

2981677

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1-channel contact extension with TBUS interface, 4 N/O contacts, 1 N/C contact, 1 confirmation current path, undelayed, Cat. 4, PL e in accordance with EN ISO 13849, plug-in screw terminal blocks, width: 22.5 mm

Your advantages

- 4 enabling current paths, 1 signaling current path, and 1 confirmation current path
- 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

Commercial data

Item number	2981677
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DNA
Product key	DNA231
Catalog page	Page 233 (C-6-2019)
GTIN	4046356081535
Weight per piece (including packing)	225.5 g
Weight per piece (excluding packing)	196.9 g
Customs tariff number	85371098
Country of origin	DE



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Technical data

Product properties

Product type	Safety relays
Product family	PSRclassic
Application	Extension module
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	1.01 W
Nominal operating mode	100% operating factor
Air clearances and creepage distances between the power circuits	
Rated insulation voltage	250 V
Rated surge voltage/insulation	4 kV / basic isolation (safe isolation, reinforced insulation and 6

Input data

General

Rated control circuit supply voltage U _S	24 V DC
Voltage range with reference to U_S	0.9 1.1
Rated control supply current I _S	42 mA
Typical response time	10 ms
Typical release time	10 ms
Recovery time	1 s
Protective circuit	Surge protection; Suppressor diode
Status display	Green LED

Output data

Contact switching type	4 enabling current paths
	1 signaling current path
	1 confirmation current path
Contact material	AgSnO ₂
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	15 V AC/DC
Limiting continuous current	6 A (N/O contact, DC1/AC1)
	3 A (N/C contact)
Maximum inrush current	6 A (N/O contact, DC1/AC1)
	3 A (N/C contact)
Inrush current, minimum	25 mA
Sq. Total current	72 $A^2 (I_{TH}^2 = I_1^2 + I_2^2 + I_3^2 + I_4^2)$



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Interrupting rating (ohmic load) max.	144 W (24 V DC, τ = 0 ms, N/C contact 61/62: 72 W)
	288 W (48 V DC, τ = 0 ms, N/C contact 61/62: 144 W)
	77 W (110 V DC, τ = 0 ms)
	88 W (220 V DC, τ = 0 ms)
	1500 VA (250 V AC, τ = 0 ms, N/C contact 61/62: 750 VA)
Maximum interrupting rating (inductive load)	48 W (24 V DC, τ = 40 ms)
	40 W (48 V DC, τ = 40 ms)
	35 W (110 V DC, τ = 40 ms)
	33 W (220 V DC, τ = 40 ms)
Switching capacity min.	0.4 W
Switching capacity in accordance with IEC 60947-5-1	5 A (DC13)
	5 A (AC15)
Switching capacity (360/h cycles)	6 A (24 V DC)
	5 A (230 V AC)
Switching capacity (3600/h cycles)	3 A (24 V (DC13))
	3 A (230 V (AC15))
Output fuse	10 A gL/gG NEOZED (N/O contact)
	4 A gL/gG NEOZED (N/C contact)

Connection data

pluggable	yes	
onductor 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

Material specifications

Housing material	Polyamide
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Characteristics

Safety data	
Stop category	0
Safety data: EN ISO 13849	



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Category	4 (In conjunction with suitable evaluating device)
Performance level (PL)	e (In conjunction with suitable evaluating device)
Safety data: IEC 61508 - High demand	
Safety Integrity Level (SIL)	3 (In conjunction with suitable evaluating device)
Safety data: IEC 61508 - Low demand	
Safety Integrity Level (SIL)	3 (In conjunction with suitable evaluating device)
Safety data: EN IEC 62061	
Safety Integrity Level (SIL)	3 (In conjunction with suitable evaluating device)

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
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)

Standards and regulations

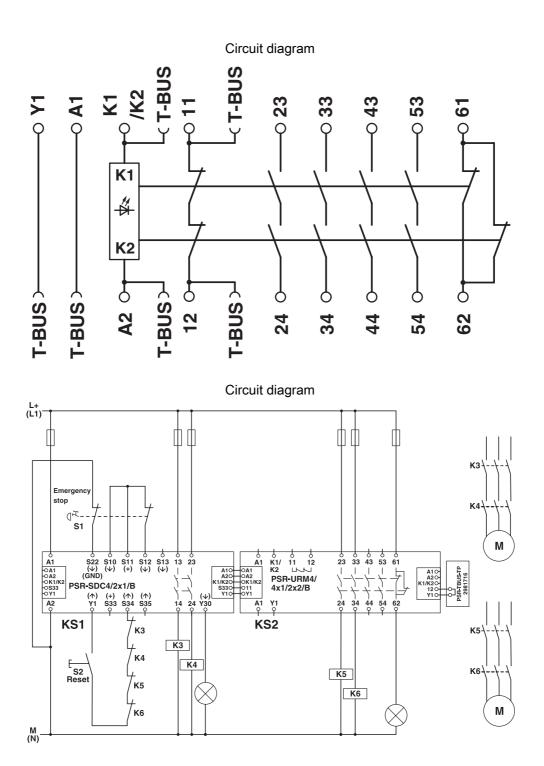
	ir clearances and creepage distances between the power circuits				
	Standards/regulations	IEC 60947-1			
Mounting					
	Mounting type	DIN rail mounting			
	Mounting position	any			
	Connection method	Screw connection			



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Drawings





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Approvals

🌣 To download certificates, visit the product detail page: https://www.phoenixcontact.com/sk/products/2981677

EAC	EAC Approval ID: EAC-Zulassung
EAC	EAC Approval ID: RU C-DE.A*30.B.01082
	UL Listed Approval ID: FILE E 140324
	CUL Listed Approval ID: FILE E 140324
<u>a</u> ř	Functional Safety Approval ID: 968/FSP 1678.00/18
EAC	EAC Approval ID: TR TS_D_01838-19
c	ULus Listed



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Classifications

ECLASS

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

ETIM

	ETIM 8.0	EC001449		
UNSPSC				
	UNSPSC 21.0	39122200		



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Environmental product compliance

REACh SVHC	Lead 7439-92-1 Hexahydromethylphthalic anhydride
China RoHS	Environmentally Friendly Use Period = 50 years For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"



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Accessories

PSR-TBUS - DIN rail bus connectors

2890425 https://www.phoenixcontact.com/sk/products/2890425

DIN rail connector for safety switching devices, for supplying/controlling/monitori ng (depending on the module)



PSR-TBUS-TP - DIN rail bus connectors

2981716 https://www.phoenixcontact.com/sk/products/2981716

Blind plug for the PSR-TBUS DIN rail connector used with the modular safety relay system (PSR-SDC4)





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PSR-TBUS - 1PCS - DIN rail bus connectors

1326060

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DIN rail connector for safety switching devices, for supplying/controlling/monitori ng (depending on the module)



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