



3 phase voltage monitoring relays



→ 3-phase voltage supervision in AC networks

- › Voltage supervision per individual phase
- › Switching threshold adjustably or optionally fixed
- › Supervision on asymmetry, phase failure and optional neutral wire break and direction of rotation
- › Operating indicator and signalling contacts designed as potential-free change-over contact

→ Under and over voltage supervision with EUW 3

The EUW 3 supervises three-phase networks on under and overvoltage, in which both switching points can be independently adjusted by each other. Overranging has to be avoided. The supervision is separately carried out for every phase so that the actual asymmetry or even phase failure is recognized. In addition direction of rotation (phase sequence) and neutral wire break is monitored. Every error is shown by the corresponding red LED lighting up. In the normal operation the output relay is pulled on and the power light (green LED) lights up. In the fault case as well as at loss of the supply voltage the relay drops off and the operating light goes out. The inserted hysteresis prevents the permanent condition change by varying measuring voltage around a switching point. With the from each other separated adjustable response and release delays short net break downs or asymmetries can be avoided specific on switching on actions.

→ Technical data EUW 3

Article No.	11EUW3000U
Supply voltage	
Nominal voltage	230 V 50/60 Hz
Voltage range	195 ... 253 V
Power consumption	≤ 1,5 VA
Monitoring inputs	
Voltage range	50 ... 460 V 50/60 Hz, adjustable
max input current	≤ 0,5 mA
Switching hysteresis	≤ 6%
Switching accuracy	≤ 4%
Monitoring criterias	Under and overvoltage, phase failure, phase sequence
Relay outputs	0 ... 250 V AC/DC
Voltage range	4 A @ 0 ... 250 V AC 50/60 Hz
Max. load current	4 A @ 0 ... 24 V DC
Response delay	0,2 ... 10 s, adjustable
Displaying elements	3 red LED's for <ul style="list-style-type: none"> • Under voltage • Over voltage • Direction of rotation 1 green LED for operation indication
Ambient conditions	
Operation temperature	-20°C ... +60°C non condensing
Max. rel. humidity	Maximum 75% average mean
Mechanical data	
Connection terminals	Screw terminals
Dimensions (H x W x D) [mm]	75 x 45 x 110
Mounting	on C-DIN rail nach = acc. to EN 50022-35
Weight	approx. 0,3 kg

If not indicated differently, the data refer to a sinusoidal alternating voltage with a frequency of 50/60 hz.

Custom-built models and special voltage on enquiry.



→ **Sub-voltage supervision with EUW 4**

The EUW 4 supervises three-phase networks on undervoltage. The supervision isn't carried out only for the mean average value of the voltage but for every phase separately. By this means an asymmetry of the phases or even phase failures become recognized. The switching threshold is, depending on design variant either fixed or by a frontal potentiometer adjustable. In addition the neutral wire is supervised on wire breakage. At measuring voltages above the switching point the output relay is pulled in with 2 change-over contacts and the operating light (green LED) shines. When one or several phase voltages sink below the switching point, the relay drops off and the operating light goes out. The inserted hysteresis prevents the permanent condition change by varying measuring voltage around the switching point.

→ **Technical data EUW 4**

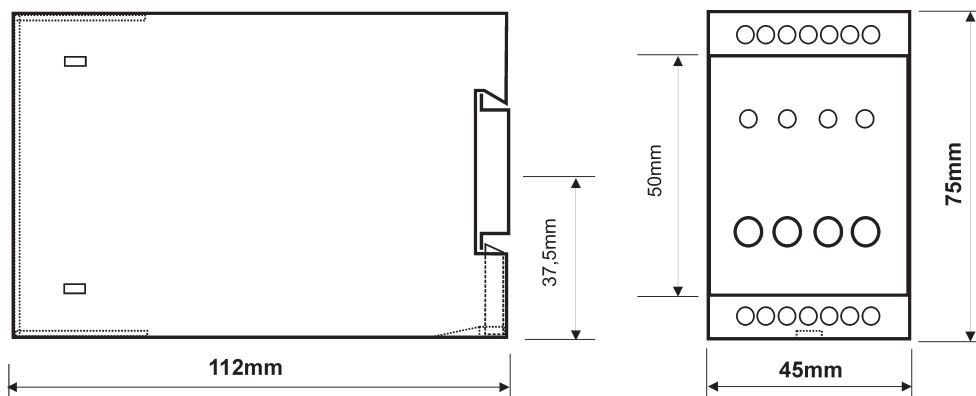
Article No.	11EUW4000Q	11EUW4000U	11EUW4000U2	11EUW4SA0S
Supply voltage	The supply voltage of the monitoring relays is carried out of the measuring voltage. An auxiliary voltage is not necessary.			
Monitoring inputs				
Voltage range	3 x 80 ... 120 V*	3 x 270 ... 420 V*	3 x 185 ... 345 V*	3 x 100 ... 115 V*
Switching threshold	3 x 70 ... 105 V*	3 x 240 ... 400 V*	3 x 160 ... 300 V*	fixed 3 x 30 V*
max. power consumption	< 1,3 VA	< 2,3 VA @ 350 V**	< 2,3 VA @ 265 V**	approx. 1,4 VA**
Switching hysteresis		< 3,5 VA @ 460 V**	< 3,8 VA @ 345 V**	
Switching accuracy	≤ 7 % < 8 %	≤ 7 % < 3 %	≤ 8 % < 3 %	approx. 4 % approx. 2%
Monitoring criterias	Undervoltage, phase failure			
Response delay	(phase failure / neutral wire brake) 50 ms (Asymmetry of one phase about 20%) 150 ms			
Displaying elements	green LED for operation indication			
Operating conditions	- for 3-Phase mains with neutral wire or star-wiring - suitable for automatic switching on safety lighting acc. to VDE 0108			
Ambient conditions				
Operating temperature	-20°C ... +50°C non condensing			
Max. rel. humidity	Maximum 75% average mean			
Load on relays contacts	4 A @ 0 ... 250 V AC* and 0 ... 24 V DC 1 A @ 60 V DC 0,3 A @ 110 V DC 0,1 A @ 250 V DC			
Alternating dielectric strength between measuring inputs and relay contacts as well as between neighboring relay contacts	2,5 KV _{eff} 50 Hz 1 min			
Alternating dielectric strength of open relays contacts	2,0 KV _{eff} 50 Hz 1 min			
Mechanical data				
Connection terminals	Screw terminals			
Dimensions (H x W x D) [mm]	90 x 35 x 58			
Mounting	On C-DIN rail acc. to EN 50022-35; suitable for mounting in distribution cabinet			
Weight	approx. 0,2 kg			

* sinusoidal alternating voltage with a frequency on 50 / 60 Hz

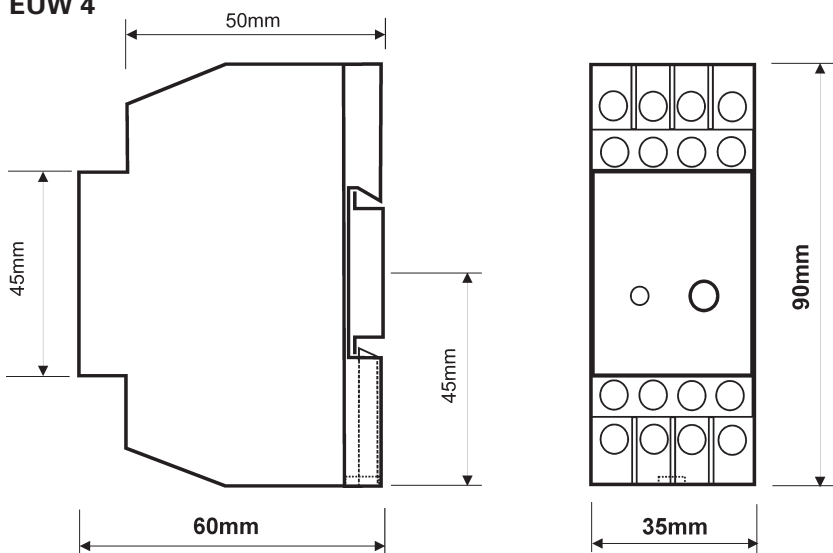
** at a sinusoidal alternating voltage of 50 Hz

→ Dimensional drawing

EUW 3



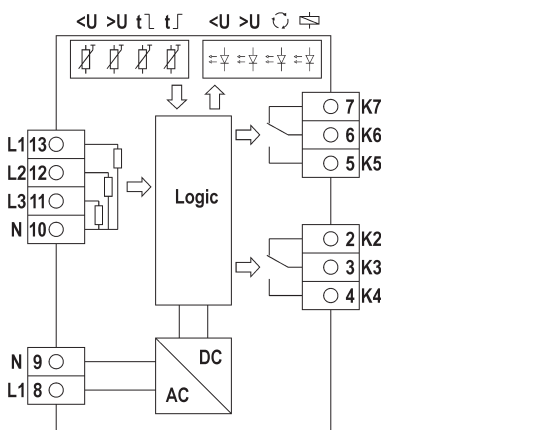
EUW 4



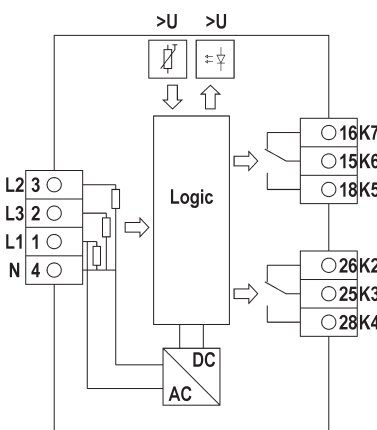
Dimensions in mm
 Subject to technical changes
 without prior notice.

→ Terminal assignment

EUW 3



EUW 4



→ Contact