Voltage monitoring in 3-phase mains

E1YM480Y/277VS10

Monitoring relays - ENYA series

Multifunction

Monitoring of phase failure

Monitoring of phase sequence selectable

1 change over contact

Width 17.5 mm

Installation design

Read and understand these instructions before installing, operating or maintaining the equipment.

Danger!
Never carry out work on live parts! Danger of fatal injury! The product must not be used in case of obvious damage. To be installed by an authorized person.

Technical data

1. Functions
Voltage monitoring in 3-phase mains with adjustable thresholdes, adjustable tripping delay, monitoring of phase sequence and phase failure and the following functions which are selected by the means of rotary switch:

UNDER	Undervoltage monitoring
UNDER+SEQ	Undervoltage monitoring and monitoring of phase sequence
WIN	Monitoring the window between Min and Max
WIN+SEQ	Monitoring the window between Min and Max and monitoring of phase sequence

2. Time ranges

	Adjustment range	
Start-up suppression time:	-	
Tripping delay:	0.1s	10s

3. Indicators

Red LED ON/OFF:	indication of failure of the corresponding threshold
Red LED flashes:	indication of tripping delay of the corresponding threshold
Yellow LED ON/OFF:	indication of relay output

4. Mechanical design
Self-extinguishing plastic housing, IP rating IP40
Mounted on DIN-rail TS 35 according to EN 60715
Mounting position: any
Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20
Tightening torque: max. 1Nm
Terminals capacity:
- 1 x 0.5 to 2.5mm² with/without multicore cable end
- 1 x 4mm² without multicore cable end
- 2 x 0.5 bis 1.5mm² with/without multicore cable end
- 2 x 2.5mm² flexible without multicore cable end

5. Input circuit

Supply voltage:	(= measured voltage)
Terminals:	L1-L2-L3
Rated voltage U_N:	see table ordering information or printing on the unit
Tolerance:	-35% to +10% of U_N
Rated consumption:	16VA (1.5W) @ 480V / 60Hz 10VA (1W) @ 400V / 50Hz
Rated frequency:	AC 48 bis 63Hz
Duty cycle:	100%
Reset time:	500ms
Hold-up time:	-
Drop out voltage:	>20% of supply voltage
Overvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	4kV

6. Output circuit
1 potential free change over contact

Rated voltage:	250V AC
Switching capacity:	1250VA (5A / 250V)
Fusing:	5A fast acting
Mechanical life:	20 x 10^6 operations
Electrical life:	2 x 10^5 operations at 1000VA resistive load
Switching capacity:	max. 6/min at 1000VA resistive load (in accordance with IEC 60947-5-1)
Overvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	4kV

7. Measuring circuit

Measuring variable:	3~, sinus, 48 to 63Hz
Measuring input:	(= supply voltage)
Terminals:	L1-L2-L3
Overload capacity:	determined by tolerance specified for supply voltage
Input resistance:	-
Swiching treshold:	
Max:	75%...110% of UN
Min:	65%...100% of UN
Overvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	4kV

8. Accuracy

Base accuracy:	≤5% of maximum scale value
Adjustment accuracy:	≤5% of maximum scale value
Repetition accuracy:	≤2%
Voltage influence:	-
Temperature influence:	≤0,05% / °C

9. Ambient conditions

Ambient temperature:	-25 to +55°C at operating frequencies >50Hz and ambient temperatures above 40°C a side distance to other units of 5mm must be observed

Storage temperature:	-25 to +70°C
Transport temperature:	-25 to +70°C
Relative humidity:	15% to 85% (in accordance with IEC 60721-3-3 class 3K3)
Pollution degree:	2 (in accordance with IEC 60664-1)

10. Weight

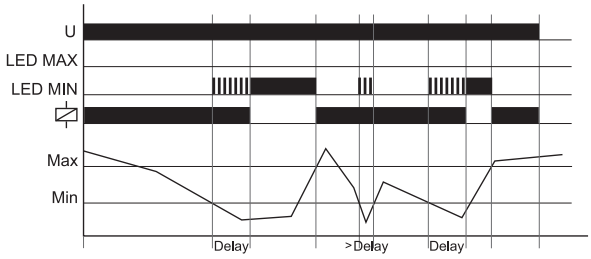
Single packing:	72g
Packing of 10pcs:	670g per package

Functions

For all functions the LED's Min and Max are flashing alternating (output relay in off-position), when the minimum value for the measured voltage was chosen to be greater than the maximum value.
If a failure already exists when the device is activated, the output relay remains in off-position and the LED for the corresponding threshold is illuminated.

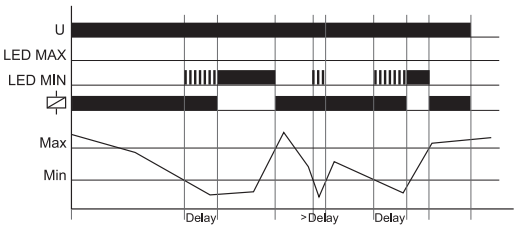
Undervoltage monitoring (UNDER, UNDER+SEQ)
The output relay R switches into on-position, if the measured voltage of all three phase voltages is beyond the Min-value.
As soon as the measured voltage falls below the Min-value, the output relay R switches into off-position after the interval of the tripping delay (Delay) has expired.

UNDER:
The output relay R switches into on-position again after the measured voltage exceed the Max-value.

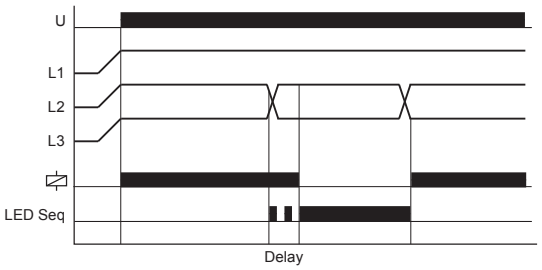


Windowfunction (WIN, WIN+SEQ)
The output relay R switches into on-position, if the measured voltage of all three phase voltages is within the adjusted window.
As soon as the the measured voltage leaves the acceptance region between Min and Max, the output relay R switches into off-position after the interval of the tripping delay (Delay) has expired.

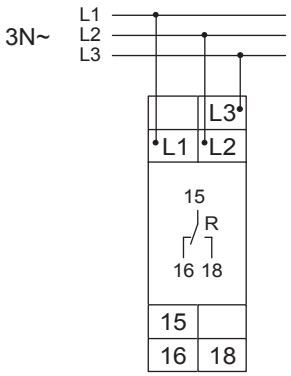
WIN
The output relay R switches into on-position again after the measured voltage reenters the acceptance region.



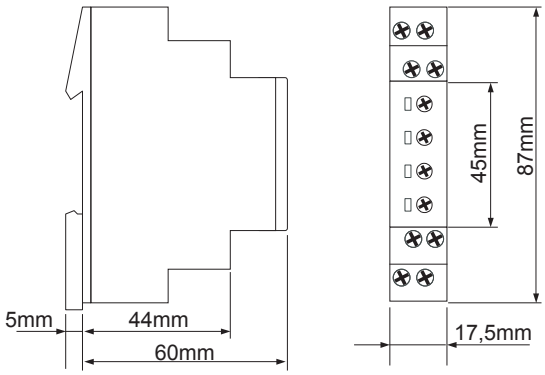
Phase sequence monitoring (SEQ)
Phase sequence monitoring is selectable for all functions.
If a change in phase sequence is detected (red LED SEQ illuminated), the output relay R switches into off-position after the set interval of tripping delay (Delay) has expired (yellow LED not illuminated).



Connections



Dimensions



Ordering information

Types	Rated voltage U_N	Part. No.
E1YM480Y/277VS10	3~480/277V	1340409