PSR-SCP- 24UC/ESAM4/8X1/1X2 - Safety relays

2963912

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Safety relay for emergency stop and safety door monitoring up to SIL 3 or Cat. 4, PL e in accordance with EN ISO 13849, 1- or 2-channel operation, 8 enabling current paths, U_S = 24 V DC, plug-in screw terminal block

Your advantages

- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SIL 3 in accordance with EN IEC 62061, SIL 3 in accordance with IEC 61508
- Manually monitored and automatic activation in a single device
- 1- and 2-channel control
- 8 enabling current paths, 1 signaling current path

Commercial data

Item number	2963912
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DNA114
Product key	DNA114
Catalog page	Page 229 (C-6-2019)
GTIN	4017918899707
Weight per piece (including packing)	424.57 g
Weight per piece (excluding packing)	339.41 g
Customs tariff number	85371098
Country of origin	DE

Technical data

Notes

Note on application

Note on application	Only for industrial use

Product properties

Product type	Safety relays
Product family	PSRclassic
Application	Emergency stop
	Safety door
Control	1 and 2 channel
Mechanical service life	approx. 10^7 cycles
Relay type	Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3

Insulation characteristics

Overvoltage category	III
Degree of pollution	2

Electrical properties

Maximum power dissipation for nominal condition	31.7 W (U_S = 26.4 V, I_L^2 = 144 A², $P_{Total\ max}$ = 2.9 W + 28.8 W)
Nominal operating mode	100% operating factor
Rated insulation voltage	250 V
Rated surge voltage/insulation	Basic insulation 4 kV: between all current paths and housing Safe isolation, reinforced insulation 6 kV: between A1/A2 and 63/64, 73/74, 83/84 between S10/S11/S12/S33/S34/S35 and 63/64, 73/74, 83/84 between 63/64, 73/74, 83/84 among one another

Input data

General

Rated control circuit supply voltage U_S	24 V DC -15 % / +10 %
Power consumption at U_S	typ. 2.4 W (DC)
Rated control supply current I_S	typ. 100 mA DC (at U_S)
Inrush current	3.5 A (Δt = 2 ms at U_s)
	max. 150 mA (Δt = 1 ms, with U_s/I_x at S10)
	max. 200 mA (Δt = 1 ms, with U_s/I_x at S12)
	max. -180 mA (Δt = 1 ms, with U_s/I_x at S22)
	< 10 mA (with U_s/I_x to S34)
	< 10 mA (with U_s/I_x to S35)
Current consumption	50 mA (with U_s/I_x to S10)
	50 mA (with U_s/I_x to S12)
	-50 mA (with U_s/I_x to S22)

	0 mA (with U_s/I_x to S34)
	1 mA (with U_s/I_x to S35)
Voltage at input/start and feedback circuit	24 V DC -15 % / +10 %
Filter time	2 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
Typical response time	< 120 ms (automatic start)
	< 140 ms (manual start)
Typ. starting time with U_s	< 200 ms (when controlled via A1)
Typical release time	< 20 ms (when controlled via S11/S12 and S21/S22)
	< 50 ms (when controlled via A1)
Concurrence	∞
Recovery time	< 500 ms (following demand of the safety function)
	< 1 s (Boot time)
Maximum switching frequency	0.5 Hz
Protective circuit	Surge protection; Suppressor diode
Max. permissible overall conductor resistance	11 Ω (Input sensor circuit S10,S12,S22)
	50 Ω (S34,S35 start circuit input)
Operating voltage display	1 x LED (green)
Status display	2 x LED (green)

Output data

Contact switching type	8 enabling current paths
	1 signaling current path
Contact material	$AgSnO_2$
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	5 V AC/DC
Limiting continuous current	6 A
Maximum inrush current	6 A
Inrush current, minimum	10 mA
Sq. Total current	144 A^2 (Enabling current paths)
	36 A^2 (Signaling current path)
Switching capacity min.	50 mW
Output fuse	10 A gL/gG (Enabling current paths)
	6 A gL/gG (Signaling current path)

Connection data

Connection technology

pluggable	yes

Conductor connection

Connection method	Screw connection
Conductor cross section rigid	0.2 mm² ... 2.5 mm²

Conductor cross section flexible	0.2 mm² ... 2.5 mm²
Conductor cross-section AWG	24 ... 12
Stripping length	7 mm
Screw thread	M3
Tightening torque	0.5 Nm ... 0.6 Nm

Dimensions

Width	45 mm
Height	99 mm
Depth	114.5 mm

Material specifications

Color (Housing)	yellow (RAL 1018)
Housing material	PA

Characteristics

Safety data

Stop category	0

Safety data: EN ISO 13849

Category	4
Performance level (PL)	e (3 A DC13; 3 A AC15; 8760 switching cycles/year)

Safety data: IEC 61508 - High demand

Safety Integrity Level (SIL)	3

Safety data: IEC 61508 - Low demand

Safety Integrity Level (SIL)	3

Safety data: EN IEC 62061

Safety Integrity Level (SIL)	3

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Min. degree of protection of inst. location	IP54
Ambient temperature (operation)	-20 °C ... 55 °C (observe derating)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Maximum altitude	≤ 2000 m (Above sea level)
Max. permissible humidity (storage/transport)	75 % (on average, 85% infrequently, non-condensing)
Max. permissible relative humidity (operation)	75 % (on average, 85% infrequently, non-condensing)
Shock	15g
Vibration (operation)	10 Hz ... 150 Hz, 2g

Approvals

CE

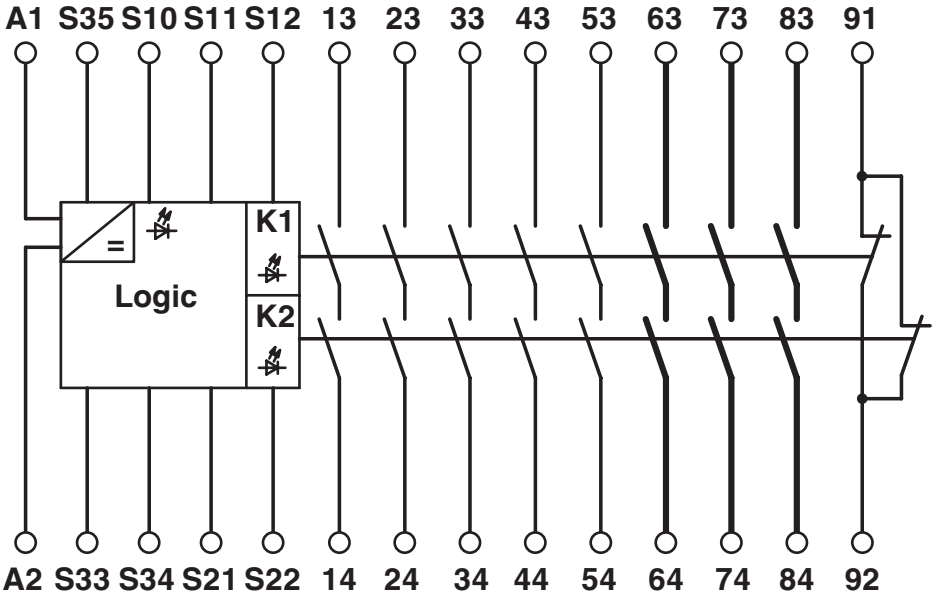
Certificate	CE-compliant

Mounting

Mounting type	DIN rail mounting
Assembly note	See derating curve
Mounting position	vertical or horizontal

Drawings

Circuit diagram



Block diagram

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/au/products/2963912

Functional Safety
Approval ID: 01/205/5363.04/24

cULus Listed
Approval ID: E140324

Classifications

ECLASS

ECLASS-13.0	27371819

ETIM

ETIM 9.0	EC001449

UNSPSC

UNSPSC 21.0	39122200

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	27dcdbac-c215-44b3-abe0-df73c0c23cb0

EF3.0 Climate Change

CO2e kg	3.081 kg CO2e

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