- Installation design
- Width 35mm
- Voltage monitoring in 1-phase mains
- 1 change over contact and 1 normally open contact

Technical data

1. Functions

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

Min+Latch	undervoltage monitoring with fault latch
Max+Latch	overvoltage monitoring with fault latch
Window	monitoring inside the window between U_{min} and U_{max}
Win+Inv	monitoring outside the window between U_{min} and U_{max}
Min	undervoltage monitoring
Max	overvoltage monitoring
Win+Latch	monitoring the window between U_{min} and U_{max} with fault latch
Win+Inv+Latch	monitoring outside the window U_{min} and U_{max} with fault latch

2. Time ranges

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

24V AC	terminals A1-A2	(OUH3W 24VAC
110V AC	terminals A1-A2	(OUH3W 110VAC)
230V AC	terminals A1-A2	(OUH3W 230VAC)

Tolerance:

24V AC	-15% to +10%	(OUH3W 24VAC)
110V AC	-15% to +10%	(OUH3W 110VAC)
230V AC	-15% to +10%	(OUH3W 230VAC)

Rated frequency: 48 to 63Hz
Rated consumption:

2VA (2W)	(OUH3W 24VAC)
2VA (2W)	(OUH3W 110VAC)
2VA (2W)	(OUH3W 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 open 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 voltage:	10V AC/DC	terminals E-F4(+)
	60V AC/DC	terminals E-F3(+)
	300V AC/DC	terminals E-F2(+)
	600V AC/DC	terminals E-F1(+)
Overload capacity:	10V AC/DC	45V
	60V AC/DC	160V
	300V AC/DC	600V
	600V AC/DC	800V
Input resistance:	10V AC/DC	36kΩ
	60V AC/DC	210kΩ
	300V AC/DC	1MΩ
	600V AC/DC	2.1MΩ
Switching threshold	U_{max}:	10% to 100%
	U_{min}:	10% to 100%

8. Control contact R

Function:	external Reset
Connections:	potential free, terminals R1-R2
Loadable:	no
Line length:	max. 5m (twisted pair)
Control pulse length:	-
Terminal voltage R1-R2:	max. 250V

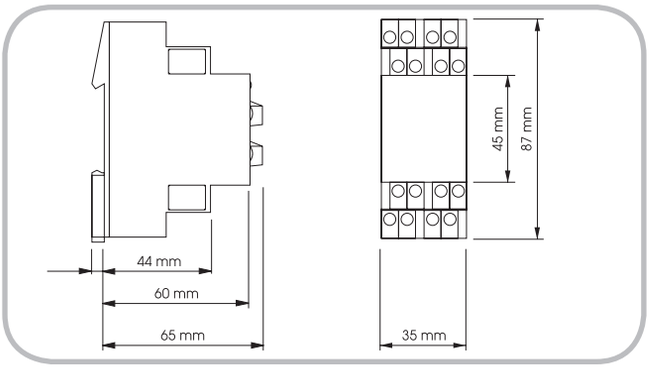
9. Accuracy

Base accuracy:	±5% (of maximum scale value)
Adjustment accuracy:	≤5% (of maximum scale value)
Repeat 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

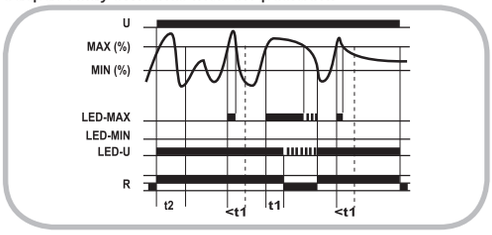


Functions

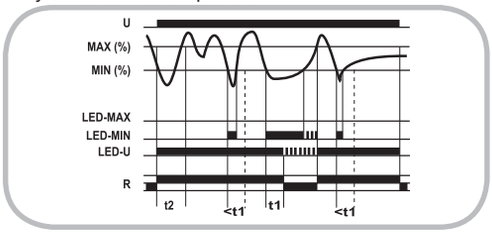
AC/DC voltage monitoring in 1-phase mains with adjustable threshold, timing for start-up suppression and tripping delay separately adjustable and fault latch

When the supply voltage U is applied, the set interval of the start-up suppression (START) begins. Changes of the measured voltage 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 voltage was chosen to be greater than the maximum value.

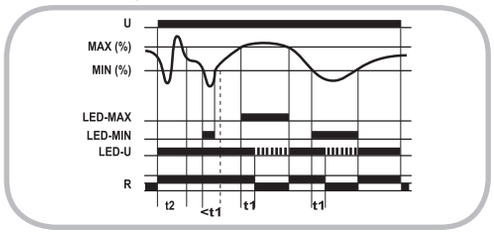
Maximum monitoring (Max, Max+Latch)
When the measured voltage exceeds the value adjusted at the MAX-regulator (red LED MAX illuminated), the set interval of the tripping delay (DELAY) begins. After the interval has expired, the output relay R switches into off-position (green LED flashes). When the measured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



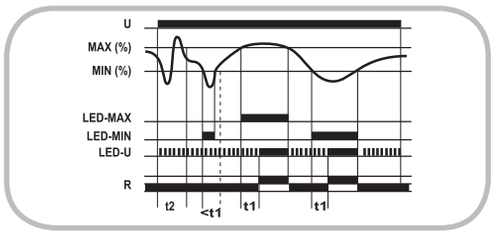
Minimum monitoring (Min, Min+Latch)
When the measured voltage exceeds the value adjusted at the MAX-regulator (red LED MIN not illuminated) the output relay R switches into on-position (green LED illuminated). When the measured voltage falls below the value adjusted at the MIN-regulator (red LED MIN 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 voltage again exceeds the set value, the red LED also begins to flash.
If the LATCH-function is selected and the measured voltage has fallen below the MIN-value once, the output relay remains in the off-position even if the measured voltage 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 voltage exceeds the value adjusted at the MIN-regulator (red LED MIN not illuminated). When the measured voltage 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 voltage falls below the value adjusted at the MAX-regulator (red LED MAX not illuminated). When the measured voltage 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 voltage has fallen below the MIN-value once, the output relay remains in the off-position even if the measured voltage exceeds the value adjusted at the Min-regulator. After activating an external reset key the output relay switches into on-position. If the measured voltage has exceeded the MAX-value once, the output relay remains also in the off-position, even if the measured voltage 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 voltage exceeds the value adjusted at the MIN-regulator (red LED MIN not illuminated). When the measured voltage 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 voltage falls below the value adjusted at the MAX-regulator (red LED MAX not illuminated). When the measured voltage 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 voltage has fallen below the MIN-value once, the output relay remains in the on-position even if the measured voltage exceeds the value adjusted at the Min-regulator. After activating an external reset key the output relay switches into off-position. If the measured voltage has exceeded the MAX-value once, the output relay remains also in the on-position, even if the measured voltage falls below the value adjusted at the MAX-regulator. After activating an external reset key the output relay switches into off-position.



Connections