OMD 201

- **4/6-digit programmable projection**
- **Three-color LED, digit height 57; 100; 125 mm**
- **IR remote control**
- **Digital filter, Tare**
- **Power supply 230 VAC**

OMLINK

Options

- Excitation • Comparators • Data output • Analog output
- Power supply 10...30 V AC/DC

OMD 201UNI	**DC VOLTMETER AND AMMETER**
	PROCESS MONITOR
	OHMMETER
	THERMOMETER FOR Pt, Cu, Ni
	THERMOMETER FOR THERMOCOUPLES
	DISPLAY UNIT FOR LINEAR POTENTIOMETERS
OMD 201PWR	**AC NETWORK ANALYSER**
OMD 201UQC	**UNIVERSAL COUNTER**
OMD 201RS	**DATA DISPLAY**

Description

The OMD 201 model series are large programmable displays, which are produced in many designs.

The instrument is based on an 8-bit processor and a precise A/D converter, which secures high accuracy, stability and easy operation of the instrument. Displays are designed for indoor and outdoor use with IP64 cover.

Displays are suitable for projection of measured data in productions lines and operations with legibility up to 80 m.

Holder for wall mounting applications may be supplied on request.

Operation

The instrument is set and controlled by IR remote control. 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 perform firmware updates (with OML cable). The program is also designed for visualization and filing of measured values from more instruments .

All settings 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

Excitation is suitable for feeding of sensors and transmitters. It is isolated, with continuously adjustable value in the range of 5...24 VDC.

Comparators are assigned to monitor one, two, three or four limit values with relay output. The user may select limits regime: LIMIT/DOSING/FROM-TO. 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.

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 ASCII/MESSBUS/MODBUS/PROFIBUS 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 menu.

Standard functions

PROGRAMMABLE PROJECTION

Selection: of input type and measuring range

Measuring range: adjustable as fixed or with automatic change

Setting: manual, in menu optional projection on the display may be set for both limit values of the input signal

Measuring modes (PWR): voltage (V_{RMS}), current (A_{RMS}), real power (W), frequency (Hz) and with calculation of Q, S, cos Ψ

Setting (UQC): measuring mode 2x counter (UP/DW, IRC)/2x frequency/timer/clock with adjustable calibration coefficient, time base and projection

Projection: -999...9999/-99999...999999, for version „UQC" there are selectable also time formats, user-adjustable display color also with measuring units (red-green-orange)

COMPENSATION

of conduct (RTD): automatic (3- and 4-wire) or manual in menu (2-wire)

of CJC (T/C): manual or automatic

LINEARIZATION

Linearization (DC, PM, DU): by linear interpolation in 50 points (solely via OM Link)

DIGITAL FILTERS

Input filter (UQC): transmits input signal up to 10...2 000 Hz

Floating/Exp./Arithmetic average: from 2...30/100/100 measurements

Rounding: setting the projection step for display

FUNCTIONS

Preset (UQC): initial non-zero value, which is always read after resetting the instrument to zero

Summation (UQC): registration of the number upon shift operation

Pre-division constant (UQC): 1/10/60/100/1 000/3 600

Min/max. value: registration of min/max. value reached during measurement

Tare: designed to reset display upon non-zero input signal

Peak value: the display shows only max. or min. value

Mat. operations: polynome, 1/x, logarithm, exponential, power, root, sin x

EXTERNAL CONTROL

Hold: display/instrument blocking

Lock: control keys blocking

Tare: tare activation

Resettting: resetting the min/max value, resetting counter/stopwatch/timer

Technical data

PROJECTION

Display: 4 (100/125 mm) or 6 digit (57/100/125 mm)
Three-color LED - red/green/orange
Projection: -999...9999/-99999...999999
for version „UQC" there are selectable also time formats
Decimal point: setting - in menu
Brightness: setting - in menu

INSTRUMENT ACCURACY

TC: 100 ppm/°C
Accuracy: ±0,1% of range + 1 digit
±0,15% of range + 1 digit (RTD, T/C)
±0,3%(0,6/0,9%) of range + 1 digit (PWR)
The accur. applies for project. 9999 and rate 5 (2,5) meas./s (PWR)
±0,01% of range + 1 digit (UQC)
Accuracy of cold junction measurement: ±1°C
Rate: 1,3...40 meas./s, 0,5...5 meas./s (PWR)
Overload capacity: 10x (t < 30 ms) - not for > 250 V, 5A; 2x
Measuring modes (PWR): voltage (V_RMS), current (A_RMS), real power (W), frequency (Hz) and with calculation of Q, S, cos Ψ
Linearization: by linear interpolation in 50 points
Dato protocol (RS): ASCII, MessBus, Modbus-RTU, Profibus DP
Time base (UQC): 0,05...50 s
Calibration constant (UQC): 0,00001...999999
Input filters (UQC): 0/10/20/45/55/.../1 000/2 000 Hz
PRESET (UQC): 0...999999
Digital filters: Exp./Floating/Arithmetic average, Rounding
Function: Offset, Min/max.value, Tare, Peak value, Math. operation
Ext. control: HOLD, LOCK, Tare, Resetting
Watch-dog: reset after 0,4 s
OM Link: Company communication interface for instrument control, setting and update

Calibration: at 25°C and 40% r.h.

COMPARATOR

Type: digital, setting in prog. mode, contact switch < 30 ms
Limits: -99999...999999
Hysteresis: 0...999999
Delay: 0...99,9 s
Output: 4x Form C relays (250 VAC/30 VDC, 3 A)

DATA OUTPUT

Protocol: ASCII, MESSBUS, MODBUS - RTU, PROFIBUS DP
Data format: 8 bit + no parity + 1 stop bit (ASCII)
7 bit + even parity + 1 stop bit (DIN Messbus)
Rate: 600...230 400 Baud
9 600 Baud...12 Mbaud (PROFIBUS)
RS 232: isolated
RS 485: isolated, addressing (max. 31 instruments)

ANALOG OUTPUT

Type: isolated, programmable with resolution of max. 10 000 points, AO corresponds with the displayed data, type and range are selectable in programming mode
Non-linearity: 0,2% of range
TC: 100 ppm/°C
Rate: response to change of value < 150 ms
Ranges: 0...2/5/10 V, 0...5 mA, 0/4...20 mA
(comp. < 500 Ω/12 V or 1 000 Ω/24 V)

EXCITATION

Adjustable: 5...24 VDC/max. 1,2 W

POWER SUPPLY

10...30 V AC/DC, ±10%, max. 27 VA
80...250 V AC/DC, ±10%, max. 27 VA
Power supply is protected by a fuse inside the instrument

MECHANIC PROPERTIES

Material: Anodized aluminium, black
Dimensions: in mm

LED	lenght	height	depth	cutout
57	372	116	88	364 x 108
100-4	465	181	88	457 x 173
100-6	651	181	88	643 x 173
125-4	539	237	88	531 x 228
125-6	754	237	88	746 x 228

OPERATING CONDITIONS

Connection: connectors, section < 2,5 mm²
Stabilization period: within 15 minutes after switch-on
Working temperature: 0°...60°C
Storage temperature: -10°...85°C
Cover: IP64
Construction: safety class I
El. safety: EN 61010-1, A2
Insulation resistance: for pollution degree II, measuring cat. III.
power supply > 670 V (PI), 300 V (DI)
input, output, Exc. > 300 V (PI), 150 V (DI)
EMC: EN 61000-3-2+A12; EN 61000-4-2, 3, 4, 5, 8, 11; EN 550222, A1, A2

OPTIONS

• holder for wall installation

PI - Primary insulation, DI - Double insulation

Measuring ranges

OMD 201 is a multifunction instrument available in following types and ranges

type UNI, standard (code „0")
DC: ±60/±150/±300/±1 200 mV
PM: 0...5 mA/0...20 mA/4...20 mA/±2 V/±5 V/±10 V/±40 V
OHM: 0...100 Ω/0...1 kΩ/0...10 kΩ/0...100 kΩ
RTD: Pt 100/Pt 500/Pt 1 000
Cu: Cu 50/Cu100
Ni: Ni 1 000/Ni 10 000
T/C: J/K/T/E/B/S/R/N/L
DU: Linear potentiometer (min. 500 Ω)

type UNI, option A
DC: ±0,1/±0,25/±0,5/±2/±5 A/±100 V/±25 V/±500 V

type UNI, option B (expansion about three inputs)
PM: **3x** 0...5 mA/0...20 mA/4...20 mA/±2 V/±5 V/±10 V/±40 V

type PWR
input U: 0...10 V/0...120 V/0...250 V/0...450 V
input I: 0...60 mV/0...150 mV/0...300 mV/0...1 A/0...2,5 A/0...5 A

type UQC
Measuring mode (UQC): 2x UP or DW counter, UP or DW counter + frequency, UP/DW counter, UP/DW counter for IRC + frequency, timer/clock/phase (0,02...100 kHz/200 kHz for IRC)

Order code specifications

	UNI	PWR	PWR	UQC	RS
w/o	0 = Standard			contakc, TTL, NPN/PNP	
A	±0,1/±0,25/±0,5 /±2/±5 A ±100/±250/±500 V				RS 232/485
B	expansion about three inputs (PM)				MODBUS
C					PROFIBUS
K			0...60/150/300 mV		
P			0...1/2,5/5 A		
S		0...10/120 V			
U		0...250/450 V			
Z	on request	on request	on request		

Connection

To preserve the IP64 cover the display connection is realized through bushings directly to terminal board inside the instrument.

Order code

OMD 201

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Type												
	U	N	I	•	•	•	•	•	•	•	•	
	P	W	R	•	••	•	•		•	•	
	U	Q	C	•		•	•	•	•	•	
Order code shall not include blank spaces!		R	S	•	•	•	•		•	•	

Power supply											
10...30 V AC/DC	**0**										
80...250 V AC/DC	**1**										

| **Measuring range,** see table „Measuring ranges" | | **?** | | | | | | | | | |

Comparators											
no		**0**									
1x Ralay		**1**									
2x Relays		**2**									
3x Relays		**3**									
4x Relays		**4**									

Analog output											
none			**0**								
yes (comp. < 500 Ω/12 V)			**1**								
yes (comp. < 1 000 Ω/24 V)			**2**								

Data output											
none				**0**							
RS 232				**1**							
RS 485				**2**							
MODBUS				**3**							
PROFIBUS				**4**							

Excitation											
no					**0**						
yes					**1**						

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

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

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