

Extension module - PSR-SPP- 24DC/URD3/4X1/2X2



2981525

<https://www.phoenixcontact.com/us/products/2981525>

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1-channel contact extension with TBUS interface, 4 N/O contacts, 1 N/C contact, 1 confirmation current path, adjustable dropout delay of 0.5 ... 30 s, Cat. 3, PL e in accordance with EN ISO 13849, width: 22.5 mm, pluggable Push-in terminal block

Your advantages

- Up to Cat. 3/PL e in accordance with EN ISO 13849-1, SIL 3 in accordance with IEC 62061, SIL 3 in accordance with IEC 61508
- Each with 4 enabling, 1 signaling, and 1 confirmation current path, all with dropout delay
- 1-channel control

Commercial Data

Item number	2981525
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	C18
Product Key	DNA233
Catalog Page	Page 233 (C-6-2019)
GTIN	4017918996819
Weight per Piece (including packing)	228.7 g
Weight per Piece (excluding packing)	228.7 g
Customs tariff number	85371098
Country of origin	DE

Technical Data

Product properties

Product type	Safety relays
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

Insulation characteristics

Overvoltage category	III
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Electrical properties

Maximum power dissipation for nominal condition	2.02 W
Nominal operating mode	100% operating factor
Rated insulation voltage	250 V
Rated surge voltage/insulation	4 kV / basic isolation (safe isolation, reinforced insulation and 6 kV between input circuit/N/C contacts and enabling current paths).

Input data

General

Nominal input voltage U_N	24 V DC
Input voltage range in reference to U_N	0.85 ... 1.1
Typical input current at U_N	84 mA
Typical response time	20 ms
Typical release time range	0.5 s ... 38 s ± 20 % (BG rating to max. 30 s)
Recovery time	1 s
Protective circuit	Surge protection; Suppressor diode Fuse; PTC resistor
Operating voltage display	Green LED
Status display	Green LED

Output data

Contact type	4 delayed enabling current paths 1 delayed signaling current path 1 delayed 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) 3 A (N/C contact)
Maximum inrush current	6 A (N/O contact) 3 A (N/C contact)

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Inrush current, minimum	25 mA
Sq. Total current	$50 \text{ A}^2 (I_{TH}^2 = I_1^2 + I_2^2 + I_3^2 + I_4^2)$
Interrupting rating (ohmic load) max.	114 W (24 V DC, $\tau = 0 \text{ ms}$, N/C contact 65/66: 72 W)
	288 W (48 V DC, $\tau = 0 \text{ ms}$)
	77 W (110 V DC, $\tau = 0 \text{ ms}$)
	88 W (220 V DC, $\tau = 0 \text{ ms}$)
	1500 VA (250 V AC, $\tau = 0 \text{ ms}$, N/C contact 65/66: 750 VA)
Maximum interrupting rating (inductive load)	48 W (24 V DC, $\tau = 40 \text{ ms}$)
	40 W (48 V DC, $\tau = 40 \text{ ms}$)
	35 W (110 V DC, $\tau = 40 \text{ ms}$)
	33 W (220 V DC, $\tau = 40 \text{ ms}$)
Switching capacity min.	0.4 W
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

Connection technology

pluggable	yes
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Conductor connection

Connection method	Push-in connection
Conductor cross section solid	0.2 mm ² ... 1.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 1.5 mm ²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 1.5 mm ² (only together with CRIMPFOX 6)
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² ... 1.5 mm ² (only together with CRIMPFOX 6)
Conductor cross-section AWG	24 ... 16
Stripping length	8 mm

Dimensions

Width	22.5 mm
Height	112 mm
Depth	114.5 mm

Material specifications

Housing material	Polyamide
Housing color	yellow

Characteristics

Safety data

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Stop category	1
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Safety data: EN ISO 13849

Category	3 (In conjunction with suitable evaluating device)
Performance level (PL)	e (In conjunction with suitable evaluating device)

Safety data: IEC 61508 - High demand

Equipment type	Type A
Safety Integrity Level (SIL)	3 (In conjunction with suitable evaluating device)
Probability of a hazardous failure per hour (PFH _D)	1.39×10^{-9}
Proof test interval	240 Months
Duration of use	240 Months

Safety data: IEC 61508 - Low demand

Equipment type	Type A
Safety Integrity Level (SIL)	3 (In conjunction with suitable evaluating device)
Probability of a hazardous failure on demand (PFD _{AVG})	1.50×10^{-4}
Proof test interval	67 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
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Maximum altitude	max. 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

Air clearances and creepage distances between the power circuits

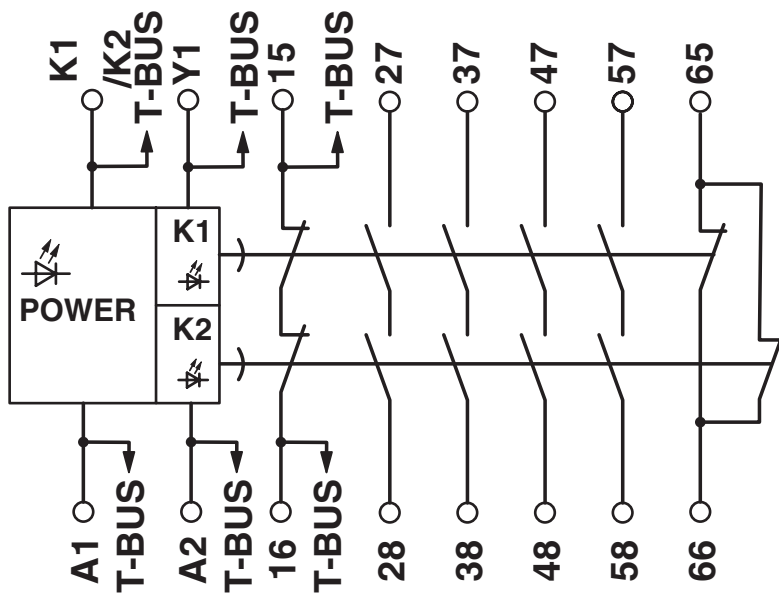
Standards/regulations	DIN EN 50178/VDE 0160
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Mounting

Mounting type	DIN rail mounting
Mounting position	any

Drawings

Circuit diagram



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Approvals



EAC

Approval ID: RU C-DE.A*30.B.01082



UL Listed

Approval ID: FILE E 140324



cUL Listed

Approval ID: FILE E 140324



Functional Safety

Approval ID: 968/EZ 366.04/21



Functional Safety

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cULus Listed

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Classifications

ECLASS

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

ETIM

ETIM 8.0	EC001449
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UNSPSC

UNSPSC 21.0	39122200
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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"

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Accessories

DIN rail bus connectors

DIN rail bus connectors - PSR-TBUS - 2890425

<https://www.phoenixcontact.com/us/products/2890425>

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

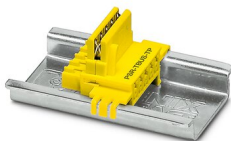


DIN rail bus connectors

DIN rail bus connectors - PSR-TBUS-TP - 2981716

<https://www.phoenixcontact.com/us/products/2981716>

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



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DIN rail bus connectors

DIN rail bus connectors - PSR-TBUS - 1PCS - 1326060

<https://www.phoenixcontact.com/us/products/1326060>

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



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