

OMB 301UQC/OMB 311UQC



- 1 x 30/25 LED + auxiliary display
- 2x counter - UP/DOWN - IRC - frequency
- Measuring range < 100 kHz
- Calibration and filtration constant, Preset
- Digital filter, Tare
- Size of DIN 96 x 48 mm
- Power supply 230 VAC

Options

Comparators • Data output • Universal analog output
Excitation • Power supply 24 VAC, 110 VAC, 10...30 VDC

Description

The OMB 301UQC resp. OMB 311UQC model is a three-color panel bargraph with auxiliary display for the counting of impulses/frequency measurement/repeat/phase and evaluation of signals from IRC sensors. The instrument is based on an 8-bit processor that secures high accuracy, stability and easy operation of the instrument.

Standard functions

Programmable display projection

Measuring modes	counter/frequency meter/dual counter/UP-DW counter/counter for IRC sensors/repeat measurement
Calibration	calibration coefficient may be set in „CM“ for every channel individually
Projection	OMB 301 > 30 LED + 6-digit auxiliary display OMB 311 > 25 LED + 3-digit auxiliary display
Measuring channels	A and B, two independent functions may be evaluated from one or more measuring inputs
Time base	0,05/0,5/1/2/5/10/20/50 s

Digital filters

Filtration constant	limiting the maximum input frequency, suppressing interfering impulses, 10 Hz...2 kHz
Exponen. average n-th value	from 2...100 measurements
Radius of insensitiv.	band of suppressed change of measured value

Function

Preset	initial non-zero value, which is always read after instrument resetting
Summation	registration of the number upon shift operation
Pre-division constant	1/10/60/100/1000/3600
Min./max. value	registration of min./max. value reached during measurements
Tare	designed to reset display upon non-zero inp. signal
Round up/down	setting the projection step for display
Mathem. operation	polynome, 1/x, logarithm, exponential, power, root, sin x

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

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

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.

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.

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.

Technical data

INPUT

Type: upon contact, TTL, NPN/PNP
 Measurement: 1x UP/DOWN counter + 1x frequency
 2x counter UP or DOWN + 2x frequency
 1x counter UP or DOWN + 1x frequency (period) measurement
 1x UP/DOWN for IRC sensors + frequency (evaluates both edges of signals A & B)
 1x phase/repeat measurement
 Input frequency: 0,02...100 kHz (200 kHz - for IRC input)

PROJECTION

Display: 1x 30 LED - three-color and 6-digit auxiliary display with LED height 9 mm
 1x 25 LED - three-color and 3-digit auxiliary display with LED height 9 mm
 Brightness: adjustable

INSTRUMENT ACCURACY

Tempco: 60 ppm/°C
 Accuracy: ±0,01 % of range (frequency) + 1 digit
 Time base: 0,05/0,5/1/2/5/10/20/50 s, upon request 100/200/500 s
 Calibration coefficient: 0,00001...99999
 Filtration constant: 0/0,01/0,02/0,045/0,055/0,065/0,1/0,2/0,5/1/2 kHz
 Pre-division constant: 1/10/60/100/1000/3600
 Presetting: 0...999999
 Watch-dog: reset after 1,2 s
 Function: data backup, mathematic operations between inputs, summation - registration of shift operation
 Hold, Lock (upon contact)
 Calibration: at 25°C and 40 % r.h.

COMPARATOR

Type: digital, adjustable in programming mode, contact switch-on < 30 ms
 Limit 1 and 2: .999...3999
 Hysteresis: 0...999
 Delay: 0...99,9 s
 Outputs: 2 relays with switch-on (switch-off) contact (250 VAC/30 VDC, 3 A)
 upon request SSR (250 VAC, 1 A) or open collector may be fitted

DATA OUTPUTS

Data format: rate 150...115 200 Baud, 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/0/4...20 mA (compensation of conduct up to 600 Ohm)

EXCITATION

Adjustable: 2...9 VDC/100 mA - 9...12 VDC/65 mA - 15...24 VDC/50 mA
 - in case of DC supply maximum consumption is 80 mA

POWER SUPPLY

24; 110; 230 VAC, 50/60 Hz, ±10 %, 5 VA
 10...30 VDC/max. 300 mA, (24 VDC/150 mA), isolated
 - power supply is protected by a fuse inside the instrument

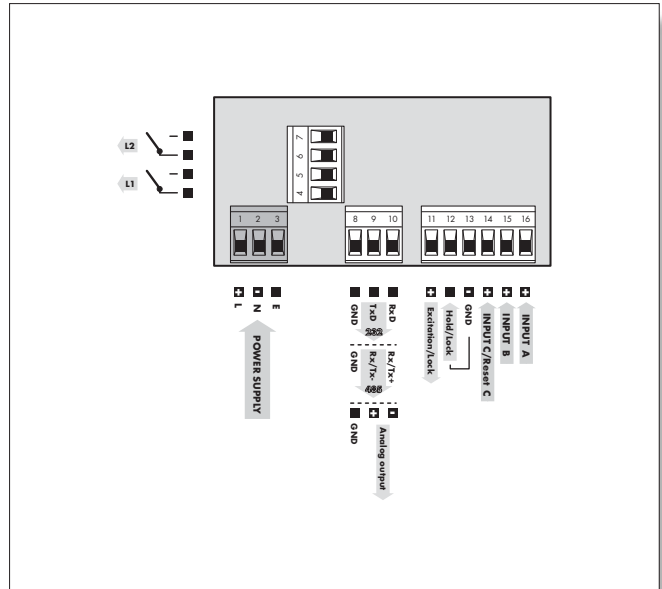
MECHANIC PROPERTIES

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

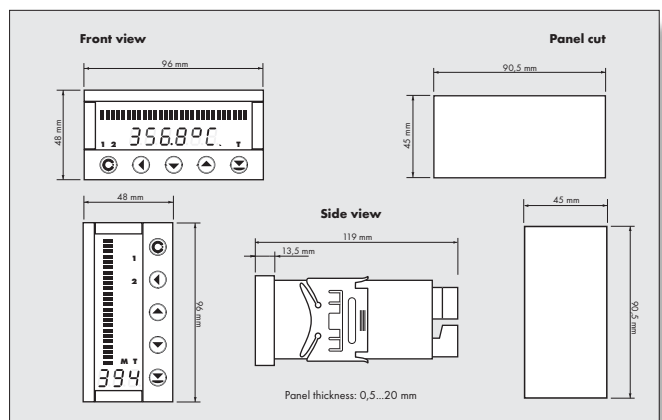
OPERATING CONDITIONS

Connection: connector terminal board, conductor section up to 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 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)
 EMC: EN 61000-3-2+A12; EN 61000-4-2, 3, 4, 5, 8, 11; EN 550222, A1, A2

Connection



Dimensions



Order code

