

- ▶ Industrial design
- ▶ Width 45mm
- ▶ AC/DC voltage monitoring in 1-phase mains
- ▶ Fault latch
- ▶ Position of output relay presettable
- ▶ 1 change over contact



## Technical data

### 1. Functions

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

### 2. Time ranges

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

### 3. Indicators

Green LED ON:	indication of supply voltage
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 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 2.5mm<sup>2</sup> with/without multicore cable end  
 1 x 4mm<sup>2</sup> without multicore cable end  
 2 x 0.5 to 1.5mm<sup>2</sup> with/without multicore cable end  
 2 x 2.5mm<sup>2</sup> flexible without multicore cable end

### 5. Input circuit

Supply voltage:	12 to 440V AC	terminals A1-A2 (galvanically separated) selectable via transformer modules TR2
Tolerance:		-15% to +10%
Rated frequency:	48 to 63Hz	
Rated consumption:	2VA (1.5W)	
Duration of operation:	100%	
Reset time:	500ms	
Residual ripple for DC:	-	
Drop-out voltage:	>30% of the supply voltage	

### 6. Output circuit

1 potential free change over contact  
 Switching capacity: 1250VA (5A / 250V AC)  
 Fusing: 5A fast acting  
 Mechanical life: 20 x 10<sup>6</sup> operations  
 Electrical life: 1 x 10<sup>5</sup> operations at 1000VA resistive load  
 max. 60/min at 100VA resistive load  
 max. 6/min at 1000VA resistive load (according to IEC 947-5-1)  
 Switching frequency:  
 Insulation voltage: 250V AC (according to IEC 664-1)  
 Surge voltage: 4kV, overvoltage category III (according to IEC 664-1)

### 7. Measuring circuit

Input:	30V AC/DC	terminals E1-F1(+)
	60V AC/DC	terminals E1-F2(+)
	300V AC/DC	terminals E1-F3(+)
	600V AC/DC	terminals E2-F3(+)

Overload capacity:	30V AC/DC	60V
	60V AC/DC	80V
	300V AC/DC	360V
	600V AC/DC	720V
Input resistance:	30V AC/DC	33kΩ
	60V AC/DC	80kΩ
	300V AC/DC	470kΩ
	600V AC/DC	1MΩ
Switching threshold U <sub>s</sub> :	10% to 100%	
Hysteresis:	5% to 50%	

### 8. Control contact Y

Function:	fault latch (Y1-Y2 bridged)
Connections:	potential free, terminals Y1-Y2
Loadable:	no
Line length:	max. 5m
Control pulse length:	-

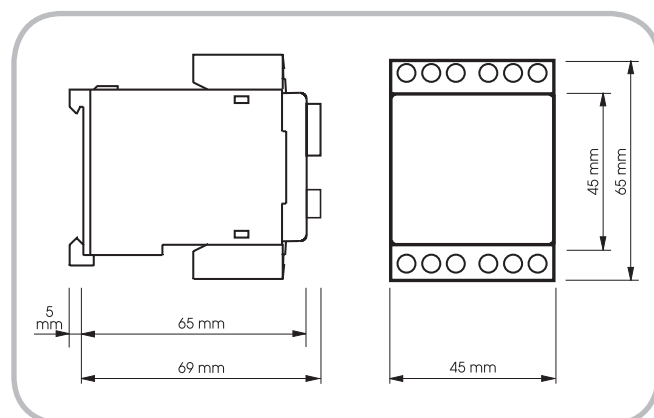
### 9. Accuracy

Base accuracy:	±5% (of maximum scale value)
Adjustment accuracy:	≤5% (of maximum scale value)
Repetition accuracy:	<1%
Voltage influence:	≤0.02% / 1% supply voltage change
Temperature influence:	≤0.02% / °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:	3 (according to IEC 664-1)

### 11. Dimensions



## Functions

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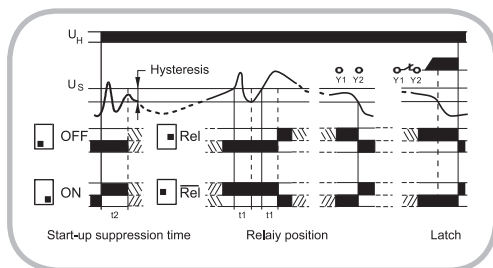
When the supply voltage  $U$  is applied (green LED illuminated), the set interval of the start-up suppression ( $t_2$ ) begins. Irrespective of the relay position under normal operation, the relay position for the duration of the start-up suppression can be selected with the DIP-switch 3: Relay switches into on-position (on) or remains in off-position (off). Changes of the measured voltage during this period do not affect the state of the output relay.

### Overvoltage monitoring

When the measured voltage exceeds the value adjusted at the  $U_s$ -regulator the set interval of the tripping delay ( $t_1$ ) begins. After the interval has expired and if the DIP-switch 2 is in the position REL (n.o.), the output relay R switches into on-position (yellow LED illuminated). When the measured voltage

falls below the value adjusted at the  $U_s$ -regulator by more than the value adjusted at the Hysteresis-regulator the output relay switches into off-position (yellow LED not illuminated). If the fault latch is activated (bridge Y1-Y2) and the measured voltage has exceeded the set value once, the output relay remains in the on-position even if the measured voltage falls below that value by more than the hysteresis. After resetting the fault latch (opening the bridge Y1-Y2) the output relay switches into off-position.

If instead of opening the bridge Y1-Y2 the supply voltage is disconnected and re-applied the measuring cycle begins again with the set interval of the start-up suppression ( $t_2$ ). When the DIP-switch 2 is in the position REL (n.c.), the mode of operation of the device remains unchanged, but the operation of the output relay is inverted.



## Connections

