

Level control relay - 17.5 mm MNS Part number 84870720


- Level control by means of a discrete sensor

Part numbers

Type	Sensing	Nominal voltage (V)
84870720	MNS By discrete sensor	24 → 240 V AC/DC

Specifications
Supply

Supply voltage Un	24 V → 240 V AC/DC
Voltage supply tolerance	-15 % / +10 %
Operating range	20,4 V → 264 V AC/DC
Polarity with DC voltage	No
AC supply voltage frequency	50/60 Hz ± 10 %
Power consumption at Un	5.5 VA in AC/2 W in DC
Immunity from micro power cuts	< 5 ms

Inputs and measuring circuit

Display precision	±10 % of full scale
Digital probe input circuit	Volt-free contact
Max. voltage at probe terminals	Supply voltage Un
Minimum pushbutton activation duration	50 ms
Max input current	1 mA
Max. length of probe cables	100 m

Timing

Delay on threshold crossing	1 → 10 s, (1/+10 %)
Repetition accuracy with constant parameters	± 0,5 %
Reset time	< 100 ms

Output

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
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

Insulation

Nominal insulation voltage IEC/EN 60664-1	250 V
Insulation coordination (IEC/EN 60664-1)	Oversupply 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 Ω / 500 V DC

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
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 → 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

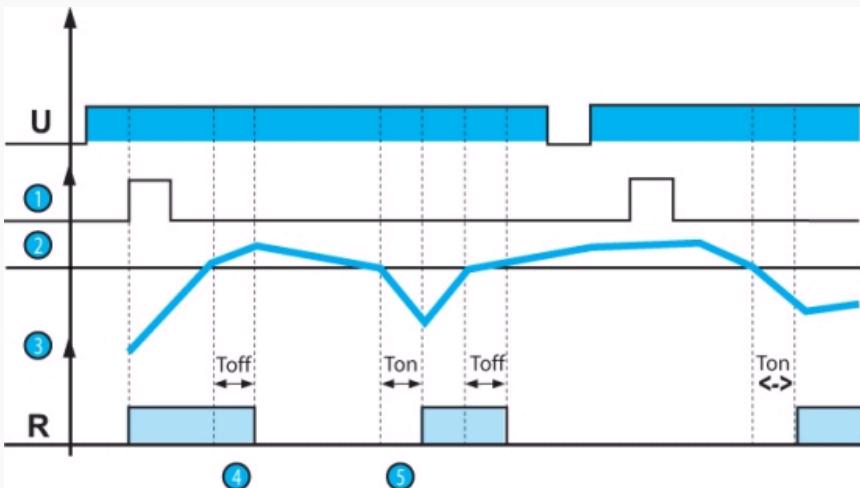
Standards

Marking	CE (LVD) 73/23/EEC - EMC 89/336/EEC
Product standard	NF EN 60255-6 / CEI 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

Accessories

Description	Code
Removable sealable cover for 17.5 mm casing	84800000

Principles



Operating principle

MNS - Level controller using a discrete sensor

This product is designed to control a level by means of a discrete probe (float switch).

On power-up, the relay remains in the rest position. The level control function only begins after the pushbutton (PB) is pressed. This pushbutton is located on the front of the product, but can also be remotely located between Y1 and A1.

The output relay only closes if the float switch is open. If the level rises enough to make the float switch close, the relay will be deactivated after the time delay Toff.

When the level drops and the probe opens, the relay is re-energised after the time delay Ton.

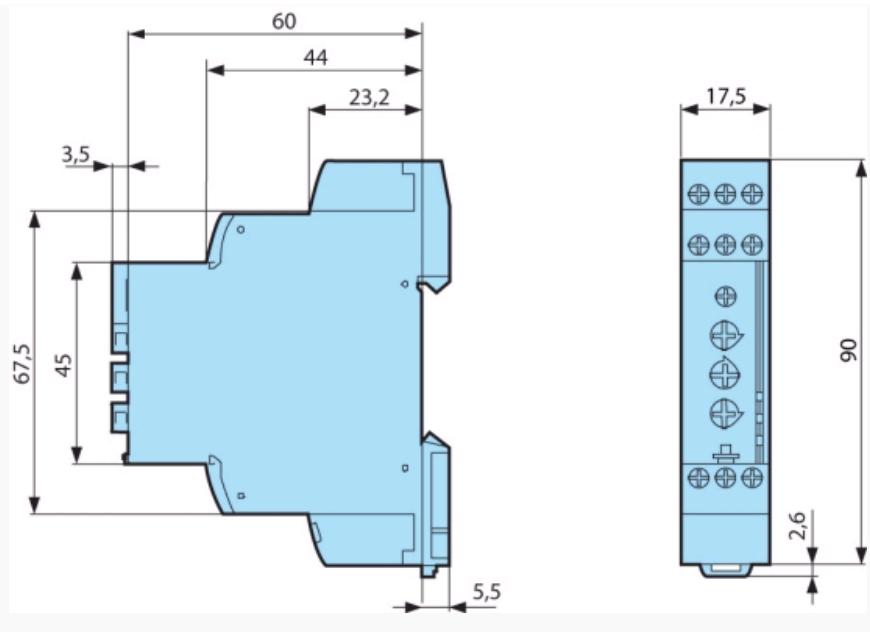
The LEDs flash when the product is energised but the cycle has not started (PB has not yet been pressed).

The time delays Ton and Toff are set at between 0.1 and 10 sec by means of two potentiometers on the front face.

N°	Legend
1	Cycle start PB
2	High threshold level
3	Monitored level
4	Ton time delay
5	Toff time delay

Dimensions (mm)

MNS



mm

Connections

MNS

L1

L2

L3

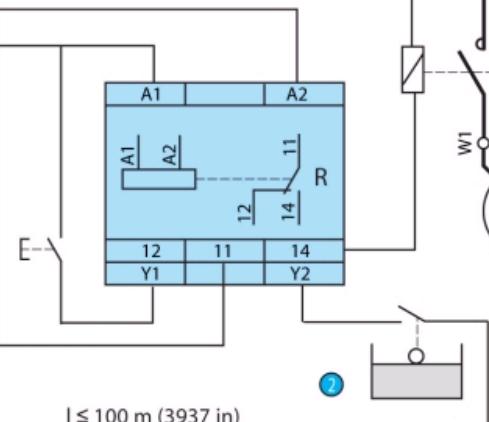
N

-

+

F1 ①

E-



N°	Legend
①	Fusible ultra rapide 1 A ou coupe circuit
②	"Float" switch

Product adaptations



- Customisable colours and labels
- Fixed time delay or adjustable range

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