

2900509

https://www.phoenixcontact.com/us/products/2900509

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, 2-channel operation, 3 enabling current paths, nominal input voltage: 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
- Basic insulation
- 2 channel control
- 3 enabling current paths, 1 signaling current path

Commercial data

Item number	2900509
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN01
Product key	DNA114
Catalog page	Page 229 (C-6-2019)
GTIN	4046356513579
Weight per piece (including packing)	191.91 g
Weight per piece (excluding packing)	161.1 g
Customs tariff number	85371098
Country of origin	DE



2900509

https://www.phoenixcontact.com/us/products/2900509

Technical data

Product properties

Product type	Safety relays
Product family	PSRclassic
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

Electrical properties

Maximum power dissipation for nominal condition	16.44 W (U _S = 26.4 V, I_L^2 = 72 A ² , $P_{Total max}$ = 2.04 W + 14.4 W)
Nominal operating mode	100% operating factor
\ir clearances and creepage distances between the power circui	its
Air clearances and creepage distances between the power circui Rated insulation voltage	iits 250 V

Input data

General

Rated control circuit supply voltage US	24 V DC -15 % / +10 %
Power consumption at U _S	typ. 1.68 W (DC)
Rated control supply current I _S	typ. 70 mA
Input voltage range in reference to U _N	0.85 1.1
Typical input current at U _N	70 mA DC (at Us)
Inrush current	< 3.5 A (Δ t = 3 ms at U _s)
	< 100 mA (Δt = 500 ms, with U _s /I _x at S12)
	> -100 mA (Δt = 300 ms, with U _s /I _x at S22)
	< 6 mA (with U _s /I _x to S34)
	< 6 mA (with U _s /I _x to S35)
Current consumption	typ. 38 mA (S12)
	typ38 mA (S22)
	typ. 0 mA (with U _s /I _x to S34)
	typ. 1 mA (with U _s /I _x to S35)
Voltage at input/start and feedback circuit	approx. 24 V DC
Filter time	5 ms (at A1 in the event of voltage dips at $\rm U_{s})$
	No test pulses permitted
Typical response time	100 ms (Monitored/manual start)
	150 ms (automatic start)
Typ. starting time with U _s	250 ms (when controlled via A1)
Typical release time	20 ms (on demand via the sensor circuit)
	45 ms (on demand via A1)
Concurrence	00



2900509

https://www.phoenixcontact.com/us/products/2900509

Recovery time	1 s (following demand of the safety function)
	< 1 s (Boot time)
Protective circuit	Surge protection; Suppressor diode
Max. permissible overall conductor resistance	approx. 50 Ω (Input and start circuits at $U_{S})$
Operating voltage display	Green LED
Status display	Green LED

3 enabling current paths
1 signaling current path
AgSnO ₂ , + 0.2 μm Au
250 V AC
10 V AC/DC
6 A (Observe derating and load limit curve)
6 A
10 mA
72 A ² (Enabling current paths)
36 A ² (Signaling current path 41/42)
see load limit curve
100 mW
6 A (DC13, enabling current paths)
5 A (AC15, enabling current paths)
2 A (DC13, signaling current paths)
1.5 A (AC15, signaling current paths)
10 A gL/gG (Enabling current paths)
4 A gL/gG (Low-demand 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 mm ² 2.5 mm ²		
Conductor cross section flexible	0.2 mm ² 2.5 mm ²		
Conductor cross-section AWG	24 12		
Stripping length	7 mm		
Screw thread	M3		

Dimensions

Width	22.5 mm
Height	99 mm
Depth	114.5 mm



2900509

https://www.phoenixcontact.com/us/products/2900509

Material specifications

-	
Color (Housing)	yellow (RAL 1018)
Housing material	Polyamide
haracteristics	
Safety data	
Stop category	0
Safety data: EN ISO 13849	
Category	4
Performance level (PL)	e (5 A DC13; 5 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

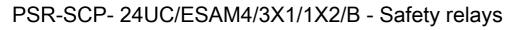
Ambient conditions		
Degree of protection	IP20	
Min. degree of protection of inst. location	IP54	
Ambient temperature (operation)	-20 °C 55 °C (observe derating)	
Ambient temperature (storage/transport)	-40 °C 70 °C	
Maximum altitude	≤ 2000 m (Above sea level)	
Max. permissible humidity (storage/transport)	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	
Identification	CE-compliant

Standards and regulations

A	Air clearances and creepage distances between the power circuits	
	Standards/regulations	DIN EN 60947-1
Мо	unting	
	Mounting type	DIN rail mounting
	Assembly instructions	See derating curve



2900509

https://www.phoenixcontact.com/us/products/2900509



Mounting position

vertical or horizontal



2900509

https://www.phoenixcontact.com/us/products/2900509

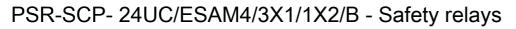
Classifications

ECLASS

ECLASS-11.0	27371819
ECLASS-13.0	27371819
ECLASS-12.0	27371819

ETIM

	ETIM 9.0	EC001449		
UNSPSC				
	UNSPSC 21.0	39122205		



2900509

https://www.phoenixcontact.com/us/products/2900509



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"

Phoenix Contact 2024 © - 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