

OM 601



OM 601UQC UNIVERSAL COUNTER
OM 601RS DATA DISPLAY RS 232/485
OM 601AV PROGRAMMABLE OUTPUT

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 OM 601RS model is a 6 digit panel display device for projection of data from serial lines RS 232/485.

The OM 601AV is a programmable analog output.

The instrument is based on an 8-bit processor that secures high accuracy, stability and easy operation of the instrument.

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)

Standard equipment is the OM Link interface, which together with operation program enables modification and filing of all instrument settings as well as perform firmware updates. The OM Link program is freely accessible.

All settings are stored in the EEPROM memory (they hold even after the instrument is switched off).

The measured units may be projected on the display.

Extension

Excitation is suitable for feeding of sensors and transmitters. It has a 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.

Analog outputs will find their place in applications where further evalu-

- 6 digit programmable projection
- Size of DIN 96 x 48 mm
- Power supply 230 VAC

OMLINK

Extension

- Excitation • Data output • Analog output
- Power supply 24/110 VAC, 10...30 VDC

ating 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 supply voltage outage (upon power supply outage the instrument does not display)

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.

Standard functions

PROGRAMMABLE PROJECTION

Measuring modes (UQC): counter/frequency meter/dual counter/UP-DW counter/counter for IRC sensors/repeat measurement/stopwatch/watch

Calibration (UQC): calibration coefficient may be set in „CM“ for every channel individually

Projection (UQC): -99999...999999 with fixed or floating DP in format 10/24/60

Measuring channels (UQC): A and B, two independent functions may be evaluated from one or more measuring inputs

Time base (UQC): 0,05/0,5/1/2/5/10/20/50 s

Setting (AO): optional projection may be set for both limit values of the AO range in „CM“

DIGITAL FILTERS (UQC)

Filtration constant: limiting maximum input frequency, suppressing interfering impulses, 10 Hz...2 kHz

Exponen. average: z 2...100 measurements

n-th value: z 2...100 measurements

Radius of insensitiveness: band of suppressed change of measured value

FUNCTIONS (UQC)

Preset (UQC): initial non-zero value, which is always read after resetting the instrument to zero

Summation (UQC): registration of the number upon shift operation

Pre-division constant (UQC): 1/10/60/100/1000/3600

Min./max. value (UQC): registration of min./max. value reached during measurement

Tare (UQC): designed to reset display upon non-zero input signal

Rounding (UQC): setting the projection step for display

Mat. operations (UQC): polynome, 1/x, log., exponential, power, radical, sin x

Output signal (AO): sinus/saw/triangle/rectangle/random functions

(selected by control keys or on inputs 1 and 2)

EXTERNAL CONTROL

Hold: display/instrument blocking

Lock: control keys blocking

OUTPUTS

Limits: 2 relays with switching contact, the limits have adjustable hysteresis and time delay of the switch-on, which is signalled by LED and switch-on of the relevant relay. The „UQC“ type has adjustable regime of limits switching > LIMIT/DOSE/FROM-TO

Technical data

PROJECTION

Display: 999999, red or green 14-segment LED, height 14 mm
Decimal point: adjustable - in programming mode
Brightness: adjustable - in programming mode

INSTRUMENT ACCURACY

TC: 50 ppm/°C
Accuracy: ±0,01% of range + 1 digit (UQC)
Input frequency (UQC): 0,02...100 kHz (400 kHz for IRC)
Measuring modes (UQC): 2x UP or DW counter, UP or DW counter + frequency measurement, UP/DW counter, UP/DW counter for IRC + frequency, stopwatch/watch/phase
Functions (UQC): data backup, time backup, preset
Input filters (UQC): filtration constant, rounding
Time base (UQC): 0,05...50 s
Calibration constant (UQC): 0,00001...999999
Filtration constant (UQC): 0...2 kHz
Presetting (UQC): 0...999999
Pre-division constant (UQC): 1/10/60/100/1000/3600
Watch-dog: reset after 1,2 s
Functions: HOLD, LOCK, digital filters, tare
OM Link: Company communication interface for operation, setting and update of instruments
Calibration: at 25 °C and 40 % r.h.

COMPARATOR

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

DATA OUTPUTS

Data format: 8 bit + no parity + 1 stop bit
Rate: 150...115 200 Baud, 600...38 100 Baud (RS)
RS 232: isolated
RS 485: isolated, addressing (max. 31 instruments)

ANALOG OUTPUTS

Type: isolated, programmable with resolution of max. 10 000 points, analog output corresponds with the displayed data, type and range are selectable in CM
Non-linearity: 0,2 % of range
TC: 100 ppm/°C
Rate: response to change of value < 40 ms
Ranges: 0...2/5/10 V, 0...5 mA, 0/4...20 mA (compensation of conduct < 600 Ω)

EXCITATION

Adjustable: 2...24 VDC/50 mA, isolated **RS, AV**
 2...9 V/100 mA - 9...12 V/65 mA - 15...24 V/50 mA **UQC**
- with DC power supply maximum consumption is 80 mA

POWER SUPPLY

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

MECHANICAL PROPERTIES

Material: Noryl GFN2 SE1, incombustible UL 94 V-1
Dimensions: 96 x 48 x 120 mm
Panel cutout: 90,5 x 45 mm

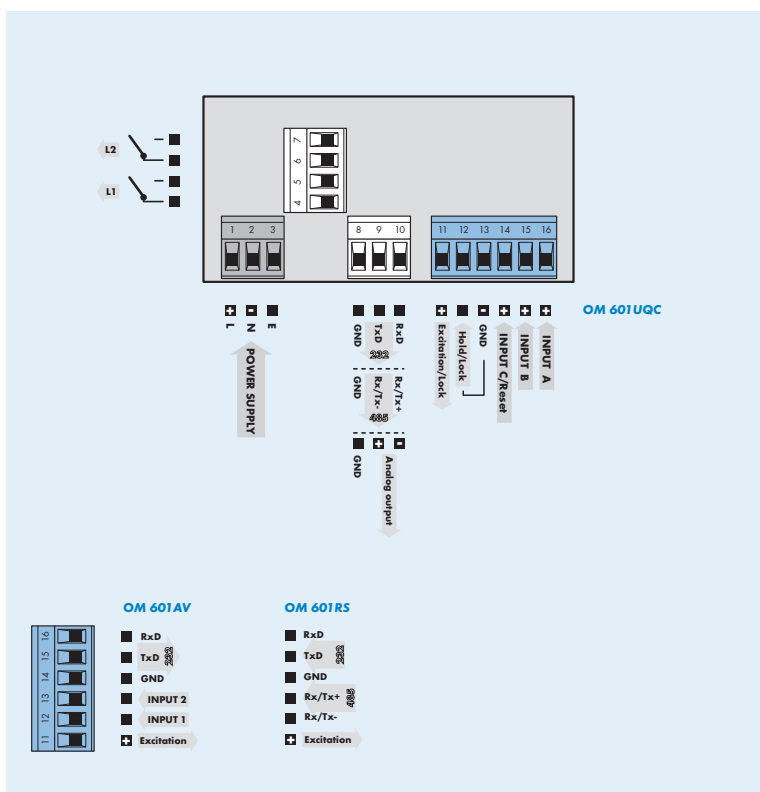
OPERATING CONDITIONS

Connection: connector terminal board, conductor section < 2,5 mm²
Stabilization period: within 15 minutes after switch-on
Working temperature: 0°...60°C
Storage temperature: -10°...85°C
Protection: IP65 (front panel only)
Construction: safety class II
El. safety: EN 61010-1, A2
Overvoltage category: for pollution degree II
 II. - instrument power supply, relay output, input, output (300 V)
EMC: EN 61000-3-2+A12; EN 61000-4-2, 3, 4, 5, 8, 11; EN 550222, A1, A2

Measuring ranges

	UQC	RS
w/o	contact, TTL, NPN/PNP < 100 kHz	RS 232/485
A		
B		
C		
D		
E		
F		
G		
H		
I		
J		
K		
L		
M		
N		
P		
R		
S		
T		
U		
Z		

Connection



Order code

OM 601

Type	U	Q	C	.	.	.	.	.	.
	R	S	.	.	.	.	.	.	.
	A	V	.	.	.	.	.	.	.

Order code shall not include blank spaces!

Power supply	24 VAC/50 Hz	230 VAC/50 Hz	110 VAC/50 Hz	10...30 VDC, isolated
	0	1	3	4
Output*	none	Analog	RS 232	RS 485
	0	1	2	3
Dual comparator**	no	yes		
		0	1	
Time backup	no	yes		
		0	1	
Excitation***	no	yes		
		0	1	
Display color	red	green		
				1
				2

* in type OM 601RS only selection 0/1, in type OM 601AV only selection 0/2 (1 is in standard equipment)
 ** type OM 601UQC has dual comparator in standard equipment
 *** in type OM 601AV upon ordering excitation the control inputs get cancelled