

OM 501LX



2003 - 3 - en

- **5 digit programmable projection**
- **0...20 mA; 4...20 mA; ± 2 ; ± 5 ; ± 10 V**
- **Linear interpolation in 248 points**
- **16 tables**
- **Data output RS 232**
- **Mathematic functions, Digital filters**
- **Size of DIN 96 x 48 mm**
- **Power supply 80...250 V AC/DC**

Options

Comparators • Universal analog output • Real time • Power supply 9...50 V AC/DC

Description

The OM 501LX model is a 5 digit panel programmable instrument for processing and evaluation of non-linear input signals.

The instrument is based on an 8-bit controller with very precise A/D converter, that secures high accuracy, stability and easy operation of the instrument.

Linearized may be nearly every curve which has data on the display explicitly assigned to measured quantity. A transfer curve is represented by a table with max. of 247 linear sections defined by 248 points. A point is determined by value X - input signal and value Y - corresponding with display projection. Values X have to form growing sequence. Up to 16 various tables may be stored in the instrument's memory, all entered via RS 232 directly from PC by means of the supplied program SETUPER.

Standard functions

Programmable display projection

Setting by copying the table from PC - program SETUPER
Projection ± 99999

Digital filters

Floating average from 2...30 measurements
Exponen. average from 2...128 measurements
n-th value from 2...255 measurements
Radius of insensitiv. band of suppressed change of measured value

Mathematic functions

Linearization up to 248 points in 16 various tables
Min/max. value registration of min./max. value reached during measurements
Tare designed to reset display upon non-zero input signal
Top value the display shows only max. (min.) value for a selected time period
Round up/down setting the projection step for display
Math. operations polynome, $1/x$, logarithm, exponential, power, root, $\sin x$

External control

Hold display/instrument blocking
Lock control keys blocking

Tare tare activation
Resetting MM resetting min/max value to zero

Output RS 232
Data

Operation

The instrument is set and controlled by five control keys located on the front panel. All programmable settings of the instrument are realised in two adjusting modes.

Configuration menu (hereinafter referred to as CM) is protected by an optional number code and contains complete instrument setting

User menu may contain arbitrary programming settings defined in „CM“ with another selective restriction (see, change)

All programmable parameters 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 one, two, three or four limit values with relay output. The user may select limits regime: LIMIT/DOSING/FROM-TO. The limits have adjustable hysteresis within the full range of the display as well as selectable delay of the switch-on in the range of 0...99,9 s. Reaching the preset limits is signalled by LED and simultaneously by the switch-on of the relevant relay.

Excitation is suitable for feeding of sensors and transmitters. It is isolated, with continuously adjustable value in the range of 2...24 VDC.

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. The value of analog output corresponds with the displayed data and its type and range are selectable in CM.

Real time is an internal time control of data collection. It is suitable everywhere where it is necessary to register measured data in a given time segment. Up to 48 000 values may be stored in the instrument's memory. Data transmission into PC via serial interface RS232/485.

Technical data

MEASURING RANGE	Impedance/Max. drop	
0...20 mA	< 260 mV	Input I
4...20 mA	< 260 mV	Input I
±2 V	1 MOhm	Input U
±5 V	1 MOhm	Input U
±10 V	1 MOhm	Input U

PROJECTION

Display:	±99999, red or green 14-segment LED, digit height 14 mm
Decimal point:	adjustable - in Configuration menu
Brightness:	adjustable - in Configuration/User menu

INSTRUMENT ACCURACY

Tempco:	60 ppm/°C
Accuracy:	±0,02 % of range + 1 digit
Rate:	1...100 measurements/s
Overload capacity:	10x (t < 30 ms), 2x (long-term)
Watch-dog:	reset after 1,2 s
Linearization:	by linear interpolation in 248 points with the option to store up to 16 various tables
Input filters:	floating (2-30) and exp. average, radius of insensitiveness, n-th value (2-255)
Function:	offset, min./max. value, Tare, top value Hold, Lock (upon contact)
Real time:	15 ppm/°C
Calibration:	time-date-display value (max. 61 000 data) at 25°C and 40 % r.h.

COMPARATOR

Type:	digital, adjustable in programming mode, contact switch-on < 30 ms
Limit 1... 4	±99999
Hysteresis:	0...99999
Delay:	0...99,9 s
Outputs:	2 relays with switching & 2 relays with switch-on contact (250 VAC/50 VDC, 3 A)

DATA OUTPUTS

Data format:	rate 600...38 400 Baud 7 bit + even parity + 1 stop bit (DIN MessBus), 8 bit + no parity + 1 stop bit (ASCII)
RS 232	isolated

ANALOG OUTPUTS

Type:	isolated, programmable with resolution max. 10 000 points, analog output corresponds with the displayed data, output type and range are selectable in CM
Non-linearity:	0,2 % of range
Tempco:	100 ppm/°C
Rate:	response to change of value < 40 ms
Voltage:	0...2 V/5 V/10 V
Current:	0...5 mA/20 mA/4...20 mA (compensation of conduct up to 600 Ohm)

EXCITATION

Adjustable:	2...24 VDC/50 mA, isolated
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POWER SUPPLY

80 ... 250 V (AC/DC), 13,5 VA
9 ... 50 V (AC/DC), 13,5 VA
- power supply is protected by a fuse inside the instrument

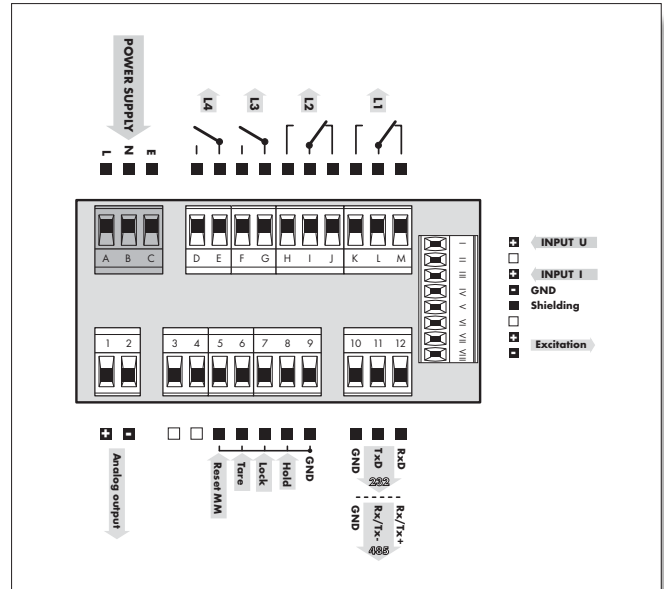
MECHANIC PROPERTIES

Material:	Noryl GFN2 SE1, incombustible UL 94 V-1
Dimensions:	96 x 48 x 154 mm
Panel cut:	90,5 x 45 mm

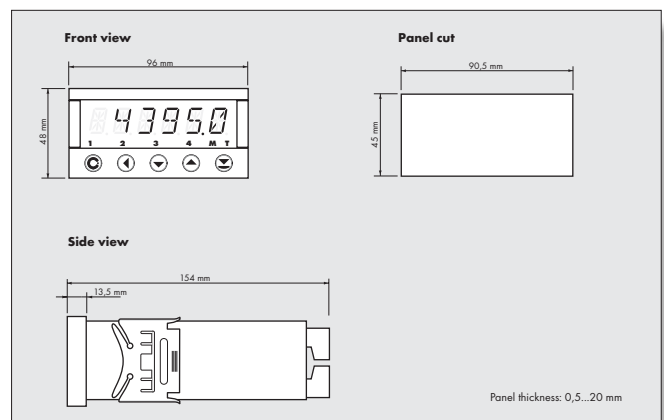
OPERATING CONDITIONS

Connection:	connector terminal board, conductor section up to 1,5/2,5 mm ²
Stabilization period:	within 15 minutes after switch-on
Working temperature:	0°...60°C
Storage temperature:	-10°...85°C
Covering:	IP65 (front panel only)
Construction:	safety class II
Electrical safety:	EN 61010-1, A2
Overvoltage category:	for pollution degree II III. - instrument power supply, relay outputs (300 V) II. - input, output, excitation (300 V)
EMC:	EN 61000-3-2+A12; EN 61000-4-2, 3, 4, 5, 8, 11; EN 550222, A1, A2

Connection



Dimensions



Order code

