

OMB 411



- **1 x 25 LED + auxiliary display**
- **DC/AC/PWR/OHM/RTD/TC/Frequency**
- **Mathematic functions, Digital filters**
- **Size of DIN 48 x 96 mm**
- **Power supply 80...250 V AC/DC**

Extension

Comparators • Excitation • Data output • Universal analogue output • Real time
Power supply 9...50 V AC/DC

Description

The OMB 411 model is a panel tricolour bargraph with auxiliary 3 digit display.

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

By means of various input converters the bargraph allows to process electrical quantities, signals from Pt 100 sensors, thermocouples or potentiometers.

Standard functions

Programmable display projection

Setting manual, type or range of input signal and display projection may be set or selected in „CM“,
Projection 25 LED - tricolour
3 digit auxiliary display

Digital filters

Floating average from 2...30 measurements
Exponen. average from 2...100 measurements
n-th value from 2...100 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

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...99,9s. 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.

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.

Analogue outputs will find their place in applications where further evaluating or processing of measured data is required in external devices. We offer universal analogue output with the option of selection of the type of output - voltage/current. The value of analogue output corresponds with the displayed data and its type and range are selectable in programming mode.

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

DC-U	0...60/150/300 mV/0,39/3,99/39,99/399 V	1 MOhm
DC-I	0...39,9/399 mA/1/5 A	< 260 mA
AC-U	0...0,399/3,99/39,99/399 V	1 MOhm
AC-I	0...39,9/399 mA/1/5 A	< 260 mA
PM	0/4...20 mA/0...2/5/10 V	< 400 mV/1 MOhm
W	0...5 A/0...450 V	
OHM	0...0,39/3,99/39,9/100 kOhm	2, 3, 4 wire
RTD	Pt 100/Pt 1000/Ni 1 000/Ni 10 000	2, 3, 4 wire
T/C	J, K, T, E, B, S, R, N	
F	0...100 kHz	

It is necessary to determine the input and input range in the order.

PROJECTION

Display:	1x 25 LED - tricolour and 3 digit auxiliary display with LED height 9 mm
Brightness:	adjustable

INSTRUMENT ACCURACY

Tempco:	25 ppm/°C
Accuracy:	±0,02 % of range
Rate:	1...100 measurements/s
Overload capacity:	10x (t < 100 ms), 2x (long-term)
Watch-dog:	reset after 1,2 s
Input filters:	floating (2-128) 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. 65000 data) at 25°C and 40 % r.h.

COMPARATOR

Type:	digital, adjustable in programming mode, contact switch-on < 10 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
RS 485	isolated, addressing (max. 31 instruments)

ANALOGUE OUTPUTS

Type:	isolated, programmable with resolution max. 14 bit, analogue output corresponds with the displayed data, output type and range are selectable in Configuration menu
Non-linearity:	0,2 % of range
Tempco:	100 ppm/°C
Rate:	response to change of value < 10 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)
9 ... 50 V (AC/DC)
- Power supply is protected by a fuse inside the instrument (630 mA)

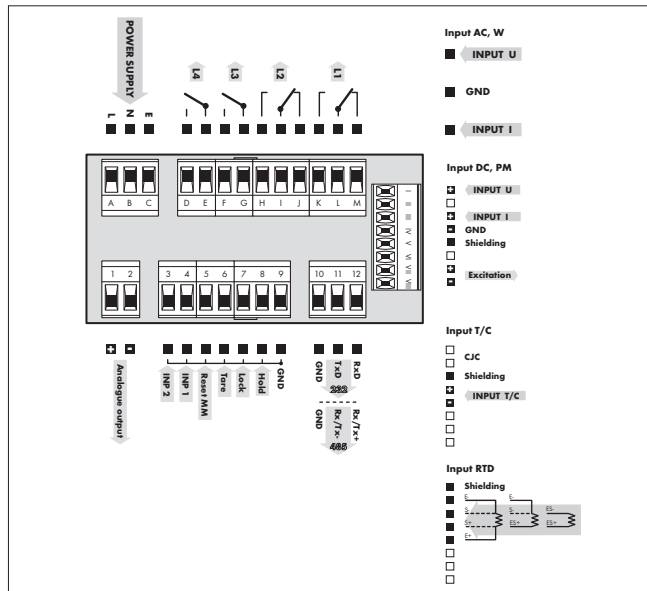
MECHANIC PROPERTIES

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

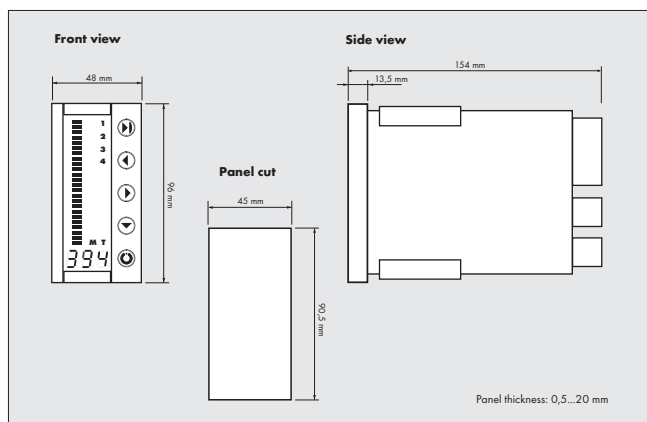
OPERATING CONDITIONS

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 55022, A1, A2

Connection



Dimensions



Order code

