

Display with microprocessor with current input and three relay interventions

Description

The instruments of the series V4I_3 are multifunction microprocessor displays used to display a current signal (0 20mA or 4 20mA) on a reading scale -1999 + 9999.

The measured dimension can be compared with three intervention thresholds that can be set for the enabling of as many relays the status of which is displayed with three LEDs on the front panel.

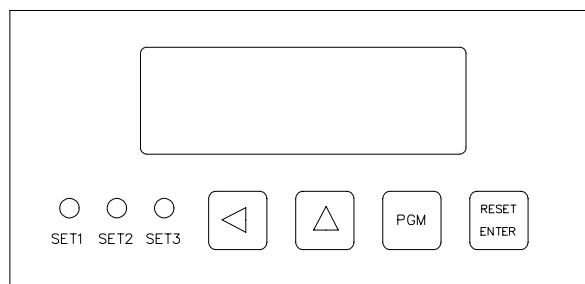
The realization with microprocessor and the use of modern analogue-to-digital conversion techniques enable to obtain excellent performances in terms of resolution, stability, conversion speed, and cost by enabling the implementation of some functions of interest for the industrial applications (ex. Absolute/relative dimension, tool diameter compensation, etc).

The instrument set-up and calibration operations are easily carried out with the four keys positioned on the front panel.

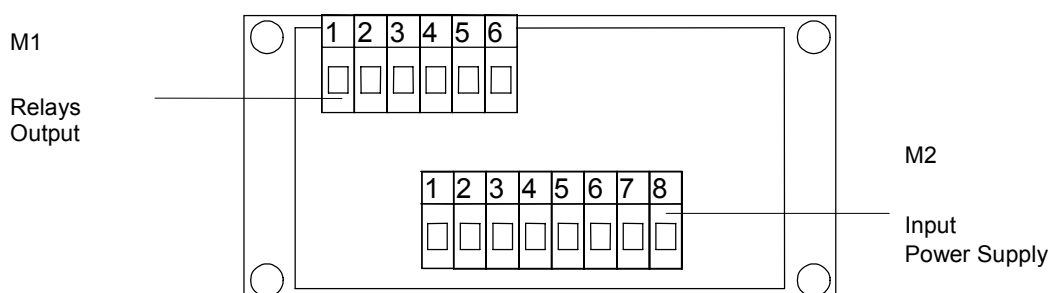
The keeping of data when there is no power supply is guaranteed by a non volatile EEPROM memory.

The V4I_3 is made of a panel box 48x96 conforming to the DIN 43700 standard.

Front view



Back view



Programming

The keys used to programme the instrument are the following:

PGM	to enter and leave the programming phase,
▲	to increase the digit under modification (blinking digit),
◀	to move the blinking digit to the left,
RESET/ENTER	to confirm the entered data.

In the programming phase a set-up parameter is characterised by a label (1 character) and by a value. When the label is displayed, by pressing the ▲ key the programme switches to the following parameter; by pressing instead the **RESET/ENTER** key the currently set value for the selected parameter is displayed. By pressing the ▲ key the programme switches to the following parameter; by pressing instead the ◀ key the label is displayed again; by pressing again the **RESET/ENTER** key the value modification phase is entered. The digit that is to be modified is the blinking one: by pressing the ▲ key it is increased (once reached the maximum value for that digit the programme re-starts from zero). By pressing the ◀ key the blinking digit to be modified is switched to the left. By pressing the **RESET/ENTER** key the parameters modifications are confirmed and the following parameter label is displayed.

When the label is displayed by pressing the ◀ key it is possible to leave the programming mode.

In order to enter the programming mode it is necessary to hold down the **PGM** key for some seconds. This enables to avoid entering the programming mode accidentally.

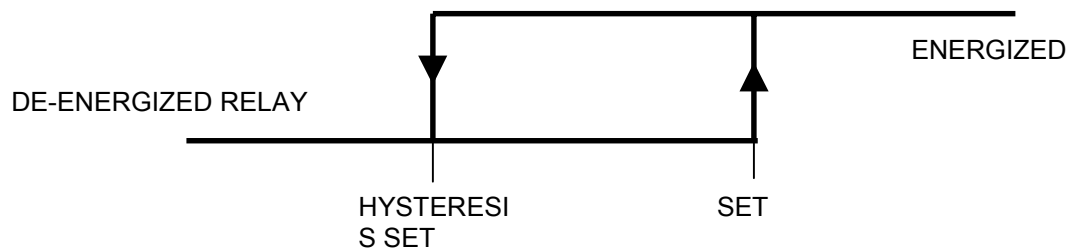
The first value to be entered is that of the password: introduce the '273' value and confirm; in case of wrong value, the programming mode is left. After introducing the correct password it is possible to enter the modification of the instrument set-up parameters.

In sequence, the parameters to be modified are the following:

- **I**: intervention dimension of the first relay;
- **2**: intervention dimension of the second relay;
- **3**: intervention dimension of the third relay;
- **r**: use mode of the **RESET/ENTER** key in the ordinary functioning phase:
 - if 0: **RESET/ENTER** key ignored;
 - if 1: **RESET/ENTER** key used to zero set the dimension and switch from the absolute to the relative display; when the same key is pressed again the programme goes back to the absolute dimension.

The relative dimension indication is represented by the switching on of the decimal point on the last digit and it is very useful to carry out relative measures between any points of the instrument reading interval.

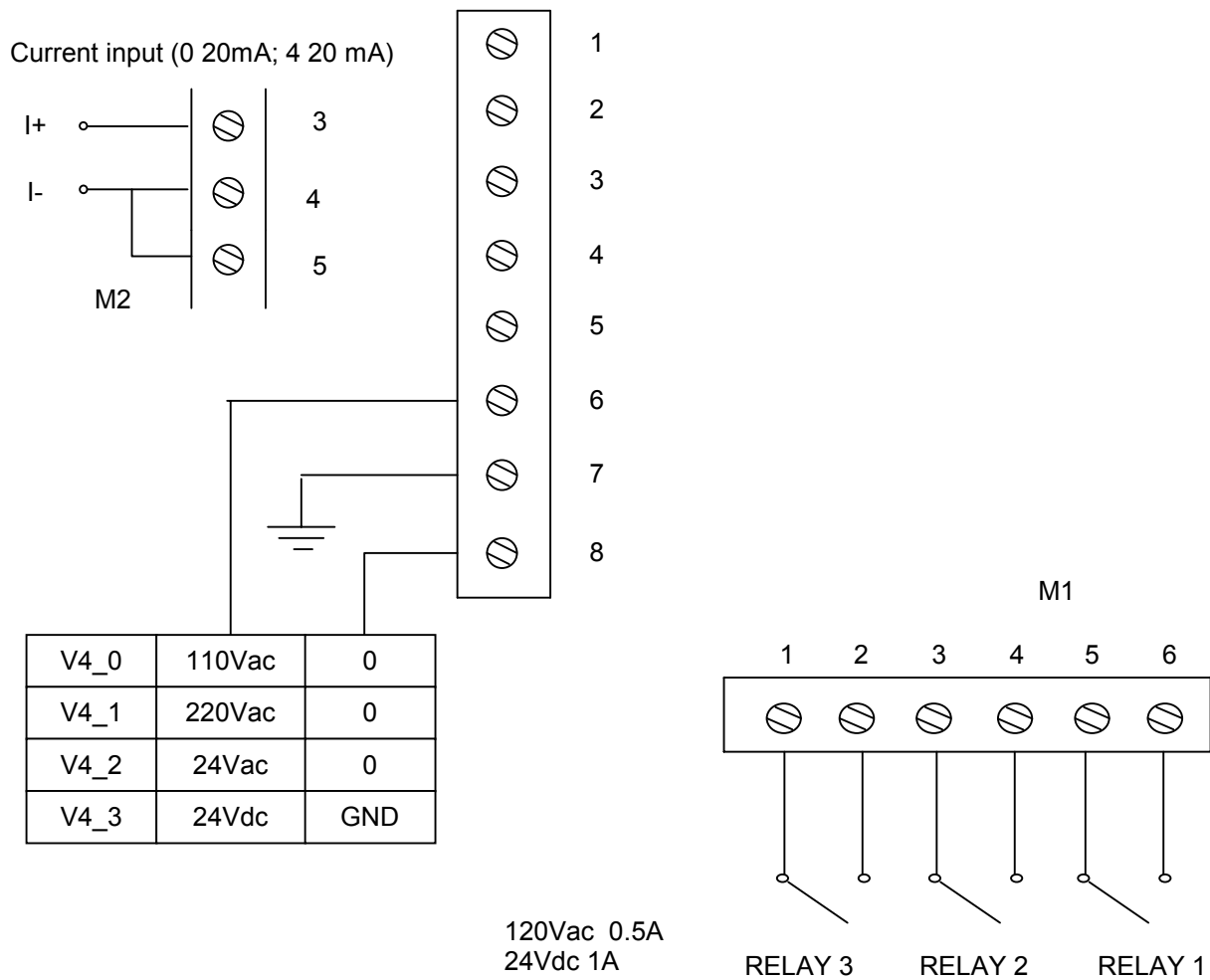
- **H**: Hysteresis on the intervention of the relays;



- **d**: offset (-1999 9999) to correct the displayed dimension; parameter used to counterbalance for instance the thickness of a tool;
- **l**: selection of the type of input:
 - 0 potentiometer (not to be used for this version)
 - 1 voltage 0..10 V (not to be used for this version)
 - 2 voltage -10..10 V (not to be used for this version)
 - 3 current 0..20mA
 - 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 (not to be used for this version)
- **d**: number of decimal digits (possible values: 0,1,2,3)
- **A**: first calibration points; to carry out the calibration, carry out the following procedure:
 - connect the current to the first calibration point input;
 - specify the corresponding value to be displayed by editing the value corresponding to the **A** label in the usual way;
 - The calibration (input current and value to be displayed in that point) is validated in the moment when the value to be displayed in the modification phase (one digit blinking) is confirmed by pressing the **RESET/ENTER** key.
- **b**: second calibration point; to carry out the calibration comply with the following procedure:
 - connect the current to the second calibration point input;
 - specify the corresponding value to be displayed by editing the value corresponding to the **b** label in the usual way;
 - The calibration (input current and value to be displayed in that point) is validated in the moment when the value to be displayed in the modification phase (one digit blinking) is confirmed by pressing the **RESET/ENTER** key.

Wiring diagram

M2



Technical features

- Power supply
 - Mains frequency
 - Absorbed power
 - Display
 - Resolution
 - Linearity
 - Thermal stability
 - Sampling time
 - Digital filter delay
 - Potentiometer input
 - Current input
 - Voltage input
 - Use temperature
 - Relative humidity
 - Self-extinguishible shock-resistant casing
 - Size (with terminal board)
 - Drilling template
 - Degree of front protection of the casing
 - Electromagnetic compatibility
- 110Vac, 220 Vac, 24 Vac, 12÷25 Vdc ±10%
50/60 Hz
4VA
-1999 +9999
8000 points
0.1% f.s. at ambient temperature (25°C)
60 ppm/°C max
20ms
160ms
1K ÷ 50K Ohm
0 20 mA; 4 20mA
-10 10 Vdc
0-50 °C
35-85%
DIN 43700
48x96x95 mm
45x92 mm
IP54
CEE 2004/108