

# RIF-1-RPT-LV-24AC/2X21 - Relay module



2903333

<https://www.phoenixcontact.com/us/products/2903333>

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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: 24 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                          | 2903333       |
| Packing unit                         | 10 pc         |
| Minimum order quantity               | 10 pc         |
| Sales key                            | C465          |
| Product key                          | DK6529        |
| GTIN                                 | 4046356732284 |
| Weight per piece (including packing) | 69.03 g       |
| Weight per piece (excluding packing) | 67.8 g        |
| Customs tariff number                | 85364110      |
| 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- 24AC/21-21 - Single relay

2961435

<https://www.phoenixcontact.com/us/products/2961435>



Plug-in miniature power relay, with power contact, 2 changeover contacts, input voltage 24 V AC

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## RIF-LV-12-24 UC - Plug-in module

2900942

<https://www.phoenixcontact.com/us/products/2900942>



Plug-in module, for mounting on RIF-1, RIF-2, RIF-3, and RIF-4, with varistor and yellow LED, input voltage: 12 V AC ... 24 V AC / 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

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## 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) |
|--------------------|-------------------------------------------------------------------------------------------------------------|

### 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 | 18.09.2025 |
|------------------------------|------------|

### Electrical properties

|                                                      |                                                                              |
|------------------------------------------------------|------------------------------------------------------------------------------|
| Service life electrical                              | see diagram                                                                  |
| Maximum power dissipation for nominal condition      | 0.79 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 $U_N$               | 24 V AC                         |
| Input voltage range                       | 19.2 V AC ... 27.6 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 $U_N$            | 33 mA                           |
| Typical response time                     | 3 ms ... 12 ms                  |
| Typical release time range                | 3 ms ... 20 ms                  |
| Coil voltage                              | 24 V AC                         |
| Protective circuit                        | Varistor                        |

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|                           |            |
|---------------------------|------------|
| Operating voltage display | Yellow LED |
|---------------------------|------------|

## 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)<br>96 W (at 48 V DC)<br>60 W (at 60 V DC)<br>44 W (at 110 V DC)<br>57 W (at 220 V DC)<br>2000 VA (for 250 V AC)  |
| Utilization category CB Scheme (IEC 60947-5-1) | AC15, 1.5 A/240 V (N/O contact)<br>AC15, 2 A/250 V (N/C contact)<br>DC13, 2 A/24 V (N/C contact)<br>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><br>0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (Ferrule with plastic sleeve)<br>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)<br>26 ... 16 (flexible)                                                                                                                                                                                                       |

## Dimensions

### Item dimensions

|        |       |
|--------|-------|
| Width  | 16 mm |
| Height | 96 mm |
| Depth  | 75 mm |

### Drill hole

|          |        |
|----------|--------|
| Diameter | 3.2 mm |
|----------|--------|

## 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 |
|-----------------------|---------------|

## Mounting

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

## Drawings

Diagram



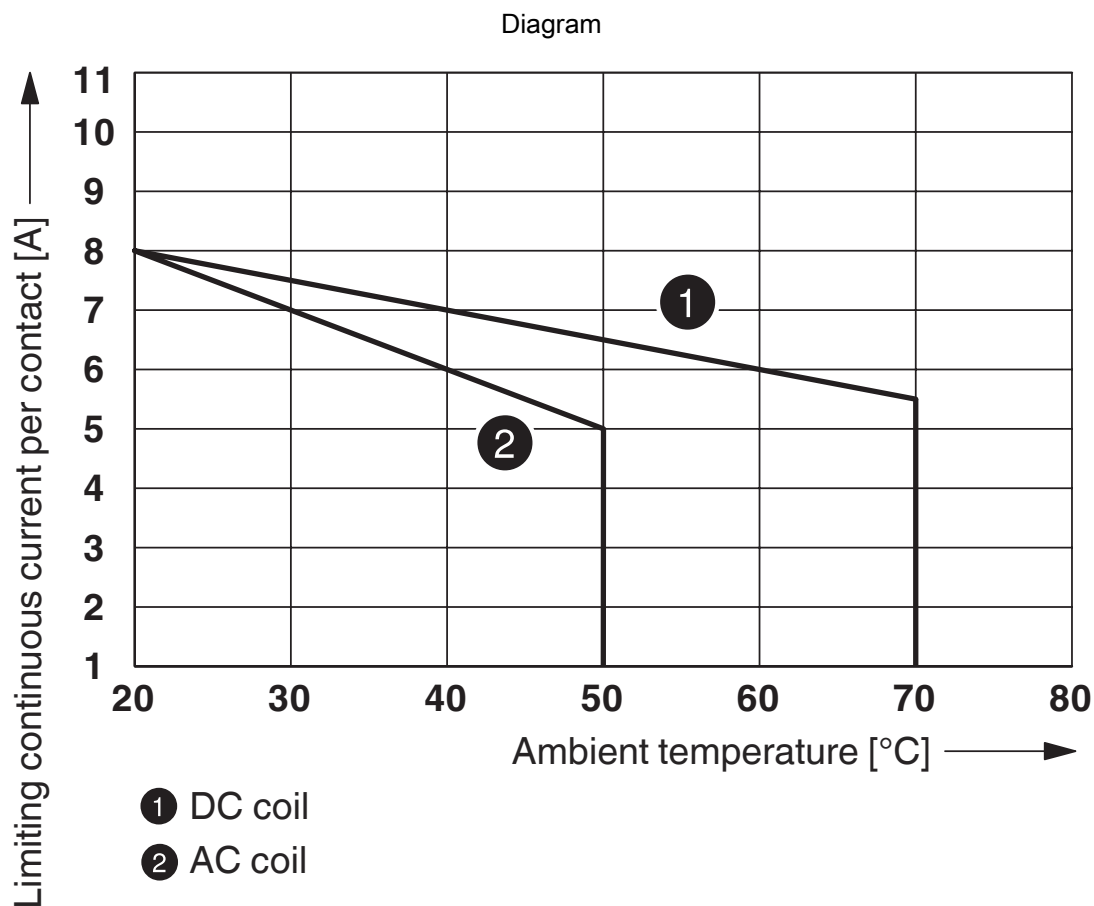
① DC coils

② AC coils

Operating voltage range



Interrupting rating



Contact derating

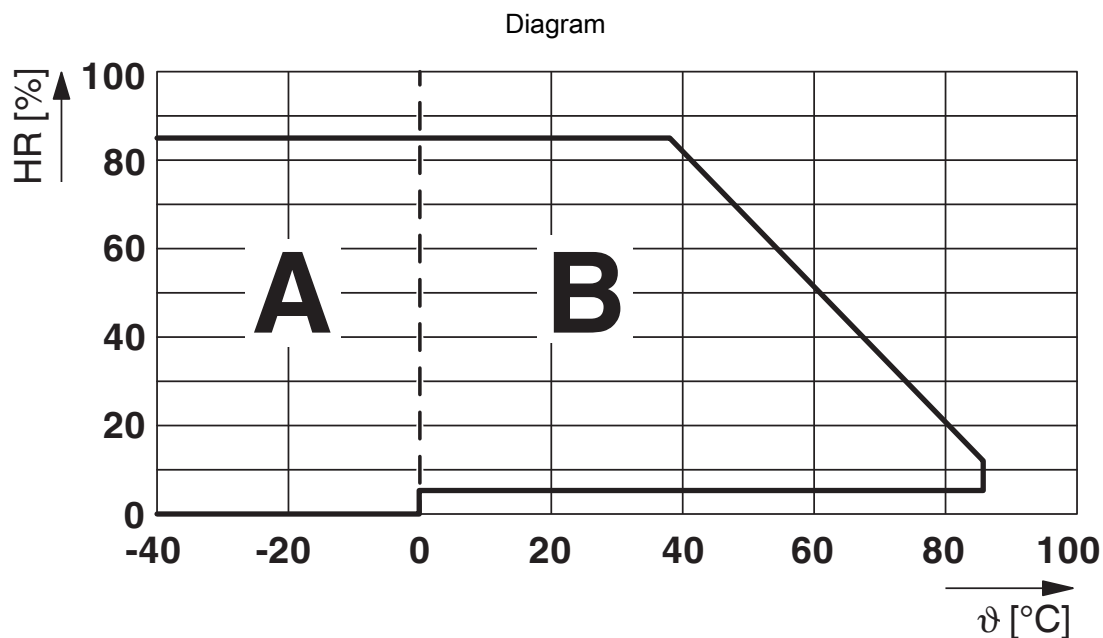


Electrical service life

Diagram



Service life reduction factor



Permissible humidity for operation and storage.

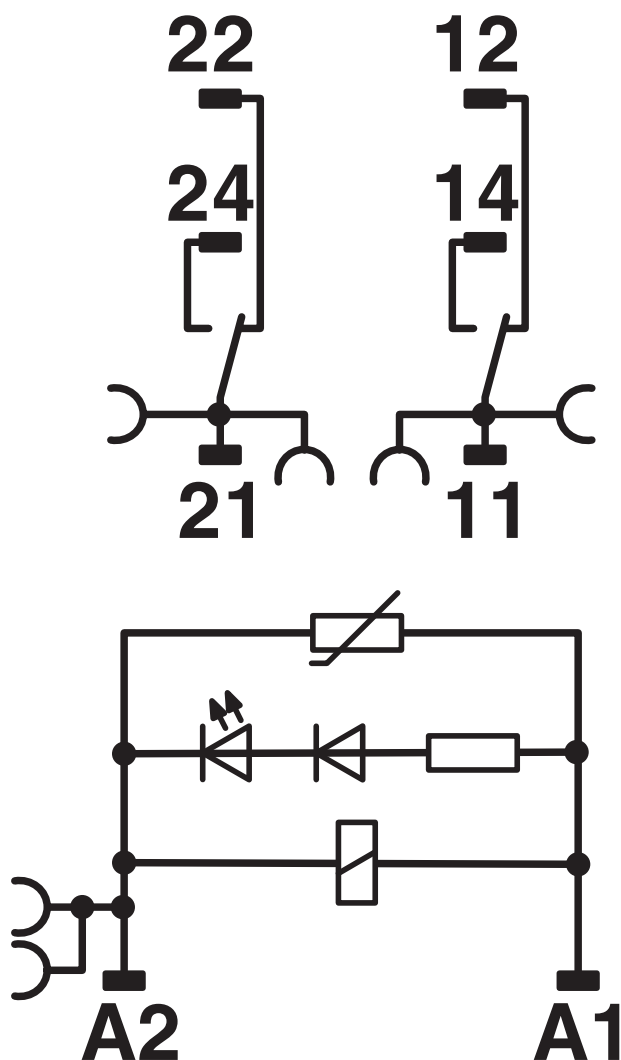
The maximum permissible ambient temperature as specified in the data sheet must be observed.

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/2903333>

### DNV

Approval ID: TAA000018V

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27371601 |
| ECLASS-15.0 | 27371601 |

### ETIM

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

### 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                                | c06de5b9-42aa-493c-8110-291a393d5e4b |

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