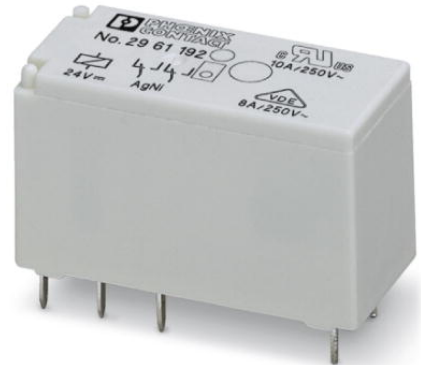


# REL-MR-120AC/21-21AU

Order No.: 2961477



<http://catalog.phoenixcontact.net/phoenix/treeViewClick.do?UID=2961477>

Pluggable miniature relay with power contact and additional hard gold plating, 2 PDT, coil voltage 120 V AC

## Commercial data

|                          |                                                                                                       |
|--------------------------|-------------------------------------------------------------------------------------------------------|
| EAN                      | <br>4 017918 937881 |
| Note                     | Made-to-order                                                                                         |
| sales group              | G084                                                                                                  |
| Pack                     | 10 Pcs.                                                                                               |
| Customs tariff           | 85364900                                                                                              |
| Gross weight in pieces   | 0.01631 KG                                                                                            |
| Net weight per piece     | 0.01474 KG                                                                                            |
| Catalog page information | Page 284 (C-7-2013)                                                                                   |

## Product notes

WEEE/RoHS-compliant since:  
07/27/2006



<http://www.download.phoenixcontact.com>  
Please note that the data given here has been taken from the online catalog. For comprehensive information and data, please refer to the user documentation. The General Terms and Conditions of Use apply to Internet downloads.

## 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 $U_N$    | 120 V AC                                     |
| Typical input current at $U_N$ | 7 mA (at 50 Hz)                              |
|                                | 5 mA (At 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                | 8100 $\Omega$ $\pm$ 15 % (at 20 °C)          |

#### Contact side

|                                       |                                                                         |
|---------------------------------------|-------------------------------------------------------------------------|
| Contact type                          | 2 PDT                                                                   |
| Contact material                      | AgNi, hard gold-plated                                                  |
| Maximum switching voltage             | 30 V AC                                                                 |
|                                       | 36 V DC                                                                 |
| Minimum switching voltage             | 100 mV (at 10 mA)                                                       |
| Maximum inrush current                | 50 mA                                                                   |
| Min. switching current                | 1 mA (at 24 V)                                                          |
| Limiting continuous current           | 50 mA                                                                   |
| Interrupting rating (ohmic load) max. | 1.2 W (at 24 V DC)                                                      |
| Note                                  | <b>the following values are applicable if a gold layer is destroyed</b> |
| Maximum switching voltage             | 250 V AC/DC                                                             |
| Minimum switching voltage             | 5 V (at 10 mA)                                                          |
| Limiting continuous current           | 8 A                                                                     |
| Maximum inrush current                | 15 A (300 ms)                                                           |
| Min. switching current                | 10 mA (At 5 V)                                                          |
| Interrupting rating (ohmic load) max. | 190 W (at 24 V DC)                                                      |
|                                       | 85 W (at 48 V DC)                                                       |
|                                       | 60 W (at 60 V DC)                                                       |
|                                       | 44 W (at 110 V DC)                                                      |
|                                       | 60 W (at 220 V DC)                                                      |
|                                       | 2000 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) |
|                                                        | 2 A (at 24 V, AC15)    |
|                                                        | 2 A (at 120 V, AC15)   |
|                                                        | 2 A (at 250 V, AC15)   |

#### General

|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| Test voltage relay winding/relay contact | 5 kV AC (50 Hz, 1 min.)                           |
| Test voltage relay contact/relay contact | 2.5 kV AC (50 Hz, 1 min.)                         |
| Operating mode                           | 100% operating factor                             |
| Mechanical service life                  | 1 x 10 <sup>7</sup> cycles                        |
| Standards/regulations                    | IEC 60664                                         |
|                                          | EN 50178                                          |
|                                          | IEC 62103                                         |
| Rated surge voltage / insulation         | Basic insulation                                  |
| Pollution degree                         | 3                                                 |
| Surge voltage category                   | III                                               |
| Mounting position                        | any                                               |
| Assembly instructions                    | Can be aligned without spacing (> 70 °C ≥ 2.5 mm) |

#### Certificates / Approvals



Certification

cULus Recognized, VDE Gutachten mit Fertigungsüberwachung

Certifications applied for:

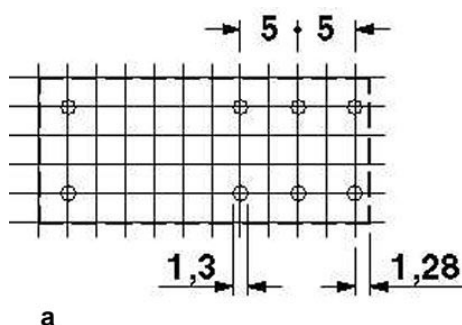
Certification Ex:

## Additional products

| Item              | Designation   | Description                                                                                                                                                                                                                                      |
|-------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Relay base</b> |               |                                                                                                                                                                                                                                                  |
| 2833518           | PR1-BSC2/2X21 | 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       |
| 2833521           | PR1-BSC3/2X21 | 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       |
| 2833534           | PR1-BSP3/2X21 | 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 |

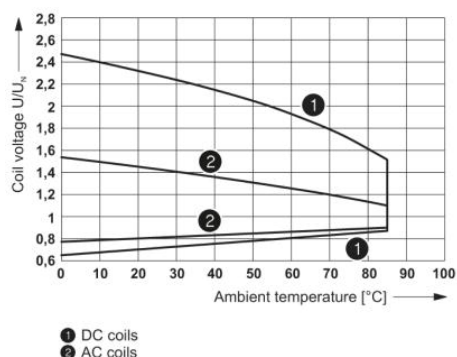
## Drawings

Drilling plan/solder pad geometry

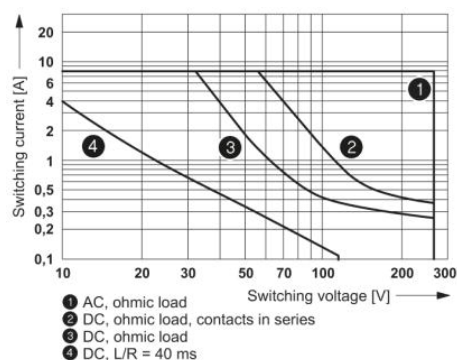


a = pitch division 2.5 mm

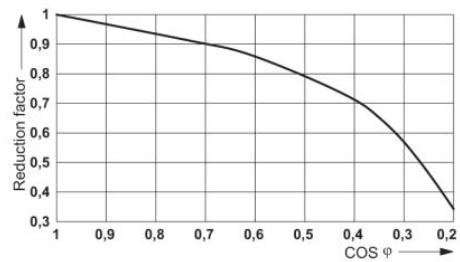
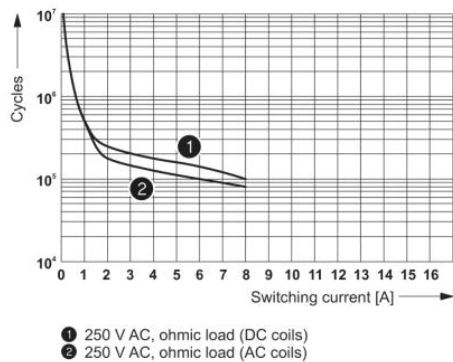
Diagram



Operating voltage range



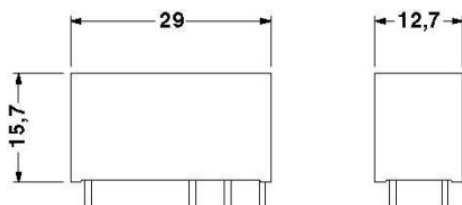
Interrupting rating



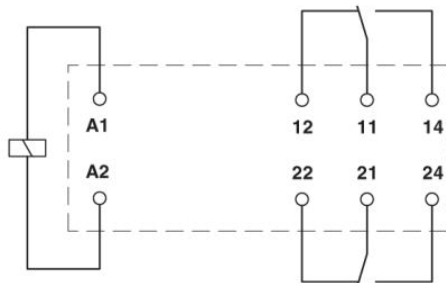
Service life reduction factor with various  $\cos \phi$

## Electrical service life

## Dimensioned drawing



## Circuit diagram



**Address**

PHOENIX CONTACT Deutschland GmbH  
Flachsmarktstr. 8  
32825 Blomberg, Germany  
Phone +49 5235 3 12000  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.com>



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