



17.5 mm DIN rail mounting MAR1 Part number 88827115



- Relay or solid state output
- Multi-function or mono-function
- Multi-range
- Multi-voltage
- Screw or spring terminals
- LED status indicator (relay version)
- Option of connecting an external power supply to the control input
- 3-wire sensor control option

Part numbers

| | Type | Functions | Timing | Output | Nominal rating | Connections | Supply voltage |
|------------|------|-----------|-----------|--------------------|----------------|-----------------|------------------------|
| 88 827 115 | MAR1 | A - At | 0,1s→100h | 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 |
| 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 |
| Immunity from micro power cuts : typical | < 10 ms |

Supply

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|----------------------------|---|
| Multi-voltage power supply | Depending on version |
| Frequency (Hz) | 50 / 60 |
| Operating range | 85 →110 % Un 85 →120 % Un for 12 V AC / DC |
| Operator factor | 100 % |
| Max. absorbed power | 32 VA (240 VAC) 1,5 W (240 VDC) 0,6 W (24 VDC) 0,7 VA (12 VAC) 0,7 W (12 VDC) |

Output specification

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|--|--|
| 1 or 2 changeover relays, AgNi (cadmium-free) | 1 C/O |
| Rated power | 2000 VA/80 W |
| Maximum breaking current | 8 AAC 250 VAC resistive 8 ADC 30 VDC resistive |
| Minimum breaking current | 10 mA / 5 VDC |
| Voltage breaking capacity | 250 VAC / 8 AAC resistive 250 VDC / 0,3 A resistive |
| Electrical life (operations) | 10 ⁵ 8 A 250 VAC resistive |
| Mechanical life (operations) | 10 x 10 ⁶ |
| 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 wave 1.2 / 50 µs |

Solid state output

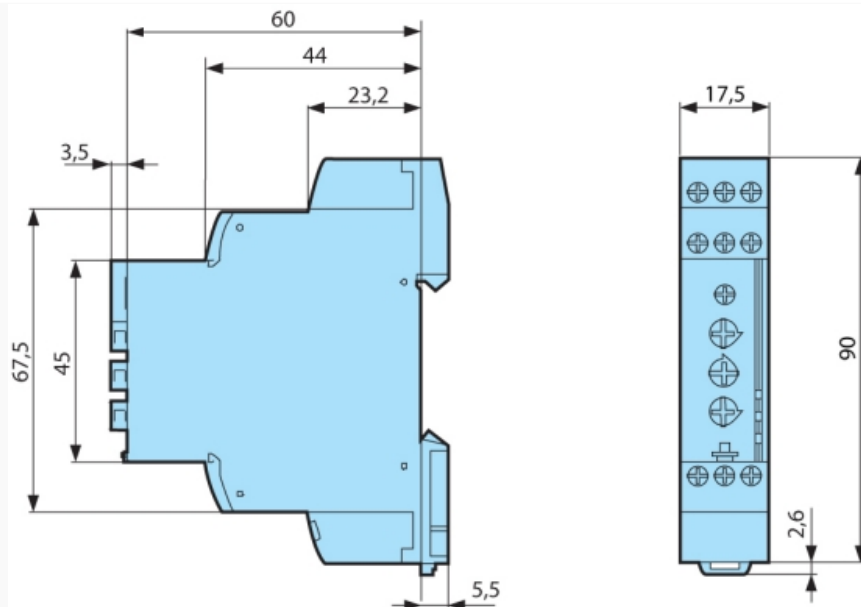
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|----------------------------|-----------------------------------|
| Rated power | 0,7 A AC / DC 20 °C (0,5 A UL) |
| Derating | 5 mA/ °C |
| Maximum admissible current | 20 A ≤ 10 ms |
| Minimum breaking current | 10 mA |
| Leakage current | < 5 mA |
| Voltage breaking capacity | 250 VAC / DC |

| | |
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| Maximum voltage drop at terminals | 3 wire 4V 2 wire 8V |
| Electrical life (operations) | 10 ⁸ |
| Breakdown voltage acc. to IEC/EN 60664-1, IEC/EN 60255-5 | 2.5 kV to 1 mA / 1 min |
| Input type | Volt-free contact 3-wire PNP output control option residual voltage : 0.4V whatever the timer power supply |

General characteristics

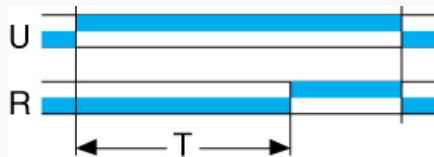
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|--|---|
| Conformity to standards | IEC/EN 61812-1 IEC/EN 61000-6-1 IEC/EN 61000-6-2 IEC/EN 61000-6-3 IEC/EN 61000-6-4 |
| Certifications | CE, UL, cUL, CSA, GL |
| Temperature limits use (°C) | -20 → +60 |
| Temperature limits stored (°C) | -30 → +60 |
| Installation category (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 IP40 |
| Degree of protection acc. to IEC/EN 60529 Front face | IP50 |
| Vibration resistance acc. to IEC/EN 60068-2-6 | 20 m/s ² 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 (1 V/m : 2,0 G Hz → 2,7 G Hz) Level II (3 V/m : 1,4 G Hz → 2,0 G Hz) Level III (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 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 ² (AWG 20 → AWG 12) 2 x 0,5 → 2,5 mm ² (AWG 20 → AWG 14) |
| Terminal capacity Multi-wire with ferrule | 1 x 0,5 → 2,5 mm ² (AWG 20 → AWG 14) 2 x 0,5 → 1,5 mm ² (AWG 20 → AWG 16) |
| Spring terminals, 2 terminals per connection point - flexible wire | 2 x 0,5 → 1,5 mm ² (AWG 20 → AWG 16) |
| Spring terminals, 2 terminals per connection point - rigid wire | 2 x 0,5 → 1,5 mm ² (AWG 20 → AWG 16) |
| Housing material | Self-extinguishing |
| Weight : casing 17,5 mm | 88827105 (MUR1) : 63 g 88827115 (MAR1) : 63 g 88827125 (MBR1) : 63 g 88827135 (MCR1) : 62 g 88827145 (MHR1) : 63 g 88827150 (MLR4) : 63 g 88827155 (MLR1) : 64 g 88827100 (MUR4) : 62 g 88827103 (MUR3) : 66 g 88827503 (MURc3) : 59 g 88827150 (MLR4) : 63 g 88827185 (MXR1) : 63 g 88827004 (MUS2) : 55 g 88827014 (MAS5) : 53 g 88827044 (MHS2) : 53 g 88827054 (MLS2) : 56 g |
| 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 |
| Insulation resistance according to IEC/EN 60664-1 | 100 MΩ (500 VDC) |

Dimensions (mm)



Curves

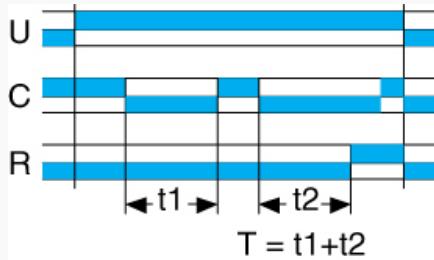
Function A



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|-------------------------------|
| Function A |
| Delay on energisation 1 relay |

Curves

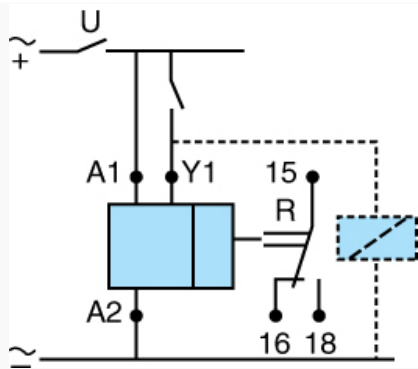
Function At



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| Function At |
| Timing on energisation with memory 1 relay |

Connections

1 changeover relay output



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