# ••• SEMAPHORE INDICATOR SPS type



🕙 FUJI ELECTRIC INDUSTRY CO., LTD.

### **SEMAPHORE INDICATOR**



## Conformity with international standards

The SPS type indicators have acquired TÜV and CCC certification, and conform to the EN (IEC) standard.

Thus, these products have been certified as global standard products conformable with international standards. (TUV and CE marks are attached to the product body.)

### Size and weight reduction

With the compact design, the SPS type indicator meets the requirements for size and weight reduction.



### **Energy-saving design**

With the energy-saving design, power consumption can be reduced to approx. one fourth that of conventional models.

\* Rated operating current at 24V DC: (Conventional) SPR/L: approx. 37mA SPSR/L: approx. 9mA

# Maximum compatible cable size: AWG14

Twisted wires up to AWG14 size (equivalent to 2.5mm<sup>2</sup>) can be connected.

### **Enhance the safety**

To enhance safety, the terminal cover for wiring screw live parts is provided as a standard feature.

### Simple design of round and square

The round and square types can be selected as the face shape of the indicator. Indication can be differentiated by the face shape, which enhances the panel design easily.



### **Direct display of circuit status**

Since the circuit status is indicated by the flag shape, erroneous recognition is prevented. The circuit ON/OFF status can be recognized at a glance.





### **Specifications (Ratings, Performance)**

Type	SPSR-2□S, 3□S	SPSL-2□S, 3□S	
Rated Insulation Voltage (Ui)	250V		
Rated Operational Voltage (Ui)	24V, 30V, 48V, 100/110V, 125V, 200/220V DC		
Voltage Fluctuation Range	±15% (24V, 48V, 200/220V) -20 to 30% (100/110V, 125V)		
Rated Operational Current (le)	11mA		
Insulation Resistance	1,000MΩ over		
Power-Frequency Withstand Voltage	2,000V AC/min.		
Inpulse Withstand Voltage	±4,500V, 3times for each pole (1.2/50µs)		
Shock Resistance	490m/s <sup>2</sup> 6directions 3times		
Durability	100,000times or more		
Degree of Prolection	IP52		
Operating Temperature	-20 to 60°C		
Storage Temperature	-30 to 75°C		
Relative Humidity	45 to 85%		
Altitude	Max 2,000m		
Compatible Copper Conductors	AWG20 to 14		
Compatible Terminal	M3.5×8 with square washer		
Mounting Plate Thickness	1 to 6mm		
Weight	Approximately 30g		

\* Please refer to page 6 for the rating compliant with the international standard.

### **Standard Products**

SPSR-2





 Panel Cut Dimensions (Minimum Mounting Pith)

Note: For the panel cut dimensions, please refer to the mounting hole size described in product coding on page 5.



Applicable Accessories

Terminal Cover	CXL-CV
Tightening Tool	SPS-Q

### SPSR-3 S



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Note: For the panel cut dimensions, please refer to the mounting hole size described in product coding on page 5.



### Standard Products

### SPSL-2





 Panel Cut Dimensions (Minimum Mounting Pith)



### SPSL-3



#### •Applicable Accessories

Terminal Cover	CXL-CV
Tightening Tool	SPS-Q

Mounting Panel t=1 to 6 Packing M3.5x8 Screw (Up to 2.5mm<sup>2</sup> Wiring) Type: NP  $\overline{0}$ 000000 Terminal Cover Nut (CXL-CV) TOP 000000 00000 00000 R 52 5 ø26 (80) 35 (85) 9.5 Panel Cut Dimensions Applicable Accessories 40 (Minimum Mounting Pith)



Terminal Cover	CXL-CV
Tightening Tool	SPS-Q

Note: For the panel cut dimensions, please refer to the mounting hole size described in product coding on page 5.

### **Ordering Method**

Refer to the following type code.

### Product Coding



### Accessories



### Movement and Circuit

### Operation Chart







### **OVERSEAS STANDARD CONFORMABLE RATINGS (EN60947/IEC60947)**

### (1) Basic Rated Values and Utilization

No.	Item	Basic Rating and Application	IEC Standard
1	Rated Operational Voltages	24V, 48V, 100/110V, 125V, 200/220V DC	IEC60947-5-1; 5.1-d
2	Rated Operational Current	11mA max.	IEC60947-5-1; 5.1-e
3	Rated Insulation Voltage (Ui)	250V	IEC60947-5-1; 5.1-f
4	IP Code	IP52	IEC60947-5-1; 5.1-I

### (2) Normal Operating Conditions

No.	Item	Normal Service Conditions		IEC Standard
1	Ambient Air Temperature	-5°C to +40°C		IEC60947-1; 6.1.1
2	Altitude	2,000m max.		IEC60947-1; 6.1.2
3	Atomspheric Conditions	Humidity: max 90% at +20°C, 50% at +40°C Micro-environment: Pollution degree 3		IEC60947-1; 6.1.3
4	Conditions During Transport and Storage	Between -25°C and +55°C, for short periods not exceeding 24h, up to +70°C		IEC60947-1; 6.2
5	Mounting Hole Size	ø20.5mm		IEC60947-5-1; 6.3.1
6	Range of Panel Thickness	1 to 6mm		IEC60947-5-1; 6.3.1.2
7	Minimum Mounting Pitch	SPSR/L-2	30mm	IEC60047 5 1:6 2 1 2
		SPSR/L-3	40mm	12000947-0-1, 0.3.1.5

### (3) Structure and Performance

No.	Item	Structure and Performance	IEC Standard
-	Connecting Capacity	Stranded wire: AWG20 (max 2pear)	IEC60947-1; 7.1.7
		With ring lug: AWG14-20 (max 2pear)	IEC60947-1; AnnexD
2	Withstand Voltage	Power frequency withstand voltage: 2,000V AC/1min.	IEC60947-5-1; 7.2.3
3	Durability	Mechanical durability: 100,000times	IEC60947-5-1; AnnexC

Note: The above items have been certified according to TÜV. Please contact us for more details.

### Ensuring Quality Assurance for Control Devices

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### **PRECAUTIONS FOR USE**

- Use products within the correct voltage and current.
- Check connections carefully, as a faulty connection may lead to accidents.
- Check for no abnormal conditions such as wire break, etc. before using the products.
- Fasten screws by the torque complying the standard.
- Use products under no stress condition to wires.
- Avoid the excessive shock and vibration.
- Use under the conditions of no organic solvent or oil.
- Avoid using products in abnormal environments such as high temperature, high humidity, dust or corrosive gases.
- Check carefully specification when used for special purpose.



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