OMB 311

- **1 x 25 LED + auxiliary display**
- **DC/AC/PWR/OHM/RTD/TC/Frequency**
- **Size of DIN 48 x 96 mm**
- **Power supply 230 VAC**

Extension

Excitation • Comparators • Data output • Universal analogue output •
Power supply 24 VAC, 110 VAC, 8...32 VDC

Description

The OMB 311 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 filter

Radius of insensitiv.	band of suppressed change of measured value

Function

Tare	resetting display upon non-zero input signal

External control

Hold	display/instrument blocking
Lock	control keys blocking

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 auxiliary display.

Options

Comparators serve to monitor two limit values with relay output. Reaching the preset limits is signalled by LED and at the same time by the switch-on of the relevant relay.
Excitation is suitable for feeding of sensors and transmitters. It has galvanic isolation, 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 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.

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:	50 ppm/°C
Accuracy:	±0,2 % of range, ±0,5 % of range (W)
Rate:	1,3 - 2,5 - 5 - 10 - 20 - 40 measurements/s
Overload capacity:	10x (t < 100 ms), 2x (long-term)
Watch-dog:	reset after 1,2 s
Function:	Hold/Lock (upon contact), Tare - resetting display upon non-zero input signal Digital filter - adjustable in Configuration menu
Calibration:	at 25°C and 40 % r.h.

COMPARATOR

Type:	digital, adjustable in programming mode, contact switch-on < 10 ms
Limit 1 and 2	-99...999
Hysteresis:	0...99
Delay:	0...99,9 s
Outputs:	2 relays with switch-on (switch-off) contact (250 VAC/30 VDC, 3 A)

DATA OUTPUTS

Data format:	rate 150...115 200 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 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 < 100 ms
Voltage:	0...2 V/5 V/10 V
Current:	0...5 mA/0/4...20 mA (compensation of conduct up to 600 Ohm)

EXCITATION

Adjustable:	2....24 VDC/50 mA, with galvanic separation

POWER SUPPLY

24/110/230 VAC/50 Hz
8...32 VDC/max. 300 mA, (24 VDC/max. 150 mA), isolated

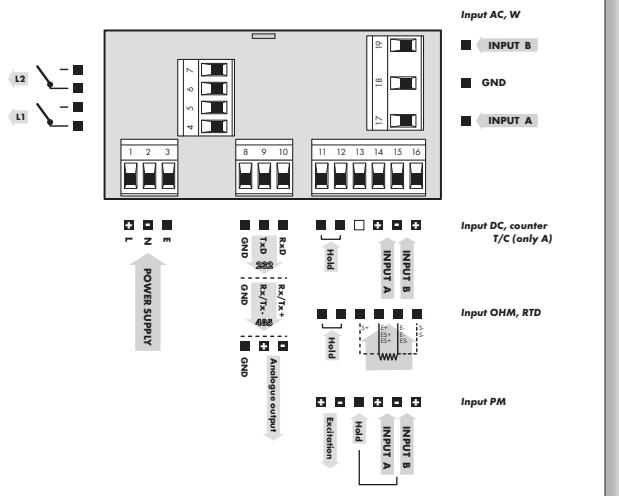
MECHANIC PROPERTIES

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

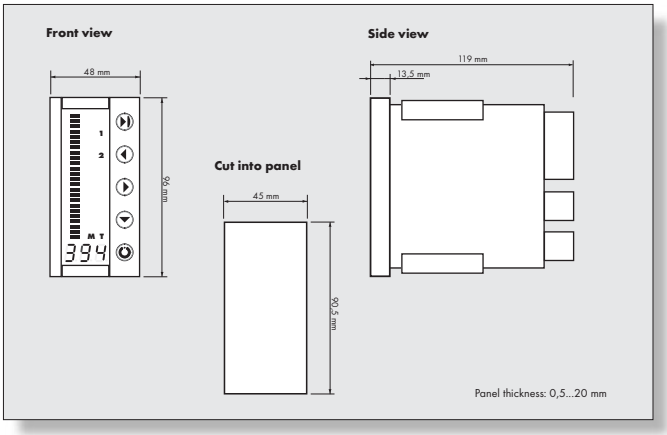
OPERATING CONDITIONS

Connection:	connector terminal board, conductor section up to 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 I
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) II. - Excitation (50 V)
EMC:	EN 61000-3-2+A12; EN 61000-4-2, 3, 4, 5, 8, 11; EN 550222, A1, A2

Connection



Dimensions



Order code

OMB 311 - xxxxxx

Power supply
0: 24 VAC/50 Hz
1: 230 VAC/50 Hz
3: 110 VAC/50 Hz
4: 8...32 VDC, isolated

Input
A: DC
B: AC
C: Process monitor
E: Ohmmeter
F: Wattmeter
H: Thermometer - Pt 100
J: Thermometer - T/C
K: Display instrument for linear potentiometer
M: counter/frequency meter
Z: upon request

Display color
1: red
2: green

Excitation
0: no
1: yes

Output
0: no
1: Analogue
2: Data - RS 232
3: Data - RS 485

Comparators
0: no
1: yes

Please, state the required input range in your order!

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