

# Miniature Power PCB Relay RY II

1 pole 8 A



F0142-C

## Features

- Low component height 12.3 mm
- 1 C/O or 1 N/O or 1 N/C contact
- 5 kV / 8 mm coil-contact
- Protection class II
- Pinnings: 3.2 and 5 mm
- Sockets with PCB-type or screw-type terminals
- Especially suitable for resistive and inductive loads on N/O and N/C contacts
- Versions with AgNi 0.15 or AgSnO<sub>2</sub> contact material: RoHS compliant (Directive 2002 / 95 / EC) as per product date code 0403

## Applications

Heating control, interface technology, domestic appliances, timers, temperature control



Technical data of approved types on request

## Contact data

|                                           |                                             |
|-------------------------------------------|---------------------------------------------|
| Configuration                             | 1 C/O contact, 1 N/O contact, 1 N/C contact |
| Type of contact                           | single contact                              |
| Rated current                             | 8 A                                         |
| Rated voltage / max.breaking voltage AC   | 250 Vac / 440 Vac                           |
| Maximum breaking capacity AC              | 2000 VA                                     |
| Make current (max. 4 s at duty cycle 10%) | 30 A                                        |
| Contact material                          | AgCdO, AgNi 0.15, AgSnO <sub>2</sub>        |

## Contact ratings

| Type  | Load                     | Operations         | Standard |
|-------|--------------------------|--------------------|----------|
| RY610 | B 300, 120 Vac, 70 °C    |                    | UL 508   |
| RY610 | B 300, 240 Vac, 70 °C    |                    | UL 508   |
| RY610 | 1 / 4 hp, 120 Vac, 70 °C |                    | UL 508   |
| RY610 | 1 / 2 hp, 240 Vac, 70 °C |                    | UL 508   |
| RY610 | 8 A, 28 Vdc, 70 °C       | >3x10 <sup>4</sup> | UL 508   |
| RY610 | 0.28 A, 250 Vdc, 70 °C   | >3x10 <sup>4</sup> | UL 508   |
| RY531 | 6 (4) A, 250 Vac, 85 °C  | 1x10 <sup>5</sup>  | VDE 0631 |

## Coil data

|                    |                |
|--------------------|----------------|
| Nominal voltage    | 5...48 Vdc     |
| Nominal coil power | approx. 220 mW |
| Operate category   | 2 / b          |

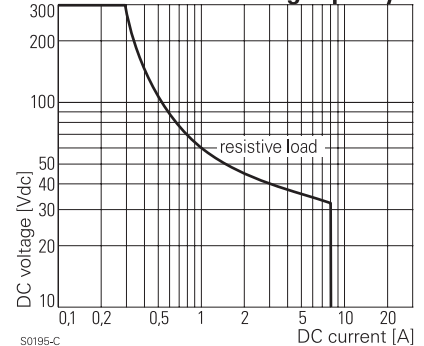
## Coil versions

| Coil code | Nominal voltage Vdc | Pull-in voltage Vdc | Release voltage Vdc | Maximum voltage Vdc | Coil resistance Ω | Coil current mA |
|-----------|---------------------|---------------------|---------------------|---------------------|-------------------|-----------------|
| 005       | 5                   | 3.5                 | 0.5                 | 11.8                | 113±10%           | 44.0            |
| 006       | 6                   | 4.2                 | 0.6                 | 14.1                | 164±10%           | 36.7            |
| 012       | 12                  | 8.4                 | 1.2                 | 28.2                | 620±10%           | 19.3            |
| 024       | 24                  | 16.8                | 2.4                 | 56.4                | 2350±10%          | 10.2            |
| 048       | 48                  | 33.6                | 4.8                 | 112.8               | 9600±10%          | 5.0             |

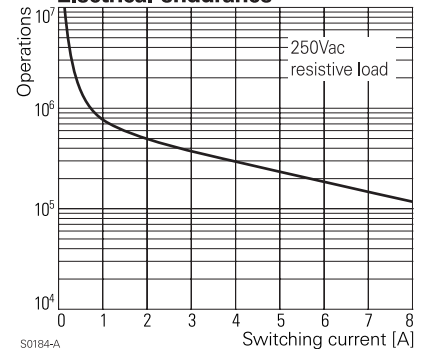
All figures are given for coil without preenergization, at ambient temperature +20°C

Other coil voltages on request

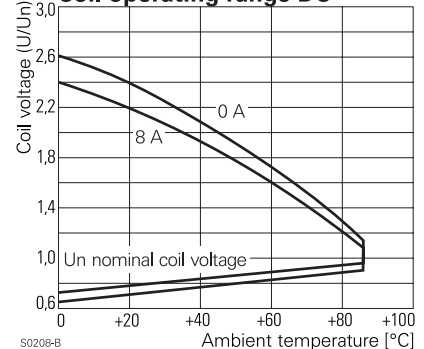
## Max. DC load breaking capacity



## Electrical endurance



## Coil operating range DC



# Miniature Power PCB Relay RY II

1 pole 8 A

## Insulation

|                                         |                      |                       |
|-----------------------------------------|----------------------|-----------------------|
| Dielectric strength                     | coil-contacts        | 5000 V <sub>rms</sub> |
|                                         | open contact circuit | 1000 V <sub>rms</sub> |
| Clearance / creepage                    |                      | 8 / 8 mm              |
| Insulation to IEC 60664                 |                      |                       |
| Voltage rating                          |                      | 250 V                 |
| Pollution degree                        |                      | 3                     |
| Overvoltage category                    |                      | III                   |
| Insulation to VDE 0110b (2/79)          |                      |                       |
| Insulation category / reference voltage |                      | C / 250               |
| Tracking resistance of relay base       |                      | CTI 250               |

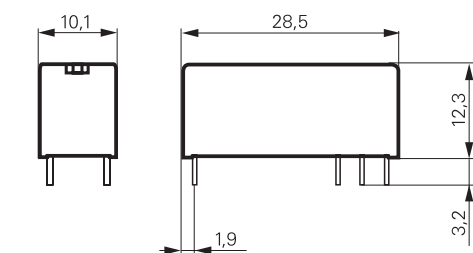
## Other data

|                                                                                                 |                                          |
|-------------------------------------------------------------------------------------------------|------------------------------------------|
| RoHS - Directive 2002 / 95 / EC                                                                 |                                          |
| versions with AgNi 0.15 or AgSnO <sub>2</sub> contacts: compliant as per product date code 0403 |                                          |
| Ambient temperature                                                                             | -40...+70 °C (+85°C at 4 A)              |
| Mechanical life                                                                                 | 30x10 <sup>6</sup> operations            |
| Max. switching rate at rated- / minimum load                                                    | 6 min <sup>-1</sup> / 20 s <sup>-1</sup> |
| Operate- / release time                                                                         | 7 / 3 ms                                 |
| Bounce time N/O contact                                                                         | 1 ms                                     |
| Vibration resistance N/O / N/C contact                                                          | 20 / 5 g, 10...500 Hz                    |
| Shock resistance (destruction)                                                                  | 100 g                                    |
| Category of protection (IEC 61810)                                                              | RT II - flux proof, RT III - wash tight  |
| Relay weight                                                                                    | 8 g                                      |
| Packaging unit                                                                                  | 20 / 500 pcs.                            |
| Accessories                                                                                     | see accessories RY                       |

## Dimensions

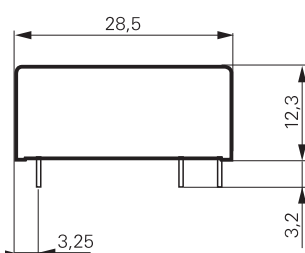
Dimensions in mm

Pinning 3.2 mm



S0274-AA

Pinning 5 mm



S0274-AB

## Product key

Type

Version

**2** pinning 3.2 mm, flux proof  
**5** pinning 5 mm, flux proof

**6** pinning 3.2 mm, wash tight  
**A** pinning 5 mm, wash tight

Contacts

**1** 1 C/O contact, pinning 3.2 mm

**3** 1 N/O contact, pinning 5 mm

Contact material

**0** AgCdO  
**1** AgNi0.15

**2** AgNi0.15 gold plated  
**3** AgSnO<sub>2</sub>

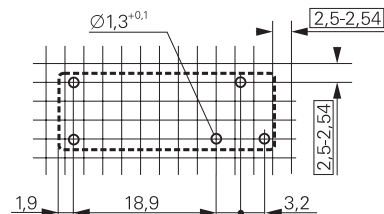
Coil

Coil code: please refer to coil versions table

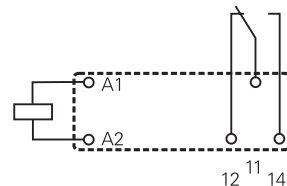
Other types on request

## PCB layout / terminal assignment

1 C/O contact, 3.2 mm

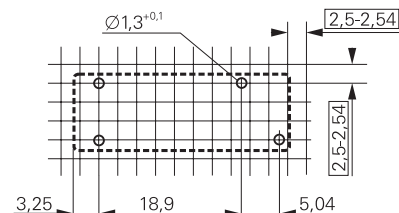


S0254-AA

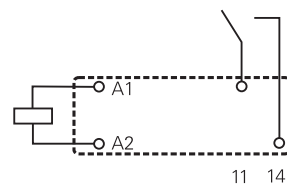


S0254-AB

1 N/O contact, 5 mm



S0254-AC



S0254-AD

Bottom view on solder pins  
Dimensions in mm

# Miniature Power PCB Relay RY II

1 pole 8 A

| Product key | Version                      | Contacts      | Contact material         | Coil   | Part number |
|-------------|------------------------------|---------------|--------------------------|--------|-------------|
| RY210005    | pinning 3.2 mm<br>flux proof | 1 C/O contact | AgCdO                    | 5 Vdc  | 3-1393224-1 |
| RY210012    |                              |               |                          | 12 Vdc | 3-1393224-5 |
| RY210024    |                              |               |                          | 24 Vdc | 3-1393224-8 |
| RY210048    |                              |               |                          | 48 Vdc | 4-1393224-1 |
| RY211005    |                              |               | AgNi 0.15                | 5 Vdc  | 4-1393224-2 |
| RY211012    |                              |               |                          | 12 Vdc | 4-1393224-6 |
| RY211024    |                              |               |                          | 24 Vdc | 4-1393224-9 |
| RY211048    |                              |               |                          | 48 Vdc | 5-1393224-1 |
| RY212005    |                              |               | AgNi 0.15<br>gold plated | 5 Vdc  | 5-1393224-2 |
| RY212012    |                              |               |                          | 12 Vdc | 5-1393224-5 |
| RY212024    |                              |               |                          | 24 Vdc | 5-1393224-8 |
| RY212048    |                              |               |                          | 48 Vdc | 5-1393224-9 |
| RY213005    |                              |               | AgSnO                    | 5 Vdc  | 6-1393224-0 |
| RY213012    |                              |               |                          | 12 Vdc | 6-1393224-1 |
| RY213024    |                              |               |                          | 24 Vdc | 6-1393224-2 |
| RY213048    |                              |               |                          | 48 Vdc | 6-1393224-3 |
| RY530005    | pinning 5 mm<br>flux proof   | 1 N/O contact | AgCdO                    | 5 Vdc  | 6-1393224-6 |
| RY530012    |                              |               |                          | 12 Vdc | 6-1393224-9 |
| RY530024    |                              |               |                          | 24 Vdc | 7-1393224-2 |
| RY530048    |                              |               |                          | 48 Vdc | 7-1393224-4 |
| RY531005    |                              |               | AgNi 0.15                | 5 Vdc  | 7-1393224-6 |
| RY531012    |                              |               |                          | 12 Vdc | 7-1393224-9 |
| RY531024    |                              |               |                          | 24 Vdc | 8-1393224-2 |
| RY531048    |                              |               |                          | 48 Vdc | 8-1393224-3 |
| RY532012    |                              |               | AgNi 0.15<br>gold plated | 12 Vdc | 8-1393224-4 |
| RY532024    |                              |               |                          | 24 Vdc | 8-1393224-5 |
| RY533012    |                              |               | AgSnO                    | 12 Vdc | 8-1393224-8 |
| RY533024    |                              |               |                          | 24 Vdc | 8-1393224-9 |
| RY533048    |                              |               |                          | 48 Vdc | 9-1393224-0 |
| RY610005    | pinning 3.2 mm<br>wash tight | 1 C/O contact | AgCdO                    | 5 Vdc  | 0-1393225-7 |
| RY610012    |                              |               |                          | 12 Vdc | 1-1393225-0 |
| RY610024    |                              |               |                          | 24 Vdc | 1-1393225-4 |
| RY610048    |                              |               |                          | 48 Vdc | 1-1393225-5 |
| RY611005    |                              |               | AgNi 0.15                | 5 Vdc  | 1-1393225-7 |
| RY611012    |                              |               |                          | 12 Vdc | 1-1393225-9 |
| RY611024    |                              |               |                          | 24 Vdc | 2-1393225-1 |
| RY611048    |                              |               |                          | 48 Vdc | 2-1393225-2 |
| RY612005    |                              |               | AgNi 0.15<br>gold plated | 5 Vdc  | 2-1393225-3 |
| RY612012    |                              |               |                          | 12 Vdc | 2-1393225-6 |
| RY612024    |                              |               |                          | 24 Vdc | 2-1393225-9 |
| RY612048    |                              |               |                          | 48 Vdc | 3-1393225-0 |
| RY613005    |                              |               | AgSnO                    | 5 Vdc  | 5-1419136-2 |
| RY613012    |                              |               |                          | 12 Vdc | 3-1393225-1 |
| RY613024    |                              |               |                          | 24 Vdc | 3-1393225-3 |
| RY613048    |                              |               |                          | 48 Vdc | 3-1393225-4 |
| RYA30005    | pinning 5 mm<br>wash tight   | 1 N/O contact | AgCdO                    | 5 Vdc  | 0-1393224-1 |
| RYA30012    |                              |               |                          | 12 Vdc | 0-1393224-4 |
| RYA30024    |                              |               |                          | 24 Vdc | 0-1393224-6 |
| RYA30048    |                              |               |                          | 48 Vdc | 7-1393225-7 |
| RYA31005    |                              |               | AgNi 0.15                | 5 Vdc  | 0-1393224-7 |
| RYA31012    |                              |               |                          | 12 Vdc | 0-1393224-9 |
| RYA31024    |                              |               |                          | 24 Vdc | 1-1393224-2 |
| RYA31048    |                              |               |                          | 48 Vdc | 1-1393224-3 |
| RYA32005    |                              |               | AgNi 0.15<br>gold plated | 5 Vdc  | 1-1393224-4 |
| RYA32012    |                              |               |                          | 12 Vdc | 1-1393224-6 |
| RYA32024    |                              |               |                          | 24 Vdc | 1-1393224-8 |
| RYA33005    |                              |               | AgSnO                    | 5 Vdc  | 1-1393224-9 |
| RYA33024    |                              |               |                          | 24 Vdc | 2-1393224-1 |