

Safety relays - PSR-SPP- 24DC/ESD/5X1/1X2/T10S - 2981509

Technical data

Input data

Max. permissible overall conductor resistance	approx. 11 Ω (Input and start circuits at U_s)
Delay time	K3(t), K4(t) fixed depending on model
Filter time	1 ms (at A1 in the event of voltage dips at U_s)
	max. 1.5 ms (at S10, S12; test pulse width)
	7.5 ms (at S10, S12; test pulse rate)
	Test pulse rate = 5 x Test pulse width

Output data

Contact type	5 enabling current paths 1 signaling current path
Contact material	AgSnO ₂
Maximum switching voltage	250 V AC/DC (Observe the load curve)
Minimum switching voltage	5 V AC/DC
Limiting continuous current	6 A (N/O contact, pay attention to the derating) 6 A (N/C contact)
Maximum inrush current	20 A (Δt # 100 ms, undelayed contacts) 8 A (delayed contacts)
Inrush current, minimum	10 mA
Sq. Total current	55 A ² (observe derating)
Interrupting rating (ohmic load) max.	144 W (24 V DC, $\tau = 0$ ms) 288 W (48 V DC, $\tau = 0$ ms) 110 W (110 V DC, $\tau = 0$ ms, delayed contacts: 77 W) 88 W (220 V DC, $\tau = 0$ ms) 1500 VA (250 V AC, $\tau = 0$ ms, delayed contacts: 2000 VA)
Maximum interrupting rating (inductive load)	42 W (24 V DC, $\tau = 40$ ms, delayed contacts: 48 W) 42 W (48 V DC, $\tau = 40$ ms, delayed contacts: 40 W) 42 W (110 V DC, $\tau = 40$ ms, delayed contacts: 35 W) 42 W (220 V DC, $\tau = 40$ ms, delayed contacts: 33 W)
Switching capacity min.	50 mW
Mechanical service life	10x 10 ⁶ cycles
Switching capacity (360/h cycles)	4 A (24 V DC) 4 A (230 V AC)
Output fuse	10 A gL/gG (N/O contact) 6 A gL/gG (N/C contact)

General

Relay type	Electromechanical relay with forcibly guided contacts in accordance with EN 50205
Nominal operating mode	100% operating factor
Net weight	445 g
Mounting position	any
Mounting type	DIN rail mounting

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Degree of protection	IP20
	IP54
Min. degree of protection of inst. location	IP54
Housing material	PBT
Housing color	yellow

Connection data

Connection method	Push-in connection
pluggable	Yes
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	1.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	1.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	16
Stripping length	8 mm

Safety-related characteristic data

Stop category	0
	1
Designation	IEC 61508 - High demand
Safety Integrity Level (SIL)	3 (for delayed contacts SIL 2)
Designation	IEC 61508 - Low demand
Safety Integrity Level (SIL)	3 (for delayed contacts SIL 2)
Designation	EN ISO 13849
Performance level (PL)	e (for delayed contacts PL d)
Category	4 (Undelayed contacts)
	3 (delayed contacts)
Designation	EN 62061
Safety Integrity Level Claim Limit (SIL CL)	3 (for delayed contacts SILCL 2)

Standards and Regulations

Designation	Air clearances and creepage distances between the power circuits
Standards/regulations	DIN EN 50178/VDE 0160
Rated insulation voltage	250 V AC
Rated surge voltage/insulation	Basic insulation 4 kV: between all current paths and housing Safe isolation, reinforced insulation 6 kV: between 13/14, 23/24, 33/34, and the remaining current paths between 13/14, 23/24, 33/34 among one another
Degree of pollution	2
Overvoltage category	III
Shock	15g
Vibration (operation)	10 Hz ... 150 Hz, 2g