



## S1 Series Miniature Push-pull Connectors

S1-ver1.2.4

S1 series miniature, multi-pole, push-pull metal connectors are featured of key polarization. It is compatible 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°C +180°C

IP degree: IP50

#### Mechanical

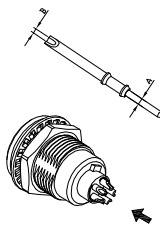



Endurance: > 3,000 cycles

#### Electrical

Insulation resistance:  $\geq 5,000M\Omega$

Others: See below table

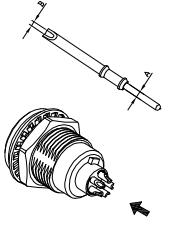















	Shell size	Number of contacts	Contact diameter A (mm)	Wire barrel diameter B	Max. AWG	Insulation material	Contact termination		Contact resistance (mΩ)	Working current (A)	Working voltage		Test voltage	
							Solder	PCB (straight)			VDC	VAC	VDC	VAC
	M7	2	0.5	0.4	28	PPS		-	10	2	600	200	900	600
	M7	3	0.5	0.4	28	PPS		-	10	2	500	200	900	600
	M7	4	0.5	0.4	28	PPS		-	10	2	600	200	900	600



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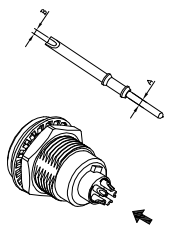







	Shell size	Number of contacts	Contact diameter A (mm)	Wire barrel diameter B	Max. AWG	Insulation material	Contact termination		Contact resistance (mΩ)	Working current (A)	Working voltage		Test voltage	
							Solder	PCB (straight)			VDC	VAC	VDC	VAC
	M9	2	0.9	0.8	22	PPS		-	6	10	600	400	1800	1200
	M9	3	0.9	0.8	22	PPS		-	6	8	500	350	1500	1050
	M9	4	0.7	0.6	26	PPS			7.5	7	600	400	1800	1200
	M9	5	0.7	0.6	26	PPS		-	7.5	6.5	375	250	1100	750
	M9	6	0.5	0.4	28	PPS		-	10	2	300	200	900	600
	M9	7	0.5	0.4	28	PPS		-	10	2	300	200	900	600
	M12	2	1.3	1.0	20	PPS		-	3.5	15	750	500	2250	1500
	M12	4	0.9	0.8	22	PPS		-	6	10	750	500	2250	1500
	M12	5	0.9	0.8	22	PPS		-	6	8	600	400	1800	1200
	M12	6	0.7	0.6	26	PPS		-	7.5	7	600	400	1800	1200
	M12	7	0.7	0.6	26	PPS			7.5	7	600	400	1800	1200
	M12	8	0.7	0.6	26	PPS		-	7.5	5	500	350	1500	1050
	M12	10	0.5	0.4	28	PPS		-	10	2	300	200	900	600

Note: “ ” denotes available now, “ ” denotes can be developed; “-” denotes not available.



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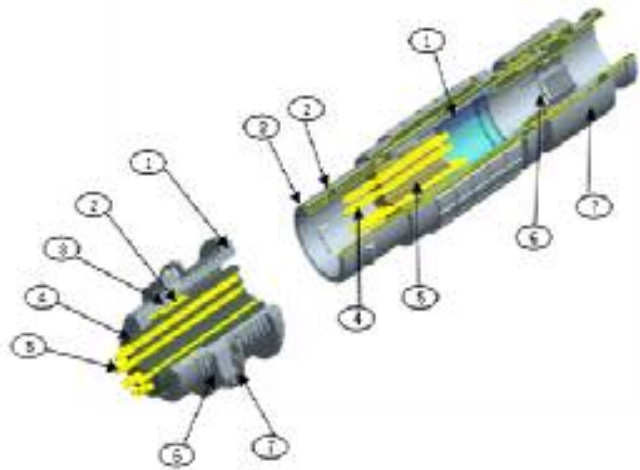
	Shell size	Number of contacts	Contact diameter A (mm)	Wire barrel diameter B (mm)	Max. AWG	Insulation material	Contact termination		Contact resistance (mΩ)	Working current (A)	Working voltage		Test voltage	
							Solder	PCB solder			VDC	VAC	VDC	VAC
	M15	4	1.3	1.0	20	PPS	-	-	4	15	900	600	2700	1800
	M15	8	0.9	0.8	22	PPS	-	-	6	10	750	500	2250	1500
	M15	10	0.9	0.8	22	PPS	-	-	7.5	8	600	400	2250	1500
	M15	12	0.7	0.6	26	PPS	-	-	8.0	7	600	400	2000	1300
	M15	14	0.7	0.6	26	PPS	-	-	8.0	6.5	600	400	2000	1300
	M15	16	0.7	0.6	26	PPS	-	-	8.0	6	600	400	1800	1200
	M15	19	0.7	0.6	26	PPS	-	-	8.0	5	600	400	1800	1200

Note: “ ” denotes available now; “ ” denotes can be developed.



## Part section

Receptacle		Plug	
No.	Part name	No.	Part name
1	outer shell	1	insert carrier
2	grounding crown	2	latch sleeve
3	retaining ring	3	outer shell
4	insulator	4	pin contact
5	socket contact	5	insulator
6	hex nut	6	cable collet
7	locking washer	7	back nut



## Nomenclature

**S1- 12 PB N - M 06 P - 60**  
 1 2 3 4 5 6 7 8

### 1. Series number

S—Self-latching connector

1—Sub series 1: keying polarization push-pull metal connectors, compatible with Lemo B series, PPS insulation..

### 2. Shell size

Receptacle mounting size, M9mm, M12mm and M15mm

### 3. Connector model

PA- Straight plug with conical nut

PB - Straight plug for fitting with strain relief

RA-Straight receptacle, front mount rear lock

### 4. Keying codes

N—normal and omitted, A, B, C,  
 See below keying table

### 5. Insert type

M—multi-pole type

### 6. Number of contacts

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

### 7. Contact type

P-pin contact, solder; S- socket contact, solder;

B- socket contact, PCB straight

### 8. Max. cable O.D.

for plug only

## Materials

### Receptacle

Part	Material	Remarks
Shell	Brass	Chromate plating
Insulator	PPS	-
Socket contact	Bronze	Gold plating
Hex nut	Brass	Nickel plating
Washer	Brass	Nickel plating

### Plug


Part	Material	Remarks
Shell	Brass	Chromate plating
Latch sleeve	Bronze	Nickel plating
Insulator	PPS	-
Pin contact	Brass	Gold plating
Middle piece	Brass	Nickel plating
Cable collet	Brass	Nickel plating
Back nut	Brass	Chromate plating
Strain relief	TPU	-



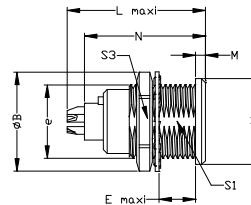
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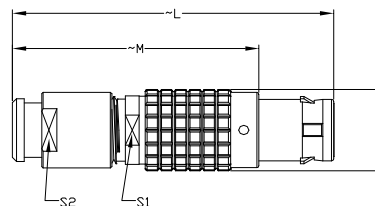
## Keying Table

	No. of keys	Model	Angles	Connector sizes		
				M9	M12	M15
	1	**N		0°	0°	0°
	2	**A	α	30°	30°	30°
	2	**B		60°	60°	45°
	2	**C		90°	90°	60°

## Dimensions



Size / Item	M9	M12	M15
	S1-9RBN	S1-12RBN	S1-15RBN
ØA	10.0	14	18.0
B	12.5	16.0	19.2
e	M9 x 0.6	M12 x 1.0	M15 x 1.0
E	8.5	7.5	8.5
L	20.7	23.0	22.6
M	1.2	1.5	2.0
N	18	19.6	20.6
S1	8.2	10.5	13.5
S3	11	14	17

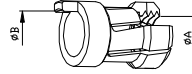


Size / Item	M9	M12	M15
	S1-9PBN	S1-12PBN	S1-15PBN
ØA	9.5	12.0	15.0
L	38.8	47.0	54.1
M	28.7	36	42.0
S1	8.0	10.0	13.0
S2	7.5	9.0	13.0



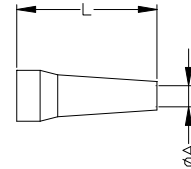
## Accessories

### 1. Cable Collet



Item	Size	M9			M12		
		S1-9C-30	S1-9C-40	S1-9C-50	S1-12C-40	S1-12C-50	S1-12C-60
ØA		3.1	4.2	5.2	4.2	5.2	6.2
ØB		4.7	4.7	4.7	5.6	5.6	6.5
Cable O.D. max.		3.0	4.0	5.0	4.0	5.0	6.0
Cable O.D. min.		2.1	3.1	4.1	3.1	4.1	5.1
Item	Size	M15					
		S1-15C-40	S1-15C-50	S1-15C-60	S1-15C-70	S1-15C-80	
ØA		4.2	5.3	6.2	7.3	8.2	
ØB		8.5	8.5	8.5	8.5	8.5	
Cable O.D. max.		4.0	5.0	6.0	7.0	8.0	
Cable O.D. min.		3.1	4.1	5.1	6.1	7.1	

### 2. Strain Relief



Black Red Green Blue Yellow Grey

Item	Size	M9			M12		
		L-9SR-*30	L-9SR-*40	L-9SR-*50	L-12SR-*40	L-12SR-*50	L-12SR-*60
ØA		3.0	3.8	5.4	3.9	5.5	5.8
L		24	24	24	30	30	30
Cable O.D. max.		3.0	4.0	5.0	4.0	5.0	6.0
Cable O.D. min.		2.1	3.1	4.1	3.1	4.1	5.1
Item	Size	M15					
		L-12SR-*40	L-12SR-*50	L-12SR-*60	L-12SR-*70	L-12SR-*80	
ØA		4.5	5.4	6.5	7.5	8.8	
L		36	36	36	36	36	
Cable O.D. max.		4.0	5.0	6.0	7.0	8.0	
Cable O.D. min.		3.1	4.1	5.1	6.1	7.1	

Note: "\*" denotes a color, K-black, R-red, N-green, B-blue, Y-yellow, G-grey