

# Relay Module - RIF-1-RPT-LV-24AC/2X21 - 2903333

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Pre-assembled relay module with push-in connection, consisting of: relay base, power contact relay, plug-in display/suppressor module, and retaining bracket. Contact type: 2 PDTs. Input voltage: 24 V AC

The figure shows the 24 V DC version



## Key Commercial Data

|                                      |   |
|--------------------------------------|---|
| Packing unit                         | 10 pc   |
| GTIN                                 | <br>4 046356 732284 |
| Weight per Piece (excluding packing) | 67.8 g  |
| Custom tariff number                 | 85364110  |
| Country of origin                    | Germany   |

## Technical data

### Note

|                         |   |
|-------------------------|---|
| Utilization restriction | EMC: class A product, see manufacturer's declaration in the download area |
|-------------------------|---|

### Dimensions

|        |       |
|--------|-------|
| Width  | 16 mm |
| Height | 93 mm |
| Depth  | 75 mm |

### Ambient conditions

|   |                  |
|---|------------------|
| Ambient temperature (operation)         | -40 °C ... 50 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |

### Coil side

|   |                |
|---|----------------|
| Nominal input voltage $U_N$               | 24 V AC        |
| Input voltage range in reference to $U_N$ | see diagram    |
| Typical input current at $U_N$            | 33 mA          |
| Typical response time                     | 3 ms ... 12 ms |

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## Technical data

### Coil side

|                            |                |
|----------------------------|----------------|
| Typical release time range | 3 ms ... 20 ms |
| Coil voltage               | 24 V AC        |
| Protective circuit         | Varistor       |
| Operating voltage display  | Yellow LED     |

### Contact side

|  |                           |
|--|---------------------------|
| Contact type   | 2 PDT                     |
| Contact material                                       | AgNi                      |
| Maximum switching voltage                              | 250 V AC/DC               |
| Minimum switching voltage                              | 5 V (at 10 mA)            |
| Min. switching current                                 | 10 mA (At 5 V)            |
| Maximum inrush current                                 | 12 A (20 ms, N/O contact) |
| Limiting continuous current                            | 8 A (see diagram)         |
| Interrupting rating (ohmic load) max.                  | 192 W (at 24 V DC)        |
|  | 96 W (at 48 V DC)         |
|  | 60 W (at 60 V DC)         |
|  | 44 W (at 110 V DC)        |
|  | 57 W (at 220 V DC)        |
|  | 2000 VA (for 250 V AC)    |
| Switching capacity in acc. with DIN VDE 0660/IEC 60947 | 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)      |

### Connection data input side

|                                  |  |
|----------------------------------|--|
| Connection name                  | Coil side  |
| Connection method                | Push-in connection   |
| Stripping length                 | 8 mm   |
| Conductor cross section solid    | 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 mm <sup>2</sup> (Ferrule with plastic sleeve)       |
|                                  | 0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (Ferrules without plastic sleeve) |
| Conductor cross section AWG      | 26 ... 16  |

### Connection data output side

|                                  |  |
|----------------------------------|--|
| Connection name                  | Contact side   |
| Connection method                | Push-in connection   |
| Stripping length                 | 8 mm   |
| Conductor cross section solid    | 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 mm <sup>2</sup> (Ferrule with plastic sleeve) |

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## Technical data

### Connection data output side

|                             |  |
|-----------------------------|--|
|                             | 0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (Ferrules without plastic sleeve) |
| Conductor cross section AWG | 26 ... 16  |

### General

| Type of note                             | Notes on operation  |
|--|---|
| Note                                     | FBS 2-6... plug-in bridge for the input side (A2) and FBS-2-8... plug-in bridge for the output side (11/21) |
| Test voltage relay winding/relay contact | 4 kV <sub>rms</sub> (50 Hz, 1 min.)   |
| Test voltage PDT/PDT                     | 2.5 kV <sub>rms</sub> (50 Hz, 1 min.)   |
| Operating mode                           | 100% operating factor   |
| Degree of protection                     | IP20 (Relay socket)   |
|  | RT III (Relay)  |
| Mechanical service life                  | Approx. 10 <sup>7</sup> cycles  |
| Standards/regulations                    | DIN EN 50178  |
|  | IEC 62103   |
| Degree of pollution                      | 2   |
| Overvoltage category                     | III   |
| Mounting position                        | any   |
| Assembly instructions                    | In rows with zero spacing   |

### Standards and Regulations

|                       |   |
|-----------------------|---|
| Standards/regulations | DIN EN 50178  |
|                       | IEC 62103   |
| Insulation            | Safe isolation, basic insulation, and 4 kV rated surge voltage between all changeover contacts. |
| Degree of pollution   | 2   |
| Overvoltage category  | III   |

## Articles in set

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



RIF-1... relay base, for miniature power relay with 1 or 2 PDTs or solid-state relays of the same design, push-in connection, plug-in option for input/suppressor modules, for mounting on NS 35/7,5

# Relay Module - RIF-1-RPT-LV-24AC/2X21 - 2903333

## Articles in set

Single relay - REL-MR- 24AC/21-21 - 2961435



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

Plug-in module - RIF-LV-12-24 UC - 2900942



Plug-in module, for mounting on RIF-1, RIF-2, RIF-3, and RIF-4, with varistor and yellow LED, input voltage: 12 - 24 V AC/DC  $\pm 20\%$

Retaining bracket - RIF-RH-1 - 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

## Classifications

### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27371102 |
| eCl@ss 4.1 | 27371102 |
| eCl@ss 5.0 | 27371603 |
| eCl@ss 5.1 | 27371603 |
| eCl@ss 6.0 | 27371603 |
| eCl@ss 7.0 | 27371603 |
| eCl@ss 8.0 | 27371601 |
| eCl@ss 9.0 | 27371601 |

### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC001456 |
| ETIM 4.0 | EC001456 |
| ETIM 5.0 | EC001437 |

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 30211917 |
| UNSPSC 7.0901 | 39121516 |

# Relay Module - RIF-1-RPT-LV-24AC/2X21 - 2903333

## Classifications

### UNSPSC

|              |          |
|--------------|----------|
| UNSPSC 11    | 39121516 |
| UNSPSC 12.01 | 39121516 |
| UNSPSC 13.2  | 39121516 |

## Approvals

### Approvals

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Approvals

EAC / GL / LR / EAC

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Ex Approvals

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Approvals submitted

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### Approval details

|     |
|-----|
| EAC |
|-----|

|    |
|----|
| GL |
|----|

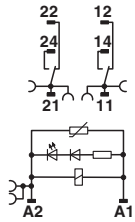
|    |
|----|
| LR |
|----|

|     |
|-----|
| EAC |
|-----|

## Drawings

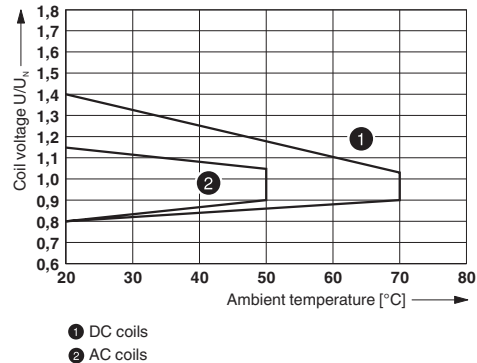
# Relay Module - RIF-1-RPT-LV-24AC/2X21 - 2903333

Circuit diagram



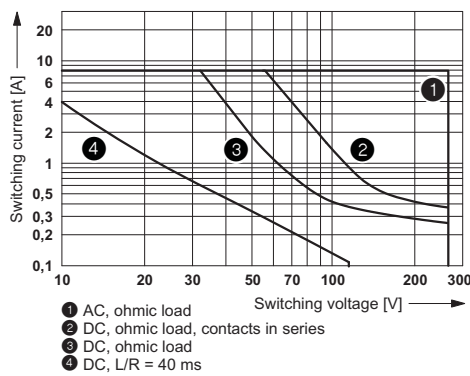
AC coils

Diagram



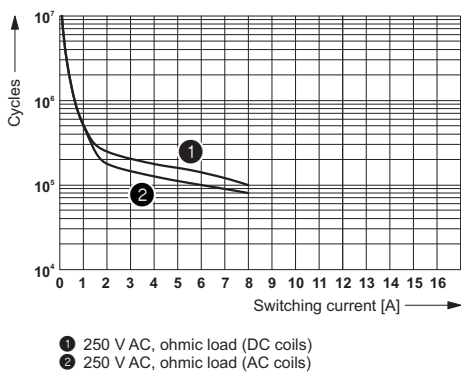
Operating voltage range

Diagram



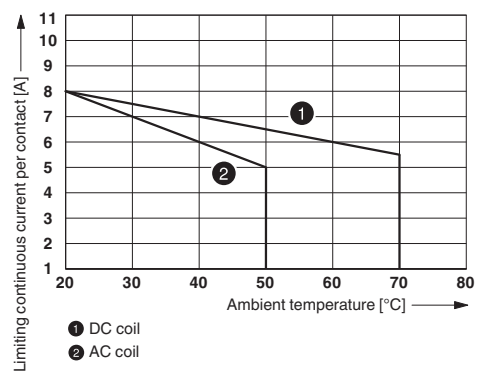
Interrupting rating

Diagram



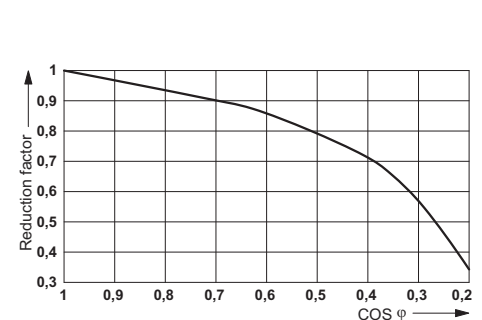
Electrical service life

Diagram



Contact derating

Diagram



Service life reduction factor