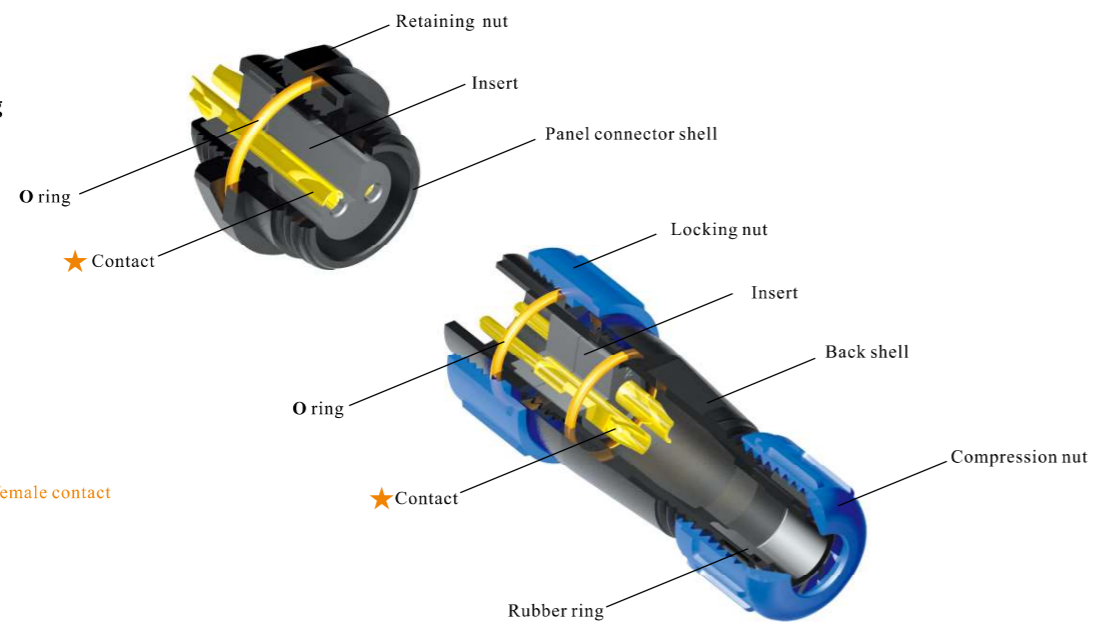


IP68



● SP Series IP68

● Threaded coupling



★ Each side can be male or female contact

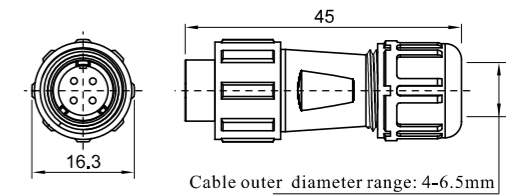
Material and spec

Coupling	Threaded
Shell material	PC, Nylon66, fire resistance: V-0
Insert material	PPS, max temperature 260 °C
Contact material	Brass with gold plating
Termination	Solder: SP13, SP17, SP21, SP29 Crimp: SP17, SP21, SP29 Screw: SP21, SP29 (ø2.5, ø3, ø3.5mm contact)
Cable outer diameter range	SP11: 4-6.5 SP13 I: 4-6.5mm, II: 5-8mm SP17: 6-10mm SP21: I: 4.5-7mm, II: 7-12mm SP29: 13-16mm
IP rating	IP68
Mating cycle	500
Temperature range	-40°C ~ +85°C
Insulation resistance	2000 MΩ

SP11 Series



Cable connector
Mate with SP1111, SP1112



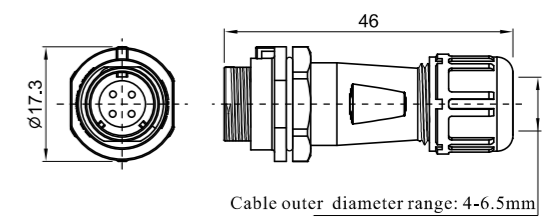
SP1110/P--N SP1110/S--N

Male contact

Number of contact
Female contact



In-line cable connector
Mate with SP1110

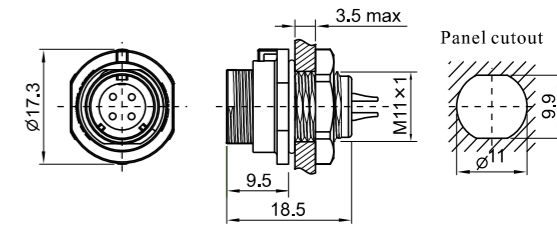


SP1111/P-- C SP1111/S-- N

C: with cap
N: without cap
Number of contact



Rear-nut mount
Mate with SP1110



SP1112/P-- C SP1112/S-- N

C: with cap
N: without cap
Number of contact

Solder contact spec

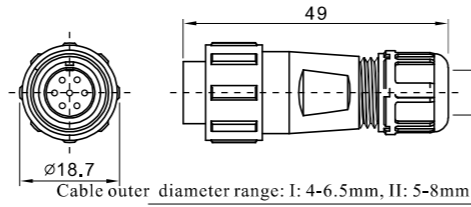
Number of contact	2	3	4	5
Male contact face view				
Rated current (A)	5	5	3	3
Contact diameter(mm)	ø1×2	ø1×3	ø0.7×4	ø0.7×5
Rated voltage (AC.V)	180	180	125	125
Test voltage(AC.V) 1 min	1000	1000	1000	1000
Contact resistance(mΩ)	5	5	10	10
Wire size(mm ² /AWG)	≤0.75/18	≤0.75/18	≤0.5/20	≤0.5/20

SP13 Series

**SP
13**



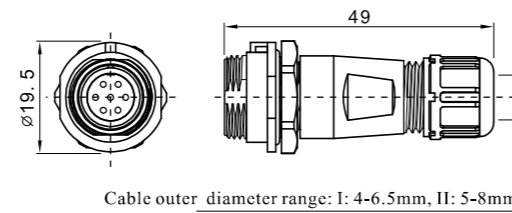
Cable connector
Mate with SP1311, SP1312



SP1310 / P --- SP1310 / S ---
Male contact --- Female contact ---
(CU):
C: with cap
N: without cap
Cable outer diameter
I: 4-6.5mm, II: 5-8mm
Number of contact



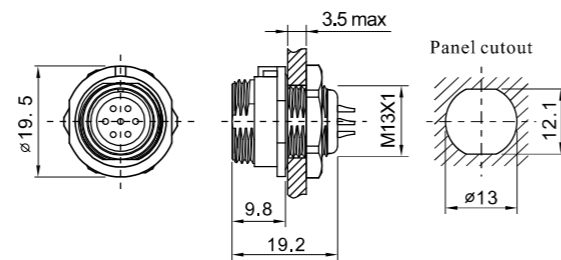
In-line cable connector
Mate with SP1310



SP1311 / P --- SP1311 / S ---
Number of contact ---
C: with cap
N: without cap
Cable outer diameter
I: 4-6.5mm, II: 5-8mm



Rear-nut mount
Mate with SP1310



SP1312 / P --- SP1312 / S ---
C: with cap
N: without cap
Number of contact

Solder contact spec

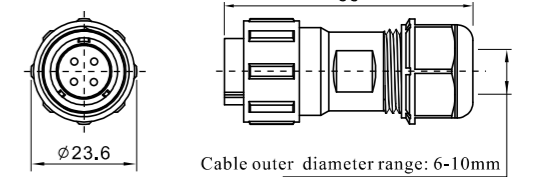
Number of contact	2	3	4	5	6	7	9
Male contact face view							
Rated current (A)	13	13	5	5	5	5	3
Contact diameter (mm)	$\varnothing 1.6 \times 2$	$\varnothing 1.6 \times 3$	$\varnothing 1 \times 4$	$\varnothing 1 \times 5$	$\varnothing 1 \times 6$	$\varnothing 1 \times 7$	$\varnothing 0.7 \times 9$
Rated voltage (AC.V)	250	250	200	180	125	125	125
Test voltage (AC.V) 1 min	1500	1500	1500	1000	1000	1000	1000
Contact resistance (m Ω)	2.5	2.5	5	5	5	5	10
Wire size (mm ² /AWG)	$\leq 2/14$	$\leq 2/14$	$\leq 0.75/18$	$\leq 0.75/18$	$\leq 0.75/18$	$\leq 0.75/18$	$\leq 0.5/20$

SP17 Series

**SP
17**



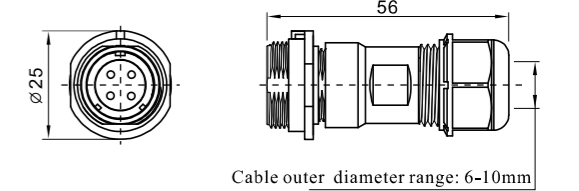
Cable connector
Mate with SP1711, SP1712



SP1710 / P --- N --- SP1710 / S --- N ---
Male contact --- Female contact ---
1: solder, 3: crimp
Number of contact



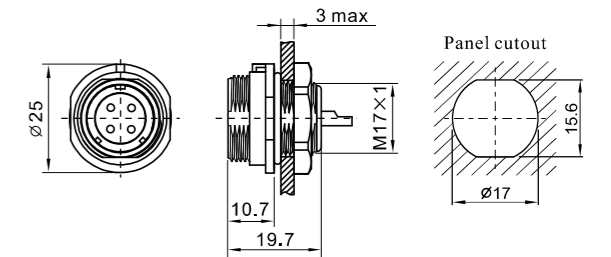
In-line cable connector
Mate with SP1710



SP1711 / P --- SP1711 / S ---
Number of contact ---
C: with cap
N: without cap
1: solder, 3: crimp



Rear-nut mount
Mate with SP1710



SP1712 / P --- SP1712 / S ---
Number of contact ---
C: with cap
N: without cap
1: solder, 3: crimp

Solder contact spec

★ Crimp contact spec see P107-P110

Number of contact	2	3	4	2B	3B	4B	5	7	9	10
Male contact face view										
Rated current (A)	10	10	5	15	15	15	5	5	5	5
Contact diameter (mm)	$\varnothing 1.5 \times 2$	$\varnothing 1.5 \times 3$	$\varnothing 1 \times 4$	$\varnothing 2 \times 2$	$\varnothing 2 \times 3$	$\varnothing 2 \times 4$	$\varnothing 1 \times 5$	$\varnothing 1 \times 7$	$\varnothing 1 \times 9$	$\varnothing 1 \times 10$
Rated voltage (AC.V)	500	500	500	500	500	500	500	400	400	400
Test voltage (AC.V) 1 min	1500	1500	1500	1500	1500	1500	1500	1200	1200	1200
Contact resistance (m Ω)	2.5	2.5	5	2.5	2.5	2.5	5	5	5	5
Wire size (mm ² /AWG)	$\leq 2/14$	$\leq 2/14$	$\leq 0.75/18$	$\leq 2/14$	$\leq 2/14$	$\leq 2/14$	$\leq 0.75/18$	$\leq 0.75/18$	$\leq 0.75/18$	$\leq 0.75/18$

SP21 Series

SP 21



Cable connector
Mate with SP2111, SP2112, SP2113

SP2110 / P --- SP2110 / S

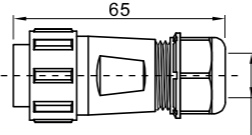
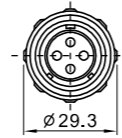
Male contact
Female contact

C: with cap
N: without cap
(U): (CU):

1: solder, 2: screw, 3: crimp

Cable outer diameter: I: 4.5-7mm, II: 7-12mm

Number of contact



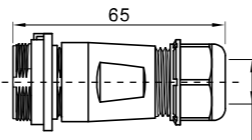
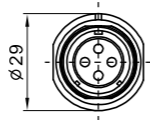
Cable outer diameter range:
I: 4.5-7mm II: 7-12mm



In-line cable connector
Mate with SP2110

SP2111 / P --- SP2111 / S

C: with cap
N: without cap



Cable outer diameter range:
I: 4.5-7mm II: 7-12mm

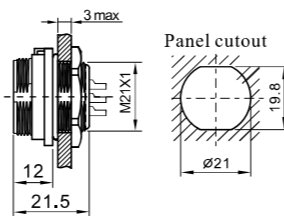
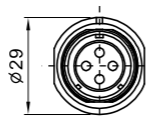


Rear-nut mount
Mate with SP2110

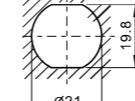
SP2112 / P --- SP2112 / S

Number of contact

C: with cap
N: without cap
1: solder, 2: screw, 3: crimp



Panel cutout

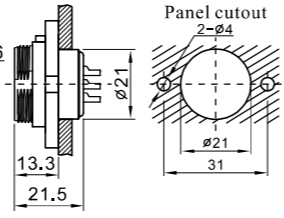
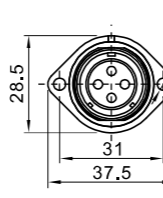


2-hole flange
Mate with SP2110

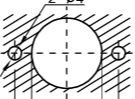
SP2113 / P --- SP2113 / S

Number of contact

C: with cap
N: without cap
1: solder, 2: screw, 3: crimp



Panel cutout

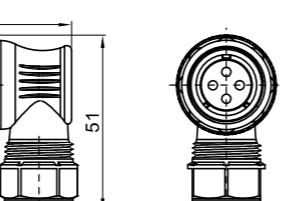
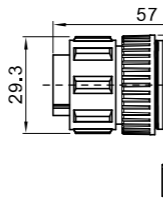


Angled cable connector
Mate with SP2111, SP2112, SP2113

SP2116 / P --- SP2116 / S

Number of contact

C: with cap
N: without cap
1: solder, 2: screw, 3: crimp



Cable outer diameter range:
I: 4.5-7mm II: 7-12mm

SP29 Series

SP 29



Cable connector
Mate with SP2911, SP2912, SP2913

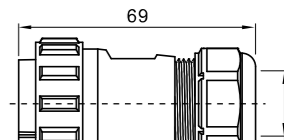
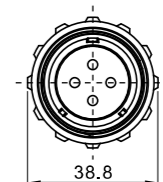
SP2910 / P --- N SP2910 / S --- N

Male contact

1: solder, 2: screw, 3: crimp

Number of contact

Female contact



Cable outer diameter range: 13-16mm



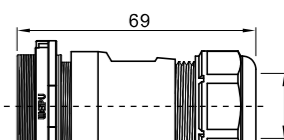
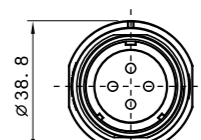
In-line cable connector
Mate with SP2910

SP2911 / P --- SP2911 / S

Number of contact

C: with cap
N: without cap

1: solder, 2: screw, 3: crimp



Cable outer diameter range: 13-16mm



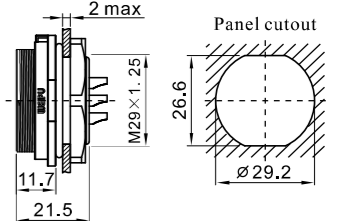
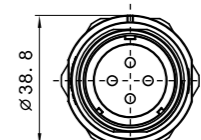
Rear-nut mount
Mate with SP2910

SP2912 / P --- SP2912 / S

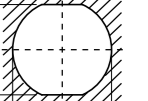
Number of contact

C: with cap
N: without cap

1: solder, 2: screw, 3: crimp



Panel cutout



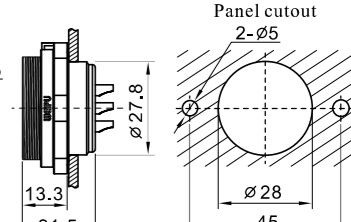
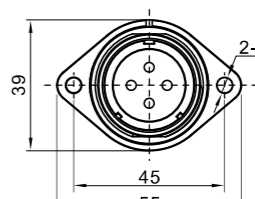
2-hole flange
Mate with Sp2910

SP2913 / P --- SP2913 / S

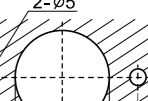
Number of contact

C: with cap
N: without cap

1: solder, 2: screw, 3: crimp



Panel cutout



Solder contact spec

★ Crimp contact spec see P107-P110 ★ Screw contact spec see P111-P112

Number of contact	2	3	4	5	5B	5C	6	6B	7	8	9	12	15
Male contact face view													
Rated current (A)	30 	20 	30 	20 	30 	20 	30 	15 	25 	30 	15 	10 	5
Contact diameter (mm)	∅3X2	∅3X3	∅3X4	∅3X5	∅3X2 ∅1X3	∅2X5	∅2.5X4 ∅1X2	∅3X2 ∅1X4	∅2X7	∅1.5X10	∅1X9	∅1X12	∅1X15
Rated voltage (AC.V)	500	500	500	500	500	500	500	500	500	500	400	400	400
Test voltage(AC.V) 1 min	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1200	1200
Contact resistance (mΩ)	1	1	1	1	1 5	2.5	1 5	1 5	2.5	2.5	5	5	5
Termination	solder / screw	solder / screw	solder / screw	solder / screw	solder	solder	solder	solder	solder	solder	solder	solder	solder
Wire size for solder (mm ² / AWG)	≤4/11	≤4/11	≤4/11	≤4/11	≤4/11 ≤0.75/18	≤2/14	≤4/11 ≤0.75/18	≤4/11 ≤0.75/18	≤2/14	≤2/14	≤0.75/18	≤0.75/18	≤0.75/18
Wire size for screw termination (mm ² / AWG)	≤1.5/15	≤1.5/15	≤1.5/15	≤1.5/15	/	/	/	/	/	/	/	/	/

Solder contact spec

★ Crimp contact spec see P107-P110 ★ Screw contact spec see P111-P112

Number of contact	2	3	4	7	8	8B	9	10	10B	12	16	17	20	24	26	35
Male contact face view																
Rated current (A)	50	50	25	25	25	60.5	25.5	25	10	10	10	10	5	5	5	5
Contact diameter (mm)	∅3.5X2	∅3.5X3	∅2.5X4	∅2.5X7	∅2.5X8	∅5X2 ∅1X6	∅2.5X4 ∅1X5	∅2.5X10	∅1.5X10	∅1.5X12	∅1.5X16	∅1.5X17	∅1X20	∅1X24	∅1X26	∅1X35
Rated voltage (AC.V)	500	500	500	500	500	500 400	500	500	500	500	500	500	400	400	400	400
Test voltage(AC.V) 1 min	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1200	1200	1200	1200
Contact resistance (mΩ)	0.5	0.5	1	1	1	5.0.5	1.5	1	2.5	2.5	2.5	2.5	5	5	5	5
Termination	solder / screw	solder / screw	solder / screw	solder / screw	solder / screw	solder	solder	solder / screw	solder	solder	solder	solder	solder	solder	solder	solder
Wire size (mm ² / AWG)	≤10/7	≤10/7	≤4/11	≤4/11	≤4/11	≤16/5 ≤0.75/18	≤4/11 ≤0.75/18	≤4/11	≤2/14	≤2/14	≤2/14	≤2/14	≤2/14	≤0.75/18	≤0.75/18	≤0.75/18
Wire size for screw termination	≤6/10	≤6/10	≤1.5/15	≤1.5/15	≤1.5/15	/	/	≤1.5/15	/	/	/	/	/	/	/	/