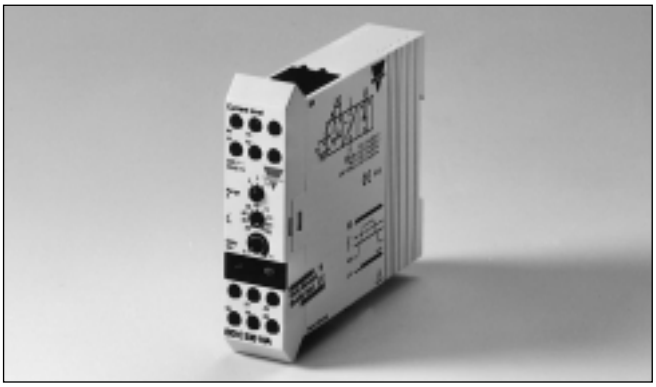
Current and Voltage Controls
1-Phase AC/DC Under Current
Type EID



- **AC/DC under current metering (closed circuit) relay**
- **Current measuring through internal shunt**
- **3 position rotary switch for selection of measuring range**
- **Measuring ranges: 0.4 mA - 10 A**
- **Adjustable current 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

EID is a precise AC/DC under current metering relay and often used in applications where small loads have to be controlled. The built-in LED's indicate the exact status of the output relay. Through the built-in shunt it is possible to measure loads up to 10 A.

Ordering Key

EID C 230 20mA

Housing
Function
Type
Output
Power supply
Measuring range

Type Selection

Mounting	Output	Measuring range	Supply: 24 VAC	Supply: 115 VAC	Supply: 230 VAC
For DIN-rail	SPDT	0.4 - 20 mA	**EID C 024 20mA**	**EID C 115 20mA**	**EID C 230 20mA**
	SPDT	10 - 500 mA	**EID C 024 500mA**	**EID C 115 500mA**	**EID C 230 500mA**
	SPDT	0.2 - 5 A	**EID C 024 5A**	**EID C 115 5A**	**EID C 230 5A**
	SPDT	0.4 - 10 A	**EID C 024 10A**	**EID C 115 10A**	**EID C 230 10A**

Input Specifications

Input		
Through terminals Y 1 & Y2	current level	
Measuring ranges	**Internal resist.**	**Max. curr.**
20 mA type		
Rotary 1: 0.4 - 2 mA	50 Ω	50 mA
Switch 2: 1 - 5 mA	50 Ω	50 mA
Position 3: 4 - 20 mA	50 Ω	50 mA
500 mA type		
Rotary 1: 10 - 50 mA	3.9 Ω	600 mA
Switch 2: 40 - 200 mA	3.9 Ω	600 mA
Position 3: 100 - 500 mA	3.9 Ω	600 mA
5 A type		
Rotary 1: 0.2 - 1 A	0.05 Ω	6 A
Switch 2: 0.4 - 2 A	0.05 Ω	6 A
Position 3: 1 - 5 A	0.05 Ω	6 A
10 A type		
Rotary 1: 0.4 - 2 A	0.01 Ω	12 A
Switch 2: 1 - 5 A	0.01 Ω	12 A
Position 3: 2 - 10 A	0.01 Ω	12 A
Max. current for 10 s	40 A	
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) (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)
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

EID measures both AC and DC under current through an internal shunt.

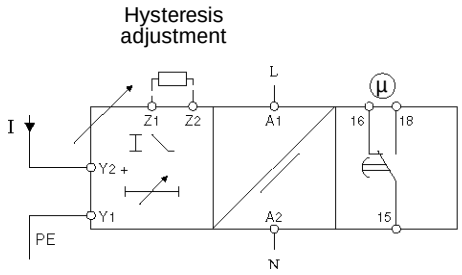
Example 1
The relay operates when the measured value exceeds the set level plus hysteresis.

When the 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.

Wiring Diagram

Example 1



Range/Level/Time Setting

Upper knob:
Setting of current range on rotary switch.

Centre knob:
Current 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

Operation Diagram