

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



1158056

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

## Commercial data

Item number	1158056
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C460
Product key	CK6194
GTIN	4063151164010
Weight per piece (including packing)	22.14 g
Weight per piece (excluding packing)	22.14 g
Customs tariff number	85364190
Country of origin	CN

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## Technical data

### Product properties

Product type	Single relay
Application	Forcibly guided contacts
Operating mode	100% operating factor
Mechanical service life	approx. $10^7$ cycles
$B_{10d}$	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

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

### Insulation characteristics: Air clearances and creepage distances between the power circuits

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
Overvoltage category	III
Pollution degree	2

### Electrical properties

Maximum power dissipation for nominal condition	0.36 W
Test voltage (Winding/contact)	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)

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

Rated insulation voltage	250 V AC
Rated surge voltage	4 kV

### Input data

#### Coil side

Nominal input voltage $U_N$	24 V DC
Input voltage range	19.2 V DC ... 26.4 V DC
Input voltage range in reference to $U_N$	see diagram
Drive and function	monostable
Drive (polarity)	non-polarized
Typical input current at $U_N$	15 mA
Typical response time	10 ms
Typical release time	5 ms

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## Output data

### Switching

Contact switching type	2 N/O contacts, 2 N/C contacts, force-guided
Type of switch contact	Single contact
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
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	Plug / 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 (Relay)	RT II
Degree of protection (Installation location)	IP54 (Installation location)
Ambient temperature (operation)	-40 °C ... 85 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	≤ 2000 m

### Approvals

#### Corrosive gas test

Identification	ISA-S71.04. G3 Harsh Group EN 60068-2-60
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## Standards and regulations

Air clearances and creepage distances between the power circuits

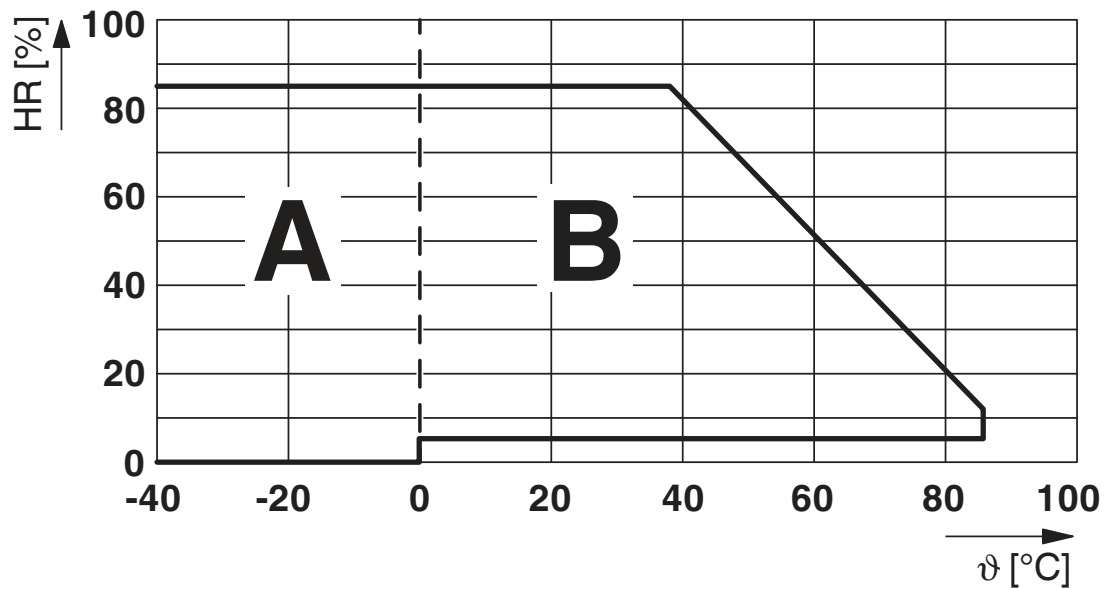
Standards/regulations	DIN EN 50178
	EN 61810-1

## Mounting

Mounting position	any
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## Drawings

Diagram



Permissible humidity for operation and storage.

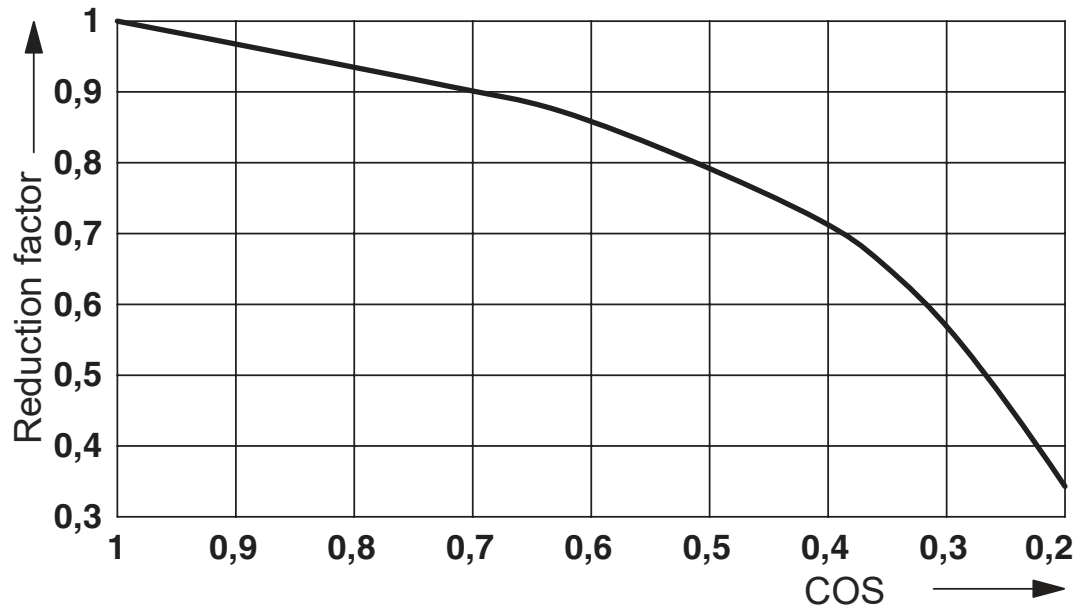
The maximum permissible ambient temperature as specified in the data sheet must be observed.

Area A: Ice buildup at ambient temperatures  $\leq 0^{\circ}\text{C}$  must be prevented

Area B: Condensation at ambient temperatures  $> 0^{\circ}\text{C}$  must be prevented

On 30 full days that are naturally distributed across an entire year, a humidity level of 95% is permissible at an ambient temperature  $\leq 25^{\circ}\text{C}$ .

Diagram

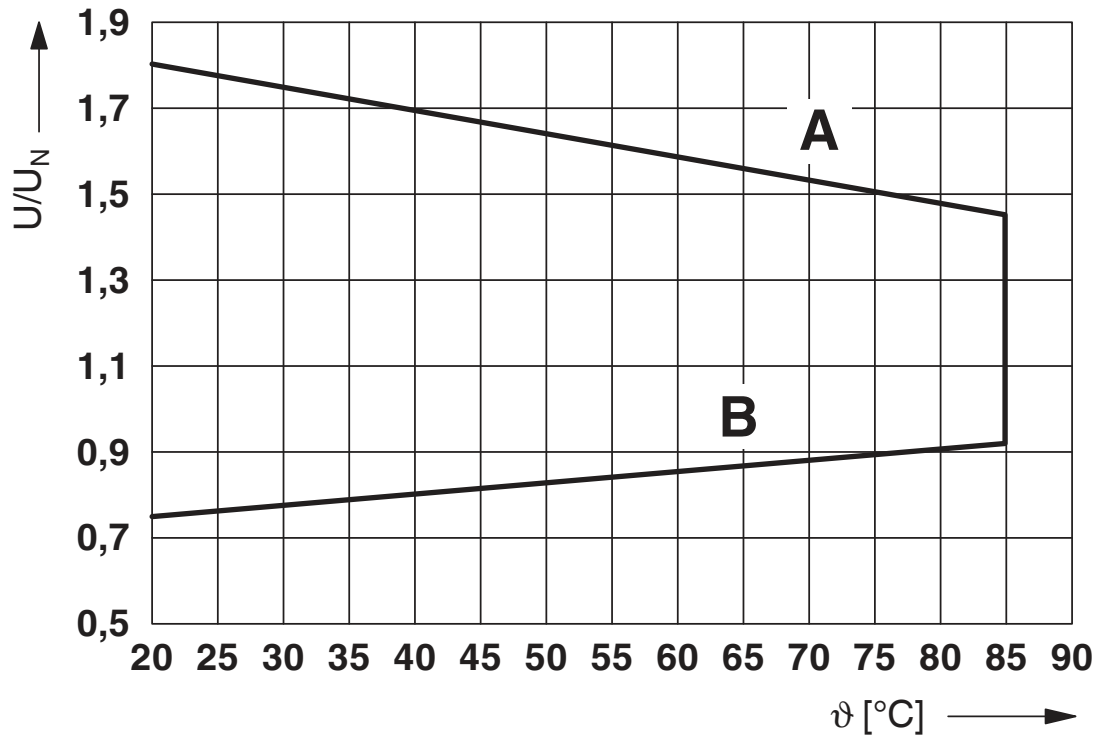


Service life reduction factor with various cos phi

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Diagram



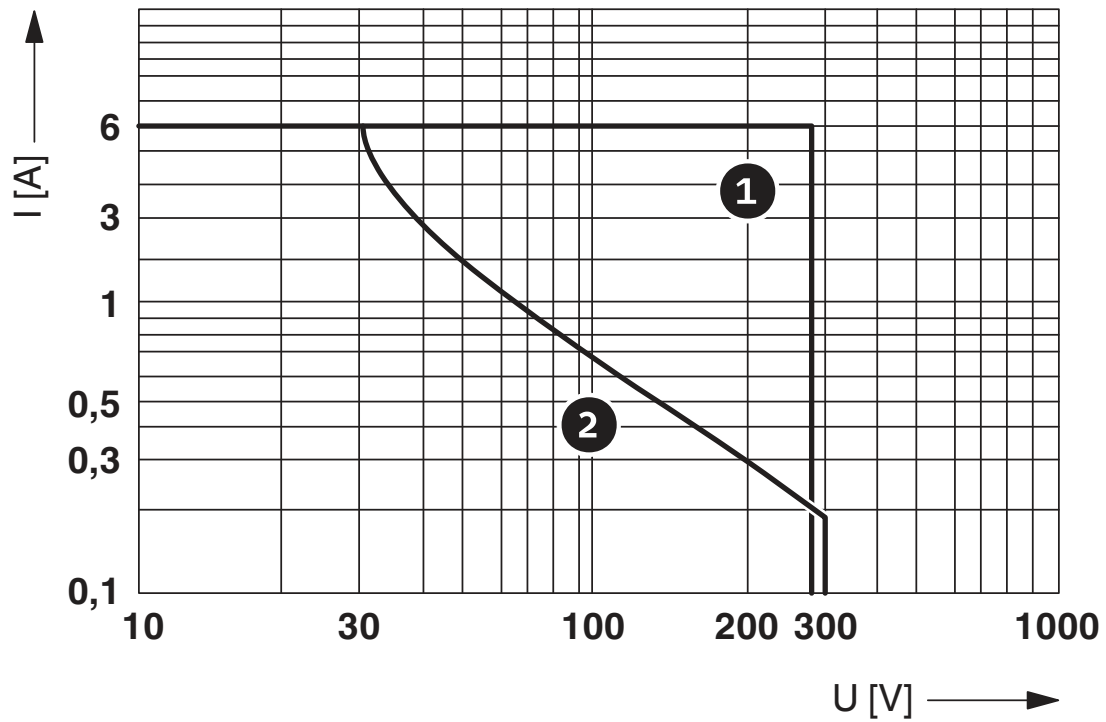
Curve A: maximum continuous voltage at limiting continuous current

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

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Diagram



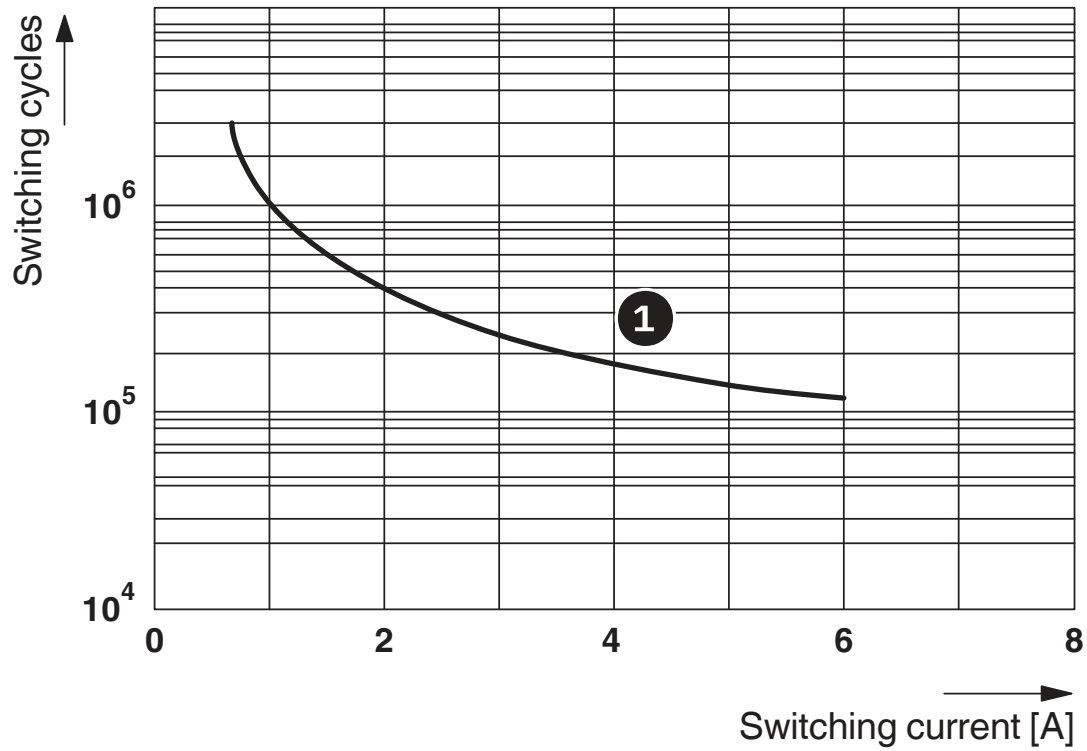
Interrupting rating

Curve 1: AC, ohmic load

Curve 2: DC, ohmic load



Diagram



① 250 V AC, Ohmic load

Electrical service life

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## Approvals

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**cUL Recognized**

Approval ID: FILE E 228652



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Approval ID: FILE E 228652



**EAC**

Approval ID: TR\_TS\_D\_00573\_c



**EAC**

Approval ID: RU\*C-DE.\*08.B.00010

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## Classifications

### ECLASS

ECLASS-11.0	27371601
ECLASS-12.0	27371601
ECLASS-13.0	27371601

### ETIM

ETIM 8.0	EC001437
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### UNSPSC

UNSPSC 21.0	39122300
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## Environmental product compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e No hazardous substances above threshold values
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