

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

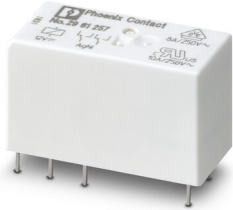
2961257

<https://www.phoenixcontact.com/de/produkte/2961257>

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 power contact, 2 changeover contacts, input voltage 12 V DC



---

## Your advantages

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

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



2961257

<https://www.phoenixcontact.com/de/produkte/2961257>

## Commercial Data

Item number	2961257
Packing unit	10 pc
Minimum order quantity	10 pc
Sales Key	G1 - Relais
Product Key	CK6195
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

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



2961257

<https://www.phoenixcontact.com/de/produkte/2961257>

## Technical Data

### Product properties

Product type	Single relay
Set comprises	2967235 PLC-RSC- 12DC/21-21
	2912497 PLC-RSP- 12DC/21-21
	2900329 PLC-RPT- 12DC/21-21
	2987105 PLC-RSP- 24UC/21-21/RW
	2900346 PLC-RPT- 24UC/21-21/RW
	2906223 RIF-1-RPT-LDP-12DC/2X21
	2908501 RIF-1-RSC-LDP-12DC/2X21
Operating mode	100% operating factor
Mechanical service life	3x 10 <sup>7</sup> cycles

### Insulation characteristics

Overvoltage category	III
Pollution degree	3
Insulation	Basic insulation

### Electrical properties

Service life electrical	see diagram
Maximum power dissipation for nominal condition	0.4 W
Test voltage	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
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 type	2 changeover contacts
Type of switch contact	Single contact
Drive and function	monostable
Contact material	AgNi
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	5 V (at 10 mA)

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

2961257

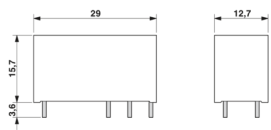
<https://www.phoenixcontact.com/de/produkte/2961257>

Limiting continuous current	8 A
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	Solder connection
-------------------	-------------------

## Dimensions

Dimensional drawing	
Width	12.7 mm
Height	29 mm
Depth	15.7 mm

## 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

## Approval data

### Corrosive gas test

Identification	ISA-S71.04. G3 Harsh Group
	EN 60068-2-60

## Standards and regulations

IEC 60664
-----------

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



2961257

<https://www.phoenixcontact.com/de/produkte/2961257>

Standards/regulations	EN 50178
	EN 61810-1

## Mounting

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

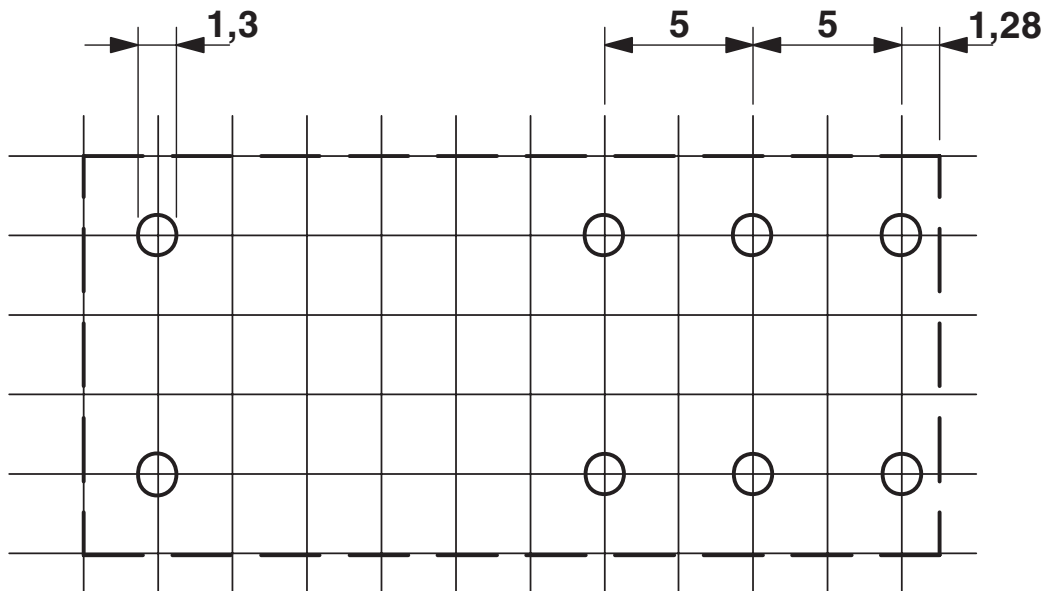
# Single relay - REL-MR- 12DC/21-21

2961257

<https://www.phoenixcontact.com/de/produkte/2961257>

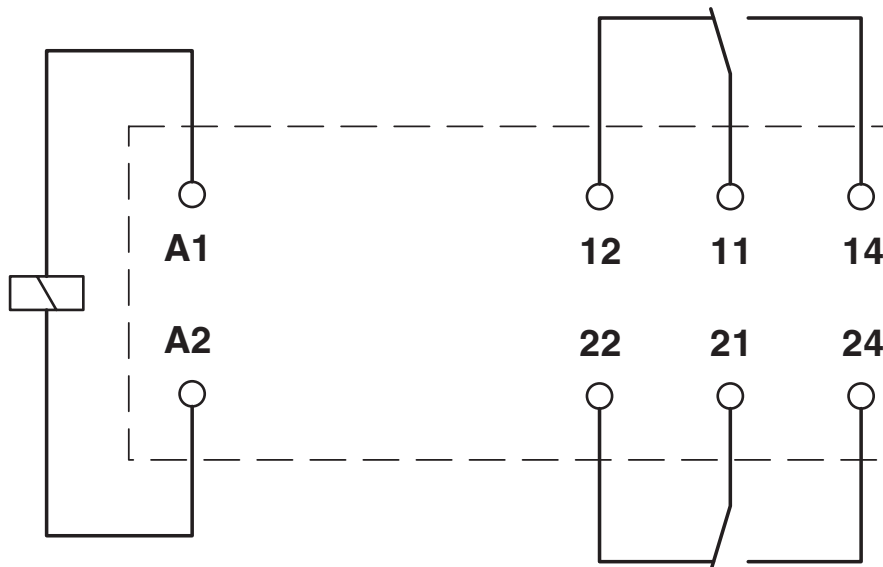
## Drawings

Drilling plan/solder pad geometry



a = pitch division 2.5 mm

Circuit diagram

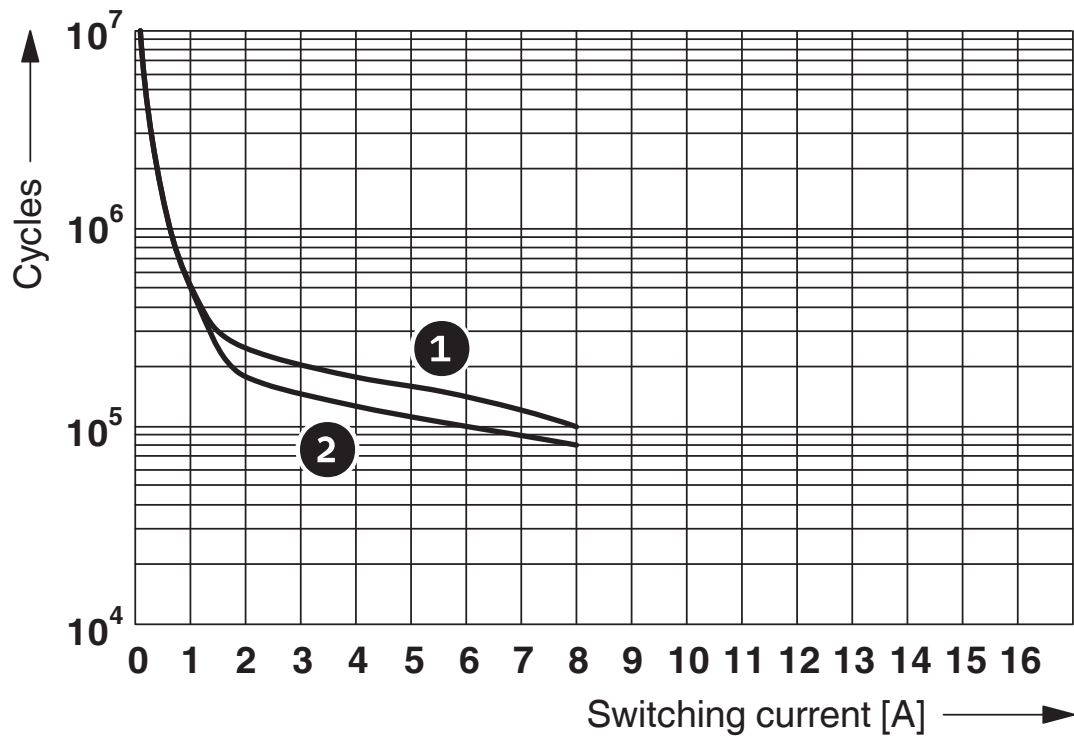


# Single relay - REL-MR- 12DC/21-21

2961257

<https://www.phoenixcontact.com/de/produkte/2961257>

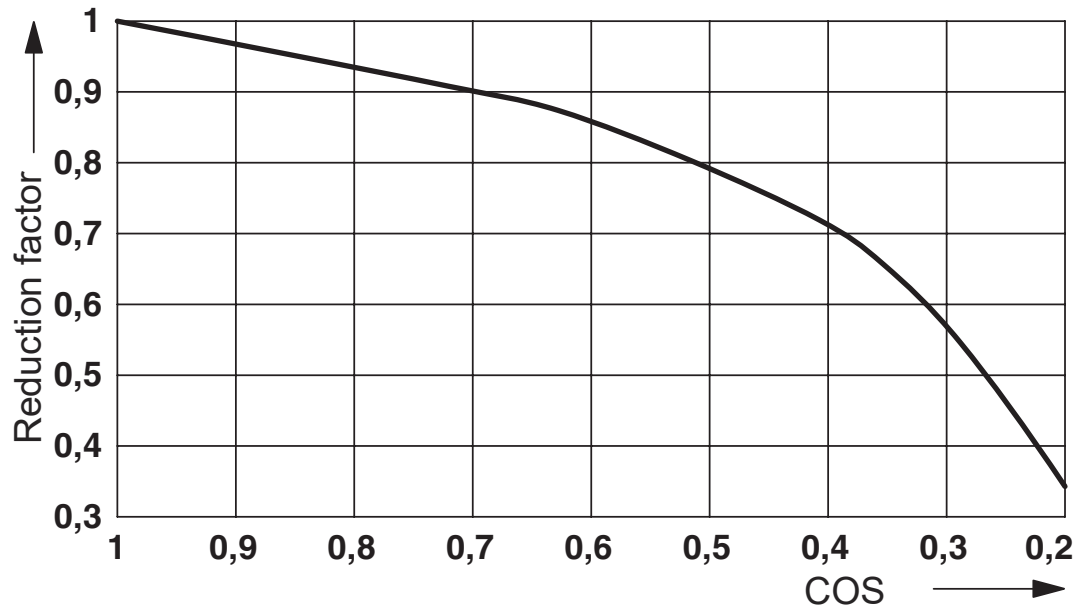
Diagram



- 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

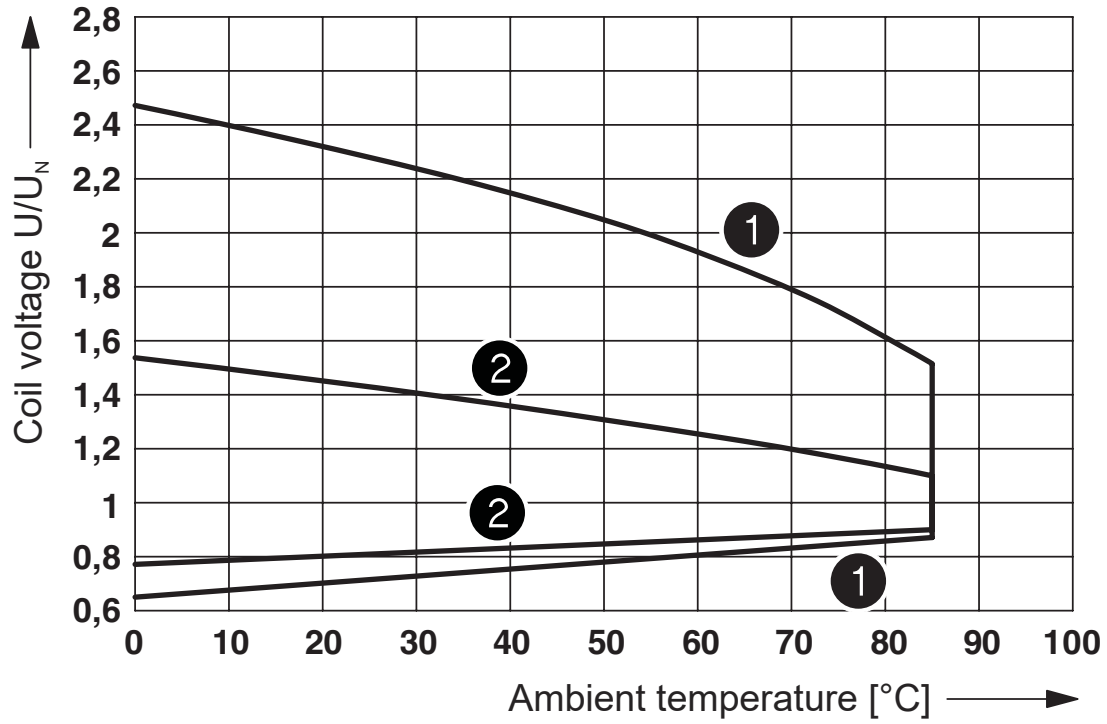


# Single relay - REL-MR- 12DC/21-21

2961257

<https://www.phoenixcontact.com/de/produkte/2961257>

Diagram



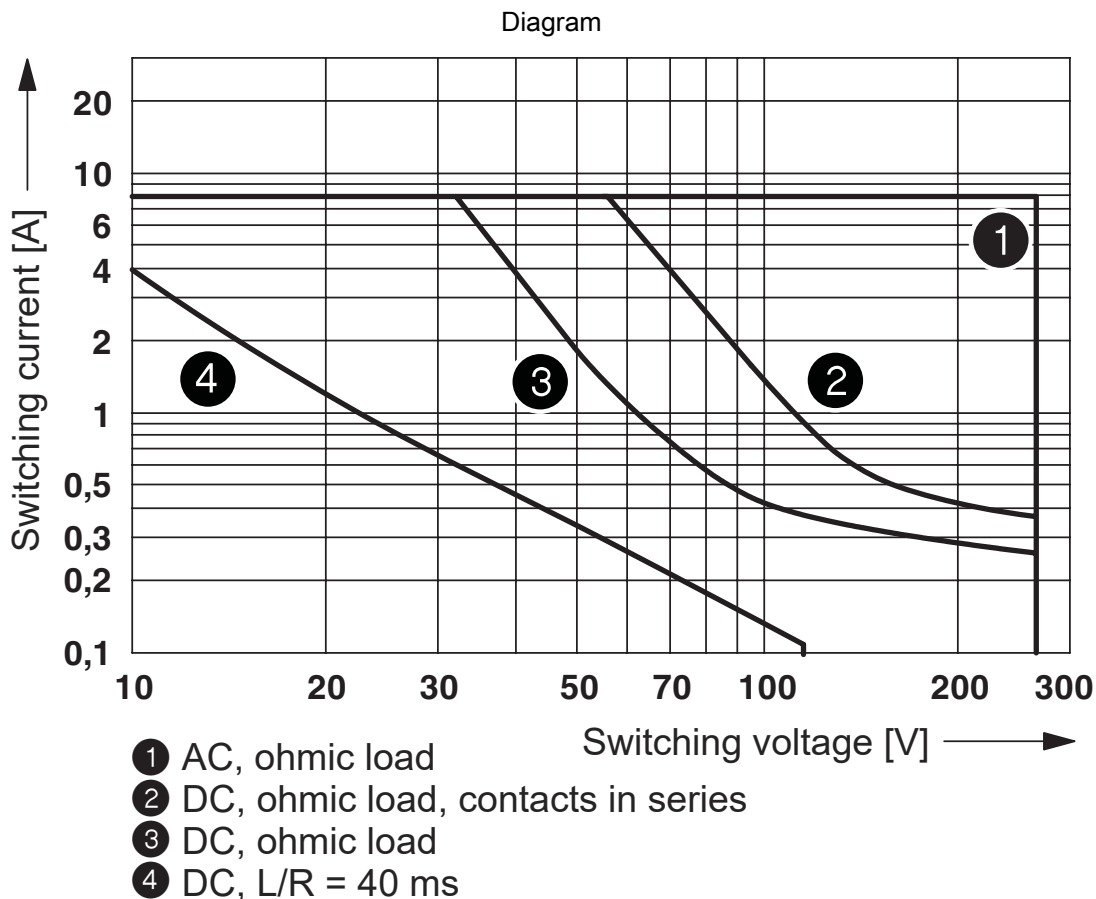
- ① DC coils
- ② AC coils

Operating voltage range

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

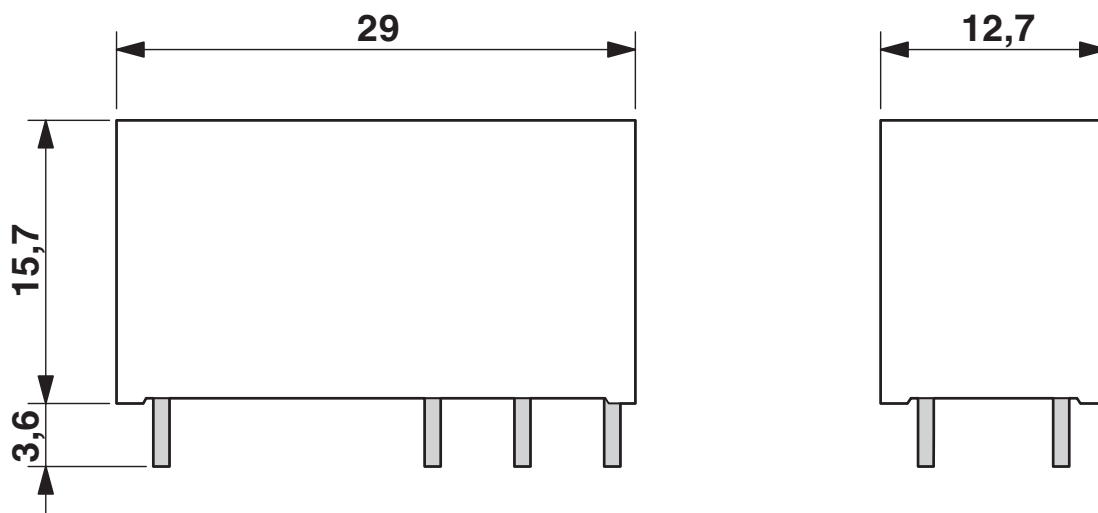
2961257

<https://www.phoenixcontact.com/de/produkte/2961257>



Interrupting rating

Dimensional drawing



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



2961257

<https://www.phoenixcontact.com/de/produkte/2961257>

## Approvals



**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

	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $mm^2$
Reports with production monitoring			-	-



**VDE Zeichengenehmigung**  
Approval ID: 40048281

	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $mm^2$
Reports with production monitoring			-	-



**PRS**  
Approval ID: TE/2109/880590/16



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



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

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



2961257

<https://www.phoenixcontact.com/de/produkte/2961257>



**UL Recognized**

Approval ID: FILE E 172140

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



2961257

<https://www.phoenixcontact.com/de/produkte/2961257>

## Classifications

### ECLASS

ECLASS-9.0	27371601
ECLASS-10.0.1	27371601
ECLASS-11.0	27371601

### ETIM

ETIM 8.0	EC001437
----------	----------

### UNSPSC

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

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



2961257

<https://www.phoenixcontact.com/de/produkte/2961257>

## Environmental Product Compliance

China RoHS

Environmentally friendly use period: unlimited = EFUP-e

No hazardous substances above threshold values

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

2961257

<https://www.phoenixcontact.com/de/produkte/2961257>

## Accessories

### Relay base

Relay base - PLC-BPT- 12DC/21-21 - 2900282

<https://www.phoenixcontact.com/de/produkte/2900282>



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 12 V DC

---

### Relay base

Relay base - PLC-BSC- 12DC/21-21 - 2967251

<https://www.phoenixcontact.com/de/produkte/2967251>



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 12 V DC

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

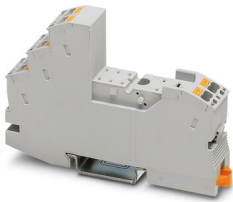
2961257

<https://www.phoenixcontact.com/de/produkte/2961257>

## Relay base

Relay base - RIF-1-BPT/2X21 - 2900931

<https://www.phoenixcontact.com/de/produkte/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

---

## Relay base

Relay base - RIF-1-BSC/2X21 - 2900930

<https://www.phoenixcontact.com/de/produkte/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

---

Phoenix Contact 2022 © - all rights reserved  
<https://www.phoenixcontact.com>

PHOENIX CONTACT Deutschland GmbH  
Flachsmarktstraße 8  
D-32825 Blomberg  
+49 52 35/3-1 20 00  
[info@phoenixcontact.de](mailto:info@phoenixcontact.de)