

# Midi Industrial Relay Type RMI. 2-10 10A Monostable

CARLO GAVAZZI



RMI A 210

- High switching power
- Small size
- 2 poles configuration
- AC coils 6 to 230VAC
- DC coils 5 to 110VDC
- Matched sockets available
- Standard with LED, Push with arm and Flag
- IP 40
- Compliant with the CE low voltage directive
- TÜV, UL, CSA, IMQ approved

## Product Description

The RMI relay (relay mini-industrial) can be used for a wide range of industrial applications.

Available in 2 change-over contact configuration, PCB, solder and plug-in terminals.

## Approvals



## Ordering Key

**RMI A 210 12VDC /1**

Type \_\_\_\_\_  
Terminal version \_\_\_\_\_  
Contact code \_\_\_\_\_  
Coil code \_\_\_\_\_  
Options \_\_\_\_\_

Terminal version: A = Soldering terminals  
B = PCB terminals

Box content: 25 relays  
Box size: (W 125 x D 165 x H 50) mm Weight: 850g  
(W 4.92 x D 6.50 x H 1.97) inches Weight: 29.98oz

## Type Selection

| Contact configuration                    | Contact rating | Contact code |
|------------------------------------------|----------------|--------------|
| 2 change over contacts (DPDT {2-form C}) | 10A            | 210          |

## Coil Characteristics, DC

| Coil Code | Nominal voltage VDC | @ +20°C (+68°F)     |                      | Coil resistance Ω |
|-----------|---------------------|---------------------|----------------------|-------------------|
|           |                     | Pick-up voltage VDC | Drop-out voltage DVC |                   |
| 5VDC      | 5                   | 4.0                 | 0.5                  | 28.0 ±10%         |
| 6VDC      | 6                   | 4.8                 | 0.6                  | 40.0 ±10%         |
| 12VDC     | 12                  | 9.6                 | 1.2                  | 160.0 ±10%        |
| 24VDC     | 24                  | 19.2                | 2.4                  | 640.0 ±10%        |
| 48VDC     | 48                  | 38.4                | 4.8                  | 2560.0 ±15%       |
| 60VDC     | 60                  | 48.0                | 6.0                  | 4000.0 ±15%       |
| 110VDC    | 110                 | 88.0                | 11.0                 | 12250 ±15%        |

## Coil Characteristics, AC

| Coil Code         | Nominal voltage VAC | @ +20°C (+68°F)     |                      | Coil resistance Ω |
|-------------------|---------------------|---------------------|----------------------|-------------------|
|                   |                     | Pick-up voltage VAC | Drop-out voltage VAC |                   |
| <b>6VAC</b>       | 6                   | 4.8                 | 1.8                  | 11 ±10%           |
| <b>12VAC</b>      | 12                  | 9.6                 | 3.6                  | 44 ±10%           |
| <b>24VAC</b>      | 24                  | 19.2                | 7.2                  | 177 ±10%          |
| <b>48VAC</b>      | 48                  | 38.4                | 14.4                 | 708 ±10%          |
| <b>115/120VAC</b> | 110-120             | 96.0                | 36.0                 | 4080 ±15%         |
| <b>230VAC</b>     | 220-240             | 176.0               | 66.0                 | 16300 ±15%        |

## Options

**Nil** = Standard with Push Arm -LED (A1+) (A2-)- Flag  
**/0** = Diode against polarity reverse + free-wheeling Diode (A1+) (A2-)  
**/1** = Without LED  
**/2** = Without Flag  
**/3** = Without Push Arm  
**/4** = Plated Contacts Au > 5µm  
**/5** = Flash Gilded Contacts Au > 1µm  
**/6** = Free-Wheeling Diode (A1+) (A2-)  
**/7** = Free-Wheeling Diode (A1-) (A2+)

## Contact Characteristics

|                                                |                                                      |                                                                      |                                                                                            |
|------------------------------------------------|------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| <b>Contact rating</b><br>(with resistive load) | <b>10A - 250VAC / 30VDC</b>                          | <b>Minimum Current</b><br>Min. applicable load<br>/4 and /5 versions | <b>5mA @ 12VDC</b><br><b>1mA @ 6VDC</b>                                                    |
| <b>UL rating</b>                               | <b>10A - 250VAC / 30VDC</b><br><b>1/3HP @ 240VAC</b> | <b>Max. switch. voltage</b>                                          | <b>250VAC / 30VDC @ 10A</b>                                                                |
| <b>Max. rating</b>                             | <b>10A - 250VAC / 30VDC</b>                          | <b>Max. switch. power</b>                                            | <b>2500VA / 300W @ 10A</b>                                                                 |
| <b>Material</b>                                | <b>AgCe</b>                                          | <b>Life</b><br>Electrical life<br>Mechanical life                    | <b>1x10<sup>5</sup> cycles (1800 Ops/h)</b><br><b>2x10<sup>7</sup> cycles (1800 Ops/h)</b> |
| <b>Initial contact resistance</b>              | <b>50mΩ (@ 1A 6VDC)</b>                              |                                                                      |                                                                                            |

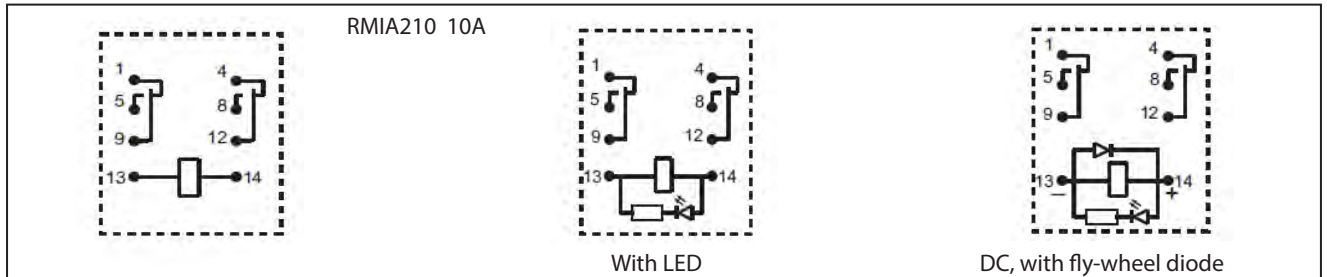
## Insulation

|                                                                                                             |                                                       |                                                                                                                                                  |                                                       |
|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| <b>Dielectric strength (1min.)</b><br>Between coil and contacts<br>Between open contacts<br>Contact/Contact | <b>1500 VAC</b><br><b>1000 VAC</b><br><b>1500 VAC</b> | <b>Insulation according to EN61810-5</b><br>Rated insulation voltage<br>Impulsive insulation voltage<br>Pollution degree<br>Overvoltage category | <b>250V</b><br><b>3.6kV</b><br><b>2</b><br><b>III</b> |
| <b>Insulation resistance</b>                                                                                | <b>1.000MΩ - 500VAC</b>                               |                                                                                                                                                  |                                                       |

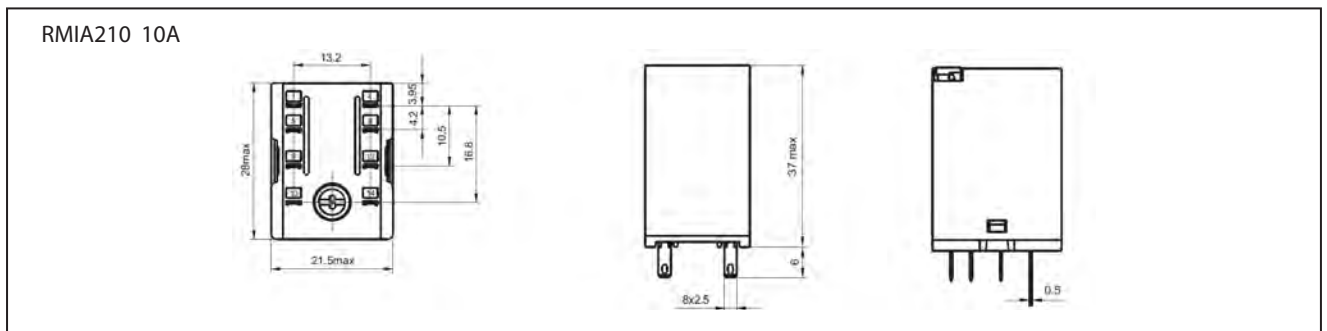
## General Data

|                                               |                                       |                                                      |                                                                         |
|-----------------------------------------------|---------------------------------------|------------------------------------------------------|-------------------------------------------------------------------------|
| <b>Nominal coil power</b>                     | <b>DC0.9~1.1W/AC0.9~1.4VA</b>         | <b>Shock resistance</b><br>Functional<br>Destructive | <b>100m/s<sup>2</sup> /10g 11ms</b><br><b>1000m/s<sup>2</sup> /100g</b> |
| <b>Operating time</b><br>(At nominal voltage) | <b>20ms max.</b>                      | <b>Humidity</b>                                      | <b>35% to 95%</b><br><b>RH non-condensing</b>                           |
| <b>Release time</b><br>(At nominal voltage)   | <b>20ms max.</b>                      | <b>Terminals</b>                                     | <b>PCB or Soldering Lugs</b><br><b>(Plug-in)</b>                        |
| <b>Ambient temperature</b>                    | <b>-55° to +70°C (-67° to +158°F)</b> | <b>Weight</b>                                        | <b>~37g (~1.30oz)</b>                                                   |
| <b>Vibration resistance</b>                   | <b>10 to 55Hz 1.0mm (0.04")</b>       |                                                      |                                                                         |
| <b>Construction</b>                           | <b>Dust cover</b>                     |                                                      |                                                                         |

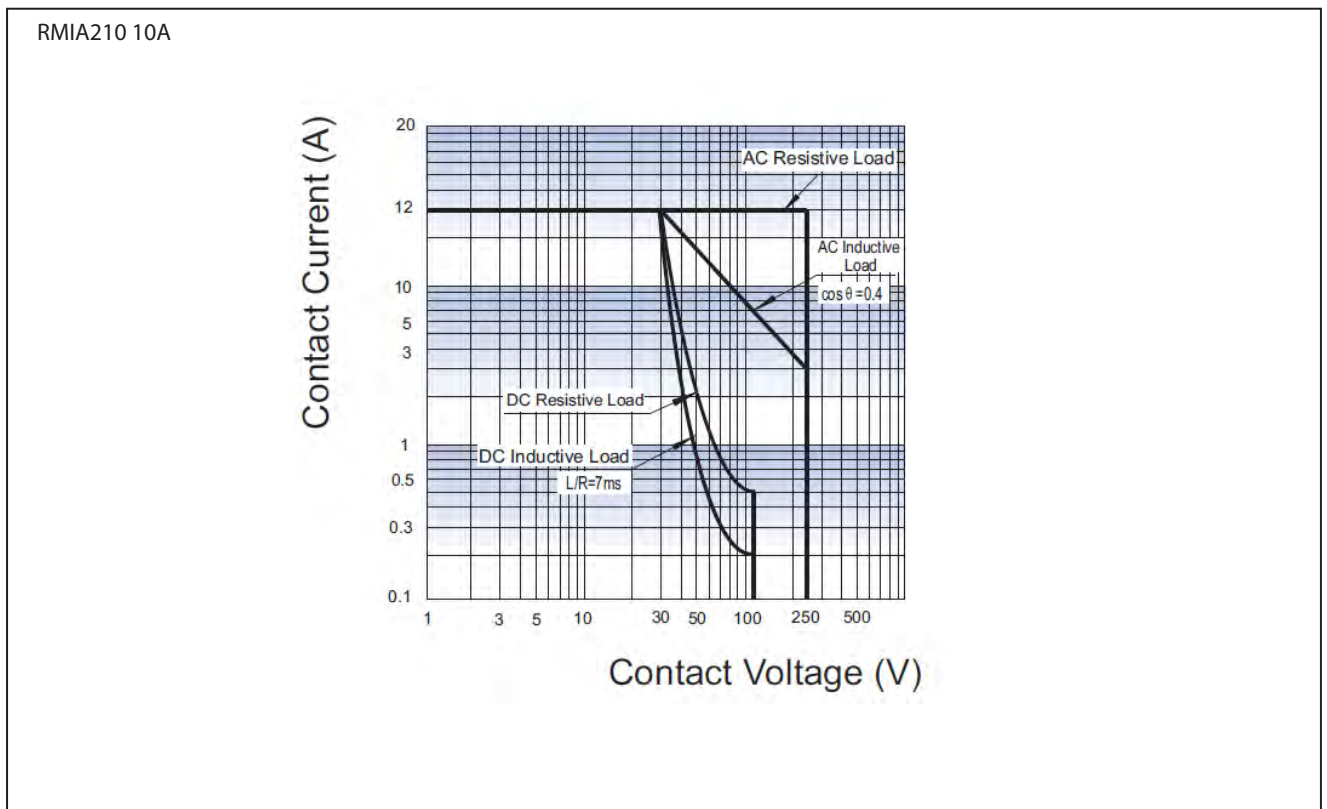
## Wiring Diagram



## Dimensions mm/inches



## Diagrams



## Bases and Sockets

DIN rail sockets codes are **ZMI2NA**, **ZMI4NA**, **ZMI2SA**, **ZMI4SA**, **ZMI2GA**, **ZMI4GA**, **ZR08** and **ZDM14A** details and specifications from page 45 to 49 of industrial relays catalogue.

PCB sockets codes are **ZC15/2A**, **ZC15/4A**, **ZC15/2** and **ZC15/4** details and specifications on page 51 of industrial relays catalogue.

Specifications are subject to change without notice. Pictures are just an example. For special features and/or customization, please ask to our sales network.

# Midi Industrial Relay Type RMI. 4-5 5A Monostable

CARLO GAVAZZI



RMI A 45

- High switching power
- Small size
- 4 poles configuration
- AC coils 6 to 230VAC
- DC coils 5 to 110VDC
- Matched sockets available
- Standard with LED, Push with arm and Flag
- IP 40
- Complain with the CE low voltage directive
- TÜV, UL, CSA, IMQ approved

## Product Description

The RMI relay (relay mini-industrial) can be used for a wide range of industrial applications.

Available in 4 change-over contact configuration. PCB, solder and plug-in terminals.

## Approvals



## Ordering Key

**RMI A 45 12VDC /1**

Type \_\_\_\_\_  
Terminal version \_\_\_\_\_  
Contact code \_\_\_\_\_  
Coil code \_\_\_\_\_  
Options \_\_\_\_\_

Terminal version: A = Soldering terminals  
B = PCB terminals

Box content: 25 relays  
Box size: (W 125 x D 165 x H 50) mm Weight: 850g  
(W 4.92 x D 6.50 x H 1.97) inches Weight: 29.98oz

## Type Selection

| Contact configuration                    | Contact rating | Contact code |
|------------------------------------------|----------------|--------------|
| 4 change over contacts (4PDT {4-form C}) | 5A             | 45           |

## Coil Characteristics, DC

| Coil Code | Nominal voltage VDC | @ +20°C (+68°F)     |                      | Coil resistance Ω |
|-----------|---------------------|---------------------|----------------------|-------------------|
|           |                     | Pick-up voltage VDC | Drop-out voltage VDC |                   |
| 5VDC      | 5                   | 4.0                 | 0.5                  | 28 ±10%           |
| 6VDC      | 6                   | 4.8                 | 0.6                  | 40.0 ±10%         |
| 12VDC     | 12                  | 9.6                 | 1.2                  | 160.0 ±10%        |
| 24VDC     | 24                  | 19.2                | 2.4                  | 640.0 ±10%        |
| 48VDC     | 48                  | 38.4                | 4.8                  | 2560.0 ±15%       |
| 60VDC     | 60                  | 48.0                | 6.0                  | 4000.0 ±15%       |
| 110VDC    | 110                 | 88.0                | 11.0                 | 12250.0 ±15%      |

## Coil Characteristics, AC

| Coil Code         | Nominal voltage VAC | @ +20°C (+68°F)     |                      | Coil resistance Ω |
|-------------------|---------------------|---------------------|----------------------|-------------------|
|                   |                     | Pick-up voltage VAC | Drop-out voltage VAC |                   |
| <b>6VAC</b>       | 6                   | 4.8                 | 1.8                  | 11 ±10%           |
| <b>12VAC</b>      | 12                  | 9.6                 | 3.6                  | 44 ±10%           |
| <b>24VAC</b>      | 24                  | 19.2                | 7.2                  | 177 ±10%          |
| <b>48VAC</b>      | 48                  | 38.4                | 14.4                 | 708 ±10%          |
| <b>115/120VAC</b> | 110-120             | 96.0                | 36.0                 | 4080 ±15%         |
| <b>230VAC</b>     | 220-240             | 176.0               | 66.0                 | 16300 ±15%        |

## Options

**Nil** = Standard with Push Arm -LED (A1+) (A2-)- Flag  
**/0** = Diode against polarity reverse + free-wheeling Diode (A1+) (A2-)  
**/1** = Without LED  
**/2** = Without Flag  
**/3** = Without Push Arm

**/4** = Plated Contacts Au > 5µm  
**/5** = Flash Gilded Contacts Au > 1µm  
**/6** = Free-Wheeling Diode (A1+) (A2-)  
**/7** = Free-Wheeling Diode (A1-) (A2+)

## Contact Characteristics

|                                                |                                                    |                                                                      |                                                                                            |
|------------------------------------------------|----------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| <b>Contact rating</b><br>(with resistive load) | <b>5A - 250VAC</b>                                 | <b>Minimum Current</b><br>Min. applicable load<br>/4 and /5 versions | <b>5mA @ 12VDC</b><br><b>1mA @ 6VDC</b>                                                    |
| <b>UL rating</b>                               | <b>5A - 250VAC/30VDC</b><br><b>1/6HP @ 240VAC</b>  | <b>Initial contact resistance</b>                                    | <b>50mΩ (@ 1A 6VDC)</b>                                                                    |
| <b>Usually rating</b> (1x10 <sup>5</sup> ops)  | <b>5A - 250VAC / 30VDC</b>                         | <b>Max. switch. voltage</b>                                          | <b>250VAC / 30VDC @ 5A</b>                                                                 |
| <b>Max. rating</b> (5x10 <sup>4</sup> ops)     | <b>5A - 250VAC / 30VDC</b>                         | <b>Max. switch. power</b>                                            | <b>1250VA / 150W @ 5A</b>                                                                  |
| <b>Material</b>                                | <b>AgSn<sub>2</sub>In<sub>2</sub>O<sub>3</sub></b> | <b>Life</b><br>Electrical life<br>Mechanical life                    | <b>1x10<sup>5</sup> cycles (1800 Ops/h)</b><br><b>1x10<sup>7</sup> cycles (1800 Ops/h)</b> |

## Insulation

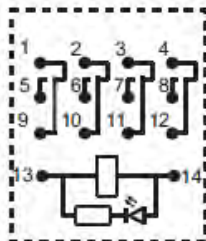
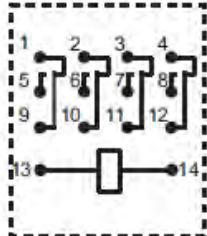
|                                                                                                      |                               |                                                                                                                                                  |                                                      |
|------------------------------------------------------------------------------------------------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Dielectric strength (1min.)<br>Between coil and contacts<br>Between open contacts<br>Contact/Contact | 1500VAC<br>1000VAC<br>1500VAC | <b>Insulation according to EN61810-5</b><br>Rated insulation voltage<br>Impulsive insulation voltage<br>Pollution degree<br>Overvoltage category | <b>250V</b><br><b>2.2kV</b><br><b>2</b><br><b>II</b> |
| <b>Initial insulation resistance</b>                                                                 | <b>1,000MΩ - 500VAC</b>       |                                                                                                                                                  |                                                      |

## General Data

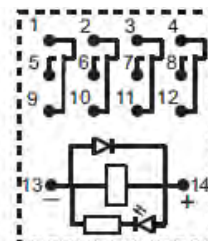
|                                               |                                       |                                                      |                                                                    |
|-----------------------------------------------|---------------------------------------|------------------------------------------------------|--------------------------------------------------------------------|
| <b>Nominal coil power</b>                     | <b>DC0.9~1.1W/AC0.9~1.4VA</b>         | <b>Shock resistance</b><br>Funktional<br>Destructive | <b>100m/s<sup>2</sup> /10g</b><br><b>1000m/s<sup>2</sup> /100g</b> |
| <b>Operating time</b><br>(At nominal voltage) | <b>25ms max.</b>                      | <b>Humidity</b>                                      | <b>35% to 95%</b><br><b>RH non-condensing</b>                      |
| <b>Release time</b><br>(At nominal voltage)   | <b>25ms max.</b>                      | <b>Terminals</b>                                     | <b>PCB or Soldering Lugs</b><br><b>(Plug-in)</b>                   |
| <b>Ambient temperature</b>                    | <b>-55° to +70°C (-67° to +158°F)</b> | <b>Weight</b>                                        | <b>~37g (~1.30oz)</b>                                              |
| <b>Vibration resistance</b>                   | <b>10 to 55Hz 1.5mm (0.06")</b>       |                                                      |                                                                    |
| <b>Construction</b>                           | <b>Dust cover</b>                     |                                                      |                                                                    |

## Wiring Diagram

RMIA45 5A



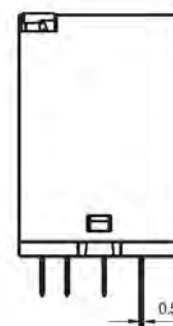
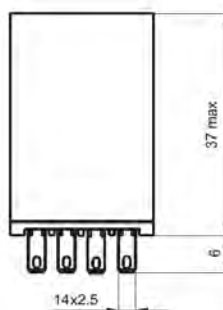
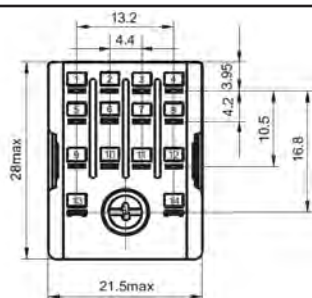
With LED



DC, with fly-wheel diode

## Dimensions mm/inches

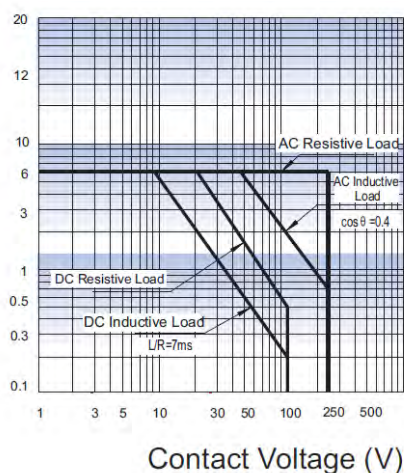
RMIA45 5A



## Diagrams

RMIA45 5A

Contact Current (A)



Contact Voltage (V)

## Bases and Sockets

DIN rail sockets codes are **ZMI4NA**, **ZMI4SA**, **ZMI4GA**, and **ZDM14A** details and specifications from page 45 to 49 of industrial relays catalogue.  
PCB sockets codes are **ZC15/4A** and **ZC15/4** details and specifications on page 51 of industrial relays catalogue.