Voltage control relay - 17.5 mm MUS/MUSF 80 AC/ Part number 84872141

- Control relays monitoring their own power supply
Over/undervoltage control
Selectable latching (memory) function
Over/undervoltage control
- Adjustable time delays
- Control in 50 Hz, 60 Hz or DC
- True RMS measurement
- LED status indication

	Type	Functions	Controlled ranges
84872140	MUS 12	Under/Overvoltage control	9? 15 V?
CONTACT US	MUS 12	Under/Overvoltage control in window mode	9? 15 V?
84872141	MUS/MUSF 80 AC/	Under/Overvoltage control	20? 80 V AC/?
84872151	MUS/MUSF 80 AC/	Under/Overvoltage control in window mode	20? 80 V AC/?
84872142	MUS/MUSF 260 AC/	Under/Overvoltage control	65? 260 V AC/?
84872152	MUS/MUSF 260 AC/	Under/Overvoltage control in window mode	65? 260 V AC/?

Supply

Polarity with? voltage	?
AC supply voltage frequency	50 / 60 Hz? 10%
Galvanic isolation of power supply/measurement	No
Immunity from micro power cuts	10 ms

Inputs and measuring circuit

Max. measuring cycle time	250 ms/True RMS measurement
Display precision	? 10% of full scale
Repetition accuracy with constant parameters	? 0,5%
Measuring error with voltage drift	< 1% across the whole range
Measuring error with temperature drift	? 0,05% /? C

Timing

Delay on thresold crossing	0,1? 10 sec (0, +10%)
Repetition accuracy with constant parameters	? 0,5%
Reset time	1,5 s
Delay on pick-up	500 ms in AC / 1 s in?

Output

Type of output	1 single pole changeover relay
Type of contacts	No cadmium
Maximum breaking voltage	250 V AC/?
Max. breaking current	5 A AC/?
Min. breaking current	10 mA / 5 V?
Electrical life (number of operations)	1×10^5
Breaking capacity (resistive)	1250 VA AC
Maximum rate	360 operations/hour at full load
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)	30×10^6

Insulation

Nominal insulation voltage IEC/EN 60664-1	250 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? s)
Dielectric strength (IEC/EN 60664-1)	2 KV AC 50 Hz 1 min
Insulation resistance (IEC/EN 60664-1)	> 500 M? / 500 V?

General characteristics

Display power supply	Green LED
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 60695-2-11 & NF EN 60695-2-11
Protection (IEC/EN 60529)	Terminal block: IP 20? Casing: IP 30
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

Unless otherwise specified, the characteristics given are applicable to all or part of the product range selected

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
Conformity with environmental directives	RoHS, WEEE

Supply

Nominal voltage (V)	24? 48 V AC/?
Power consumption at Un	3.9 VA in AC/1.6 W in?
Operating range	15? 100 V AC/?
Range of adjustment	20? 80 V AC/?

Inputs and measuring circuit

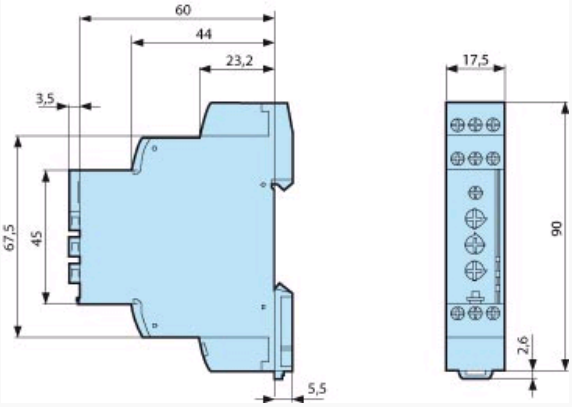
Hysteresis	5? 20% of threshold (MUS) ? 3% (fixed) of threshold (MUSF)

General characteristics

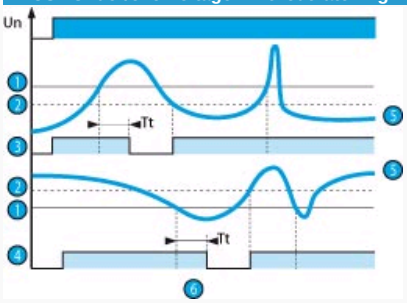
Weight	80 g

Description	Code
Removable sealable cover for 17.5 mm casing	84800000

Dimension Diagram : MUS - MUSF



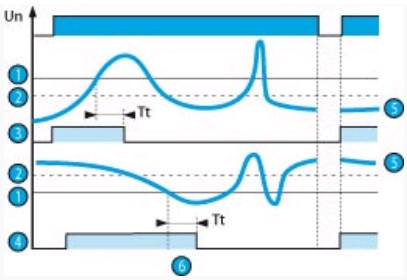
: MUS - Under/overvoltage - without latching



The under or overvoltage threshold value is set by a graduated potentiometer by reading the Un scale to be monitored directly.
The hysteresis is set by a graduated potentiometer from 5 to 20% of the preset threshold. The hysteresis value cannot be higher than the extremes of the measurement range.
In overvoltage mode, if the controlled voltage exceeds the preset threshold for longer than the time set on the front face (0.1 to 10 s), the output relay opens and LED R is extinguished. During the time delay, this LED flashes.
Once the voltage falls below the threshold value minus the hysteresis, the relay closes instantaneously.
In undervoltage mode, if the controlled voltage falls below the preset threshold for longer than the time set on the front face (0.1 to 10 s), the output relay opens and LED R is extinguished. During the time delay, this LED flashes.
Once the voltage rises above the threshold value plus the hysteresis, the relay closes instantaneously.

N°	Legend
1	Threshold
2	Hysteresis
3	Overvoltage function relay
4	Undervoltage underload function relay
5	Controlled signal
6	Delay on threshold crossing (Tt)

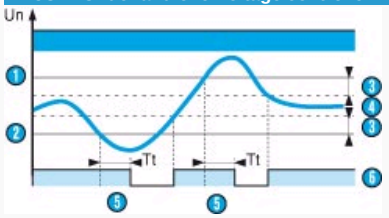
: MUS - Under and overvoltage - with latching



If "with memory" mode has been selected, the relay opens and stays in this position when threshold crossing is detected. The power supply must be disconnected to reset the product.

Nº	Legend
1	Threshold
2	Hysteresis
3	Overvoltage function relay
4	Undervoltage function relay
5	Controlled signal
	Delay on threshold crossing (Tt)

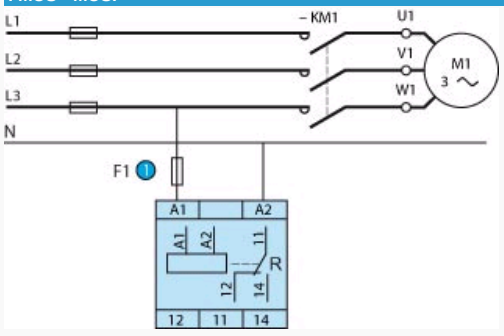
: MUSF - Under and overvoltage controller in window mode



MUSF relays operate in window mode: they check that the controlled voltage stays between a minimum and maximum threshold.
The under and overvoltage threshold values are set by two graduated potentiometers by reading the Un scale to be monitored directly.
The hysteresis is fixed, value: 3 % of the preset thresholds.
If the controlled voltage exceeds the preset upper threshold, or falls below the preset lower threshold for longer than the time set on the front face (0.1 to 10 s), the output relay opens and LED R is extinguished. During the time delay, this LED flashes.
Once the voltage returns to below the upper threshold value minus the hysteresis, or above the lower threshold value plus the hysteresis, the relay closes instantaneously.
When the unit is powered up with a measured fault, the relay stays open.

Nº	Legend
1	High threshold
2	Low threshold
3	Hysteresis
4	Controlled signal
5	Delay on threshold crossing (Tt)
6	Relay

: MUS - MUSF



Nº	Legend
1	1 A fast-blow fuse or cut-out

Special adaptations

- Customisable colours and labels
- Fixed threshold in the generic measurement range
- Fixed or adjustable time delay

Unless otherwise specified, the characteristics given are applicable to all or part of the product range selected

- Adjustable hysteresis

Adaptations dedicated to MUS 12 DC, MUS 80 AC, MUS 260 AC:

- Possible to delete settings
- Adjustable fixed hysteresis