

Installation and Operating Instruction for Limit Switch Type 055.00_.5 (Contactless)

(B.05500+5.GB)

Manufacturer's Declaration

This product is intended for installation in a machine or system, based on the machine directive 2006/42/EC. It is forbidden to start use of the product until the machine or system into which it should be built is operating in accordance with the EC directives.

The product corresponds to the low voltage directive 2006/95/EC.



Safety Regulations Danger!

To prevent injury or damage, only professionals and specialists should work on the devices, following the relevant standards and directives. Please read the Installation and Operational Instructions carefully before installation and initial operation of the device.

- Danger of death on touching voltage-carrying cables and components
- Please check switch adjustments for function by simulating operating conditions before initial start-up



Warning:

Without a conformity inspection, this product is not suitable for use in areas where there is a high danger of explosion. This statement is based on directive 94/9 EC (ATEX directive).

Application

This device is used for measuring and monitoring axial and radial disengaging movements, e.g. on EAS®-clutches. It acts as a control sensor for electronic and mechanical sequences.

Function

When the sensor surface of the NAMUR sensor scans a metal control flag (damped), the signal relay is triggered, is de-energised and drops. Contacts 1 - 2 are opened. Damping is possible from all sides.

Electrical Connection (Terminal)

1 - 2 - 3 Potential-free two-way contact
5 - 6 Connection input voltage

Design

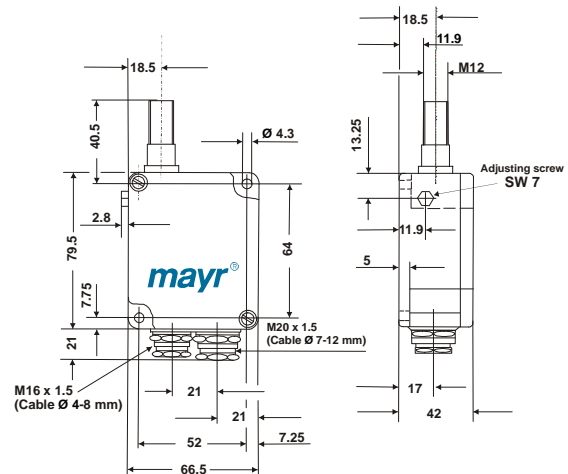
The electronic amplifier is installed in a light metal housing. The limit switch is fixed using two screw-on mounting links attached diagonally with M4 cap screws.

Technical Data

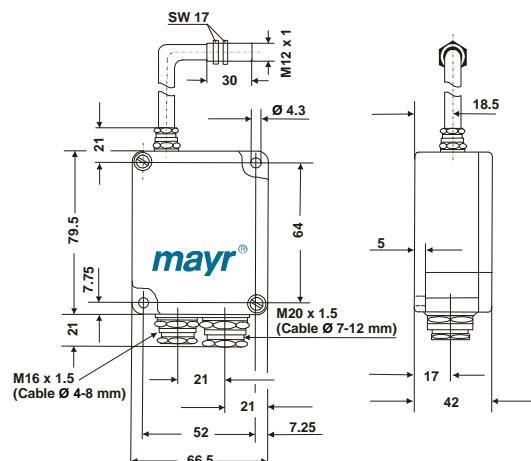
Input voltage (dependent on design)	230 VAC, ±10 %, 50-60 Hz 115 VAC, ±10 %, 50-60 Hz 24 VDC, PELV, ±5 %, protected against reverse polarity, for overvoltage category II connection
Power consumption	Max. 1,5 VA
Ambient temperature	-10 °C up to +60 °C limit switc h -25 °C up to +60 °C NAMUR sensor
Protection	IP 54
Conductor cross section	Max. 2.5 mm ² / AWG 14
Protection fuse	0,1 A / fast acting at 24 VDC (in system)
Signalling relay	Potential-free two-way contacts Contact load max. 250 VAC/12 A Contact material AgNi 90/10 Max. switching frequency 20 Hz at min. load, 0,1 Hz at max. load
NAMUR sensor internal	Installed in a light metal housing, switching distance S_n 2 mm, flush fitting, max. switching frequency 2 kHz, the zero point can be set per 1 mm by means of the lateral adjusting screw (SW 7).
NAMUR sensor external	Metal housing M12 x 1, switching distance S_n 2 mm, flush fitting, max. switching frequency 2 kHz, standard cable length 2 m, max. 100m with special design, Protection IP 67



Dimensions (internal NAMUR-sensor)



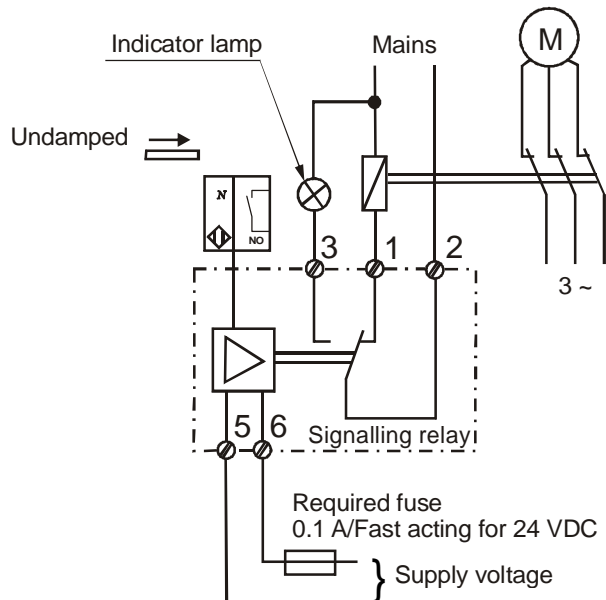
Dimensions (external NAMUR-sensor)



Wiring Example / Functional Description

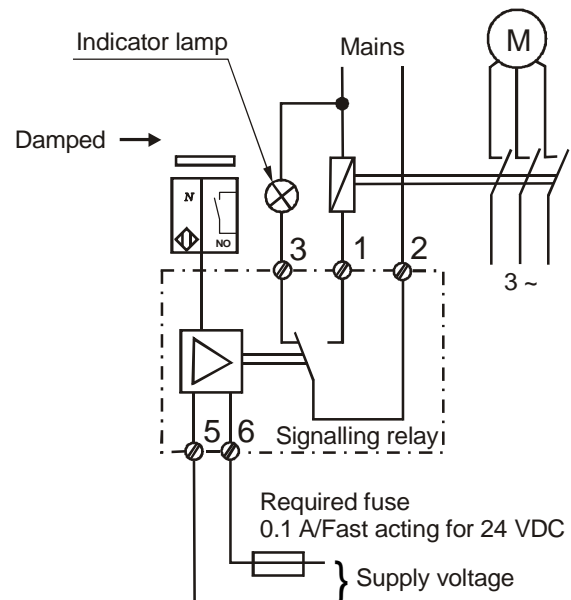
Motor runs (if contacts 1 – 2 are closed):

- the supply voltage is switched on
- the signalling relay is energised
- the NAMUR sensor is undamped



Motor does not run (if contacts 1 – 2 are open):

- the supply voltage is switched off
- the signalling relay is de-energised
- the NAMUR sensor is damped
- the sensor cable is broken



Protection fuse: Please ensure safety measures are taken for the system and the input voltage mains cable.

Conformity Markings

For the Types 055.001.5 and 055.002.5:

UL standard UL 508
CSA standard C 22.2 No. 14-M 91

Standards

DIN EN 61000-6-2:2006-03 Interference resistance
DIN EN 61000-6-4:2002-08 Interference emissions
VDE 0160 / DIN EN 50178:1998-04 Equipping high voltage current systems with electronic equipment

In order to make sure that the individual components comply with the Interference Resistance Regulation acc. DIN EN 61000-4-3:2003-11 (Interference resistance against high-frequency electromagnetic fields), a snap ferrite must be mounted directly onto the housing in the connection cable (e.g. Würth 74271131, 2x); and an initiator cable (e.g. Würth 7427114) is required.

Insulation coordination acc. VDE 0110 / DIN EN 60664:2003-11

Excess voltage category II for connection to PELV/SELV,

Otherwise excess voltage category III

Pollution degree 3

Rated insulation voltage 230 V_{RMS}

Appointed Use:

Acc. DIN EN 50178:1998-04