

Current Relay
for potentialfree supervision
of DC and AC currents
width 22,5 mm, to be snapped on DIN-rail

EIW 1



Performance data ...

- 3 current ranges between approx. 10mA up to 15A AC and DC in one device
- Auxiliary supply voltage 230V 50/60Hz
- Threshold for current, hysteresis and switch on delay
- adjustable by potentiometer on front side
- Alarm contacts as potentialfree change over wired
- Measuring range by external shunt or transducer arbitrarily extendable
- Potential separation of all circuits 4 kV

The universal current monitor for all applications

Catalogue group 1.2

Technical description:

The EIW 1 supervises potentialfree direct and alternative currents in ranges between 10mA up to 150mA, 100mA up to 1,5A and 1A up to 15A. The switching threshold, the switching hysteresis and the switch on delay can be adjusted by potentiometers on the front. The output relay with 2 potentialfree change overs is dropped in normal situation and attracts by over current. Simultaneously, a red LED lights up.

An extension of the measuring range is always possible by primary current transducers or shunt resistores.

Example:

Extension of range to 75A by shunt

The measured voltage drop by end of range is 100mV, the internal resistore R_i in the 15A range is 6,66m Ohm. The range multiplication n is:

$$n = \frac{75A}{15A} = 5$$

The required shunt resistore R_s is being calculated as follows:

$$R_s = \frac{R_i}{n-1} = \frac{6,66 \times 10^{-3} \Omega}{5-1} = 0,00166 \Omega = 1,66 \text{ m}\Omega$$

The wattage P_V of the shunt resistore is: $P_V = (75A-15A)^2 \times 1,66 \times 10^{-3} \Omega = 5,9W$

It is recommended to choose at least the double value in order to avoid excessive warming.

Technical data:

- Auxiliary supply voltage 230V + 10% -15% 50/60Hz
- Power consumption approx. 0,5VA
- Current supervision ranges 10...150mA; 0,1...1,5A; 1...15A adjustable
- Internal resistore $R_i = 666m \Omega$; 66,6m Ω ; 6,66m Ω
- Switching hysteresis 5...30% adjustable
- Switching point tolerance 2 %
- Switch on delay 0,1...10 sec. adjustable
- Load of relay contacts 24V AC/DC or 250VAC 4A
- Over load of inputs ≤ 1 sec. 10 times; up to 1,5A 3 times; with 15A 1,1 time
- Ambient temperature -20°C ... +60°C without condensation
- Rel. humidity 75% mean of year (Gr. F DIN 40040)
- Weight approx. 0,13 kg

Technical changes excepted

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