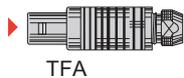


## S SERIES (Indoor, Stepped insert)



### S SERIES Metal housing models

Straight plugs



TFA

Fixed sockets

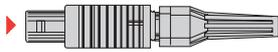


ZRA

Free sockets



DCA



TFA

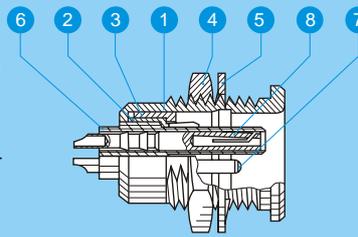


ZRD



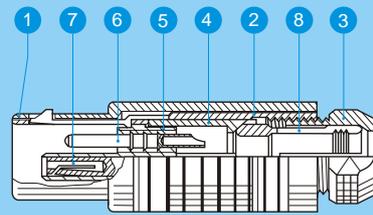
### Fixed socket

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



### Straight plug

- 1 outer shell
- 2 latch sleeve
- 3 collet nut
- 4 centre-piece
- 5 insulator
- 6 male contact
- 7 female contact
- 8 collet



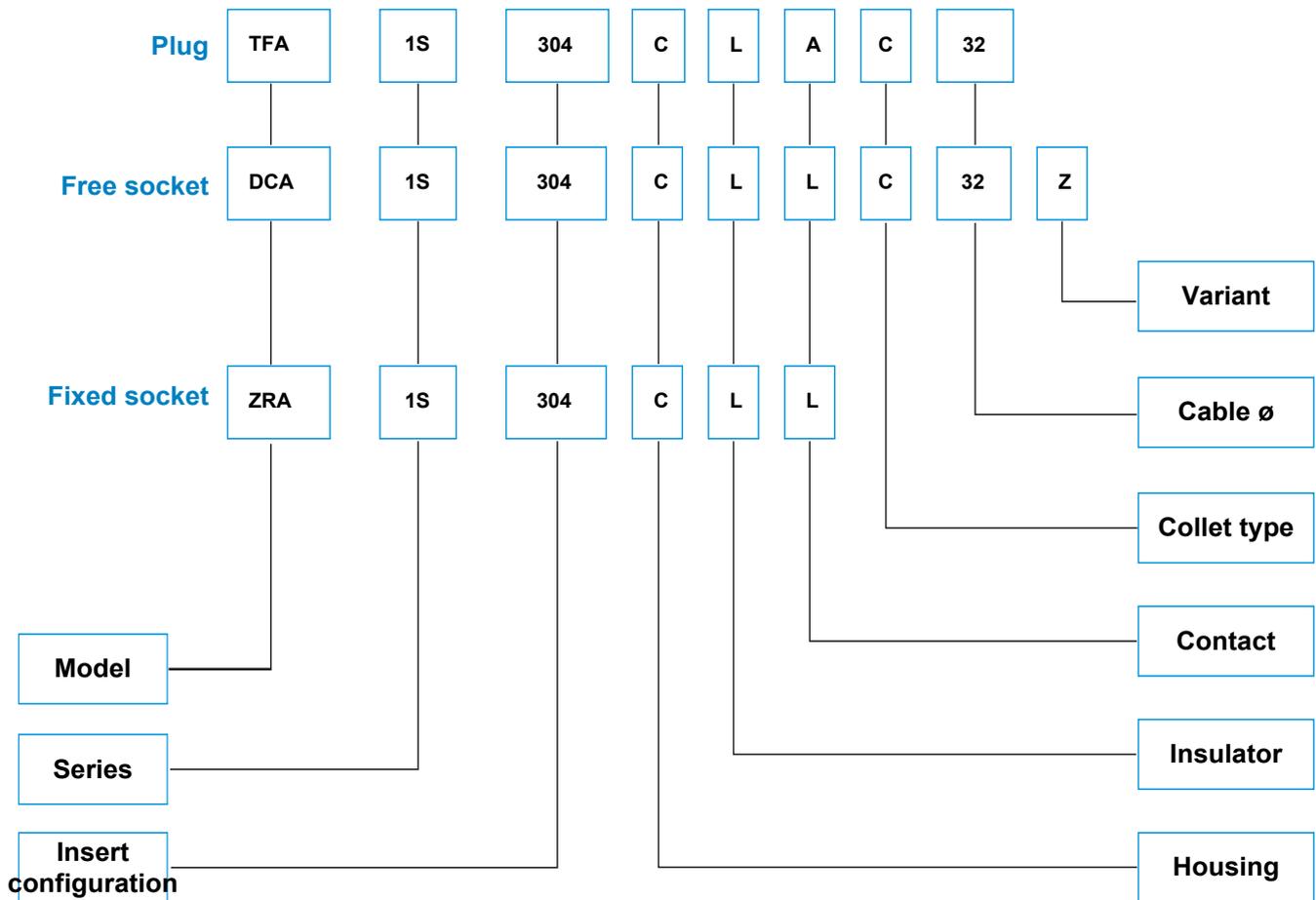
## S series connectors have main features as follows:

- 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:

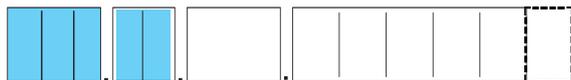
**TFA.1S.304.CLAC32** = straight plug with cable collet, 1S series, multipole type with 4 contacts, outer shell in chrome-plated brass, PPS insulator, 2 male and 2 female solder contacts, C type collet for a 3.2 mm diameter cable.

#### 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:

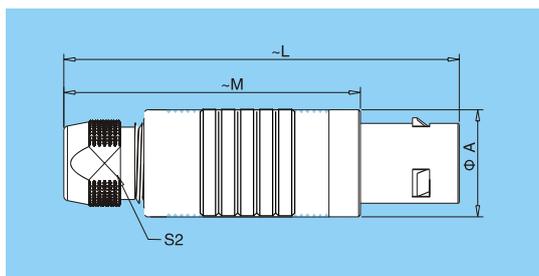
**ZRA.1S.304.CLL** = fixed socket, nut fixing, 1S series, multipole type with 4 contacts, outer shell in chrome-plated brass, PPS insulator, 2 female and 2 male solder contacts.



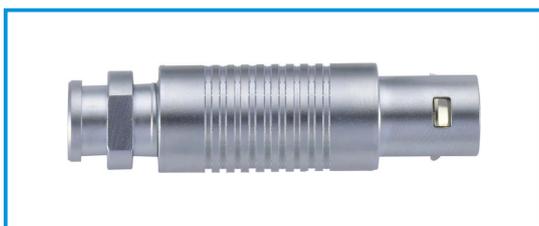
## Metal Housing Models



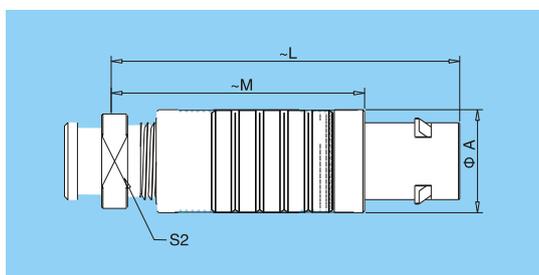
## TFA Straight plug, cable collet



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



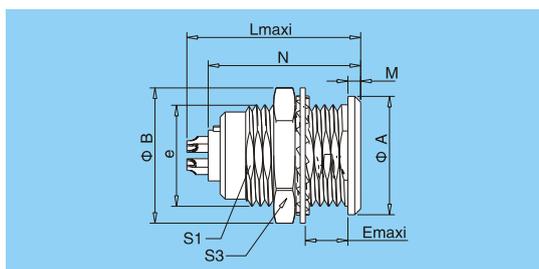
## TFA Straight plug, cable collet and nut for fitting a bend relief



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



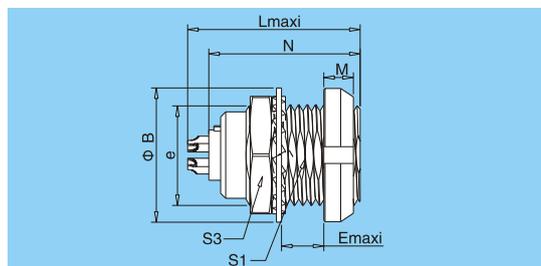
## ZRA Fixed socket, nut fixing



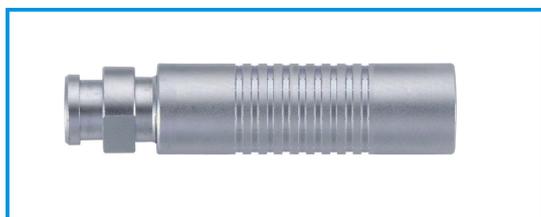
Reference		Dimensions (mm)							
Series	Model	A	B	e	E	L	M	S1	S3
00	ZRA	8	10.2	M7x0.5	5.5	14.5	1.0	6.3	9
0S	ZRA	10	12.3	M9x0.6	7.0	21.3	1.2	8.2	11
1S	ZRA	14	16.0	M12x1.0	7.5	23.2	1.5	10.5	14
2S	ZRA	18	19.2	M15x1.0	8.0	24.8	2.0	13.5	17



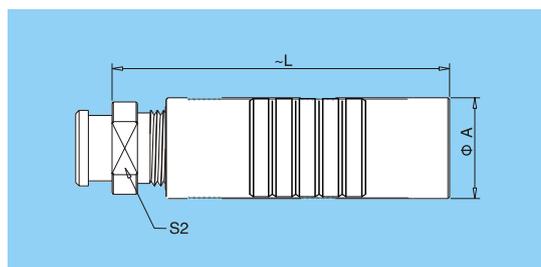
## ZRD Fixed socket with two nuts (back panel mounting)



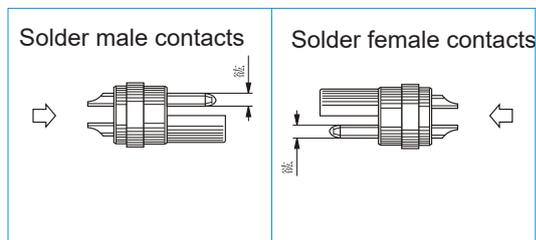
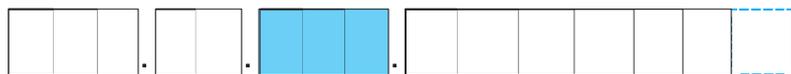
Reference		Dimensions (mm)								
Series	Model	A	B	e	E	L	M	N	S1	S3
0S	ZRD	12	12.5	M9x0.6	5.5	21.3	2.5	19.0	8.2	11
1S	ZRD	16	16.0	M12x1.0	6.0	23.2	3.2	2.01	10.5	14
2S	ZRD	20	20	M15x1.0	6.5	24.8	3.5	24.5	13.5	17



## 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



	Solder male contacts		Solder female contacts	
<b>0S</b>				
<b>1S</b>				

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)			
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
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	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	

### 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.

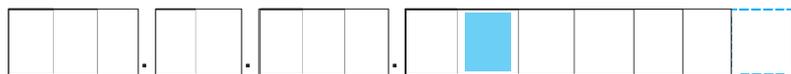
In addition to its high mechanical lightness and excellent corrosion resistance, the surface of aluminium alloys can be protected by anodic plating, with a variety of colors to choose from.

#### 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 series)

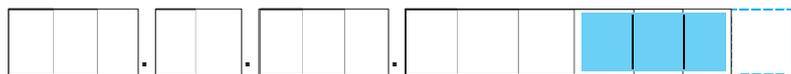


### Soldering characteristics

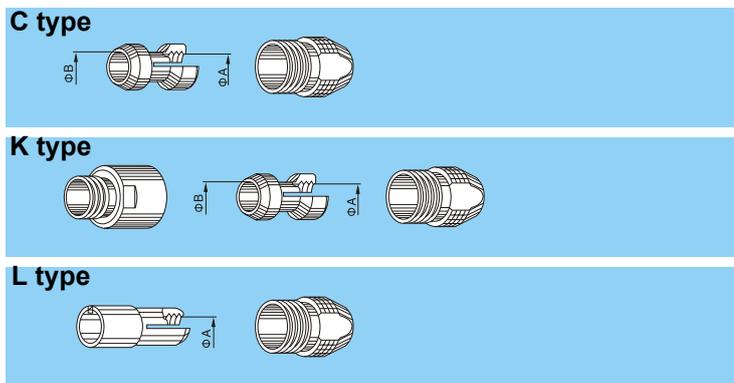
- no need to order specific tools, a simple soldering iron is sufficient
- ideal for very small and fragile conductors
- contacts with solder cups to allow the solder to flow

### 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 <sup>2</sup> )	AWG		Section (mm <sup>2</sup> )	
							min.	max.	min.	max.	
<b>Solder</b> 	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

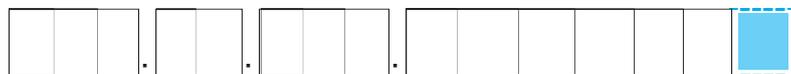


### C, K and L type collets for S series

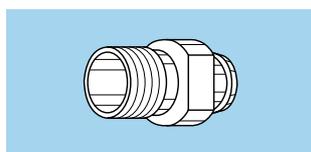


Reference		Collet ø		Cable ø	
Type	Code	φ A	φ B	max.	min.
00	C 27	2.7	-	2.6	2.2
	K 37	3.7	-	3.6	3.0
0S	C 27	2.7	-	2.6	2.2
	C 32	3.2	-	3.1	2.7
	C 42	4.2	3.7	4.1	3.3
	K 47	4.7	-	4.6	3.8
1S	C 32	3.2	-	3.1	2.6
	C 42	4.2	-	4.1	3.3
	C 47	4.7	-	4.6	3.8
	C 52	5.2	-	5.1	4.3

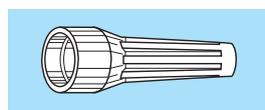
## >>> Variant (S, E series)



### Bend relief for S series models with collet

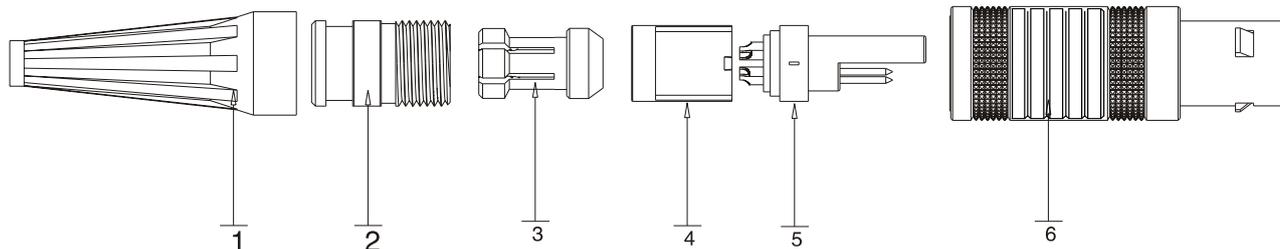


Need to be ordered



	Ref.	Collet		Need to be ordered separately (see page)
		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.

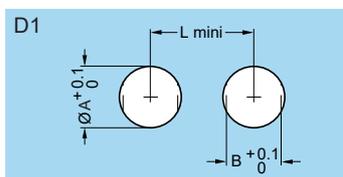
### Plug assembly instructions for S series



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.

### Panel cut-out: (S series)

#### 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

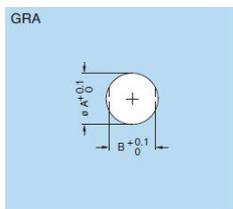
#### Mounting nut torque

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:  $\varnothing$  7.6 mm / 0S:  $\varnothing$  9.6 mm / 1S:  $\varnothing$  12.6 mm / 2S:  $\varnothing$  15.7 mm

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

#### Panel cut-out for mounting with insulating washer



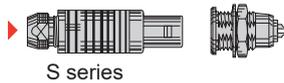
series	D i m .(mm)	
	ØA	B
00	8.9	8.1
0S	10.9	10.1
1S	13.9	12.3
2S	18.0	16.3

### Unipole Coaxial Series

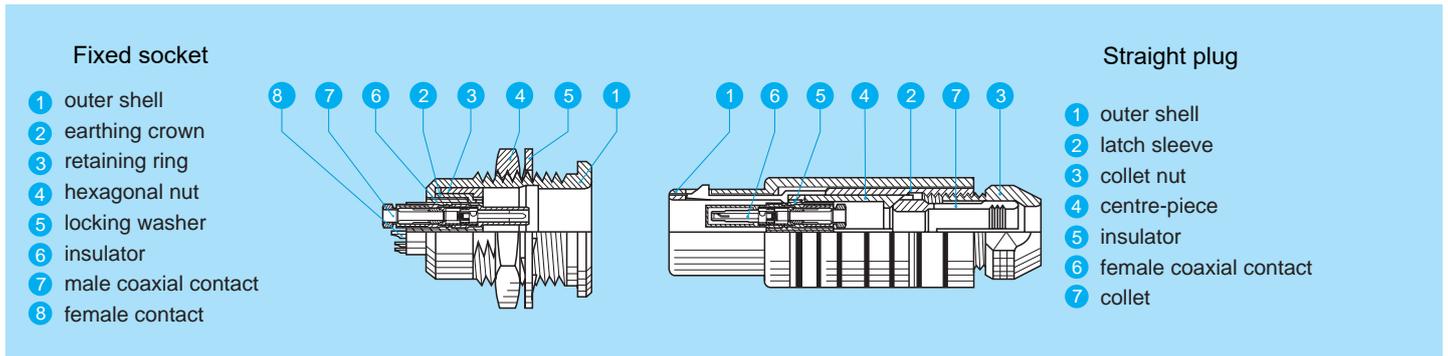
A unipole coaxial connector is generally considered to be an element attached to a cable or mounted on an instrument as an electrical connection or separate component of the transmission line.



**Metal housing models** (page 39)



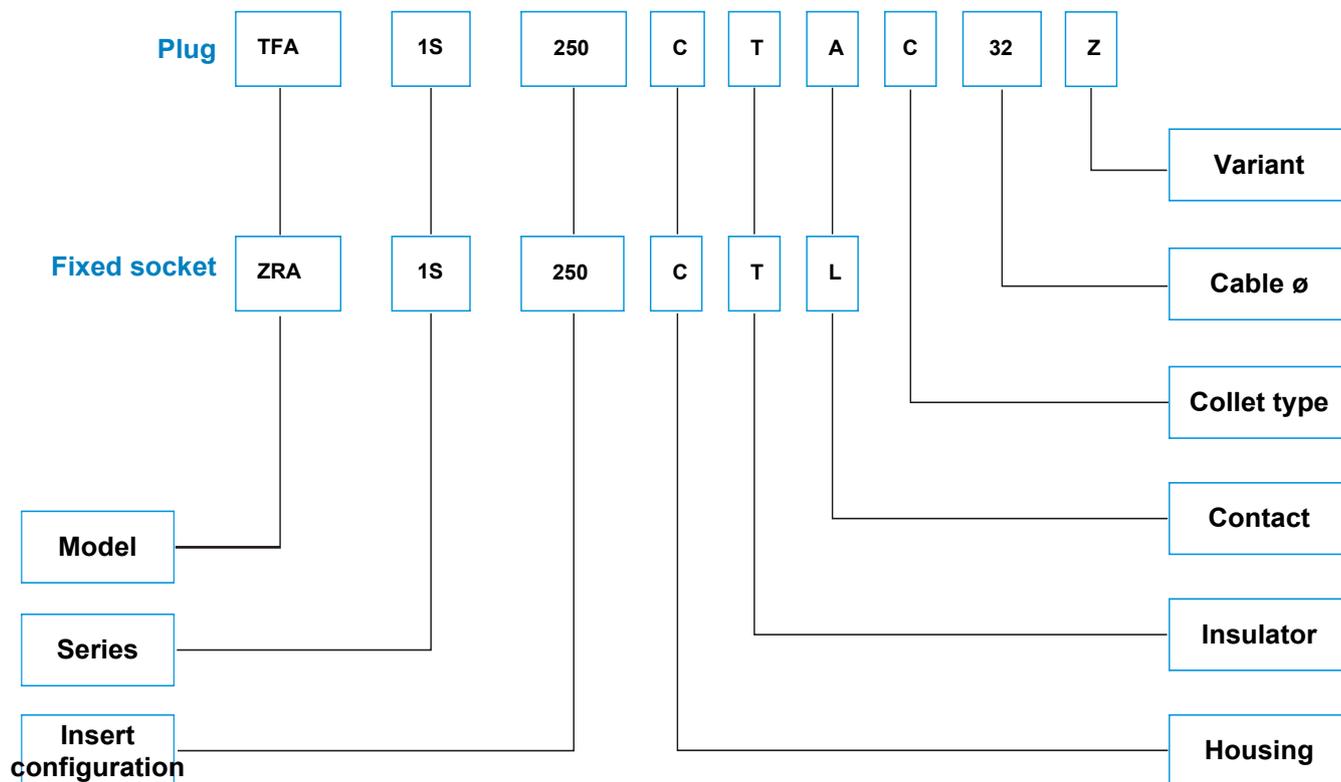
### Part Section Showing Internal Components



### 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:



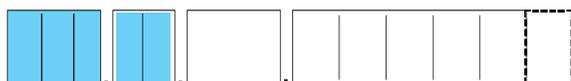
### part number example

#### 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.

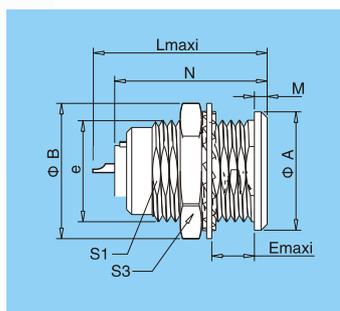
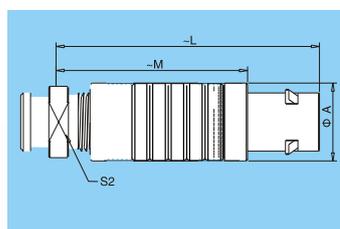
#### fixed socket:

[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

### S Unipole Coaxial series



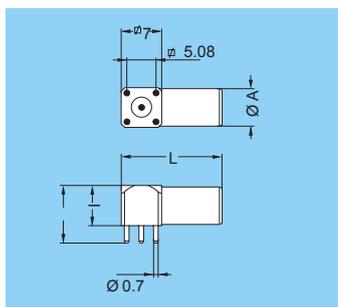
### TFA Straight plug, cable collet and nut for fitting a bend relief

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	14.5
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

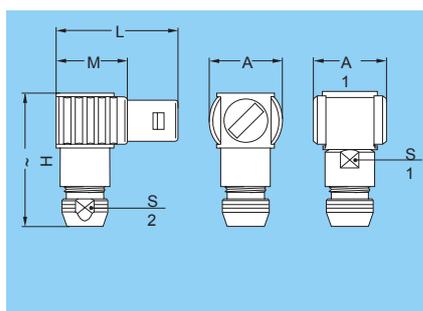
### ZPL Elbow (90°) socket(00S series)



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

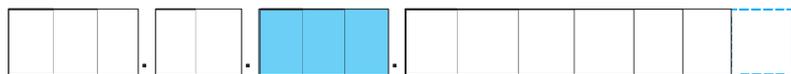
Reference	Series	Dimensions (mm)		
		A	H	I
ZRA. 00S. ***. CTL	00S	6.5	10	7

### 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



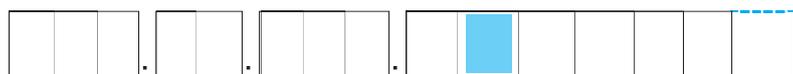
Series	Reference	Contact Type	Test voltage	Test voltage	Rated current	contact diameter (ø A)
00S	113	solder	800V	1200V	8A	1.3mm
	250	solder	2100V	3000V	4A	0.7mm
0S , 0C , 0F	116	solder	1500V	2100V	12A	1.6mm
	250	solder	3000V	4200V	6A	0.9mm
1S	120	solder	1700V	2400V	18A	2.0mm
	250	solder	3000V	4200V	12A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

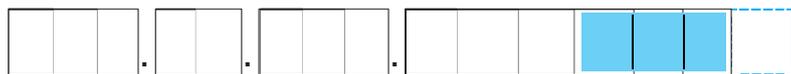


Ref.	Outer shell and collet nut		Latch sleeve + earthing crown		Other metallic components		Note
	Material	Surf. treatment	Material	Surf. treatment	Material	Surf. treatment	
<b>C</b>	Brass	chrome	brass/bronze	nickel	Brass	nickel	First choice alternative
<b>N</b>	Brass	chrome	brass/bronze	nickel	Brass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

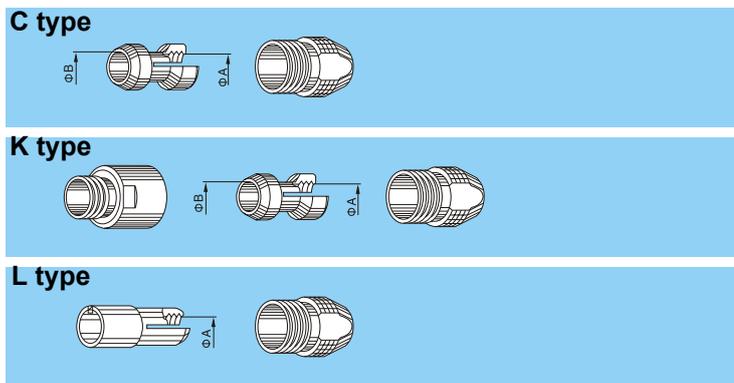
## ➤➤➤ Insulators (Unipole Coaxial series)



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

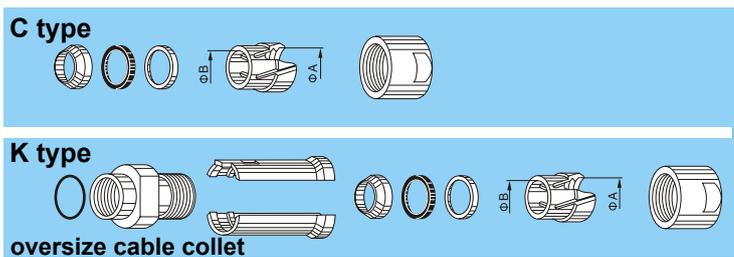


### C, K and L type collets for S series



Reference		Collet ø		Cable ø	
Type	Code	Ø A	Ø 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

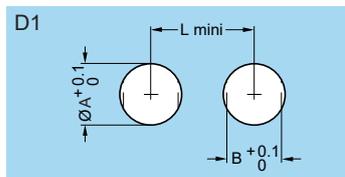


1E

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



### 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

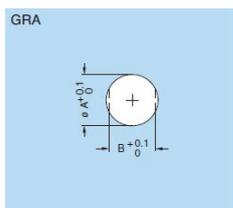
#### Mounting nut torque

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