

## Single relay - REL-MR- 24AC/21HC - 2961406

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Plug-in miniature power relay, with power contact for high continuous currents, 1 PDT, input voltage 24 V AC

### Why buy this product

- Switching current of up to 16 A

### Key Commercial Data

|                                      |   |
|--------------------------------------|---|
| Packing unit                         | 1 STK   |
| Minimum order quantity               | 10 STK  |
| GTIN                                 | <br>4 017918 937812 |
| GTIN                                 | 4017918937812   |
| Weight per Piece (excluding packing) | 13.000 g  |
| Custom tariff number                 | 85364190  |
| Country of origin                    | Austria   |

### 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

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## Technical data

### Coil side

|   |  |
|---|--|
| Nominal input voltage $U_N$               | 24 V AC                                      |
| Input voltage range in reference to $U_N$ | see diagram                                  |
| Mains frequency                           | 50/60 Hz                                     |
| Typical input current at $U_N$            | 32 mA (50 Hz)                                |
|   | 24 mA (60 Hz)                                |
| Typical response time                     | 3 ms ... 12 ms (depending on phase relation) |
| Typical release time range                | 2 ms ... 9 ms (depending on phase relation)  |
| Coil resistance                           | 350 $\Omega$ $\pm$ 10 % (at 20 °C)           |
| Power dissipation for nominal condition   | 0.77 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                                 | 25 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                  | 1 x 10 <sup>7</sup> cycles |
| Mounting position                        | any                        |

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## Technical data

### General

|                       |  |
|-----------------------|--|
| Assembly instructions | Can be aligned without spacing ( $> 70\text{ °C} \geq 2.5\text{ mm}$ ) |
|-----------------------|--|

### Standards and Regulations

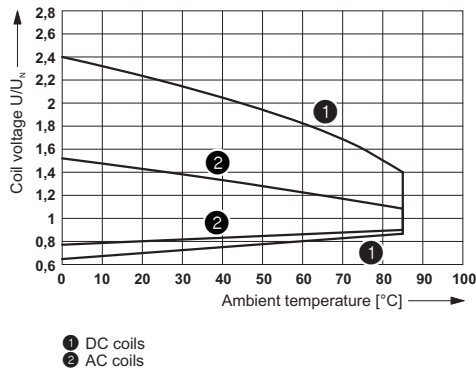
|                                  |            |
|----------------------------------|------------|
| Connection in acc. with standard | CUL        |
| Standards/regulations            | IEC 60664  |
|                                  | EN 50178   |
|                                  | EN 61810-1 |
| Degree of pollution              | 3          |
| Overvoltage category             | III        |

### Environmental Product Compliance

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

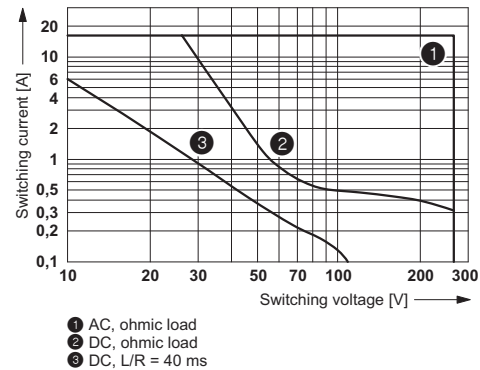
## Drawings

Diagram



Operating voltage range

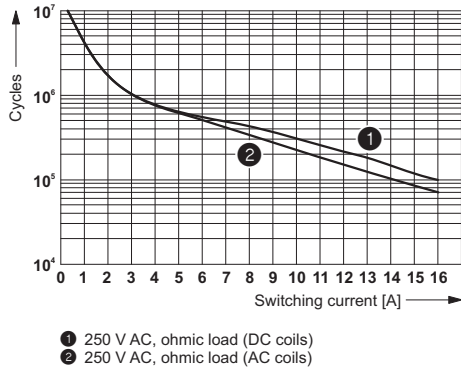
Diagram



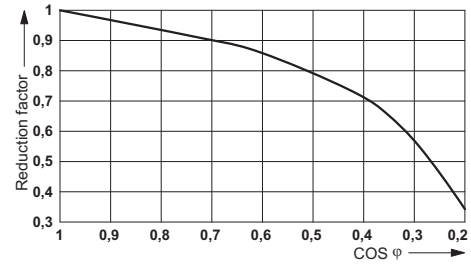
Interrupting rating

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Diagram



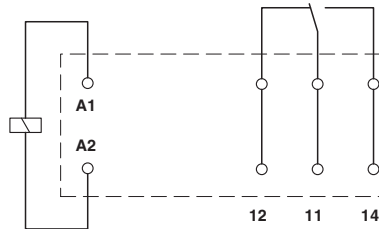
Diagram



Electrical service life

Service life reduction factor with various cos phi

Circuit diagram



## Classifications

eCl@ss

|            |          |
|------------|----------|
| eCl@ss 5.0 | 27371601 |
| eCl@ss 5.1 | 27371601 |
| eCl@ss 6.0 | 27371601 |
| 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 |

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## Classifications

### UNSPSC

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

## Approvals


### Approvals


#### Approvals

UL Recognized / cUL Recognized / EAC / VDE approval of drawings / UL Recognized / cUL Recognized / cULus Recognized


#### Ex Approvals

### Approval details

|               |   |   |               |
|---------------|---|---|---------------|
| UL Recognized |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 228652 |
|---------------|---|---|---------------|

|                |   |   |               |
|----------------|---|---|---------------|
| cUL Recognized |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 228652 |
|----------------|---|---|---------------|

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

|                          |   |   |          |
|--------------------------|---|---|----------|
| VDE approval of drawings |  | <a href="http://www.vde.com/en/Institute/OnlineService/VDE-approved-products/Pages/Online-Search.aspx">http://www.vde.com/en/Institute/OnlineService/VDE-approved-products/Pages/Online-Search.aspx</a> | 40007758 |
|--------------------------|---|---|----------|

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|---------------|---|---|---------------|
| UL Recognized |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 172140 |
|---------------|---|---|---------------|

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## Approvals

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|----------------|--|---|---------------|
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|----------------|--|---|---------------|

|                  |  |   |
|------------------|--|---|
| cULus Recognized |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> |
|------------------|--|---|

## Accessories

### Additional products

Relay base - PR1-BSC2/2X21 - 2833518



Relay base 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

Relay base - PR1-BSC3/2X21 - 2833521



Relay base 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

Relay base - PR1-BSP3/2X21 - 2833534



Relay base 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

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### Accessories

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

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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

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