



## OMM 650UC

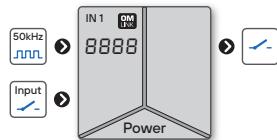


- 6-digit programmable projection
- Counter/Frequency/Clock/Timer
- 0.1 Hz...50 kHz; UP/DW counter
- Digital filters
- Size of DIN 72 x 24 mm
- Power supply 10...30 VDC/24 VAC

### Option

Comparators ● Time backup

## UNIVERSAL COUNTER



Type OMM 650UC is an inexpensive universal counter/frequency meter/timer/clock.

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

## OPERATION

The instrument is controlled by four buttons situated 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 performing firmware updates (with OML cable).

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

## OPTION

**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.

**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, on contact

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

Measuring modes: counter/frequency meter/UP-DW counter/timer/clock

Measur. channels: A and B, two independent functions (number/frequency) can be evaluated from one measuring input

Projection: -99999...99999 with stable or floating DT in format 10/24/60

### FUNCTIONS

Preset: initial nonzero value that is always read after resetting the device

### DIGITAL FILTERS

Exponential average: from 2...100 measurements

Rounding: setting the projection step for display

Input filter: passes the input signal up to 5...1000 Hz

### EXTERNAL CONTROL

Hold: display/instrument blocking

Lock: control keys blocking

Resetting: counter resetting

Start/Stop: timer/clock control

## TECHNICAL DATA

INPUT	
No. of inputs	1 The range is adjustable in the instrument menu
UC Input	on contact, TTL, NPN/PNP 0...30 / 300 V, comparation levels are adjustable in the menu
Input frequency	0.1 Hz...50 kHz 0.1 Hz...20 kHz
Measuring mode	SINGLE counter/frequency UP/DW UP/DW counter/frequency - measures on inputs A, B (direction) and can display numbers/frequency TIME Timer RTC Clock
Time base	0.5 / 1 / 5 / 10 s
Multiplication constant	0.00001...999999
Dividing constant	0.00001...999999
Preset	-99999...999999
Input filter	0 / 5 / 40 / 100 / 1000 Hz
Functions	Tare Preset Time backup (TIME / RTC)
EXTERNAL INPUT	
No. of inputs	1, on contact
Function	No function assigned Measurement paused Control keys blocking Menu access blocking Display resetting Counter/timer reset and preset

PROJECTION	
Display	.99999...999999, single color 7-segment LED 99.99.99 hours/minutes/seconds 23.59.59 hours/minutes/seconds 99.59 hours/minutes 9999.59 hours/minutes 9999.99 minutes/seconds 59.59.99 minutes/seconds/hundredths 99.59.99 minutes/seconds/hundredths 9.59.59.9 hours/min./seconds/hundredths
Digit height	9.1mm
Display color	red or green
Decimal point	adjustable - in menu
Brightness	adjustable - in menu
INSTRUMENT SPECIFICATION	
TC	50 ppm/°C
Accuracy	±0.05 % of value ±0.01 % of value ±2 ms ±0.01 % of value ±130 ms
Overload	10x (t < 30 ms), 2x not valid for 300 V range
Digital filters	exponential average, rounding
Time backup	Lithium cell CR 2032, 3V/220 mAh
OM Link	company communication interface for operation, setting and update of instruments
Watch-dog	reset after 500 ms
Calibration	at 25°C and 40 % r.h.

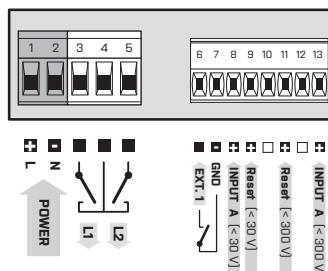
RELAYS / OC OUTPUT	
No. of outputs	2
Type	digital, menu adjustable
Mode	HYSTER. active above set value C-PULS. automatic counter resetting at the set value (L1) ON RUN output is active when the timer is running (L2)
Function Relays/OC	CLOSE is closed in active mode OPEN is open in active mode
Limits	-99999...9999999
Hysteresis	0...99999
Delay	0...99.9 s
Outputs	1...2x relay with bistable contact (Form A) (48 VAC/30 VDC, 3 A)* 1...2x open collector (30 VDC/100 mA)
Relays	1/8 HP 277 VAC, 1/10 HP 125 V, Pilot Duty D300

\* values apply for resistance load

POWER SUPPLY	
Range	10...30 VDC / 24 VAC, ±10 %, PF ≥ 0.4, $I_{\text{sp}} < 45 \text{ A}/1 \text{ ms}$ , isolated
Consumption	< 21 W / 22 VA
MECHANIC PROPERTIES	
Material	Noryl GFN2 SE1, incombustible UL 94 V-I, black
Dimensions	72 x 24 x 106 mm (w x h x d)
Panel cutout	68 x 215 mm (w x h)
OPERATING CONDITIONS	
Connection	connector terminal blocks, section < 15 / 25 mm <sup>2</sup>
Stabilization period	within 5 minutes after switch-on
Working temperat.	-20...60°C
Storage temperat.	-20...85°C
Working humidity	< 95 % r.v., non condensing
Protection	IP42, front panel only
Construction	safety class I
El. safety	EN 61010-1, A2
Dielectric strength	2.5 kVAC for 1 min. between power supply and input 4 kVAC per 1 min test between input and relay output
Insulation resist.*	for pollution degree II, measuring cat. III power supply, input > 300 V (P), 150 V (D)
EMC	EN 61326-1:2002, Industrial area
RoHS	EN IEC 63000:2018
Seismic capacity	IEC 980: 1993, par. 6

\* PI - Primary insulation, DI - Double insulation

## CONNECTION



## ORDER CODE

### OMM 650UC

- 0 [ ] [ ] - [ ]

Power supply	10...30 VDC / 24 VAC, isolated	0	0	1	2	3	4	0	1	2	00
Comparators	no 1x relay (Form A) 2x relay (Form A) 1x open collector 2x open collector	0	0	1	2	3	4	0	1	2	00
Time backup	no yes	0	0	1	1						
Only for Measuring mode „Timer/clock“											
Display color	red green										
Specification	customized version, do not fill in										

Basic configuration of the instrument is indicated in bold.