SU Series Spring Clamp Relay Sockets

New spring-clamp relay socket providing higher level of safety.

- Can be installed easily on 35-mm-wide DIN rail in snap-on action.
- Relay contact terminals on upper side and coil terminal on the lower provide higher safety and allows easy wiring.
- Finger-safe IP20 degree of protection (IEC 60529)
- Spring clamp style connection achieves high contact reliability and vibration resistance regardless of wire size and shape.
- Stranded wire, single wire, stranded wire with ferrule can be connected easily using a screwdriver.
- Wiring is possible only by stripping the wire. Crimp terminal and soldering are not necessary, reducing wiring and labor.
- Spring clamp eliminates loosening, reducing maintenance and labor. Each terminal has two wire ports, enabling jumper wiring. Jumper is available as accessory.
- Flameproof material UL94 V-0
- UL recognized, CSA certified, EN compliant.

Applicable Standards	Mark	Certification Organization / File No.
UL508		UL recognized UL File No. E62437
CSA C22.2 No. 14		CSA File No. LR84913
EN60999-1		EU Low Voltage Directive

Relay Sockets

Shape	No. of Poles	Part No.	Applicable Relay
	2	**SU2S-11L**	RU2S RM2S GT5Y-2
	4	**SU4S-11L**	RU4S, RY4S, RY42S,GT5Y-4

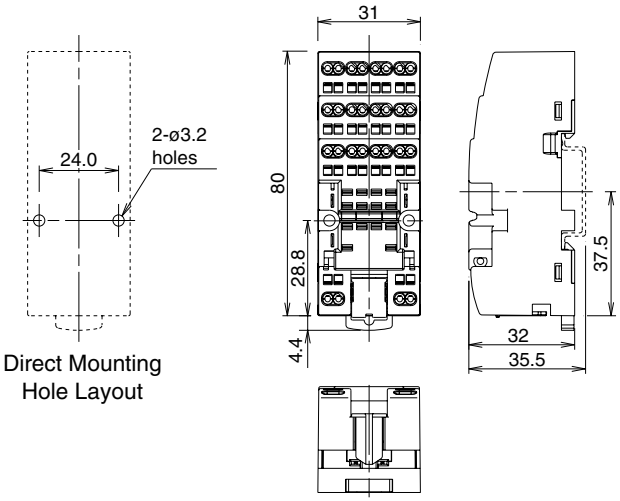
Specifications

Part No.			SU2S-11L	SU4S-11L
Operating Temperature			–55 to +70°C (no freezing)	
Operating Humidity			45 to 85% RH (no condensation)	
Storage Temperature			–55 to +70°C (no freezing)	
Storage Humidity			45 to 85% RH (no condensation)	
Applicable Wire	EN/IEC	Solid Wire	0.2 to 1.5mm²	
		Stranded Wire	0.2 to 1.25mm²	
	UL		AWG24-16	
Rated Insulation Voltage			250V	
Rated Current (Note)			10A 8A (collective mounting)	6A (4-pole) 10A (2-pole) 8A (2-pole, collective mounting)
Dielectric Strength			Between contacts of the different poles: 2500V AC, 1 min. (between live and dead metal parts, between live metal parts of the different poles)	
Insulation Resistance			100MΩ minimum	
Degree of Protection			IP20 (IEC 60529)	
Weight (approx.)			53g	63g

Note: When operating over the rated current in collective mounting, keep 10mm between the SU sockets.

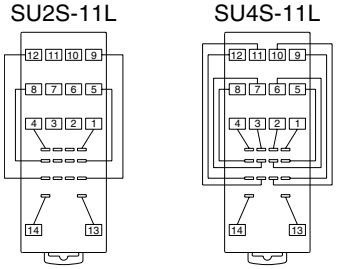
Dimensions

SU2S-L/SU4S-11L

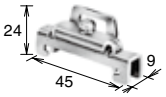
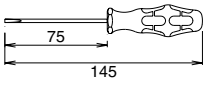


Direct Mounting Hole Layout

Terminal Arrangement (top view)



Accessories

Name	Shape	Specifications	Part No.	Ordering No.	Package Quantity	Remarks
Jumper		Brass (ABS cover) Weight: 3g (approx.)	SU9Z-J5	SU9Z-J5PN10	10	Used for interconnecting relay coil terminals. Can be cut to required length.
Hold-down Spring (leaf spring)		Stainless steel Weight (a pair): 1g (approx.)	SFA-101	SFA-101PN20	10 pairs	A pair of springs are used for a relay.
		Stainless steel Weight (a pair): 2g (approx.)	SFA-202	SFA-202PN20	10 pairs	
DIN Rail		Aluminum Weight: 200g (approx.)	BAA1000	BAA1000PN10	10	Length: 1m Width: 35mm
		Steel Weight: 320g	BAP1000	BAP1000PN10	10	
End Clip		Metal (zinc plated steel) Weight: 15g (approx.)	BNL6	BNL6PN10	10	
Applicable Screwdriver		Weight: 20g (approx.)	BC1S-SD0	BC1S-SD0	1	Used to for wiring spring clamp relay sockets.

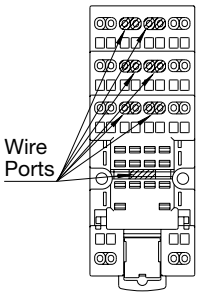
Note 2: Make sure that the total current to the jumper does not exceed the rated current.

Operating Instructions

Identifying Socket

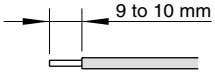
SU2S-11L and SU4S-11L can be identified by the color of wire ports marked below.

Color	No. of Poles	Part No.
Black	2	SU2S-11L
Gray	4	SU4S-11L

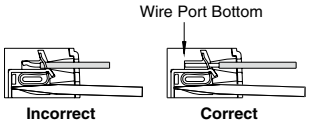


Applicable Wires

- Strip the wire insulation 9 to 10 mm from the end.
- When using stranded wires without ferrules, make sure that the core wires have not been loosened.



- In applications using ferrules for stranded wires, choose the ferrule listed in the table below. Make sure that an insulation sheath is applied when using the ferrules. When using thin wires with insulation diameter of ø1.6 mm or less, do not insert the wire too deeply where the insulation inserts into the spring clamp opening. Make sure that the wire insulation is stripped 9 to 10 mm and the wire is inserted to the bottom.

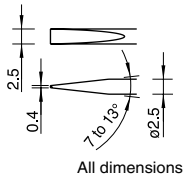


Applicable Ferrules

Applicable Wire (stranded)		Part No.	Manufacturer
mm²	AWG		
0.25	24	AI 0.25-12BU	Phoenix Contact
—	22	AI 0.34-8TQ	
0.5	20	AI 0.5-8WH	
		AI 0.5-10WH	

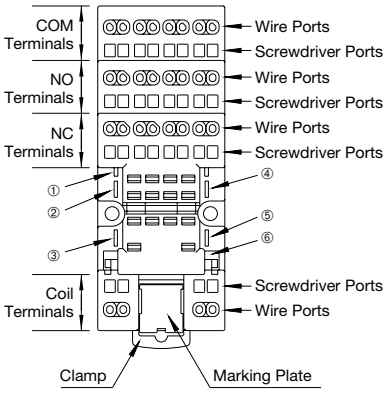
Applicable Screwdriver

For wiring, use the optional screwdriver (BC1S-SD0) or the following applicable screwdriver.

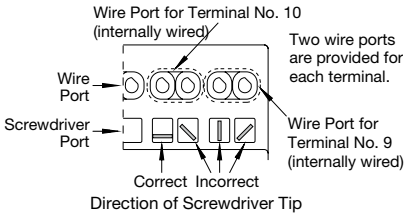


All dimensions in

Parts Description



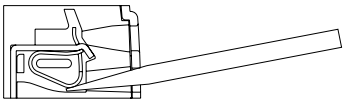
①②⑤⑥: Spring slots for SFA-101 leaf springs
②③④⑤: Spring slots for SFA-202 leaf springs



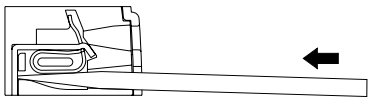
Operating Instructions

Wiring Instructions

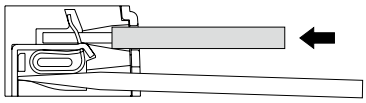
1. Insert the optional screwdriver (BC1S-SD0) or an applicable screwdriver into the square-shaped port as shown, until the screw-driver tip touches the bottom of the spring.



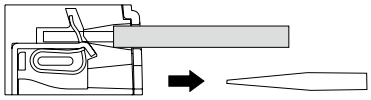
2. Push in the screwdriver until it touches the bottom of the port. The wire port is now open, and the screwdriver is held in place. The screwdriver will not come off even if you release your hand.



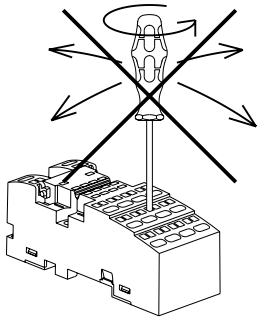
3. While the screwdriver is retained in the port, insert the wire or ferrule into the round-shaped wire port. Each wire port can accommodate one wire or ferrule. When connecting two wires to one terminal, use the adjoining port of the same terminal.



4. Pull out the screwdriver. The connection is now complete.



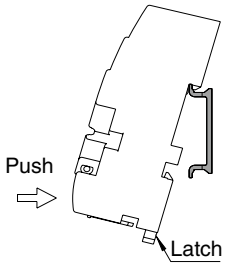
Do not tilt of turn the screwdriver while it is inserted into the screwdriver port in the socket, otherwise the socket may break.

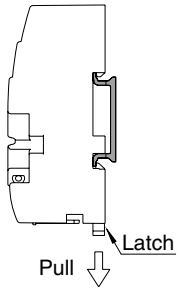


DIN Rail Mounting and Removing

Mounting
With the latch facing downward, install the socket on the DIN rail as shown below.

Removing
Pull the latch with a hand or using a screwdriver, and remove the socket from t he DIN rail.

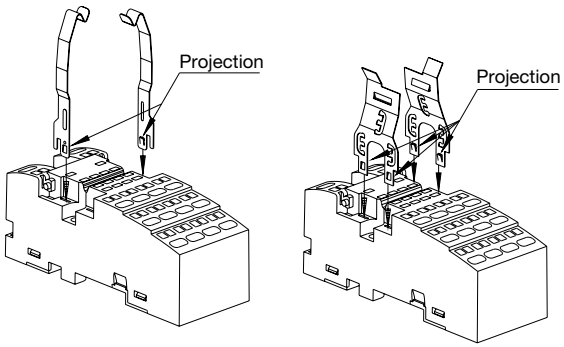




Do not mount or remove the socket at –20°C or below.

Installing the Hold-down Spring

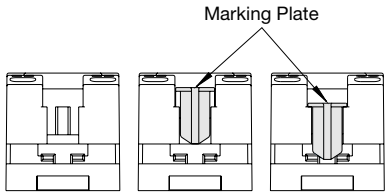
Use SFA-101 or SFA-202 hold-down spring ordered separately (see page 76). To install, insert the springs into the spring slots with the projection on the springs facing each other. Once installed, the springs cannot be removed.



SFA-101 Leaf Spring

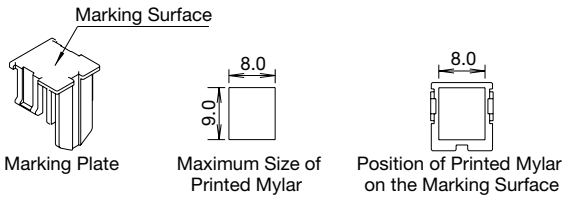
Installing the Marking Plate

Because of its removable structure, the marking plate may have fallen from the socket or become loose in delivery. Make sure that the marking plate is securely installed before starting operation. The marking plate protects the conductive portion of the socket, located under the marking plate, by preventing metal fragments or pieces of wire from dropping inside. Should any such fragments enter the socket, they may cause fire hazard, damage, or malfunction.



Marking Plate

Write markings on the SU sockets using an oil-based marker, or glue printed mylar on the marking surface. The size of the printed mylar can be 8 × 9 mm maximum.



Operating Instructions

SU9Z-J5 Jumper for SU2S-11L and SU4S-11L

The SU9Z-J5 is used to install five sockets. When installing less than five sockets, cut the jumper according to the instructions described below.

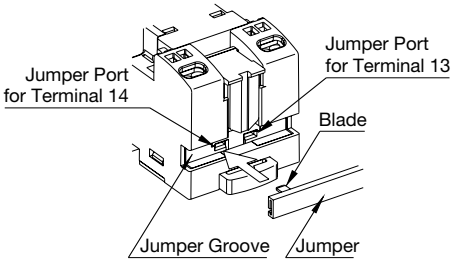
The SU9Z-J5 is for coil terminals only.

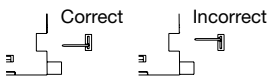
SU9Z-J5 Jumper Specifications

Rated Current		3A
Material	Conductor	Nickel-plated brass
	Sheath	ABS resin

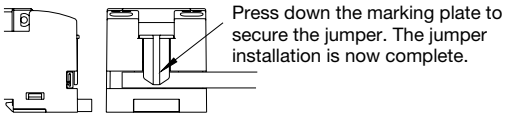
Installing the SU9Z-J5 Jumper

Loosen the marking plate on the socket.
Making sure that the SU9Z-J5 jumper is correctly aligned, insert the blades into the ports in the groove of the SU socket.



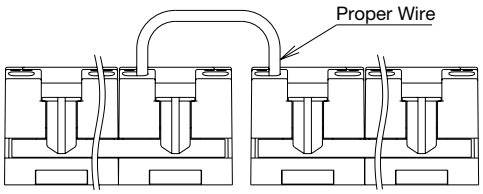


Insertion Direction



Jumper Wiring to Six or More SU Sockets

To jumper wire six or more SU sockets, connect five sockets using whole jumpers and the remaining sockets using a cut jumper. Then connect the two terminals on adjoining sockets using an applicable wire (see table below).



Jumper Wiring of Terminal 14 between Adjoining Sockets

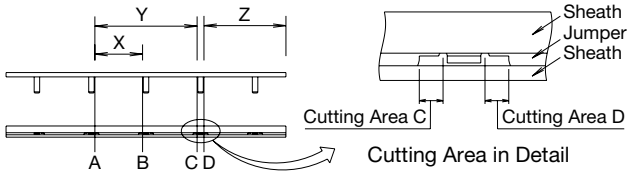
Wire	Size
Stranded Wire	0.2 to 1.25 mm^2
Solid Wire	0.2 to 1.5 mm^2
AWG	24 to 16

Note 1: Use a wire with cable insulation diameter of ø3.15 mm maximum.
Note 2: Strip the cable insulation 9 to 10 mm from the end.

Installing the SU9Z-J5 Jumper on Two, Three, or Four SU Sockets

As shown below, slide the jumper in the sheath so that the jumper aligns with the center of the sheath.

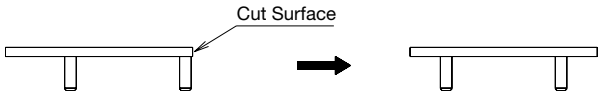
With the sheath properly installed on the jumper, cut the sheath and jumper at the points shown below, using cutting pliers. Referring to the drawing on the below right, make sure that the sheath and jumper are cut within the cutting area. Dispose of unused portions according to local waste disposal requirements.



Cutting Area in Detail

For Connecting	Jumper Quantity	Cutting Area	Discard
2 sockets	2	A, C	Y
2 sockets 3 sockets	1 1	A, B	X
4 sockets	1	D	Z

After cutting the jumper and sheath, slide the jumper as shown below, so that the ends of the jumper are not exposed.



Safety Precautions

Turn off the power to the SU9Z-J5 jumper before starting installation, removal, wiring, maintenance, or inspection of the jumper, failure to turn power off may cause an electrical shock or fire hazard.

To avoid a short circuit due to incorrect wiring, confirm which terminals are connected to the jumper before starting wiring.