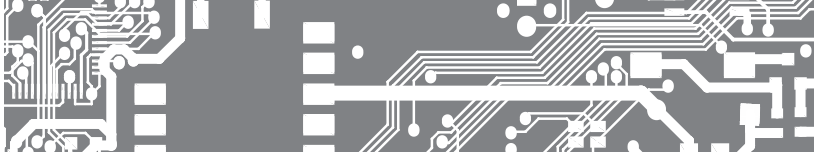


OMD 202

OMLINK

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 80 m.

- 4/6 -DIGIT PROGRAMMABLE PROJECTION
- THREE -COLOR LED OR HIGH BRIGHT LED
- DIGIT HEIGHT 57; 100; 125 MM
- IR OPERATION
- 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 202UNI
DC VOLTMETER AND AMMETER
PROCESS MONITOR
OHMMETER
THERMOMETER FOR PT/CU/NI/TERMOCOUPLES
DISPLAY UNIT FOR LINEAR POTENTIOMETERS

OMD 202PWR
AC VOLTMETER AND AMMETER
AC NETWORK ANALYSER

OMD 202UQC
UNIVERSAL COUNTER

OMD 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.

OPTION

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)
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 fi
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

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

DIGITAL FILTERS
Filtration constant (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
Resetting MM: resetting min/max value
Resetting: 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: 0,1...40 meas./s, 0,5...5 meas./s (PWR)
Overload capacity: 2x; 10x (t < 30 ms) - not for > 250 V and 5 A
Measuring modes (PWR): voltage (V_{RMS}), current (A_{RMS}), real power (W), frequency (Hz) and with calculation of Q, S, cos fi
Linearization: by linear interpolation in 50 points
Data Protocol (RS): ASCII, MessBus, Modbus-RTU, Profibus DP
Time base (UQC): 0,05 s...15 min
Calibration constant (UQC): 0,00001...999999
Filtration constant (UQC): 1 MHz...10 min
PRESET (UQC): 0...999999
Digital filters: Exp./Floating/Arithmetic average, Rounding
Functions: Ofset, Min/max. value, Tare, Peak value, Mat. operations
Ext. control: HOLD, LOCK, Tare, Reset
Watch-dog: reset after 0,4 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
Data format: 8 bit + no parity + 1 stop bit (ASCII)
7 bit + even parity + 1 stop bit (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 16-bit D/A converter, type and range are selectable in programming mode
Non-linearity: 0,1% of range
TK: 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. < 600 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: connector terminal board, section < 1,5/2,5 mm²
Stabilization period: within 15 minutes after switch-on
Working temperature: -20°...60°C
Storage temperature: -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 (ZI), 300 V (DI)
input, output, Exc. > 300 V (ZI), 150 V (DI)
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...5/20 mA/4...20 mA; ±2/±5/±10/±40 V
OHM: 0...100 Ω/0...1/10/100 kΩ/Auto
RTD: Pt 50/100/500/1 000
Cu: Cu 50/100
Ni: Ni 1 000/10 000
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/±250/±500 V

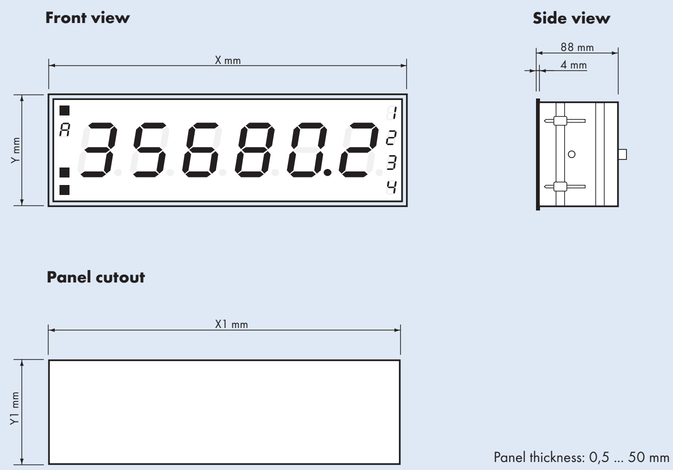
type PWR
input U: 0...10/120/250/450 V
input I: 0...60/150/300 mV; 0...1/2,5/5 A

type UQC
Measuring mode (UQC): input frequency 0,002 Hz...1 MHz (500 kHz for QUADR and UP/DW)
2x UP or DW counter, UP or DW counter + frequency, UP/DW counter, UP/DW counter for IRC + frequency, timer/clock/phase

ORDER CODE SPECIFICATION

	UNI	PWR - U	PWR - I	UQC	RS
W/O	standard				
A	±0,1/±0,25/±0,5/ /±2/±5 A ±100/±250/±500 V			standard, contact, TTL, NPN/PNP, input: 25 mV...60 V	RS 232/485
B	Expansion about three inputs (PM)			Synchronous serial interface (SSI)*	MODBUS
C				Line input	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



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

*GND (input + Option A) is galvanically connected with inputs EXT. and the OM Link connector
*In case of Option B we recommend to connect termianls GND (main board/additional board) by external connection

ORDER CODE

OMD 202 ☐☐☐ - ☐☐☐☐☐☐☐☐☐ - ☐

Type

U	N	I	•	•	•	•	•	•	•	•	•
P	W	R*	•	••	•	•	•		•	•	•
U	Q	C	•	•	•	•	•	•	•	•	•
	R	S	•	•	•	•		•	•	•	•

Order code shall not include blank spaces!

Parameter	Selection	Code
Power supply	10...30 V AC/DC	**0**
	80...250 V AC/DC	**1**
Option, see table „Order code specification"		**?**
Comparators	**none**	**0**
	1x relays	**1**
	2x relays	**2**
	3x relays	**3**
	4x relays	**4**
Analog output	**no**	**0**
	yes (Compensation < 600 Ω/12 V)	**1**
	yes (Compensation < 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 digit (100/125 mm)	**1**
	6 digits	**3**
Color/Type display	**red (high bright LED)**	**1**
	green (high bright LED)	**2**
	red/green/orange (7-segment LED)	**3**
Other	**customer version, do not fill in**	**00**

For complete technical parameters of OMD 202UQC see the universal counter OM 602UQC

Default execution is shown in bold

* Launch for sale has not been set