OMD 201UQC

2003 - 3 - en

- **4/6 digit programmable projection**
- **Digit height 57; 100; 125 mm**
- **2x counter - UP/DOWN - IRC - frequency - phase - repeat - stopwatch**
- **Measuring range < 100 kHz**
- **Calibration and filtration constant, Preset**
- **Power supply 230 VAC**

Options

Comparators • Excitation • Data output • Universal analog output
Power supply 24 VAC, 110 VAC, 10...30 VDC

Description

The OMD 201UQC model is a 4 or 6 digit large display > programmable impulse counter/frequencymeter/repeat/phase evaluation of signal from IRC sensors and stopwatch/watch.

The instrument is based on an 8-bit processor with very precise A/D converter, that secures high accuracy, stability and easy operation of the instrument. Given the IP64 cover the display is construed also for outdoor application. Connection is executed through cable bushings and also the connector for control keyboard has the necessary protection.

A holder for wall mounting applications may be supplied upon request to large display.

Standard functions

Programmable display projection

Measuring modes	counter/frequency meter/dual counter/UP-DW counter/counter for IRC sensors/repeat measurement/stopwatch/watch
Calibration	calibration coefficient may be set in „CM"for every channel individually
Projection	±9999/±999999
Measuring channels	A and B, two independent functions may be evaluated from one or more measuring inputs
Time base	0,05/0,5/1/2/5/10/20/50 s

Digital filters

Filtration constant	limiting the maximum input frequency, suppressing interfering impulses, 10 Hz...2 kHz
Exponen. average	from 2...100 measurements
n-th value	from 2...100 measurements
Radius of insensitiv.	band of suppressed change of measured value

Function

Preset	initial non-zero value, which is always read after instrument resetting
Summation	registration of the number upon shift operation
Pre-division constant	1/10/60/100/1000/3600
Min/max. value	registration of min./max. value reached during measurements
Tare	designed to reset display upon non-zero inp. signal
Round up/down	setting the projection step for display
Mathem. operation	polynome, 1/x, logarithm, exponential, power, root, sin x

External control

Hold	display/instrument blocking
Lock	control keys blocking
Instrument setting	4 keybutton keyboard with 5 meter cable

Operation

The instrument is set and controlled by four control keys located on an individual box, which is connected with a 5 m cable. All programmable settings of the instrument are realised in two adjusting regimes.

Configuration menu	(hereinafter referred to as CM) is protected by an optional number code and contains complete instrument setting
User menu	may contain arbitrary programming settings defined in „CM" with another selective restriction (see, change))

All programmable parameters are stored in the EEPROM memory (they hold even after the instrument is switched off). The measured units may be projected on the 6-digit display.

Options

Comparators are assigned to monitor one or 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.

Excitation is suitable for feeding of sensors and transmitters. It is isolated, with continuously adjustable value in the range of 2...24 VDC.

Data outputs are for their rate and accuracy suitable for transmission of the measured data for further projection or directly into the control systems. We offer an isolated RS232 and RS485 with the DIN MessBus/ASCII protocol.

Analog outputs will find their place in applications where further evaluating or processing of measured data is required in external devices. We offer universal analog output with the option of selection of the type of output - voltage/current. The value of analog output corresponds with the displayed data and its type and range are selectable in CM.

Technical data

INPUT

Type:	upon contact, TTL, NPN/PNP
Measurement:	1x UP/DOWN counter + 1x frequency 2x counter UP or DOWN + 2x frequency 1x counter UP or DOWN + 1x frequency (period) measurement 1x UP/DOWN for IRC sensors + frequency (evaluates both edges of signals A & B) 1x phase/repeat measurement 1x stopwatch/watch, measuring range is adjustable
Input frequency:	0,02...100 kHz (200 kHz - for IRC input)

PROJECTION

Display:	4 (100/125 mm) or 6 digit (57/100/125 mm) red/green/orange 7-segment LED, digit height 57, 100 or 125 mm
Decimal point:	adjustable - in Configuration menu
Brightness:	adjustable - in Configuration/User menu

INSTRUMENT ACCURACY

Tempco:	60 ppm/°C
Accuracy:	±0,01 % of range (frequency) + 1 digit
Time base:	0,05/0,5/1/2/5/10/20/50 s, upon request 100/200/500 s
Calibration coefficient:	0,00001....99999
Filtration constant:	0/0,01/0,02/0,045/0,055/0,065/0,1/0,2/0,5/1/2 kHz
Pre-division constant:	1/10/60/100/1000/3600
Presetting:	0...999999
Watch-dog:	reset after 2,25 s
Setting:	external keyboard with 5 m cable
Function:	datat backup, mathematic operations between inputs, summation - registration of shift operation time backup - RTC keeps running even in case of power supply dropout Hold, Lock (upon contact)
Calibration:	at 25°C and 40 % r.h.

COMPARATOR

Type:	digital, adjustable in programming mode, contact switch-on < 30 ms
Limit 1 and 2	999999, the limits setting depends on the used input section
Hysteresis:	0...99999
Delay:	0...99,9 s
Outputs:	2 relays with switching contact (250 VAC/50 VDC, 3 A)

DATA OUTPUTS

Data format:	rate 600...115 200 Baud, 8 bit + no parity + 1 stop bit (ASCII)
RS 232	isolated
RS 485	isolated, addressing (max. 31 instruments)

ANALOG OUTPUTS

Type:	isolated, programmable with resolution max. 10 000 points, analog output corresponds with the displayed data, output type and range are selectable in CM
Non-linearity:	0,2 % of range
Tempco:	100 ppm/°C
Rate:	response to change of value < 40 ms
Voltage:	0...2 V/5 V/10 V
Current:	0...5 mA/20 mA/4...20 mA (compensation of conduct up to 600 Ohm)

EXCITATION

Adjustable:	2....24 VDC/50 mA, isolated

POWER SUPPLY

	24; 110; 230 VAC, 50/60 Hz, ±10 %, 15 VA 10...30 VDC/max. 2 A, (24 VDC/0,7 A), isolated - power supply is protected by a fuse inside the instrument

MECHANIC PROPERTIES

Material:	anodized aluminium, black
Dimensions:	see dimensions
Panel cut:	see dimensions

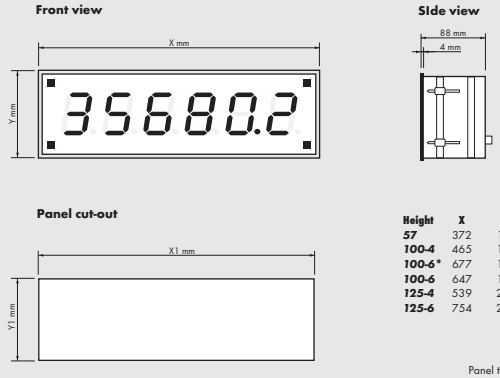
OPERATING CONDITIONS

Connection:	cable bushings, terminal board inside, conductor section up to 2,5 mm^2
Stabilization period:	within 15 minutes after switch-on
Working temperature:	0°...60°C , (storage temperature: -10°...85°C)
Covering:	IP64
Construction:	safety class I
Electrical safety:	EN 61010-1, A2
Overvoltage category:	for pollution degree II III. - instrument power supply, relay output (300 V) II. - input, output (300 V)
EMC:	EN 61000-3-2+A12; EN 61000-4-2, 3, 4, 5, 8, 11; EN 550222, A1, A2

Connection

To maintain the IP65 covering the display connection is realised through bushings directly on the terminal board inside the instrument.
The cable from control keyboard ends by a connector with IP64 covering.

Dimensions



Height	X	Y	X1	Y1
57	372	116	364	108
100-4	465	181	457	173
100-6*	677	181	669	173
100-6	647	181	639	173
125-4	539	237	531	228
125-6	754	237	746	228

Tolerance: ±1 mm

Panel thickness: 0,5 ... 50 mm

Order code

OMD 201UQC - xxxxxxxx

Power supply
0: 24 VAC/50 Hz
1: 230 VAC/50 Hz
3: 110 VAC/50 Hz
4: 10...30 VDC, isolated

Input
A: standard
B: standard, from 100 mV
C: line

Comparators
0: no
1: yes

Output
0: no
1: Analogue
2: Data - RS 232
3: Data - RS 485

Display color
1: red
2: green

Number of digits
1: 4 digits (100/125 mm)
3: 6 digits

Digit height
1: 57 mm
2: 100 mm
3: 125 mm

Excitation
0: no
1: yes

ORBIT MERRET, s.r.o., Vodňanská 675/35, 198 00 Prague 9, Czech Republic

tel: +420 - 281 04 02 00, fax: +420 - 281 04 02 99, e-mail: orbit@merret.cz