



## S 1 Series Push-pull Type Compact Connector

S1-ver1.0.5

S1 series miniature, multi-core, shielded push-pull connector is featured of keying polarization. Termination is solder type. It is interchangeable with Lemo B series. It is characterized with fine workmanship, stylish looking, easy operation and reliable connection.

S1 series is suitable for applications in need of EMC, space-saving and frequent operation. It is widely used in the fields like medical, petrochemical, instrumentation and communication.

### Technical Characteristics

#### Climatic

Temperature:  $-55^{\circ}\text{C} \sim +250^{\circ}\text{C}$  (PEEK insulator)  
Relative humidity: at  $40 \pm 2^{\circ}\text{C}$ ,  $95 \pm 3\%$   
Air pressure: 1kPa



#### Mechanical

Vibration:  $10 \sim 2,000\text{Hz}$ ,  $150\text{m/s}^2$   
Impact:  $500 \text{m/s}^2$   
Constant Acceleration:  $500 \text{m/s}^2$   
Endurance:  $>3,000$  cycles



#### Electrical

Insulation resistance:  $\geq 5,000\text{M}\Omega$   
Others: See below table





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Mounting size		M9							
<b>Contact numbers</b>		02	03	04	05	06	07		
<b>Availability</b>		○	○	●	●	○	○		
<b>Contact diameter</b>		0.9		0.7		0.5			
<b>Contact resistance (mΩ)</b>		6		7.5		10			
<b>Rated current (A)</b>		10	8	7	6.5	2			
<b>Rated voltage</b>	VDC	600	500	600	375	300			
	VAC	400	350	400	250	200			
<b>Peak voltage</b>	VDC	1800	1500	1800	1100	900			
	VAC	1200	1050	1200	750	600			
Mounting size		M12							
<b>Contact numbers</b>		02	03	04	05	06	07	08	10
<b>Availability</b>		●	○	●	●	●	●	○	●
<b>Contact diameter</b>		1.3		0.9		0.7		0.5	
<b>Contact resistance (mΩ)</b>		3.5		6		7.5		10	
<b>Rated current (A)</b>		15	12	10	8	7		5	2
<b>Rated voltage</b>	VDC	750	600	750	600		500		300
	VAC	500	400	500	400		350		200
<b>Peak voltage</b>	VDC	2250	1800	2250	1800		1500		900
	VAC	1500	1200	1500	1200		1050		600













(To be continued)



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(Continued)

Mounting size		M15							
<b>Contact numbers</b>		 02	 03	 04	 05	 06	 07	 08	 10
<b>Availability</b>		○	○	○	○	○	○	●	○
<b>Contact diameter</b>		2.0	1.6	1.3			0.9		
<b>Contact resistance (mΩ)</b>		2.5	2.5	4			6		
<b>Rated current (A)</b>		18	17	15	14	12	11	10	8
<b>Rated voltage</b>	VDC	900	750	900	830		750		
	VAC	600	500	600	560		500		
<b>Peak voltage</b>	VDC	2700	2250	2700	2500		2250		
	VAC	1800	1500	1800	1700		1500		
Mounting size		M15							
<b>Contact numbers</b>		 12	 16	 18	 19				
<b>Availability</b>		●	○	●	●				
<b>Contact diameter</b>		0.7							
<b>Contact resistance (mΩ)</b>		7.5							
<b>Rated current (A)</b>		7	6	5.5	5.0				
<b>Rated voltage</b>	VDC	750	600						
	VAC	500	400						
<b>Peak voltage</b>	VDC	2250	1800						
	VAC	1500	1200						

Note:

- With mold, product can be delivered normally
- Mold to be made



## Materials

Part	Material Description	Remark
Insulator	PEEK	
Receptacle shell	Brass	Chrome plated
Plug outer shell	Brass	Chrome plated
Latch sleeve	Bronze	Nickel plated
Cable lead-through	Brass	Nickel plated
Cable collet	Brass	Nickel plated
Pin contact	Brass	Gold plated
Socket contact	Bronze	Gold plated

## Nomenclature

S1-12 P1 – 06 P A (50)  
1 2 3 4 5 6 7

### 1. Series number

S – Self-latching connector

1 – Sub series 1: keying polarization, shielded type, similar with Lemo B series.

### 2. Shell size

Receptacle mounting size, such as M9mm, M12mm and M15mm

### 3. Connector style

P1- Straight plug with conical nut

P2 – Straight plug for fixing with stress relief

R1 – Straight receptacle, front mounting

R2 – Straight receptacle, front and rear mounting

### 4. Number of contacts

Such as 2, 3, 4, 6...



## 5. Contact type

P-pin contact, S- socket contact

## 6. Keying codes

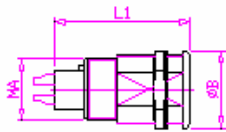
N—normal and omitted, A, B, C, D, E

## 7. Max. cable O.D.

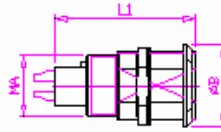
Omitted for receptacle

## Dimensions

### 1. Straight receptacles



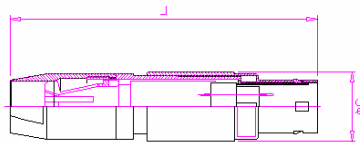
R1(front mounting)



R2 (front & rear mounting)

Mounting size (mm)	9		12		15	
	R1	R2	R1	R2	R1	R2
L1	19		21		24	
ΦB	12	10	16	14	20	18

### 2. P1 Plug

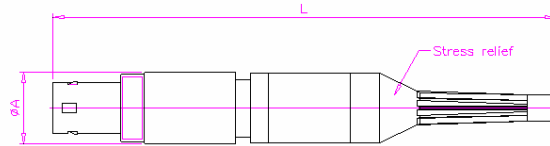


Mounting size.	9	12	15
ΦC	10	12	15
L	34	42	52



## 2. P2 Plug

Compared with P1 plug, P2 plug has adaptive nut for fixing stress relief.



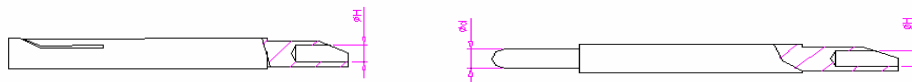
Mounting size (mm)	9	12	15
ΦA	10	12	15
L	70	76	90

## Keying

Mounting size (mm)	Single key	Double keys				
	N	A	B	C	D	E
9	*	*	-	*	-	*
12	*	*	-	*	-	*
15	*	*	*	-	*	-

\* stands for having this specification.

## Wire sizes for solder type contacts

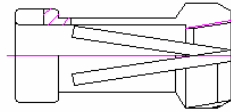


Contacts		Wire sizes		
Φd	φ H	Max O.D.	Max AWG	
			Pith wire	Twist wire
0.5	0.5	0.5	28	28
0.7	0.6	0.55	24	26
0.9	0.8	0.75	22	22
1.3	1.0	0.95	20	20
1.6	1.4	1.35	16	18
2.0	1.8	1.75	14	16



## Accessories

### 1. Cable Collet

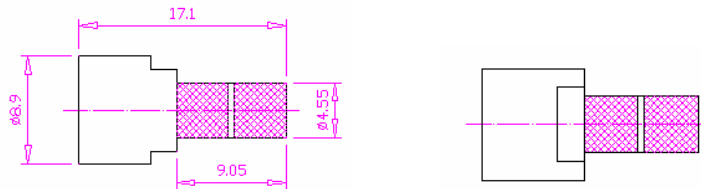


Cable Collet S1-C-XX

The user can select a cable collet according to the actual cable outer diameter.

Mounting size (mm)	Part No.	Cable O.D.	
		Max	Min
9	S1-C-01	3.0	1.5
	S1-C-02	4.0	3.1
	S1-C-03	5.0	4.1
12	S1-C-11	3.5	2.0
	S1-C-12	5.0	3.6
	S1-C-13	6.0	5.1
15	S1-C-21	3.5	1.5
	S1-C-22	5.0	3.6
	S1-C-23	7.0	5.1
	S1-C-24	9.0	7.1

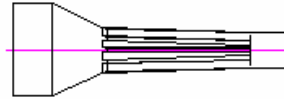
### 2. Cable nut shield reinforced (available for mounting size 9mm only)





### 3. Stress Relief

The stress relief shall be specifically ordered. The user can select it according to the following table.



Stress Relief S1-S-XX

Mounting size (mm)	Part No.	Cable O.D.	
		Max	Min
9	S1-S-01	2.9	2.5
	S1-S-02	3.4	3.0
	S1-S-03	3.9	3.5
	S1-S-04	4.4	4.0
	S1-S-05	5.2	4.5
12	S1-S-11	2.9	2.5
	S1-S-12	3.4	3.0
	S1-S-13	3.9	3.5
	S1-S-14	4.4	4.0
	S1-S-15	4.9	4.5
	S1-S-16	6.0	5.4
	S1-S-17	7.0	6.5
15	S1-S-21	4.5	4.0
	S1-S-22	5.0	4.5
	S1-S-23	5.5	5.0
	S1-S-24	6.5	6.0
	S1-S-25	7.5	7.0
	S1-S-26	9.0	8.0