

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



2961257  
<https://www.phoenixcontact.com/us/products/2961257>

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Plug-in miniature power relay, with power contact, 2 changeover contacts, input voltage 12 V DC



## Your advantages

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

## Commercial data

Item number	2961257
Packing unit	10 pc
Minimum order quantity	10 pc
Sales key	C460
Product key	CK6935
Catalog page	Page 290 (C-5-2019)
GTIN	4017918163525
Weight per piece (including packing)	16.24 g
Weight per piece (excluding packing)	15.43 g
Customs tariff number	85364900
Country of origin	AT

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## Technical data

### Product properties

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

### Data management status

Date of last data management	02.05.2024
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### Insulation characteristics

Insulation	Basic insulation
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### Insulation characteristics

Insulation	Basic insulation
Overvoltage category	III
Pollution degree	3

### 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)
Test voltage (Contact/contact)	2.5 kV AC (50 Hz, 1 min., contact/contact)

### Input data

#### Coil side

Nominal input voltage U <sub>N</sub>	12 V DC
Input voltage range	7.8 V DC ... 29.76 V DC
Input voltage range in reference to U <sub>N</sub>	see diagram
Drive and function	monostable
Drive (polarity)	non-polarized
Typical input current at U <sub>N</sub>	33 mA
Typical response time	7 ms
Typical release time	3 ms
Coil resistance	360 Ω ±10 % (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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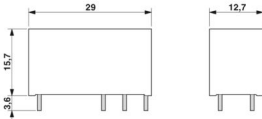
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Maximum inrush current	25 A (20 ms)
Min. switching current	10 mA (At 5 V)
Interrupting rating (ohmic load) max.	190 W (at 24 V DC)
	85 W (at 48 V DC)
	60 W (at 60 V DC)
	44 W (at 110 V DC)
	60 W (at 220 V DC)
	2000 VA (for 250 V AC)
Switching capacity	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

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 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

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Standards/regulations	IEC 60664
	EN 50178
	EN 61810-1

## Mounting

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

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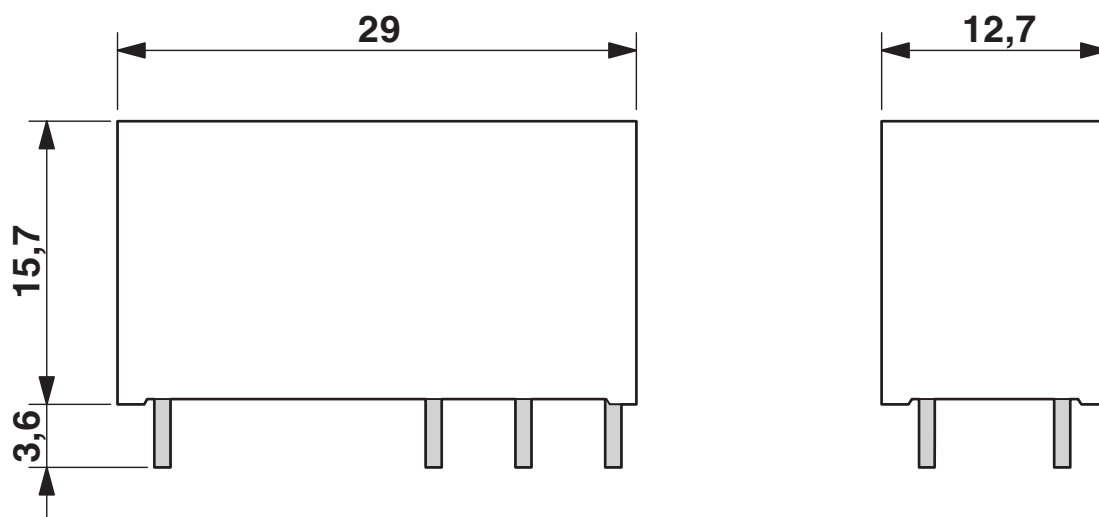


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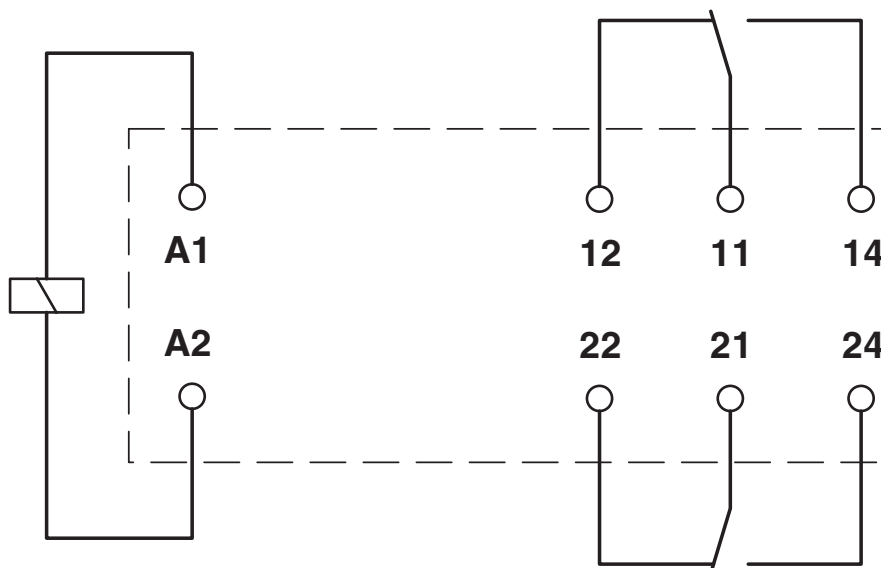
<https://www.phoenixcontact.com/us/products/2961257>

## Drawings

Dimensional drawing



Circuit diagram



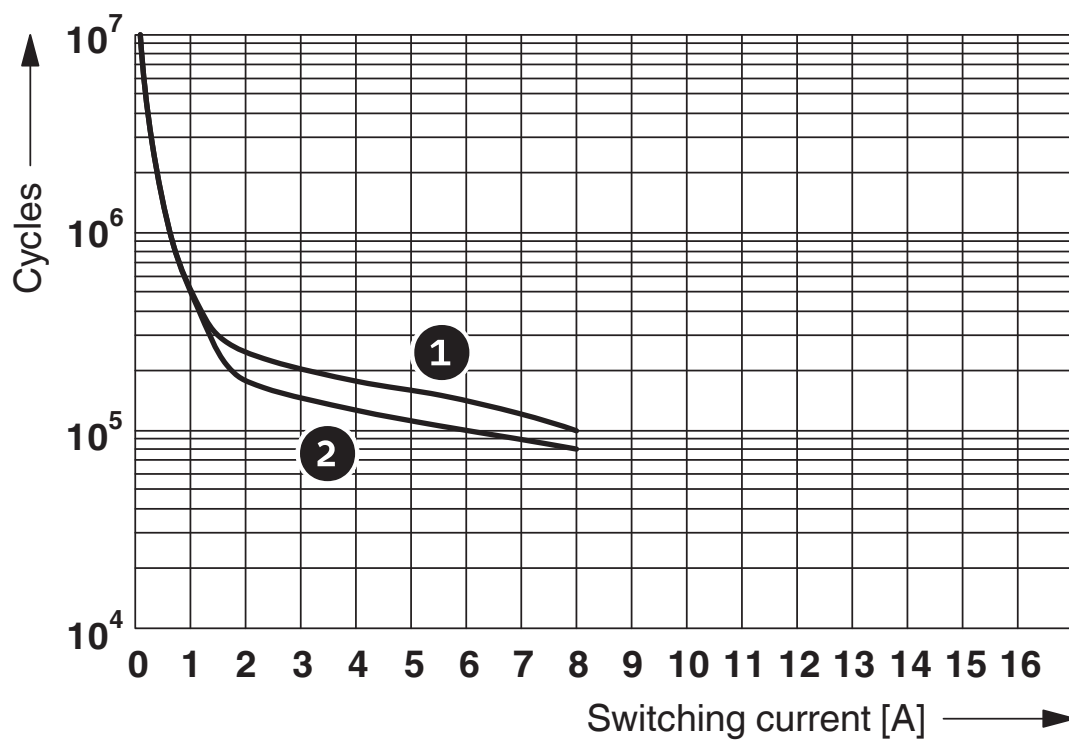
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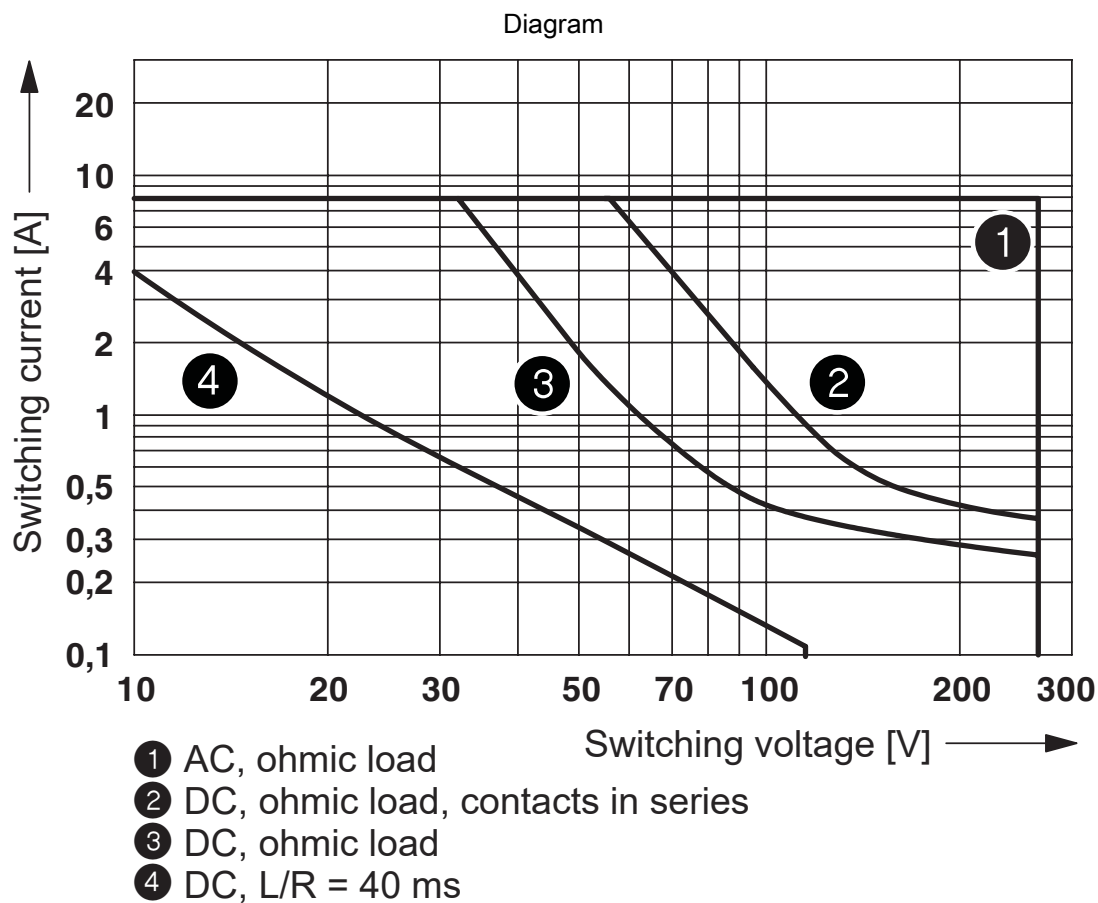


Diagram

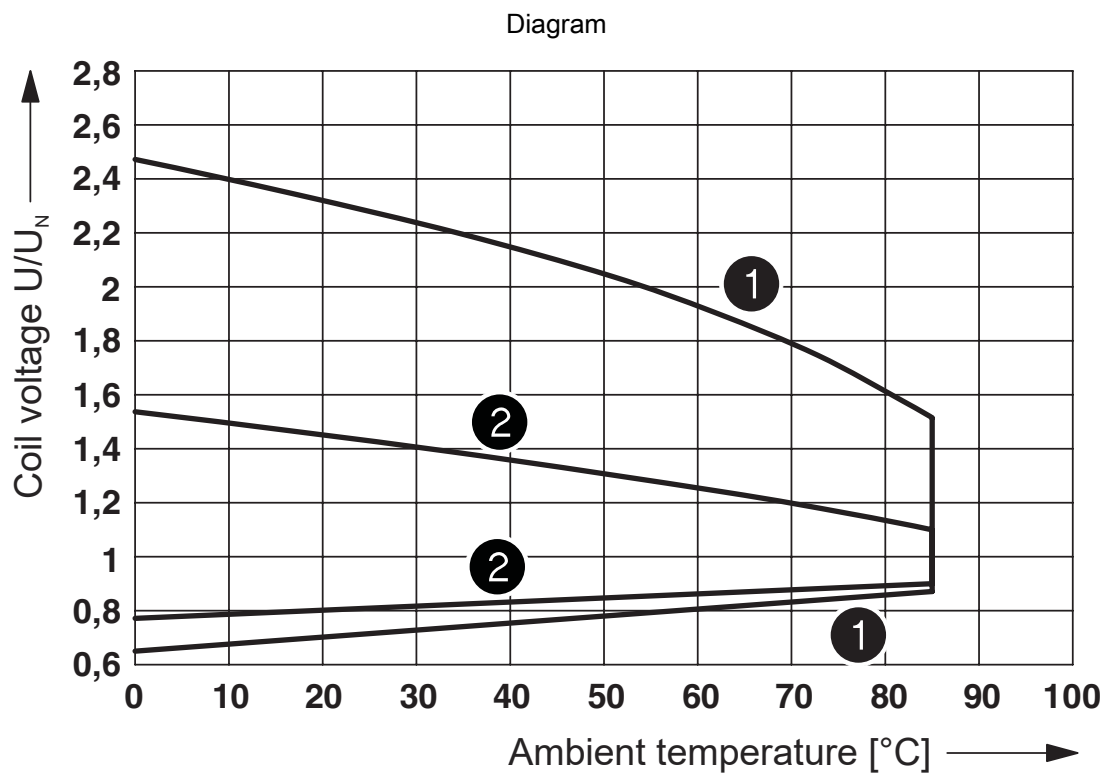


- ① 250 V AC, ohmic load (DC coils)
- ② 250 V AC, ohmic load (AC coils)

Electrical service life



Interrupting rating



- ① DC coils
- ② AC coils

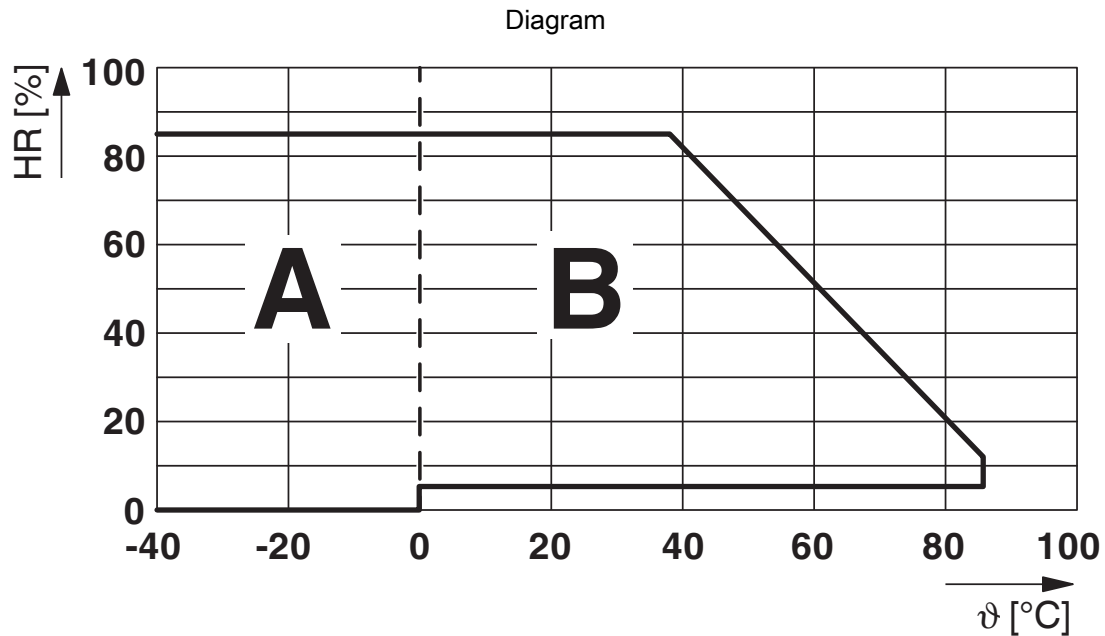
Operating voltage range



Diagram



Service life reduction factor with various cos phi



Permissible humidity for operation and storage.

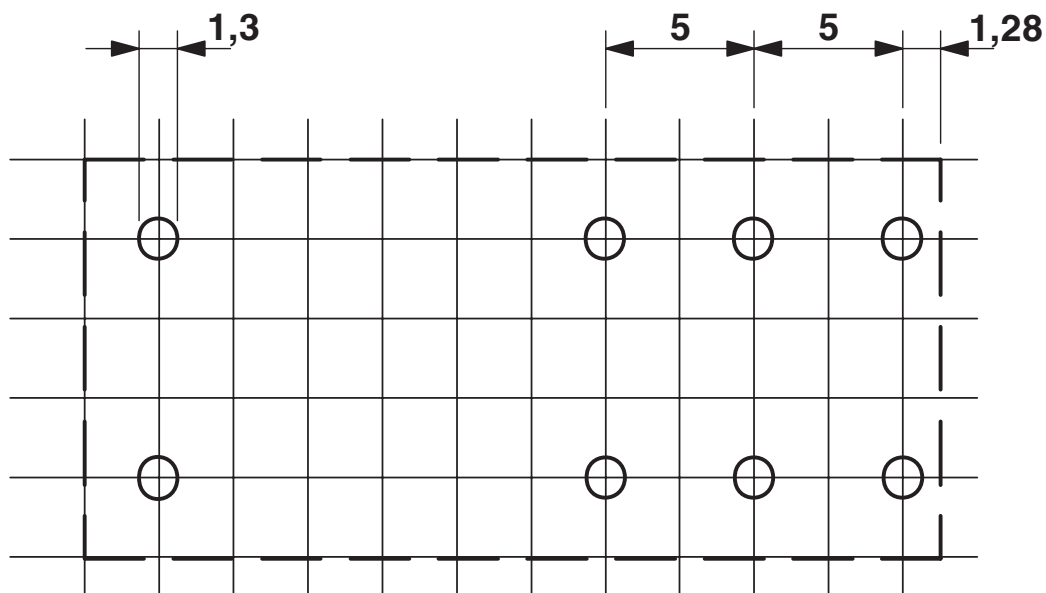
The maximum permissible ambient temperature as specified in the data sheet must be observed.

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

Drilling plan/solder pad geometry



a = pitch division 2.5 mm

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2961257>



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



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



**EAC**  
Approval ID: TR\_TS\_D\_00573\_c



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



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



**VDE Zeichengenehmigung**  
Approval ID: 40007758



**VDE Zeichengenehmigung**  
Approval ID: 40048281



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



**cUL Recognized**  
Approval ID: FILE E 172140



**UL Recognized**  
Approval ID: FILE E 172140

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## Classifications

### ECLASS

ECLASS-11.0	27371601
ECLASS-12.0	27371601
ECLASS-13.0	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
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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## Mandatory accessories

### RIF-1-BPT/2X21 - Relay base

2900931

<https://www.phoenixcontact.com/us/products/2900931>



Relay base RIF-1..., for miniature power relay with 1 or 2 changeover contacts or solid-state relays of the same design, Push-in connection, plug-in option for input/interference suppression modules, for mounting on NS 35/7,5

### RIF-1-BSC/2X21 - Relay base

2900930

<https://www.phoenixcontact.com/us/products/2900930>



RIF-1... relay base, for miniature power relay with 1 or 2 changeover contacts or identical solid-state relays, screw connection, plug-in option for input/interference suppression modules, for mounting on NS 35/7,5

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