

- ▶ AC/DC voltage monitoring in 1-phase mains
- ▶ Undervoltage monitoring
- ▶ Supply voltage selectable via power modules
- ▶ 1 change-over contact
- ▶ Width 22.5mm
- ▶ Industrial design



## Technical data

### 1. Functions

AC/DC undervoltage monitoring in 1-phase mains with adjustable threshold and hysteresis and adjustable tripping delay

### 2. Time ranges

	Adjustment range
Start-up suppression time:	-
Tripping delay:	0.2s      10s

### 3. Indicators

Green LED ON:	indication of supply voltage
Yellow LED ON/OFF:	indication of relay output
Red LED ON/OFF:	indication of failure of the corresponding threshold
Red LED flashing:	indication of tripping delay of the 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  
 Tightening 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 400V AC	terminals A1-A2 (galvanically separated) selectable via power modules TR2
Tolerance:	according to specification of power module
Rated frequency:	according to specification of power module
Rated consumption:	2VA (1.5W)
Duration of operation:	100%
Reset time:	500ms
Residual ripple for DC:	-
Drop-out voltage:	>30% of the supply voltage
Overshoot category:	III (according to IEC 60664-1)
Rated surge voltage:	4kV

### 6. Output circuit

1 potential free change-over contact	
Rated voltage:	250V AC
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 <sup>6</sup> operations
Electrical life:	2 x 10 <sup>5</sup> 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)
Overshoot category:	III (according to IEC 60664-1)
Rated surge voltage:	4kV

### 7. Measuring circuit

Fusing:	max. 20A (according to UL 508)
Measured variable:	DC or AC Sinus (48 to 63Hz)
Input:	
30V AC/DC	terminals E-F1(+)
60V AC/DC	terminals E-F2(+)
300V AC/DC	terminals E-F3(+)
Overload capacity:	
30V AC/DC	100V <sub>eff</sub>
60V AC/DC	150V <sub>eff</sub>
300V AC/DC	440V <sub>eff</sub>
Input resistance:	
30V AC/DC	47kΩ
60V AC/DC	100kΩ
300V AC/DC	470kΩ
Switching threshold	
Max:	10% to 100% of U <sub>N</sub>
Min:	5% to 95% of U <sub>N</sub>
Overshoot category:	III (according to IEC 60664-1)
Rated surge voltage:	4kV

### 8. Accuracy

Base accuracy:	±5% (of maximum scale value)
Frequency response:	-10% to +5% (at 48 to 63Hz)
Adjustment accuracy:	≤5% (of maximum scale value)
Repetition accuracy:	≤2%
Voltage influence:	≤0.5%
Temperature influence:	≤0.1% / °C

### 9. Ambient conditions

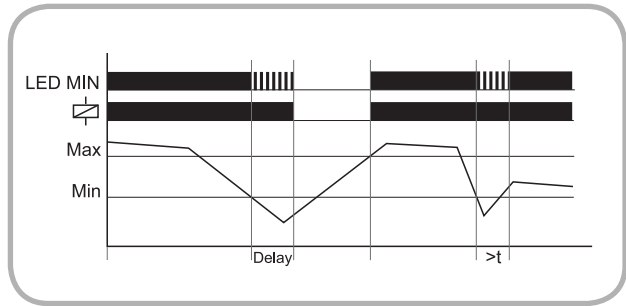
Ambient temperature:	-25 to +55°C (according to IEC 68-1) -25 to +40°C (according to UL 508)
Storage temperature:	-25 to +70°C
Transport temperature:	-25 to +70°C
Relative humidity:	15% to 85% (according to IEC 721-3-3 class 3K3)
Pollution degree:	3 (according to IEC 60664-1)
Vibration resistance:	10 to 55Hz 0.35mm (according to IEC 68-2-6)
Shock resistance:	15g 11ms (according to IEC 68-2-27)

## Functions

### Undervoltage monitoring (UNDER)

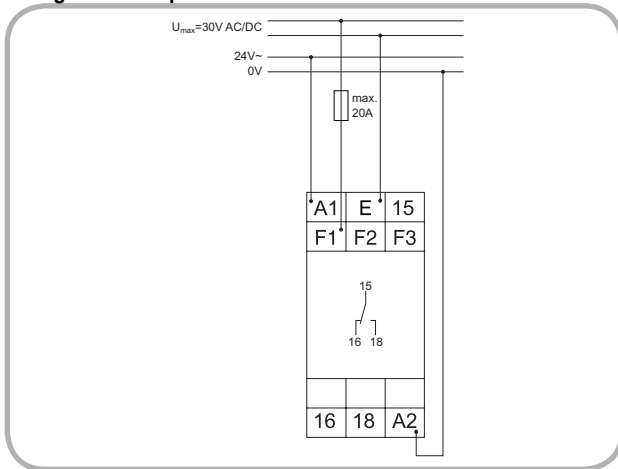
When the measured voltage falls below the value adjusted at the MIN-regulator, the set interval of the tripping delay (DELAY) begins (red LED MIN flashes). After the interval has expired (red LED MIN illuminated), the output relay switches into off-position (yellow LED not illuminated). The output relay again switches into on-position (yellow LED illuminated), when the measured voltage exceeds the value adjusted at the MAX-regulator.

The LEDs MIN and MAX are flashing alternating, when the minimum value for the measured voltage was chosen to be greater than the maximum value.

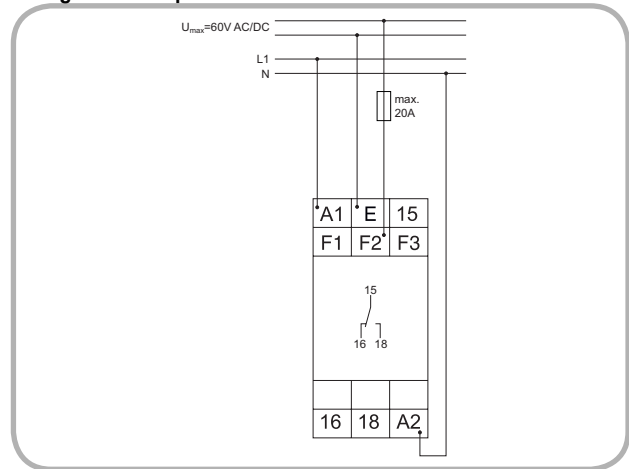


## Connections

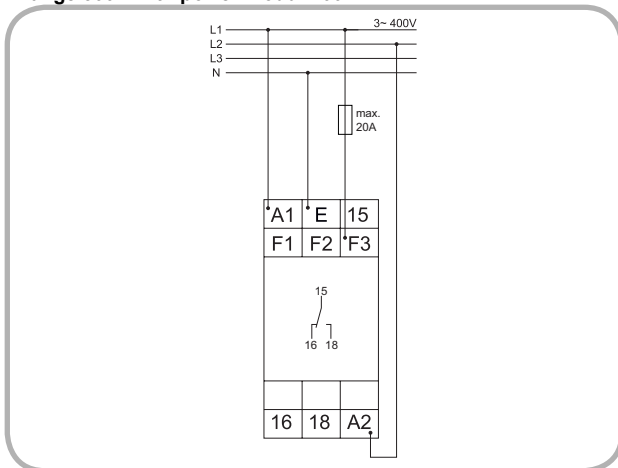
### Range 30V with power modul 24V AC



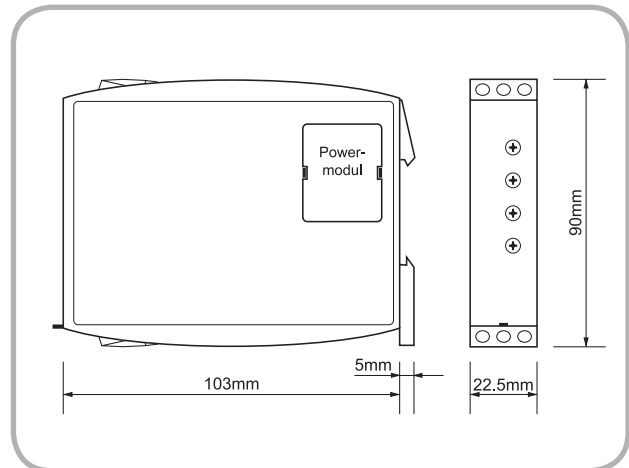
### Range 60V with power modul 230V AC



### Range 300V with power modul 400V AC



## Dimensions



Subject to alterations and errors