# *DATA SHEET*

## *installation relays*

## *RI 012-001*

### *compact relays for switching high currents*

***Article number 09981011***

### *Function*

Installation relays are monostable, i.e. they close the main circuit as long as there is control voltage. Thanks to different control voltages and contact configurations they are suitable for many applications, especially for switching lighting, boilers, etc. The series RI installation relays are suitable for switching single-phase consumers up to 20 A. They have the option of manual operation, a clearly detectable switch position indicator and a compact design even with high rated currents and powerful terminals. Thanks to the wide range of coil voltages and contact configurations, they can be used for many switching and control applications.

### *Features*

high flexibility thanks to different contact configurations, Manual operation for test purposes, low switching noise and no humming or buzzing, front switch position indicator through manual operation key, Option of visual display of operating status via LED, Switching contacts with safe isolation AC1 as per EN 60947-4-1, Duty cycle: 100 % with spacer 0,5 mod, easy connection thanks to generously dimensioned, captive terminals, connection wires cannot become lodged behind the terminals, easy accessibility for connecting coil supply, Use of flame-resistant materials as chlorine-free and halogen-free plastics, Protected against direct contact under BGV A3

### *Mounting*

quick fastening to mounting rail, any installation position with a tilt angle of max. 30°

### *Applications*

The components offer universal use for control tasks in industrial and building systems as well as in domestic installations. They are especially suitable for switching lighting systems, electric heaters, fans, air conditioning systems, ventilators, heat pumps and glow and gas-discharge lamps.

### *Notes*

The designation for the devices in the RI series includes the rated voltage (first group of digits) and the contact design (final group of digits), which is listed in the following order: normally opened contact, normally closed contact and changeover contact. A "RI 024-110" therefore has a rated voltage of 24 V, one normally opened contact and one normally closed contact, but no changeover contact, The duty cycle is max. 1 h. To reach 100 % duty cycle, the DHDS spacer must be used on both sides.

### *Accessories*

spacers DHDS

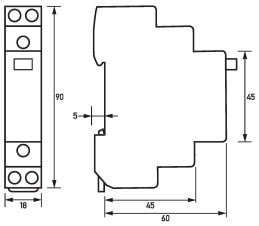
### *Technical Data*

| Technical Data | RI 012-001 |
|---|---|
| Series | RI 012 |
| Number of (n.o, n.c.,change-over) | 0\|0\|1 |
| Operating voltage (AC) | 12 V (10.8 V ... 13.2 V) |
| Operating frequency | 50 Hz |
| Internal consumption | 3.5 W ... 11 W |
| | **Display (status output)** |
| Number | 1 |
| Type | operating button (black) |
| | **control input** |
| Galvanically separated | true |
| Rated voltage (AC) | 12 V |

| Technical Data | RI 012-001 |
|---|---|
| Tolerance of rated voltage | -15 % ... 10 % |
| Rated impulse withstand voltage | 2 kV |
| Rated power | 3.5 VA ... 11 VA |
| Rated frequency | 50 Hz |
| min. Pulse duration control input | 50 ms |
| Rated power (switch on) | 10 VA ... 13 VA |
| Rated power (retaining) | 3.4 VA ... 4 VA |
| | **load circuit** |
| Specification | relays |
| min. Contact opening | 5 mm |
| Bounce time load circuit | typ. < 5 ms (max. 10 ms) |
| Rated voltage (AC) | 250 V |
| Tolerance of rated voltage | -10 % ... 10 % |
| max. Rated current added | 20 A |
| max. Rated current not added | 20 A |
| Rated insulation voltage | 500 V |
| Rated impulse withstand voltage | 4 kV |
| Rated frequency | 50 Hz |
| Allowed utilization category | AC-1, AC-3, AC-5a, AC-5b, AC-7a |
| Current heat loss per current path | 2 W |
| max. Rated current thermal | 20 A |
| Thermal Backup-fuse OCPD | 20 A |
| Short-circuit backup-fuse SCPD | 20 A |
| Rated voltage AC-1 (fix) | 250 V |
| max. Rated current AC-1 | 20 A |
| max. Rated switching capacity AC-1 | 30 A |
| max. Rated power AC-1 | 5000 VA |
| Rated voltage AC-3 3-phase (fix) | 250 V |
| max. Rated current AC-3 | 8 A |
| max. Rated switching capacity AC-3 | 64 A |
| max. Rated power AC-3 | 2000 VA |
| Rated voltage AC-5a (fix) | 250 V |
| max. Rated current AC-5a | 10 A |
| max. Capacity AC-5a | 30 A |
| max. Rated power AC-5a | 2500 VA |
| Rated voltage AC-5b (fix) | 230 V |
| max. Rated current AC-5b | 8.8 A |
| max. Capacity AC-5b | 13.2 A |
| max. Rated power AC-5b | 2024 VA |
| Rated voltage AC-7a (fix) | 250 V |
| max. Rated current AC-7a | 20 A |
| max. Rated switching capacity AC-7a | 30 A |
| max. Rated power AC-7a | 5000 VA |
| max. Rated power glow lamps | 1980 VA |
| max. Rated power low-voltage halogen lamp | 900 VA |

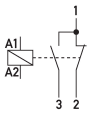
| Technical Data | RI 012-001 |
|---|---|
| max. Rated power fluorescent lamp compensated | 1105 VA |
| max. Rated power fluorescent lamp not compensated | 1020 VA |
| max. Rated power fluorescent lamps duo-switching | 1700 VA |
| | **lift terminal, captive top and bottom (load circuit, control input)** |
| Allowed types of wires | copper conductor, stranded conductors with ferrule |
| Cross section solid | 1-wire: 0.5 mm² ... 10 mm² |
| Connecting capacity flexible | 1-wire: 0.5 mm² ... 10 mm² |
| Cross section flexible with ferrule | 0.5 mm² ... 6 mm² |
| Cross section stranded | 1-wire: 0.5 mm² ... 10 mm² |
| | **General data** |
| Duty cycle | short-time operation (Duty cycle ≤ 1 h, 100 % with spacer 0,5 mod. widths) |
| Operating noise | no humming or buzzing, little switching noise |
| Operating position | not suspended, tilt angle 30° |
| Mechanical endurance | min. 1 · 10⁶ switching cycles |
| Electrical endurance | min. 40000 switching cycles |
| Ambient temperature | -20 °C ... 45 °C |
| Housing type | distribution board housing |
| Installation type | Mounting rail (35 mm) |
| Housing material | polycarbonate (PC) |
| Protection class | IP20 |
| Width | 18 mm |
| Height | 90 mm |
| Depth | 65 mm |
| Installation depth | 60 mm |
| Module widths | 1 |
| Weight | 0.13 kg |
| Design requirements/Standards | EN 60947-1, EN 60715 |

## *Dimensions*




*Dimensional drawing Group view*

## *Wiring example*




*Wiring diagram*