

## MULTIFUNCTION CURRENT RELAY

Type: IMCA

### FEATURES

- For AC and DC current
- Balanced input for noise immunity
- Input current range from 0.5mA to 10A
- 12 programmable input ranges
- 4 programmable times for power up reset
- 4 programmable time ranges
- Separate adjustable ON and OFF delay
- Relay function can be inverted
- Adjustable upper or lower limit and differential
- Latch function available
- LEDs indicate the state of the input
- LEDs indicate the timing function
- LED indicates the state of the relay
- SMD technology
- 0-1 V DC control output for full scale (Only in 45 mm. housing)

### Description:

The current relay is designed with a microcontroller. With programmable range, function and timing it can be programmed to cover all kinds of applications.

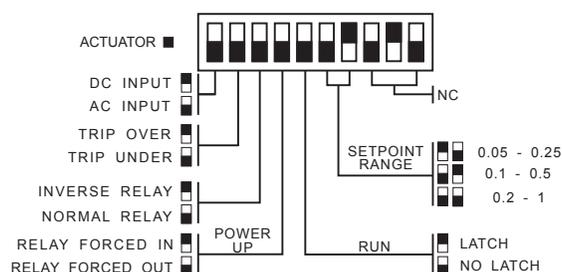
The monitored current is fed through an internal shunt with a voltage drop of 50 mV at full range. For extreme noise immunity the voltage is then amplified in a balanced amplifier, rectified, averaged and compared with a preset reference voltage. AC and DC current between 0,5mA and 10A can be measured directly. By means of a current transformer or a shunt resistor the range can be extended without limits.

### Application:

Level comparator used with transducers and transmitters. Over- or undercurrent monitoring of loads, batteries, generators, mains etc.

### PROGRAMMABLE FEATURES

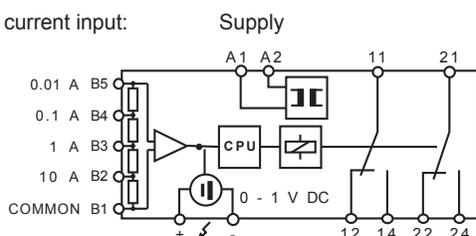
Range and relay function



### CONNECTION DIAGRAM

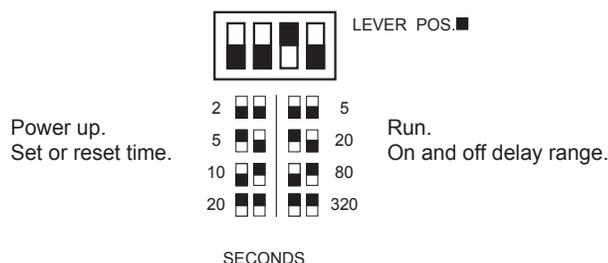
Rail mounting

Max. current input:



Control output and 2 relays, only in 45 mm. housing.

### Time function



SECONDS

## SPECIFICATIONS

<b>INPUT</b>	DC or AC current
Range	From 0.5 mA to 10 A
Input Range:	Setpoint Range
B1 and B5 0.01 A socket type 1008	0.5 - 2.5 mA 1 - 5 mA 2 - 10 mA
B1 and B4 0.1 A socket type 1009	5 - 25 mA 10 - 50 mA 20 - 100 mA
B1 and B3 1 A socket type 1000	50 - 250 mA 0.1 - 0.5 A 0.2 - 1 A
B1 and B2 10 A socket type 1001	0.5 - 2.5 A 1 - 5 A 2 - 10 A
AC frequency range	45 to 440 Hz
Max. continuous input	$1.42 \times I_{NOM}$
Input resistance	$0.1 / I_R \Omega$ (10 $\Omega$ , 1 $\Omega$ , 0.1 $\Omega$ , 0.01 $\Omega$ )
Power up, set or reset	Dip switch settings. Fixed 2 sec. 5 sec. 10 sec. 20 sec.
Time range during run	Dip switch settings. Adjustable 0 - 5 sec. 0 - 20 sec. 0 - 80 sec. 0 - 320 sec.
Differential	Adjustable from 1 to 50 % of setting
<b>PERFORMANCE PARAMETERS</b>	
<b>TIMING</b>	
Response time	Approx. 100 msec.
<b>ELECTRICAL</b>	
Temp. dependence	Typ. $\pm 0.02\%$ / °C
Supply dependence	Typ. $\pm 0.01\%$ / % DU
<b>OUTPUT</b>	
Contact rating	Relay, 1 C/O or 2 C/O
Mechanical life	6 A, 250 VAC, 1500 W
DC output	30 Million operations 0 - 1 V DC (Only in 45 mm.)
<b>SUPPLY</b>	
AC and DC with isolated switchmode	18-360 VDC and 20-264 VAC
AC supply range with transformer	24 V (From 20 to 28 V) 110 V (From 99 to 140 V) 230 V (From 198 to 264 V) 400 V (From 342 to 484 V)
AC frequency range	45 to 440 Hz
Power consumption	4 VA, 3 W

<b>GENERAL</b>	
Temperature range	- 25 °C to + 55 °C ambient
Humidity	Up to 90 % RH non-condensing
Dielectric test voltage	Input to supply 4000 VAC Coil to relay contacts 4000 VAC Pole to pole (45 mm.) 2500 VAC
Weight	0.19 kg in 35 mm. housing 0.26 kg in 45 mm. housing



International Standards	
EMC directive 89/336:	EN50081 - Emission EN50082 - Immunity
Low voltage directive 73/23:	EN60255 - Electrical Relays

## ORDERING INFORMATION

### EXAMPLE, Rail mounting:

**TYPE**  
Multifunction current relay

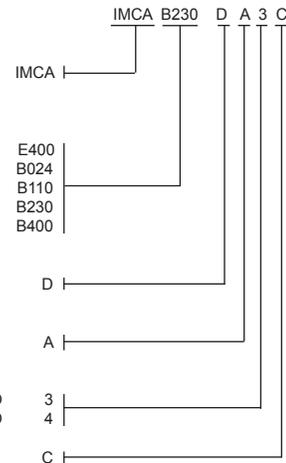
**SUPPLY VOLTAGE**  
18-360 VDC and 20-264VAC  
20-28 VAC  
99-140 VAC  
198-264 VAC  
342-484 VAC

**ADJUSTMENT**  
Trimpot and dipswitch adj.

**HOUSING**  
Rail mounting.(internal transformer)

**SIZE**  
35 mm. 1 C/O 3  
45 mm. (with 0 - 1 VDC output) 2 C/O 4

**CODE END**



### EXAMPLE, Socket mounting 11-Pin.:

**TYPE**  
Multifunction current relay

**INPUT CURRENT RANGE**  
From 0.5 to 10 mA  
From 5 to 100 mA  
From 0.05 to 1 A  
From 0.5 to 10 A

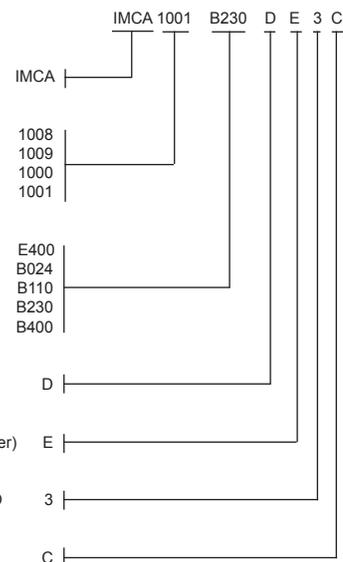
**SUPPLY VOLTAGE**  
18-360 VDC and 20-240VAC  
20-28 VAC  
99-140 VAC  
198-264 VAC  
342-484 VAC

**ADJUSTMENT**  
Trimpot and dipswitch adj.

**HOUSING**  
Socket mounting 11-Pin.(internal transformer)

**SIZE**  
35 mm. 2 C/O 3

**CODE END**



### Socket mounting

