

Socket Accessories

Short Bars (For P7SA-□F-ND-PU)

Pitch	No. of poles	Colors	Model*1*2
5.2 mm	2	Red (RD) Blue (BL) Yellow (YL)	XW5S-P2.5-2□
	3		XW5S-P2.5-3□
	4		XW5S-P2.5-4□
	5		XW5S-P2.5-5□

Note: Use for crossover wiring of adjacent contact terminals (bottom) within one Socket.

*1. Replace the box (□) in the model number with the code for the covering color. Color Options: RD = red, BL = blue, YL = yellow

Example: XW5S-P2.5-10RD when the covering color is red.

*2. XW5S-P2.5-5□ cannot be used with P7SA-10F-ND-PU.

Parts for DIN Track Mounting

Type	Model	Minimum Order (quantity)
DIN Tracks	1 m	1
	0.5 m	
End Plate *	PFP-M	10
Spacer	PFP-S	

* When mounting DIN track, please use End Plate (Model PFP-M).

Specifications

Ratings

Safety Relay Unit

Coil (4 poles)

Item	Rated current (mA)	Coil resistance (Ω)	Max. voltage (V)	Power consumption (mW)
Rated voltage				
12 VDC	30	400	110%	Approx. 360
18 VDC	20	900		
21 VDC	17.1	1,225		
24 VDC	15	1,600		
48 VDC	7.5	6,400		
110 VDC	3.8	28,810		Approx. 420

Coil (6 poles)

Item	Rated current (mA)	Coil resistance (Ω)	Max. voltage (V)	Power consumption (mW)
Rated voltage				
12 VDC	41.7	288	110%	Approx. 500
18 VDC	27.8	648		
21 VDC	23.8	882		
24 VDC	20.8	1,152		
48 VDC	10.4	4,606		
110 VDC	5.3	20,862		Approx. 580

Note: 1. The rated current and coil resistance are measured at a coil temperature of 23°C with tolerances of ±15%.
 2. The maximum voltage is based on an ambient operating temperature of 23°C maximum.

Contacts

Item	Load	Resistive load
Rated load		6 A at 250 VAC, 6 A at 30 VDC
Rated carry current		6 A
Max. switching voltage		250 VAC, 125 VDC
Max. switching current		6 A
Contact materials		Au plating + Ag alloy

Characteristics

Safety Relay Unit

Contact resistance *1		100 mΩ max.
Operating time *2		20 ms max.
Response time *3		10 ms max.
Release time *2		20 ms max.
Must operate voltage		75% max.
Must release voltage		10% min.
Maximum operating frequency	Mechanical	36,000 operations/h
	Rated load	1,800 operations/h
Insulation resistance *4		1,000 MΩ min.
Dielectric Strength *5 *6	Between coil and contacts	4,000 VAC, 50/60 Hz for 1 min.
	Between contacts of different polarity	4,000 VAC, 50/60 Hz for 1 min. (except for followings) 4 poles (for poles 3-4 in 4-pole Relays), 6 poles (for poles 3-5, 4-6, and 5-6 in 6-pole Relays): 2,500 VAC, 50/60 Hz for 1 min.
	Between contacts of the same polarity	1,500 VAC, 50/60 Hz for 1 min.
Vibration resistance		10 to 55 to 10 Hz, 0.75-mm single amplitude (1.5-mm double amplitude)
Shock resistance	Destruction	1,000 m/s ²
	Malfunction	100 m/s ²
Durability *7	Mechanical	10,000,000 operations min. (at approx. 36,000 operations/h)
	Electrical	100,000 operations min. (at the rated load)
Inductive load switching capability *8 (IEC60947-5-1)		AC15 240 VAC, 2 A DC13 24 VDC, 1 A/48 VDC, 0.5 A/110 VDC, 0.2 A
Failure rate (P level) (reference value *9)		5 VDC, 1 mA
Ambient operating temperature *10		12 to 48 VDC: -40 to 85°C (with no icing or condensation) 110 VDC: -40 to 60°C (with no icing or condensation)
Ambient operating humidity		5% to 85%
Weight		4 poles: Approx. 22 g 6 poles: Approx. 25 g

Note: 1. The above values are initial values.

2. Performance characteristics are based on coil temperature of 23°C.

*1. The contact resistance was measured with 1 A at 5 VDC using the voltage-drop method.

*2. These times were measured at the rated voltage and an ambient temperature of 23°C. Contact bounce time is not included.

*3. The response time is the time it takes for the normally open contacts to open after the coil voltage is turned OFF. Contact bounce time is included. Measurement conditions: Rated voltage operation, Ambient temperature: 23°C

*4. The insulation resistance was measured with a 500-VDC megohmmeter at the same locations as the dielectric strength was measured.

*5. Pole 3 refers to terminals 31-32 or 33-34, pole 4 refers to terminals 43-44, pole 5 refers to terminals 53-54, and pole 6 refers to terminals 63-64.

*6. When using a P7SA Socket, the dielectric strength between coil contacts/different poles is 2,500 VAC, 50/60 Hz for 1 min. When using Push-In Plus terminal sockets (P7SA-□F-ND-PU), the dielectric strength between coil contacts as well as between different poles is 4,000 VAC, 50/60 Hz for 1 min.

*7. The durability is for an ambient temperature of 15 to 35°C and an ambient humidity of 25% to 75%. For the durability performance to the load, refer to the Durability Curve.

*8. AC15: cosφ = 0.3, DC13: L/R = 48-ms.

*9. The failure rate is based on an operating frequency of 300 operations/min.

*10. 12 to 48 VDC: When operating between 70 and 85°C, reduce the rated carry current of 6 A by 0.1 A for each degree above 70°C.

110 VDC: When operating between 40 and 60°C, reduce the rated carry current of 6 A by 0.27 A for each degree above 40°C.