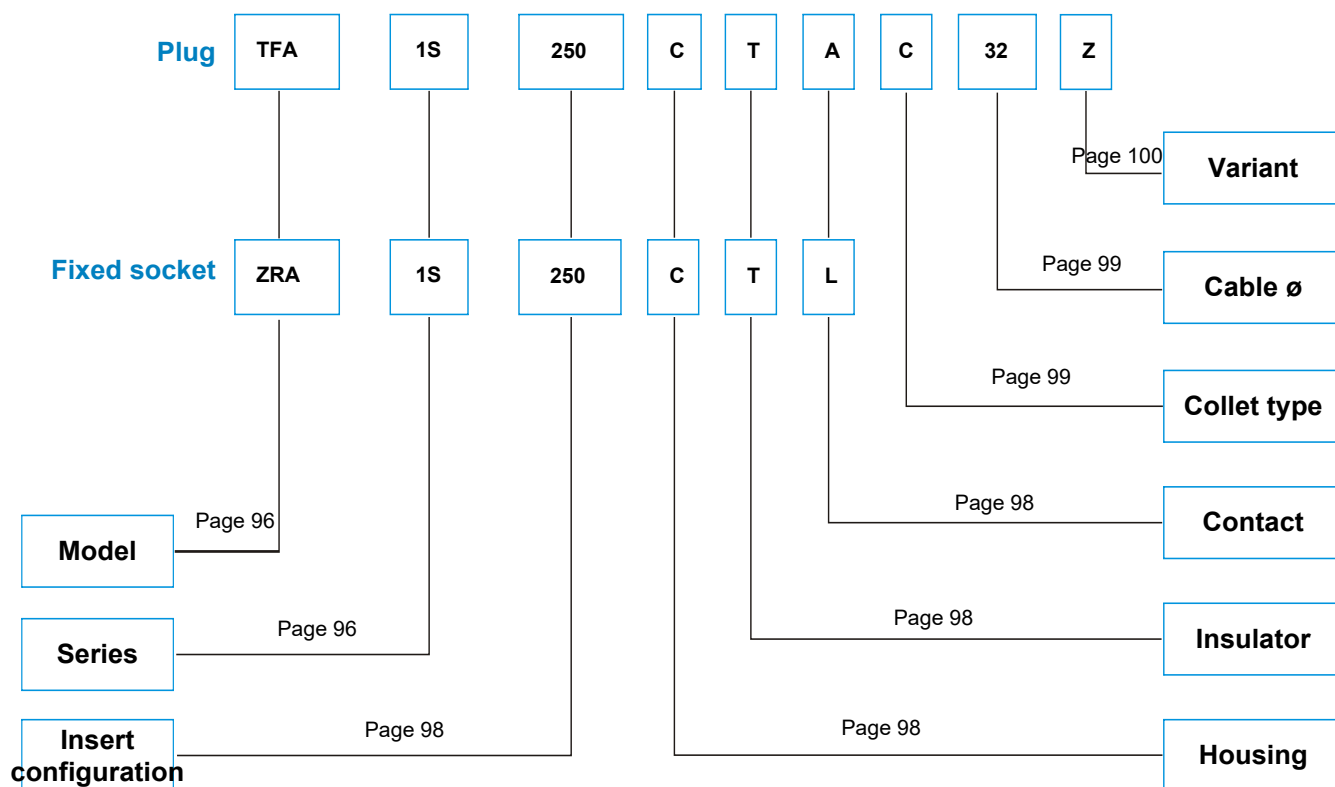
Part Section Showing Internal Components



Unipole Coaxial series connectors have main features as follows:

- Small size, quick insertion and security of the Push-Pull self-latching system
- There are straight type, elbow (90°) type and other different types of plugs;
- High frequency: transmission frequency is 3MHZ $\sim$ 30MHZ;
- Many functions: in addition to the role of the bridge, it also has the function of processing signals, such as filtering, phase adjustment, mixing, attenuation, detection, limiting, etc.
- Low standing wave, low loss: meeting the needs of weapon systems and precision measurement;
- Large capacity, high power: mainly to meet the development needs of the information superhighway.

Unipole Coaxial Series Part Numbering System:



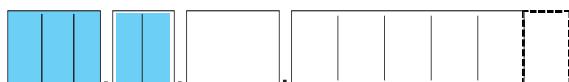
part number example

straight plug with cable collet:

TFA.1S.250.CTAC32Z = straight plug with cable collet, 1S series, coaxial (50 Ω), outer shell in chrome-plated brass, PTFE insulator, male solder contacts, C type collet for a 3.2 mm diameter cable and nut for fitting a bend relief.

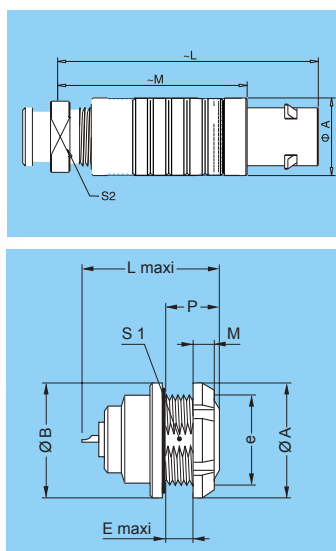
fixed socket:

ZRA.1S.250.CTL = fixed socket, nut fixing, 1S series, coaxial (50 Ω), outer shell in chrome-plated brass, PTFE insulator, female solder contacts.



Metal Housing Models

1E Unipole Coaxial series



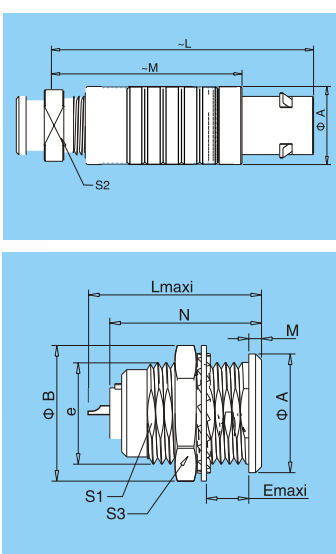
TFA Straight plug, cable collet and nut for fitting a bend relief

Reference	Series	Dimensions (mm)			
		A	L	M	S2
TFA. 1E. 250. CTAC**Z	1E	13	42	28	9

ZRA Fixed socket, nut fixing

Reference	Series	Dimensions (mm)								
		A	B	e	E	L	M	N	P	S1
ZRA. 1E. 250. CTL	1E	20	20	m16x1.0	6.2	27	3.5	25	10	15

S Unipole Coaxial series



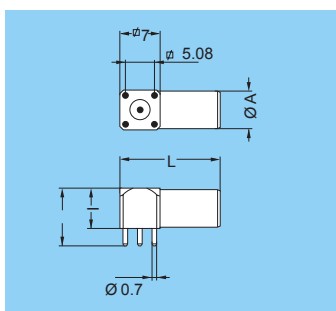
TFA Straight plug, cable collet and nut for fitting a bend relief

Reference	Series	Dimensions (mm)			
		A	L	M	S2
TFA. 00S. ***. CTAC**Z	00S	6.4	26	18	4.5
TFA. 0S. ***. CTAC**Z	0S	8.8	34.5	24.5	6.5
TFA. 1S. ***. CTAC**Z	1S	11.8	42.5	31.5	8.5

ZRA Fixed socket, nut fixing

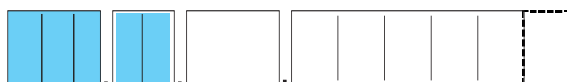
Reference	Series	Dimensions (mm)							
		A	B	e	E	L	M	S1	S2
ZRA. 00S. ***. CTL	00S	8	10.2	m7x0.5	5.5	14.5	1	10	14.
ZRA. 0S. ***. CTL	0S	10	12.4	m9x0.6	7	17.5	1.2	8.2	11
ZRA. 1S. ***. CTL	1S	14	15.8	m12x1.0	7.5	20.2	1.5	10.5	14

ZPL Elbow (90°) socket(00S series)



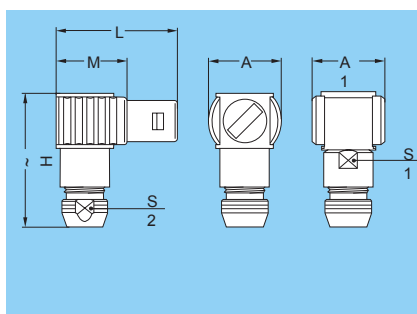
ZPL Elbow (90°) socket for printed circuit with two nuts,

Reference	Series	Dimensions (mm)		
		A	H	I
ZRA. 00S. ***. CTL	00S	6.5	10	7



Metal Housing Models

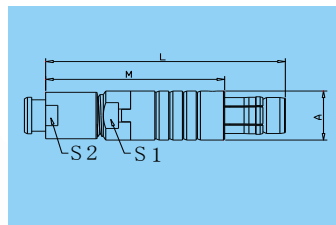
TLA Elbow (90°) plug(1S,2S series)



TLA Elbow (90°) plug, cable collet

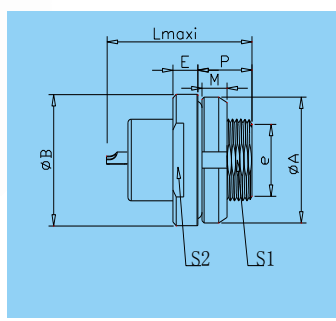
Reference	Series	Dimensions (mm)						
		A	A1	H	L	M	S1	S2
TLA. 1S. ***, CTAC52	1S	16	16	28.5	26.5	15.5	10	8.5
TLA. 2S. ***, CTAC72	2S	20	20	37	31	19	13	11

0F Unipole Coaxial series



TGG Straight plug, cable collet and nut for fitting a bend relief

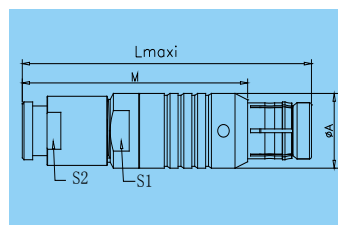
Reference	Series	Dimensions (mm)			
		A	L	M	S1
TGG. 0F. ***, CTAC**Z	0F	9	36	26	7



MEG Fixed socket, nut fixing

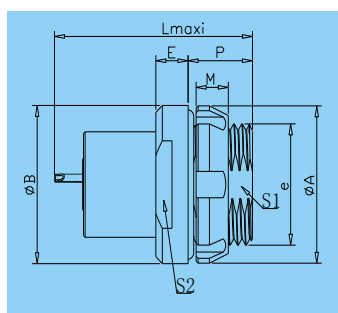
Reference	Series	Dimensions (mm)								
		A	B	e	E	L	M	P	S1	S2
MEG. 0F. ***, CTL	0F	11.5	13	m9x1.0	3	21	3	6.5	8.2	12

0C Unipole Coaxial series



TGG Straight plug, cable collet and nut for fitting a bend relief

Reference	Series	Dimensions (mm)			
		A	L	M	S1
TGG. 0C. ***, CTAC**Z	0C	9	36	26	7



MEG Fixed socket, nut fixing

Reference	Series	Dimensions (mm)								
		A	B	e	E	L	M	P	S1	S2
MEG. 0C. ***, CTL	0C	11.5	13	m9x1.0	3	21	3	6.5	8.2	12

A horizontal number line with arrows at both ends. It has major tick marks labeled 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10. The rectangular region between the tick marks for 3 and 4 is shaded in light blue.

Series	Reference	Contact Type	Test voltage	Test voltage	Rated current	contact diameter (ø A)
00S	113	solder	800V	1200V	8A	1.3mm
	250	solder	2100V	3000V	4A	0.7mm
0S , 0C , 0F	116	solder	1500V	2100V	12A	1.6mm
	250	solder	3000V	4200V	6A	0.9mm
1S	120	solder	1700V	2400V	18A	2.0mm
	250	solder	3000V	4200V	12A	1.6mm
	275	solder	2400V	3300V	10A	1.3mm
1E	250	solder	3000V	4200V	12A	1.6mm
2S	250	solder	3000V	4200V	40A	1.6mm

➤➤➤ **Housings**
(Unipole Coaxial series)

[illegible]

Ref.	Outer shell and collet nut		Latch sleeve + earthing crown		Other metallic components		Note
	Material	Surf. treatment	Material	Surf. treatment	Material	Surf. treatment	
C	Brass	chrome	brass/bronze	nickel	Brass	nickel	First choice alternative
N	Brass	chrome	brass/bronze	nickel	Brass	nickel	
H	Brass	black chrome	brass/bronze	nickel	Brass	nickel	
S	Stainless steel 304	anodized	brass/bronze	-	Brass	nickel	
L	Stainless steel 316L	anodized	Stainless steel 316L	-	Stainless steel 316L	-	
T	Brass	satin nickel	brass/bronze	nickel	Brass	nickel	
G	Brass	brown and black	brass/bronze	nickel	Brass	nickel	
F	Brass	High phosphorus chemical nickel	brass/bronze	nickel	Brass	nickel	
Z	Aluminium alloy	High phosphorus chemical nickel	brass/bronze	nickel	Brass	nickel	
Y	Brass	golden yellow	brass/bronze	nickel	Brass	nickel	

➤➤➤ Insulators (Unipole Coaxial series)

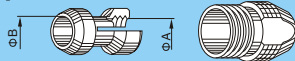
[illegible]

Ref.	Material	Contact type	Note
T	Teflon	Solder or print	First choice alternative
L	PPS	Solder or print	

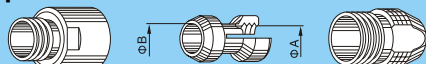


C, K and L type collets for S series

C type



K type



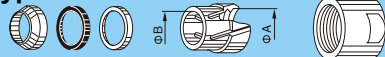
L type



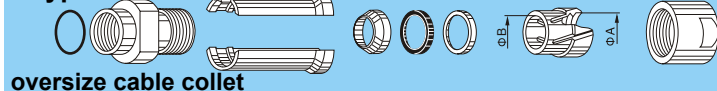
Reference			Collet ø		Cable ø	
Type	Code		Φ A	Φ B	max.	min.
00	C 27		2.7	–	2.6	2.2
	K 37		3.7	–	3.6	3.0
0S	C 27		2.7	–	2.6	2.2
	C 32		3.2	–	3.1	2.7
	C 42		4.2	3.7	4.1	3.3
	K 47		4.7	–	4.6	3.8
1S	C 32		3.2	–	3.1	2.6
	C 42		4.2	–	4.1	3.3
	C 47		4.7	–	4.6	3.8
	C 52		5.2	–	5.1	4.3

C, K type collets for E series

C type



K type



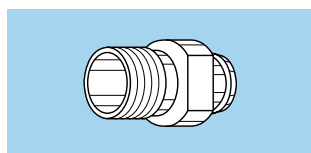
oversize cable collet

1E

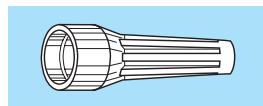
Reference			Collet ø		Cable ø	
Type	Code		Ø A	Ø B	max.	min.
1E	C 15		1.6	-	1.5	1.3
	C 20		2.2	-	2.0	1.6
	C 25		3.2	-	2.5	2.1
	C 30		3.2	-	3.0	2.6
	C 35		4.2	-	3.5	3.1
	C 40		4.2	-	4.0	3.6
	C 45		5.2	-	4.5	4.1
	C 50		5.2	-	5.0	4.6
	C 55		6.2	6.2	5.5	5.1
	C 60		6.2	6.2	6.0	5.6
	C 65		7.2	6.7	6.5	6.1
	K 70		7.2	-	7.0	6.6
	K 75		8.2	8.2	7.5	7.1
	K 80		8.2	8.2	8.0	7.6
	K 85		9.2	8.6	8.5	8.1



Bend relief for S series models with collet

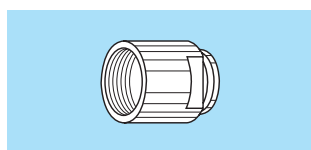


Need to be ordered

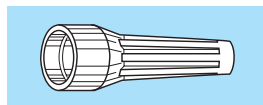


	Ref.	Collet		Need to be ordered separately (see page 108)
		Type	Code	
00	Z	C	15 to 31	GMA.00.0..D.
		K	37 to 42	GMA.0B.0..D.
		L	17 to 31	GMA.00.0..D.
0S	Z	C	27 to 42	GMA.0B.0..D.
		K	47 to 62	GMA.1B.0..D.
		L	27 to 42	GMA.0B.0..D.
1S	Z	C	27 to 62	GMA.1B.0..D.
		K	72 to 82	GMA.2B.0..D.
		L	27 to 62	GMA.1B.0..D.
2S	Z	C	42 to 82	GMA.2B.0..D.
		K	92 to 10	GMA.3B.0..D.
		L	42 to 82	GMA.2B.0..D.

Bend relief for E series models with collet



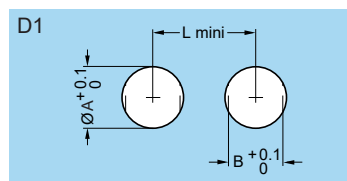
Need to be ordered



	Ref.	Collet		Need to be ordered separately (see page 108)
		Type	Code	
1E	Z	C	15 to 65	GMA.1B.... .
		K	70 to 85	GMA.2B.... .

Note: all dimensions are in millimetres.

S Series



series	D1		
	ØA	B	L
00	7.1	6.4	12.5
0S	9.1	8.3	14.5
1S	12.1	10.6	18.5
2S	15.1	13.6	22.5

Cut-out types

Model	Type
ZRA	D1
ZRD	D1

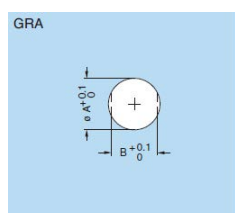
Mounting nut torque

series	Torque (Nm)
	Metal shell
00	1.0
0S	2.5
1S	4.5
2S	6.0

Note: when using the tapered washer a round hole apply 00: ø 7.6 mm / 0S: ø 9.6 mm / 1S: ø 12.6 mm / 2S: ø 15.7 mm

Note: these values apply when metal shell are mounted with insulating washer.

Panel cut-out for mounting with insulating washer



series	D i m .(mm)	
	ØA	B
00	8.9	8.1
0S	10.9	10.1
1S	13.9	12.3
2S	18.0	16.3

E Series

series	D1		
	ØA	B	L
1E	16.1	14.6	22.5

Cut-out types

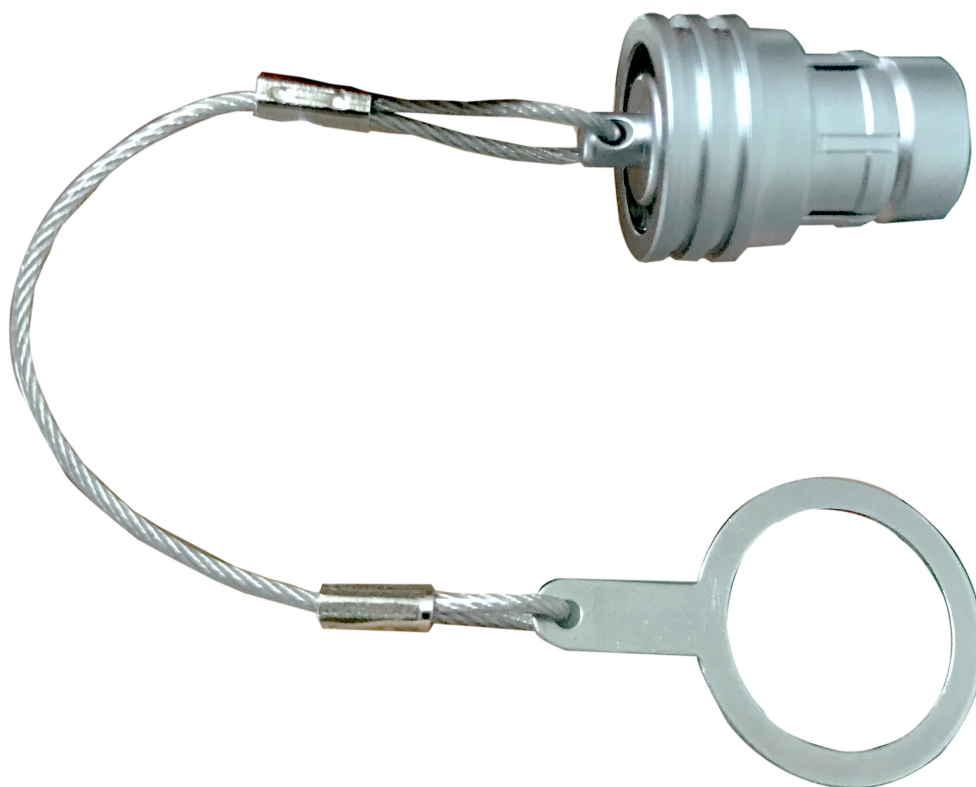
Model	Type
ZRA	D1

Mounting nut torque

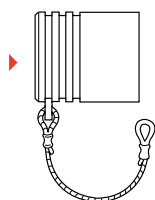
series	Torque (Nm)
1E	7

1 N = 0.102 kg

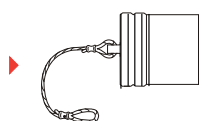
Caps



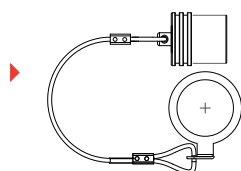
Plug caps



BTG for B series

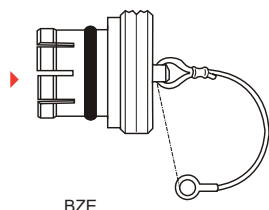


BTG for K series

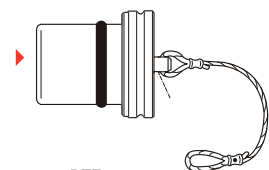


BTF

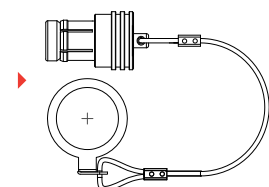
Blanking caps for socket



BZE



BZF



BZE

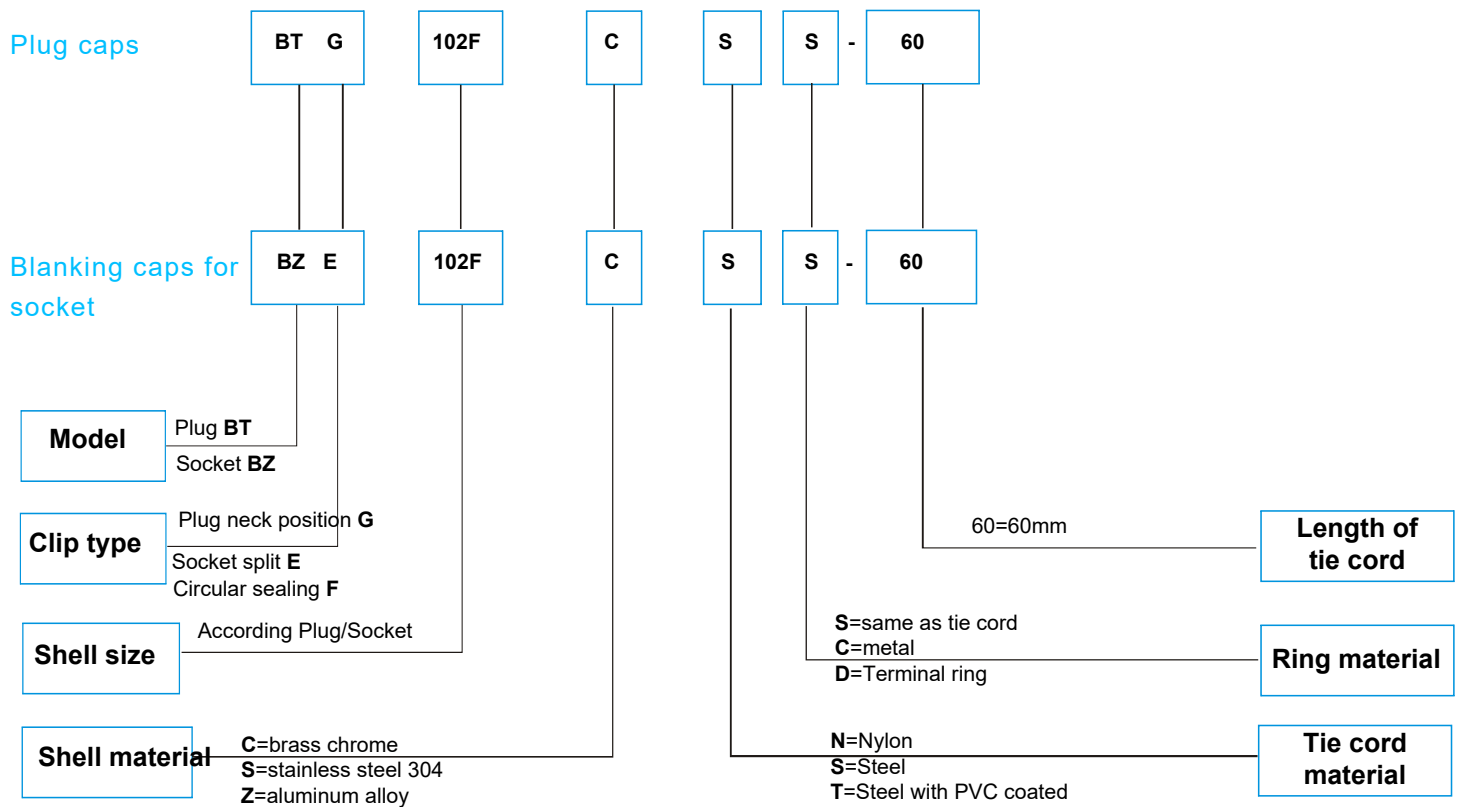
Insulating washers

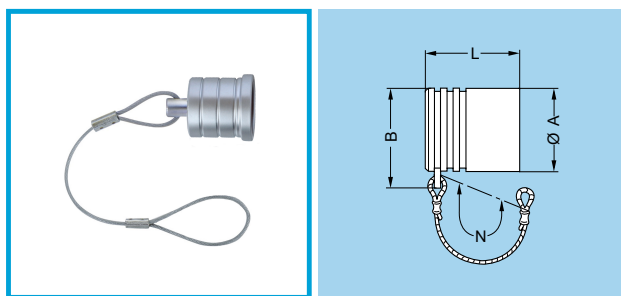


bend relief



Part Numbering System

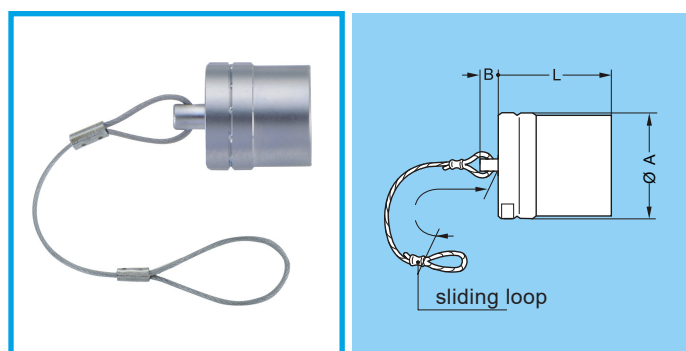




BTG Plug caps for B, S series with key (G)

Part number	Series	Dimensions (mm)			
		A	B	L	N
BTG.00.CSS-085	00	7.5	9.8	10.0	60
BTG.0B.CSS-085	0S-0B	9.5	12.0	12.2	85
BTG.1B.CSS-085	1S-1B	12.0	15.0	13.8	85
BTG.2B.CSS-085	2S-2B	15.0	18.0	15.0	85

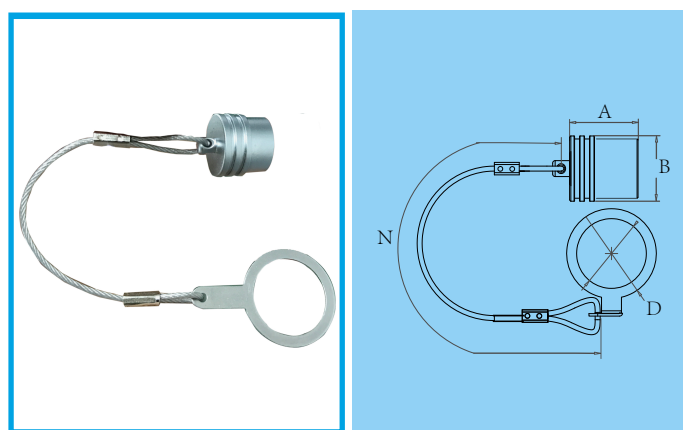
- Body material: Nickel-plated brass
- Cord material: Stainless steel
- Gasket material: Silicone rubber
- Maximum operating temperature: 135°C
- Watertightness: IP50



BTG Plug caps for K series with key (G)

Part number	Series	Dimensions (mm)			
		A	B	L	N
BTG.0K.CSS-085	0K	14	6	12.5	85
BTG.1K.CSS-085	1K	16	6	15.5	85
BTG.2K.CSS-085	2K	19	6	17.5	85

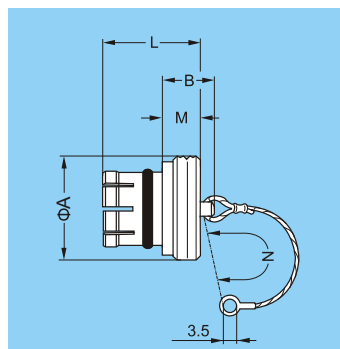
- Body material: Nickel-plated brass
- Cord material: Stainless steel
- Gasket material: Silicone rubber
- Maximum operating temperature: 135°C
- Watertightness: IP65-68



BTF Plug caps for F series

Part number	Series	Dimensions (mm)			
		A	B	D	N
BTF.102F.CSS-100	102F	14.5	9	9	100
BTF.103F.CSS-100	103F	21	12	14	100
BTF.1031F.CSS-100	1031F	20	13	14	100
BTF.104F.CSS-150	104F	21	15	16	150
BTF.105F.CSS-150	105F	29	18	20	150

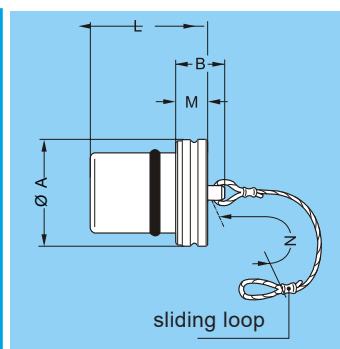
- Body material: Nickel-plated brass
- Cord material: Stainless steel
- Gasket material: Silicone rubber
- Maximum operating temperature: 135°C
- Watertightness: IP67



BZE Blanking caps for fixed sockets for B, S series

Part number	Series	Dimensions (mm)				
		A	B	L	M	N
BZE.0B.CSS-085	0S-0B	10	9.5	10.5	4.5	85
BZE.1B.CSS-085	1S-1B	11	11	12.5	5	85
BZE.2B.CSS-085	2S-2B	18	12	14	6	85

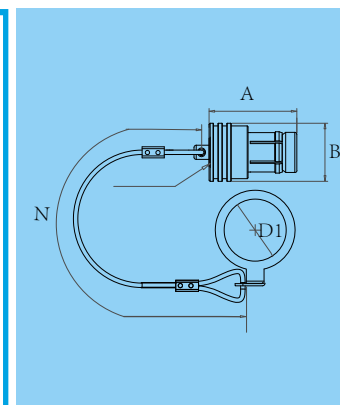
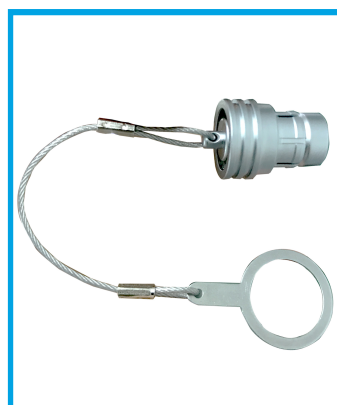
- Body material: Nickel-plated brass
- Cord material: Stainless steel
- Gasket material: Silicone rubber
- Maximum operating temperature: 135°C
- Watertightness: IP50



BZF Blanking caps for fixed sockets for K series

Part number	Series	Dimensions (mm)				
		A	B	L	M	N
BZF.0K.CSS-085	0K	15	10	15	4	85
BZF.1K.CSS-085	1K	17	12	20	6	85
BZF.2K.CSS-085	2K	20.5	14	24	8	85

- Body material: Nickel-plated brass
- Cord material: Stainless steel
- Gasket material: Silicone rubber
- Maximum operating temperature: 135°C
- Watertightness: IP50



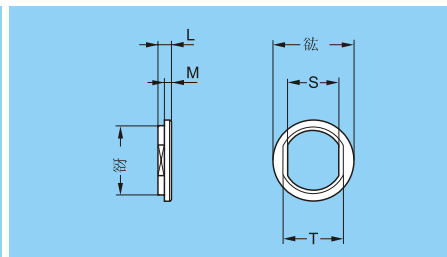
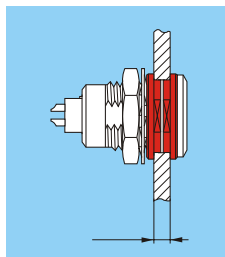
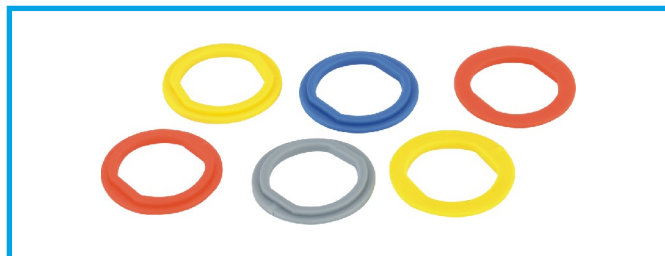
BZE Blanking caps for fixed sockets for F series

Part number	Series	Dimensions (mm)			
		A	B	D	N
BZF.102F.CSS-100	102F	16.5	9	9	100
BZF.103F.CSS-100	103F	19.8	12	14	100
BZF.1031F.CSS-100	1031F	18.4	13	14	100
BZF.104F.CSS-150	104F	21	15	16	150
BZF.105F.CSS-150	105F	24	18	20	150

- Body material: Nickel-plated brass
- Cord material: Stainless steel
- Gasket material: Silicone rubber
- Maximum operating temperature: 135°C
- Watertightness: IP67

GRA Insulating washers

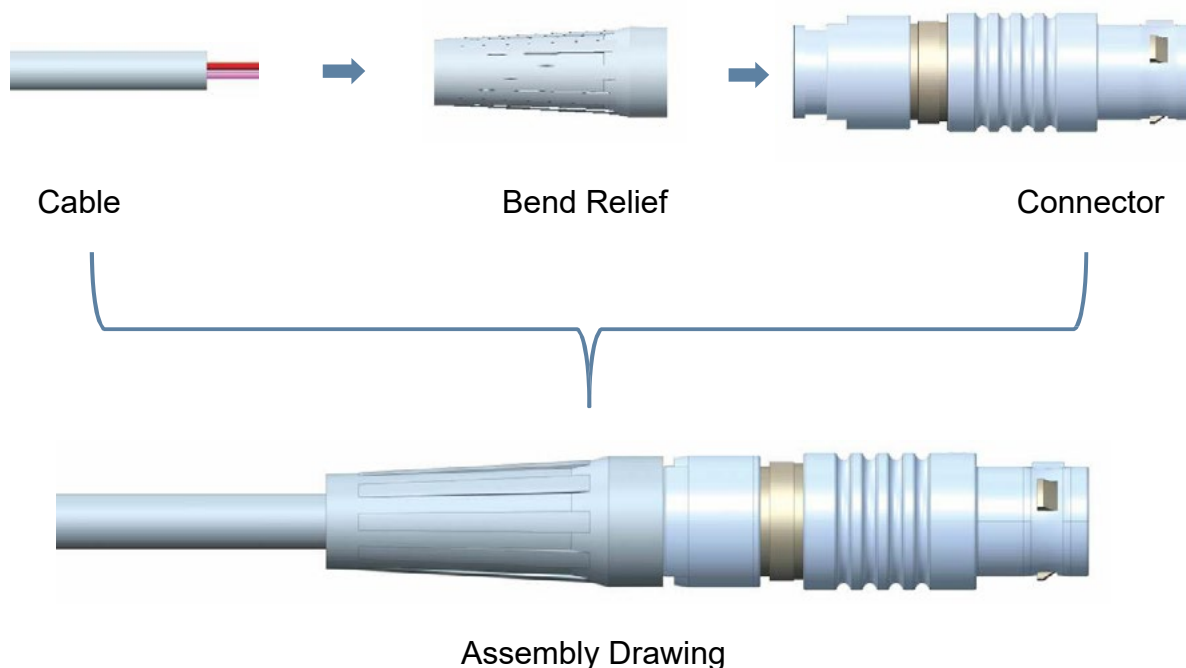
Sockets or plugs mounted on panels can be fitted with insulating washers.



Part number	Series	Dimensions (mm)						
		A	B	E	L	M	S	T
GRA.OO.269.GG	00	10.0	8.8	4.5	1.8	1.0	6.4	8.0
GRA.OB.269.GG	0S-0B	12.0	10.8	6.0	1.8	1.0	8.3	9.9
GRA.1B.269.GG	1S-1B	16.0	13.8	6.5	1.8	1.0	10.6	12.2
GRA.2B.269.GG	2S-2B	21.1	17.9	7.3	2.3	1.3	13.6	16.2

Ref.	Colour
A	blue
G	gray
J	yellow
N	black
R	red

Bend Relief Assembly



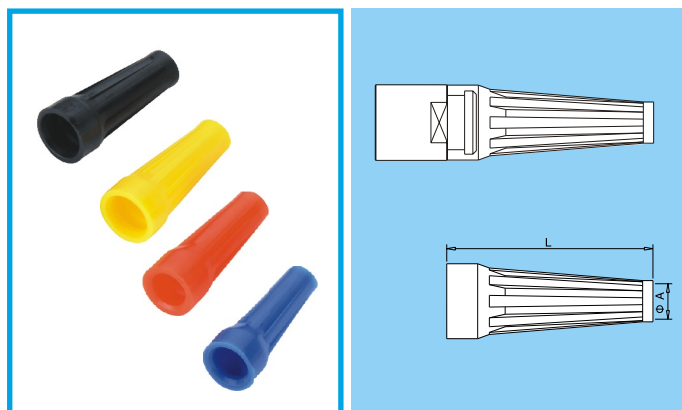
Bend relief made from thermoplastic polyurethane elastomer. Can be fitted over plug and sockets that are supplied with nut for fitting such bend relief. They are available different colours that match with the insulating washers.

Main Characteristics

The bend relief is made of polyurethane material, because PU contains a highly polar urethane group, is insoluble in non-polar groups, has good oil resistance, toughness, wear resistance, aging resistance and stickiness. Synergy. It can be installed on the plugs and sockets of our company's products to protect the cable.

Temperature range in dry air: -40 ° C + 80 ° C

GM· Bend relief (PU)



Series	Part number	Dimensions (mm)			
		Bend relief		Cable ø	
		A	L	max.	Min
OO	GMA.OO.028.DG	2.8	22	3.1	2.8
0B 0S	GMA.0B.030.DG	3.0	24	3.4	3.0
	GMA.0B.040.DG	4.0	24	4.4	4.0
	GMA.0B.045.DG	4.5	24	5.2	4.5
	GMA.0B.052.DG	5.2	24	5.6	4.5
1B 1S	GMA.1B.040.DG	4.0	30	4.4	4.0
	GMA.1B.045.DG	4.5	30	4.9	4.5
	GMA.1B.054.DG	5.4	30	6.0	5.4
	GMA.1B.065.DG	6.5	30	7.0	6.5
2B	GMA.2B.050.DG	5.0	36	5.5	5.0
	GMA.2B.060.DG	6.0	36	6.5	6.0
	GMA.2B.070.DG	7.0	36	7.7	7.0
	GMA.2B.080.DG	7.8	36	8.8	7.8

The last letter ((G)) of the part number indicates the grey color of the bend relief. For ordering a bend relief with another color, see table on page below and replace the letter ((G)) by the letter of the required color.

Ref.	Colour
A	blue
G	gray
J	yellow
N	black
R	red

Solder precautions

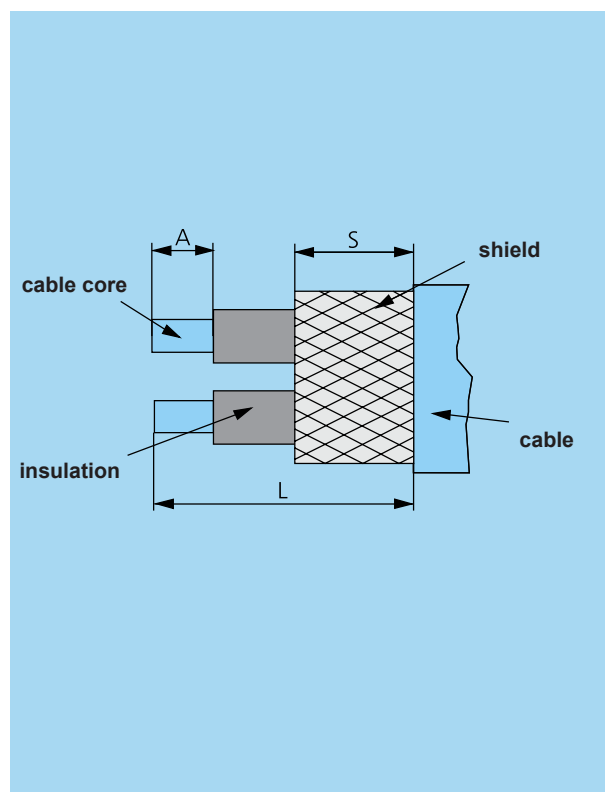


-
1. The outer diameter of the cable should match the size of the cable collet
 2. The core specification should match the diameter of the core termination
 3. The temperature of the soldering iron is controlled at around 380° (lead-free)
 4. One-contact solder time is less than 1s
 5. After solder, each core should be covered with heat-shrinkable tube insulation
 6. Pay attention to the protection of pins and insulators during soldering

Cable stripping lengths (B series)

T1 straight plugs and sockets with cable collet, clamping type D or M

T2 elbow plugs (90°) with cable collet, clamping type D or M



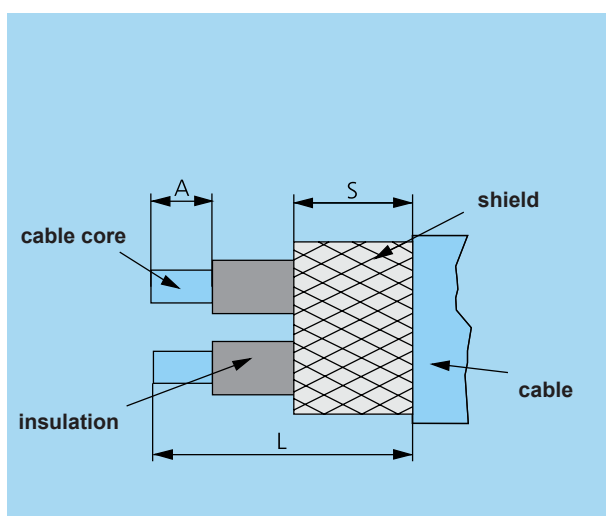
Connector		contact ØA (mm)	Cable stripping lengths (mm)					
series	Type		T1			T2		
			Solder			Solder		
			L	S	A	L	S	A
00	302/303/304	0.5	7.0	4	2.5	9.5	4	2.5
0B ¹⁾	302/303	0.9	13.0	7	3.0	18.0	7	3.0
	304/305	0.7	13.0	7	3.0	18.0	7	3.0
	306/307/309 ²⁾	0.5	14.0	7	2.5	19.0	7	2.5
1B ¹⁾	302/303	1.3	14.0	8	3.5	25.0	8	3.5
	304/305	0.9	14.0	8	3.0	25.0	8	3.0
	306/307/308	0.7	14.0	8	3.0	25.0	8	3.0
	310/314/316	0.5	16.5	8	2.5	27.5	8	2.5
2B	302	2.0	19.0	9	4.0	30.0	9	4.0
	303	1.6	19.0	9	3.5	30.0	9	3.5
	304/305/306/307	1.3	18.0	9	3.5	29.0	9	3.5
	308/310	0.9	17.0	9	3.0	28.0	9	3.0
	312/314/316/318/319	0.7	17.0	9	3.0	28.0	9	3.0
	326	0.5	17.0	9	2.5	28.0	9	2.5
3B	302	3.0	24.0	10	4.5	35.0	10	4.5
	303/304	2.0	23.0	10	4.0	34.0	10	4.0
	305/306/307	1.6	23.0	10	3.5	34.0	10	3.5
	308/310	1.3	22.0	10	3.5	33.0	10	3.5
	309	1.3	22.0	10	3.5	33.0	10	3.5
		2.0			4.0			
	312/314/316/318	0.9	21.0	10	3.0	32.0	10	3.0
	320/322/324/326/330	0.7	21.0	10	3.0	32.0	10	3.0

Note:

- 1) In 0B and 1B series <L> and <S> dimensions shall be increased by 2mm for largest collet (D56 in 0B series, D76 in 1B series)
- 2) The tolerances on these dimensions are L ± 0.5mm, S ± 0.5mm, A ± 0.2mm
- 3) For the central contacts, the wires shall be reduced by 1.5~2.0mm

Cable stripping lengths (K series)

T1 straight plugs and sockets with cable collet, clamping type C



Connector		contact ØA (mm)	Cable stripping lengths (mm)		
series	Type		T1		
			Solder		
			L	A	S
0K	302/303	0.9	8.0	6	3.0
	304/305	0.7	8.0	6	3.0
	306/307/309	0.5	9.0	6	2.5
1K	302/303	1.3	10.5	7	3.5
	304/305	0.9	10.5	7	3.0
	306/307/308	0.7	10.5	7	3.0
	310/314/316	0.5	13.0	7	2.5
2K	302	2.0	16.5	8	4.0
	303	1.6	16.5	8	3.5
	304/305/306/307	1.3	15.5	8	3.5
	308/310	0.9	14.5	8	3.0
	312/314/316/318/319	0.7	14.5	8	3.0
	326/332	0.5	14.5	8	2.5

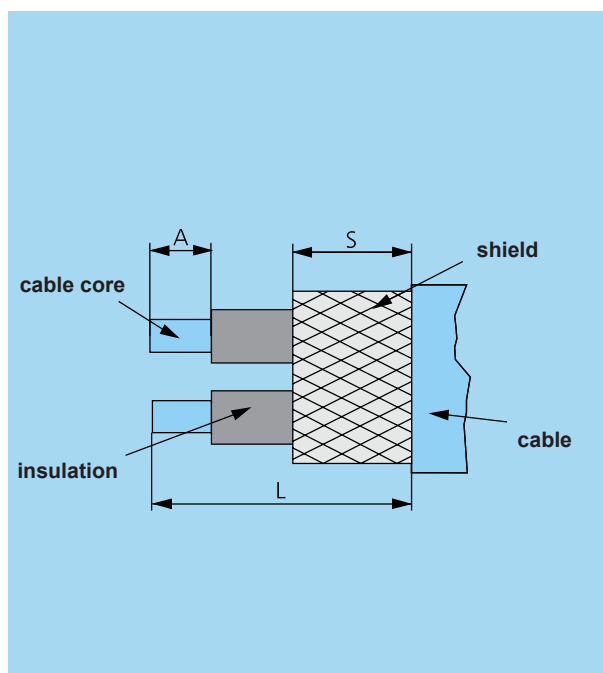
Note:

- 1) The tolerances on these dimensions are L ± 0.5mm, S ± 0.5mm, A ± 0.2mm
- 2) For the central contacts, the wires shall be reduced by 1.5~2.0mm

Cable stripping lengths (F series)

T1 straight plugs and sockets with cable collet, clamping type D

T2 elbow plugs (90°) with cable collet, clamping type D



Connector		contact ØA (mm)	Cable stripping lengths (mm)					
series	Type		T1			T2		
			Solder			Solder		
			L	S	A	L	S	A
102F	302/303	0.9	13.0	7	3.0	18.0	7	3.0
	304/305	0.7	13.0	7	3.0	18.0	7	3.0
	306/307/309 ²⁾	0.5	14.0	7	2.5	19.0	7	2.5
103F	302/303	1.3	14.0	8	3.5	25.0	8	3.5
	304/305	0.9	14.0	8	3.0	25.0	8	3.0
	306/307/308	0.7	14.0	8	3.0	25.0	8	3.0
	310/312/314/316	0.5	16.5	8	2.5	27.5	8	2.5
104F	302	2.0	19.0	9	4.0	30.0	9	4.0
	303	1.6	19.0	9	3.5	30.0	9	3.5
	304/305/306/307	1.3	18.0	9	3.5	29.0	9	3.5
	308/310	0.9	17.0	9	3.0	28.0	9	3.0
	312/314/316/318/319	0.7	17.0	9	3.0	28.0	9	3.0
105F	302	3.0	24.0	10	4.5	35.0	10	4.5
	303/304	2.0	23.0	10	4.0	34.0	10	4.0
	308/310/312	1.3	22.0	10	3.5	33.0	10	3.5
	318/319	0.9	21.0	10	3.0	32.0	10	3.0
	324/327	0.7	21.0	10	3.0	32.0	10	3.0

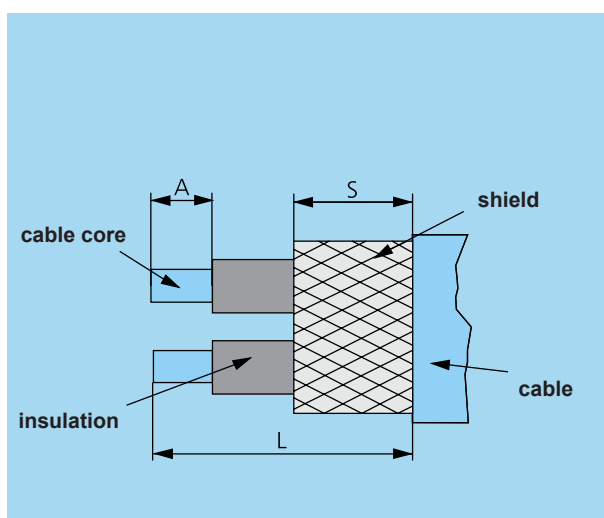
Note:

1) The tolerances on these dimensions are $L \pm 0.5\text{mm}$, $S \pm 0.5\text{mm}$, $A \pm 0.2\text{mm}$

2) For the central contacts, the wires shall be reduced by 1.5~2.0mm

Cable stripping lengths (S,E series)

T1 straight plugs and sockets with cable collet, clamping type C



Connector		contact ØA (mm)	Cable stripping lengths (mm)		
series	Type		T1		
			Solder		
			L	A	S
0S	302	0.9	11	5	3.0
	303/304	0.7	11	5	2.5
1S	302	1.3	13	8	3.0
	303/304	0.9	13	8	3.0
	305	0.9	13	8	3.0
		0.7	13	8	2.5
	306	0.7	13	8	2.5
1E	302	1.3	11	8	3.0
	303/304	0.9	11	8	3.0
	305	0.9	11	8	3.0
		0.7	11	8	2.5
	306	0.7	11	8	2.5

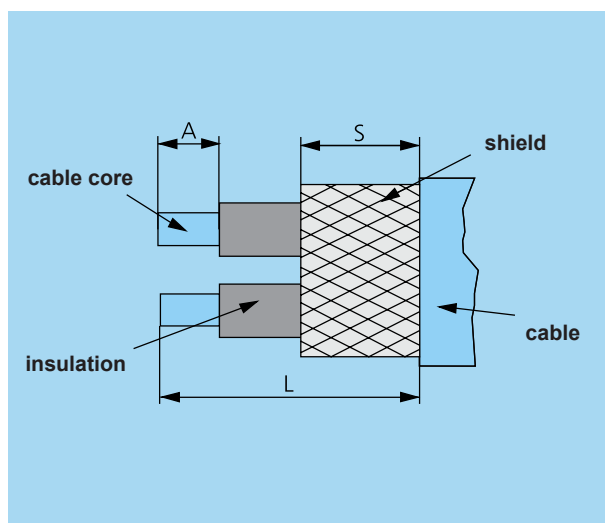
Note:

1) The tolerances on these dimensions are $L \pm 0.5\text{mm}$, $S \pm 0.5\text{mm}$, $A \pm 0.2\text{mm}$

2) For the central contacts, the wires shall be reduced by 1.5~2.0mm

Cable stripping lengths (C series)

T1 straight plugs and sockets with cable collet, clamping type D



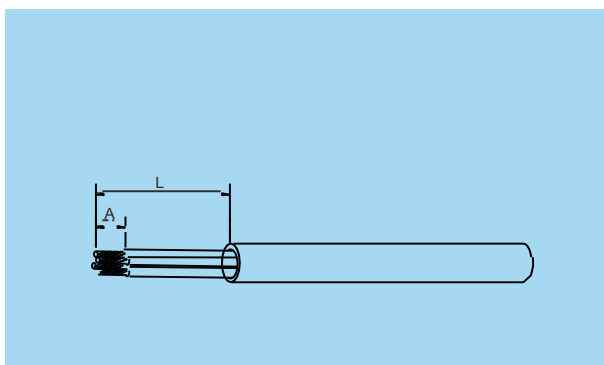
Connector		contact ØA (mm)	Cable stripping lengths (mm)		
series	Type		T1		
			Solder		
			L	S	A
0C	302/303	0.9	13.0	7	3.0
	304/305	0.7	13.0	7	3.0
	306/307/309	0.5	14.0	7	2.5
1C	302/303	1.3	14.0	8	3.5
	304/305	0.9	14.0	8	3.0
	306/307/308	0.7	14.0	8	3.0
	310/312/314/316	0.5	16.5	8	2.5
2C	302	2.0	19.0	9	4.0
	303	1.6	19.0	9	3.5
	304/305/306/307	1.3	18.0	9	3.5
	308/310	0.9	17.0	9	3.0
	312/314/316/318/319	0.7	17.0	9	3.0

Note:

- 1) The tolerances on these dimensions are $L \pm 0.5\text{mm}$, $S \pm 0.5\text{mm}$, $A \pm 0.2\text{mm}$
- 2) For the central contacts, the wires shall be reduced by 1.5~2.0mm

Cable stripping lengths (P series)

T1 straight plugs and sockets with cable collet



Connector		contact ØA (mm)	Cable stripping lengths (mm)		
series	Type		T1		
			Solder		
			L	A	
1P	302	1.3	14.0	4.0	
	304/305	0.9	13.0	3.0	
	307/308/309/310/314	0.7	12.5	2.5	
2P	302	2.0	19.0	4	
	303	1.6	19.0	3.5	
	304/305/306/306/307	1.3	18.0	3.5	
	308/310/312/316/319	0.7	17	3.0	
	326/332/334	0.5	17	2.5	

Note:

- 1) The tolerances on these dimensions are $L \pm 0.5\text{mm}$, $A \pm 0.2\text{mm}$
- 2) For the central contacts, the wires shall be reduced by 1.5~2.0mm

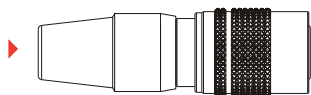
HR-10 series

HR-10 series Miniature push-pull self-locking circular electronic connectors are widely used in electronics, instrumentation, video processing, medical equipment, etc.

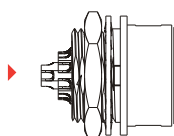


Metal housing models (page 115)

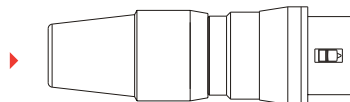
plug



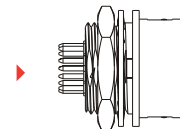
solder sockets



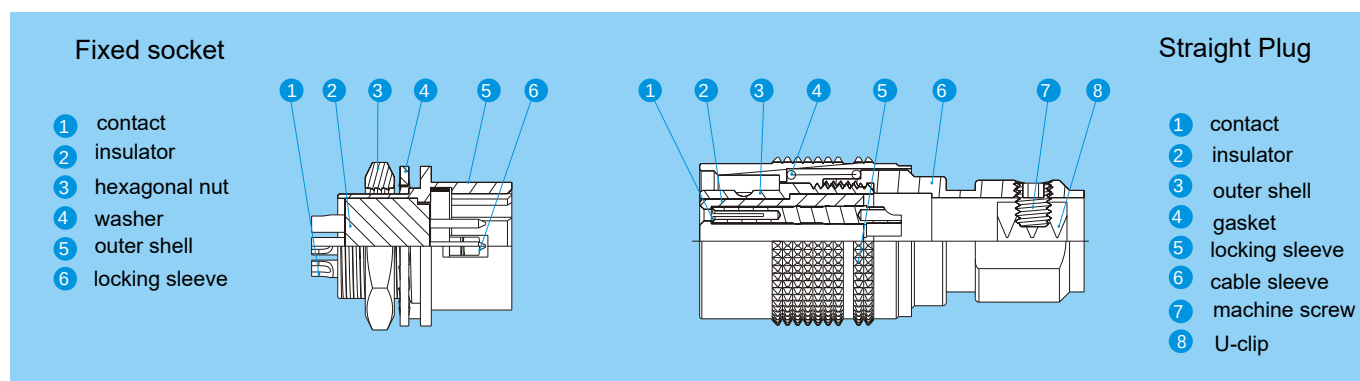
Free plug



print sockets



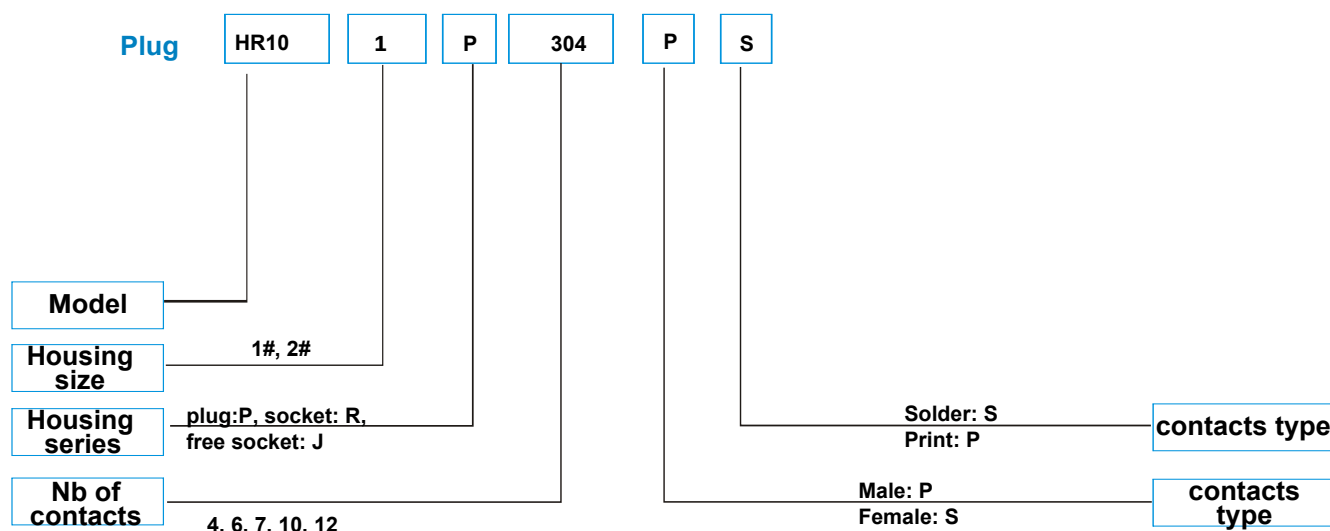
Part Section Showing Internal Components



HR10 Series Connectors Provide The Following Main Features:

- Push-pull self-locking connection, connection separation is simple and quick (the shell surface is non-slip design, the sound is self-locking)
- Compact self-locking device ensures a firm and reliable connection
- Adopt a reasonable five-key design with complete anti-blind insertion function
- Miniaturized and compact structure design (effectively saves equipment space and realizes micro-mini design of equipment)
- Contact type: solder type, plated PCB type

HR10 Series Part Numbering System



Part Number Example

HR10-1P-4PS = HR10 Series, 1# shell plug, 4 male solder contacts.

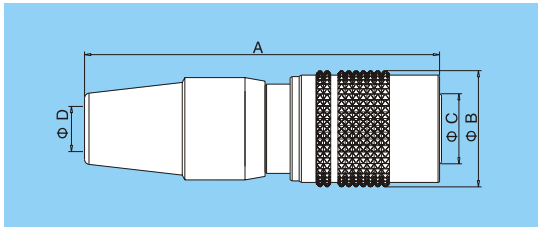
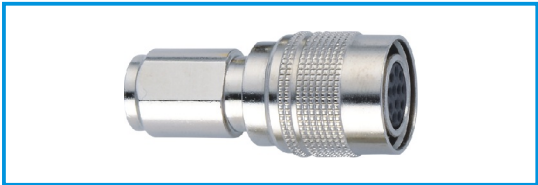
HR10-1R-4PS = HR10 Series, 1# shell fixed socket, 4 male solder contacts.

HR10-1J-4SS = HR10 Series, 1# shell free socket, 4 female solder contacts.



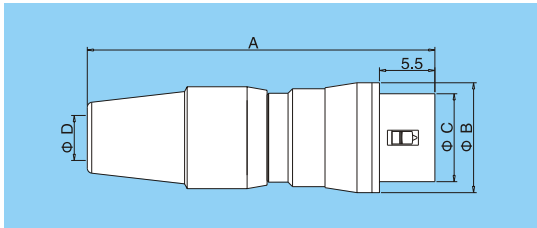
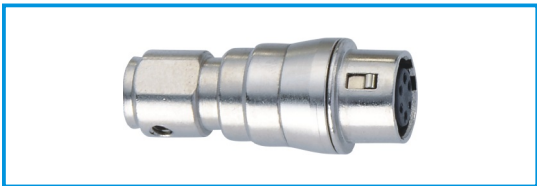
Metal Housing Models

HR10 series plug



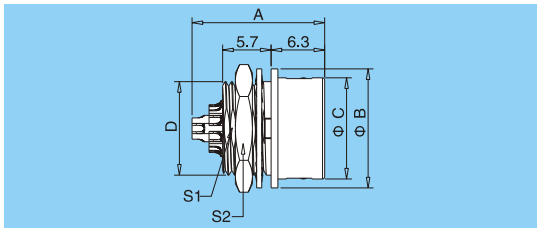
Housing	A	B	C	D
1#	35	11	8.8	6
2#	43	14	10.9	8

HR10 series free socket



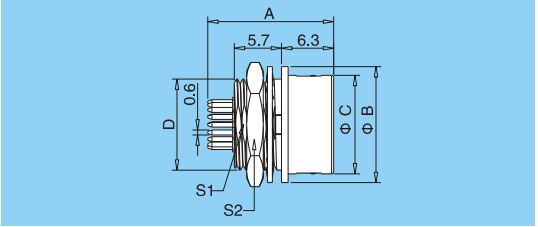
Housing	A	B	C	D
1#	35	11.5	7.5	6
2#	43	14.5	9.5	8

HR10 series solder socket

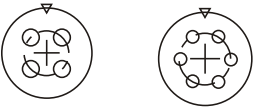
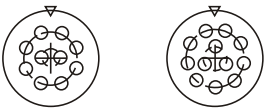


Housing	A	B	C	D	S1	S2
1#	14	11	8.8	M8*0.5	7.2	10
2#	15.6	14	10.9	M11*0.75	10	13

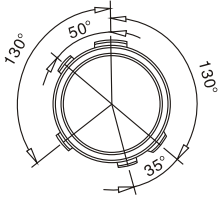
HR10 series print socket



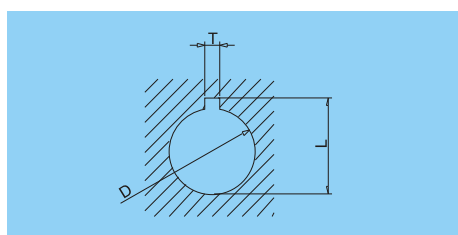
Housing	A	B	C	D	S1	S2
1#	15.5	11	8.85	M8*0.5	7.2	10
2#	15.5	14	11.9	M11*0.75	10	13

No.			Insert configuration	
			1# Housing	2# Housing
				
1	Contact ø	mm	0.5	
2	Resistance	mΩ	10	
3	Rated voltage	KV/DC	0.3	
	Rated voltage	KV/AC	0.2	
4	Test voltage	KV/DC	0.9	
	Test voltage	KV/AC	0.5	
5	Rated current	A	2	
6	Temperature range	°C	-500°C~125°C	
7	Endurance	cycles	1000	

>>> Alignment Key

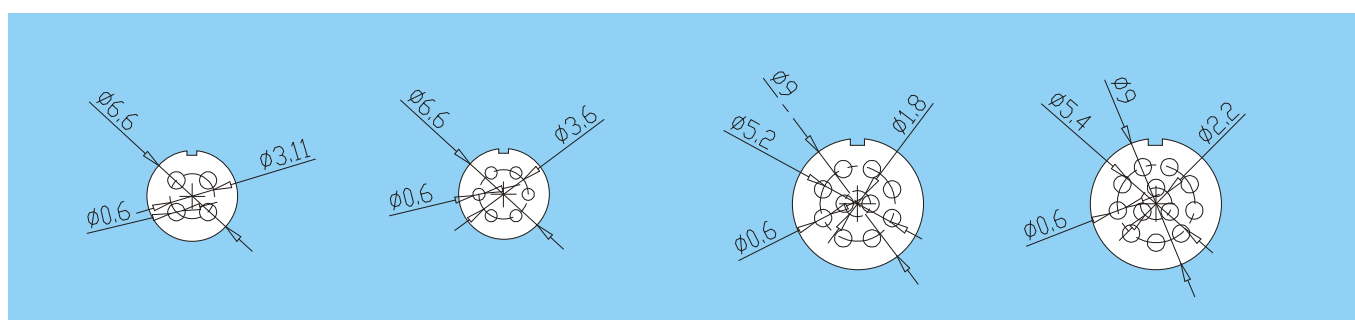
Front view of a plug	
Contact type in plug	male/female
Contact type in socket	male/female
Nb of contacts	4、6、7、10、12

>>> Panel cut-outs



shell	D	T	L	B
1	8.0	1.6	9.0	7.3
2	11.1	2.5	11.5	11.3

>>> PCB drilling pattern



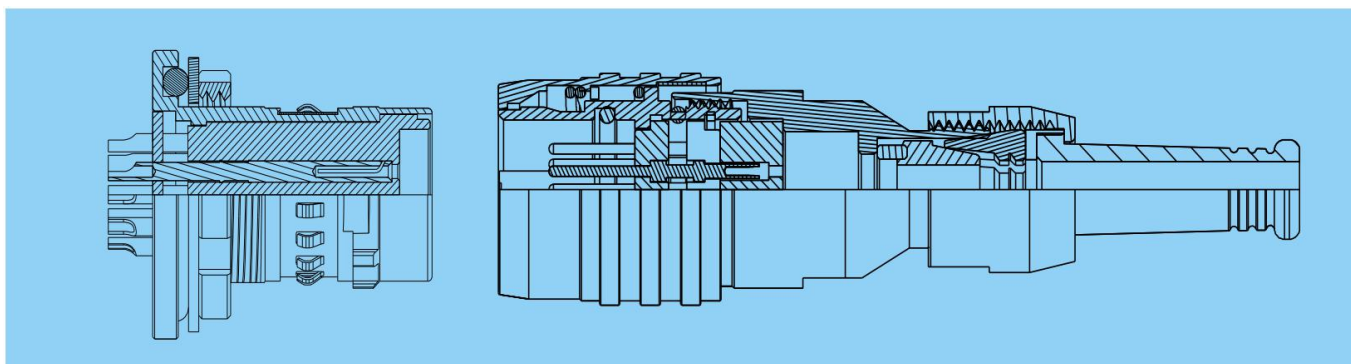
TL24 SERIES

TL24 series push-pull circular electrical connector, the connection method is push-type block locking. The connector has the characteristics of quick insertion and removal, convenient use, small volume, high density, good environmental resistance, beautiful appearance and good shielding property.

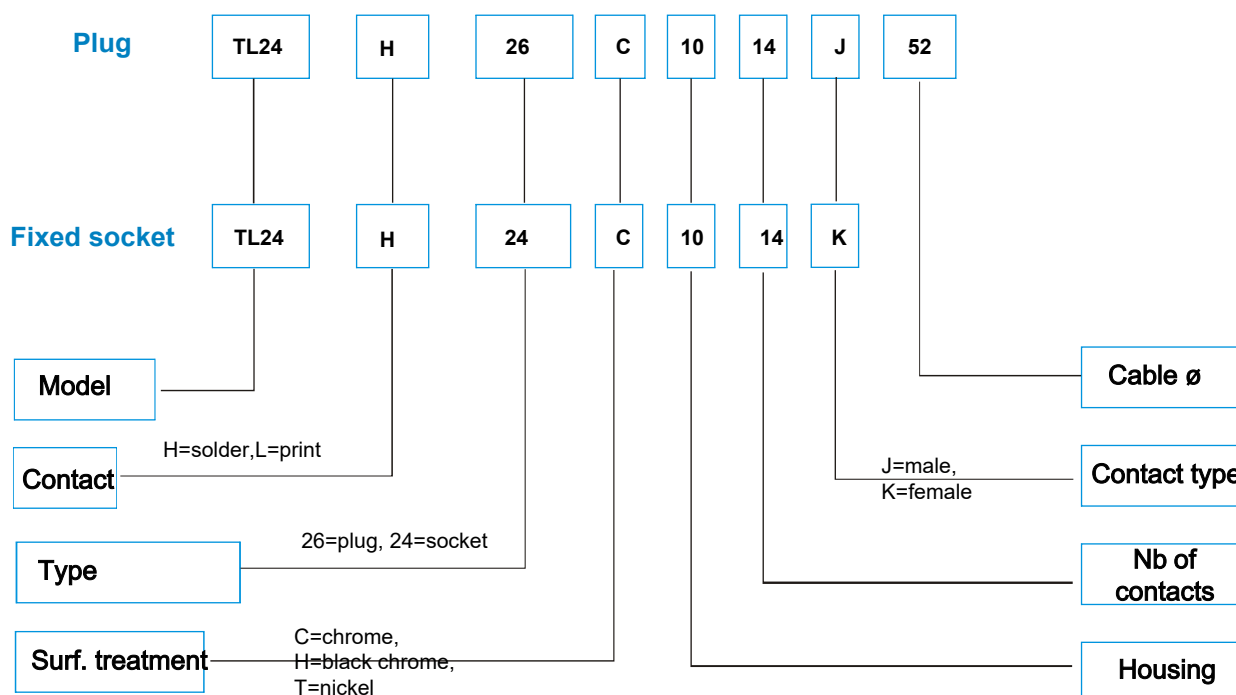
Technical specification:

Working temperature	-55 ° C ~ +125 ° C
Relative humidity	90%~95% (40±2°C)
Working pressure	4.39KPa~101.33KPa
Salt spray	96 hours in 5% NaCl mist
Sealing	socket: pressure difference 1.01×10 ⁵ Pa, no bubble leakage for 1min; Head socket: 1m water depth, 2h no water seepage
Vibration	10Hz~2000Hz, acceleration 147m/s ² , instantaneous break ≤1μs
Impact	490m / s ² instantaneous break ≤ 1μs
Mechanical life	2000 times
Insulation resistance	≥5000MΩ (normal)
Working current	3A (22#)
Contact resistance	12.5MΩ
Working voltage	400V (AC)
Withstand voltage	1000V (AC)
Electrical continuity between the shells	5MΩ

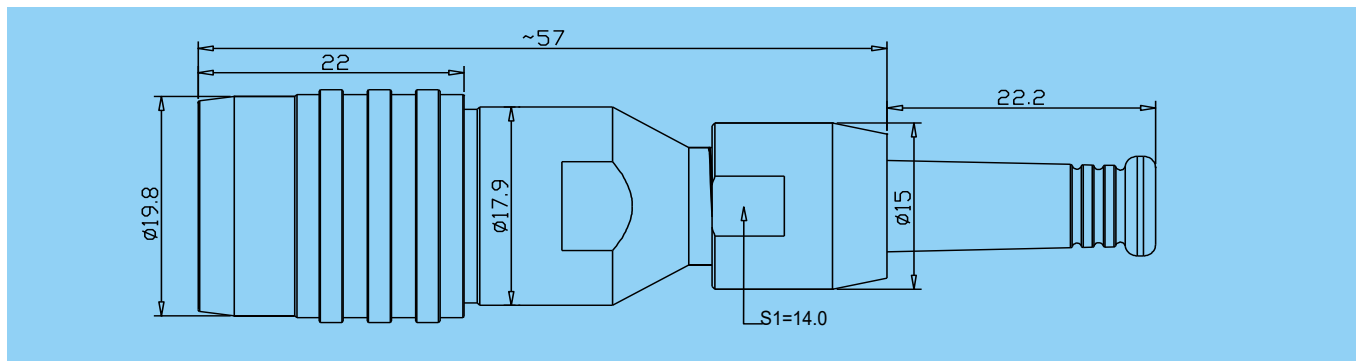
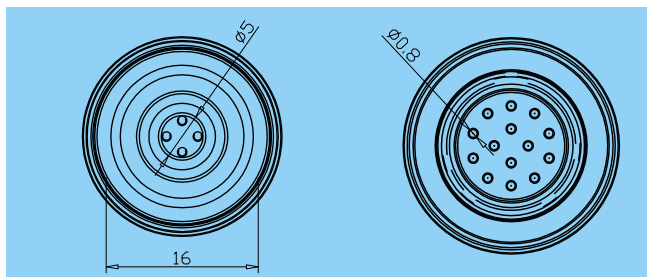
Construction:



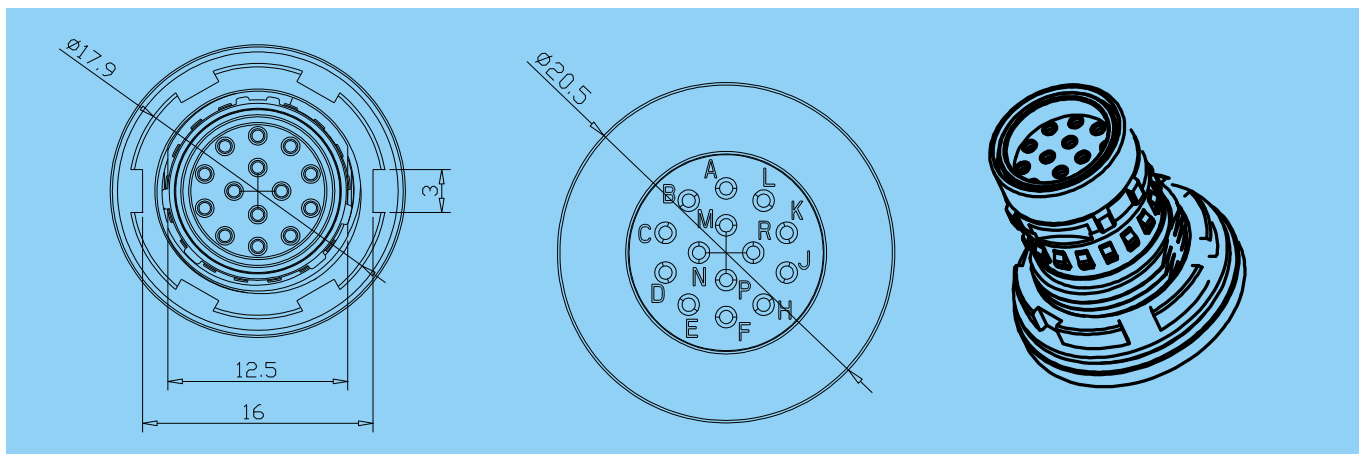
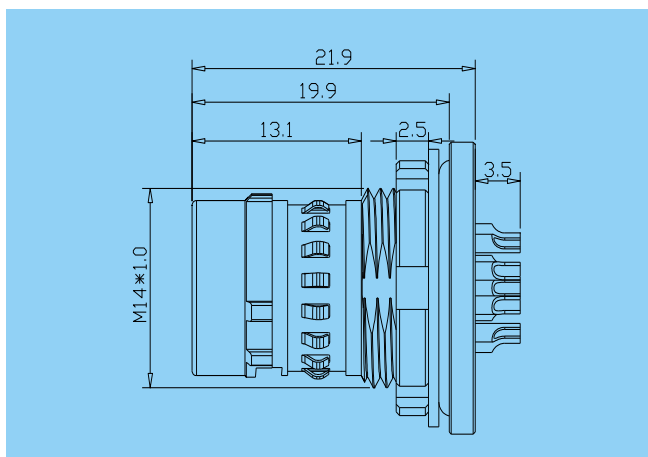
TL24 Series Part Numbering System



TL24 Plug



TL24 Socket

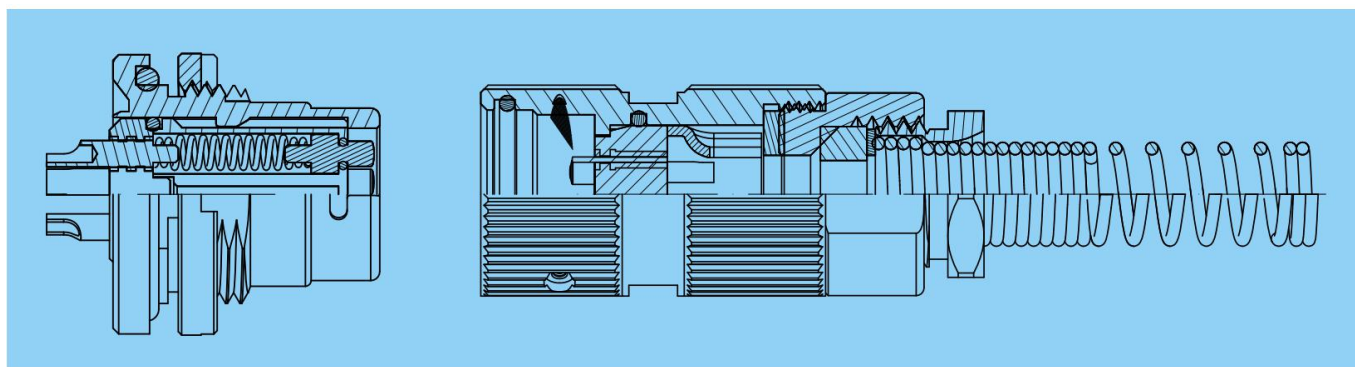


UL29 SERIES

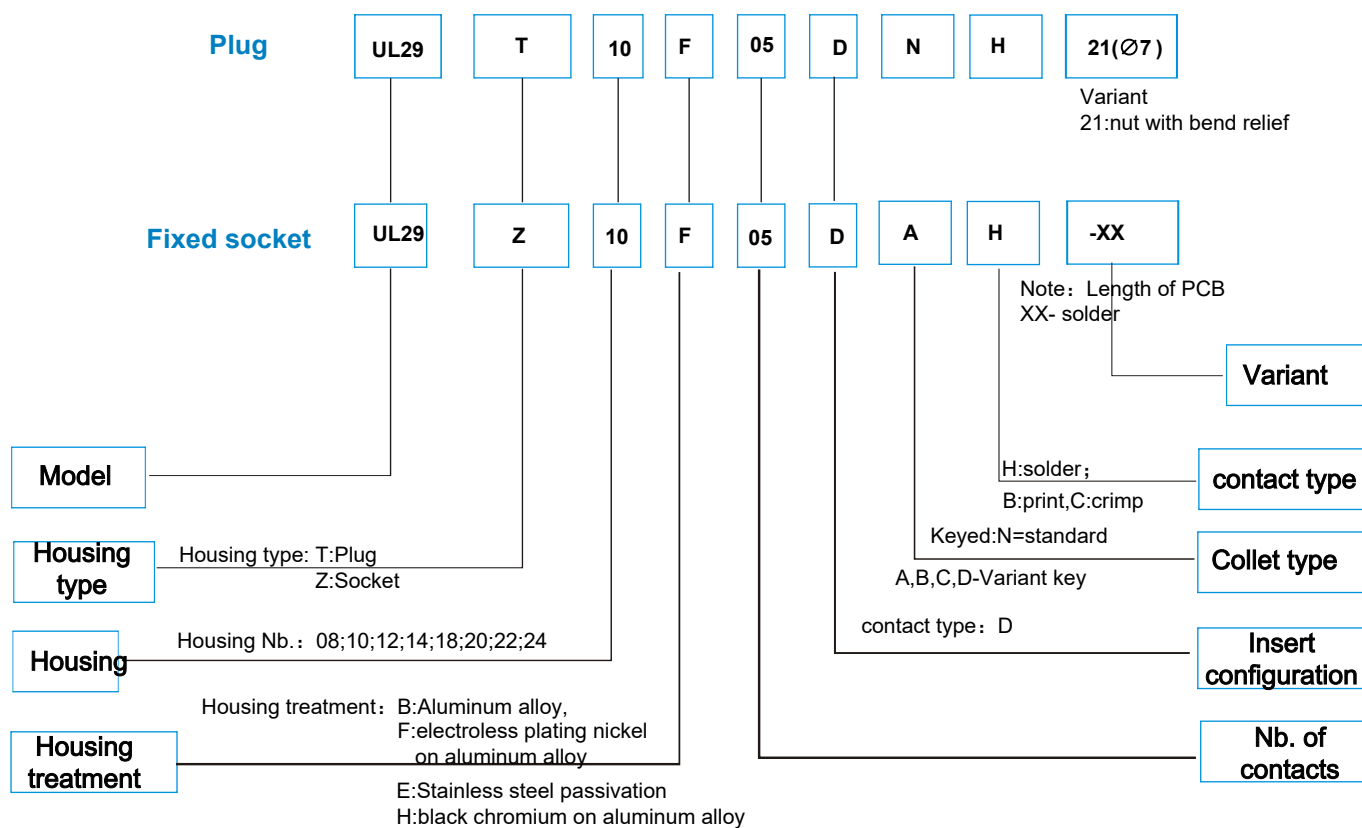
Technical specification:

Working temperature	-55 ° C ~ +125 ° C
Relative humidity	90%~95% (40±2°C)
Working pressure	4.39KPa~101.33KPa
Salt spray	72 hours in 5% NaCl mist
Vibration	10Hz~200GHz,
Impact	980 m / s ² , instantaneous break < 1μs
Mechanical life	3000 times
Insulation resistance	≥5000MΩ (normal)
Working current	8A
Contact resistance	< 10MΩ
Withstand voltage (sea level)	1150V (AC)

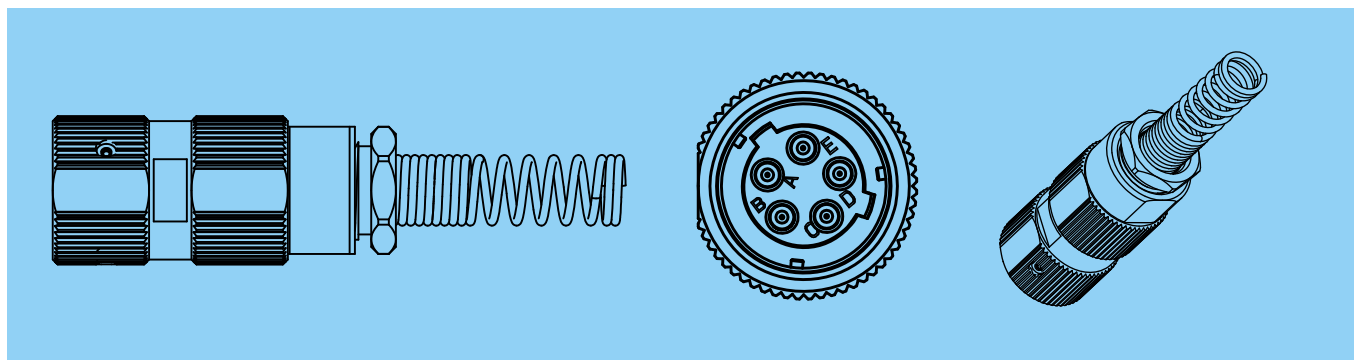
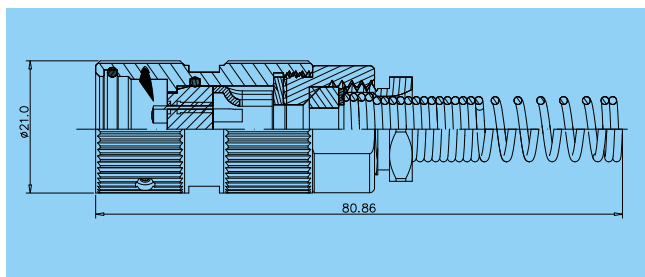
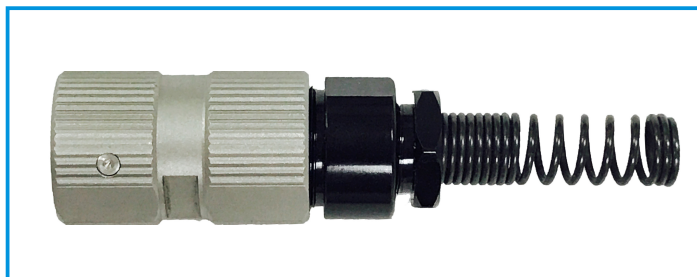
Construction:



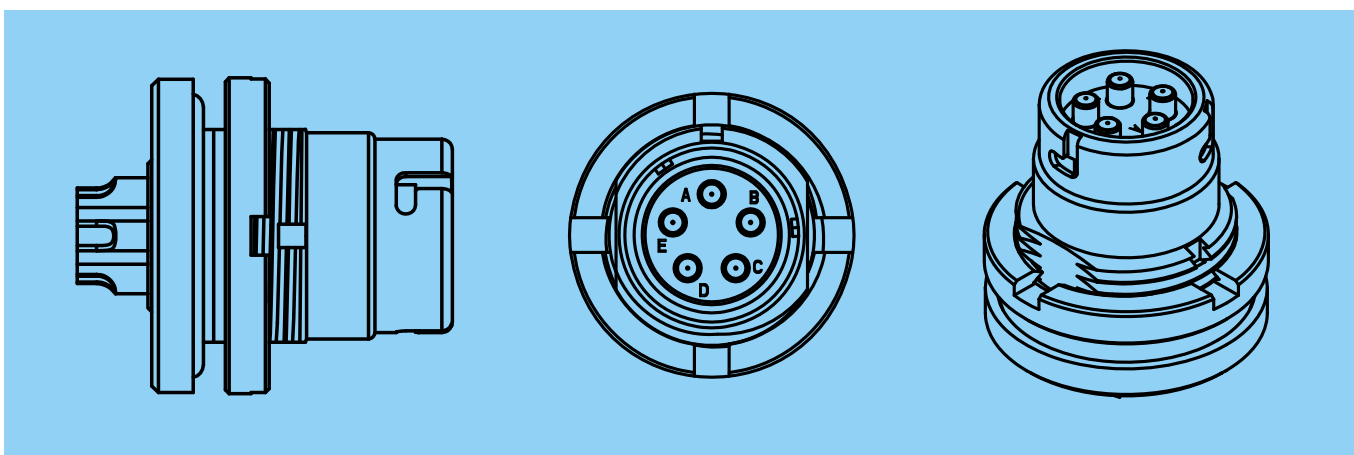
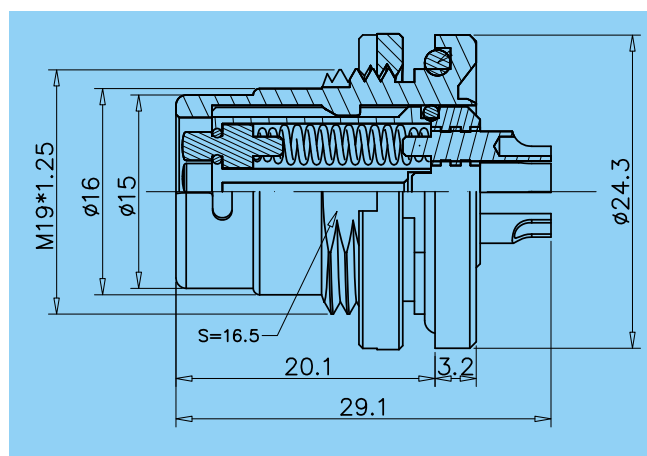
UL29 Series Part Numbering System



UL29 Plug



UL29 Socket

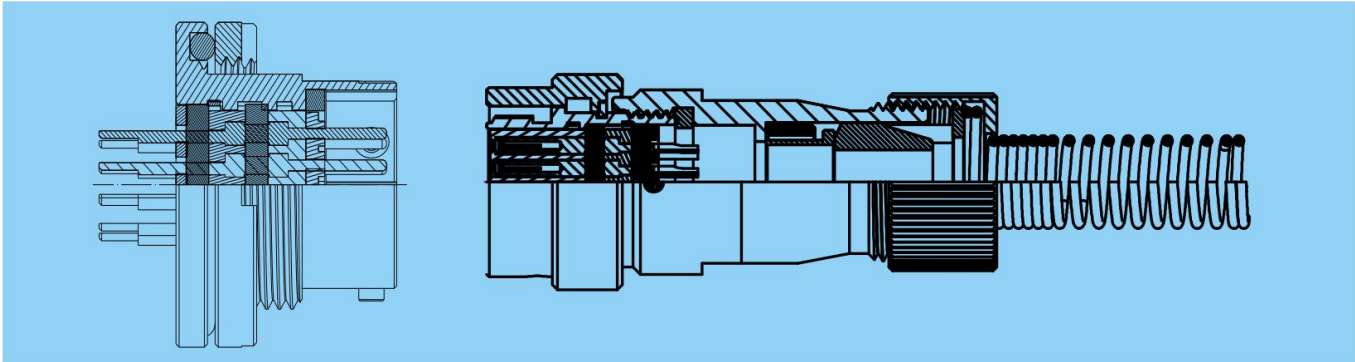


YL SERIES

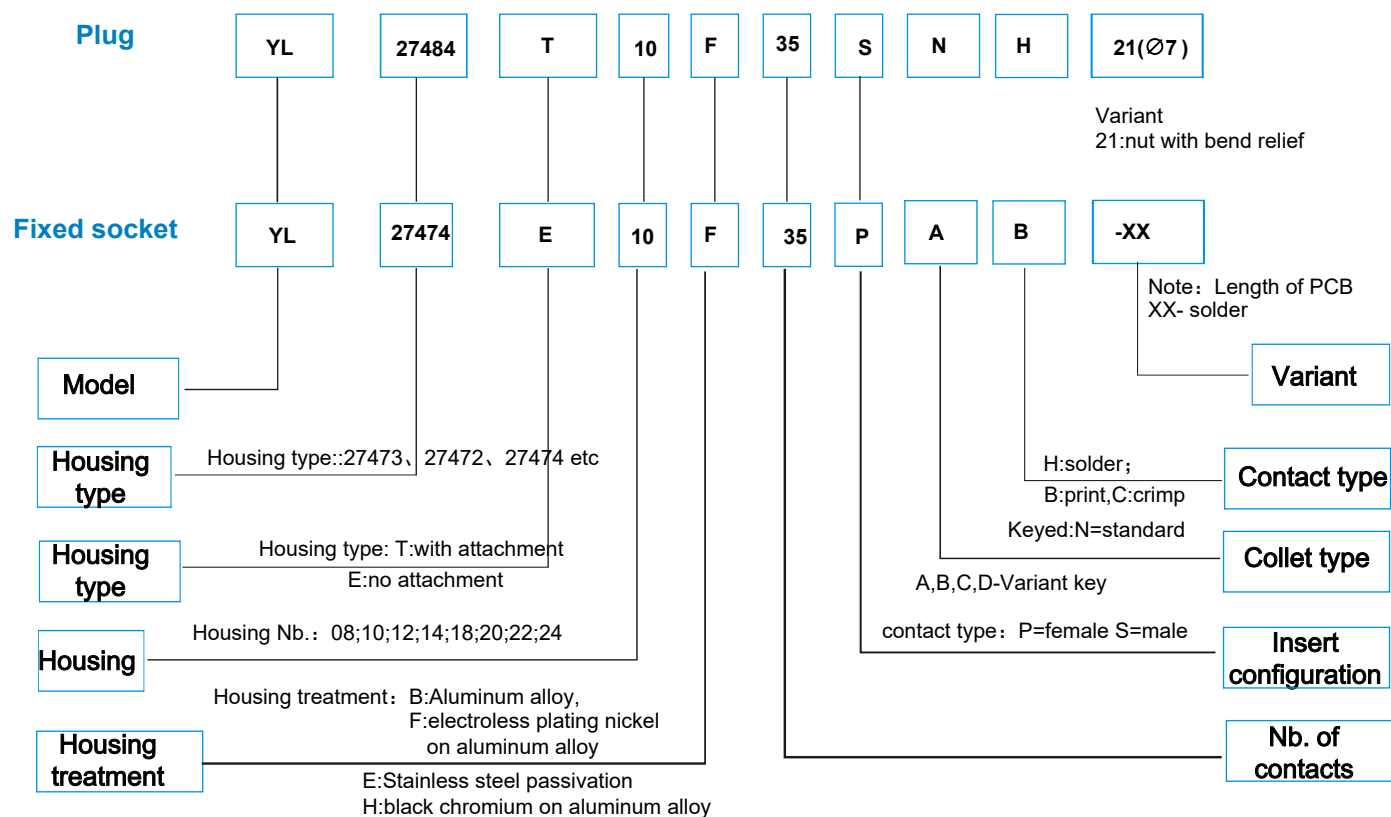
Technical specification:

Working temperature	-55 ° C ~ +125 ° C
Relative humidity	90%~95% (40±2°C)
Working pressure	4.39KPa~101.33KPa
Salt spray	96 hours in 5% NaCl mist
Sealing	socket: pressure difference 1.01×10 ⁵ Pa, no bubble leakage for 1min; Head socket: 1m water depth, 2h no water seepage
Vibration	10Hz~2000Hz,
Impact	980m / s ² , instantaneous break ≤ 1μs
Mechanical life	500 times
Insulation resistance	≥5000MΩ (normal)
Contact resistance	12.5MΩ
Withstand voltage (sea level)	1000V (AC)
Working current	3A

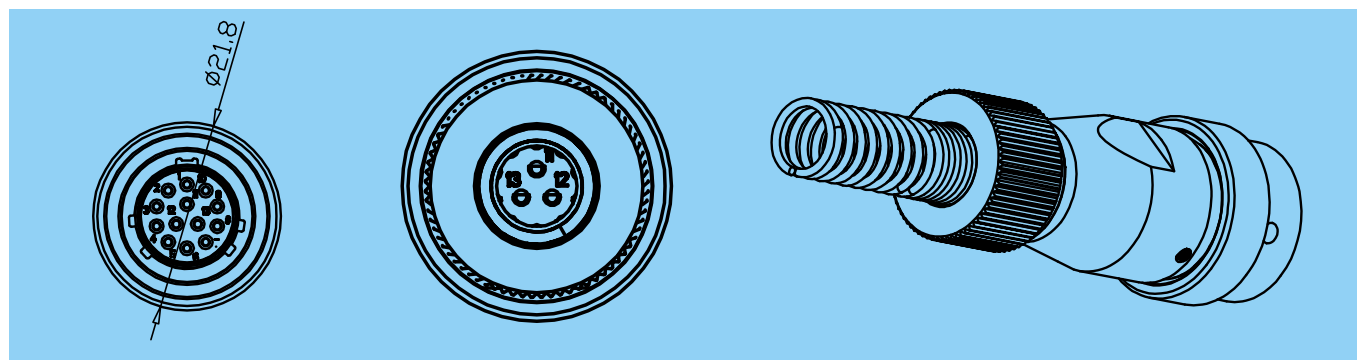
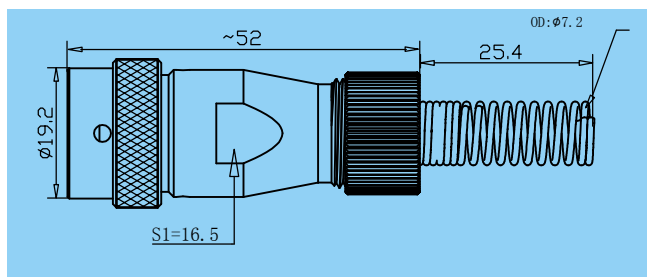
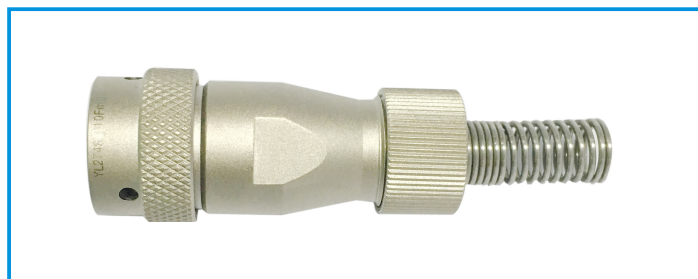
Construction:



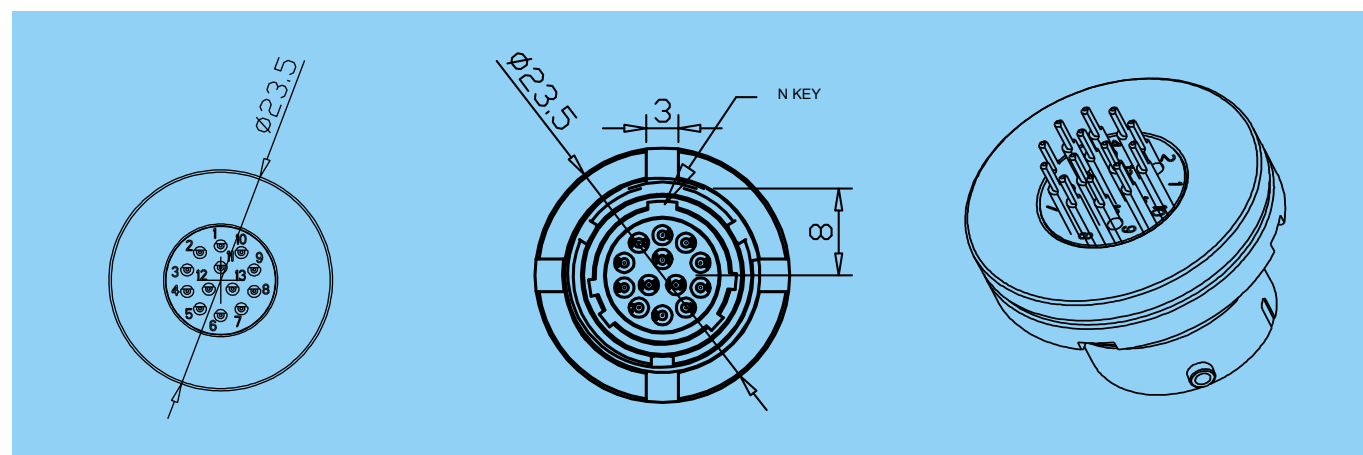
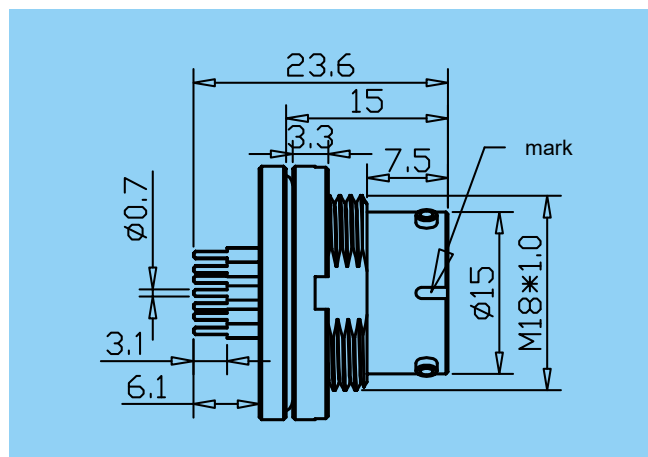
YL Series Part Numbering System



YL Plug



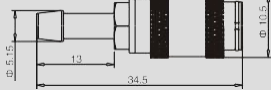
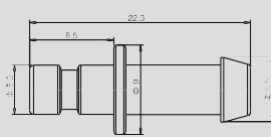
YL Socket



The air circuit connector developed by XI'AN SPRING TECHNOLOGY CO.,LTD is suitable for gas (water) pipe connection in medical equipment and industry. It is widely used in medical wire harnesses, monitors, blood oxygen probes and medical wires, air pipes and oxygen absorbers. And other fields. The product adopts fluoro rubber sealing ring, which has good sealing property, quick push and pull, and convenient operation.

Main Specifications:

- Working temperature: -30 ° C ~ +60 ° C
- Leakage rate: when the pressure difference is 400mmHg, no more than 4mmHg/min(0.5Kpa/min)
- Mechanical life: >1000 times (connection and separation)

Item	Name	Schematic	Dimensions	Structural principle	Remarks
1	QL-01			The card slot is locked, the O ring is sealed	Match with QL-02
2	QL-02			The card slot is locked, the O ring is sealed	Match with QL-01

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XI'AN SPRING TECHNOLOGY CO.,LTD.

Address:Room 4160, No.2168, Zhenghe 4th Road. Fengdong new town,
Xi'an City, Shaanxi, China

E-mail:ella_spring@vip.163.com, ella@spring-connector.com
info@spring-connectors.com, zoro_spring@vip.163.com

Wechat:wangting_ella

Skype:abby-wt

Website:www.spring-connector.com, www.spring-connectors.com

Mob: 0086 182 9268 4865