

Measuring relay
SMA - Phase measuring relay / Asymmetry with 1 Changeover
11.25mm housing



Application

Measuring of three-phase systems for symmetry, under voltage < 170V AC Phase – N and phase failure.

Description

The **SMA phase measuring relay / Asymmetry** measures the phases of a three- phase current for symmetry, under voltage < 170V AC phase – N and phase failure. The relay is powered by the connection to phase L1(L1 – N > 170V AC). In addition, the star point (neutral) of the phases to be monitored, must be connected. The green LED indicates the connection of the power supply.

Function

The relay switches into its work position if all three phases exceed 170V AC (phases – N) and the deviation between the phases is less than the selected voltage asymmetry. This status is indicated by the red LED. The relay switches into its rest position if at least one of the phases falls below the minimum value of 170V AC (phases – N) or exceeds the selected asymmetry. The SMA senses the phase angle and will also switch off if the user generates a back feed.

Options

Other adjustment ranges available upon request.

Part number

**012003 SMA phase measuring relay
Asymmetry / 1 Changeover**

Approvals



Mounting

Snap-on mounting using a standard DIN rail EN 50022. The unit is designed to allow side-by-side mounting, with an ambient temperature of < 60°C.

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Technical data

Supply

Supply voltage: 3 x 400V AC / N
Frequency range: 50 ... 60Hz
Power consumption: 8VA
Operating mode: continuous

Adjustment ranges

Asymmetry: 10...35° tolerance 20%
Measuring accuracy: 5% over the entire temperature and voltage range
Repetitive accuracy: ± 2%

Operation indicators

Supply voltage: LED, green
Relay in work position: LED, red

Contact

Number of changeovers: 1
Contact material: AgSnO₂
Maximum switching voltage: 250V AC
Maximum switching current: 4A
Drop-off time of switching element: approx. 20ms
Mechanical life: 30 Mio.
Electrical life (with rated load): 0.8 Mio.

General data

Ambient temperature: - 25 ... + 60°C
Climate resistance: VDE 0435T.2021
Mounting position: any
Vibration resistance: VDE 0435T.2021
Test voltage: 2.5kV
Isolation group: VDE 0110 Group C 250
Protection class: Terminals IP 20
Housing IP 40

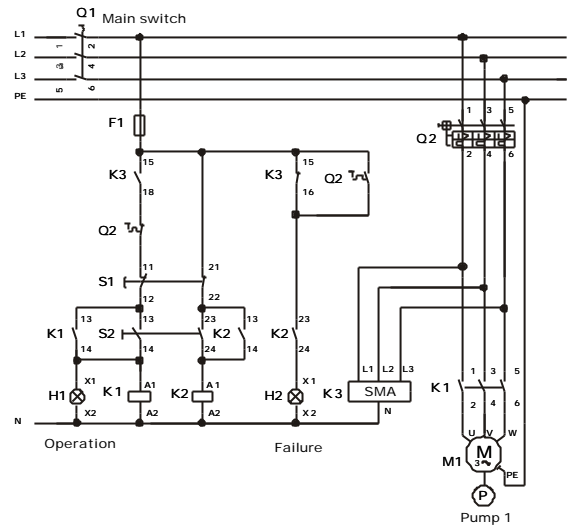
Connection terminals: Crosshead screws;
M3.5 self opening
Connection cross section: Multi-strand wire with wire sleeves 2 x 2.5mm²
single wire 2 x 2.5mm²
Finger touch protection: VDE 0106T.100 and VBG4

Mounting: Symmetrical DIN rail EN 50022

Dimensions l x w x h: 78mm x 11.25mm x 110mm

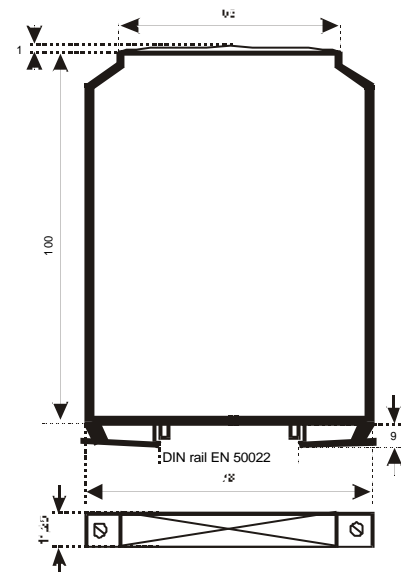
Weight: 66g

Example



The SMA monitors the pump motor for voltage asymmetry.

Dimensions



Connections

The terminal assignment for the connections is located on the front panel of the relay. **Reading the front panel from top to bottom**, the connections are in the following order:

LED side: L1 – L2 – L3 - 15
Potentiometer side: nc – N – 16 – 18