AC current monitoring in 1-phase mains

E1IM10AACL10

Monitoring relays - ENYA series

Multifunction

1 change over contact

Width 17.5 mm

Installation design

Technical data

1. Functions
AC current monitoring in 1-phase mains with adjustable thresholds, adjustable hysteresis, adjustable tripping delay and the following functions which are selected by means of rotary switch:

OVER	Overcurrent monitoring
UNDER	Undercurrent monitoring
WIN	Monitoring the window between Min and Max
OVER+Latch	Overcurrent monitoring with fault latch
UNDER+Latch	Undercurrent monitoring with fault latch
WIN+Latch	Monitoring the window between Min and Max with fault latch

2. Time ranges

	Adjustment range
Start-up suppression time (Start):	-
Tripping delay (Delay):	0,1 to 10s

3. Indicators

Green LED ON/OFF:	indication of supply voltage
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 output relay

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
Terminal capacity:
- 1 x 0.5 to 2.5mm² with/without multicore cable end
- 1 x 4mm² without multicore cable end
- 2 x 0.5 to 1.5mm² with/without multicore cable end
- 2 x 2.5mm² flexible without multicore cable end

5. Input circuit

Supply voltage:	230V AC
Terminals:	Li-N
Tolerance:	-15% to +15% of U_N
Rated consumption:	5VA (0.8W)
Rated frequency:	AC 48 to 63Hz
Duration of operation:	100%
Reset time:	500ms
Wave form:	Sinus
Hold-up time:	-
Drop-out voltage:	>20% of rated 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 AC)
Fusing:	5A fast acting
Mechanical life:	20 x 10^6 operations
Electrical life:	2 x 10^5 operations at 1000VA resistive load
Switching frequency:	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:	AC sinus, 48 to 63Hz
Measuring input:	10A AC
Terminals:	Li, Lk
Overload capacity:	13A (ex 10A - distance > 5mm)
Starting current:	
1s	100A
3s	50A
Input resistance:	3mW
Switching threshold U_S:	see table ordering information or printing on the unit
Hysteresis H:	see table ordering information or printing on the unit
Overvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	4kV

8. Accuracy

Base accuracy:	≤5% of nominal value
Adjustment accuracy:	±5% of nominal value
Repetition accuracy:	≤2% of nominal value
Voltage influence:	-
Temperature influence:	≤0.05% / °C

9. Ambient conditions

Ambient temperature:	-25 to +55°C (in accordance with IEC 60068-1)
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

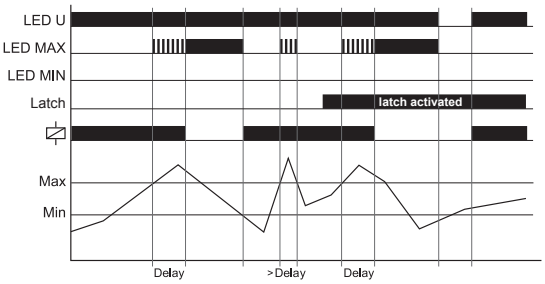
Single packing:	72g
Package of 10pcs:	655g per package

Functions

Overcurrent monitoring (OVER, OVER+Latch)
When the supply voltage U is applied, the output relay R switches into on-position, if the measured current is below the Max-value.
When the measured current exceeds the Max-value, the output relay R switches into off-position after the interval of the tripping delay (Delay) has expired.

OVER:
The output relay R switches into on-position again, if the current falls below the Min-value.

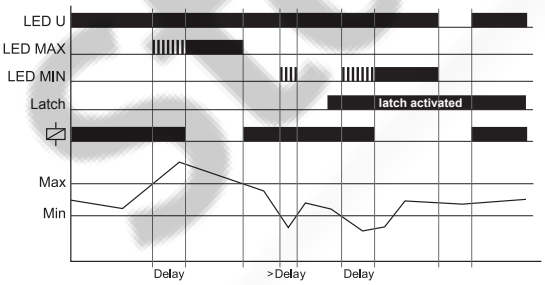
OVER+Latch:
The output relay R switches only into on-position again by interrupting and re-applying of the supply voltage, provided that the measured current is below the Max-value.



Window function (WIN, WIN+Latch)
When the supply voltage U is applied, the output relay R switches into on-position, if the measured current is within the adjusted window.
When the measured current leaves the window 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, if the current re-enter the adjusted window.

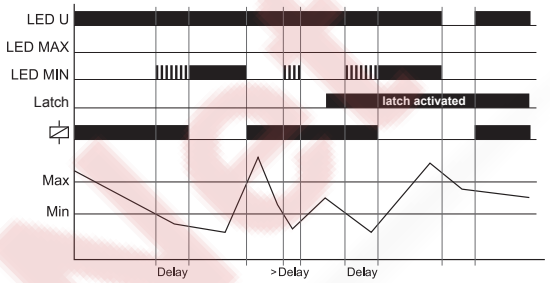
WIN+Latch:
The output relay R switches only into on-position again by interrupting and re-applying of the supply voltage, provided that the measured current is within the threshold values.



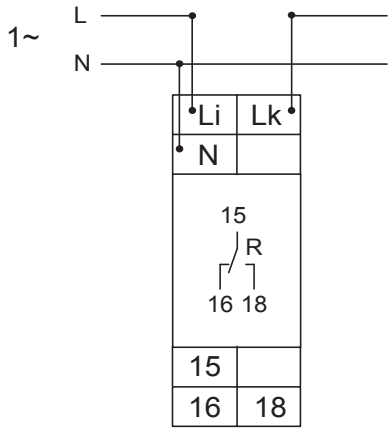
Untercurrent monitoring (UNDER, UNDER+Latch)
When the supply voltage U is applied, the output relay R switches into on-position, if the measured current is beyond the Min-value.
When the measured current falls below the Min-value, the output relay R switches into off-position after the interval of the tripping delay (Delay) has expired.

UNDER:
The output relay R switches into on-position again, if the current exceeds the Max-value.

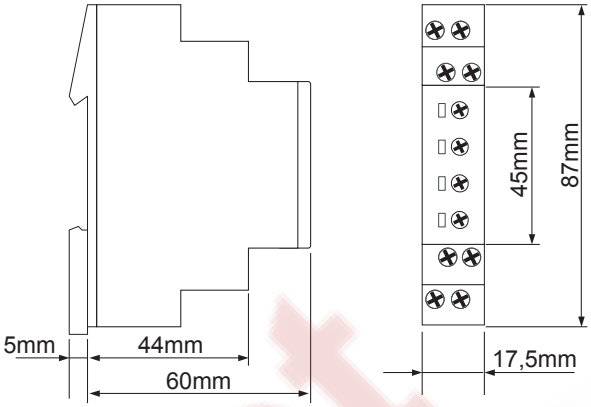
UNDER+Latch:
The output relay R switches only into on-position again by interrupting and re-applying of the supply voltage, provided that the measured current is beyond the Min-value.



Connections



Dimensions



Ordering information

Type	Rated voltage U_N	Functions	Switching thresholds I_S	Tripping delay (Delay)	Hysteresis	Art. No.
E1IM10AACL10 230V AC	230V AC	O, U, W, O+L, U+L, W+L	Max: 10% to 100% of I_N Min: 5% to 95% of I_N	0.1 of 10s	adjustable	1340200