



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

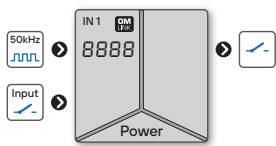
Option

Comparators ● Time backup

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



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 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...1 000 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, comparison levels are adjustable in the menu	
Input frequency	0.1 Hz...50 kHz 0.1 Hz...20 kHz	SINGLE UP/DW
Measuring mode	SINGLE counter/frequency UP/DW counter/frequency and can display numbers/frequency	
	TIME Timer RTC Clock	
Time base	0.5/1/5/10 s	
Multiplication constant	0.0001...999999	
Dividing constant	0.0001...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	OFF	no function assigned
	LOCK	control keys blocking
	TARE	tare activation
	HOLD	measurement paused
	CLEAR	display resetting
	CLR.ST	counter/timer reset and preset

PROJECTION

Display	-99999...999999, single color 7-segment LED	
	99 59 59	hours/minutes/seconds TIME
	23 59 59	hours/minutes/seconds TIME
	99 59	hours/minutes TIME
	9999 59	hours/minute TIME
	9999 59	minute/seconds TIME
	59 59 99	minute/seconds/hundredths TIME
	59 59 99	minute/seconds/hundredths TIME
	59 59 99	hours/min/seconds/hundredths TIME
Digit height	9.1 mm	
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 + 1 digit ±0.01 % of value ±2 ms ±0.01 % of value ±130 ms	TIME TIME RTC
Overload	10x (t < 30 ms), 2x <i>not valid for 300 V range</i>	
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 % rh.	

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...99999999	
Hysteresis	0...999999	
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, $I_{LTP} < 45 A / 1 ms$, isolated
Consumption	< 2.1 W / 2.2 VA

MECHANIC PROPERTIES

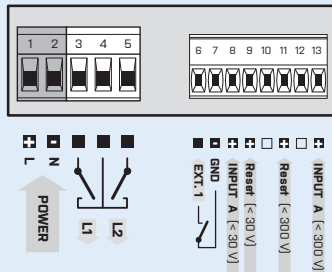
Material	Noryl GFN2 SE1, incombustible UL 94 V-1, black
Dimensions	72 x 24 x 106 mm (w x h x d)
Panel cutout	68 x 21.5 mm (w x h)

OPERATING CONDITIONS

Connection	connector terminal blocks, section < 1.5 / 2.5 mm ²
Stabilization period	within 5 minutes after switch-on
Working 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 (PI), 150 V (DI)
EMC	EN 61326-1, Industrial area
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						
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“			1					
Display color	red					1			
	green					2			
Specification	customized version, do not fill in								00

Basic configuration of the instrument is indicated in bold.