

- Installation design
- Width 35mm
- AC/DC current monitoring in 1-phase mains
- 1 change over contact and 1 normally open contact



► Technical data

► 1. Functions

AC/DC current monitoring in 1-phase mains with adjustable threshold, timing for start-up suppression and tripping delay separately adjustable and fault latch

Min+Latch	undercurrent monitoring with fault latch
Max+Latch	overcurrent monitoring with fault latch
Window	monitoring inside the window between I_{min} and I_{max}
Win+Inv	monitoring outside the window between I_{min} and I_{max}
Min	undercurrent monitoring
Max	overcurrent monitoring
Win+Latch	monitoring the window between I_{min} and I_{max} with fault latch
Win+Inv+Latch	monitoring outside the window I_{min} and I_{max} with fault latch

► 2. Time ranges

Start-up suppression time:	Adjustment range
Tripping delay:	0.5s 10s
	0.5s 10s

► 3. Indicators

Green LED ON:	indication of supply voltage output relay in on-position
Green LED flashes:	output relay in off-position
Red LED ON/OFF:	indication of fault of corresponding threshold

► 4. Mechanical design

Self-extinguishing plastic housing, IP rating IP40
 Mounted on DIN-Rail TS 35 according to EN 50022
 Mounting position: any
 Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20
 Initial torque: max. 1Nm

Terminal capacitance:
 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:		
24V AC	terminals A1-A2 (galvanically separated)	(OIH3W 24VAC)
110V AC	terminals A1-A2 (galvanically separated)	(OIH3W 110VAC)
230V AC	terminals A1-A2 (galvanically separated)	(OIH3W 230VAC)

Tolerance:		
24V AC	-15% to +10%	(OIH3W 24VAC)
110V AC	-15% to +10%	(OIH3W 110VAC)
230V AC	-15% to +10%	(OIH3W 230VAC)
Rated frequency:	48 to 63Hz	

Rated consumption:		
24V AC	2VA (2W)	(OIH3W 24VAC)
110V AC	2VA (2W)	(OIH3W 110VAC)
230V AC	2VA (2W)	(OIH3W 230VAC)

Duration of operation:	100%
Reset time:	-
Residual ripple for DC:	-
Drop-out voltage:	>30% of the supply voltage

► 6. Output circuit

1 potential free change over contact and
 1 potential free normally opened contact
 Switching capacity (distance < 5mm): 750VA (3A / 250V AC)
 Switching capacity (distance > 5mm): 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. 60/min at 100VA resistive load max. 6/min at 1000VA resistive load (according to IEC 947-5-1)
Insulation voltage:	250V AC (according to IEC 664-1)
Surge voltage:	4kV, overvoltage category III (according to IEC 664-1)

► 7. Measuring circuit

Input:	100mA AC/DC	terminals K-13(+)
	1A AC/DC	terminals K-12(+)
	10A AC/DC	terminals K-11(+)
Overload capacity:	100mA	1A
	1A	4A
	10A	12A
Input resistance:	100mA	1Ω
	1A	100mΩ
	10A	10mΩ
Switching threshold	I_{max} :	10% to 100%
	I_{min} :	10% to 100%

► 8. Control contact R

Function:	external reset
Connections:	potential free, terminals R1-R2
Loadable:	no
Line length:	max. 5m
Control pulse length:	-

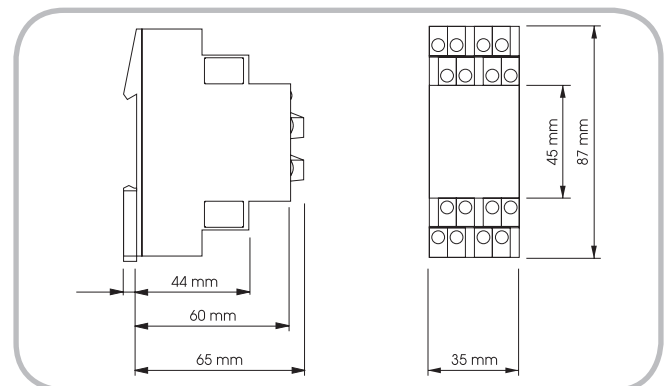
► 9. Accuracy

Base accuracy:	±5% (of maximum scale value)
Adjustment accuracy:	≤5% (of maximum scale value)
Repetition accuracy:	±2%
Voltage influence:	-
Temperature influence:	≤0.1% / °C

► 10. Ambient conditions

Ambient temperature:	-25 to +55°C (according to IEC 68-1)
Storage temperature:	-25 to +70°C
Transport temperature:	-25 to +70°C
Relative humidity:	15% to 85% (according to IEC 721-3-3 class 3K3)
Pollution degree:	2, if built-in 3 (according to IEC 664-1)

► 11. Dimensions



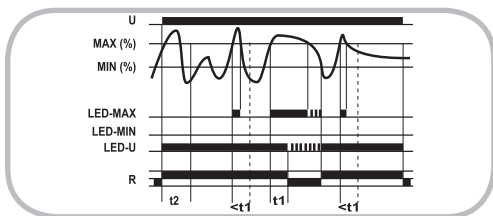
Functions

AC/DC current monitoring in 1-phase mains with adjustable threshold, timing for start-up suppression and tripping delay separately adjustable and fault latch

When the supply voltage U is applied, the set interval of the start-up suppression (START) begins. Changes of the measured current during this period do not affect the state of the output relay. The start-up suppression is not effective for the functions with fault storage after resetting a fault that has come up. For all the functions the red LEDs are flashing alternating, when the minimum value for the measured current was chosen to be greater than the maximum value.

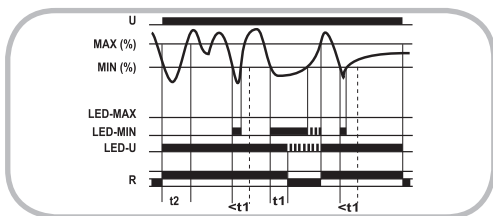
Maximum monitoring (Max, Max+Latch)

When the measured current exceeds the value adjusted at the MAX-regulator (red LED MAX illuminated), the set interval of the tripping delay (DELAY) begins. After the interval has expired, the output relay R switches into off-position (green LED flashes). When the measured value for the current again falls below the set value, the red LED also begins to flash. The output relay switches into on-position (green LED illuminated), when the measured current falls below the value adjusted at the MIN-regulator (red LED MAX not illuminated). If the LATCH-function is selected and the measured current has exceeded the MAX-value once, the output relay remains in the off-position even if the measured current falls below the value adjusted at the MIN-regulator. After activating an external reset key the output relay switches into on-position.



Minimum monitoring (Min, Min+Latch)

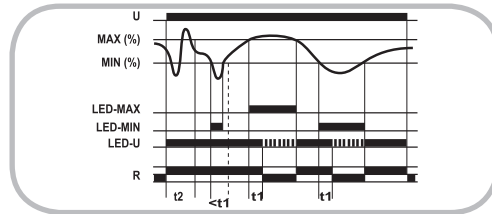
When the measured current exceeds the value adjusted at the MAX-regulator (red LED MIN not illuminated) the output relay R switches into on-position (green LED illuminated). When the measured current falls below the value adjusted at the MIN-regulator (red LED MIN illuminated), the set interval of the tripping delay (DELAY) begins. After the interval has expired the output relay switches into off-position (green LED flashes). When the measured value for the current again exceeds the set value, the red LED also begins to flash. If the LATCH-function is selected and the measured current has fallen below the MIN-value once, the output relay remains in the off-position even if the measured current exceeds the value adjusted at the MAX-regulator. After activating an external reset key the output relay switches into on-position.



Window function (Window, Win+Latch)

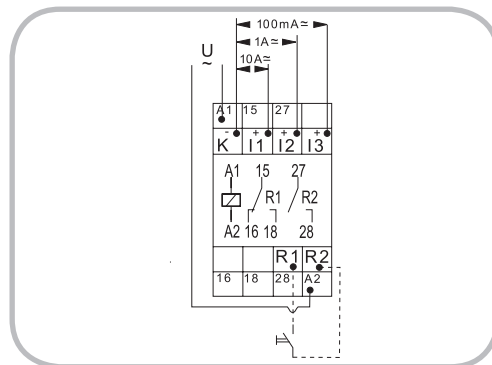
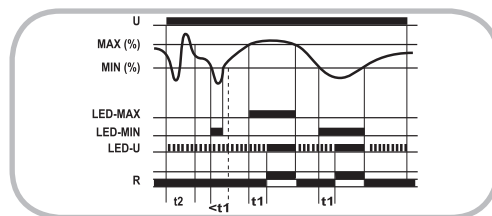
The output relay R switches into on-position (green LED illuminated) when the measured current exceeds the value adjusted at the MIN-regulator (red LED MIN not illuminated). When the measured current

exceeds the value adjusted at the MAX-regulator (red LED MAX illuminated), the set interval of the tripping delay (DELAY) begins. After the interval has expired the output relay switches into off-position (green LED flashes). The output relay again switches into on-position (green LED illuminated) when the measured current falls below the value adjusted at the MAX-regulator (red LED MAX not illuminated). When the measured current falls below the value adjusted at the MIN-regulator (red LED MIN illuminated), the set interval of the tripping delay (DELAY) begins again. After the interval has expired the output relay switches into off-position (green LED flashes). If the LATCH-function is selected and the measured current has fallen below the MIN-value once, the output relay remains in the off-position even if the measured current exceeds the value adjusted at the Min-regulator. After activating an external reset key the output relay switches into on-position. If the measured current has exceeded the MAX-value once, the output relay remains also in the off-position also, even if the measured current falls below the value adjusted at the MAX-regulator. After activating an external reset key the output relay switches into on-position.



Inverted Window function (Win+Inv, Win+Inv+Latch)

The output relay R switches into off-position (green LED flashes) when the measured current exceeds the value adjusted at the MIN-regulator (red LED MIN not illuminated). When the measured current exceeds the value adjusted at the MAX-regulator (red LED MAX illuminated), the set interval of the tripping delay (DELAY) begins. After the interval has expired the output relay switches into on-position (green LED illuminated). The output relay again switches into off-position (green LED flashes) when the measured current falls below the value adjusted at the MAX-regulator (red LED MAX not illuminated). When the measured current falls below the value adjusted at the MIN-regulator (red LED MIN illuminated), the set interval of the tripping delay (DELAY) begins again. After the interval has expired the output relay switches into on-position (green LED illuminated). If the LATCH-function is selected and the measured current has fallen below the MIN-value once, the output relay remains in the on-position even if the measured current exceeds the value adjusted at the Min-regulator. After activating an external reset key the output relay switches into off-position. If the measured current has exceeded the MAX-value once, the output relay remains also in the on-position also, even if the measured current falls below the value adjusted at the MAX-regulator. After activating an external reset key the output relay switches into off-position.



Connections