

## 17.5 mm - 1 Relay 8A MAR1 Part number 88827115



- Multi-function or mono-function
- Multi-range
- Multi-voltage
- Screw or spring terminals
- LED status indicator (relay version)
- Possibility of external load connection in parallel to the control input
- 3-wire PNP sensor compatible

### Part numbers

|          | Type | Functions | Timing        | Output             | Nominal rating | Connections     | Supply voltage          |
|----------|------|-----------|---------------|--------------------|----------------|-----------------|-------------------------|
| 88827115 | MAR1 | A - At    | 0,1 s → 100 h | 1 changeover relay | 8 A            | Screw terminals | 24 V DC / 24 → 240 V AC |

### Specifications

#### Timing

|  |  |
|--|--|
| Timing ranges (7 ranges)                     | 1 s - 10 s - 1 min - 10 min - 1 h - 10 h - 100 h |
| Repetition accuracy with constant parameters | ± 0.5 % (IEC/EN 61812-1)                         |
| Drift Temperature                            | ± 0,05 % / °C                                    |
| Drift Voltage                                | ± 0,2 % / V                                      |
| Display accuracy according to IEC/EN 61812-1 | ± 10 % / 25 °C                                   |
| Immunity from micro power cuts : typical     | < 10 ms  |

#### Supply

|                            |                      |
|----------------------------|----------------------|
| Multi-voltage power supply | Depending on version |
| Frequency (Hz)             | 50 / 60              |
| Operating factor           | 100 %                |

#### Output specification

|  |  |
|--|--|
| Rated power  | 2000 VA/80 W   |
| Maximum breaking current                               | 8 AAC 250 VAC resistive<br>8 ADC 30 VDC resistive      |
| Minimum breaking current                               | 10 mA / 5 VDC  |
| Voltage breaking capacity                              | 250 VAC / 8 AAC resistive<br>250 VDC / 0,3 A resistive |
| Electrical life (operations)                           | 10 <sup>5</sup><br>8 A 250 VAC resistive               |
| Mechanical life (operations)                           | 10 x 10 <sup>6</sup>                                   |
| Breakdown voltage acc. to IEC/EN 61812-1               | 2,5 kV / 1 min / 1 mA / 50 Hz                          |
| Impulse voltage acc. to IEC/EN 60664-1, IEC/EN 61812-1 | 5 kV<br>wave 1.2 / 50 µs                               |

#### General characteristics

|  |  |
|--|--|
| Conformity to standards  | IEC/EN 61812-1<br>IEC/EN 61000-6-1<br>IEC/EN 61000-6-2<br>IEC/EN 61000-6-3<br>IEC/EN 61000-6-4 |
| Certifications   | CE, UL, cUL, CSA, GL   |
| Temperature limits use (°C)  | -20 → +60  |
| Temperature limits stored (°C)   | -30 → +60  |
| Installation category<br>(acc. to IEC/EN 60664-1)  | Voltage surge category III   |
| Creepage distance and clearance acc. to IEC/EN 60664-1                                       | 4 kV / 3 mm  |
| Protection (IEC/EN 60529)  | IP20<br>IP40   |
| Degree of protection acc. to IEC/EN 60529 Front face   | IP50   |
| Vibration resistance<br>acc. to IEC/EN 60068-2-6   | 20 m/s <sup>2</sup> 10 Hz → 150 Hz   |
| Relative humidity no condensation acc. to IEC/EN 60068-2-30                                  | 93 % non-condensing  |
| Electromagnetic compatibility - Immunity to electrostatic discharges acc to IEC/EN 61000-4-2 | Level III (Air 8 kV / Contact 6 kV)  |
| Immunity to radiated, radio-frequency, electromagnetic field acc. IEC/EN 61000-4-3           | Level I<br>(1 V/m : 2,0 G Hz → 2,7 G Hz)<br>Level II<br>(3 V/m : 1,4 G Hz → 2,0 G Hz)          |

|  |  |
|--|--|
|  | Level III<br>(10 V/m : 80 M Hz →1 G Hz)  |
| Immunity to rapid transient bursts acc. to IEC/EN 61000-4-4                      | Level III (direct 2 kV / Capacitive coupling clamp 1 kV)   |
| Immunity to shock waves on power supply acc. to IEC/EN 61000-4-5                 | Level III (2 kV / common mode 2 kV/residual current mode 1 kV)                                       |
| Immunity to radio frequency in common mode acc. to IEC/EN 61000-4-6              | Level III (10V rms : 0.15 M Hz to 80 M Hz)   |
| Immunity to voltage dips and breaks acc. to IEC/EN 61000-4-11                    | 0 % residual voltage, 1 cycle<br>70 % residual voltage, 25/30 cycles                                 |
| Mains-borne and radiated emissions acc. to EN 55022 (CISPR22), EN55011 (CISPR11) | Class B  |
| Fixing : Symmetrical DIN rail  | 35 mm  |
| Terminal capacity Single-wire without ferrule                                    | 1 x 0,5 →3,3 mm <sup>2</sup><br>(AWG 20 →AWG 12)<br>2 x 0,5 →2,5 mm <sup>2</sup><br>(AWG 20 →AWG 14) |
| Terminal capacity Multi-wire with ferrule  | 1 x 0,5 →2,5 mm <sup>2</sup><br>(AWG 20 →AWG 14)<br>2 x 0,5 →1,5 mm <sup>2</sup><br>(AWG 20 →AWG 16) |
| Housing material   | Self-extinguishing   |
| Shock test IEC/EN 60068-2-27   | 15 g - 11 ms   |
| Short interruption on power line acc to IEC/EN 61000-4-11                        | 0 % residual voltage, 250/300 cycles   |

### Timing

|   |        |
|---|--------|
| Minimum pulse duration typically (relay version)                      | 30 ms  |
| Minimum pulse duration typically (solid state version)                | 50 ms  |
| Minimum pulse duration typically (relay version under load)           | 100 ms |
| Maximum reset time by de-energisation typically (relay version)       | 120 ms |
| Maximum reset time by de-energisation typically (solid state version) | 350 ms |

### Supply

|                     |   |
|---------------------|---|
| Operating range     | 85 →110 % Un<br>85 →120 % Un for 12 V AC / DC   |
| Max. absorbed power | 32 VA (240 VAC)<br>1,5 W (240 VDC)<br>0,6 W (24 VDC)<br>0,7 VA (12 VAC)<br>0,7 W (12 VDC) |

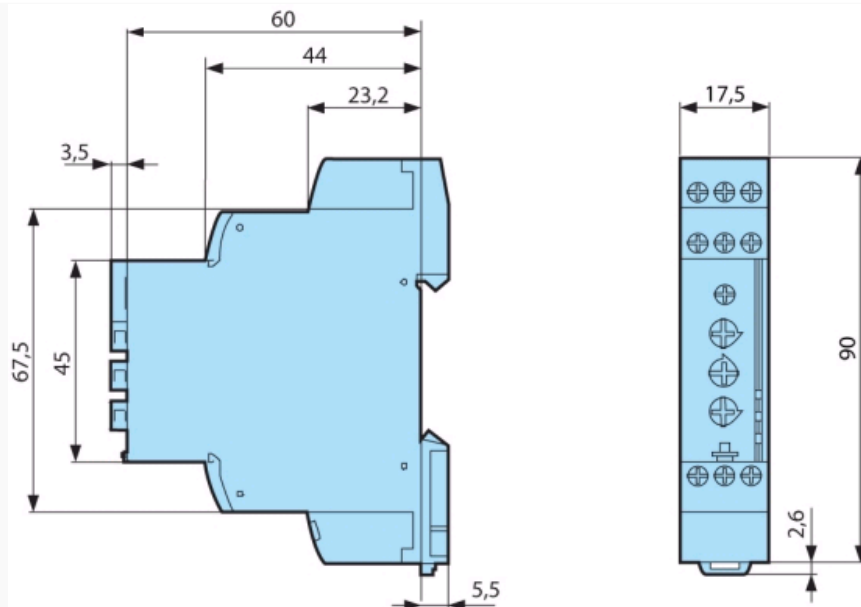
### Output specification

|   |       |
|---|-------|
| 1 or 2 changeover relays, AgNi (cadmium-free) | 1 C/O |
|---|-------|

### General characteristics

|  |   |
|--|---|
| Spring terminals, 2 terminals per connection point - flexible wire | 2 x 0,5 →1,5 mm <sup>2</sup><br>(AWG 20 →AWG 16)  |
| Spring terminals, 2 terminals per connection point - rigid wire    | 2 x 0,5 →1,5 mm <sup>2</sup><br>(AWG 20 →AWG 16)  |
| Weight : casing 17,5 mm  | 88827105 (MUR1) : 63 g<br>88827115 (MAR1) : 63 g<br>88827125 (MBR1) : 63 g<br>88827135 (MCR1) : 62 g<br>88827145 (MHR1) : 63 g<br>88827150 (MLR4) : 63 g<br>88827155 (MLR1) : 64 g<br>88827100 (MUR4) : 62 g<br>88827103 (MUR3) : 66 g<br>88827503 (MURc3) : 59 g<br>88827150 (MLR4) : 63 g<br>88827185 (MXR1) : 63 g<br>88827004 (MUS2) : 55 g<br>88827014 (MASS) : 53 g<br>88827044 (MHS2) : 53 g<br>88827054 (MLS2) : 56 g |
| Insulation resistance according to IEC/EN 60664-1                  | 100 MΩ (500 V DC)   |

### Dimensions (mm)



**Curves**

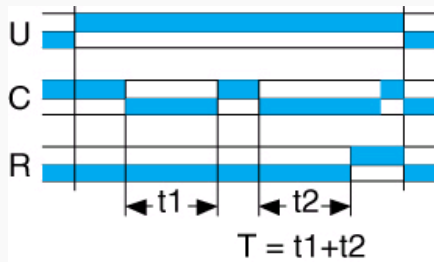
**Function A**



|                               |
|-------------------------------|
| <b>Function A</b>             |
| Delay on energisation 1 relay |

**Curves**

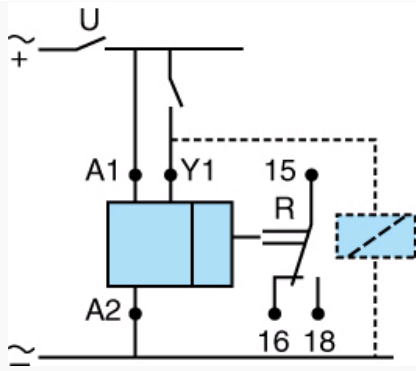
**Function At**



|  |
|--|
| <b>Function At</b>                         |
| Timing on energisation with memory 1 relay |

**Connections**

1 changeover relay output



### Connections

#### CA MAR1

CA MAR1