

# REL-IR2/LDP- 48DC/2X21 - Single relay



2903661

<https://www.phoenixcontact.com/us/products/2903661>

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Plug-in industrial relay with power contacts, 2 changeover contacts, test button, status LED, freewheeling diode, mechanical switching position indicator, polarity: A1+, A2-, input voltage: 48 V DC

## Commercial data

Item number	2903661
Packing unit	10 pc
Minimum order quantity	10 pc
Sales key	C460
Product key	DK6943
GTIN	4046356758147
Weight per piece (including packing)	36.29 g
Weight per piece (excluding packing)	36.23 g
Customs tariff number	85364190
Country of origin	PL

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## Technical data

### Product properties

Product type	Single relay
Operating mode	100% operating factor
Mechanical service life	approx. $2 \times 10^7$ cycles

### Insulation characteristics

Insulation	Basic insulation
Overvoltage category	III
Pollution degree	3 (Rated voltage of 230 V) 2 (Rated voltage of 400 V)

### Data management status

Date of last data management	01.04.2026
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### Electrical properties

Service life electrical	see diagram
Maximum power dissipation for nominal condition	1.06 W
Test voltage (Winding/contact)	2.5 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)
Test voltage (Changeover contact/changeover contact)	2.5 kV <sub>rms</sub> (50 Hz, 1 min., changeover contact/changeover contact)
Rated insulation voltage	250 V AC
Rated surge voltage	4 kV

### Input data

#### Coil side

Nominal input voltage $U_N$	48 V DC
Input voltage range	37.4 V DC ... 93.6 V DC
Input voltage range in reference to $U_N$	see diagram
Drive and function	monostable
Drive (polarity)	polarized
Typical input current at $U_N$	22 mA
Typical response time	13 ms
Typical release time	14 ms
Protective circuit	Freewheeling diode
Status display	LED (yellow)

### Output data

#### Switching

Contact switching type	2 changeover contacts
Type of switch contact	Single contact
Contact material	AgNi

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Maximum switching voltage	250 V AC/DC
Minimum switching voltage	5 V (At 24 mA)
Limiting continuous current	12 A
Maximum inrush current	30 A (20 ms, N/O contacts)
Min. switching current	5 mA (at 24 V)
Interrupting rating (ohmic load) max.	288 W (at 24 V DC)
	124 W (at 48 V DC)
	108 W (at 60 V DC)
	52 W (at 110 V DC)
	48 W (at 220 V DC)
	3000 VA (for 250 V AC)
Switching power min.	0.12 W
Motor load according to UL 508	1/2 HP, 240 V AC

## Connection data

Connection method	Plug-in connection
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## Dimensions

Width	21.2 mm
Height	27.5 mm
Depth	35.6 mm

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	RT I
Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C

## Approvals

### Corrosive gas test

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

## Standards and regulations

Standards/regulations	IEC 60664
	IEC 61810

## Mounting

Mounting position	any
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Drawings

Diagram



- ① DC coils
- ② AC coils

Operating voltage range

Diagram



Interrupting rating  
Curve 1: AC, ohmic load  
Curve 2: DC, ohmic load

Diagram



① 250 V AC, Ohmic load

Electrical service life

Diagram



Service life reduction factor

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  $\leq 25^\circ\text{C}$ .

Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2903661>



**CSA**

Approval ID: 256725



**VDE Zeichengenehmigung**

Approval ID: 40040427



**cULus Recognized**

Approval ID: E172140

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## Classifications

### ECLASS

ECLASS-13.0	27371601
ECLASS-15.0	27371601

### ETIM

ETIM 10.0	EC001437
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### UNSPSC

UNSPSC 21.0	39122300
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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### China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

### EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
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