

# REL-MR- 12DC/21AU - Single relay

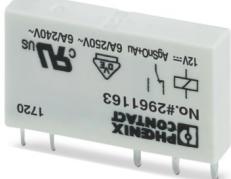
2961163

<https://www.phoenixcontact.com/us/products/2961163>



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Plug-in miniature power relay, with multi-layer gold contact, 1 changeover contact, input voltage 12 V DC



## Your advantages

- Safe isolation between coil and contact side
- High degree of protection up to RT III depending on type (wash-proof)
- Power contacts up to 6 A

## Commercial data

Item number	2961163
Packing unit	10 pc
Minimum order quantity	10 pc
Sales key	C460
Product key	DK6922
GTIN	4017918146870
Weight per piece (including packing)	6.58 g
Weight per piece (excluding packing)	6.58 g
Customs tariff number	85364190
Country of origin	CZ

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## Technical data

### Product properties

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

### Insulation characteristics

Overvoltage category	III
Pollution degree	3

### Data management status

Date of last data management	05.09.2025
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### Electrical properties

Maximum power dissipation for nominal condition	0.17 W
Test voltage (Winding/contact)	4 kV AC (50 Hz, 1 min., winding/contact)

### Input data

#### Coil side

Nominal input voltage $U_N$	12 V DC
Input voltage range	7.2 V DC ... 33 V DC
Input voltage range in reference to $U_N$	see diagram
Drive and function	monostable
Drive (polarity)	non-polarized
Typical input current at $U_N$	14 mA
Typical response time	5 ms
Typical release time	2.5 ms
Coil resistance	$848 \Omega \pm 10\% \text{ (at } 20^\circ\text{C)}$

### Output data

#### Switching

Contact switching type	1 changeover contact
Type of switch contact	Single contact
Contact material	AgSnO, hard gold-plated
Maximum switching voltage	30 V AC
	36 V DC
Minimum switching voltage	100 mV (at 10 mA)
Limiting continuous current	50 mA
Maximum inrush current	50 mA
Min. switching current	1 mA (at 24 V)
Interrupting rating (ohmic load) max.	1.2 W (at 24 V DC)

Switching: when the gold layer is destroyed

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Note	the following values are applicable if a gold layer is destroyed
Contact material	AgSnO
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	5 V (at 100 mA)
Limiting continuous current	6 A
Min. switching current	10 mA (at 12 V)
Interrupting rating (ohmic load) max.	140 W (at 24 V DC) 20 W (at 48 V DC) 18 W (at 60 V DC) 23 W (at 110 V DC) 40 W (at 220 V DC) 1500 VA (for 250 V AC)
Switching capacity	2 A (at 24 V, DC13) 0.2 A (at 110 V, DC13) 0.1 A (at 220 V, DC13) 3 A (at 24 V, AC15) 3 A (at 120 V, AC15) 3 A (at 230 V, AC15)

## Connection data

Connection method	Plug / solder connection
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## Dimensions

Dimensional drawing	
Width	5 mm
Height	28 mm
Depth	15 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

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## 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

## Mounting

Assembly note	in rows with zero spacing
Mounting position	any

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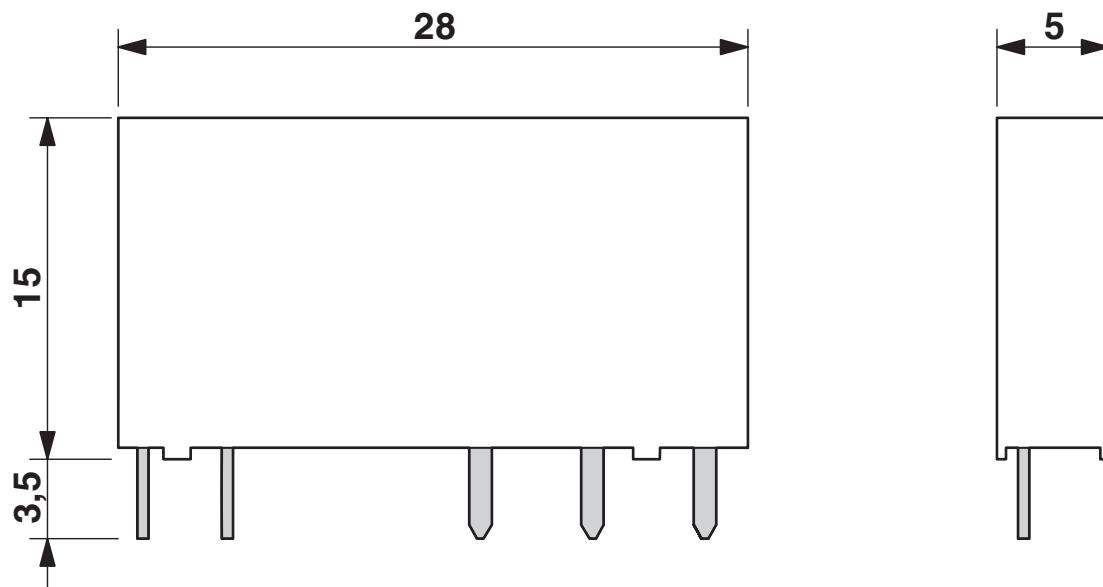
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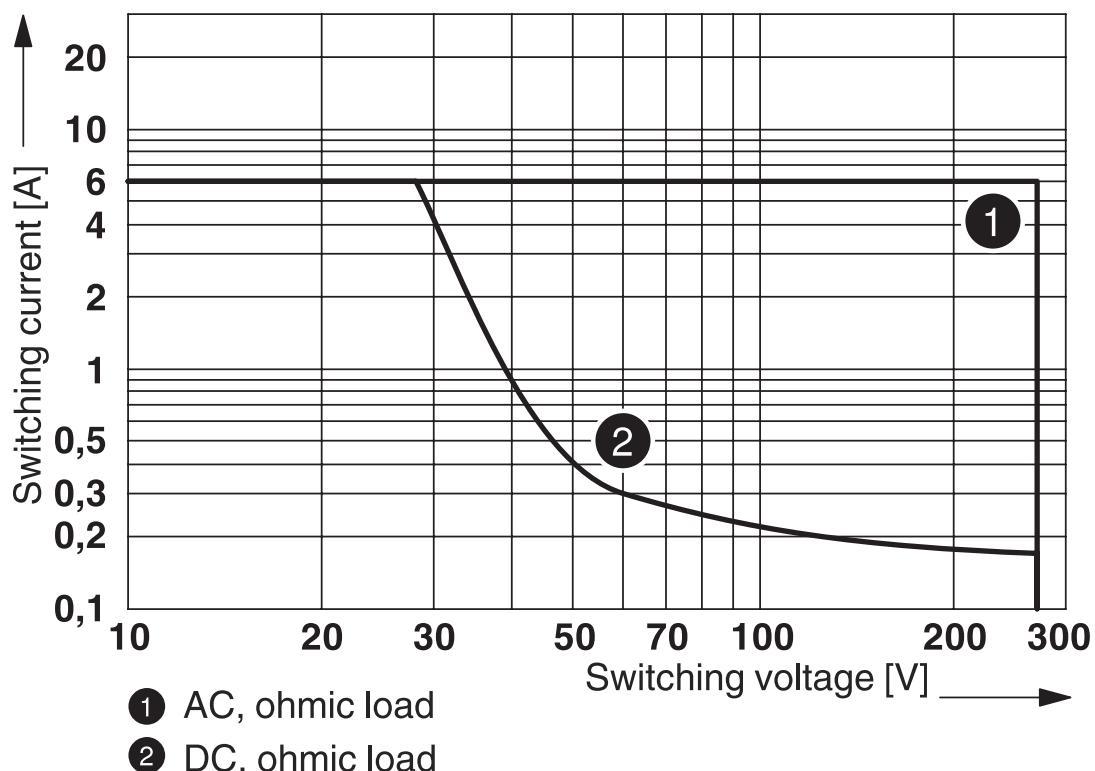


## Drawings

Dimensional drawing



Diagram



- ① AC, ohmic load
- ② DC, ohmic load

Interrupting rating

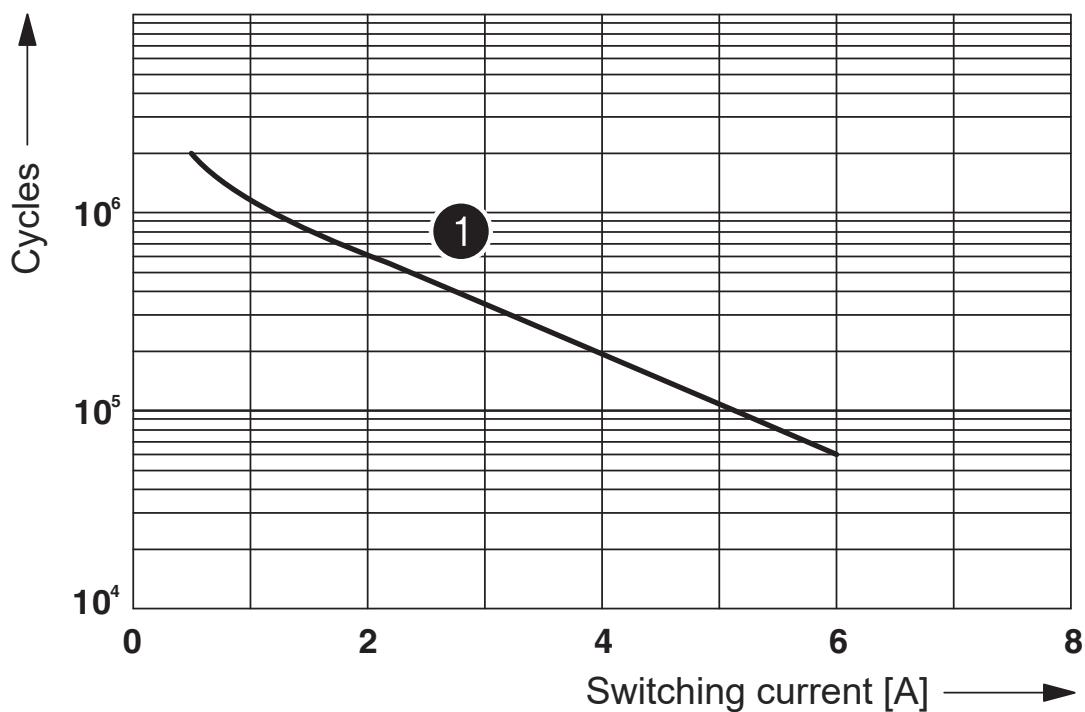
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Diagram



① 250 V AC, ohmic load

Electrical service life

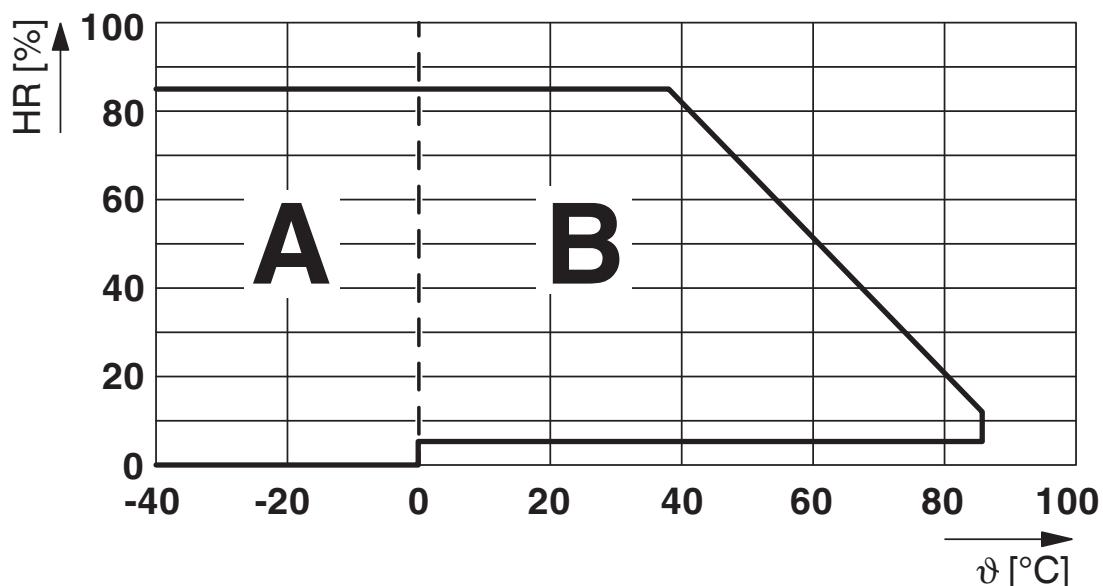
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Diagram



Permissible humidity for operation and storage.

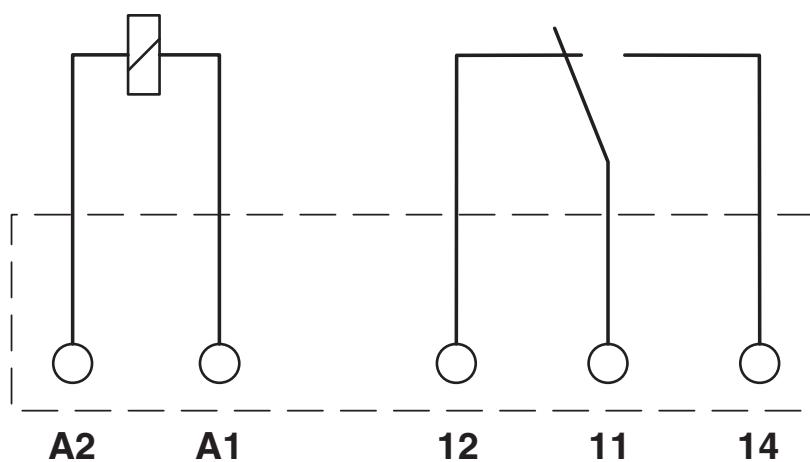
The maximum permissible ambient temperature as specified in the data sheet must be observed.

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



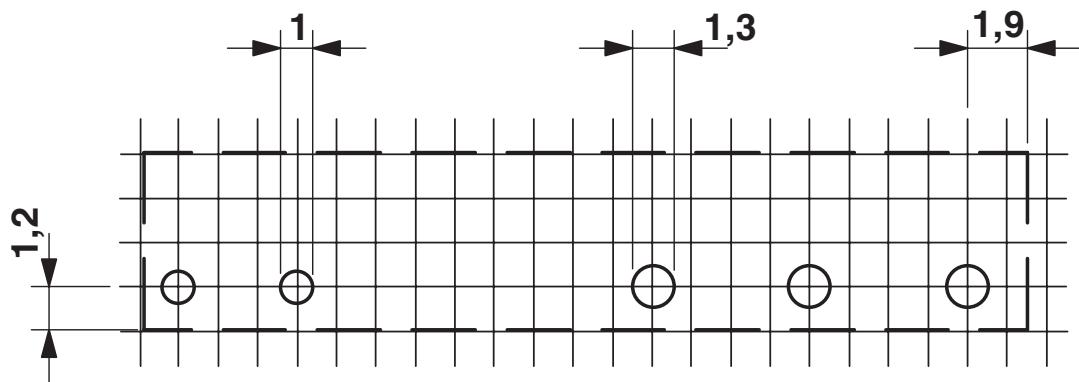
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Drilling plan/solder pad geometry



a = pitch division 1.25 mm and 1.27 mm

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## Approvals

ⓘ To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2961163>



**cUL Recognized**

Approval ID: FILE E 172140



**UL Recognized**

Approval ID: FILE E 172140



**EAC**

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



**UL Recognized**

Approval ID: FILE E 172140



**VDE approval of drawings**

Approval ID: 40032864



**VDE approval of drawings**

Approval ID: 40054426



**cUL Recognized**

Approval ID: FILE E 172140



**VDE approval of drawings**

Approval ID: 40010212



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## Classifications

### ECLASS

ECLASS-13.0	27371601
ECLASS-15.0	27371601

### ETIM

ETIM 9.0	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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