

# Safety relays - REL-SR- 24DC/2X1AU/2X2AU/FG



1158056

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Safety relay with force-guided contacts in accordance with DIN EN 61810-3 (type A), input voltage 24 V DC, with multi-layer gold contact, 2 N/O contacts and 2 N/C contacts

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## Technical Data

### Product properties

Operating mode	100% operating factor
Mechanical service life	approx. $10^7$ cycles
B <sub>10d</sub>	810000 Cycles (AC15, 250 V / 0.5 A, 1 NO)
	170000 Cycles (AC15; 250 V / 2 A; 1 NO)
	318000 Cycles (DC13, 24 V / 1 A, 1 NO)
	208000 Cycles (DC13, 24 V / 2 A, 1 NO)

### Insulation characteristics

Overvoltage category	III
Pollution degree	2
Insulation	Basic insulation
	Safe isolation, reinforced insulation and 6 kV between the coil and the contact circuit and between the contacts 3-4, 5-6 to 7-8, 9-10

### Electrical properties

Maximum power dissipation for nominal condition	0.36 W
Test voltage	4 kV <sub>rms</sub> (50 Hz, 1 min., winding/contact)
Test voltage Contact/contact	2.5 kV <sub>rms</sub> (50 Hz, 1 min., contact/contact)
Rated insulation voltage	250 V AC
Rated surge voltage	4 kV

### Input data

#### Coil side

Nominal input voltage U <sub>N</sub>	24 V DC
Input voltage range	19.2 V DC ... 26.4 V DC
Input voltage range in reference to U <sub>N</sub>	see diagram
Typical input current at U <sub>N</sub>	15 mA
Typical response time	10 ms
Typical release time	5 ms

### Output data

#### Switching

Contact type	2 N/O contacts, 2 N/C contacts
Type of switch contact	Single contact
Drive and function	monostable
Contact material	AgSnO, hard gold-plated
Maximum switching voltage	250 V AC
	300 V DC
Minimum switching voltage	10 V
Limiting continuous current	6 A

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Maximum inrush current	35 A (20 ms)
Min. switching current	5 mA (10 V)
Interrupting rating (ohmic load) max.	144 W (24 V DC)
	100 W (48 V DC)
	75 W (60 V DC)
	55 W (110 V DC)
	50 W (220 V DC)
	1500 VA (250 V AC)
Switching capacity	2 A (24 V, DC13)
	3 A (230 V, AC15)
Force-guided contacts in accordance with EN 61810-3	Type A

## Connection data

Connection method	Solder connection
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## Dimensions

Width	13 mm
Height	24 mm
Depth	40 mm

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	RT II
	IP54 (Installation location)
Ambient temperature (operation)	-40 °C ... 85 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	≤ 2000 m

## Approval data

### Corrosive gas test

Identification	ISA-S71.04. G3 Harsh Group
	EN 60068-2-60

## Standards and regulations

### Air clearances and creepage distances between the power circuits

Standards/regulations	DIN EN 50178
	EN 61810-1

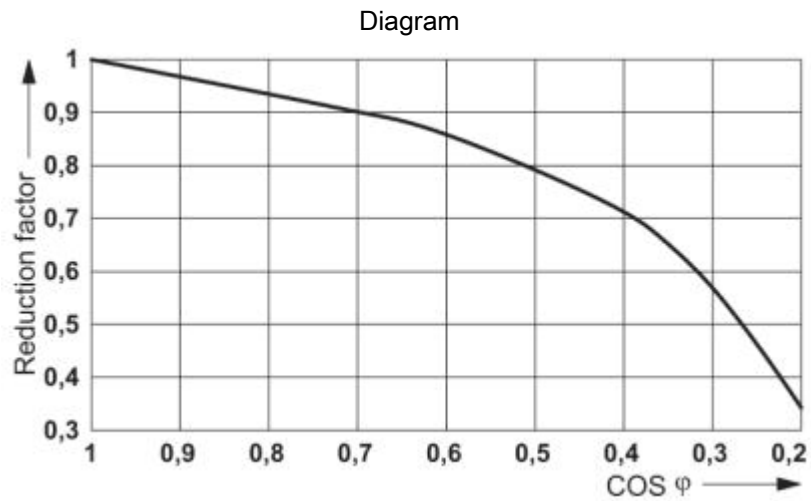
## Mounting

Mounting position	any
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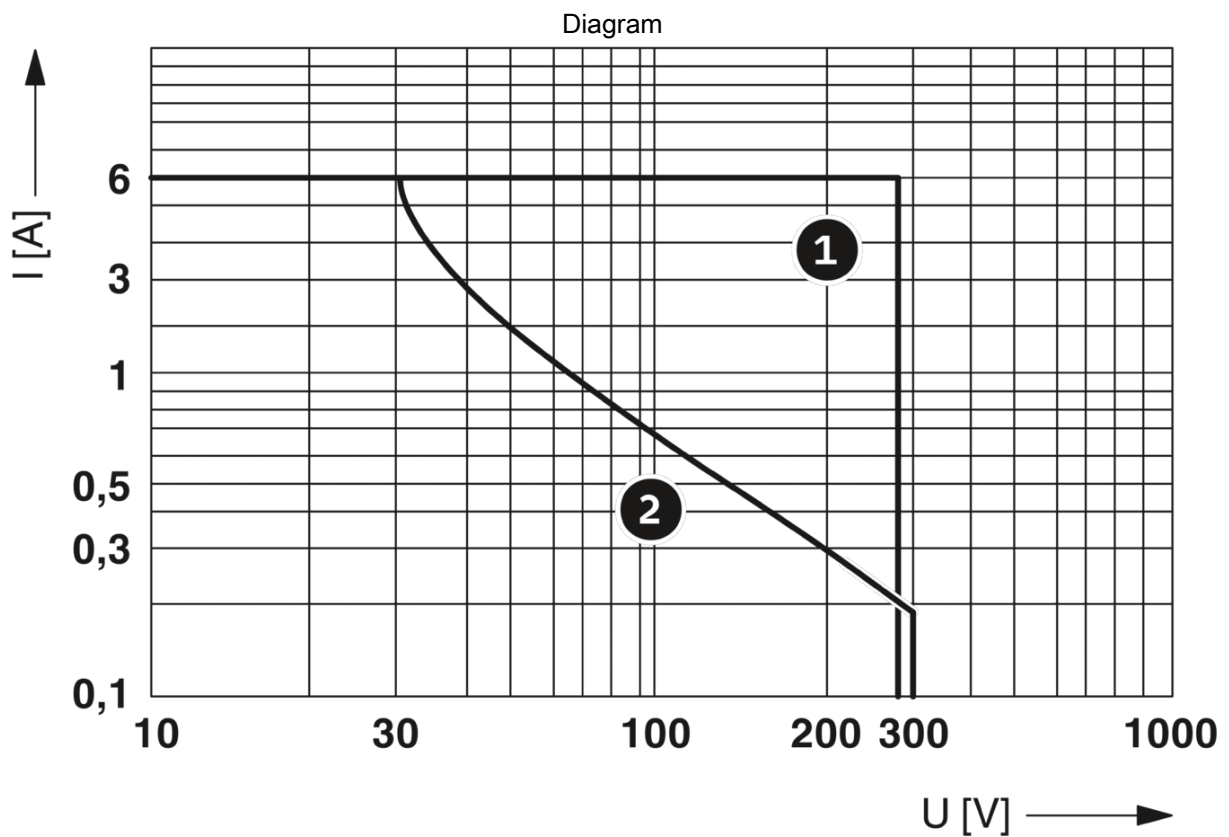
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## Drawings



Service life reduction factor with various cos phi

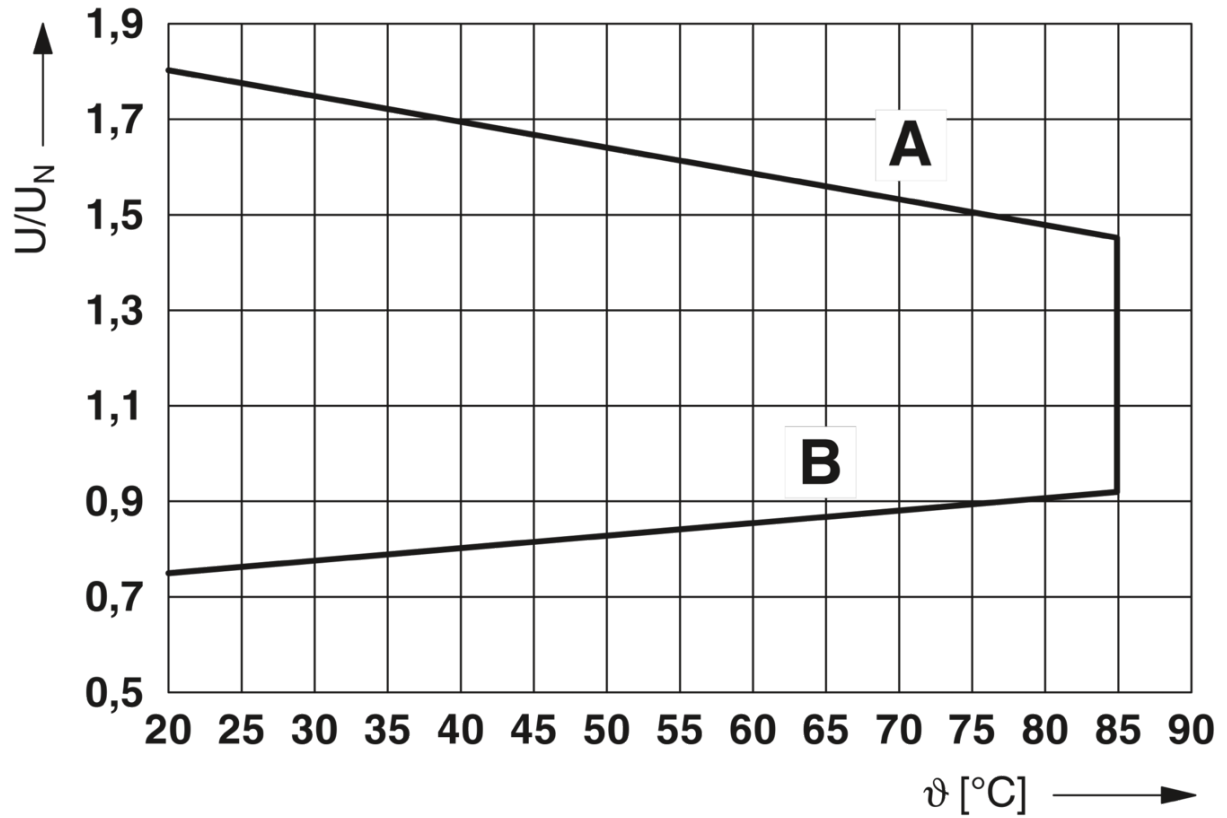


Interrupting rating

Curve 1: AC, ohmic load

Curve 2: DC, ohmic load

Diagram



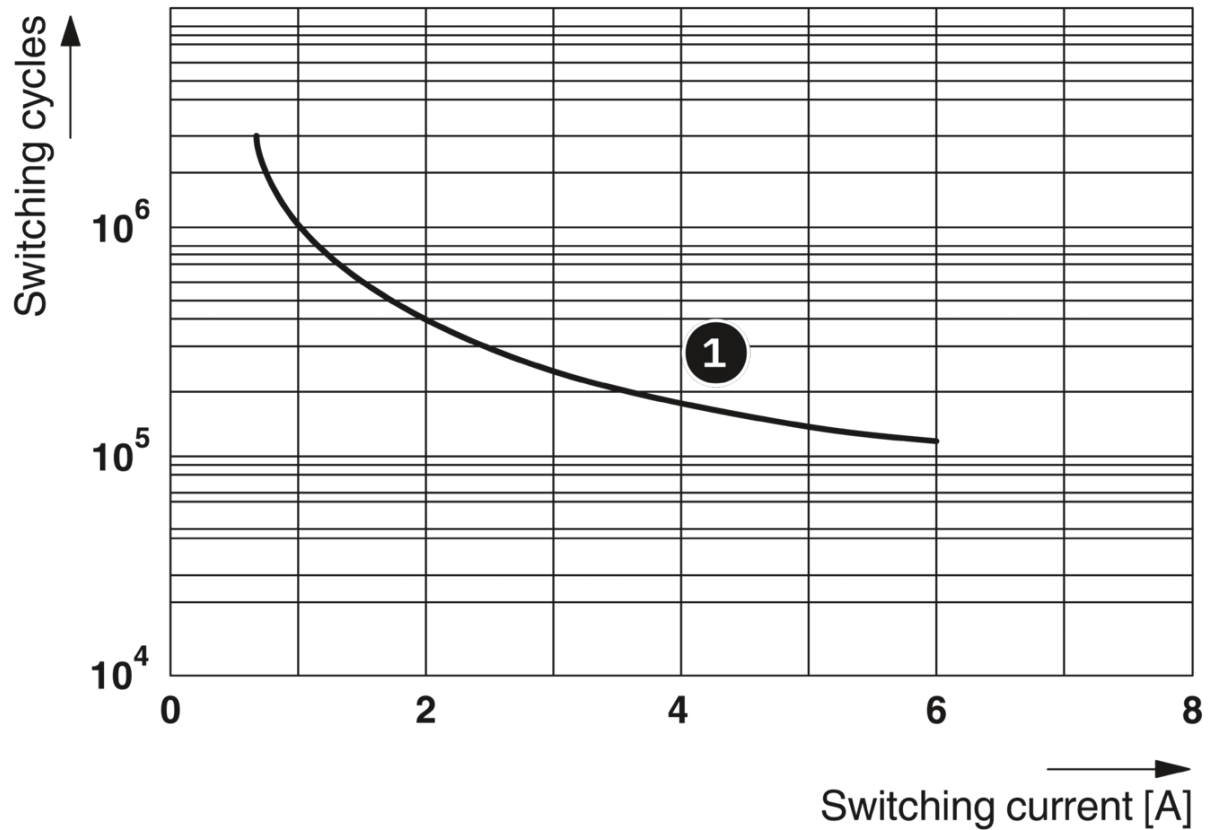
Curve A: maximum continuous voltage at limiting continuous current

Curve B: minimum pick-up voltage for pre-excitation with  $U_N$  and limiting continuous current

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Diagram



① 250 V AC, Ohmic load

Electrical service life

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