



## **Excellent Integrated System Limited**

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**Din Rail Mount 17.5 mm Phase Sequence & Phase Failure MWS2 Part number 84873021**



- 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
84873021	MWS2	Phase sequence, phase failure	3 x 208 → 3 x 440 V AC	2 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 %
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**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 440 V AC *
Voltage supply tolerance	-12 % / +10 %
Operating range	183 → 484 V AC
Power consumption at Un	1,8 VA

**Inputs and measuring circuit**

Measurement ranges	183 → 484 V AC
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Guaranteed phase failure detection threshold	< 30 VAC
Voltage threshold hysteresis	-
Display precision	-
Maximum regeneration (phase failure)	< 30 VAC

**Timing**

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

**Output**

Type of output	2 single pole changeover relay
Maximum breaking voltage	250 VAC/DC
Max. breaking current	5 A AC/DC
Min. breaking current	10 mA / 5 VDC
Electrical life (number of operations)	1 x 10 <sup>4</sup>
Breaking capacity (V resistive)	1250 VAAC
Mechanical life (operations)	30 x 10 <sup>6</sup>

**Insulation**

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

**General characteristics**

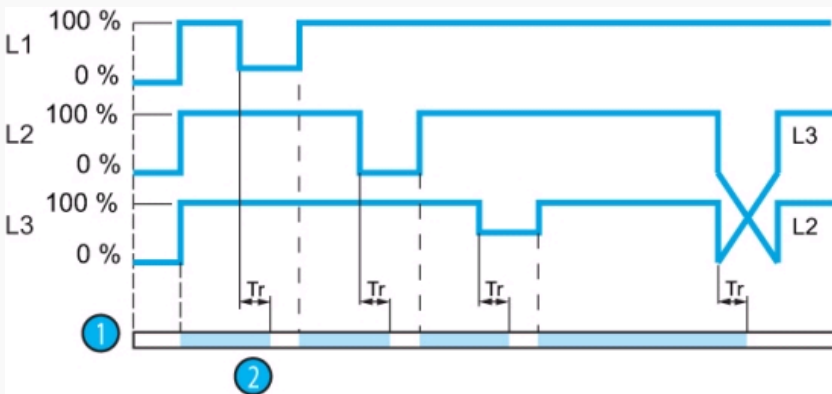
"Fault" indication	-
Weight	85 g
Connecting capacity IEC/EN 60947-1	Rigid : 1 x 4 <sup>2</sup> - 2 x 2,5 <sup>2</sup> mm <sup>2</sup> 1 x 11 AWG - 2 x 14 AWG Flexible with ferrules : 1 x 2,5 <sup>2</sup> - 2 x 1,5 <sup>2</sup> mm <sup>2</sup> 1 x 14 AWG - 2 x 16 AWG
Max. tightening torques IEC/EN 60947-1	0,6 → 1 Nm / 5,3 → 8,8 Lbf.In
Vibrations according to IEC/EN60068-2-6	10 → 150 Hz, A = 0,035 mm

**Comments**

**Accessories**

Description	Code
Removable sealable cover for 17.5 mm casing	84800000

**Principles**



**Operating principle**

**MWS-MWS2 : 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.

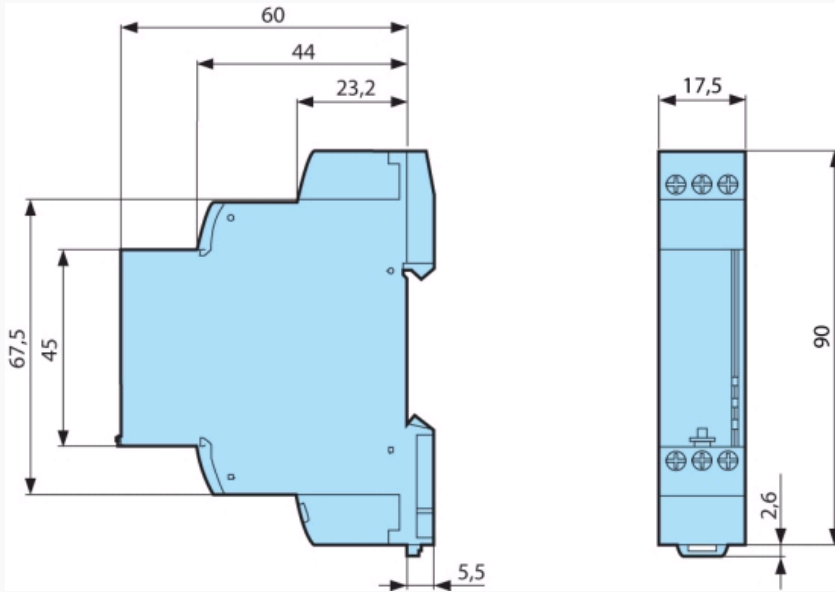
When the phase sequence and voltages are correct (> 183 VAC), the output relay (s) are closed and the yellow LED is lit.

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.

N°	Legend
①	MWS : Relay R MWS2 : Relays R1/R2
②	Response time on appearance of a fault (Tr)

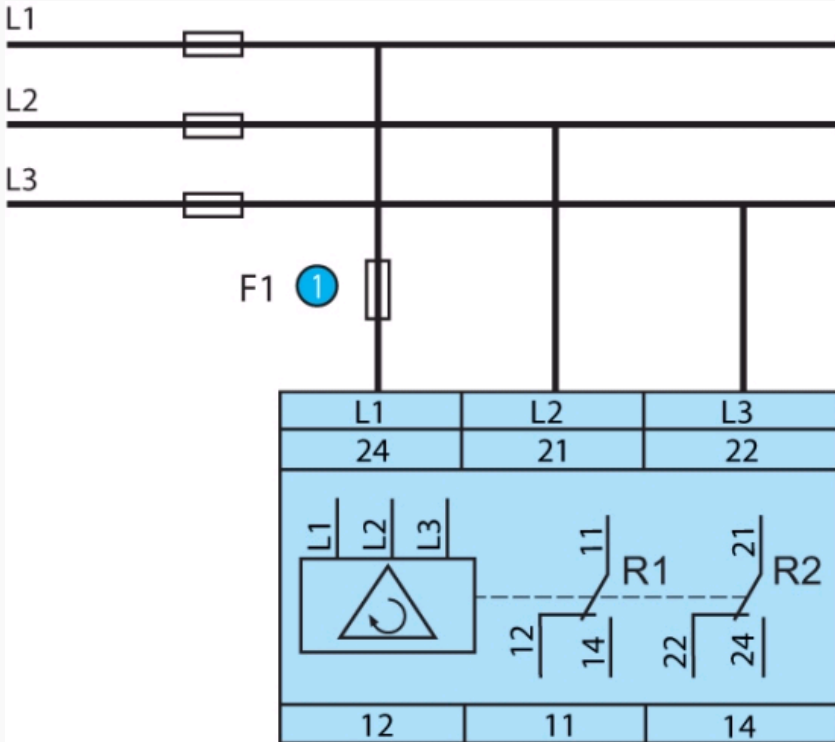
**Dimensions (mm)**



mm

**Connections**

MWS2



N°	Legend
①	100 mA fast-blow fuse

**Connections**

CA 84873021

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Product adaptations



- Customisable colours and labels