

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 and failure	3 x 208 → 3 x 480 V AC	1 single pole changeover relay

Specifications

Supply

Voltage supply tolerance	-12 % / +10 %
AC supply voltage frequency	50 / 60 Hz ± 10 %
Galvanic isolation of power supply/measurement	No
Power consumption at Un	22 VA in 400 VAC, 50 Hz
Immunity from micro power cuts	60 ms

Inputs and measuring circuit

Guaranteed phase failure detection threshold	< 100 V AC
Frequency of measured signal	50 → 60 Hz ± 10 %

Timing

Delay on pick-up	≤ 650 ms
Alarm on delay time max.	130 ms

Output

Type of contacts	No cadmium
Maximum breaking voltage	EMWS - MWS2 : 250 V AC / DC MWS : 250 V AC / 8 A AC - 250 V DC / 0,3 A
Max. breaking current	EMWS - MWS2 : 5 A AC/DC MWS : 8 A AC 250 V AC - 8 A DC 30 V DC
Min. breaking current	10 mA / 5 V DC
Electrical life (number of operations)	MWS : 1 x 10 ⁵ MWS2 : 1 x 10 ⁴ MWS : 10 ⁵
Breaking capacity (resistive)	1250 VA AC MWS : 2000 VA/80 W
Maximum rate	360 operations/hour at full load
Operating categories acc. to IEC/EN 60947-5-1	AC12, AC13, AC14, AC15, DC12, DC13
Mechanical life (operations)	EMWS - MWS2 : 30 x 10 ⁶ MWS : 10 x 10 ⁶

Insulation

Nominal insulation voltage IEC/EN 60664-1	400 V
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.
Insulation resistance (IEC/EN 60664-1)	> 500 MΩ / 500 V DC

General characteristics

Output relay status indication	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
Connecting capacity IEC/EN 60947-1	Rigid : 1 x 4 ² - 2 x 2,5 ² mm ² 1 x 11 AWG - 2 x 14 AWG Flexible with ferrules : 1 x 2,5 ² - 2 x 1,5 ² mm ² 1 x 14 AWG - 2 x 16 AWG

Max. tightening torques IEC/EN 60947-1	0,6 →1 Nm / 5,3 →8,8 Lbf.In
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/EN60068-2-6	10 →150 Hz, A = 0.035 mm
Shocks IEC/EN 60068-2-6	5 g

Standards	
Standards	IEC/EN 50178, IEC/EN 61000-6-2, IEC/EN 61000-6-3
Certifications	MWS2, EMWS : CE, UL, CSA, GL MWS : CE, UL, CSA
Conformity with environmental directives	RoHS, WEEE

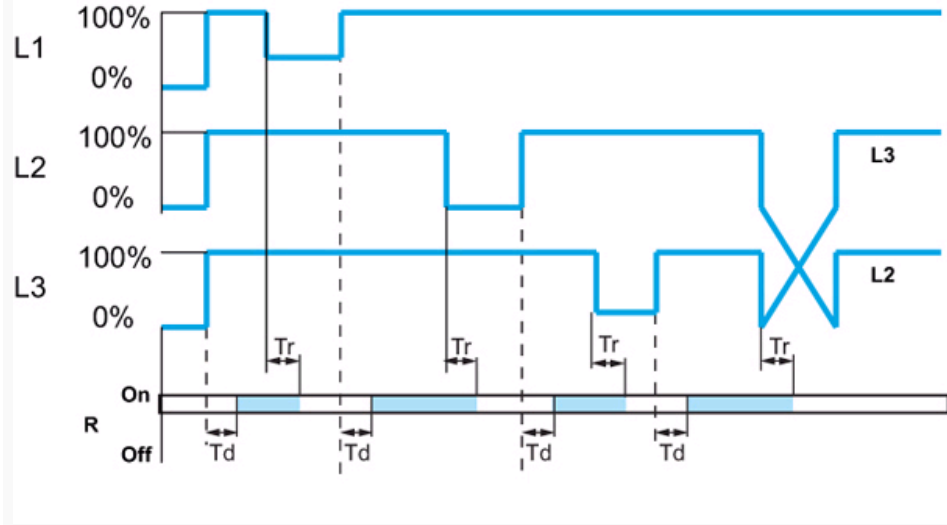
Supply	
Supply voltage Un	3 x 208 →3 x 480 VAC *
Operating range	183 →528 VAC

Inputs and measuring circuit	
Measurement ranges	183 →528 VAC

General characteristics	
Weight	63 g 72 g with unitary packing & manual operation

Comments	
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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.

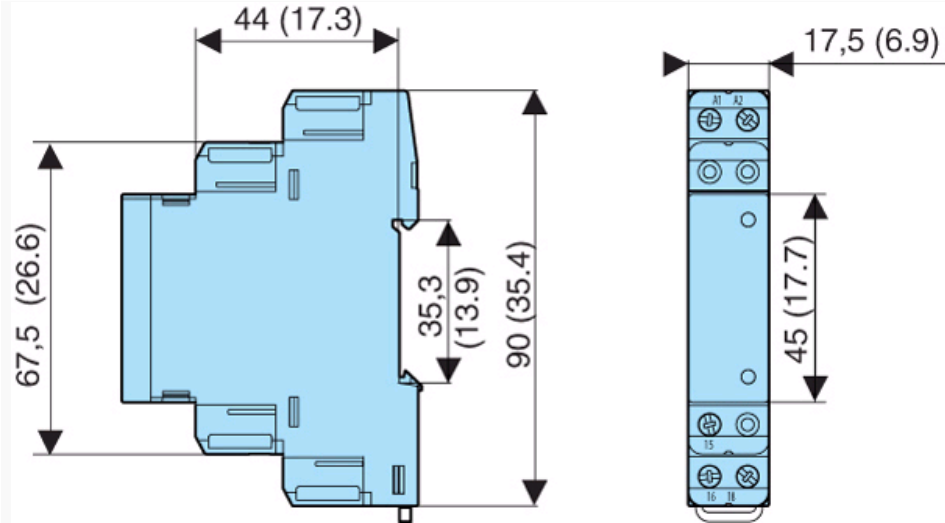
Td : Power on delay

Tr : Response time after a fault has occurred

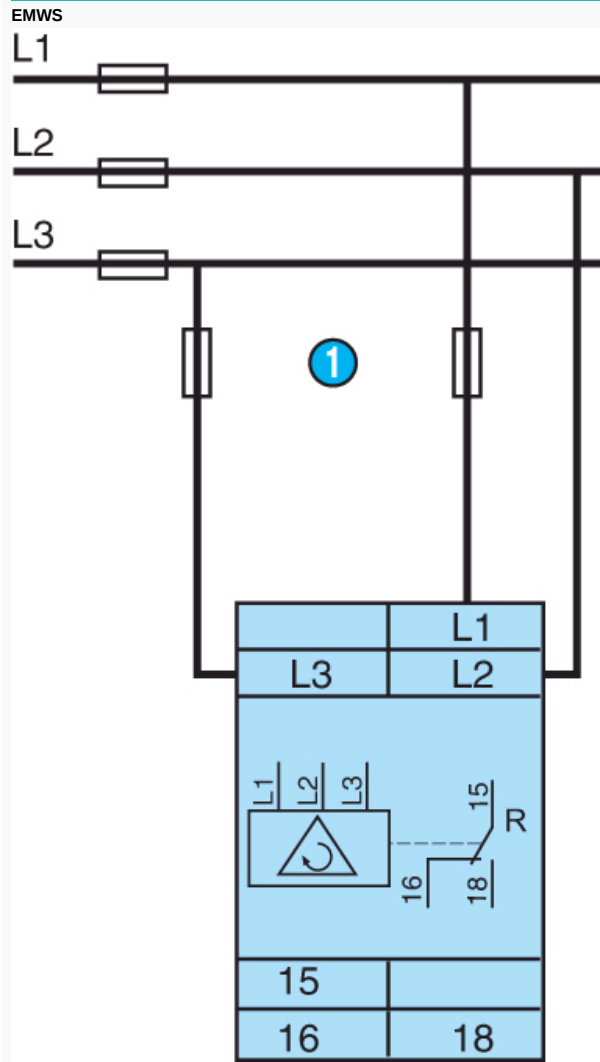
R : output relay

Dimensions (mm)

EMWS



Connections



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

Product adaptations



- Customisable colours and labels