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

2963912

https://www.phoenixcontact.com/us/products/2963912

Please be informed that the data shown in this PDF document is generated from our Online Catalog. Please find the complete data in the user documentation. Our General Terms of Use for Downloads are valid.



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 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
Note	Made to Order (non-returnable)
Sales Key	C18
Product Key	DNA114
Catalog Page	Page 229 (C-6-2019)
GTIN	4017918899707
Weight per Piece (including packing)	423.99 g
Weight per Piece (excluding packing)	339.23 g
Customs tariff number	85371098
Country of origin	DE

Technical Data

Product properties

Product type	Safety relays
Application	Emergency stop
	Safety door
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

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 green LED
Status display	2 x green LEDs

Output data

Contact type	8 enabling current paths
	1 signaling current path
Contact material	$AgSnO_2$
Maximum switching voltage	250 V AC
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
Switching capacity according to IEC 60947-5-1	5 A (DC13)
	3 A (AC15)
	0.5 A (AC15)
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 solid	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

Housing material	Polyamide
Housing color	yellow

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

Equipment type	Type A
Safety Integrity Level (SIL)	3
Probability of a hazardous failure per hour (PFH_D)	5.06×10^{-10} (3 A DC13; 3 A AC15; 8760 switching cycles/year)
Proof test interval	240 Months
Duration of use	240 Months

Safety data: IEC 61508 - Low demand

Designation	The data is only valid if the demand rate is no more than once a year.
Equipment type	Type A
Safety Integrity Level (SIL)	3
Probability of a hazardous failure on demand (PFD_{AVG})	1.48×10^{-4}
Proof test interval	77 Months
Duration of use	240 Months

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

Approval data

CE

Certificate	CE-compliant

Standards and regulations

Air clearances and creepage distances between the power circuits

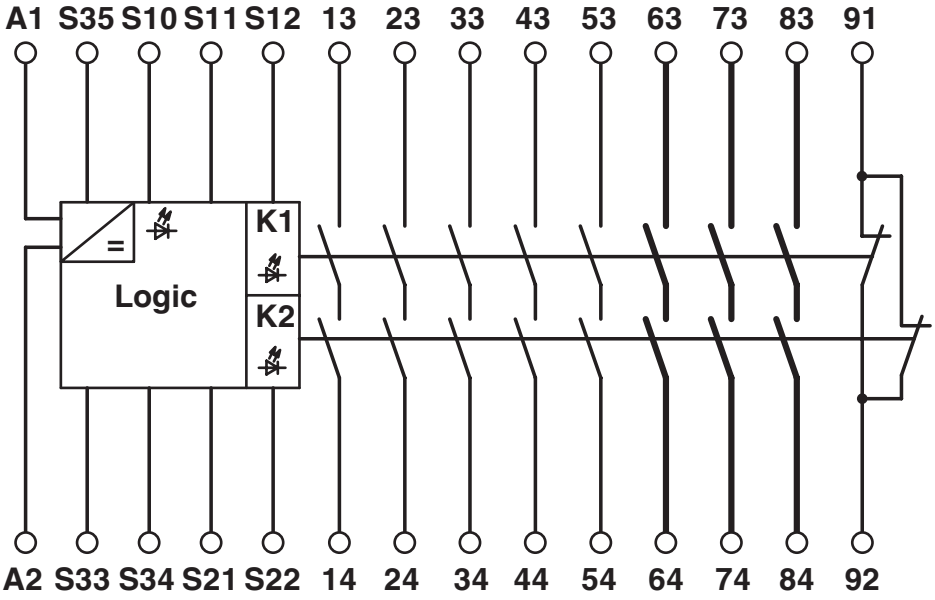
Standards/regulations	DIN EN 60947-1

Mounting

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

Drawings

Circuit diagram



Approvals

EAC
Approval ID: TR_TS_D_00573_c

UL Listed
Approval ID: FILE E 140324

cUL Listed
Approval ID: FILE E 140324

Functional Safety
Approval ID: 01/205/5363.03/22

Functional Safety
Approval ID: 968/EZ 622.03/22

cULus Listed

Classifications

ECLASS

ECLASS-9.0	27371819
ECLASS-10.0.1	27371819
ECLASS-11.0	27371819

ETIM

ETIM 8.0	EC001449

UNSPSC

UNSPSC 21.0	39122200

Environmental Product Compliance

REACh SVHC	Lead 7439-92-1

China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer’s declaration available under “Downloads”

Accessories

Coding profile

Coding profile - CP-MSTB - 1734634

https://www.phoenixcontact.com/us/products/1734634

Coding profile, is inserted into the slot on the plug or inverted header, red insulating material



Coding section

Coding section - CR-MSTB - 1734401

https://www.phoenixcontact.com/us/products/1734401

Coding section, inserted into the recess in the header or the inverted plug, red insulating material



Phoenix Contact 2022 © - all rights reserved
https://www.phoenixcontact.com

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com