

# RIF-1-RPT-LV-230AC/2X21 - Relay module



2903331

<https://www.phoenixcontact.com/us/products/2903331>

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Preassembled relay module with Push-in connection, consisting of: relay base, power contact relay, plug-in display/interference suppression module, and retaining bracket. Contact switching type: 2 changeover contacts. Input voltage: 230 V AC

## Product description

The pluggable electromechanical and solid-state relays in the RIFLINE complete product range and the base are recognized and approved in accordance with UL 508. The relevant approvals can be called up at the individual components in question.

## Commercial data

Item number	2903331
Packing unit	10 pc
Minimum order quantity	10 pc
Sales key	C465
Product key	DK6529
GTIN	4046356732307
Weight per piece (including packing)	70 g
Weight per piece (excluding packing)	64 g
Customs tariff number	85364900
Country of origin	CN

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## Set consists of

### 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

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

2961451

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



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

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## RIF-LV-120-230 AC/110 DC - Plug-in module

2900944

<https://www.phoenixcontact.com/us/products/2900944>



Plug-in module, for mounting on RIF-1, RIF-2, RIF-3, and RIF-4, with varistor and yellow LED, input voltage: 120 V AC... 230 V AC / 110 V DC  $\pm$ 20 %

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## RIF-RH-1 - Retaining bracket

2900953

<https://www.phoenixcontact.com/us/products/2900953>



Relay retaining bracket, with ejector function and holder for marking material, suitable for RIF-1 relay base, for 16 mm tall miniature power relay and solid-state relay

## Technical data

### Notes

Notes on operation	FBS 2-6... plug-in bridge for the input side (A2) and FBS-2-8... plug-in bridge for the output side (11/21)
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### Product properties

Product type	Relay Module
Product family	RIFLINE complete
Application	Universal
Operating mode	100% operating factor
Mechanical service life	approx. $10^7$ cycles

### Insulation characteristics

Insulation	Safe isolation between input and output
	Basic insulation between the changeover contacts
Overvoltage category	III
Pollution degree	2

### Data management status

Date of last data management	20.01.2026
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### Electrical properties

Service life electrical	see diagram
Maximum power dissipation for nominal condition	1.38 W
Test voltage (Winding/contact)	4 kV <sub>rms</sub> (50 Hz, 1 min., winding/contact)
Test voltage (Changeover contact/changeover contact)	2.5 kV <sub>rms</sub> (50 Hz, 1 min., changeover contact/changeover contact)
Rated surge voltage	6 kV (Input/output)
	4 kV (between the changeover contacts)

### Input data

#### Coil side

Nominal input voltage $U_N$	230 V AC
Input voltage range	184 V AC ... 264.5 V AC (20 °C)
Input voltage range in reference to $U_N$	see diagram
Mains frequency	50/60 Hz
Drive and function	monostable
Drive (polarity)	polarized
Typical input current at $U_N$	6 mA
Typical response time	3 ms ... 12 ms
Typical release time range	3 ms ... 20 ms
Coil voltage	230 V AC
Protective circuit	Varistor

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Operating voltage display	Yellow LED
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## 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 (10 mA)
Limiting continuous current	8 A (see diagram)
Maximum inrush current	12 A (20 ms, N/O contacts)
Min. switching current	10 mA (5 V)
Interrupting rating (ohmic load) max.	192 W (at 24 V DC) 124 W (at 48 V DC) 108 W (at 60 V DC) 52 W (at 110 V DC) 48 W (at 220 V DC) 2500 VA (for 250 V AC)
Utilization category CB Scheme (IEC 60947-5-1)	AC15, 1.5 A/240 V (N/O contact) AC15, 2 A/250 V (N/C contact) DC13, 2 A/24 V (N/C contact) DC13, 0.2 A/250 V (N/O contact)

## Connection data

Connection method	Push-in connection
Stripping length	8 mm
Conductor cross-section rigid	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section flexible	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> 0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (Ferrule with plastic sleeve) 0.14 mm <sup>2</sup> ... 1 mm <sup>2</sup> (Ferrule with plastic sleeve, two conductors on double terminal block)
Conductor cross-section AWG	26 ... 16 (solid) 26 ... 16 (flexible)

## Dimensions

### Item dimensions

Width	16 mm
Height	96 mm
Depth	75 mm

### Drill hole

Diameter	3.2 mm
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## Material specifications

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Color	gray (RAL 7042)
Flammability rating according to UL 94 (Housing)	V2 (Housing)

## Environmental and real-life conditions

### Ambient conditions

Degree of protection (Relay base)	IP20 (Relay base)
Degree of protection (Relay)	RT III (Relay)
Ambient temperature (operation)	-40 °C ... 50 °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 60947-5-1
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## Mounting

Mounting type	DIN rail mounting
Assembly note	in rows with zero spacing
Mounting position	any

## Drawings

Diagram



① DC coils

② AC coils

Operating voltage range



Interrupting rating

Diagram



Contact derating

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



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



AC coils

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2903331>



**EAC**

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



**CCC**

Approval ID: 2024010303656844

**DNV**

Approval ID: TAA000018V

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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
Exemption	7(a), 7(c)-I

### China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

### EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	3bc186a3-f94d-43d6-b045-f28104a65a4a

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