

# Relay Module - RIF-1-RSC-LDP-24DC/1X21MS - 2905659

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Pre-assembled relay module with screw connection, consisting of: relay base, relay retaining bracket, and power contact relay with test button, integrated status LED, and freewheeling diode. Contact type: 1 changeover contact. Input voltage: 24 V DC



## Key Commercial Data

|              |               |
|--------------|---------------|
| Packing unit | 10 STK        |
| GTIN         |               |
| GTIN         | 4046356983266 |

## Technical data

### Note

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

### Dimensions

|        |       |
|--------|-------|
| Width  | 16 mm |
| Height | 89 mm |
| Depth  | 75 mm |

### Ambient conditions

|   |                  |
|---|------------------|
| Ambient temperature (operation)         | -40 °C ... 60 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |

### Coil side

|   |             |
|---|-------------|
| Nominal input voltage $U_N$               | 24 V DC     |
| Input voltage range in reference to $U_N$ | see diagram |
| Typical input current at $U_N$            | 18 mA       |
| Typical response time                     | 9 ms        |
| Typical release time                      | 10 ms       |
| Coil voltage                              | 24 V DC     |

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## Technical data

### Coil side

|   |               |
|---|---------------|
| Protective circuit                      | Damping diode |
| Operating voltage display               | Yellow LED    |
| Power dissipation for nominal condition | 0.43 W        |

### Contact side

|  |                           |
|--|---------------------------|
| Contact type   | 1 PDT                     |
| Type of switch contact                                 | Single contact            |
| Contact material                                       | AgNi                      |
| Maximum switching voltage                              | 250 V AC/DC               |
| Minimum switching voltage                              | 12 V (at 10 mA)           |
| Min. switching current                                 | 10 mA (at 12 V)           |
| Maximum inrush current                                 | 24 A (20 ms, N/O contact) |
| Limiting continuous current                            | see diagram               |
| Interrupting rating (ohmic load) max.                  | 240 W (at 24 V DC)        |
|  | 62 W (at 48 V DC)         |
|  | 48 W (at 60 V DC)         |
|  | 52 W (at 110 V DC)        |
|  | 66 W (at 220 V DC)        |
|  | 2500 VA (for 250 V AC)    |
| Switching capacity min.                                | 120 mW                    |
| Switching capacity in acc. with DIN VDE 0660/IEC 60947 | 2 A (at 24 V, DC13)       |
|  | 3 A (at 24 V, AC15)       |
|  | 3 A (at 120 V, AC15)      |
|  | 3 A (at 240 V, AC15)      |

### Connection data input side

|   |  |
|---|--|
| Connection name   | Coil side  |
| Connection method   | Screw connection   |
| Stripping length  | 8 mm   |
| Conductor cross section solid   | 0.5 mm <sup>2</sup> ... 4 mm <sup>2</sup>                                      |
| Conductor cross-section solid (2 conductors with same cross section)    | 0.5 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>                                    |
| Conductor cross section flexible  | 0.5 mm <sup>2</sup> ... 4 mm <sup>2</sup>                                      |
|   | 0.5 mm <sup>2</sup> ... 4 mm <sup>2</sup> (Ferrule with plastic sleeve)        |
| Conductor cross section flexible (2 conductors with same cross section) | 0.5 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>                                    |
|   | 0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (TWIN ferrule with plastic sleeve) |
| Conductor cross section AWG   | 20 ... 10 (solid)  |
|   | 20 ... 12 (flexible)   |
| Torque  | 0.5 Nm ... 0.6 Nm  |

### Connection data output side

|                   |                  |
|-------------------|------------------|
| Connection name   | Contact side     |
| Connection method | Screw connection |

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## Technical data

### Connection data output side

|   |  |
|---|--|
| Stripping length  | 8 mm   |
| Conductor cross section solid   | 0.5 mm <sup>2</sup> ... 4 mm <sup>2</sup>                                      |
| Conductor cross-section solid (2 conductors with same cross section)    | 0.5 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>                                    |
| Conductor cross section flexible  | 0.5 mm <sup>2</sup> ... 4 mm <sup>2</sup>                                      |
|   | 0.5 mm <sup>2</sup> ... 4 mm <sup>2</sup> (Ferrule with plastic sleeve)        |
| Conductor cross section flexible (2 conductors with same cross section) | 0.5 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>                                    |
|   | 0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (TWIN ferrule with plastic sleeve) |
| Conductor cross section AWG   | 20 ... 10 (solid)  |
|   | 20 ... 12 (flexible)   |
| Torque  | 0.5 Nm ... 0.6 Nm  |

### General

|  |                                     |
|--|-------------------------------------|
| Test voltage relay winding/relay contact | 4 kV <sub>rms</sub> (50 Hz, 1 min.) |
| Operating mode                           | 100% operating factor               |
| Degree of protection                     | IP20 (Relay base)                   |
|  | RT II (Relay)                       |
| Mechanical service life                  | approx. 5x 10 <sup>6</sup> cycles   |
| Mounting position                        | any                                 |
| Assembly instructions                    | In rows with zero spacing           |

### Standards and Regulations

|  |                |
|--|----------------|
| Standards/regulations                  | DIN EN 50178   |
| Rated insulation voltage               | 250 V AC       |
| Rated surge voltage                    | 6 kV           |
| Insulation                             | safe isolation |
| Degree of pollution                    | 2              |
| Overvoltage category                   | III            |
| Flammability rating according to UL 94 | V2             |

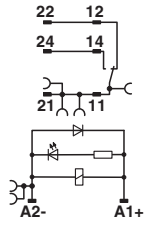
### Environmental Product Compliance

|            |   |
|------------|---|
| China RoHS | Environmentally Friendly Use Period = 50  |
|            | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

## Drawings

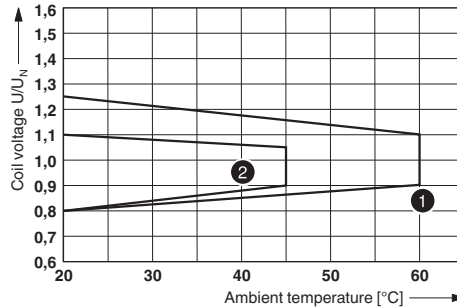
# Relay Module - RIF-1-RSC-LDP-24DC/1X21MS - 2905659

Circuit diagram



DC coils

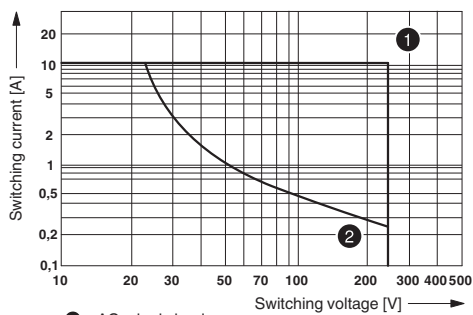
Diagram



- 1 DC coils
- 2 AC coils

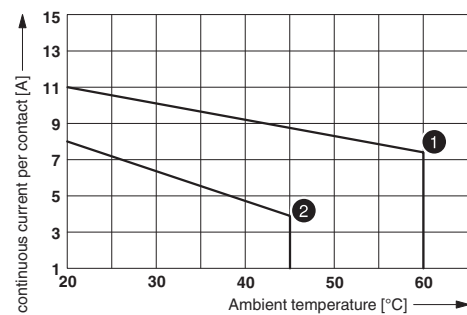
Operating voltage range

Diagram



- 1 = AC, ohmic load
- 2 = DC, ohmic load

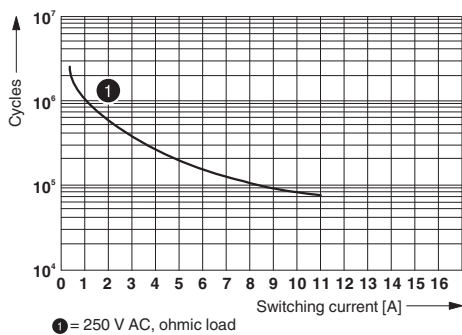
Diagram



- 1 DC coil
- 2 AC coil

Interrupting rating

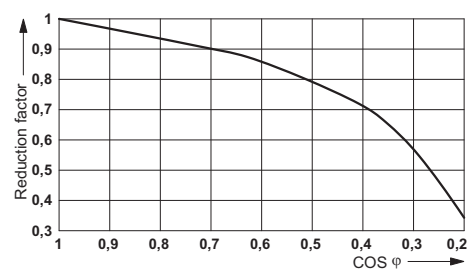
Diagram



- 1 = 250 V AC, ohmic load

Contact derating

Diagram



Electrical service life

Service life reduction factor

# Relay Module - RIF-1-RSC-LDP-24DC/1X21MS - 2905659

## Articles in set

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

Single relay - REL-MR- 24DC/21HC/MS - 2987888



Plug-in miniature relay, with power contact, 1 PDT, test button, mechanical switch position indicator, status LED, freewheeling diode, polarity A1+, A2-, input voltage 24 V DC

Retaining bracket - RIF-RH-1-H - 2904468



Relay retaining bracket, with ejector function and holder for marking material, suitable for RIF-1 relay base, for 25 mm tall miniature power relay and solid-state relay

## Approvals

Approvals

Approvals

DNV GL / EAC

Ex Approvals

## Approval details

|        |   |            |
|--------|---|------------|
| DNV GL | <a href="http://exchange.dnv.com/tari/">http://exchange.dnv.com/tari/</a> | TAA000018V |
|--------|---|------------|

|     |  |                          |
|-----|--|--------------------------|
| EAC |  | RU C-<br>DE.A*30.B.01082 |
|-----|--|--------------------------|

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