

## Relay Module - RIF-1-RPT-LDP-24DC/1X21MS - 2905289

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

### 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.



### Key Commercial Data

|              |                                                                                                         |
|--------------|---------------------------------------------------------------------------------------------------------|
| Packing unit | 10 pc                                                                                                   |
| GTIN         | <br>4 046356 945448 |
| GTIN         | 4046356945448                                                                                           |

### 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 ... 60 °C  |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C  |
| Degree of protection                    | IP20 (Relay base) |
|                                         | RT II (Relay)     |

#### Coil side

|                             |         |
|-----------------------------|---------|
| Nominal input voltage $U_N$ | 24 V DC |
|-----------------------------|---------|

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## Technical data

### Coil side

|                                           |               |
|-------------------------------------------|---------------|
| 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       |
| 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 contacts) |
| Limiting continuous current           | see diagram                |
| Interrupting rating (ohmic load) max. | 264 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                    | 2 A (at 24 V, DC13)        |
|                                       | 3 A (at 230 V, AC15)       |

### General

|                                          |                                     |
|------------------------------------------|-------------------------------------|
| Test voltage relay winding/relay contact | 4 kV <sub>rms</sub> (50 Hz, 1 min.) |
| Operating mode                           | 100% operating factor               |
| Flammability rating according to UL 94   | V2 (Housing)                        |
| Mechanical service life                  | approx. $5 \times 10^6$ cycles      |
| Service life, electrical                 | see diagram                         |
| Mounting position                        | any                                 |
| Assembly instructions                    | In rows with zero spacing           |

### Connection data

|                               |                                              |
|-------------------------------|----------------------------------------------|
| 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> |

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## Technical data

### Connection data

|                                  |                                                                                           |
|----------------------------------|-------------------------------------------------------------------------------------------|
| Conductor cross section flexible | 0.14 mm² ... 1.5 mm²                                                                      |
|                                  | 0.14 mm² ... 1.5 mm² (Ferrule with plastic sleeve)                                        |
|                                  | 0.14 mm² ... 1 mm² (Ferrule with plastic sleeve, two conductors on double terminal block) |
| Conductor cross section AWG      | 26 ... 16 (solid)                                                                         |
|                                  | 26 ... 16 (flexible)                                                                      |

### Connection data 2

|                                  |                                                                                           |
|----------------------------------|-------------------------------------------------------------------------------------------|
| Connection name                  | Contact side                                                                              |
| Connection method                | Push-in connection                                                                        |
| Stripping length                 | 8 mm                                                                                      |
| Conductor cross section solid    | 0.14 mm² ... 1.5 mm²                                                                      |
| Conductor cross section flexible | 0.14 mm² ... 1.5 mm²                                                                      |
|                                  | 0.14 mm² ... 1.5 mm² (Ferrule with plastic sleeve)                                        |
|                                  | 0.14 mm² ... 1 mm² (Ferrule with plastic sleeve, two conductors on double terminal block) |
| Conductor cross section AWG      | 26 ... 16 (solid)                                                                         |
|                                  | 26 ... 16 (flexible)                                                                      |

### Standards and Regulations

|                          |                |
|--------------------------|----------------|
| Standards/regulations    | DIN EN 50178   |
| Rated insulation voltage | 250 V AC       |
| Rated surge voltage      | 6 kV           |
| Insulation               | safe isolation |
| Pollution degree         | 2              |
| Overvoltage category     | III            |

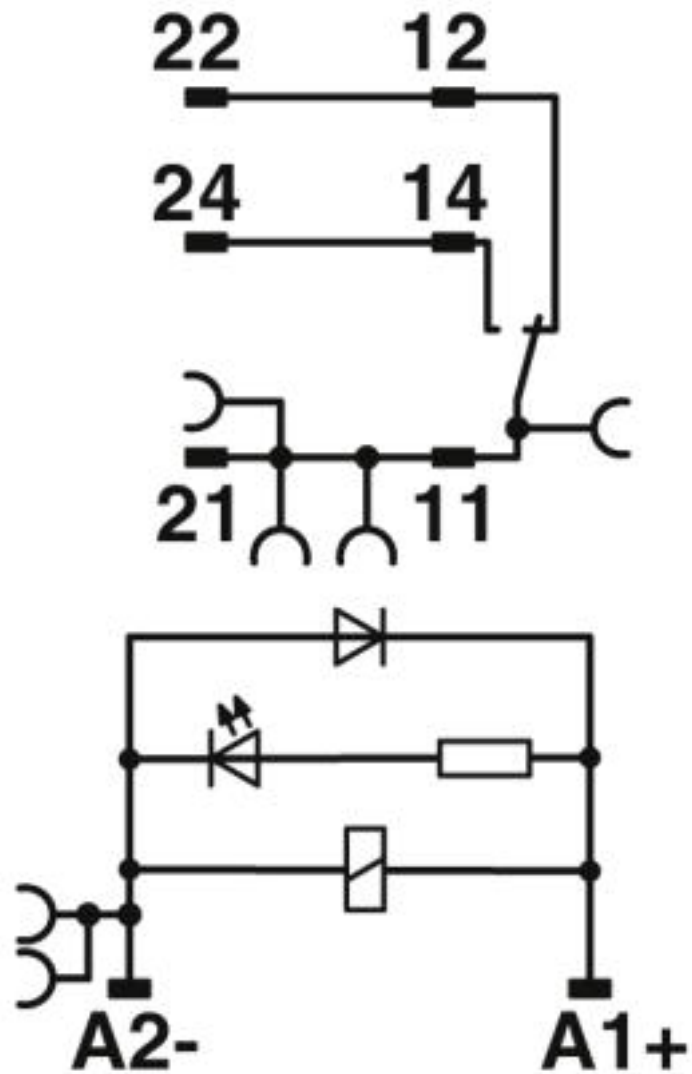
### Environmental Product Compliance

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

## Drawings

## Relay Module - RIF-1-RPT-LDP-24DC/1X21MS - 2905289

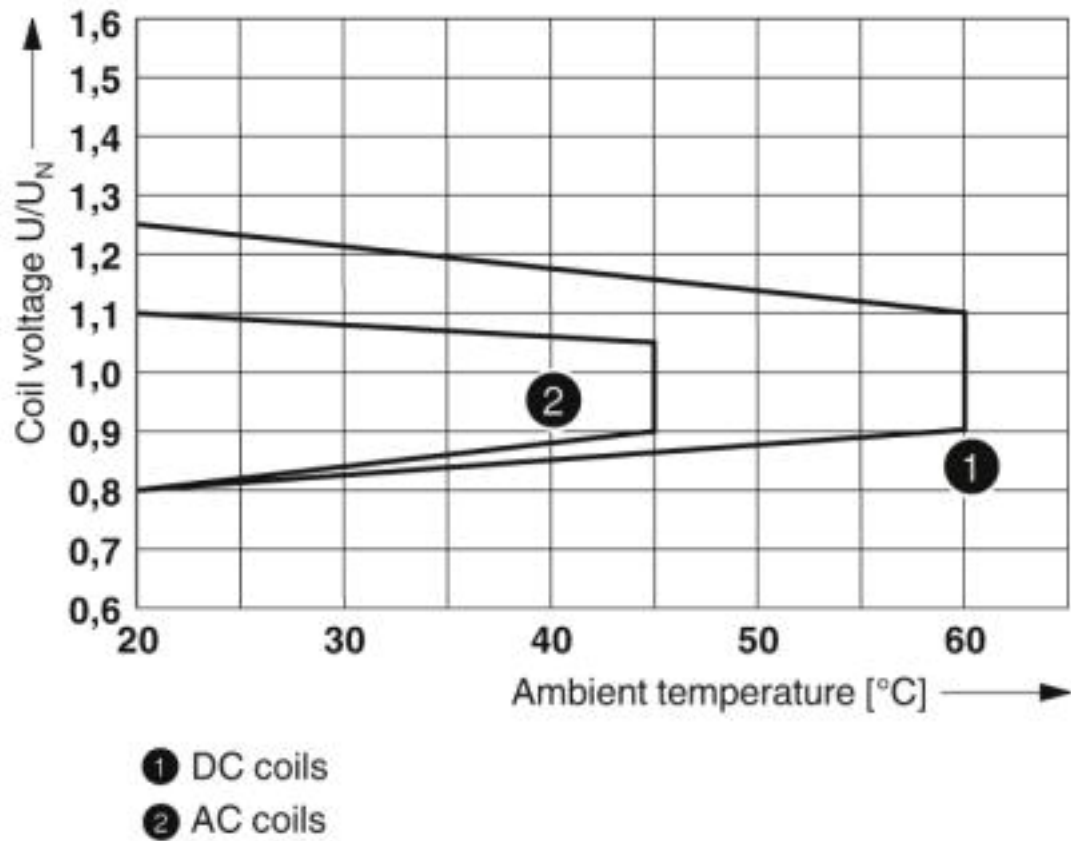
Circuit diagram



DC coils

## Relay Module - RIF-1-RPT-LDP-24DC/1X21MS - 2905289

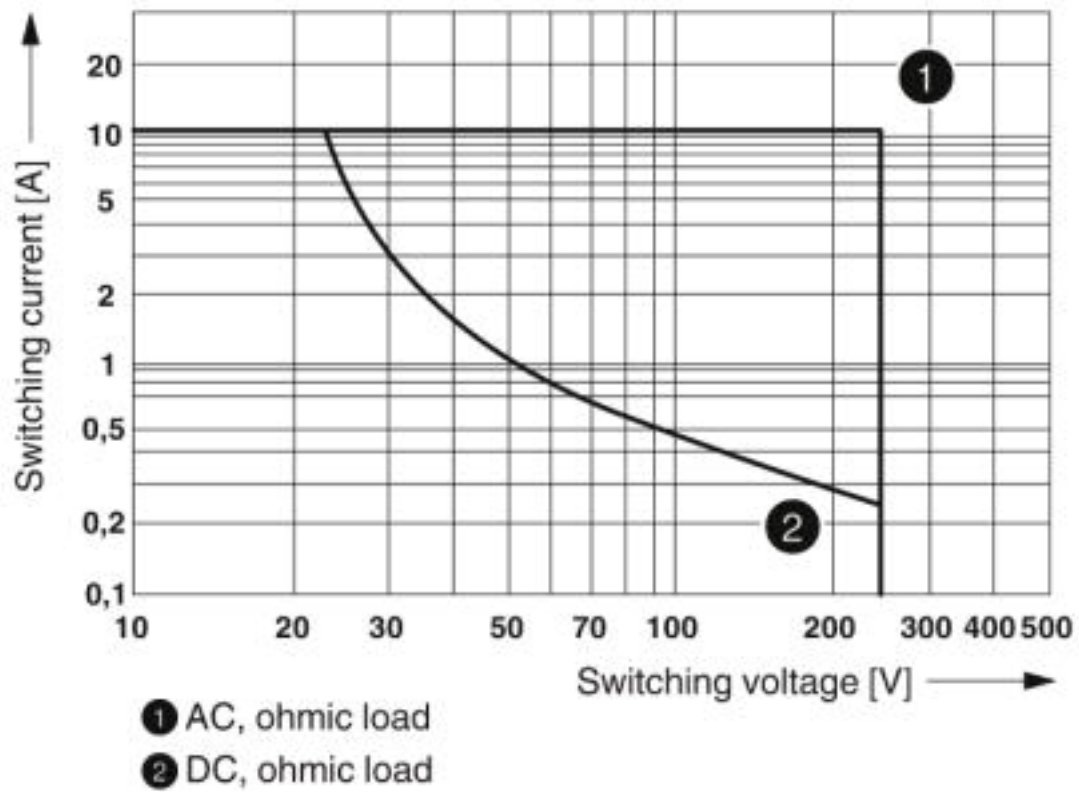
Diagram



Operating voltage range

## Relay Module - RIF-1-RPT-LDP-24DC/1X21MS - 2905289

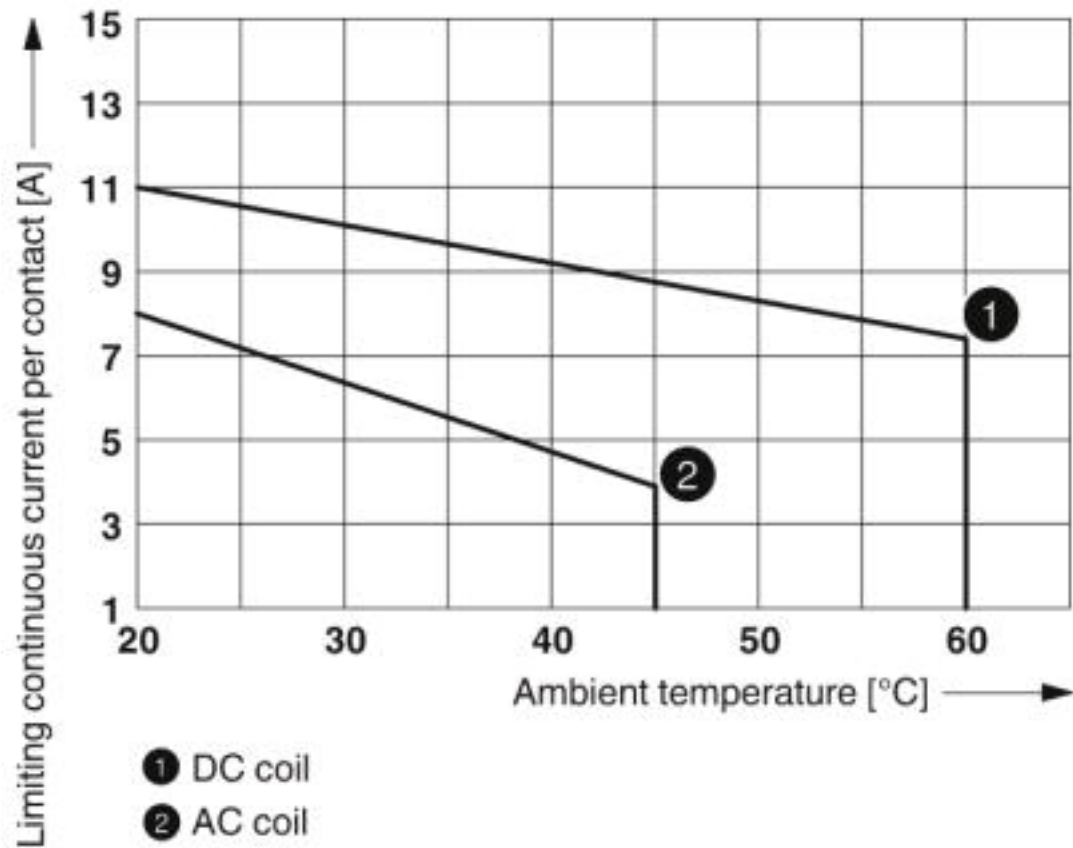
Diagram



Interrupting rating

## Relay Module - RIF-1-RPT-LDP-24DC/1X21MS - 2905289

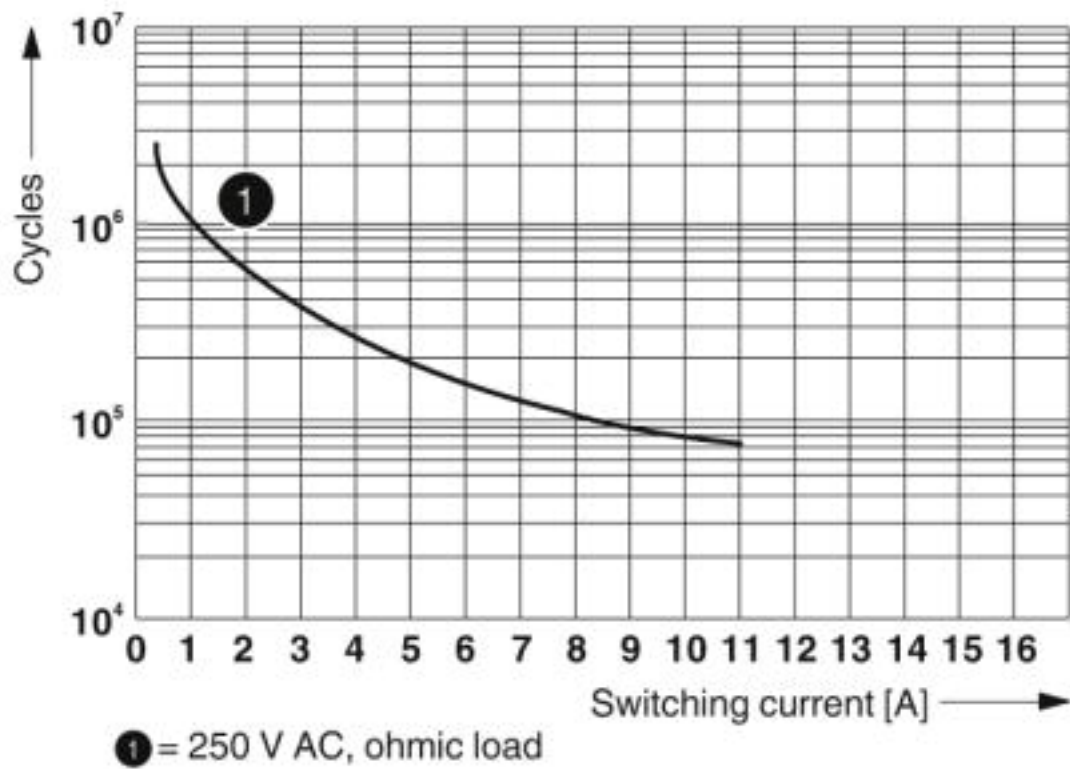
Diagram



Contact derating

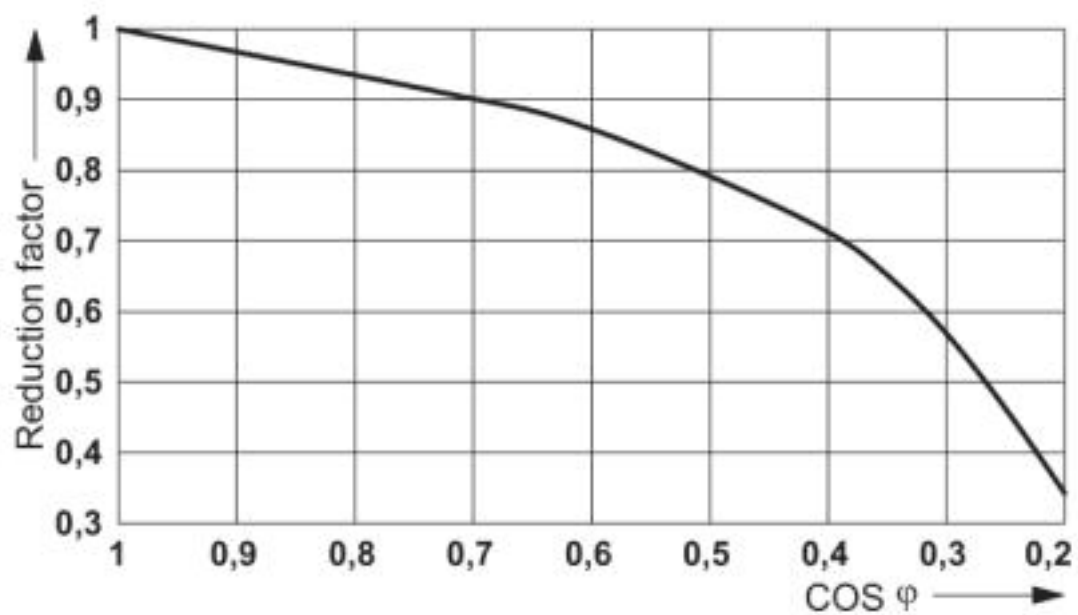
## Relay Module - RIF-1-RPT-LDP-24DC/1X21MS - 2905289

Diagram



Electrical service life

Diagram



Service life reduction factor

# Relay Module - RIF-1-RPT-LDP-24DC/1X21MS - 2905289

## Articles in set

Relay base - 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

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

## Classifications

eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27371601 |
| eCl@ss 4.1    | 27371100 |
| eCl@ss 5.0    | 27371600 |
| 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 |
| ETIM 4.0 | EC001437 |
| ETIM 5.0 | EC001437 |
| ETIM 6.0 | EC001437 |
| ETIM 7.0 | EC001437 |

## Relay Module - RIF-1-RPT-LDP-24DC/1X21MS - 2905289

### Classifications

#### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 13.2 | 39122334 |
| UNSPSC 18.0 | 39122334 |
| UNSPSC 19.0 | 39122334 |
| UNSPSC 20.0 | 39122334 |
| UNSPSC 21.0 | 39122334 |

### Approvals

#### Approvals

##### Approvals

EAC

##### Ex Approvals

#### Approval details

|     |                                                                                     |                 |
|-----|-------------------------------------------------------------------------------------|-----------------|
| EAC |  | TR_TS_D_00573_c |
|-----|-------------------------------------------------------------------------------------|-----------------|

### Accessories

#### Accessories

##### End block

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

#### Insulating sleeve

Insulating sleeve - MPS-IH WH - 0201663

Insulating sleeve, color: white



## Relay Module - RIF-1-RPT-LDP-24DC/1X21MS - 2905289

### Accessories

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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



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Insulating sleeve - MPS-IH GN - 0201702

Insulating sleeve, color: green



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Insulating sleeve - MPS-IH GY - 0201728

Insulating sleeve, color: gray



## Relay Module - RIF-1-RPT-LDP-24DC/1X21MS - 2905289

### Accessories

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

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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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Plug-in bridge - FBS 2-8 - 3030284



Plug-in bridge, pitch: 8.2 mm, width: 14.7 mm, number of positions: 2, color: red

## Relay Module - RIF-1-RPT-LDP-24DC/1X21MS - 2905289

### Accessories

Plug-in bridge - FBS 2-8 BU - 3032567



Plug-in bridge, pitch: 8.2 mm, width: 14.7 mm, number of positions: 2, color: blue

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Plug-in bridge - FBS 2-8 GY 7042 - 3032541



Bridge for potential distribution

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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, Number of individual labels: 10

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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, Number of individual labels: 5

## Relay Module - RIF-1-RPT-LDP-24DC/1X21MS - 2905289

### Accessories

#### 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, Number of individual labels: 32

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#### 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, Number of individual labels: 32

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#### Test plug terminal block

#### Test plugs - MPS-MT - 0201744



Test plugs, with solder connection up to 1 mm<sup>2</sup> conductor cross section, color: gray

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