

OM 501DU



2003-3-en

- **5 digit programmable projection**
- **Input for linear potentiometers**
- **Mathematic functions, Digital filters**
- **Size of DIN 96 x 48 mm**
- **Power supply 80...250 V AC/DC**

Options

Comparators • Data output • Universal analog output • Real time

Description

The OM 501DU model is a 5 digit panel programmable instrument for linear potentiometers designed for direct projection of signal in required units.

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

Standard functions

Programmable display projection

Setting	automatic, optional projection on the display may be set for both limit values of the linear potentiometer in „CM“
Projection	±99999

Digital filters

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

Mathematic functions

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

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.

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 DIN MessBus/ASCII 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. 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 65 000 values may be stored in the instrument's memory. Data transmission into PC via serial interface RS232/485.

Technical data

MEASURING RANGE

Power sup.for lin.pot.: 2,5 VDC/6 mA
minimum resistance of linear potentiometer is 500 Ohm

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: ±0,05 % of range + 1 digit
Rate: 1...100 measurements/s
Watch-dog: reset after 1,2 s
Input filters: floating and exp. average, radius of insensitiveness, n-th value
Function: offset, min./max. value, Tare, top value
Hold, Lock (upon contact)
Real time: 15 ppm/°C
time-date-display value (max. 65000 data)
Calibration: at 25°C and 40 % r.h.

COMPARATOR

Type: digital, adjustable in programming mode, contact switch-on < 30 ms
Limit 1... 4
Hysteresis: 0...9999
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
RS 485: isolated, addressing (max. 31 instruments)

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)

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

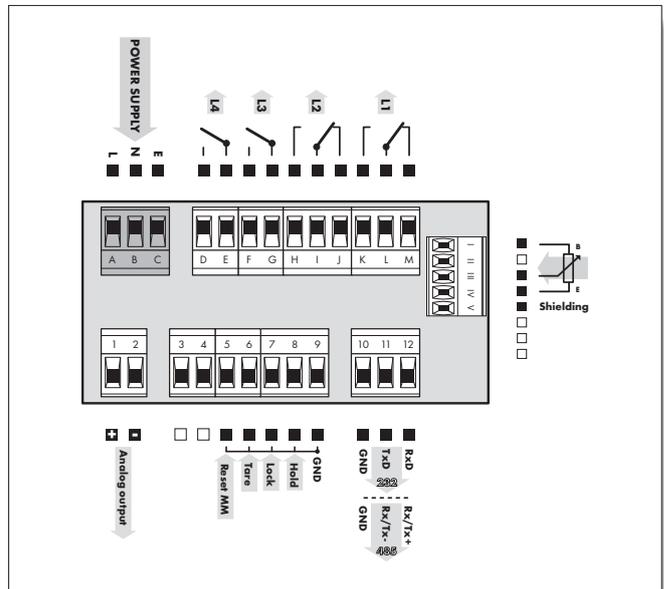
MECHANIC PROPERTIES

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

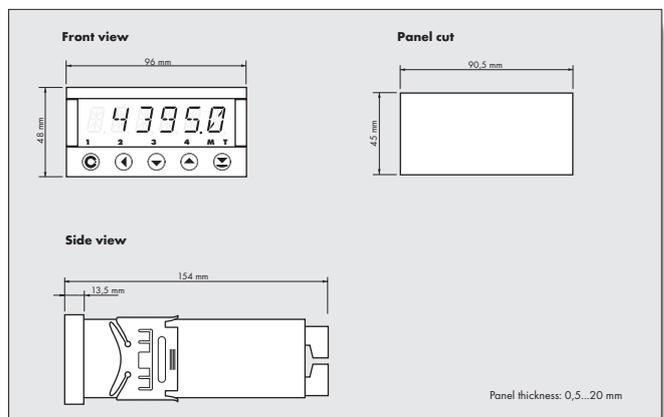
OPERATING CONDITIONS

Connection: connector terminal board, conductor section up to 1,5/2,5 mm²
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 (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

