

2963721

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Safety relay for two-hand control devices in accordance with ISO 13851 type IIIC to SIL 3 or Cat. 4, PL e in accordance with EN ISO 13849, synchronous activation monitoring < 0.5 s, 2 N/O contacts, 1 N/C contact, safe isolation, width: 22.5 mm, pluggable screw terminal block

### Your advantages

- For two-hand controls in accordance with ISO 13851 type IIIC
- Up to Cat. 4/PL e in accordance with ISO 13849-1, SIL 3 in accordance with EN IEC 62061, SIL 3 in accordance with IEC 61508
- · 2 channel control
- Synchronous activation monitoring < 0.5 s
- · Automatic activation
- Two enabling and one signaling current path

#### Commercial data

Item number	2963721
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DNA141
Product key	DNA141
Catalog page	Page 231 (C-6-2019)
GTIN	4017918818692
Weight per piece (including packing)	219.7 g
Weight per piece (excluding packing)	193.3 g
Customs tariff number	85371098
Country of origin	DE



2963721

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### Technical data

### Product properties

Product type	Safety relays
Product family	PSRclassic
Application	Two-hand control
	Safety door
Mechanical service life	approx. 10 <sup>7</sup> cycles
Relay type	Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3

### Electrical properties

Maximum power dissipation for nominal condition	1.44 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	6 kV / Safe isolation, increased insulation

## Input data

#### General

Nominal input voltage $U_N$	24 V AC/DC
Input voltage range	20.4 V AC/DC 26.4 V AC/DC
Input voltage range in reference to $\mathbf{U}_{\mathbf{N}}$	0.85 1.1
Typical input current at U <sub>N</sub>	125 mA AC
	60 mA DC
Voltage at input/start and feedback circuit	approx. 24 V DC
Typical response time	50 ms
Typical release time	20 ms
Concurrence	< 0.5 s
Recovery time	1 s
Protective circuit	Fuse; PTC resistor
	Surge protection; Suppressor diode
Operating voltage display	Green LED
Status display	Green LED

### Output data

Contact switching type	2 enabling current paths
	1 signaling current path
Contact material	AgSnO <sub>2</sub> , + 0.2 μm Au
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	15 V AC/DC
Limiting continuous current	6 A (N/O contact)
	5 A (N/C contact)



2963721

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Maximum inrush current	6 A
Inrush current, minimum	25 mA
Interrupting rating (ohmic load) max.	144 W (24 V DC, τ = 0 ms)
	288 W (48 V DC, τ = 0 ms)
	110 W (110 V DC, τ = 0 ms)
	88 W (220 V DC, τ = 0 ms)
	1500 VA (250 V AC, τ = 0 ms)
Maximum interrupting rating (inductive load)	42 W (24 V DC, τ = 40 ms)
	42 W (48 V DC, τ = 40 ms)
	42 W (110 V DC, τ = 40 ms)
	42 W (220 V DC, τ = 40 ms)
Switching capacity min.	0.4 W
Switching capacity (360/h cycles)	4 A (24 V DC)
	4 A (230 V AC)
Switching capacity (3600/h cycles)	2.5 A (24 V (DC13))
	3 A (230 V (AC15))
Output fuse	10 A gL/gG NEOZED (N/O contact)
	6 A gL/gG NEOZED (N/C contact)
elay	
Output description	safety-related N/O contacts
Number of outputs	2

#### Connection data

pluggable

#### Connection technology

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	

yes

### Dimensions

Width	22.5 mm
Height	99 mm
Depth	114.5 mm

### Material specifications

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

### Characteristics



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#### 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)
Shock	15g
Vibration (operation)	10 Hz 150 Hz, 2g

### Approvals

#### Conformity/Approvals

Conformance CE-compliant
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### Standards and regulations

Air clearances and creepage distances between the power circuits

Standards/regulations	IEC 60664-1

### Mounting

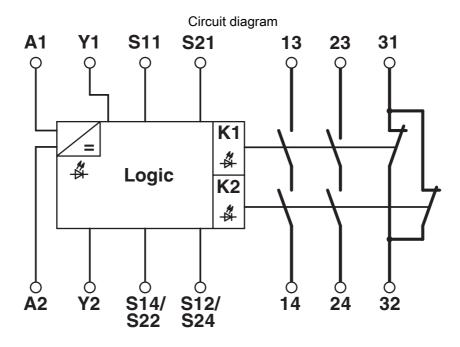
Mounting type	DIN rail mounting
Mounting position	any



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## Drawings





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## **Approvals**

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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: 01/205/0542.04/23



**Functional Safety** 

Approval ID: 968/EZ 346.04/23

**cULus Listed** 



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## Classifications

UNSPSC 21.0

#### **ECLASS**

ECLASS-11.0	27371821
ECLASS-13.0	27371821
ECLASS-12.0	27371821
ETIM	
ETIM 9.0	EC001452
UNSPSC	

39121100



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## 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	ad09c00b-7a7f-44ce-99b7-1943080c4694



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#### Accessories

#### CRIMPFOX 6 - Crimping pliers

1212034

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Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25  $\text{mm}^2$  ... 6.0  $\text{mm}^2$ , lateral entry, trapezoidal crimp

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