OMM 650UC

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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.

OMM 650UC
UNIVERSAL COUNTER

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- 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

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...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)
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

Number of inputs	1	
UQC Input	optional in configuration menu on contact, TTL, NPN/PNP 0…30/300 V, comparison levels are adjustable in the menu	
Input frequency	0,1 Hz…50 kHz (Mode SINGLE) 0,1 Hz…20 kHz (Mode UP/DW)	
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	
Calibration constant	0,00001…999999	
Preset	0…999999	
Input filter	0/5/40/100/1000 Hz	
Functions	Preset Time backup (Timer/clock)	
External input	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

TC: 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
OM 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 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 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_{STP} < 45 A/1,1 ms, isolated
**Consumption:** < 2,1 W/2,2 VA

MECHANIC PROPERTIES

Material: Noryl GFN2 SE1, incombustible UL 94 V-I
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^2
Stabilization period: within 5 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
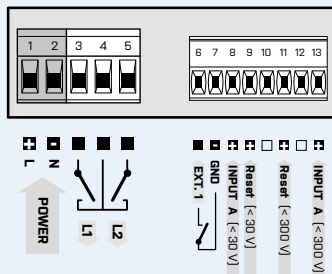
ORDER CODE

OMM 650UC — -O ☐☐☐ -☐

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

Basic configuration of the instrument is indicated in bold.