Current and Voltage Controls
1-Phase AC/DC Under Current (Shunt)
Type EIC

CARLO GAVAZZI

- **AC/DC under current (closed circuit) metering relay**
- **Measuring through external shunt**
- **3-position rotary switch for selection of measuring range**
- **Measuring range: 10-50 mV, 12-60 mV, 30-150 mV or 20-100 mV, 24-120 mV, 60-300 mV**
- **Adjustable limit on relative scale**
- **Adjustable time function (0.1-10 s)**
- **Adjustable hysteresis**
- **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

EIC is a precise AC/DC under current (shunt) metering relay. Measures the voltage of an externally connected standard shunt also for high current applications. The built-in LED's indicate the exact status of the output relay.

Ordering Key

EIC C 230

Housing
Function
Type
Output
Power supply

Type Selection

Mounting	Output	Measuring range	Supply: 24 VAC	Supply: 115 VAC	Supply: 230 VAC
For DIN-rail	SPDT	10 - 300 mV	**EIC C 024**	**EIC C 115**	**EIC C 230**

Input Specifications

Input			
Through terminals Y1 & Y2		Range x 1	
Through terminals Y1 & Y3		Range x 2	
Measuring ranges		**Internal resist.**	**Max. volt.**
x 1 input:			
Rotary	1: 10 - 50 mV	270 Ω	1 V
Switch	2: 12 - 60 mV	270 Ω	1 V
Position	3: 30 - 150 mV	270 Ω	1 V
x 2 input:			
Rotary	1: 20 - 100 mV	540 Ω	2 V
Switch	2: 24 - 120 mV	540 Ω	2 V
Position	3: 60 - 300 mV	540 Ω	2 V
Max. line voltage		277/480 VAC/DC	

Output Specifications

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

Supply Specifications

Power supply		Overvoltage cat. III (IEC 60664)
Rated operational voltage		(IEC 60038)
Through term. 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)
Rated operational power		1.5 VA

General Specifications

Power ON delay	< 2 s
Power OFF delay	> 200 ms
Reaction time	τ < 200 ms worst case reaction time may be up to 5 x τ Adjustable delay on release built-in (0.1-10 s)
Accuracy	
Input	±10% (DC/AC @ 50 Hz)
OFF delay	10 s, -1/+3 s on max. < 0.1 s on min.
Temperature drift	≤ 0.2%/°C (≤ 0.11%/°F)
Indication for	
Power supply ON	LED, green
Output ON	LED, yellow
Environment	
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)
Weight	140 g
Screw terminals	
Tightening torque	Max. 0.5 Nm acc. to IEC 60947
Approvals	UL, CSA

Mode of Operation

EIC measures both AC and DC current (voltage) through an external standard shunt.

Example 1
The relay operates when the measured value exceeds the set level plus the hysteresis.

When the voltage (current) drops below the set level for more than the set delay, or when power supply is interrupted, the relay releases.

The yellow LED is flashing until the delay has expired, or until the measured value exceeds the set level plus the hysteresis.

Range/Level/Time Setting

Upper knob:
Setting of current (voltage) range on rotary switch.

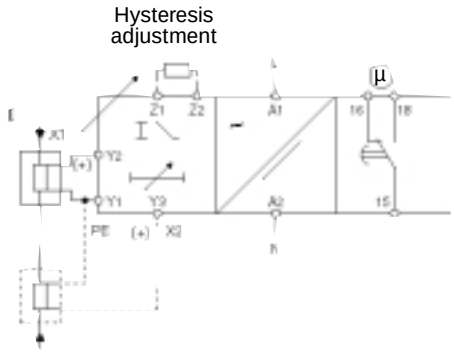
Centre knob:
Level setting on relative scale.

Lower knob:
Setting of OFF 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
100%: 1.5 kΩ

Wiring Diagram

Example 1



Operation Diagram