

## Relay Module - RIF-4-RSC-LV-120AC/2X21 - 2903290

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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: 120 V AC

RoHS

### Key Commercial Data

|                                      |                                                                                                         |
|--------------------------------------|---------------------------------------------------------------------------------------------------------|
| Packing unit                         | 5 pc                                                                                                    |
| GTIN                                 | <br>4 046356 732772 |
| GTIN                                 | 4046356732772                                                                                           |
| Weight per Piece (excluding packing) | 188.230 g                                                                                               |
| Custom tariff number                 | 85364900                                                                                                |
| Country of origin                    | China                                                                                                   |

### Technical data

#### Note

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

#### Dimensions

|        |       |
|--------|-------|
| Width  | 44 mm |
| Height | 96 mm |
| Depth  | 91 mm |

#### Ambient conditions

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

#### Coil side

|                                           |             |
|-------------------------------------------|-------------|
| Nominal input voltage $U_N$               | 120 V AC    |
| Input voltage range in reference to $U_N$ | see diagram |
| Mains frequency                           | 50/60 Hz    |

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## Technical data

### Coil side

|                                |                |
|--------------------------------|----------------|
| Typical input current at $U_N$ | 24 mA          |
| Typical response time          | 5 ms ... 25 ms |
| Typical release time range     | 5 ms ... 20 ms |
| Coil voltage                   | 120 V AC       |
| Protective circuit             | Varistor       |
| Operating voltage display      | Yellow LED     |

### Contact side

|                                       |                                          |
|---------------------------------------|------------------------------------------|
| Contact type                          | 2 PDT                                    |
| Type of switch contact                | Single contact                           |
| Contact material                      | AgNi                                     |
| Maximum switching voltage             | 440 V AC                                 |
|                                       | 250 V DC                                 |
| Minimum switching voltage             | 10 V (At 24 mA)                          |
| Min. switching current                | 10 mA (at 24 V)                          |
| Maximum inrush current                | 50 A (20 ms, N/O contact)                |
| Limiting continuous current           | 9 A (see diagram)                        |
| Interrupting rating (ohmic load) max. | 216 W (at 24 V DC)                       |
|                                       | 124 W (at 48 V DC)                       |
|                                       | 108 W (at 60 V DC)                       |
|                                       | 52 W (at 110 V DC)                       |
|                                       | 70 W (at 220 V DC)                       |
|                                       | 2250 VA (for 250 V AC)                   |
|                                       | 4000 VA (at 440 V AC)                    |
| Switching capacity                    | 2 A (at 24 V, DC13)                      |
|                                       | 0.22 A (at 120 V, DC13)                  |
|                                       | 0.11 A (at 250 V, DC13)                  |
|                                       | 3 A (at 120 V, AC15)                     |
|                                       | 1.5 A (at 240 V, AC15)                   |
| Single-phase motor load               | 800 W                                    |
| Motor load according to UL 508        | 1/3 HP, 120 V AC (single-phase AC motor) |
|                                       | 1/2 HP, 240 V AC (single-phase AC motor) |

### Connection data input side

|                                                                         |                                                                         |
|-------------------------------------------------------------------------|-------------------------------------------------------------------------|
| Connection name                                                         | Input 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>                             |

## Relay Module - RIF-4-RSC-LV-120AC/2X21 - 2903290

### Technical data

#### Connection data input side

|                             |                                                                                |
|-----------------------------|--------------------------------------------------------------------------------|
|                             | 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                                                               |
| 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 | 2.5 kV <sub>rms</sub> (50 Hz, 1 min.) |
| Test voltage relay contact/relay contact | 2.5 kV <sub>rms</sub> (50 Hz, 1 min.) |
| Operating mode                           | 100% operating factor                 |
| Degree of protection                     | IP20 (Relay base)                     |
|                                          | RT I (Relay)                          |
| Mechanical service life                  | approx. 10 <sup>7</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                    | 4 kV             |
| Insulation                             | Basic insulation |
| Degree of pollution                    | 2                |
| Overvoltage category                   | III              |
| Flammability rating according to UL 94 | V2               |

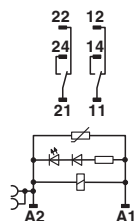
#### Environmental Product Compliance

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

# Relay Module - RIF-4-RSC-LV-120AC/2X21 - 2903290

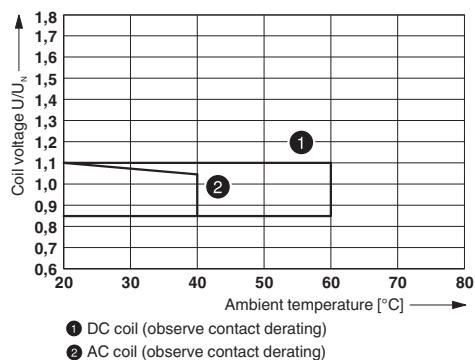
## Drawings

Circuit diagram



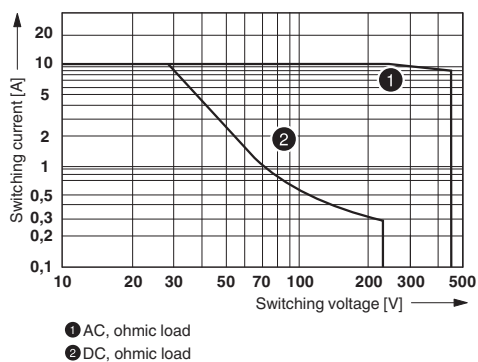
AC coils

Diagram

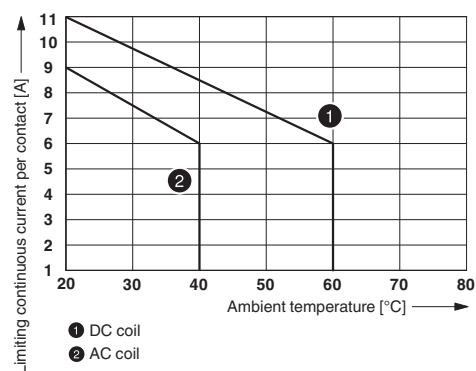


Operating voltage range

Diagram

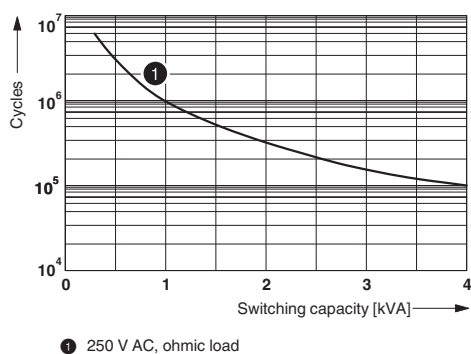


Diagram



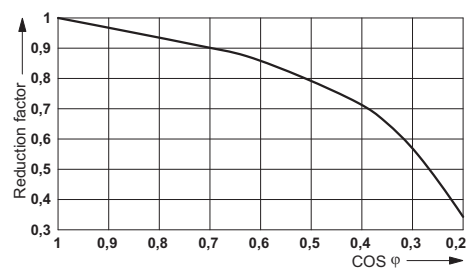
Interrupting rating

Diagram



Contact derating

Diagram



Electrical service life

Service life reduction factor

## Relay Module - RIF-4-RSC-LV-120AC/2X21 - 2903290

### Articles in set

Relay base - RIF-4-BSC/3X21 - 2900960



RIF-4... relay base, for high-power relay with 2 or 3 changeover contacts or 3 N/O contacts, screw connection, plug-in option for input/interference suppression modules, for mounting on NS 35/7,5

Single relay - REL-PR2-120AC/2X21 - 2903700



Plug-in high-power relay with power contacts, 2 PDTs, coil voltage: 120 V AC

Plug-in module - RIF-LV-120-230 AC/110 DC - 2900944



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

Retaining bracket - RIF-RH-4 - 2900956



Relay retaining bracket, with holder for marking material, suitable for RIF-4 relay base, for high-power relay

### Classifications

#### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 5.0 | 27371601 |
| eCl@ss 5.1 | 27371600 |
| eCl@ss 6.0 | 27371600 |
| eCl@ss 7.0 | 27371601 |
| eCl@ss 8.0 | 27371601 |
| eCl@ss 9.0 | 27371601 |

#### ETIM

|          |          |
|----------|----------|
| ETIM 2.0 | EC001437 |
| ETIM 3.0 | EC001437 |

## Relay Module - RIF-4-RSC-LV-120AC/2X21 - 2903290

### Classifications

#### ETIM

|          |          |
|----------|----------|
| ETIM 4.0 | EC001437 |
| ETIM 5.0 | EC001437 |
| ETIM 6.0 | EC001437 |

#### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 30211916 |
| UNSPSC 7.0901 | 39121515 |
| UNSPSC 11     | 39121515 |
| UNSPSC 12.01  | 39121515 |
| UNSPSC 13.2   | 39122334 |

### Approvals

#### Approvals

#### Approvals

DNV GL / CSA / EAC

#### Ex Approvals

#### Approval details

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

|     |                                                                                     |                                                                                                                                         |         |
|-----|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------|
| CSA |  | <a href="http://www.csagroup.org/services-industries/product-listing/">http://www.csagroup.org/services-industries/product-listing/</a> | 2607057 |
|-----|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------|

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

### Accessories

#### Accessories

#### End block

## Relay Module - RIF-4-RSC-LV-120AC/2X21 - 2903290

### Accessories

End clamp - CLIPFIX 35 - 3022218



Quick mounting end clamp for NS 35/7,5 DIN rail or NS 35/15 DIN rail, with marking option, width: 9.5 mm, color: gray

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### Insulating sleeve

Insulating sleeve - MPS-IH WH - 0201663

Insulating sleeve, color: white



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Insulating sleeve - MPS-IH RD - 0201676

Insulating sleeve, color: red



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Insulating sleeve - MPS-IH BU - 0201689

Insulating sleeve, color: blue



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Insulating sleeve - MPS-IH YE - 0201692

Insulating sleeve, color: yellow



## Relay Module - RIF-4-RSC-LV-120AC/2X21 - 2903290

### Accessories

Insulating sleeve - MPS-IH GN - 0201702

Insulating sleeve, color: green



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Insulating sleeve - MPS-IH GY - 0201728

Insulating sleeve, color: gray



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Insulating sleeve - MPS-IH BK - 0201731

Insulating sleeve, color: black



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### Jumper

Plug-in bridge - FBS 2-6 - 3030336



Plug-in bridge, pitch: 6.2 mm, width: 10.7 mm, number of positions: 2, color: red

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Plug-in bridge - FBS 2-6 BU - 3036932



Plug-in bridge, pitch: 6.2 mm, width: 10.7 mm, number of positions: 2, color: blue



## Relay Module - RIF-4-RSC-LV-120AC/2X21 - 2903290

### Accessories

Plug-in bridge - FBS 2-6 GY - 3032237



Plug-in bridge, pitch: 6.2 mm, width: 10.7 mm, number of positions: 2, color: gray

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### Marker carriers

Marker carriers - STP 5-2 - 0800967



Double marker carrier, snaps onto the double-level spring-cage terminal block STTB 2,5, STTB 4, PTTB 2,5, PTTB 4 can be marked with UC-TM 5, ZB 5 or UC-TMF 5, ZBF 5

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### Terminal marking

Zack marker strip - ZB 5 :UNBEDRUCKT - 1050004



Zack marker strip, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into tall marker groove, for terminal block width: 5.2 mm, lettering field size: 5.1 x 10.5 mm

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Zack marker strip - ZB 15:UNBEDRUCKT - 0811972



Zack marker strip, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into tall marker groove, for terminal block width: 15.2 mm, lettering field size: 10.5 x 15.1 mm

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Marker for terminal blocks - UC-TM 16 - 0819217



Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into tall marker groove, for terminal block width: 16 mm, lettering field size: 15.45 x 10.5 mm

## Relay Module - RIF-4-RSC-LV-120AC/2X21 - 2903290

### Accessories

Marker for terminal blocks - UC-TMF 16 - 0819262



Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into flat marker groove, for terminal block width: 16 mm, lettering field size: 15.45 x 5.1 mm

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### Test plug terminal block

Test plugs - MPS-MT - 0201744



Test plugs, with solder connection up to 1 mm² conductor cross section, color: gray

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### Spare parts

Relay base - RIF-4-BSC/3X21 - 2900960



RIF-4... relay base, for high-power relay with 2 or 3 changeover contacts or 3 N/O contacts, screw connection, plug-in option for input/interference suppression modules, for mounting on NS 35/7,5

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Single relay - REL-PR2-120AC/2X21 - 2903700



Plug-in high-power relay with power contacts, 2 PDTs, coil voltage: 120 V AC

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Plug-in module - RIF-LV-120-230 AC/110 DC - 2900944



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

## Relay Module - RIF-4-RSC-LV-120AC/2X21 - 2903290

### Accessories

Retaining bracket - RIF-RH-4 - 2900956



Relay retaining bracket, with holder for marking material, suitable for RIF-4 relay base, for high-power relay