

# Current and Voltage Controls 1-Phase Over/Under Voltage Type EUK

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- AC monitoring relay for over/under voltage control (closed circuit)
- Measures if power supply is within set limits
- Measures on own power supply
- 3-position rotary switch for selection of measuring range
- Measuring range: 24-115-230,  $\pm 13\%$  VAC (RMS)
- Upper and lower limits separately adjustable
- Adjustable time function (0.1-10 s)
- Output: 5 A SPDT
- For mounting on DIN-rail in accordance with DIN/EN 50 022
- 45 mm Euronorm housing
- LED-indication for power supply ON
- Two LED's indicating fault and/or status of the relay output (flashing when timing)

## Product Description

EUK is a single-phase monitoring relay for separate over and under voltage control. Built-in time function 0.1-10 s. Often used in applications where it is essential to moni-

tor that the fluctuation of the delivered power is kept within set limits so that the connected equipment will not be damaged.

## Ordering Key

**EUK C T23**

Housing \_\_\_\_\_  
 Function \_\_\_\_\_  
 Type \_\_\_\_\_  
 Output \_\_\_\_\_  
 Power supply \_\_\_\_\_

## Type Selection

Mounting	Output	Measuring ranges
For DIN-rail	SPDT	24, 115 or 230 VAC

Supply: 24/115/230 VAC

**EUK C T23**

## Input Specifications

<b>Input</b> Through terminals A1 & A2	Measures on own supply	
<b>Measuring ranges</b> Selectable by rotary switch	<b>Upper level</b>	<b>Lower level</b>
24 VAC	-10%-13% 21.6-27.1 V	-13%-10% 20.9-26.4 V
115 VAC	103.5-130 V	100-126.5 V
230 VAC	207-260 V	200-253 V
	measuring range equals rms value of a sinusoidal voltage	
<b>Hysteresis</b>	< 2%	

## Supply Specifications

<b>Power supply</b> Rated operational voltage Through term. A1 & A2 T23	Overvoltage cat. III (IEC 60664) (IEC 60038) 115-230 VAC, $\pm 15\%$ 50/60 Hz, -5/+5 Hz
Through term. A1 & A2 T23 (Interconnec. term. A1 & A3)	24 VAC, $\pm 15\%$ 50/60 Hz, -5/+5 Hz
Voltage interruption	$\leq 40$ ms
Dielectric voltage	None
Rated impulse withstand voltage	4 kV (1.2/50 $\mu$ s)
<b>Rated operational current</b>	55 mA @ 24 VAC 25 mA @ 115 VAC 50 mA @ 230 VAC

## Output Specifications

<b>Output</b>	SPDT relay
<b>Rated insulation voltage</b>	250 VAC (contact/elect.)
<b>Contact ratings (AgCdO)</b>	$\mu$ (micro gap)
Resistive loads AC 1	5 A, 250 VAC
DC 1	5 A, 24 VDC
Small inductive loads AC 15	2 A, 250 VAC
DC 13	3 A, 24 VDC
<b>Mechanical life</b>	$\geq 40 \times 10^6$ operations
<b>Electrical life</b>	$\geq 10^5$ operations (at max. load)
<b>Operating frequency</b>	$\leq 7200$ operations/h
<b>Dielectric strength</b>	
Dielectric voltage	2 kVAC (rms)
Rated impulse withstand volt.	4 kV (1.2/50 $\mu$ s)

## General Specifications

<b>Power ON delay</b>	< 2 s
<b>Reaction time</b>	$\tau < 200$ ms, worst case reaction time may be up to $5 \times \tau$ adjustable delay on release built-in (0.1-10 s)
<b>Accuracy</b>	
Input	$\pm 5\%$
OFF-delay	10 s, -1/+3 s on max. $\leq 0.1$ s on min.
Temperature drift	$\leq 0.2\%/^{\circ}\text{C}$ ( $\leq 0.11\%/^{\circ}\text{F}$ )
<b>Indication for</b>	
Power supply ON	LED, green
Output ON	2 LED's, yellow (indicating upper/lower level)
<b>Environment</b>	
Degree of protection	IP 20
Pollution degree	3
Operating temperature	-20° to +50°C (-4° to +122°F)
Storage temperature	-50° to +85°C (-58° to +185°F)
<b>Weight</b>	165 g
<b>Screw terminals</b>	
Tightening torque	Max. 0.5 Nm acc. to IEC 60947
<b>Approvals</b>	UL, CSA

## Mode of Operation

EUK measures the rms value of its own sinusoidal power supply.

The relay operates and both yellow LED's are ON as long as the measured voltage is within the upper and lower limits.

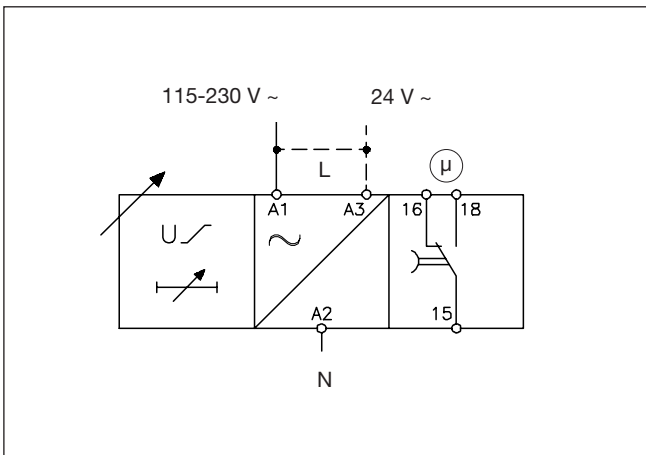
The relay releases after an adjustable time delay of 0.1-10 s when the measured voltage is above the upper level or below the lower level.

The yellow LED indicating upper/lower level is flashing until the time delay has expired.

When the relay has released, the flashing LED is switched OFF.

EUK has a power-up delay of approx. 2 s to prevent the relay from operating if the measured voltage is above/below the set limits when power supply is applied.

## Wiring Diagram



## Range/Level/Time Setting

### Level setting

Upper left knob :  
Setting of upper limit on relative scale in % (-10 to +13%).

Lower left knob:  
Setting of lower limit on relative scale in % (-13 to +10%).

### Range setting

Upper right knob:  
Setting of voltage measuring range on rotary switch.

### Time setting

Lower right knob:  
Setting of time delay on absolute scale (0.1-10 s).

## Operation Diagram

