



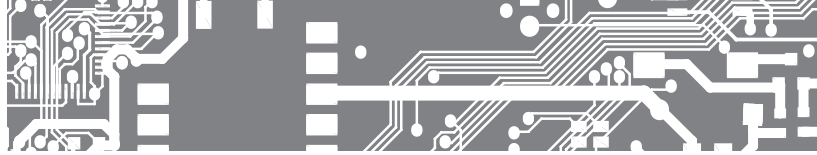
Data Sheet
OMD 202UNI

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- 4/6-DIGIT PROGRAMMABLE PROJECTION
- THREE-COLOR LED OR HIGH BRIGHT LED
- DIGIT HEIGHT 57; 100; 125 MM
- IR REMOTE CONTROL
- DIGITAL FILTERS, TARE, LINEARIZATION
- POWER SUPPLY 80...250 V AC/DC
- Option
 - Excitation • Comparators • Data output • Analog output
 - Power supply 10...30 V AC/DC

OMD 202



The OMD 202 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 80m.

OMD 202UNI

DC VOLTMETER AND AMMETER
 PROCESS MONITOR
 OHMMETER
 THERMOMETER PRO Pt/Cu/Ni/Thermocouple
 DISPLAY UNIT FOR LINEAR POTENTIOMETERS

OMB 202PWR

AC VOLTMETER AND AMMETER
 AC NETWORK ANALYSER

OMB 202UQC

UNIVERSAL COUNTER

OMB 202RS

DATA DISPLAY

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 (OHM)

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

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, OHM): automatic (3- and 4-wire) or manual in menu (2-wire)

of conduct in probe (RTD): internal connection (conduct resistance in measuring head)

of CJC (T/C): manual or automatic, in menu it is possible to perform selection of the type of thermocouple and compensation of cold junctions, which is adjustable or automatic (temperature at the input brackets)

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 1 MHz...10 min

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

Rounding: setting the projection step for display

MATHEMATIC 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

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

Lock: control keys blocking

Hold: display/instrument blocking

Tare: tare activation

Resettting MM: resetting the min/max value

Resettting: resetting counter/stopwatch/timer

TECHNICAL DATA

PROJECTION

Display: 4 (100/125 mm) or 6 digit (57/100/125 mm)
 Three-color segment LED - red/green/orange
 High bright singles LED - red or green (1200 mcd)
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

TK: 50 ppm/°C
Accuracy: ±0,1% of range + 1 digit [for projection 9999 and 5 meas./s]
 ±0,15 % of range + 1 digit **RTD, T/C**
 ±0,3 % (0,6/0,9 %) of range + 1 digit **PWR**
 ±0,01% of range + 1 digit [UQC]
Accuracy of cold junction measurement: ±1,5°C
Rate: 1,3...40 meas./s, 0,5...5 meas./s [PWR]
Overload capacity: 10x [t < 30 ms] - not for > 250 V, 5 A; 2x
Measuring modes [PWR]: voltage [V_{meas}], current [A_{meas}], real power [W],
 frequency [Hz] and with calculation of Q, S, cos φ
Linearization: by linear interpolation in 50 points
Time base [UQC]: 0,2...50 s
Calibration constant [UQC]: 0,00001...999999
Filtration constant [UQC]: 0/10/20/45/65/.../1000/2000 Hz
PRESET [UQC]: 0...999999
Digital filters: Exp/Floating/Arithmetic average, Rounding
Functions: Offset, Min/max value, Tare, Peak value, Mat. operat.
Ext. control: HOLD, LOCK, Tare, Reset
Data record: measured data record into instrument memory
RTC - 15 ppm/°C, time-date-display value, < 266k data
FAST - display value, < 8k data

Watch-dog: reset after 1,2 s
OM Link: Company communication interface for operation, setting and update of instruments
Calibration: at 25°C and 40% r.h.

COMPARATOR

Type: digital, setting in menu, 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, 9,6 kBaud...12 Mbaud (PROFIBUS)
RS 232/RS 485: isolated, addressing (max. 31 instr./RS485)
Ethernet: 10/100BaseT, Security Protocols, POP3, FTP

ANALOG OUTPUT

Type: isolated, programmable with 12-bit D/A converter, type and range are selectable in programming mode
Non-linearity: 0,1% of range
TC: 15 ppm/°C
Rate: response to change of value < 1 ms
Ranges: 0...2/5/10 V, ±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, PF≥0,4, I_{STP}> 75 A/2 ms
 80...250 V AC/DC, ±10 %, max. 27 VA, PF≥0,4, I_{STP}< 45 A/2 ms
Power supply is protected by a fuse inside the instrument

MECHANIC PROPERTIES

Material: Anodized aluminium, black
Dimensions: in mm

OPERATING CONDITIONS

Connection: connectors, section < 1,5/2,5 mm²
Stabilization period: within 15 minutes after switch-on
Working temperature: -20°...65°C, storage : -20°...85°C
Cover: IP64
Construction: safety class I
El. safety: EN 61010-1, A2
Dielectric strength: 4 kVAC after 1 min between supply and input
 4 kVAC after 1 min between supply and data/analog output
 4 kVAC after 1 min between supply and relay output
 2,5 kVAC after 1 min between input and data/analog output
Insulation resistance: for pollution degree II, measuring cat. III.
 power supply > 670 V [Z], 300 V [D]
 input, output, excitation > 300 V [Z], 150 V [D]
EMC: EN 61326-1

ACCESSORIES

- holder for wall installation

PI - Primary insulation, DI - Double insulation

MEASURING RANGES

OMD 202 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/±250 V/±500 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 Hz...1 MHz]

CONNECTION

Front view

Side view

Panel cutout

Panel thickness: 0,5 ... 50 mm

Height	X	Y	X1	Y1
57-6	375	119	367	111
100-4	465	181	457	173
100-6	651	181	643	173
125-4	539	237	531	228
125-6	754	237	746	228

ORDER CODE SPECIFICATION

	UNI	PWR - U	PWR - I	UQC	RS
w/o	standard			contact, 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			
Z		0...250/450 V			
U	on request	on request	on request		

ORDER CODE

OMD 202

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Comparators	none 1x relay 2x relays 3x relays 4x relays	0 1 2 3 4																																																																																																														
Analog output	no yes [Compensation < 500 Ω/12 V] yes [Compensation < 1 000 Ω/24 V]	0 1 2																																																																																																														
Data output	none RS 232 RS 485 MODBUS PROFIBUS 10/100BaseT Ethernet [not possible with analog output]*	0 1 2 3 4 7																																																																																																														
Excitation	no yes	0 1																																																																																																														
Digit height	57 mm 100 mm 125 mm	1 2 3																																																																																																														
Number of digits	4 digit [100/125 mm] 6 digits	1 3																																																																																																														
Color/Type display	red (high bright LED) green (high bright LED) red/green/orange [7-segment LED]	1 2 3																																																																																																														
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Default execution is shown in bold

* Launch for sale has not been set