

# REL-IR-BL/L- 48DC/2X21 - Single relay



1109548

<https://www.phoenixcontact.com/gb/products/1109548>

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

## Commercial data

Item number	1109548
Packing unit	10 pc
Minimum order quantity	10 pc
Note	Made to order (non-returnable)
Sales key	DKF943
Product key	DKF943
GTIN	4063151021801
Weight per piece (including packing)	29.58 g
Weight per piece (excluding packing)	29 g
Customs tariff number	85364190
Country of origin	AT

## Technical data

### Notes

Notes on operation	Do not connect adjacent channels to SELV/ PELV and voltages dangerous to the touch.
Notes on operation	The outputs are not suitable for switching different outer conductors.
Notes on operation	Do not use to separate SELV / PELV circuits from other circuits, because safe isolation is not guaranteed.

### Product properties

Product type	Single relay
Product family	ESSENTIAL edition
Operating mode	100% operating factor
Mechanical service life	3x 10 <sup>7</sup> cycles

Insulation characteristics: Air clearances and creepage distances between coil and contact side

Insulation	Basic insulation
Overvoltage category	III
Pollution degree	2

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	0.79 W
Test voltage (Winding/contact)	2.5 kV <sub>rms</sub> (50 Hz, 1 min., winding/contact)
Test voltage (Changeover contact/changeover contact)	2.5 kV <sub>rms</sub> (50 Hz, 1 min., changeover contact/changeover contact)

Air clearances and creepage distances between coil and contact side

Rated insulation voltage	250 V AC
Rated surge voltage	5 kV

### Input data

Coil side

Nominal input voltage U <sub>N</sub>	48 V DC
Input voltage range	38.4 V DC ... 81.6 V DC (20 °C)
Drive and function	monostable
Drive (polarity)	polarized
Typical input current at U <sub>N</sub>	16 mA
Typical response time	15 ms
Typical release time	10 ms
Coil voltage	48 V DC
Status display	LED (yellow)

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Coil resistance	3.1 k $\Omega$ $\pm$ 10 %
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## Output data

### Switching

Contact switching type	2 changeover contacts
Type of switch contact	Single contact
Contact material	AgNi
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	12 V (10 mA)
Limiting continuous current	12 A
Maximum inrush current	24 A (20 ms, N/O contacts)
Min. switching current	10 mA (12 V)
Interrupting rating (ohmic load) max.	288 W (24 V DC) 130 W (48 V DC) 90 W (60 V DC) 66 W (110 V DC) 88 W (220 V DC) 3000 VA (250 V AC)
Switching power min.	120 mW

## Connection data

Connection method	Plug-in connection
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## Dimensions

### Item dimensions

Width	22.5 mm
Height	28 mm
Depth	35.5 mm

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	RT II
Degree of protection (Installation location)	$\geq$ IP54 (Installation location)
Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Altitude	$\leq$ 2000 m

## Standards and regulations

### Air clearances and creepage distances between coil and contact side

Standards/regulations	EN 61810-1
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## Mounting

Mounting type	Plug-in mounting
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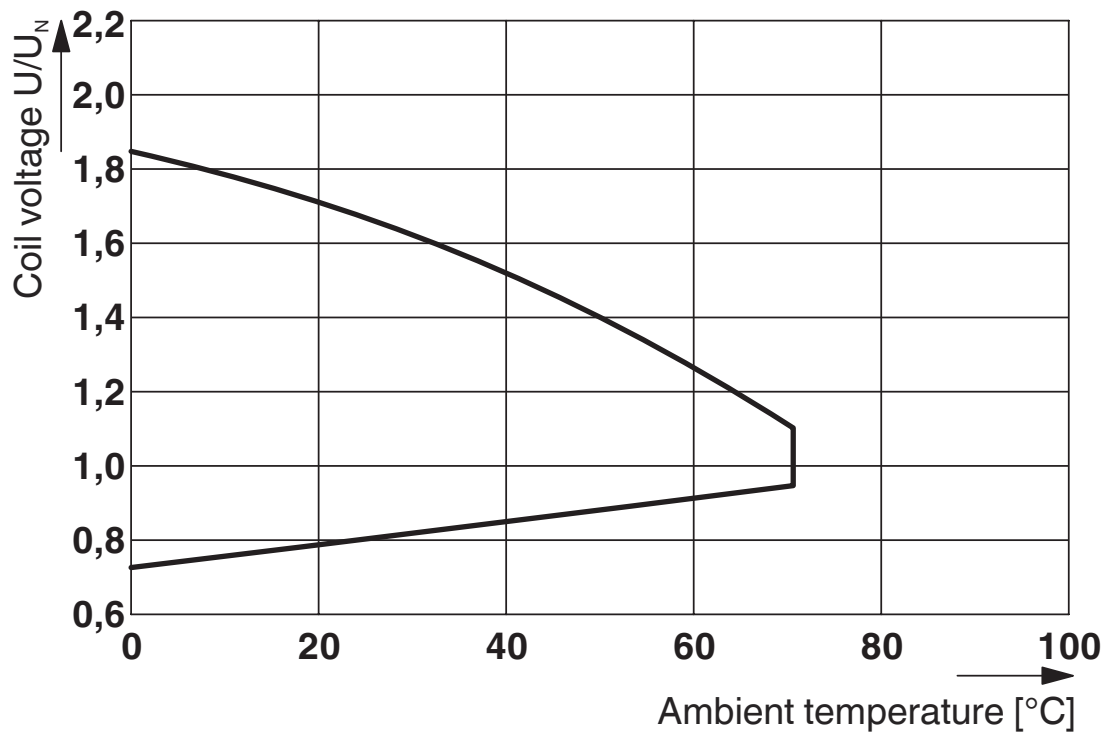
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Assembly note	in rows with zero spacing
Mounting position	any

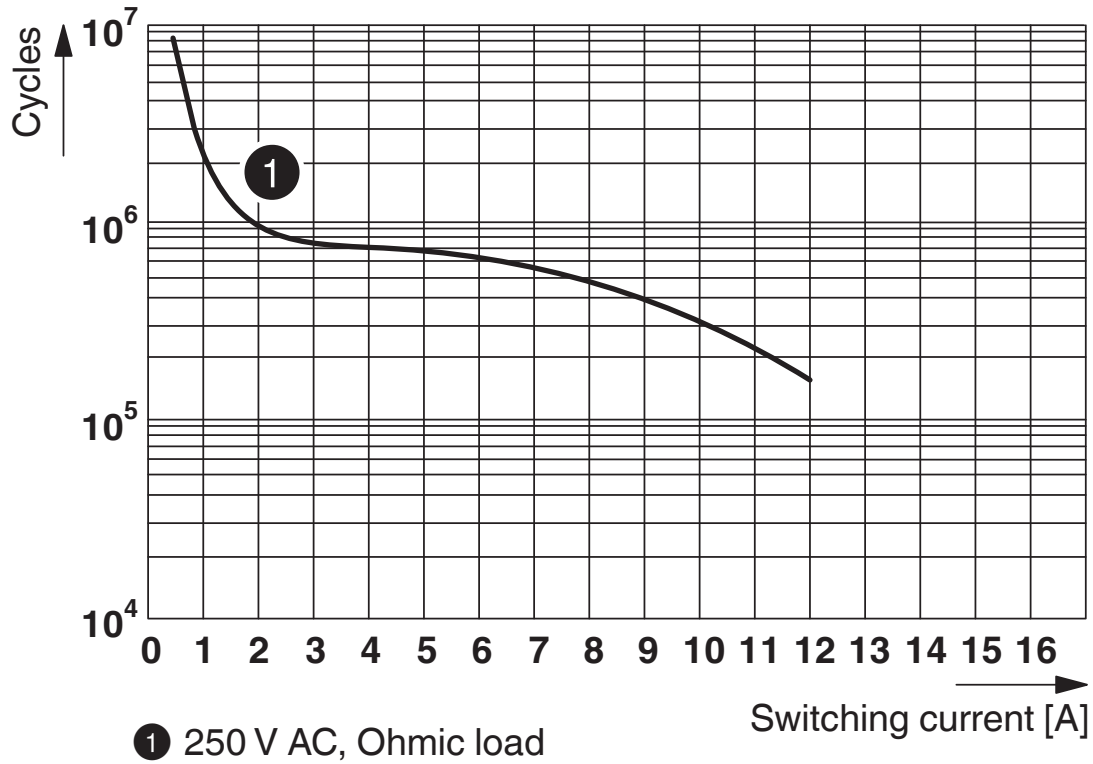
Drawings

Diagram



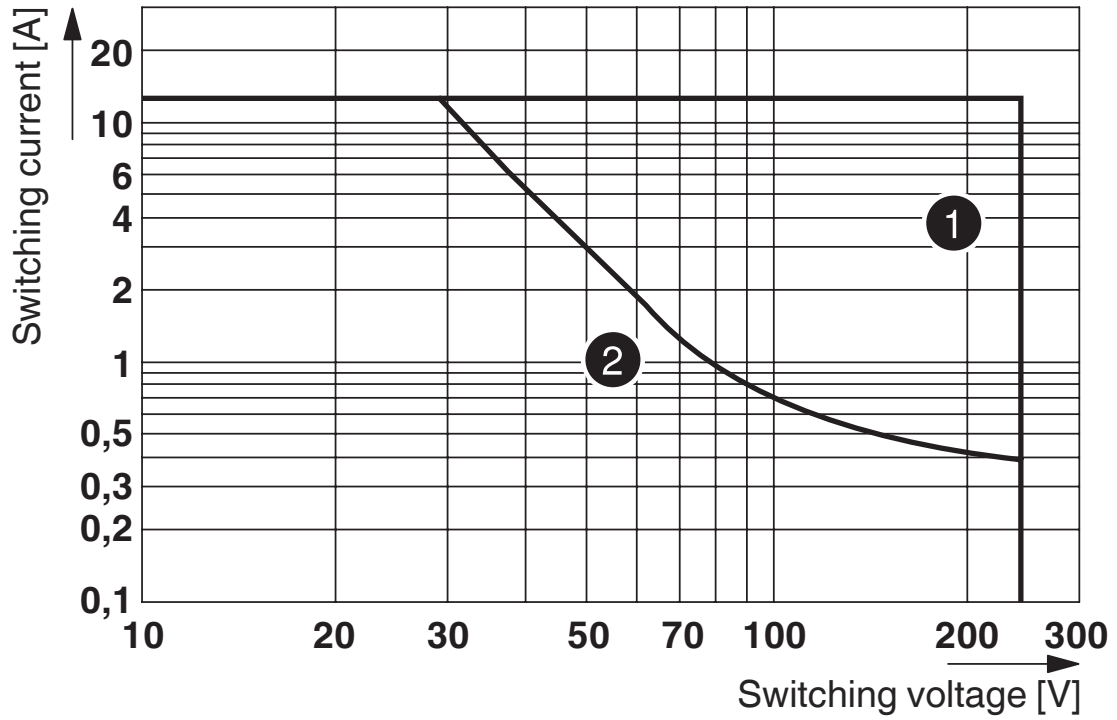
Operating voltage range

Diagram



Electrical service life

Diagram



- ① AC, ohmic load
- ② DC, ohmic load

Interrupting rating

Diagram



Service life reduction factor

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


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## Approvals

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**cUL Recognized**  
Approval ID: FILE E 228652



**UL Recognized**  
Approval ID: FILE E 228652



**VDE approval of drawings**  
Approval ID: 40058034

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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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### EF3.1 Climate Change

CO2e kg	0.209 kg CO2e
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