

MULTIFUNCTION VOLTAGE RELAY

Type: UMCA

FEATURES

- For AC and DC voltage
- Balanced input for noise immunity
- Input voltage range from 50 mV to 500 V
- 11 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 - technic
- 0-1 V DC control output for full scale (Only in 45 mm. housing)

Description:

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

The voltage to be monitored is fed into a resistive divider and, for extreme noise immunity, amplified in a balanced amplifier, rectified, averaged, and compared with a preset reference voltage.

AC and DC voltages between 50 mV and 500 V can be measured directly. By means of a voltage transformer or a resistive divider the range can be extended without limits.

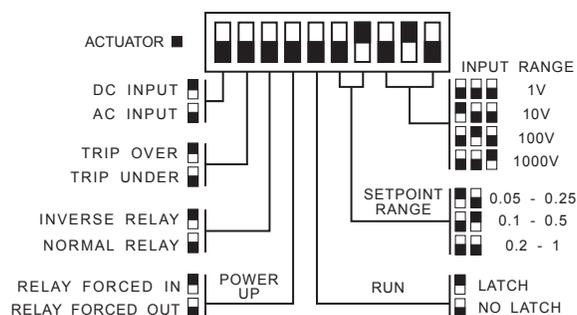
For applications in DC systems a special feature of the balanced amplifier permits voltages against the negative supply line to be measured directly without DC separation between input and supply.

Application:

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

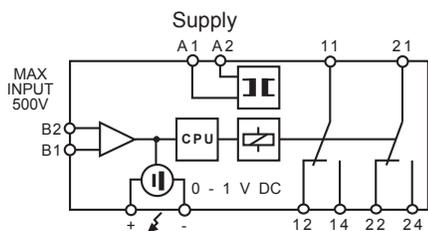
PROGRAMMABLE FEATURES

Range and relay function



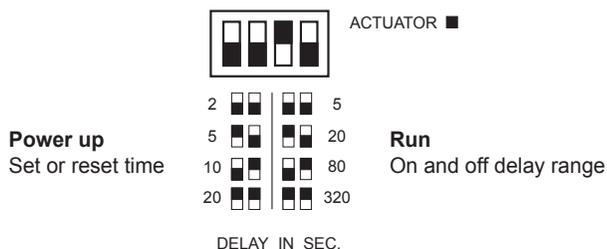
CONNECTION DIAGRAM

Rail mounting



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

Time function



SPECIFICATIONS

INPUT	DC or AC voltage
Range	From 50 mV to 500 V
Input Range	Setpoint Range
1V	0.05- 0.25 V 0.1 - 0.5 V 0.2 - 1 V
10V	0.5 - 2.5 V 1 - 5 V 2 - 10 V
100V	5 - 25 V 10 - 50 V 20 - 100 V
1000V	50 - 250 V 100 - 500 V
Max. continuous input	500 V r.m.s.
Input resistance	2 MΩ
AC frequency range	45 to 440 Hz
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

PERFORMANCE PARAMETERS

TIMING	
Response time	Approx. 100 msec.
ELECTRICAL	
Temp. dependence	Typ. $\pm 0.02\%$ / °C
Supply dependence	Typ. $\pm 0.01\%$ / % DU

OUTPUT

Contact rating	Relay, 1 or 2 C/O 6 A, 250 VAC, 1500 W
Mechanical life	30 Million operations
DC output	0 - 1 V DC (Only in 45 mm.)

SUPPLY

AC and DC	18 to 360 VDC and 20 to 264 VAC with isolated switchmode supply
AC supply range	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, 2 W

GENERAL

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



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

ORDERING INFORMATION

EXAMPLE:

TYPE
Multifunction voltage relay

SUPPLY VOLTAGE

18-360 VDC and 20-240 VAC
20 - 28 VAC
99-140 VAC
198-264 VAC
342-484 VAC
374-506 VAC

ADJUSTMENT

Trimpot and dipswitch adj.

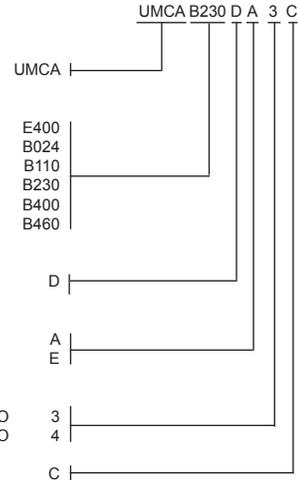
HOUSING

Rail mounting (internal transformer)
Socket, 11 pin (Only 35mm version)

SIZE

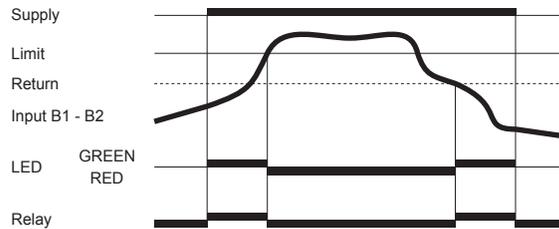
35 mm. (without DC output) 1 C/O
45 mm. (with 0 - 1 VDC output) 2 C/O

CODE END

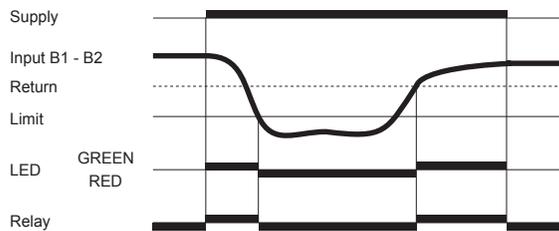


FUNCTION DIAGRAM

Trip over



Trip under



Socket mounting

