OM 601UQC

2003 - 3 - en

- **6 digit programmable projection**
- **2x counter - UP/DOWN - IRC - frequency - phase - repeat - stopwatch**
- **Measuring range < 100 kHz**
- **Calibration and filtration constant, Preset**
- **Dual comparator, Data backup**
- **Size of DIN 96 x 48 mm**
- **Power supply 230 VAC**

Options

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

Description

The OM 601UQC model is a universal 6 digit panel programmable impulse counter/frequency meter/repeat/phase evaluation of signal from IRC sensors and stopwatch/watch.
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/stopwatch/watch
Calibration	calibration coefficient may be set in „CM"for every channel individually
Projection	-99999...999999 with fixed or floating DP in adjustable format 10/24/60
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	from 2...100 measurements
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/CM blocking
Lock	control keys blocking

Output

Limits	2 relays with switch-on contact, type LIMIT/FROM-TO/DOSING Limits have both adjustable hysteresis and optional delay of the switch-on. Reaching the limits is signalled by LED and at the same time by the switch-on of the relevant relay.

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

Excitation is suitable for feeding of sensors and transmitters. It has galvanic isolation, with continuously adjustable value in 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.
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.
Time backup is suitable where time needs to be measured even in case of power supply dropout (upon power supply dropout the instrument does not display).

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 1x stopwatch/watch, measuring range is adjustable
Input frequency:	0,02...100 kHz (200 kHz - for IRC input)

PROJECTION

Display:	-99999...999999, 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:	±0,01 % 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 2,25 s
Function:	datat backup, mathematic operations between inputs, summation - registration of shift operation time backup - RTC keeps running even in case of power supply dropout 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	-99999...99999
Hysteresis:	0...99999
Delay:	0...99,9 s
Outputs:	2 relays with switch-on (switch-off) contact (250 VAC/30 VDC, 3 A) - the relay function is adjustable in Configuration menu *upon request SSR (250 VAC, 1 A) or open collector may be fitted*

DATA OUTPUTS

Data format:	rate 600...115 200 Baud, 7 bit + even parity + 1 stop bit (DIN MessBus) 8 bit + no parity + 1 stop bit (ASCII)
RS 232	isolated, two-way communication
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. 500 mA, (24 VDC/max. 150 mA), isolated - power supply is protected by a fuse inside the instrument

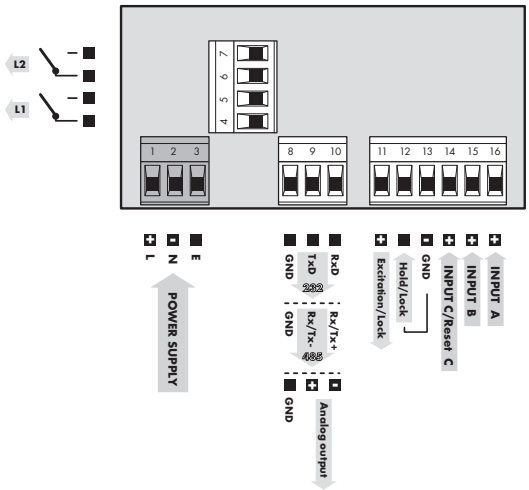
MECHANIC PROPERTIES

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

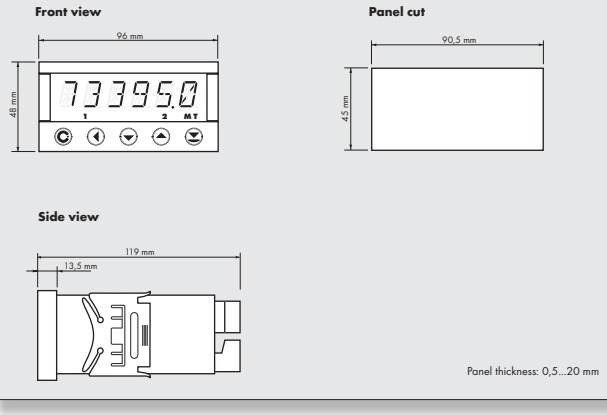
OPERATING CONDITIONS

Connection:	connector terminal board, conductor section up to 2,5 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)
Overvoltage category:	EN 61010-1, A2, 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

OM 601UQC - xxxxx

Power supply
0: 24 VAC/50 Hz
1: 230 VAC/50 Hz
3: 110 VAC/50 Hz
4: 10...30 VDC, isolated

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

Display color
1: red
2: green

Excitation
0: no
1: yes

Time backup
0: no
1: yes

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