

# Data Sheet

## OM 650UC

*Distributed by*



[www. BristolInstruments.com](http://www.BristolInstruments.com)

Bristol Instruments  
90 Canal Street - 4th Floor  
Boston, MA 02114

Toll free  
877-866-8500



## OMM 650UC

OMLINK

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.

### UNIVERSAL COUNTER

- 6-DIGIT PROGRAMMABLE PROJECTION
- COUNTER/FREQUENCY/CLOCK/TIMER
- 0,1 Hz...50 kHz; UP/DW COUNTER
- DIGITAL FILTERS, LINEARIZATION
- SIZE OF DIN 72 x 24 MM
- POWER SUPPLY 10...30 VDC/24 VAC
- Option  
Comparators, Time backup

**OMM 650UC**  
UNIVERSAL COUNTER

#### 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 DML 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

**Measur. 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...999999 with stable or floating DT in format 10/24/60

##### FUNCTIONS

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

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

**Current value:** one-off setting of the initial value

##### DIGITAL FILTERS

**Exponential average:** from 2...100 measurements

**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

## TECHNICAL DATA

### INPUT

<b>UQC Input</b>	optional in configuration menu on contact, TTL, NPN/PNP 0...30/300 V, comparison levels are adjustable in the menu
<b>Input frequency</b>	0,1 Hz...50 kHz [Mode SINGLE] 0,1 Hz...20 kHz [Mode UP/DW]
<b>Measur. mode</b>	SINGLE counter/frequency UP/DW UP/DW counter/freq. meter - measures on inputs A, B (direction) and can display numbers/frequency  TIME Timer RTC Clock
<b>Time base</b>	0,5/1/5/10 s
<b>Calibr. constant</b>	0,00001...999999
<b>Preset</b>	0...999999
<b>Input filter</b>	0/5/40/100/1000 Hz
<b>Functions</b>	Preset Time backup (Timer/clock)
<b>External input</b>	1 input, on contact The following functions can be assigned: OFF input off LOCK control keys blocking HOLD display stop TARE tare activation CLEAR display reset CLR.ST. reset/counter preset/timer

### PROJECTION

**Display:** :99999...999999, single color 7-segment LED  
**Digit height:** 9,1mm  
**Display color:** red or green  
**Decimal point:** adjustable - in menu  
**Brightness:** adjustable - in menu

### INSTRUMENT ACCURACY

**TK:** 50 ppm/°C  
**Accuracy:** ±0,05 % of value + 1 digit  
±0,01% of value ±2 ms (timer)  
±0,01% of value ±130 ms (RTC)  
**Overload capacity:** 2x; 10x (t < 30 ms) - not for 300 V  
**Functions:** data backup, Time backup, Preset, Summation, Tare  
**Digital filters:** exponential average, rounding  
**Input filters:** filtration constant, rounding  
**Watch-dog:** reset after 500 ms  
**DM Link:** Company communication interface for operation, setting and update of instruments.  
**Calibration:** at 25°C and 40 % r.h.

### COMPARATORS

**Type:** digital, menu adjustable, contact switch-on < 50 ms  
**Hysteresis mode:** switching limit, hysteresis band „Lim ±1/2 Hys.“ and time (0...99,9 s) determining the switching delay  
**Mode C-Puls (L1)** - automatic counter resetting at the set value  
**Mode On Run (L2)** - output is active when the timer is running  
**Output:** 1..2x relay with bistable contact (48 VAC/30 VDC, 3 A);  
1..2x open collector (30 VDC/100 mA)

### POWER SUPPLY

**Range:** 10...30 VDC/24 VAC, ±10 %, PF ≥ 0,4, I<sub>sp</sub> < 45 A/1,1 ms, isolated  
**Consumption:** < 2,1 W/2,2 VA

### MECHANIC PROPERTIES

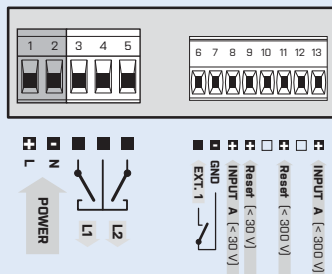
**Material:** Noryl GFN2 SE1, incombustible UL 94 V-1  
**Dimensions:** 72 x 24 x 106 mm (w x h x d)  
**Panel cutout:** 68 x 21,5 mm (w x h)

### OPERATING CONDITIONS

**Connection:** connector terminal blocks, section < 1,5/2,5 mm<sup>2</sup>  
**Stabilization period:** within 15 minutes after switch-on  
**Working temperature:** -20°...60°C  
**Storage temperature:** -20°...85°C  
**Protection:** IP42 [front panel only]  
**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  
Instrument power supply, input > 300 V (PI), 150 V (DI)  
**EMC:** EN 61326-1  
**Seismic capacity:** IEC 980: 1993, par. 6

PI - Primary insulation, DI - Double insulation

## CONNECTION



## ORDER CODE

### OMM 650UC

- **0**     -

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

Basic configuration of the instrument is indicated in bold.