

# REL-MR-BL-110DC/21HC - Single relay



1109539

<https://www.phoenixcontact.com/gb/products/1109539>

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Pluggable miniature power relay in basic design, with power contact for high continuous currents, 1 changeover contact, input voltage 110 V DC

## Commercial data

Item number	1109539
Packing unit	20 pc
Minimum order quantity	20 pc
Note	Made to order (non-returnable)
Sales key	DKF921
Product key	DKF921
GTIN	4063151021528
Weight per piece (including packing)	15 g
Weight per piece (excluding packing)	15 g
Customs tariff number	85364900
Country of origin	AT

## Technical data

### Product properties

Product type	Single relay
Product family	ESSENTIAL edition
Operating mode	100% operating factor
Mechanical service life	1x 10 <sup>7</sup> cycles

### Insulation characteristics

Insulation	Basic insulation
Overvoltage category	III
Pollution degree	3

### Data management status

Date of last data management	05.09.2025
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### Electrical properties

Service life electrical	see diagram
Maximum power dissipation for nominal condition	0.4 W
Test voltage (Winding/contact)	5 kV AC (50 Hz, 1 min., winding/contact)
Rated insulation voltage	250 V AC
Rated surge voltage	4 kV

### Input data

#### Coil side

Nominal input voltage $U_N$	110 V DC
Input voltage range	77 V DC ... 247.5 V DC
Drive and function	monostable
Drive (polarity)	non-polarized
Typical input current at $U_N$	3.8 mA
Typical response time	8 ms
Typical release time	6 ms
Coil voltage	110 V DC
Coil resistance	28.8 k $\Omega$ $\pm$ 12 %

### Output data

#### Switching

Contact switching type	1 changeover contact
Type of switch contact	Single contact
Contact material	AgNi
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	5 V (At 24 mA)
Limiting continuous current	16 A

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Maximum inrush current	30 A (300 ms)
Min. switching current	10 mA (at 12 V)
Interrupting rating (ohmic load) max.	384 W (at 24 V DC)
	58 W (at 48 V DC)
	48 W (at 60 V DC)
	50 W (at 110 V DC)
	80 W (at 220 V DC)
	4000 VA (for 250 V AC)
Switching capacity	2 A (at 24 V, DC13)
	1.5 A (at 230 V, AC15)

## Connection data

Connection method	Plug / solder connection
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## Dimensions

Dimensional drawing	
Width	12.7 mm
Height	29 mm
Depth	15.7 mm

## Material specifications

Color	white (RAL 9010)
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## Environmental and real-life conditions

### Ambient conditions

Degree of protection	RT II
Ambient temperature (operation)	-40 °C ... 85 °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
	EN 61810-1

## Mounting

Mounting type	Plug-in mounting
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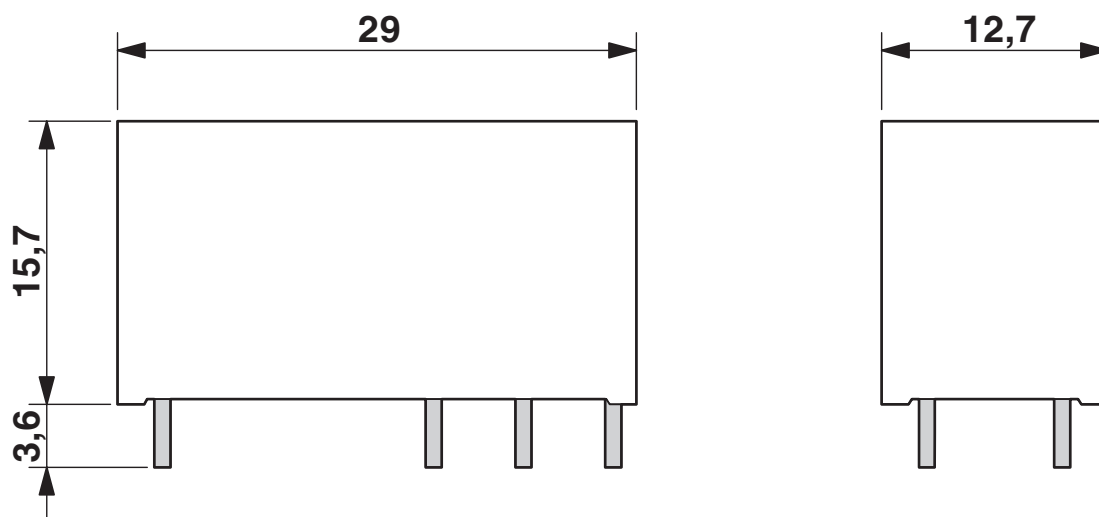
<https://www.phoenixcontact.com/gb/products/1109539>

Mounting position

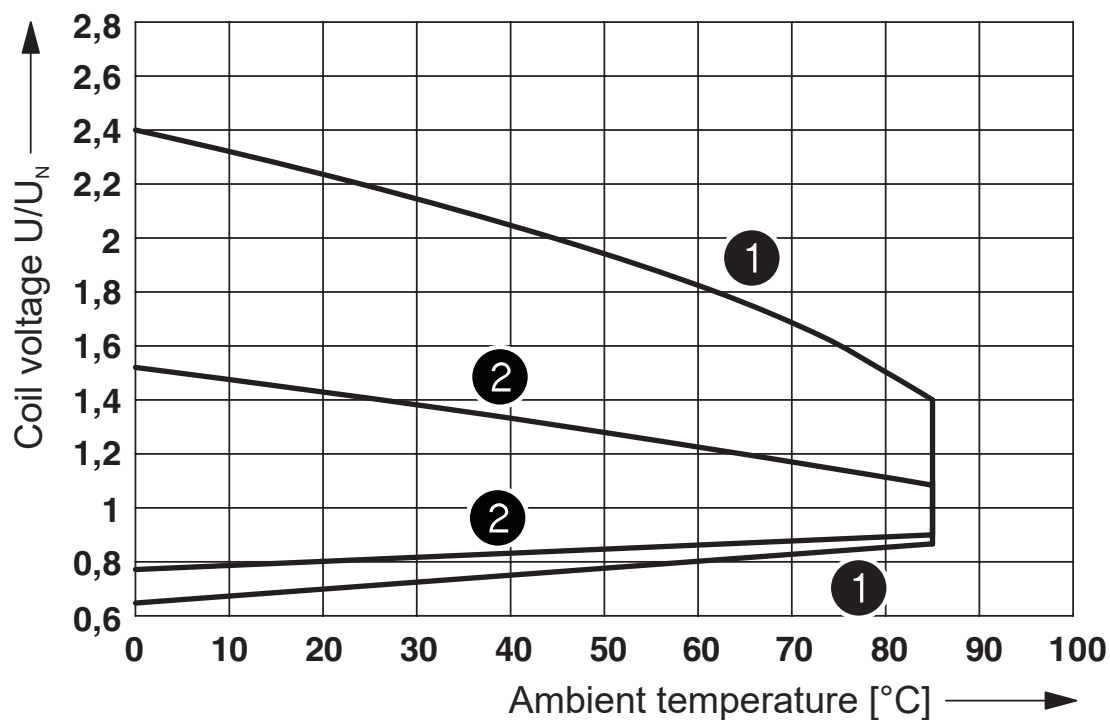
any

## Drawings

Dimensional drawing



Diagram



- ① DC coils
- ② AC coils

Operating voltage range

Diagram



- ① 250 V AC, ohmic load (DC coils)
- ② 250 V AC, ohmic load (AC coils)

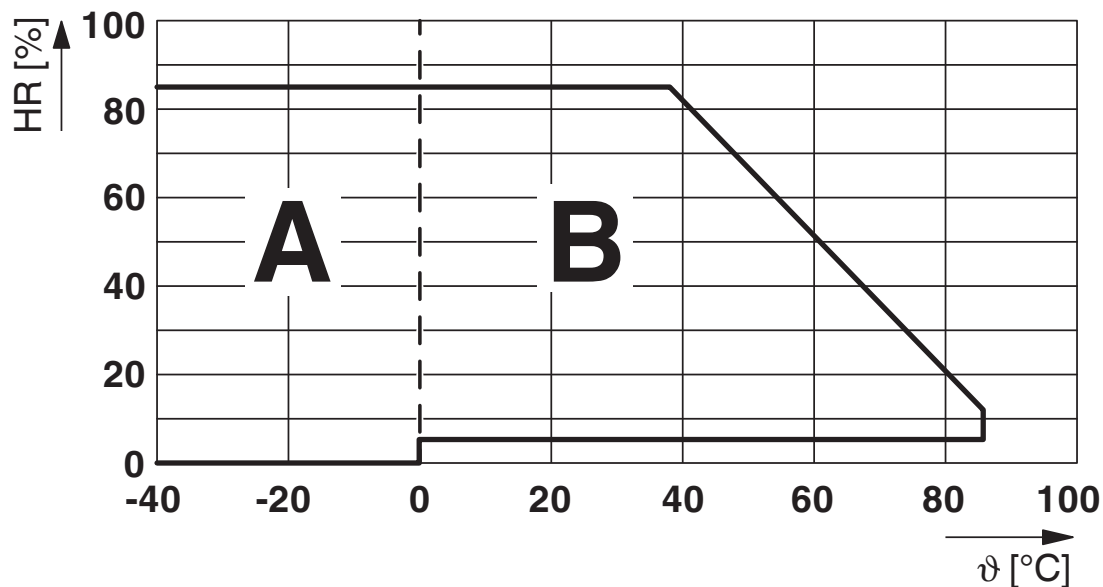
Electrical service life

Diagram



Service life reduction factor with various cos phi

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



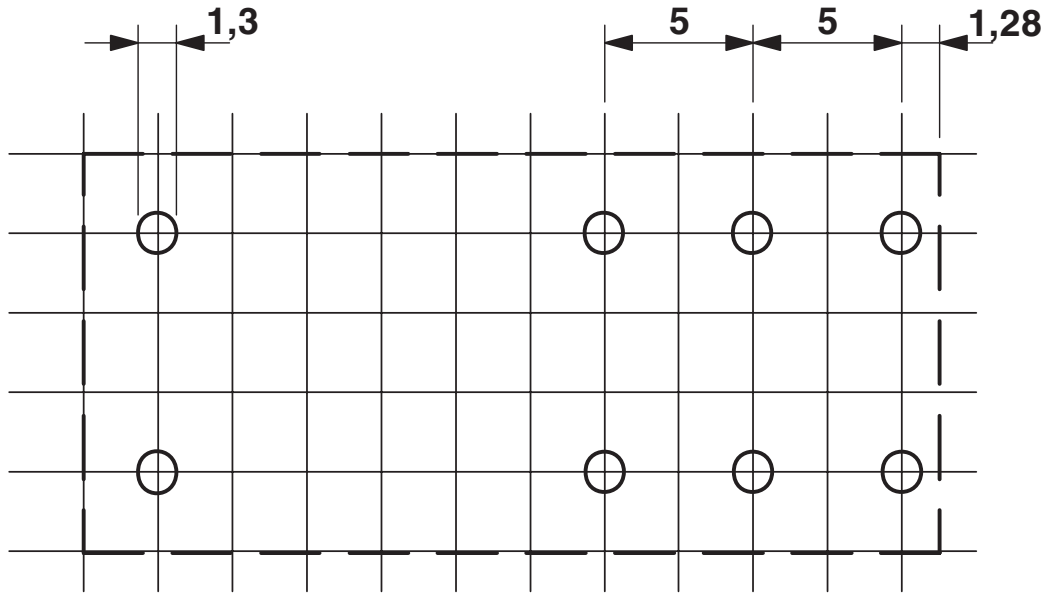
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Drilling plan/solder pad geometry



Basic pitch 2.5 mm

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## Classifications

### ECLASS

ECLASS-13.0

27371601

### ETIM

ETIM 9.0

EC001437

### 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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