

Din Rail Mount 17.5 mm Phase Sequence & Phase Failure EMWS Part number 84903020



- Control of 3-phase networks : phase sequence, total phase failure
- Multi-voltage from 3 x 208 to 3 x 480 V AC
- Controls its own supply voltage
- True RMS measurement
- LED status indication

Part numbers

| Type | Function | Nominal voltage (V) | Output |
|---------------|-------------------------------|------------------------|--------------------------------|
| 84903020 EMWS | Phase sequence, phase failure | 3 x 208 → 3 x 480 V AC | 1 single pole changeover relay |

Specifications

Supply

| | |
|--|-------------------|
| AC supply voltage frequency | 50 / 60 Hz ± 10 % |
| Galvanic isolation of power supply/measurement | No |
| Immunity from micro power cuts | 60 ms |

Inputs and measuring circuit

| | |
|------------------------------|-------------------|
| Frequency of measured signal | 50 → 60 Hz ± 10 % |
|------------------------------|-------------------|

Output

| | |
|---|---|
| Type of contacts | No cadmium |
| Max. breaking current | EMWS - MWS2 : 5 A AC/DC MWS : 8 A AC 250 V AC - 8 A DC 30 V DC |
| Maximum rate | 360 operations/hour at full load |
| Operating categories acc. to IEC/EN 60947-5-1 | AC12, AC13, AC14, AC15, DC12, DC13 |

Insulation

| | |
|--|--|
| Insulation coordination (IEC/EN 60664-1) | Overvoltage category III : degree of pollution 3 |
| Rated impulse withstand voltage (IEC/EN 60664-1) | 4 kV (1,2 / 50 μs) |
| Dielectric strength (IEC/EN 60664-1) | 2 kV AC 50 Hz 1 min. |

General characteristics

| | |
|---|---|
| Display relay | Yellow LED |
| Casing | 17,5 mm |
| Mounting | On 35 mm symmetrical DIN rail, IEC/EN 60715 |
| Mounting position | All positions |
| Material : enclosure plastic type VO to UL94 standard | Incandescent wire test according to IEC/EN 60695-2-11 |
| Protection (IEC/EN 60529) | Terminal block : IP20 Casing : IP30 |
| Operating temperature IEC/EN 60068-2 | -20 → +50 °C |
| Storage temperature IEC/EN 60068-2 | -40 → +70 °C |
| Humidity IEC/EN 60068-2-30 | 2 x 24 hr cycle 95 % RH max. without condensation 55 °C |
| Vibrations according to IEC/EN 60068-2-6 | 10 → 150 Hz, A = 0.035 mm |
| Shocks IEC/EN 60068-2-6 | 5 g |

Standards

| | |
|--|--|
| Product standard | IEC/EN 50178 |
| Electromagnetic compatibility (EMC) | IEC/EN 61000-6-1, IEC/EN 61000-6-2, IEC/EN 61000-6-3, IEC/EN 61000-6-4 |
| Certifications | MWS, MWS2 : CE, UL, CSA EMWS : CE, UL (cULus) |
| Conformity with environmental directives | RoHS |

Supply

| | |
|---------------------------|-------------------------|
| Supply voltage Un | 3 x 208 → 3 x 480 VAC * |
| Voltage supply tolerance | -13 % / +10 % |
| Operating range | 183 → 528 VAC |
| Maximum power consumption | 20 VA |

Inputs and measuring circuit

| | |
|--|--------------------------------------|
| Measurement ranges | 183 → 528 VAC |
| Guaranteed phase failure detection threshold | < 100 VAC |
| Voltage threshold hysteresis | > 80 VAC (voltage must be > 180 VAC) |

| | |
|--------------------------------------|------------|
| Display precision | ± 10 V |
| Maximum regeneration (phase failure) | < 100 VAC |

Timing

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|--------------------------|--------|
| Alarm on delay time max. | 100 ms |
| Delay on pick-up | 100 ms |

Output

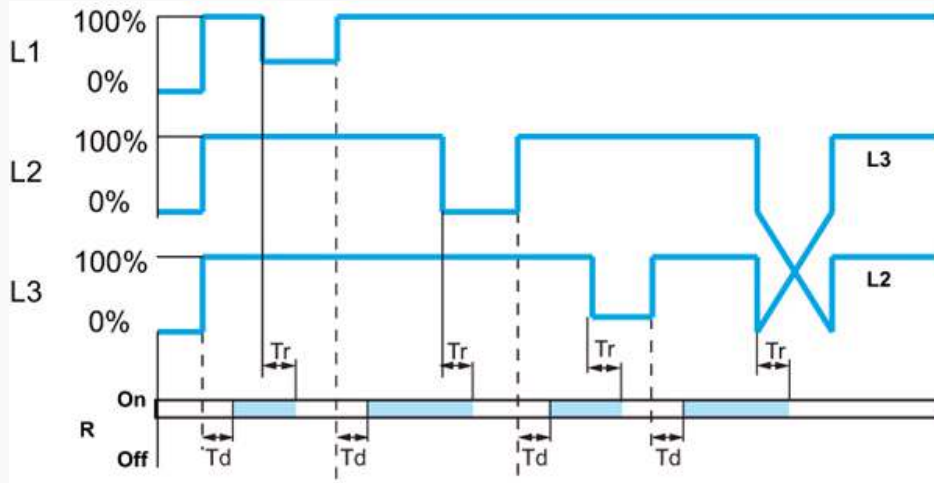
| | |
|---------------------------------|--|
| Type of output | 1 single pole changeover relay |
| Maximum breaking voltage | 250 VAC/DC |
| Max. breaking current | NO : 5A 250 VAC / 5 A 30 VDC NC : 3A 250 VAC / 3 A 30 VDC |
| Min. breaking current | 10 mA / 12 VDC |
| Breaking capacity (V resistive) | NO : 1,250 VA / 150 W NC : 750 VA / 90 W |
| Mechanical life (operations) | 10^5 cycles NO $7 \cdot 10^4$ cycles NC |

Insulation

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|--|---|
| Nominal insulation voltage | 300 V (correspond à un réseau 277/480 avec neutre ou 480 sans neutre) |
| Insulation resistance (IEC/EN 60664-1) | > 500 M Ω / 250 VDC / 1min |

General characteristics

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|---|---|
| "Fault" indication | Yellow LED turns off |
| Weight | 63 g 72 g with unitary packing & manual operation |
| Connecting capacity IEC/EN 60947-1 | Rigid : 1 x 0,5 → 4 mm ² (AWG 20 → AWG 11) 2 x 0,5 → 2,5 mm ² (AWG 20 → AWG 14) Flexible with ferrules : 1 x 0,5 → 2,5 mm ² (AWG 20 → AWG 14) 2 x 0,5 → 1,5 mm ² (AWG 20 → AWG 16) |
| Max. tightening torques IEC/EN 60947-1 | 0,6 → 0,8 N.m / 5,3 → 7,08 Lbf.in |
| Vibrations according to IEC/EN60068-2-6 | 10 → 150 Hz, A = 0.35 mm peak to peak 20 x cycles, 1octave / min |

Comments**Principles****Operating principle****EMWS : Phase controller**

The relay monitors its own supply voltage.

The relay controls :

- correct sequencing of the three phases,
- total failure of one of the three phases.

When the phase sequence and voltages are correct (> 183 VAC), the output relay is closed and the yellow LED is lit.

In the event of a phase sequence or total phase failure fault (detected when one of the voltages drops below 100 V), the relay opens instantly and its LED is extinguished.

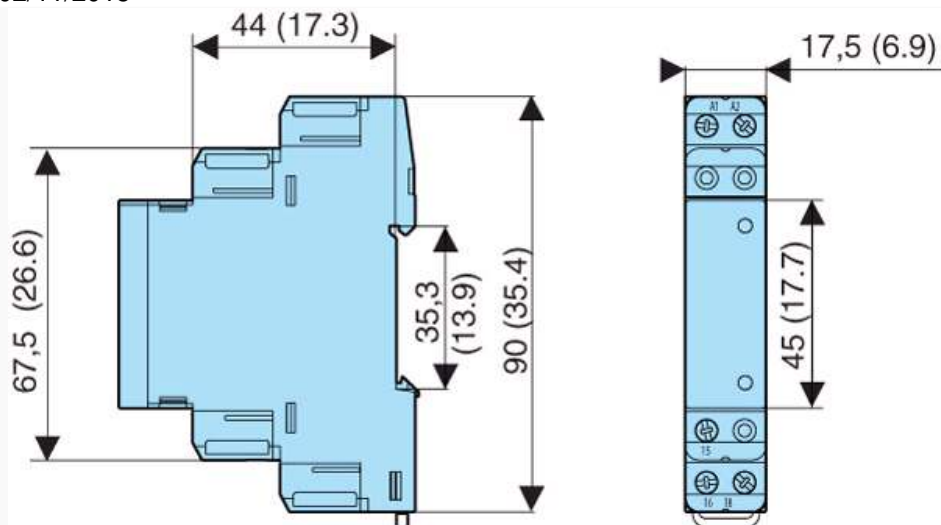
When the unit is powered up with a measured fault, the relay stays open.

Td : Power on delay

Tr : Response time after a fault has occurred

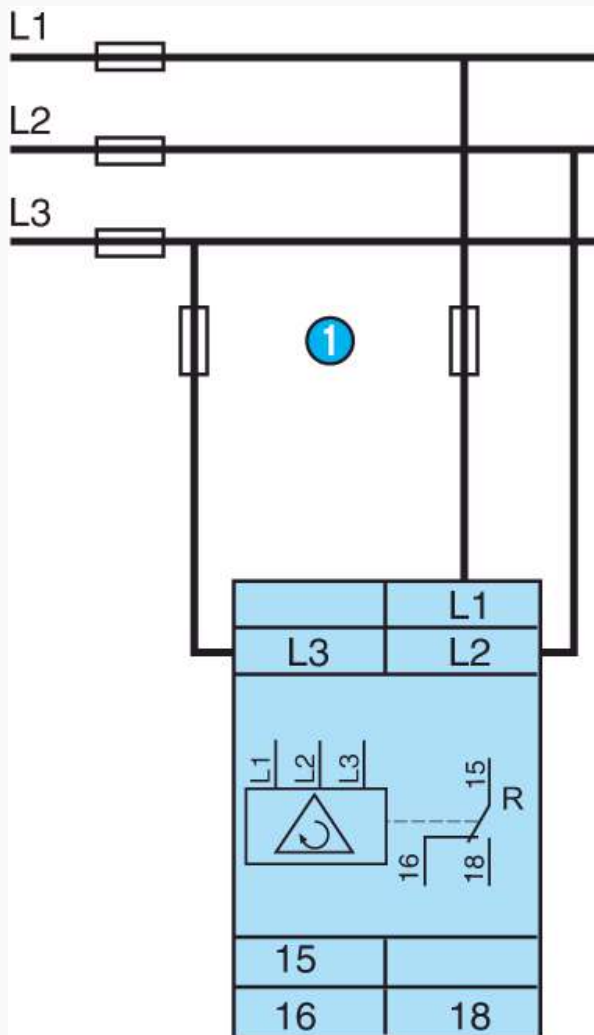
R : output relay

Dimensions (mm)**EMWS**



Connections


EMWS



| N° | Legend |
|----|---------------------------------|
| ① | 2 x F1 100 mA fast-blow fuse |

Connections

CA 84903020

 CA 84903020

Product adaptations



- Customisable colours and labels