

Phase control

→ Single function phase control relay - 17.5 mm



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



MWS



MWS2

Part numbers

	MWS	MWS2
Function	Phase sequence and failure	Phase sequence and failure
Nominal voltage (V)	3 x 208 → 3 x 480 V ~	3 x 208 → 3 x 440 V ~
Output	1 single pole changeover relay	2 single pole changeover relay
Part numbers	84873020	84873021

Product adaptations



- Customisable colours and labels

Accessories

Description	Code
Removable sealable cover for 17.5 mm casing	84800000

General characteristics

	MWS	MWS2
Supply		
Supply voltage Un	3 x 208 → 3 x 480 V ~ *	3 x 208 → 3 x 440 V ~ *
Operating range	183 → 528 V ~	183 → 484 V ~
Inputs and measuring circuit		
Measurement ranges	183 → 528 V ~	183 → 484 V ~
General characteristics		
Weight	80 g	85 g
Comments	* 3-phase mains with earth	* 3-phase mains with earth

Phase control

MWS / MWS2

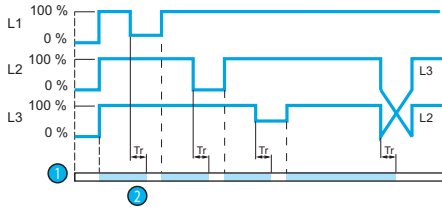
Supply	
Voltage supply tolerance	-12% / +10%
~ supply voltage frequency	50 / 60 Hz ± 10%
Galvanic isolation of power supply/measurement	No
Power consumption at Un	1.8 VA in ~
Immunity from micro power cuts	60 ms
Inputs and measuring circuit	
Guaranteed phase failure detection threshold	< 100 V ~
Frequency of measured signal	50 → 60 Hz ± 10%
Timing	
Delay on pick-up	500 ms
Alarm on delay time max.	100 ms
Output	
Type of contacts	No cadmium
Maximum breaking voltage	250 V ~ / ---
Max. breaking current	5 A ~
Min. breaking current	10 mA / 5 V ---
Electrical life (number of operations)	1 x 10 ⁵ MWS 1 x 10 ⁴ MWS2
Breaking capacity (resistive)	1250 VA ~
Maximum rate	360 operations/hour at full load
Operating categories acc. to IEC 60947-5-1	AC12, AC13, AC14, AC15, DC12, DC13
Mechanical life (operations)	30 x 10 ⁶
Insulation	
Nominal insulation voltage IEC 60664-1	400 V
Insulation coordination (IEC 60664-1 / 60255-5)	Overvoltage category III: degree of pollution 3
Rated impulse withstand voltage IEC 60664-1/60255-5	4 kV (1.2 / 50 μs)
Dielectric strength IEC 60664-1/60255-5	2 kV AC 50 Hz 1 min.
Insulation resistance IEC 60664-1 / 60255-5	> 500 MΩ / 500 V ---
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 60695-2-11 & NF EN 60695-2-11
Protection (IEC 60529)	Terminal block: IP20 Casing: IP30
Connecting capacity IEC 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 60947-1	0.6 → 1 Nm / 5.3 → 8.8 Lbf.In
Operating temperature IEC 60068-2	-20 → +50°C
Storage temperature IEC 60068-2	-40 → +70°C
Humidity IEC 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 60068-2-6	5 g
Standards	
Marking	CE (LVD) 73/23/EEC - EMC 89/336/EEC
Product standard	NF EN 60255-6 / IEC 60255-6 / UL 508 / CSA C22.2 N°14
Electromagnetic compatibility	Immunity EN 61000-6-2/IEC 61000-6-2 Emission EN 61000-6-4/EN 61000-6-3 IEC 61000-6-4/IEC 61000-6-3 Emission EN 55022 class B
Certifications	UL, CSA, GL pending
Conformity with environmental directives	RoHS, WEEE

Principles

Overview

3-phase network control relays monitor the sequence of phases L1, L2, L3 and failure of one or more phases. LEDs are used for signalling.

MWS-MWS2 - Phase failure and sequence



- ① MWS: Relay R
MWS2: Relays R1/R2
- ② Response time on appearance of a fault (T_r)

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.

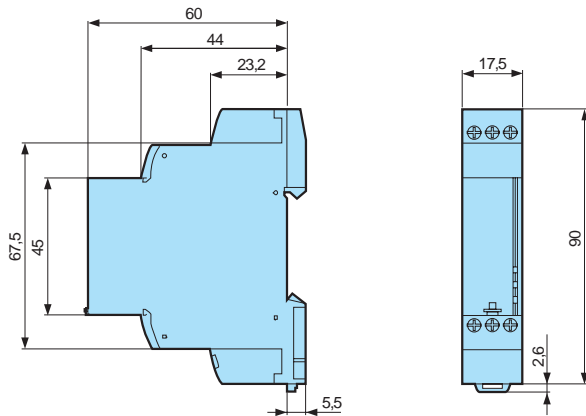
When the phase sequence and voltages are correct ($> 183 \text{ V} \sim$), the output relay (s) are closed and the yellow LED is lit.

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.

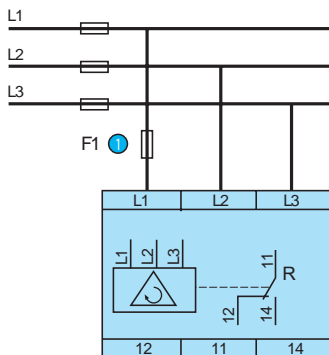
Dimensions (mm)

MWS-MWS2



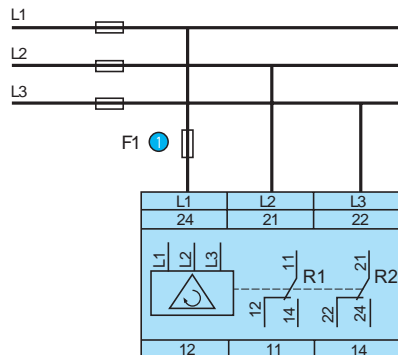
Connections

MWS



- ① 100 mA fast-blow fuse

MWS2



- ① 100 mA fast-blow fuse