

## Single relay - REL-MR- 12DC/21HC - 2961309

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Plug-in miniature power relay, with power contact for high continuous currents, 1 PDT, input voltage 12 V DC

### Product Features

- Switching current of up to 16 A



### Key Commercial Data

|                                      |                |
|--------------------------------------|----------------|
| Packing unit                         | 1 pc           |
| Minimum order quantity               | 10 pc          |
| Weight per Piece (excluding packing) | 15.7 g         |
| Custom tariff number                 | 85364190       |
| Country of origin                    | Czech Republic |

### Technical data

#### Dimensions

|        |         |
|--------|---------|
| Width  | 12.7 mm |
| Height | 29 mm   |
| Depth  | 15.7 mm |

#### Ambient conditions

|   |                  |
|---|------------------|
| Ambient temperature (operation)         | -40 °C ... 85 °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                     | 7 ms        |

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## Technical data

### Coil side

|   |                        |
|---|------------------------|
| Typical release time                    | 3 ms                   |
| Coil resistance                         | 360 Ω ±10 % (at 20 °C) |
| Power dissipation for nominal condition | 0.4 W                  |

### Contact side

|  |                        |
|--|------------------------|
| Contact type   | 1 PDT                  |
| 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                                 | 50 A (20 ms)           |
| Limiting continuous current                            | 16 A                   |
| Interrupting rating (ohmic load) max.                  | 384 W (at 24 V DC)     |
|  | 58 W (at 48 V DC)      |
|  | 48 W (at 60 V DC)      |
|  | 50 W (at 110 V DC)     |
|  | 80 W (at 220 V DC)     |
|  | 4000 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 110 V, DC13) |
|  | 0.2 A (at 250 V, DC13) |
|  | 6 A (at 24 V, AC15)    |
|  | 6 A (at 120 V, AC15)   |
|  | 6 A (at 250 V, AC15)   |

### General

|  |   |
|--|---|
| Test voltage relay winding/relay contact | 5 kV AC (50 Hz, 1 min.)                           |
| Operating mode                           | 100% operating factor                             |
| Degree of protection                     | RT II (flux-proof)                                |
| Mechanical service life                  | 3 x 10 <sup>7</sup> cycles                        |
| Standards/regulations                    | IEC 60664   |
|  | EN 50178  |
|  | IEC 62103   |
| Degree of pollution                      | 3   |
| Overvoltage category                     | III   |
| Mounting position                        | any   |
| Assembly instructions                    | Can be aligned without spacing (> 70 °C ≥ 2.5 mm) |

### Standards and Regulations

# Single relay - REL-MR- 12DC/21HC - 2961309

## Technical data

### Standards and Regulations

|                                  |           |
|----------------------------------|-----------|
| Connection in acc. with standard | CUL       |
| Standards/regulations            | IEC 60664 |
|                                  | EN 50178  |
|                                  | IEC 62103 |
| Degree of pollution              | 3         |
| Overvoltage category             | III       |

## Classifications

### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27371104 |
| eCl@ss 4.1 | 27371104 |
| eCl@ss 5.0 | 27371001 |
| eCl@ss 5.1 | 27371001 |
| eCl@ss 6.0 | 27371001 |
| eCl@ss 7.0 | 27371001 |
| eCl@ss 8.0 | 27371601 |
| eCl@ss 9.0 | 27371601 |

### ETIM

|          |          |
|----------|----------|
| ETIM 2.0 | EC000196 |
| ETIM 3.0 | EC000196 |
| ETIM 4.0 | EC000196 |
| ETIM 5.0 | EC001437 |

### UNSPSC

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

## Approvals

### Approvals

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## Approvals

### Approvals

UL Recognized / VDE Gutachten mit Fertigungsüberwachung / cUL Recognized / GL / EAC / EAC / UL Recognized / cUL Recognized / cULus Recognized

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### Ex Approvals


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### Approvals submitted

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### Approval details

UL Recognized 

VDE Gutachten mit Fertigungsüberwachung 

cUL Recognized 


GL

EAC

EAC

UL Recognized

cUL Recognized

cULus Recognized 

## Single relay - REL-MR- 12DC/21HC - 2961309

### Accessories

#### Additional products

Relay socket - PLC-BPT- 12DC/21HC - 2900253



14 mm PLC basic terminal block for high continuous currents with push-in connection, without relay or solid-state relay, for mounting on DIN rail NS 35/7,5, 1 PDT, input voltage 12 V DC

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Relay socket - PLC-BSP- 12DC/21HC - 2912332



14 mm PLC basic terminal block for high continuous currents with spring-cage connection, without relay or solid-state relay, for mounting on DIN rail NS 35/7,5, 1 PDT, input voltage 12 V DC

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Relay socket - PLC-BSC- 12DC/21HC - 2967769



14 mm PLC basic terminal block for high continuous currents with screw connection, without relay or solid-state relay, for mounting on DIN rail NS 35/7,5, 1 PDT, input voltage 12 V DC

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Relay socket - PR1-BSC2/2X21 - 2833518



Relay socket PR1..., for miniature power relay or miniature switching relay with 1 or 2 PDT or solid-state relay of same construction, 2/2 level design, screw connections, connection facility for input/interference suppression modules

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Relay socket - PR1-BSC3/2X21 - 2833521



Relay socket PR1..., for miniature power relay or miniature switching relay with 1 or 2 PDT or solid-state relay of same construction, 1/3 level design, screw connections, connection facility for input/interference suppression modules

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# Single relay - REL-MR- 12DC/21HC - 2961309

## Accessories

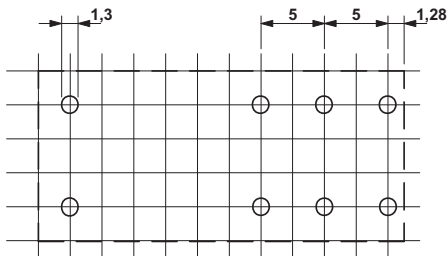
Relay socket - PR1-BSP3/2X21 - 2833534

Relay socket PR1..., for miniature power relay or miniature switching relay with 1 or 2 PDT or solid-state relay of same construction, 1/3 level design, spring-cage connections, connection facility for input/interference suppression modules



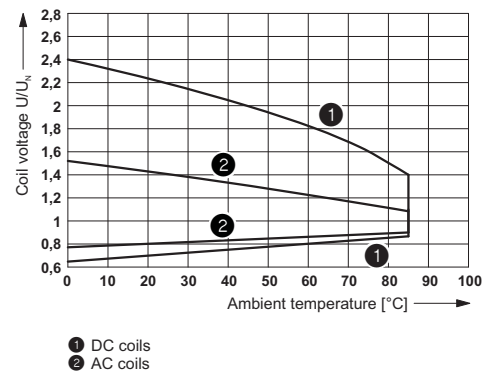
## Drawings

Drilling diagram



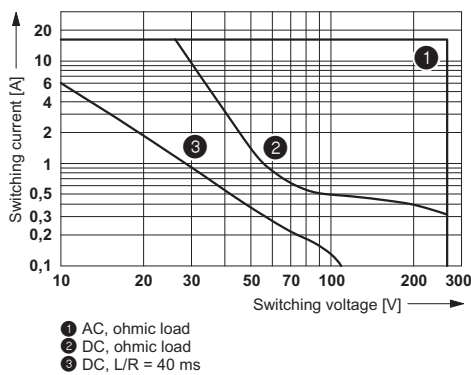
a = pitch division 2.5 mm

Diagram



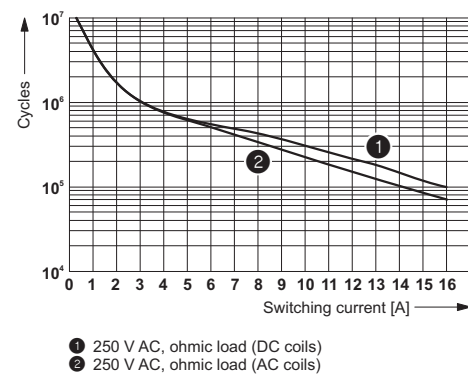
Operating voltage range

Diagram



Interrupting rating

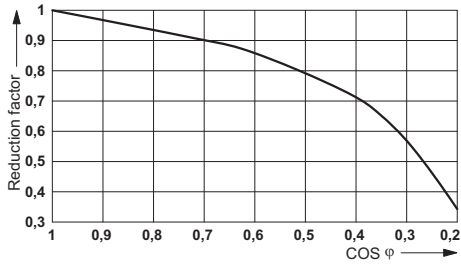
Diagram



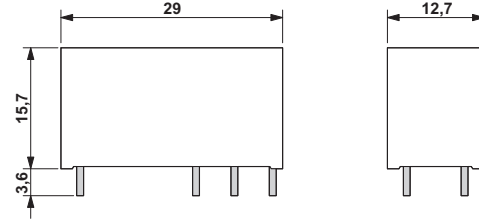
Electrical service life

# Single relay - REL-MR- 12DC/21HC - 2961309

Diagram

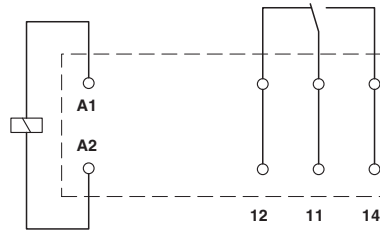


Dimensional drawing



Service life reduction factor with various cos phi

Circuit diagram



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