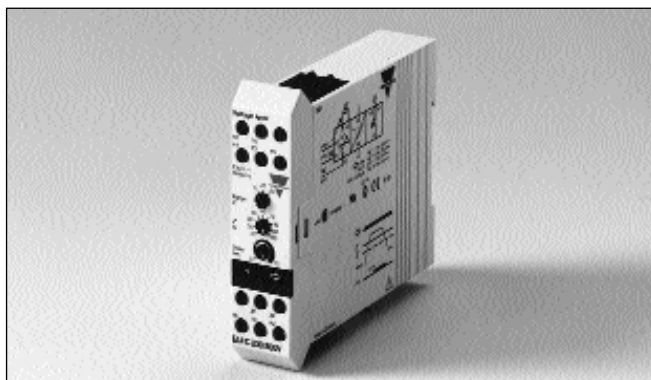


# Current and Voltage Controls

## 1-Phase AC/DC Over Voltage Control

### Type EUI



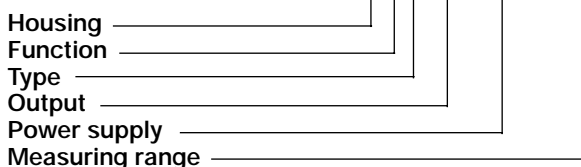
- AC/DC over voltage metering (open circuit) relay
- 3-position rotary switch for selection of measuring range
- Measuring range: 20 V: 40-200 mV, 100-500 mV, 0.4-2 V or 0.4-2 V, 1-5 V, 4-20 V  
500 V: 1-5 V, 4-20 V, 10-50 V or 10-50 V, 40-200 V, 100-500 V
- Adjustable voltage limit on relative scale
- Adjustable time function (0.1-10 s)
- Adjustable hysteresis
- Programmable latching at set level
- Output: 5 A SPDT
- For mounting on DIN-rail in accordance with DIN/EN 50 022
- 22.5 mm Euronorm housing
- LED-indication for relay and power supply ON
- Galvanically separated power supply

### Product Description

EUI is a precise AC/DC over voltage metering relay. The advantage of using the latch function is that the output relay can be kept energized so e.g. a short voltage variation can be detected.

### Ordering Key

**EUI C 230 20V**



### Type Selection

Mounting	Output	Measuring range	Supply: 24 VAC	Supply: 115 VAC	Supply: 230 VAC
For DIN-rail	SPDT	40 mV - 20 V	EUI C 024 20V	EUI C 115 20V	EUI C 230 20V
	SPDT	1 - 500 V	EUI C 024 500V	EUI C 115 500V	EUI C 230 500V

### Input Specifications

Input	Range x 1	Range x 10
Through terminals Y1 & Y2	Range x 1	Range x 10
Through terminals Y1 & Y3	Range x 1	Range x 10
<b>Measuring ranges</b>	<b>Internal resist.</b>	<b>Max. volt.</b>
<b>20 V type</b>		
x 1 input:		
Rotary 1: 40 - 200 mV	4.7 kΩ	5 V
Switch 2: 100 - 500 mV	4.7 kΩ	5 V
Position 3: 0.4 - 2 V	4.7 kΩ	5 V
x 10 input:		
Rotary 1: 0.4 - 2 V	47 kΩ	50 V
Switch 2: 1 - 5 V	47 kΩ	50 V
Position 3: 4 - 20 V	47 kΩ	50 V
<b>500 V type</b>		
x 1 input:		
Rotary 1: 1 - 5 V	110 kΩ	100 V
Switch 2: 4 - 20 V	110 kΩ	100 V
Position 3: 10 - 50 V	110 kΩ	100 V
x 10 input:		
Rotary 1: 10 - 50 V	1.1 MΩ	500 V
Switch 2: 40 - 200 V	1.1 MΩ	500 V
Position 3: 100 - 500 V	1.1 MΩ	500 V
Max. line voltage	277/480 VAC/DC	
<b>Latching</b>	Interconnection of terminals Z1 & Z2 Latching at set level	

### Output Specifications

Output	SPDT relay
<b>Rated insulation voltage</b>	250 VAC (contact/elect.)
<b>Contact ratings (AgCdO)</b>	μ (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>	≥ 40 x 10 <sup>6</sup> operations
<b>Electrical life</b>	≥ 10 <sup>5</sup> operations (at max. load)
<b>Operating frequency</b>	≤ 7200 operations/h
<b>Dielectric strength</b>	
Dielectric voltage	2 kVAC (rms)
Rated impulse withstand volt.	4 kV (1.2/50 μs)



## Supply Specifications

<b>Power supply</b>	Overvoltage cat. III (IEC 60664) (IEC 60038)
Rated operational voltage Through pins A1 & A2	024 24 VAC ±15%, 45 to 65 Hz 115 115 VAC ±15%, 45 to 65 Hz 230 230 VAC ±15%, 45 to 65 Hz
Voltage interruption	≤ 40 ms
Dielectric voltage	≥ 2 kVAC (rms)
Rated impulse withstand voltage	4 kV (1.2/50 μs)
<b>Rated operational power</b>	1.5 VA

## General Specifications

<b>Power ON delay</b>	< 2 s
<b>Power OFF delay</b>	> 500 ms
<b>Reaction time</b>	τ < 200 ms worst case reaction time may be up to 5 x τ Adjustable delay on release built-in (0.1-10 s)
<b>Accuracy</b>	
Input	±10%
ON delay	10 s, -1/+3 s < 0.1 s on min.
Temperature drift	≤ 0.2%/°C (≤ 0.11%/°F)
<b>Indication for</b>	
Power supply ON	LED, green
Output ON	LED, yellow
<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>	140 g
<b>Screw terminals</b>	
Tightening torque	Max. 0.5 Nm acc. to IEC 60947
<b>Approvals</b>	UL, CSA

## Mode of Operation

EUI measures both AC and DC voltages.

### Example 1

(no connection between terminals Z1 & Z2)

The relay operates when the measured value exceeds the set level for more than the set delay-time.

The relay releases when the voltage drops min. 5% below the set level (see hysteresis) or when power supply is interrupted.

### Example 2

(connection between terminals Z1 & Z2)

The relay operates and latches in operating position when the

measured value exceeds the set level for more than the set delay-time.

Provided that the voltage has dropped min. 5% below the set point (see hysteresis), the relay will release when the interconnection between terminals Z1 & Z2 is interrupted, or power supply is interrupted.

If the measured value is above the set level when power supply is applied, the relay will operate immediately with no time delay.

The yellow LED is flashing until the delay-time has expired, or until the measured value drops below the fixed hysteresis (5%) again.

## Range/Level/Time Setting

### Upper knob:

Setting of voltage range on rotary switch.

When using Y1 & Y3 the scale is multiplied by 10.

### Centre knob:

Level setting on relative scale.

### Lower knob:

Setting of ON delay on absolute scale (0.1-10 s).

### Hysteresis

Normally 5%. The hysteresis can be extended by inserting a resistor between terminals Z1 & Z2.

Approx.

10%: 39 kΩ

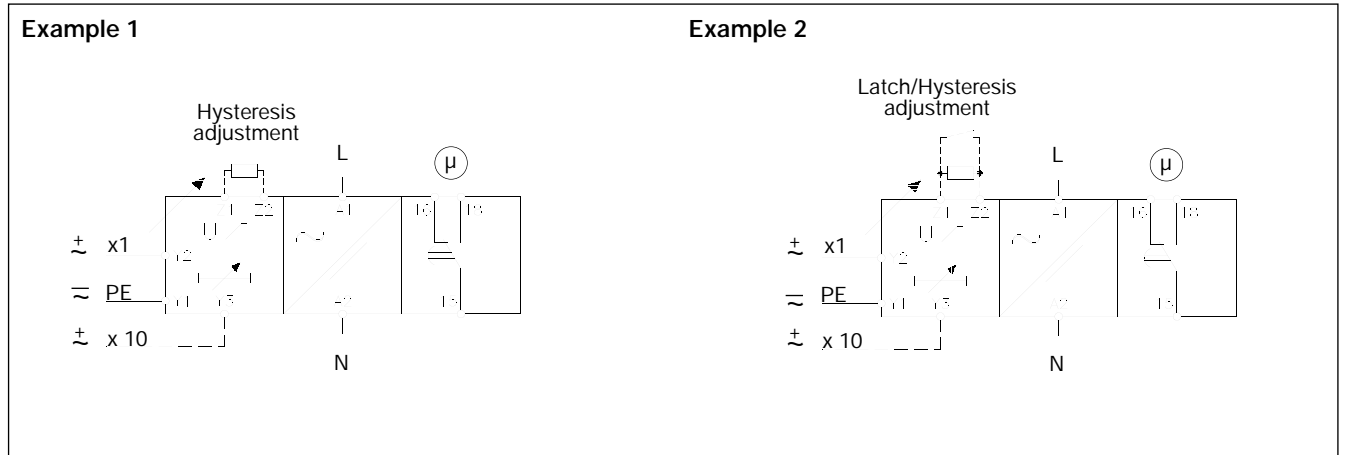
25%: 12 kΩ

50%: 4.7 kΩ

75%: 2.2 kΩ

Latch: < 500 Ω

## Wiring Diagrams



## Operation Diagrams

