OM 653UQC

- 6 digit programmable projection
- Counter/Frequency/Timer/Clock
- UP/DW counter, IRC
- Digital filter, Tare, Linearization
- Size of DIN 96 x 48 mm
- Power supply 80...250 V AC/DC

OMLINK

Options

• Excitation • Dual comparator • Data output • Analog output
• Power supply 10...30 V AC/DC • Three-color display - 20 mm

OM 653UQC UNIVERSAL COUNTER

We offer an isolated RS232 and RS485 with the ASCII/MODBUS/PROFIBUS protocols.

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.

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)

Description

The OM 653UQC type is a universal low-cost counter/frequencymeter/ evaluation of signal from IRC sensor/stopwatch/timer.

The instrument is based on an 8-bit microcontroller, which ensures good 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 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).

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 two limit values with relay output. 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.

Standard functions

PROGRAMMABLE PROJECTION

Selection: measuring mode
Setting: measuring mode counter/frequency/timer/ counter for IRC/clock with adjustable calibration coefficient, time base and projection
Measuring channels: A and B, from one measuring input two independent functions may be evaluated (counter/frequency)
Projection: -99999...999999

LINEARIZATION

Linearization: through linear interpolation in 25 points (solely via OM Link)

DIGITAL FILTERS

Exponential average: from 2...100 measurements
Rounding: setting the projection step for display
Filtration constant: transmits input signal up to 5...1 000 Hz

FUNCTIONS

Preset: initial non-zero value, which is always read after resetting the instrument to zero
Setting current value: initial value, e.g. amount passed-through
Tare: resetting display upon non-zero input signal

EXTERNAL CONTROL

Hold: display/instrument blocking
Lock: control keys blocking
Resetting: counter resetting
Start/Stop: stopwatch/timer control

Technical data

PROJECTION
Display: ±1999 resp. 999999, red or green 7-segment LED, digit height 14 mm
-1999...9999, red/green/orange 7-segment. LED, height 20 mm
Decimal point: setting - in menu
Brightness: setting - in menu

INSTRUMENT ACCURACY
TC: 50 ppm/°C
Accuracy: ±0,05 % of value + 1 digit
±0,01 % of value ±2 ms (Stopwatch)
±0,01 % of value ±130 ms (RTC)
Overload capacity: 10x (t < 30 ms); 2x
Watch-dog: reset after 500 ms
Functions: HOLD, LOCK, Digital filters, Tare
Functions: Data backup, Time backup, Preset
Input filters: Filtration constant, Rounding
Time base: 0,5/1/5/10/50 s
Calibration constant: 0,00001...999999
Filtration constant: 0/5/40/100/1000 Hz
PRESET: 0...999999
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 programming mode, contact switch < 50 ms
Limits: -99999...999999; -999...9999
Hysteresis: 0...999999; -999...9999
Delay: 0...99,9 s
Output: 2x Form A relays (250 VAC/30 VDC, 3 A), 2x op. coll.

DATA OUTPUT
Protocol: ASCII, MODBUS - RTU, PROFIBUS
Data format: 8 bit + no parity + 1 stop bit
7 bit + even parity + 1 stop bit (Messbus)
Rate: 300...230 400 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)

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

POWER SUPPLY
10...30 V AC/DC, ±10%, max. 13,5 VA
80...250 V AC/DC, ±10%, max. 13,5 VA
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 < 2,5 mm²
Stabilization period: within 15 minutes after switch-on
Working temperature: -20°...60°C
Storage temperature: -20°...85°C
Cover: IP65 (front panel only), IP20
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

PI - Primary insulation, DI - Double insulation

Measuring ranges

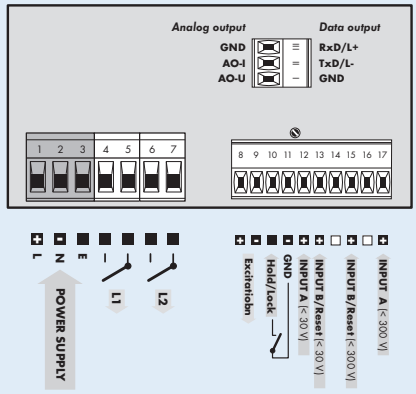
OM 653 is a multifunction instrument available in following types

UQC: 0...30 V/0...300 V, comparation levels are adjustable in the menu
input frequency 0,02 Hz...50 kHz (20 kHz for QVADR and UP/DW)

Measuring modes

SINGLE	Counter/Frequencymeter
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

Connection



Order code

OM 653UQC □□□ - □□□□□□ - □

Power supply	10...30 V AC/DC	**0**						
	80...250 V AC/DC	**1**						
Comparators	no		**0**					
	1x relay *(Form A)*		**1**					
	2x relays *(Form A)*		**2**					
	1x open collector		**3**					
	2x open collector		**4**					
Output	none			**0**				
	Analog output			**2**				
	RS 232			**3**				
	RS 485			**4**				
	MODBUS*			**5**				
	PROFIBUS			**6**				
10/100BaseT Ethernet *(not possible with analog output)**				**7**				
Excitation	no				**0**			
	yes				**1**			
Time backup	no					**0**		
Only for measuring mode „Watch"	yes					**1**		
Display color	red *(14 mm)*						**1**	
	green *(14 mm)*						**2**	
	red/green/orange *(20 mm)*						**3**	
Other	*customer version, do not fill in*							**00**

* *Launch for sale has not been set*