



- 6-DIGIT PROGRAMMABLE PROJECTION
- COUNTER/FREQUENCY/TIMER/CLOCK
- UP/DW COUNTER, IRC
- DIGITAL FILTER, TARE, LINEARIZATION, SUM
- SIZE OF DIN 96 x 48 MM
- POWER SUPPLY 10...30 V AC/DC
- Option
Comparators • Power supply 10...30 V AC/DC, isolated

OML 643

OMLINK

The OML 643RS model is a 6-digit panel display device for projection of data from serial line RS 485.

The OML 643UQC type is a universal low-cost counter/frequency/timer/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.

OML 643UQC
UNIVERSAL COUNTER

OML 643RS
DATA DISPLAY RS 485

OPERATION

The instrument is set and controlled by five control keys located at the rear of the instrument. 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).

OPTION

COMPARATOR is assigned to monitor a limit value with an optional relay output. The limit has 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 limit is signalled by LED and simultaneously by the switch-on of the relay.

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 (RS): RS 485, with protocols ASCII or MODBUS - RTU

Selection (UQC): measuring mode

Setting: measuring mode counter/frequency/timer/clock with adjustable calibration coefficient, time base and projection

Measuring mode: counter/frequency/UP-DW counter/frequency/counter for IRC

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. the amount currently passed-through

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

EXTERNAL CONTROL

Hold: display/instrument blocking

Lock: control keys blocking

Resetting: counter resetting

Start/Stop: stopwatch/timer control

Magnet: easy contactless operation of preselected functions

TECHNICAL DATA

PROJECTION

Display: :99999...999999, red or green 7-segment LED, digit height 14 mm
Decimal point: setting - in menu
Brightness: setting - in menu

INSTRUMENT ACCURACY

TK: 50 ppm/°C
Accuracy: ±0,02 % of value + 1 digit
 ±0,02 % of value ±2ms (stopwatch)
 ±0,02 % of value ±130ms (RTC)
Overload capacity: 2x; 10x (t < 30 ms)
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 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 menu, contact switch-on < 50 ms
Limit: :99999...999999
Hysteresis: 0...999999
Delay: 0...99,9 s
Output: 1x Form A relays [250 VAC/30 VDC, 3 A]

POWER SUPPLY

10...30 VDC/24 VAC, ±10 %, 3 VA, PF ≥ 0,4, I_{STP} < 45 A/1,1 ms
 10...30 VDC/24 VAC, ±10 %, 3 VA, PF ≥ 0,4, I_{STP} < 45 A/1,1 ms, isolated

MECHANIC PROPERTIES

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

OPERATING CONDITIONS

Connection: connector terminal board, section < 1,5 mm²
Stabilization period: within 15 minutes after switch-on
Working temperature: -20°...60°C
Storage temperature: -20°...85°C
Cover: IP65 (front panel only, with the silicone gasket installed), rear side is open!
EL safety: EN 61010-1, A2
Dielectric strength: 2,5 kVAC after 1 min between supply and input
 4 kVAC after 1 min between supply and relay output
Insulation resistance: for pollution degree II, measuring cat. III.
 Power supply > 300 V [Z]
 input, output > 300 V [DI]
EMC: EN 61326-1

PI - Primary insulation, DI - Double insulation

MEASURING RANGES

OML 643 is a multifunction instrument available in following types

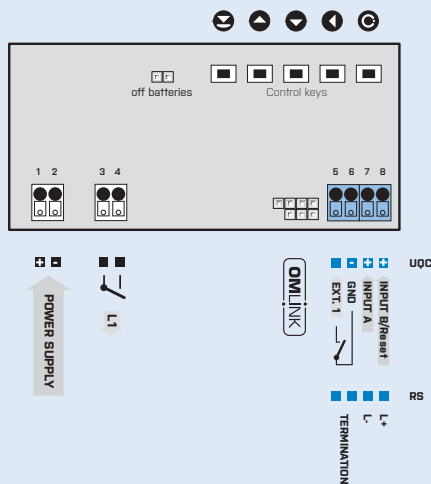
UOC: 0...30 V, comparison levels are adjustable in the menu
 input frequency 0,1 Hz...50 kHz [20 kHz for QUADR and UP/DW, 10 kHz for QUADR - counter]

Measuring modes

SINGLE Counter/Frequencymeter
QUADR 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

RS: RS 485, Protocol ASCII, MODBUS - RTU

CONNECTION



ORDER CODE

OML 643

Type	U	Q	C	R	S	0	1	2	3	4	5	6	7	8	9	00
Order code shall not include blank spaces!																
Power supply						0										
10...30 V AC/DC						1										
10...30 V AC/DC, isolated																
Comparators							0									
no							1									
1x relay (Form A)																
Time backup								0								
no								1								
Only for measuring mode „Watch“									1							
Display color										1						
red											2					
green																
Gasket												0				
no												1				
Silicone gasket between instrument and panel																
Magnet															0	
no															1	
For external activation of selected functions																
Other																00
customer version, do not fill in																

Default execution is shown in bold