

# REL-MR-230AC/21-21 - Single relay



2961451

<https://www.phoenixcontact.com/us/products/2961451>

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Plug-in miniature power relay, with power contact, 2 changeover contacts, input voltage 230 V AC

## Your advantages

- RT III-proof (wash-proof)
- Switching current of up to 8 A

## Commercial data

Item number	2961451
Packing unit	10 pc
Minimum order quantity	10 pc
Sales key	C460
Product key	DK6935
GTIN	4017918937867
Weight per piece (including packing)	16.68 g
Weight per piece (excluding packing)	15.11 g
Customs tariff number	85364900
Country of origin	AT

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## Technical data

### Product properties

Product type	Single relay
Set comprises	2903331 RIF-1-RPT-LV-230AC/2X21
Operating mode	100% operating factor
Mechanical service life	1x 10 <sup>7</sup> cycles

### Insulation characteristics

Overvoltage category	III
Pollution degree	3

### 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	0.4 W
Test voltage (Winding/contact)	5 kV AC (50 Hz, 1 min.)
Test voltage (Contact/contact)	2.5 kV AC (50 Hz, 1 min.)
Test voltage (open contact)	1 kV (50 Hz, 1 min.)

### Input data

#### Coil side

Nominal input voltage $U_N$	230 V AC
Input voltage range	179.4 V AC ... 356.5 V AC
Mains frequency	50/60 Hz
Drive and function	monostable
Drive (polarity)	non-polarized
Typical input current at $U_N$	3 mA (at 50 Hz) 2.5 mA (At 60 Hz)
Typical response time	3 ms ... 12 ms (depending on phase relation)
Typical release time range	2 ms ... 9 ms (depending on phase relation)
Coil resistance	32500 $\Omega$ $\pm$ 15 % (at 20 °C)

### 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	5 V (at 10 mA)
Limiting continuous current	8 A

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Maximum inrush current	12 A (20 ms)
Min. switching current	10 mA (At 5 V)
Interrupting rating (ohmic load) max.	190 W (at 24 V DC)
	85 W (at 48 V DC)
	60 W (at 60 V DC)
	44 W (at 110 V DC)
	60 W (at 220 V DC)
	2000 VA (for 250 V AC)
Switching capacity	2 A (at 24 V, DC13)
	0.2 A (at 250 V, DC13)
	3 A (at 24 V, AC15)
	3 A (at 120 V, AC15)
	3 A (at 250 V, AC15)
Motor load according to UL 508	1/4 HP, 120 V AC
	1/2 HP, 240 V AC

## Connection data

Connection method	Plug / solder connection
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## Dimensions

### Item dimensions

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 III
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 50178
	EN 61810-1

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## Mounting

Assembly note	Can be aligned without spacing ( $> 70\text{ °C} \geq 2.5\text{ mm}$ )
Mounting position	any

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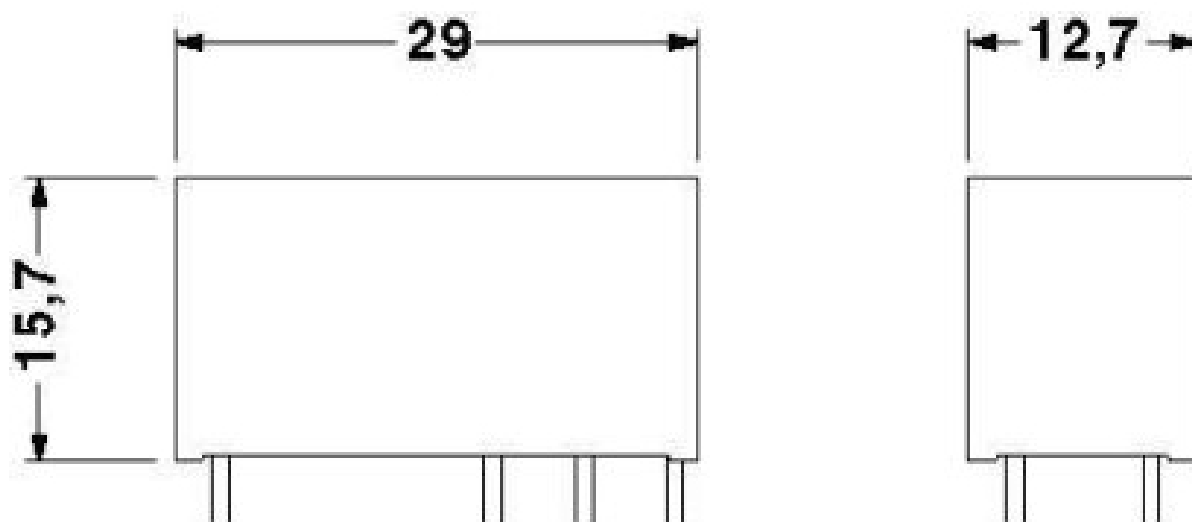
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## Drawings

### Dimensional drawing

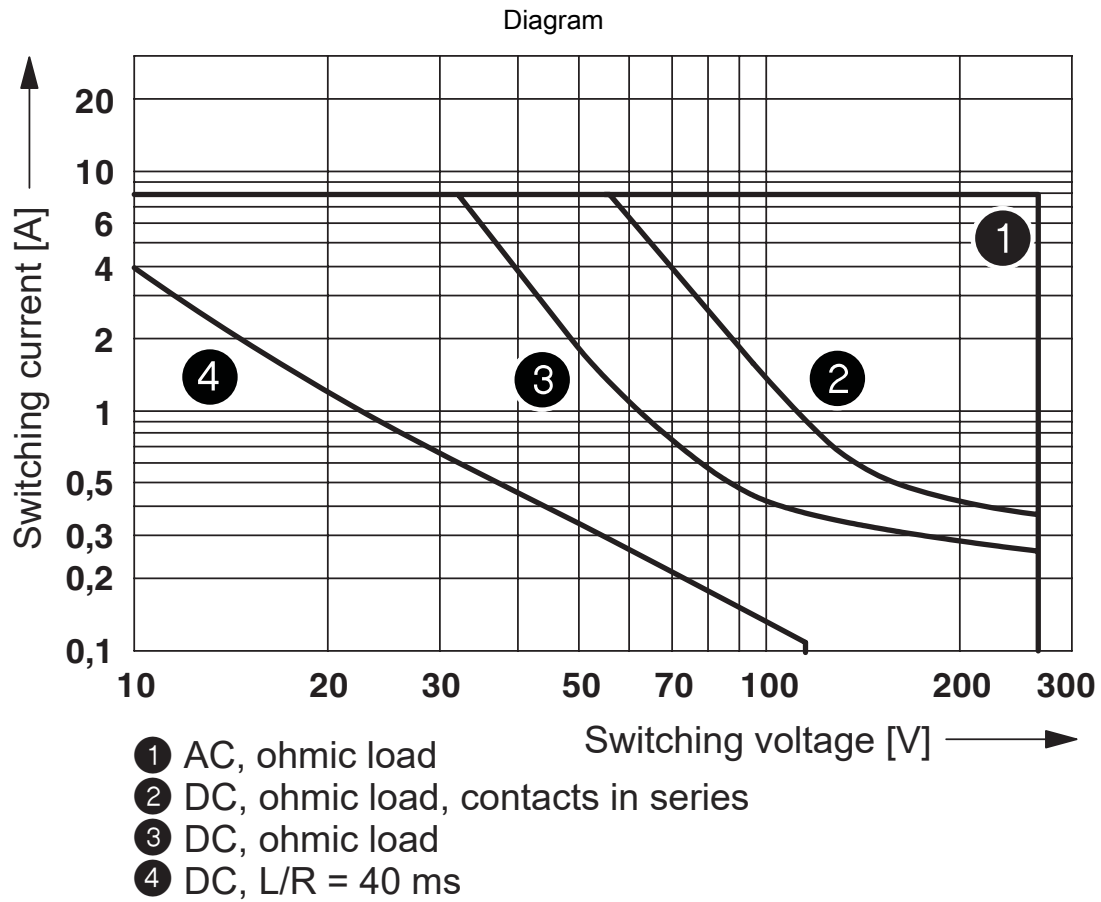


Diagram



- ① DC coils
- ② AC coils

Operating voltage range



Interrupting rating

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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

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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



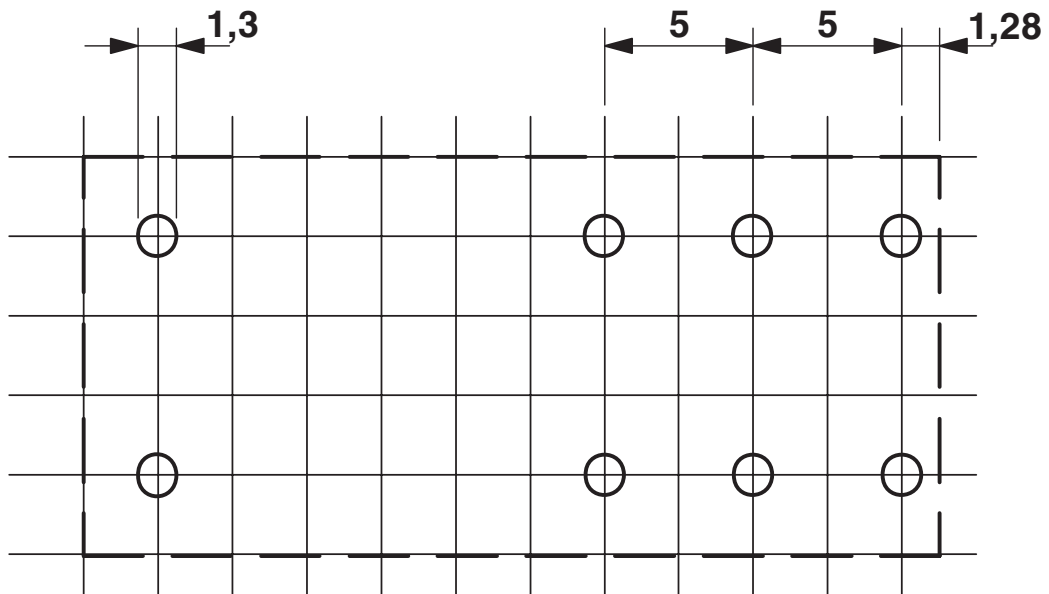
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Drilling plan/solder pad geometry



Basic pitch 2.5 mm

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2961451>



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



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



**VDE Zeichengenehmigung**  
Approval ID: 40048281



**VDE Zeichengenehmigung**  
Approval ID: 40007758



**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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### EF3.1 Climate Change

CO2e kg	0.238 kg CO2e
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