# Relay Module - RIF-1-RSC-LDP-12DC/2X21 - 2908501

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's documentation. Our General Terms of Use for Downloads are valid (http://phoenixcontact.com/download)



Pre-assembled relay module with screw connection, consisting of: relay base, power contact relay, plug-in display/interference suppression module, and retaining bracket. Contact type: 2 changeover contacts. Input voltage: 12 V DC

## Key Commercial Data

| | |
|---|---|
| Packing unit | 10 pc |
| GTIN | 4 055626 306230 |
| GTIN | 4055626306230 |

## 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 ... 70 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |

### Coil side

| | |
|---|---|
| Nominal input voltage $U_N$ | 12 V DC |
| Input voltage range in reference to $U_N$ | see diagram |
| Typical input current at $U_N$ | 33 mA |
| Typical response time | 8 ms |
| Typical release time | 10 ms |
| Coil voltage | 12 V DC |

# Relay Module - RIF-1-RSC-LDP-12DC/2X21 - 2908501

## Technical data

### Coil side

| | |
|---|---|
| Protective circuit | Damping diode |
| Operating voltage display | Yellow LED |

### Contact side

| | |
|---|---|
| Contact type | 2 PDT |
| Type of switch contact | Single contact |
| 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 | 25 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 | 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 | Screw connection |
| Stripping length | 8 mm |
| Conductor cross section solid | 0.5 mm² ... 4 mm² |
| Conductor cross-section solid (2 conductors with same cross section) | 0.5 mm² ... 2.5 mm² |
| Conductor cross section flexible | 0.5 mm² ... 4 mm² |
| | 0.5 mm² ... 4 mm² (Ferrule with plastic sleeve) |
| Conductor cross section flexible (2 conductors with same cross section) | 0.5 mm² ... 2.5 mm² |
| | 0.5 mm² ... 1.5 mm² (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 |
| Stripping length | 8 mm |

# Relay Module - RIF-1-RSC-LDP-12DC/2X21 - 2908501

## Technical data

### Connection data output side

| | |
|---|---|
| Conductor cross section solid | 0.5 mm² ... 4 mm² |
| Conductor cross-section solid (2 conductors with same cross section) | 0.5 mm² ... 2.5 mm² |
| Conductor cross section flexible | 0.5 mm² ... 4 mm² |
| | 0.5 mm² ... 4 mm² (Ferrule with plastic sleeve) |
| Conductor cross section flexible (2 conductors with same cross section) | 0.5 mm² ... 2.5 mm² |
| | 0.5 mm² ... 1.5 mm² (TWIN ferrule with plastic sleeve) |
| Conductor cross section AWG | 20 ... 10 (solid) |
| | 20 ... 12 (flexible) |
| Torque | 0.5 Nm ... 0.6 Nm |

### 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 $kV_{rms}$ (50 Hz, 1 min.) |
| Test voltage PDT/PDT | 2.5 $kV_{rms}$ (50 Hz, 1 min.) |
| Operating mode | 100% operating factor |
| Degree of protection | IP20 (Relay base) |
| | RT III (Relay) |
| Mechanical service life | approx. 3x $10^7$ cycles |
| Service life, electrical | see diagram |
| Mounting position | any |
| Assembly instructions | In rows with zero spacing |
| Net weight (SAP) | 69 g |

### Standards and Regulations

| | |
|---|---|
| Standards/regulations | DIN EN 50178 |
| Rated surge voltage | 6 kV |
| Insulation | Safe isolation, basic insulation, and 4 kV rated surge voltage between all changeover contacts. |
| Degree of pollution | 2 |
| Overvoltage category | III |
| Flammability rating according to UL 94 | V2 |

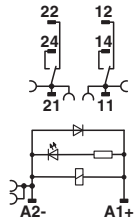
### Environmental Product Compliance

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

## Drawings

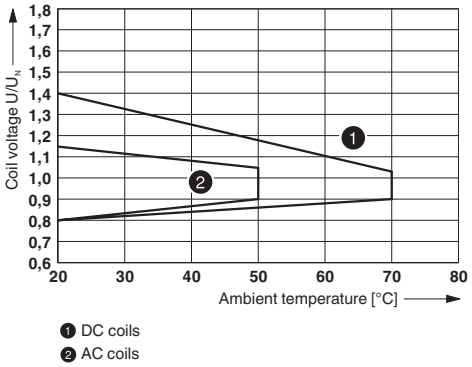
# Relay Module - RIF-1-RSC-LDP-12DC/2X21 - 2908501

Circuit diagram




DC coils

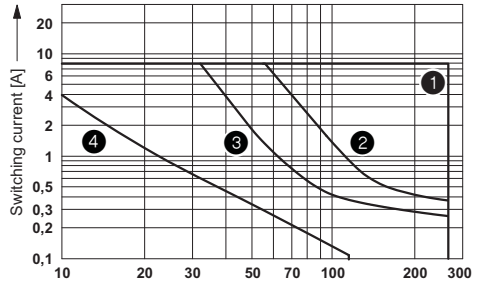
Diagram




1 DC coils
2 AC coils

Operating voltage range

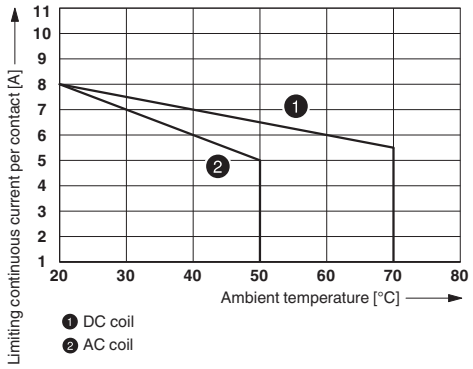
Diagram




1 AC, ohmic load
2 DC, ohmic load, contacts in series
3 DC, ohmic load
4 DC, L/R = 40 ms

Interrupting rating

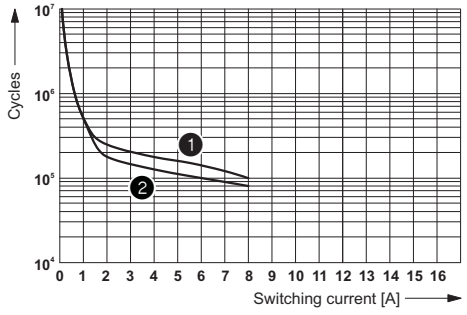
Diagram




1 DC coil
2 AC coil

Contact derating

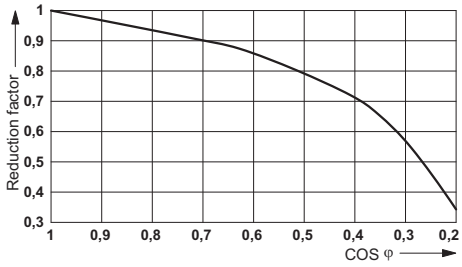
Diagram




1 250 V AC, ohmic load (DC coils)
2 250 V AC, ohmic load (AC coils)

Electrical service life

Diagram




Service life reduction factor

# Relay Module - RIF-1-RSC-LDP-12DC/2X21 - 2908501

## 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- 12DC/21-21 - 2961257



Plug-in miniature power relay, with power contact, 2 PDTs, input voltage 12 V DC

Plug-in module - RIF-LDP-12-24 DC - 2900939



Plug-in module, for mounting on RIF-1, RIF-2, RIF-3, and RIF-4, with freewheeling diode and yellow LED, polarity: A1+, A2-, input voltage: 12 ... 24 V DC ±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

## Approvals

### Approvals

Approvals

DNV GL / EAC

Ex Approvals

### Approval details

# Relay Module - RIF-1-RSC-LDP-12DC/2X21 - 2908501

## Approvals

| | | | |
|---|---|---|---|
| DNV GL | | http://exchange.dnv.com/tari/ | TAA000018V |

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

Phoenix Contact 2019 © - all rights reserved
http://www.phoenixcontact.com

PHOENIX CONTACT GmbH & Co. KG
Flachsmarktstr. 8
32825 Blomberg
Germany
Tel. +49 5235 300
Fax +49 5235 3 41200
http://www.phoenixcontact.com