

# REL-MR- 24DC/21-21AU - Single relay



2961215

<https://www.phoenixcontact.com/us/products/2961215>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Plug-in miniature power relay, with multi-layer gold contact, 2 changeover contacts, input voltage 24 V DC

## Your advantages

- RT III-proof (wash-proof)

## Commercial data

Item number	2961215
Packing unit	10 pc
Minimum order quantity	10 pc
Sales key	C460
Product key	CK6936
Catalog page	Page 290 (C-5-2019)
GTIN	4017918157999
Weight per piece (including packing)	16.08 g
Weight per piece (excluding packing)	14.95 g
Customs tariff number	85364900
Country of origin	AT

# REL-MR- 24DC/21-21AU - Single relay



2961215

<https://www.phoenixcontact.com/us/products/2961215>

## Technical data

### Product properties

Product type	Single relay
Operating mode	100% operating factor
Mechanical service life	3x 10 <sup>7</sup> cycles
Date of last data management	02.05.2024

### Insulation characteristics

Insulation	Basic insulation
------------	------------------

### Insulation characteristics

Insulation	Basic insulation
Overvoltage category	III
Pollution degree	3

### Electrical properties

Service life electrical	see diagram
Maximum power dissipation for nominal condition	0.41 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 $U_N$	24 V DC
Input voltage range	15.6 V DC ... 59.52 V DC
Drive and function	monostable
Drive (polarity)	non-polarized
Typical input current at $U_N$	17 mA
Typical response time	7 ms
Typical release time	3 ms
Coil resistance	1440 $\Omega$ $\pm$ 10 % (at 20 °C)

### Output data

#### Switching

Contact switching type	2 changeover contacts
Type of switch contact	Single contact
Contact material	AgNi, 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

# REL-MR- 24DC/21-21AU - Single relay



2961215

<https://www.phoenixcontact.com/us/products/2961215>

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

Note	the following values are applicable if a gold layer is destroyed
Contact material	AgNi
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	5 V (at 10 mA)
Limiting continuous current	8 A
Maximum inrush current	15 A (300 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 110 V, DC13) 0.2 A (at 250 V, DC13) 2 A (at 24 V, AC15) 2 A (at 120 V, AC15) 2 A (at 250 V, AC15)

## Connection data

Connection method	Plug / solder connection
-------------------	--------------------------

## Dimensions

Dimensional drawing	
Width	12.7 mm
Height	29 mm
Depth	15.7 mm

## Material specifications

Color	white (RAL 9010)
-------	------------------

## Environmental and real-life conditions

Ambient conditions

Degree of protection	RT III
----------------------	--------

# REL-MR- 24DC/21-21AU - Single relay



2961215

<https://www.phoenixcontact.com/us/products/2961215>

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

## Mounting

Assembly note	Can be aligned without spacing (> 70 °C ≥ 2.5 mm)
Mounting position	any

# REL-MR- 24DC/21-21AU - Single relay

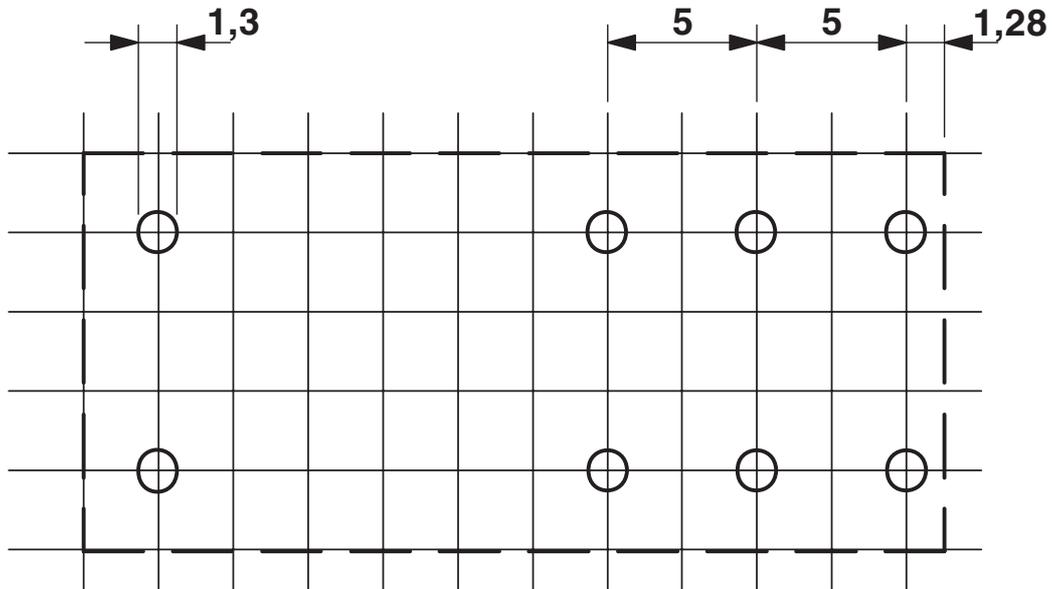


2961215

<https://www.phoenixcontact.com/us/products/2961215>

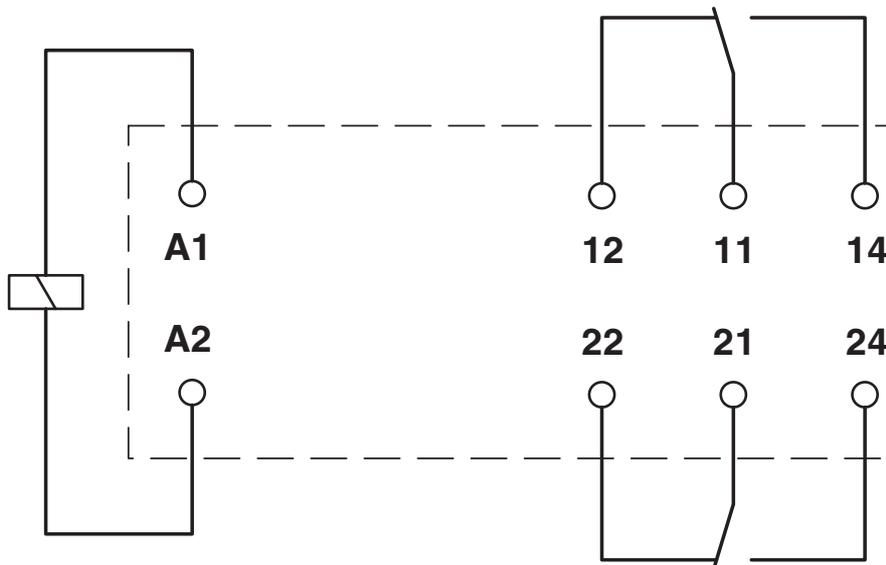
## Drawings

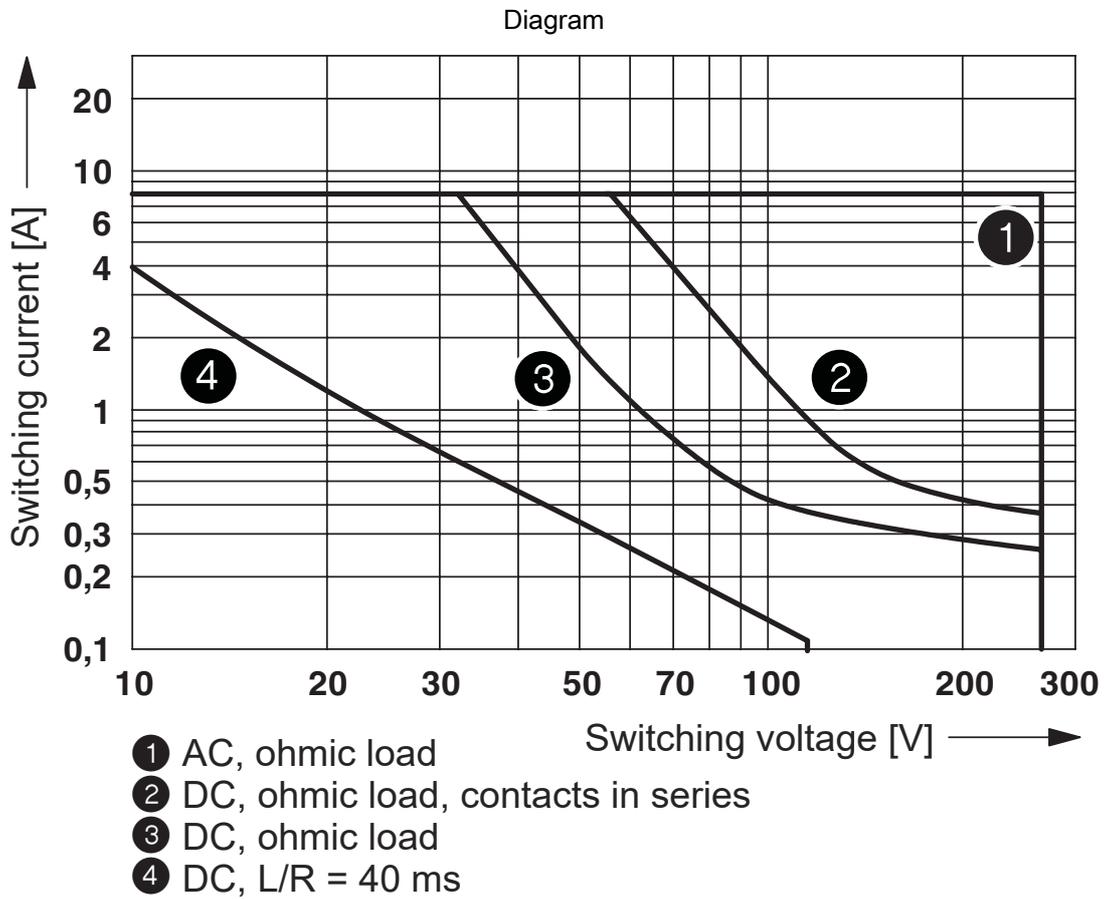
Drilling plan/solder pad geometry



a = pitch division 2.5 mm

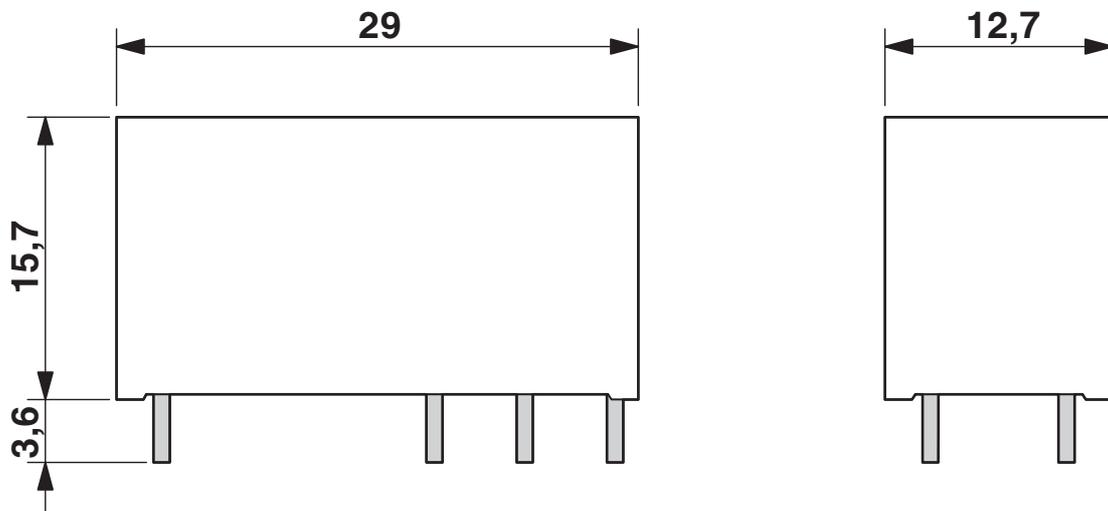
Circuit diagram

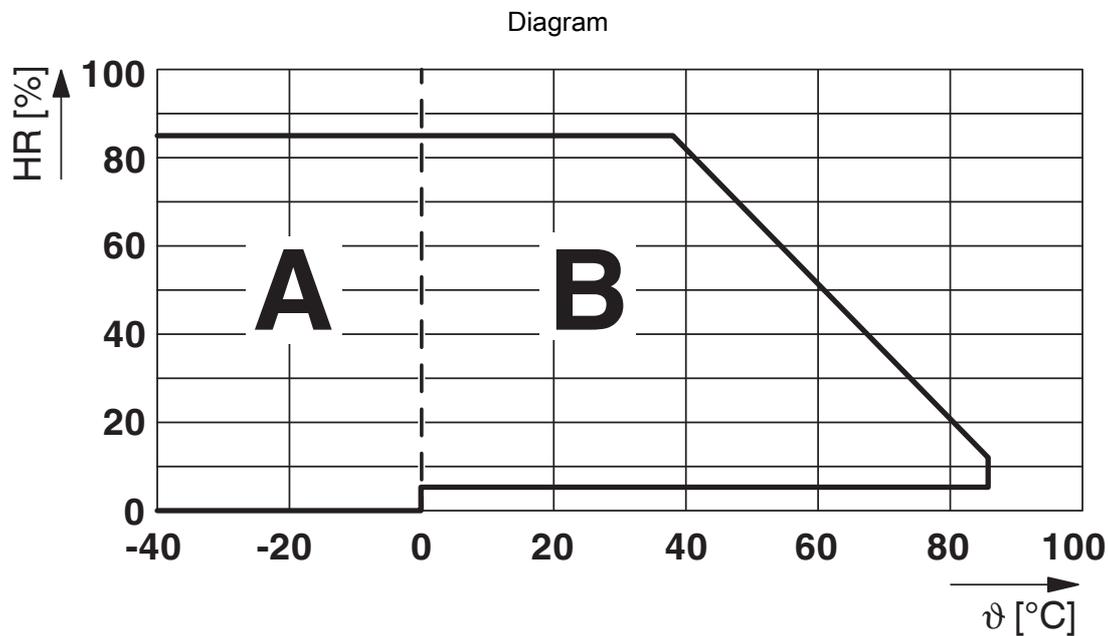




Interrupting rating

Dimensional drawing





Permissible humidity for operation and storage.

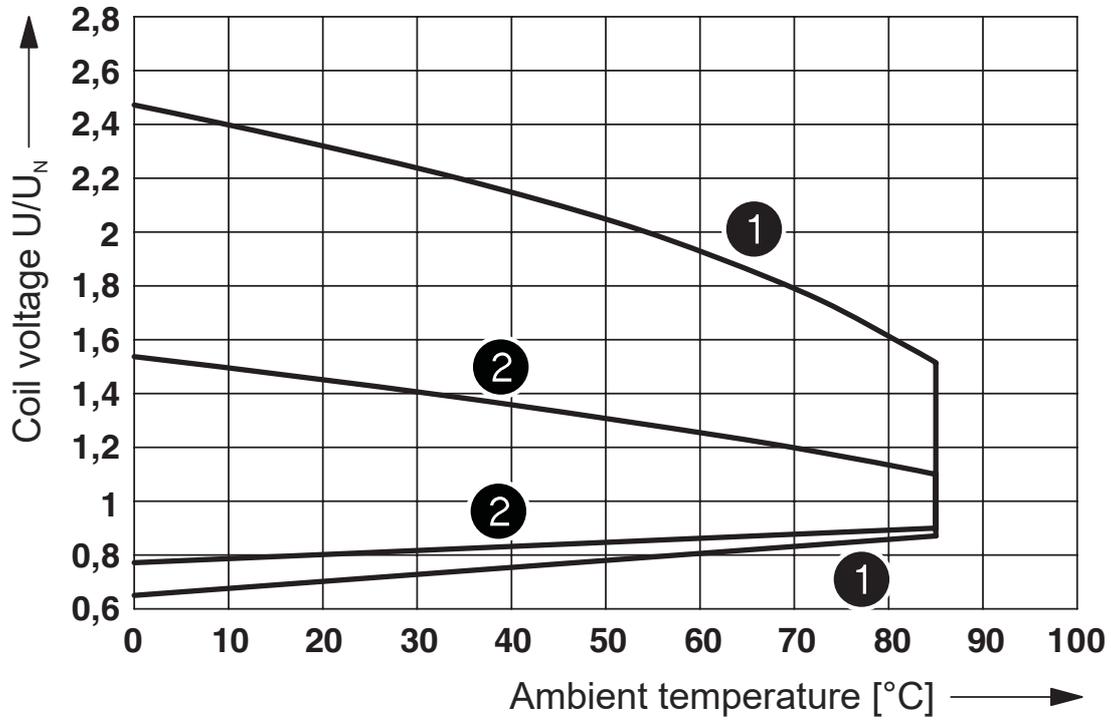
The maximum permissible ambient temperature as specified in the data sheet must be observed.

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

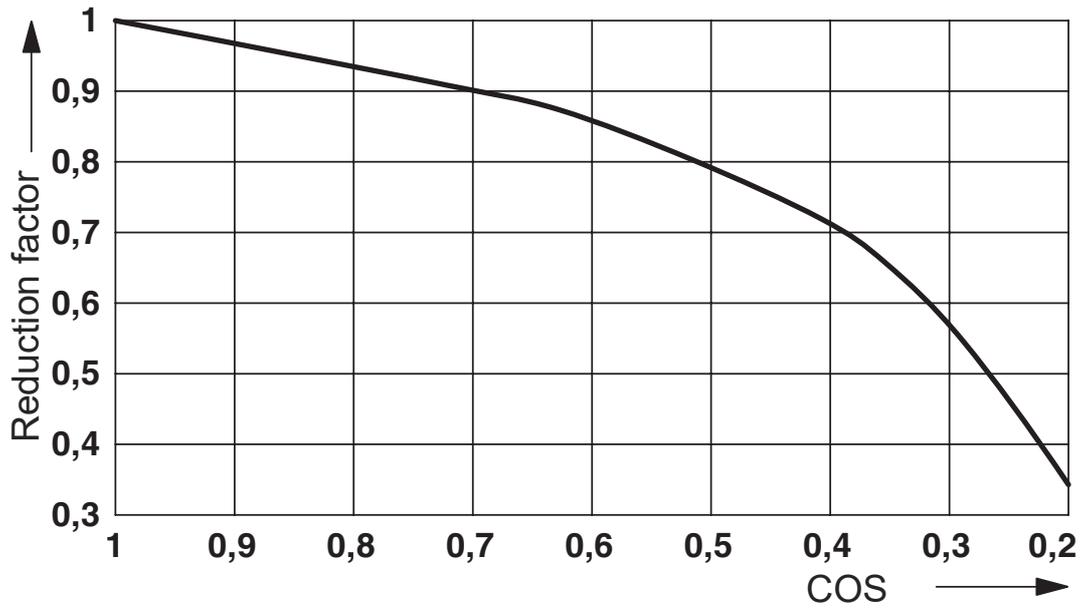
Diagram



- ① DC coils
- ② AC coils

Operating voltage range

Diagram



Service life reduction factor with various cos phi

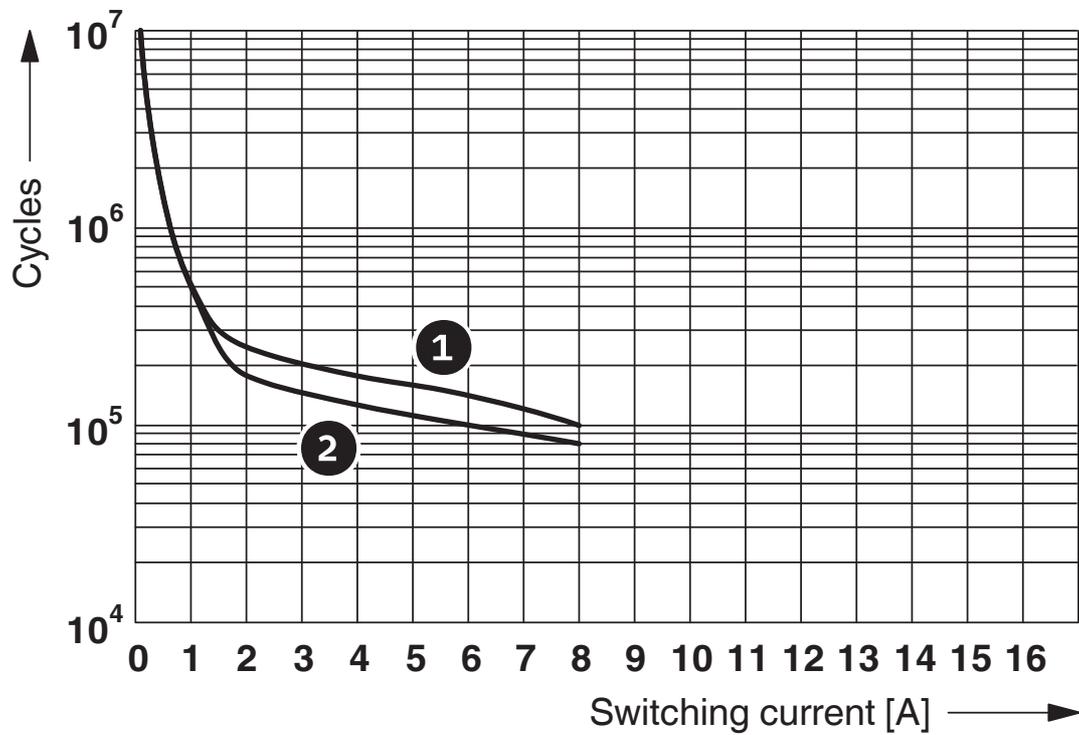
# REL-MR- 24DC/21-21AU - Single relay



2961215

<https://www.phoenixcontact.com/us/products/2961215>

Diagram



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

Electrical service life

# REL-MR- 24DC/21-21AU - Single relay



2961215

<https://www.phoenixcontact.com/us/products/2961215>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2961215>



**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

# REL-MR- 24DC/21-21AU - Single relay



2961215

<https://www.phoenixcontact.com/us/products/2961215>

## Classifications

### ECLASS

ECLASS-11.0	27371601
ECLASS-12.0	27371601
ECLASS-13.0	27371601

### ETIM

ETIM 9.0	EC001437
----------	----------

### UNSPSC

UNSPSC 21.0	39122300
-------------	----------

# REL-MR- 24DC/21-21AU - Single relay



2961215

<https://www.phoenixcontact.com/us/products/2961215>

## 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%
-------------------------------------	----------------------------

### EF3.0 Climate Change

CO2e kg	0.14 kg CO2e
---------	--------------

# REL-MR- 24DC/21-21AU - Single relay



2961215

<https://www.phoenixcontact.com/us/products/2961215>

## 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

# REL-MR- 24DC/21-21AU - Single relay

2961215

<https://www.phoenixcontact.com/us/products/2961215>



## PLC-BPT- 24DC/21-21 - Relay base

2900283

<https://www.phoenixcontact.com/us/products/2900283>



14 mm PLC basic terminal block with Push-in connection, without relay or solid-state relay, for mounting on DIN rail NS 35/7,5, 2 changeover contacts, input voltage 24 V DC

---

## PLC-BSC- 24DC/21-21 - Relay base

2967015

<https://www.phoenixcontact.com/us/products/2967015>



14 mm PLC basic terminal block with screw connection, without relay or solid-state relay, for mounting on DIN rail NS 35/7,5, 2 changeover contacts, input voltage 24 V DC

# REL-MR- 24DC/21-21AU - Single relay

2961215

<https://www.phoenixcontact.com/us/products/2961215>



## PLC-BPT- 24UC/21-21 - Relay base

2900284

<https://www.phoenixcontact.com/us/products/2900284>



14 mm PLC basic terminal block with Push-in connection, without relay or solid-state relay, for mounting on DIN rail NS 35/7,5, 2 changeover contacts, input voltage 24 V AC/DC

---

## PLC-BSC- 24UC/21-21 - Relay base

2967028

<https://www.phoenixcontact.com/us/products/2967028>



14 mm PLC basic terminal block with screw connection, without relay or solid-state relay, for mounting on DIN rail NS 35/7,5, 2 changeover contacts, input voltage 24 V AC/DC

# REL-MR- 24DC/21-21AU - Single relay

2961215

<https://www.phoenixcontact.com/us/products/2961215>



## PLC-BSC- 24DC/ 1- 1/ACT - Relay base

2967057

<https://www.phoenixcontact.com/us/products/2967057>



14 mm PLC basic terminal block for output functions with screw connection, without relay or solid-state relay, for mounting on DIN rail NS 35/7,5, with load return line connection (BB), 2 N/O contacts (1-1), input voltage 24 V DC

---

Phoenix Contact 2024 © - all rights reserved

<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)