UNIVERSAL COUNTER

- 6-digit programmable projection
- Counter/Frequency/Clock/Timer
- 0,1 Hz...50 kHz; UP/DW counter, IRC
- Digital filters, Tare, Linearization, Sum
- Size of DIN 96 x 48 mm
- Power supply 10...30 VDC/24 VAC
- Option
  Comparators • Time backup

OML 643UQC

Type OML 643UQC is an inexpensive 6-digit universal panel counter/frequency meter/timer/clock with a box depth of only 30 mm.

The instrument is based on a single-chip microcontroller, which secures good accuracy, stability and easy operation of the instrument.

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OPERATION

The instrument is set and controlled by five buttons accessible from the rear. 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 performing 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 (settings hold even after the instrument is switched off).

OPTION

COMPARATOR is assigned to monitor one limit value 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.

TIME BACKUP is suitable where time needs to be measured even in case of voltage supply outage (upon power supply outage the instrument does not display).

STANDARD FUNCTIONS

PROGRAMMABLE PROJECTION
Selection: measuring mode
Setting: Measuring mode counter/frequency/timer/clock with adjustable calibration coefficient, time base and projection
Measuring modes: counter/frequency meter/UP-DW counter/frequency/counter for IRC
Measur. channels: A and B, two independent functions (number/frequency) can be evaluated from one measuring input
Projection: -99999...999999 with stabile or floating DT in format 10/24/60

FUNCTIONS
Linearization: non-linear signals can be linearized by the means of a linearization table (up to 25 points)
Tare: designed to reset display upon non-zero input signal
Preset: initial nonzero value that is always read after resetting the device
Current value: one-off setting of the initial value
Summation: registration of figures upon shift operation
Time backup: time is running even when the power supply is turned off (the display is off)

DIGITAL FILTERS
Exponential average: from 2...100 measurements
1/Fr.: filter to convert frequency to time
Rounding: setting the projection step for display
Input filter: passes the input signal up to 5...1 000 Hz

EXTERNAL CONTROL
Hold: display/instrument blocking
Lock: control keys blocking
Resetting: counter resetting
Start/Stop: timer/clock control
Magnet: operation of preselected functions

TECHNICAL DATA

INPUT

Number of inputs		1
UQC	Input	optional in configuration menu on contact, TTL, NPN/PNP 0...30 V, comparation levels are adjustable in the menu or automatic
	Input frequency	0,1 Hz...50 kHz (Mode SINGLE) 0,1 Hz...20 kHz (Mode UP/DW) 0,1 Hz...20 kHz (Mode UP-DW) 0,1 Hz...20 kHz (Mode QUADR. - frequency) 0,1 Hz...10 kHz (Mode QUADR. - counter) (for duty cycle 50 %)
	Measuring mode	SINGLE counter/frequency QUADR counter/frequency for IRC sensors UP/DW UP/DW counter/frequency - measures on inputs A, B (direction) and can display numbers/frequency UP - DW UP - DW counter/frequency - measures on inputs A (UP), B (DW) and can display numbers/frequency TIME Timer RTC Clock
	Time base	0,5/1/5/10 s
	Calibration constant	0,00001...999999
	Preset	0...999999
	Input filter	0/5/40/100/1000 Hz
	Functions	Preset Summation One time setting of the initial value Time backup (Timer/clock)
External input		1 input, on contact **The following functions can be assigned:** OFF input off LOCK.K control keys blocking HOLD display stop TARE tare activation CLEAR display reset SUMA sum showing CLR.ST. counter/timer reset and preset CL.SUM. sum reset COUNT. switching counter/frequency display
Magnet		right bottom corner of the display, in menu you can set the same magnet functions as those for external input

PROJECTION

Display: -99999...999999, single color 7-segment LED
Digit height: 14 mm
Display color: red or green
Decimal point: adjustable - in menu
Brightness: adjustable or automatically controllable

INSTRUMENT ACCURACY

TC: 50 ppm/°C
Accuracy: ±0,02 % of value + 1 digit
±0,02 % of value ±2 ms (timer)
±0,02 % of value ±130 ms (RTC)
Overload capacity: 2x; 10x (t < 30 ms)
Watch-dog: reset after 500 ms
Digital filters: exponential average, rounding, input filter
Functions: data backup, Time backup, Preset, Summation, Tare
Time backup: Lithium cell CR 2032, 3V/220 mAh
OM Link: company communication interface for operation, setting and update of instruments
Calibration: at 25°C and 40 % r.h.

COMPARATOR

Type: digital, menu adjustable, contact switch-on < 50 ms
Hysteresis mode: switching limit, hysteresis band (Lim and ±1/2 Hys.) and time (±99,9 s) determining the switching delay
Mode C-Puls (L1) - automatic counter resetting at the set value
Mode Once (L2) - switching limit, which will switch off only after the counter has been reset
Output: 1x Form A relay (250 VAC/30 VDC, 3 A);
1x open collector (30 VDC/100 mA)

POWER SUPPLY

Range: 10...30 VDC/24 VAC, ±10 %, PF ≥ 0,4, I_{STP} < 45 A/1,1 ms
10...30 VDC/24 VAC, ±10 %, PF ≥ 0,4, I_{STP} < 45 A/1,1 ms, isolated
Consumption: < 1,8 W/1,9 VA

MECHANIC PROPERTIES

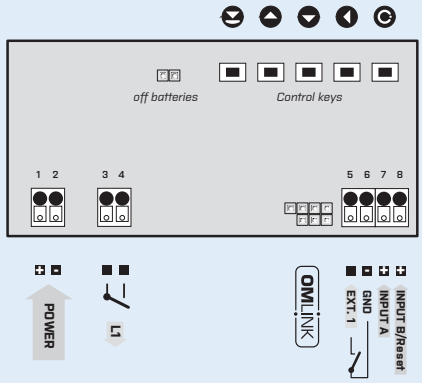
Material: Polycarbonate, incombustible UL 94 V-0
Dimensions: 96 x 48 x 30 mm (w x h x d)
Panel cutout: 92 x 44 mm (w x h)

OPERATING CONDITIONS

Connection: connector terminal blocks, section < 1,5 mm²
Stabilization period: within 5 minutes after switch-on
Working temperature: -20°...60°C
Storage temperature: -20°...85°C
Protection: IP65 (front panel only with a gasket)
El. safety: EN 61010-1, A2
Dielectric strength: 2,5 kVAC per 1 min test between supply and input
4 kVAC per 1 min test between input and relay output
Insulation resistance: for pollution degree II, measuring cat. III
power supply > 300 V (PI)
input, output > 300 V (DI)
EMC: EN 61326-1

PI - Primary insulation, DI - Double insulation

CONNECTION



ORDER CODE

OML 643UQC - [ ][ ][ ][ ][ ][ ] - [ ]

Power supply	**10...30 VDC/24 VAC**	**0**
	10...30 VDC/24 VAC, isolated	**1**
Comparator	**no**	**0**
	1x relay (Form A)	**1**
	1x open collector	**2**
Time backup	**no**	**0**
Only for Measuring mode „Timer/clock"	yes	**1**
Display color	**red**	**1**
	green	**2**
Gasket	**no**	**0**
Silicone gasket between instrument and panel	yes	**1**
Magnet	**no**	**0**
For operation of external functions	yes	**1**
Specification	**customized version, do not fill in**	**00**

Basic configuration of the instrument is indicated in bold.