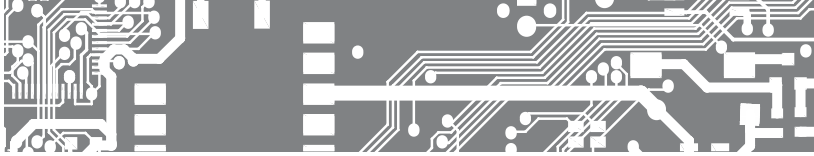


OM 602UQC

OMLINK

OM 602UQC is a universal 6-digit panel programmable dual-channel impulse counter/frequency meter/evaluation of signal from IRC sensors and timer/clock.

The instrument is based on a sigle chip microprocessor and a powerful programable gate array which guaraties high accuracy, stability and easy control.

- 6-DIGIT PROGRAMMABLE PROJECTION
- 2x COUNTER UP/DOWN, 2x IRC
- MAT. FUNCTION, DIGITAL FILTER, TARE, PRESET, SUM
- SIZE OF DIN 96 X 48 MM
- POWER SUPPLY 80...250 V AC/DC
- Option
  Excitation • Comparators • Data output • Analog output
  Data record • Power supply 10...30 V AC/DC

OM 602UQC
DUAL UNIVERSAL COUNTER

OPERATION

The instrument is set and controlled by five control keys located on the front panel. All programmable settings of the instrument may be performed in three adjusting modes:

LIGHT MENU is protected by optional number code and contains solely items necessary for instrument setting

PROFI MENU is protected by optional number code and contains complete instrument setting

USER MENU may contain arbitrary items from the programming menu (LIGHT/PROFI), which determine the right (see, change). Access w/o password.

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 (with OML cable). The program is also designed for visualization and filing of measured values from more instruments .

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.

OPTIONS

EXCITATION is suitable for feeding of sensors and transmitters. It is isolated, with continuously adjustable value in the range of 5...24 VDC.

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...99,9 s. Reaching the preset limits is signalled by LED and simultaneously 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/MESSBUS/MODBUS/PROFIBUS 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 menu.

MEASURED DATA RECORD is an internal time control of data collection. It is suitable where it is necessary to register measured values. Two modes may be used. FAST is designed for fast storage (80 records/s) of all measured values up to 8 000 records. Second mode is RTC, where data record is governed by Real Time with data storage in a selected time segment and cycle. Up to 266 000 values may be stored in the instrument memory. Data transmis sion into PC via serial interface RS232/485 and OM Link.

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)

STANDARD FUNCTIONS

PROGRAMMABLE PROJECTION

Input: NPN, PNP, upon contact, IRC, line, SSI
Measuring modes: counter/frequency/UP-DW counter + frequency/counter for IRC
Calibration: calibration coefficient for each channel may be set in menu independently
Projection: -99999...999999 with fixed or floating DP in format 10/24/60
Measuring channels: A and B, from one or more measuring inputs two independent functions may be evaluated
Time base:: 0,05/0,5/1/2/5/10/20 s/1/2/5/10/15 min

LINEARIZATION

Linearization: by linear interpolation in 50 points (solely via OM Link)

FUNKCE

Preset: initial non-zero value, which is always read after resetting the instrument to zero
Summation: registration of the number upon shift operation
Pre-division constant: 1...999999

DIGITAL FILTERS

Filtration constant: transmits input signal up to 1 MHz...10 min
Floating/Exp./Arithmetic average: from 2...30/100/100 measurements
Rounding: setting the projection step for display

MATHEMATIC FUNCTIONS

Min/max. value: registration of min/max. value reached during measurement
Tare: designed to reset display upon non-zero input signal
Peak value: the display shows only max. or min. value
Mat. operations: polynome at the same time between inputs - sum, difference, product, quotient

EXTERNAL CONTROL

Lock: control keys blocking
Hold: display/instrument blocking
Tare: tare activation
Resetting MM: resetting min/max value
Resetting: counter resetting
Start/Stop: operation stopek/hodin

TECHNICAL DATA

PROJECTION
Display: -99999...999999, red or green 14-segment LED, digit height 14 mm
Decimal point: setting - in menu
Brightness: setting - in menu

INSTRUMENT ACCURACY
TC: 50 ppm/°C
Accuracy: ±0,01% of range + 1 digit
Input frequency: 0,02 Hz...1 MHz (500 kHz - for IRC)
Measuring mode: 2x UP or DW counter + frequency, UP/DW counter for IRC + frequency
Input filters: Filtration constant, Rounding, Digital filters
Time base: 0,2...50 s
Calibration constant: 0,00001...999999
Filtration constant: 1 MHz...10 min
PRESET: 0...999999
Digital filters: Exp./Floating/Arithmetic average, Rounding
Functions: Preset, Sum, Data backup, Min/max value, Tare, Peak value., Mathematic operations
Ext. control: HOLD, LOCK, Tare, Resetting to zero
Data record: measured data record into instrument memory
RTC - 15 ppm/°C, time-date-display value, < 266k data
FAST - display value, < 8k data
Watch-dog: reset after 0,4 s
OM Link: Company communication interface for operation, setting and update of instruments
Calibration: at 25°C and 40 % r.h.

COMPARATOR
Type: digital, setting in menu, contact switch < 10 ms (without filtration < 50 s)
Limits: -99999...999999
Hysteresis: 0...999999
Delay: 0...99,9 s
Output: 2x relayss Form A (250 VAC/30 VDC, 3 A) and 2x Form C relays (250 VAC/50 VDC, 3 A), 2x/4x open collectors, 2x SSR, 2x bistable relays

DATA OUTPUT
Protocol: ASCII, MESSBUS, MODBUS - RTU, PROFIBUS
Data format: 8 bit + no parity + 1 stop bit
7 bit + even parity + 1 stop bit (Messbus)
Rate: 600...115 200 Baud
9 600 Baud...12 Mbaud (PROFIBUS)
RS 232: isolated
RS 485: isolated, addressing (max. 31 instruments)
Ethernet: 10/100BaseT, Security Protocols, POP3, FTP

ANALOG OUTPUT
Type: isolated, programmable with 12-bit D/A converter, type and range are selectable in programming mode
Non-linearity: 0,1% of range
TC: 15 ppm/°C
Rate: response to change of value < 1 ms
Ranges: 0...2/5/10 V, ±10 V, 0...5 mA, 0/4...20 mA (comp. < 500 Ω/12 V or 1 000 Ω/24 V)

EXCITATION
Adjustable: 5...24 VDC/max. 1,2 W

POWER SUPPLY
10...30 V AC/DC, ±10 %, max 13,5 VA, PF ≥ 0,4, I_{STP} < 40 A/1 ms
80...250 V AC/DC, ±10 %, max. 13,5 VA, PF ≥ 0,4, I_{STP} < 40 A/1 ms
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 cutout: 90,5 x 45 mm

OPERATING CONDITIONS
Connection: connector terminal board, section < 1,5/2,5 mm²
Stabilization period: within 15 minutes after switch-on
Working temperature: -20°...60°C
Storage temperature: -20°...85°C
Cover: IP64 (front panel only)
El. safety: EN 61010-1, A2
Dielectric strength: 4 kVAC after 1 min between supply and input
4 kVAC after 1 min between supply and data/analog output
4 kVAC after 1 min between supply and relay output
2,5 kVAC after 1 min between input and data/analog output
Insulation resistance: for pollution degree II, measuring cat. III.
power supply > 670 V (PI), 300 V (DI)
input, output, Exc. > 300 V (PI), 150 V (DI)
EMC: EN 61326-1
Seismic capacity: IEC 980: 1993, par. 6

PI - Primary insulation, DI - Double insulation

MEASURING RANGES

OM 602 is a multifunction instrument available in following types

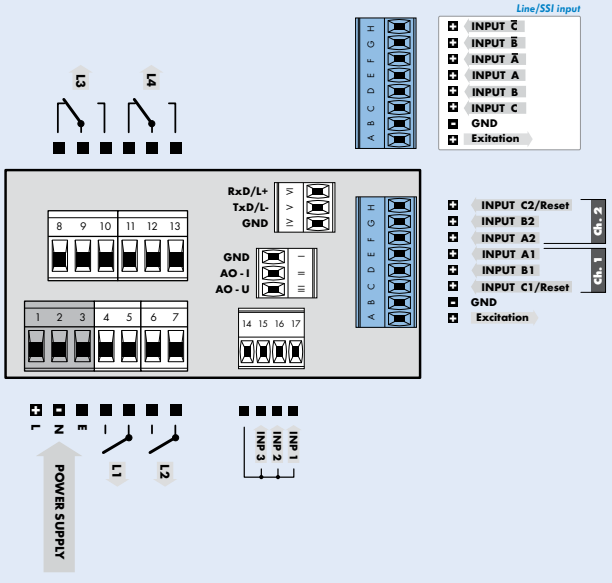
UQC: 0...60 V, comparation levels are adjustable in the menu input frequency 0,001 Hz...1 MHz

Measuring modes for channel 1 and 2

SINGLE	Counter/Frequencymeter
A * B	Counter/Frequencymeter with function AND
xNOR	Counter/Frequencymeter with function NOR
DUTY	Duty
QVADR	Counter/Frequencymeter for IRC sensors
UP/DW	UP/DW Counter/Frequencymeter - used in inputs A, B (direction) and can display count/frequency
UP - DW	UP - DW Counter/Frequencymeter - used in inputs A (UP), B (DW) and can display count/frequency
TIME	Stopwatch
RTC	Timer

	UQC
A	standard, contact, TTL, NPN/PNP, input: 25 mV...60 V
B	Synchronous serial interface (SSI)
C	Line input

CONNECTION



ORDER CODE

OM 602UQC - [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] - [ ]

Power supply	10...30 V AC/DC	**0**
	80...250 V AC/DC	**1**
Input	**2x standard (10 mV...60 V)**	**A**
	Synchronous serial interface (SSI)*	**B**
	Line	**C**
Comparators	**none**	**0**
	1x relay (Form A)	**1**
	2x relays (Form A)	**2**
	3x relays (2x Form A + 1x Form C)	**3**
	4x relays (2x Form A + 2x Form C)	**4**
	2x open collector	**5**
	4x open collector	**6**
	2x open collector + 2x relays (Form C)	**7**
	2x relays (Form C)	**8**
	2x SSR	**9**
	2x bistable relays	**A**
	1x relay (Form C)	**B**
Data output	**none**	**0**
	RS 232	**1**
	RS 485	**2**
	MODBUS	**3**
	PROFIBUS	**4**
	10/100BaseT Ethernet (not possible with analog output)*	**7**
Analog output	**no**	**0**
	yes (Compensation < 500 Ω/12 V)	**1**
	yes (Compensation < 1 000 Ω/24 V)	**2**
Time backup	**no**	**0**
Only for measuring mode „Watch"	yes	**1**
Excitation	**no**	**0**
	yes	**1**
Data record	**no**	**0**
	RTC	**1**
Display color	**red**	**1**
	green	**2**
Other	**customer version, do not fill in**	**00**

Default execution is shown in bold

* Launch for sale has not been set