

Multi-function phase control relay - 17.5 mm MWU Part number 84873023



- Control of 3-phase networks : phase sequence, phase failure, imbalance (asymmetry), over and undervoltage
- Range includes mono-function product and multi-function product
- 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		
Туре	Functions	Nominal voltage (V)
84873023 MWU	Phase sequence, failure, undervoltage	3 x 208 →3 x 480 V AC

Specifications

Supply voltage Un 3 x 208 - 3 x 480 VAC* Voltage supply locations 12% / 10% Operating range 183 - 528 VAC AG supply voltage frequency 50 / 60 Hz ±10 % Supply voltage frequency 50 / 60 Hz ±10 % Supply voltage frequency 50 / 60 Hz ±10 % Rever consumption at Un 22 VA in 400 VAC, 50 Hz Immunity from mole power cuts 10 ms Immunity from mole power cuts 10 ms Selection of phase-phase nominal voltage Un 238 - 528 VAC Selection of phase-phase nominal voltage Un 238 - 220 - 380 - 400 - 415 - 440 - 480 V Selection of phase-phase nominal voltage Un 238 - 220 - 380 - 400 - 415 - 440 - 480 V Selection of phase-phase nominal voltage Un 238 - 220 - 380 - 400 - 415 - 440 - 480 V Selection of phase-phase nominal voltage Un 238 - 220 - 380 - 400 - 415 - 440 - 480 V Voltage threshold adjustment 2 - 00 % of selected Un (-20 to 15 % of selected Un (-20 to 15 % of selected Un (-20 to 15 % of selected Un (-20 to 15 % of selected Un (-20 to 15 % of selected Un (-20 to 15 % of selected Un (-20 to 15 % of selected Un (-20 to 15 % of selected Un	Supply	
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Asymmetry threshold adjustment 5 to 15 % of selected Un Display precision ± 3 % of the displayed value Repetition accuracy with constant parameters ± 0,5 % Measuring error with voltage drift < 1 % across the whole range	Voltage threshold hysteresis	2 % of fixed Un
Display precision ± 3 % of the displayed value Repetition accuracy with constant parameters ± 0.5 % Measuring error with voltage drift < 0.05 %/ °C		2 % of fixed Un
Repetition accuracy with constant parameters ± 0,5 % Measuring error with voltage drift < 1 % across the whole range	Asymmetry threshold adjustment	5 to 15 % of selected Un
Measuring error with voltage drift<1 % across the whole rangeMeasuring error with temperature drift<0.05 %/ °C	Display precision	± 3 % of the displayed value
Measuring error with temperature drift < 0,05 %/ °C	Repetition accuracy with constant parameters	± 0,5 %
Maximum regeneration (phase failure) 70 % Timing Delay on thresold crossing 0.1 to 10 s 0 +10 % Repetition accuracy with constant parameters ± 3 % Reset time 1500 ms Delay on pick-up ≤ 650 ms Alarm on delay time max. < 200 ms	Measuring error with voltage drift	< 1 % across the whole range
Timing Delay on thresold crossing 0.1 to 10 s 0 +10 % Repetition accuracy with constant parameters ± 3 % Reset time 1500 ms Delay on pick-up ≤ 650 ms Alarm on delay time max. < 200 ms	Measuring error with temperature drift	< 0,05 %/ °C
Delay on thresold crossing0.1 to 10 s 0 +10 %Repetition accuracy with constant parameters± 3 %Reset time1500 msDelay on pick-up≤ 650 msAlarm on delay time max.< 200 ms	Maximum regeneration (phase failure)	70 %
Repetition accuracy with constant parameters± 3 %Reset time1500 msDelay on pick-up≤ 650 msAlarm on delay time max.< 200 msOutputType of output1 single pole changeover relayType of output1 single pole changeover relayType of contactsNo cadmiumMaximum breaking voltage250 V AC/DCMax. breaking current5 A AC/DCMin. breaking current10 mA / 5 V DCElectrical life (number of operations)1 x 10 ⁵ Breaking capacity (resistive)1250 VA ACMaximum rate360 operations/hour at full load	Timing	
Reset time 1500 ms Delay on pick-up ≤ 650 ms Alarm on delay time max. < 200 ms	Delay on thresold crossing	0.1 to 10 s 0 +10 %
Delay on pick-up ≤ 650 ms Alarm on delay time max. < 200 ms	Repetition accuracy with constant parameters	±3%
Alarm on delay time max. < 200 ms	Reset time	1500 ms
Output 1 single pole changeover relay Type of output 1 single pole changeover relay Type of contacts No cadmium Maximum breaking voltage 250 V AC/DC Max. breaking current 5 A AC/DC Min. breaking current 10 mA / 5 V DC Electrical life (number of operations) 1 x 10 ⁵ Breaking capacity (resistive) 1250 VA AC Maximum rate 360 operations/hour at full load	Delay on pick-up	≤ 650 ms
Type of output 1 single pole changeover relay Type of contacts No cadmium Maximum breaking voltage 250 V AC/DC Max. breaking current 5 A AC/DC Min. breaking current 10 mA / 5 V DC Electrical life (number of operations) 1 x 10 ⁵ Breaking capacity (resistive) 1250 VA AC Maximum rate 360 operations/hour at full load	Alarm on delay time max.	< 200 ms
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Min. breaking current 10 mA / 5 V DC Electrical life (number of operations) 1 x 10 ⁵ Breaking capacity (resistive) 1250 VA AC Maximum rate 360 operations/hour at full load	Maximum breaking voltage	250 V AC/DC
Electrical life (number of operations) 1 x 10 ⁵ Breaking capacity (resistive) 1250 VA AC Maximum rate 360 operations/hour at full load	Max. breaking current	5 A AC/DC
Breaking capacity (resistive) 1250 VA AC Maximum rate 360 operations/hour at full load	Min. breaking current	10 mA / 5 V DC
Breaking capacity (resistive) 1250 VA AC Maximum rate 360 operations/hour at full load	Electrical life (number of operations)	1 x 10 ⁵
	Breaking capacity (resistive)	
		360 operations/hour at full load
AC 12, AC 13, AC 13, AC 13, AC 13, DC 12, DC 13, DC 14	Operating categories acc. to IEC/EN 60947-5-1	AC 12, AC 13, AC 14, AC 15, DC 12, DC 13, DC 14
Mechanical life (operations) 30 x 10 ⁶		30 x 10 ⁶
Insulation	Insulation	
Nominal insulation voltage IEC/EN 60664-1 400 V	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)		

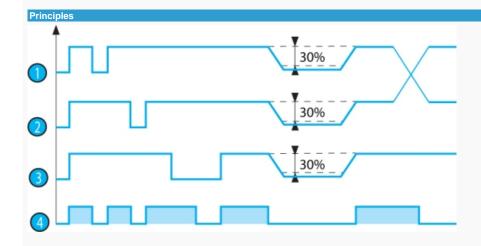
18/06/2013

W	ww.crouzet.com
VVV	ww.crouzei.com

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	
Display power supply	Green LED
Display relay	Yellow LED - This LED flashes during the threshold delay
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/EN 60529)	Terminal block : IP20 Casing : IP30
Weight	80 g
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 Nm →1 / 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	CE, UL, CSA, GL
Conformity with environmental directives	RoHS, WEEE
Comments	

Accessories

Description	Code
Removable sealable cover for 17.5 mm casing 84800000	



Operating principle

MWU : Phase controller with voltage and undervoltage regeneration

Voltage selector switch :

Set the selector switch to the 3-phase network voltage Un.

The position of this selector switch is only taken into account when the unit is powered up.

If the switch position changes while the unit is operating, all the LEDs flash but the product continues to work normally with the voltage selected on energisation prior to the change of position. The LEDs return to their normal state if the switch is reset to its initial position defined before the last energisation.

The relay monitors its own supply voltage.

The relay controls :

- correct sequencing of the three phases

- failure of one of the three phases (U measured < 0.7 x Un).

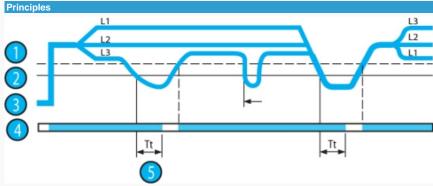
- undervoltage, adjustable from -2 to -20 % of Un (-2 to -12 % across the 3 x 208 V range and -2 to 17 % for the 3 x 220 V range due to the minimum voltage 183 V AC).

In the event of a phase sequence or failure fault, the relay opens instantaneously.

In the event of a voltage fault, the relay opens at the end of the time delay set by the user.

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

Legend
Phase L1
Phase L2
Phase L3



Operating principle

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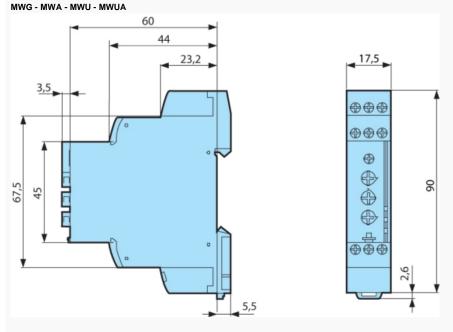
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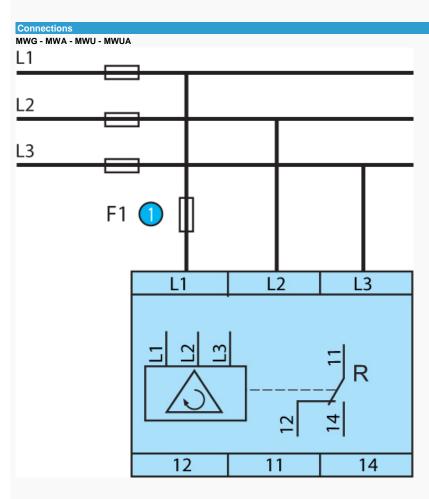
When the unit is powered up with a measured fault, the relay stays open.

N°	Legend
1	Hysteresis
0	Undervoltage
()	Phases L1, L2, L3
	Relay
6	Delay on threshold crossing (Tt)

Dimensions (mm)



18/06/2013



N°	Legend
0	100 mA fast-blow fuse

- **Product adaptations**
 - Customisable colours and labels
 - Single voltage in the generic range

 - Adjustable fixed hysteresis
 Fixed or adjustable time delay except for MWG Dedicated adaptation on MWG :

 - Adjustable regeneration rate
 - Dedicated adaptation on MWU :
 - Fixed undervoltage threshold in the generic range
 - Dedicated adaptation on MWA :
 - Fixed asymmetry threshold in the generic range
 - Adaptations dedicated to MWUA :

 - Fixed undervoltage threshold in the generic range
 Fixed overvoltage threshold in the generic range
 Fixed asymmetry threshold in the generic range or adjustable 5->25 %