

OMU 408UNI



OMU 408UNI DC VOLTMETER AND AMMETER PROCESS MONITOR OHMMETER THERMOMETER FOR Pt THERMOMETER FOR Ni THERMOMETER FOR THERMOCOUPLES DISPLAY UNIT FOR LINEAR POTENTIOMETERS

Description

OMU 408UNI is an 8-channel logger designed for maximum efficiency and user comfort while maintaining its favourable price. It is a multifunction instrument with the option of configuration for 7 various input options, easily configurable in the instrument menu.

The instrument is based on an 8-bit microcontroller with a multichannel 24-bit sigma-delta converters that secure high accuracy, stability and easy operation of the instrument.

Great quality of the instrument, owing to the high rate of sampling on individual channels, is the chance to evaluate all measuring inputs at the same time.

Operation

The instrument is set and controlled by five control keys located on the front panel. All programmable settings of the instrument may be performed in three adjusting modes :

Light menu is protected by optional number code and contains solely items necessary for instrument setting

Profi menu is protected by optional number code and contains complete instrument setting

User menu may contain arbitrary items from the programming menu (LIGHT/PROFI), which determine the right (see, change). Access w/o password.

Standard equipment is the OM Link interface, which together with operation program enables modification and filing of all instrument settings as well as perform firmware updates (with OML cable). The program is also designed for visualization and filing of measured values from more instruments .

All settings are stored in the EEPROM memory (they hold even after the instrument is switched off).

The measured units may be projected on the display.

Options

Comparators are assigned to monitor four or eight limit values with relay output. For each input the user may select an arbitrary number of relays with

- 8-channel logger
- 4-digit programmable projection
- Digital filter, Tare, Linearization
- Size of DIN 96 x 48 mm
- Power supply 80...250 V AC/DC

OMLINK

Options

- Comparators • Data output • Analog output • Data record
- Power supply: 10...30 V AC/DC

the regime: LIMIT/FROM-TO. The limits have adjustable hysteresis within full range of the display and selectable delay of the switch-on. Reaching the preset limits is signalled by LED and simultaneously by the switch-on of the relevant relay.

Data outputs are for their rate and accuracy suitable for transmission of the measured data for further projection or directly into the control systems. We offer an isolated RS232 and RS485 with the ASCII/MESSBUS/MODBUS/PROFIBUS protocol.

Analog outputs will find their place in applications where further evaluating or processing of measured data is required in external devices. We offer universal analog output with the option of selection of the type of output - voltage/current and the option of assigning it to arbitrary input. The value of analog output corresponds with the displayed data and its type and range are selectable in menu.

Measured data record is an internal time control of data collection. It is suitable where it is necessary to register measured values. Two modes may be used. FAST is designed for fast storage (80 records/s) of all measured values up to 8 000 records. Second mode is RTC, where data record is governed by Real Time with data storage in a selected time segment and cycle. Up to 131 000 values may be stored in the instrument memory. Data transmission into PC via serial interface RS232/485 and OM Link.

Standard functions

PROGRAMMABLE PROJECTION

Selection: of input type and measuring range

Setting: manual, in menu optional projection on the display may be set for both limit values of the input signal

Projection: -999...9999

SWITCHING OF INPUTS

Manual: by control key on the front panel or from the outside (AUX inputs)

Automatic: by a set time interval

COMPENSATION

of conduct (RTD, OHM): in menu it is possible to perform comp. for 2-wire connection

of conduct in probe (RTD): internal connection (conduct resistance in measuring head)

of CJC (T/C): manual or automatic, in menu it is possible to perform selection of the type of thermocouple and compensation of cold junctions, which is adjustable or automatic (temperature at the input brackets)

LINEARIZATION

Linearization (DC, PM, DU): by linear interpolation in 50 points (solely via OM Link)

DIGITAL FILTERS

Exponen. average: from 2...100 measurements

Rounding: setting the projection step for display

MATHEMATIC FUNCTIONS

Min/max. value: registration of min/max. value reached during measurement

Tare: designed to reset display upon non-zero input signal

Peak value: the display shows only max. or min. value

Mat. operations: polynome, 1/x, logarithm, exponential, power, root, sin x and at the same time between inputs - sum, difference, product, quotient

EXTERNAL CONTROL

AUX inputs: switching inputs from superior systems or control Hold, Lock, Tare and resetting Min/max. value

Technical data

PROJECTION

Measured value: -999...9999, red or green 14-segment LED, digit height 14 mm
Channel identification: 9, red or green 7-segment LED, digit height 9,1 mm
Measuring units: 99, red or green 7-segment LED, digit height 9,1 mm
Decimal point: setting - in programming mode
Brightness: setting - in programming mode

INSTRUMENT ACCURACY

TC: 100 ppm/°C
Accuracy: ±0,2% of range + 1 digit
 The accuracy applies for projection 9999 and rate 5 meas./s
Rate: 1,3...40 meas./s
Resolution: 0,1°C (RTD), 1°C (T/C)
Compensation of conduct: max. 40 Ω
Linearization (DC, PM, DU): by linear interpolation in 25 points
Compensation of CJC: ruční 0°...98°C or automatic
Input filters: exp./floating/ arithmetic average, Rounding
Functions: Offset, Min/max value, Tare, Peak value, Mat. operat.
Ext. control: HOLD, LOCK, Tare
Data record: measured data record into instrument memory
RTC - 15 ppm/°C, time-date-display value, < 131k data
FAST - display value, < 8k data
Watch-dog: reset after 1,2 s
OM Link: Company communication interface for operation, setting and update of instruments
Calibration: at 25°C and 40% r.h.

COMPARATOR

Type: digital, setting in prog. mode, limit may be assigned to arbitrary input, contact switch < 200 ms
Limits: -999...9999
Hysteresis: 0...9999
Delay: 0...99,9 s
Outputs: 4x/8x Form A relay (250 VAC/30 VDC, 3 A)

DATA OUTPUT

Protocol: ASCII, MESSBUS, MODBUS - RTU, PROFIBUS
Data format: 8 bit + no parity + 1 stop bit (ASCII)
 7 bit + even parity + 1 stop bit (DIN Messbus)
Rate: 600...230 400 Baud
RS 232: isolated
RS 485: isolated, addressing (max. 31 instruments)

ANALOG OUTPUT

Type: isolated, programmable with resolution of max. 10 000 points, AO corresponds with the displayed data, type and range are selectable in programming mode
Non-linearity: 0,2% of range
TC: 100 ppm/°C
Rate: response to change of value < 150 ms
Ranges: 0...2/5/10 V, 0...5 mA, 0/4...20 mA (on request ±10V) (comp. < 500 Ω/12 V or < 1 000 Ω/24 V)

POWER SUPPLY

10...30 V AC/DC, ±10%, 10 VA
 80...250 V AC/DC, ±10%, 10 VA
Power supply is protected by a fuse inside the instrument

MECHANIC PROPERTIES

Material: Noryl GFN2 SE1, incombustible UL 94 V-1
Dimensions: 96 x 48 x 120 mm
Panel cutout: 90,5 x 45 mm

OPERATING CONDITIONS

Connection: connector terminal board, section < 1,5/2,5 mm²
Stabilization period: within 15 minutes after switch-on
Working temperature: 0°...60°C
Storage temperature: -10°...85°C
Cover: IP65 (front panel only)
El. safety: EN 61010-1, A2
Insulation resistance: for pollution degree II, measuring cat. III, power supply > 670 V (PI), 300 V (DI) input, output, Exc. > 300 V (PI), 250 V (DI)
EMC: EN 61000-3-2+A12; EN 61000-4-2, 3, 4, 5, 8, 11; EN 55022, A1, A2

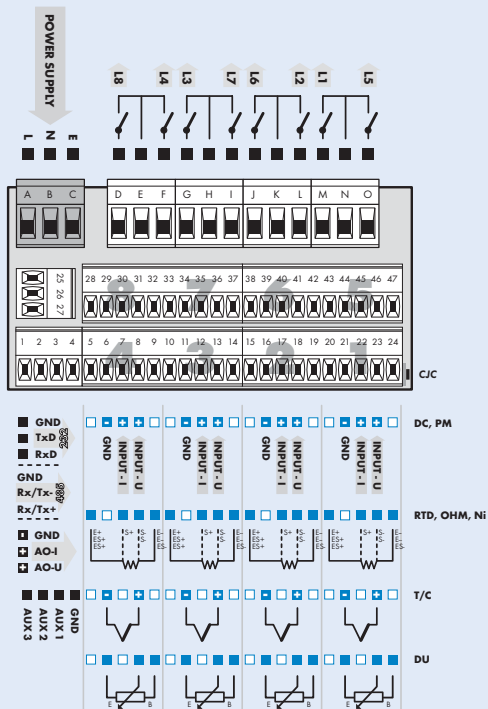
PI - Primary insulation, DI - Double insulation

Measuring ranges

OMU 408UNI is a multifunction instrument available in following types and ranges

- DC:** 0...60/150/300 mV
- PM:** 0...5 mA/0...20 mA/4...20 mA/±2 V/±5 V/±10 V
- OHM:** 0...100 Ω/0...1 kΩ/0...10 kΩ/0...100 kΩ
- RTD:** Pt 100/Pt 500/Pt 1000
- Ni:** Ni 1 000/Ni 10 000
- T/C:** J/K/T/E/B/S/R/N
- DU:** Linear potentiometer (min. 500 Ω)

Connection



Order code

OMU 408UNI *		-					
Power supply	10...30 V AC/DC	0					
	80...250 V AC/DC	1					
Number of inputs	4 inputs	0					
	8 inputs	1					
Comparators	none	0					
	4 relays	1					
	8 relays	2					
Output	none	0					
	Analog	1					
	RS 232	2					
	RS 485	3					
Date record	no				0		
	RTC				1		
	FAST				2		
Display color	red						1
	green						2

Identification of channel and measuring units have second color

* Scheduled for sale in 1st Q of 2007