

MULTICHANNEL UNIVERSAL INDICATOR

CAOM IUM 01



The I.U.M device is a hardware/ software device designed to work in automation process systems. This device allows the measurement and the cyclic display of 6 or 12 input parameters (4...20 mA or 0...5V) as well as the signalization and alarm of over- passing the measurement limits. The measurement inputs are galvanically isolated from each other and can be:

- RTD: Pt 46, Pt 50, Pt 100, Pt 500, Pt 1000 (standard 1.391 and 1.385) , Cu 50, Cu 100, Ni 100, Ni 1000
- Thermocouple: J, K, L.T, E, N, R,S, B
- Current: 4...20 mA, 2...10 mA
- Voltage: 0...2,5 V

For each input, a new series of parameters will be programmed, such as: minimum and maximum values in engineering units, alarm and failure values, input filtration coefficient, decimals number, and calibration for each input.

The system has 4 relay contact commands in order to signalize the over-passing of one of the alarming or failure limits and one relay-type contact for line failure.

The device can be connected to a RS485 network for computer monitoring of the inputs.

Optionally, a 24- relays alarming module can be attached to this device (two relays for every channel). This module is delivered separately and communicates with the device on the RS485 network.

The main unit is structured around two 8 bits- microcontrollers with the following functions:

- Analogical- numerical conversion of the input signals ($\Sigma\Delta$ 24 bits converter)
- Linearization for the input values
- Signalization of overpassing the programmed limits for alarm (inferior/ superior) and failure (inferior/ superior)
- Two relays command for alarm, two relays command for failure and one relay for line failure
- Input parameters counting
- History for channel number, input value and the measurement unit for each of the 6 or 12 inputs
- The display of the measured unit in engineer units
- Communication into a RS485 network.

Supply Voltage	220 V c.a. \pm 10%
Programmable Input:	1. RTD: Pt 46, Pt 50, Pt 100, Pt 500, Pt 1000, Cu 50, Cu 100, Ni 100, Ni 1000 2. Thermocouple: J, K, L.T, E, N, R,S, B 3. Resistance: 10 Ω ...1000 Ω 4. Voltage: \pm 20 mV... \pm 2500 mV 5. Current: 4...20 mA, 2...10 mA
Precision of input parameter	0.1 % for RTD 0.2 % for thermocouples 0.1% for resistance and voltage
Input parameters filtration	Software filter
Output	1. RS485 network, galvanically isolated, ASC II or SDFM communication 2. Two relays command for inferior and superior alarm, two relays command for and one relay for line failure with the following characteristics: 8A/ 250 Vc.a. 3. Optionally, RS 232 C network
Output current precision	0.1% from the measurement range
Keyboard	4 keys: , ,VALID, ESC
Display	LCD display, backlight, 216 characters, font size 84.5 mm, 5-alarm LEDs (I.U.M. v. 02) or display with 5 cells, 7 segments, font size 2613 mm. red color, 12 LEDs for channel number indication and 5 LEDs for alarm (I.U.M. v. 01)
Programmable parameters	Parameters for each channel: - Input type - inferior and superior alarm - inferior and superior failure - input limits - hysteresis alarms Device parameters: - password - network address - network communication speed - hour, date, sampling rate for history
History	The history is kept in a 128 KB or 512 KB FLASH memory. The data recording is circular. The history assures data record for a recording of 5 minutes and 12 input channels, for maximum 7 days
Compensation	Environment compensation for reference junction Automatic compensation of the connection wires for 3-wire RTDs and compensation through measurement of wires resistance for 2-wire RTDs and resistances.
Mounting	In panels or electric boxes
Carcass	ABS box , dimensions 72 x 144 x 86 mm
Storage and transportation temperature	-25 $^{\circ}$ C ...+70 $^{\circ}$ C
Operating temperature	5-50 $^{\circ}$ C
Humidity	Maximum 80%
Weight	1 kg
Protection degree	IP20 (carcass); IP00 (terminals); terminals are..... type