

## OMD 202RS

The OMD 202 model series are large programmable displays for indoor and outdoor use with IP64 protection.

Type OMD 202UQC is a data display from serial lines RS 232/485 with protocol ASCII, MESSBUS, PROFIBUS DP and MODBUS RTU.

The instrument is based on a single-chip microcontroller, which secures accuracy, stability and easy operation of the instrument.

Displays are suitable for projection of measured data in production lines and manufacture with good legibility up to 80 m.



### DATA DISPLAY

- 4/6-DIGIT PROGRAMMABLE PROJECTION
- INPUT: RS 232/485
- ASCII, MESSBUS, PROFIBUS DP, MODBUS RTU
- THREE-COLOR OR HIGHLY LUMINOUS LED
- DIGIT HEIGHT 57; 100; 125 MM, IR OPERATION
- POWER SUPPLY 10...30 V AC/DC; 80...250 V AC/DC
- Option  
Excitation • Comparators • Data output • Analog output

### OMD 202RS DATA DISPLAY

#### OPERATION

The instrument is set and controlled by an 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 performing 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 (settings hold even after the instrument is switched off).

The measured units can be displayed on the 6-digit display.

#### OPTION

**EXCITATION** for feeding sensors and transmitters. It is continuously adjustable in the range of 5 ... 24 VDC.

**COMPARATORS** are assigned to monitor 1 - 4 limit values with relay output. As a user you can select the mode limit: LIMIT/BATCH/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/PROFIBUS protocols.

**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. Its type and range are selectable in menu.

#### STANDARD FUNCTIONS

##### PROGRAMMABLE PROJECTION

**Input:** both RS 232 and RS 485

**Protocol:** ASCII - Master/Slave/Universal, MESSBUS, PROFIBUS DP, MODBUS RTU

**Projection:** -999...9999/-99999...999999

##### MATHEMATIC FUNCTIONS

**Linearization:** linear interpolation in 50 points (only via OM Link)

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

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

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

**Mathemat. operations:** polynomial, 1/x, logarithm, exponential, power, root, sin x

##### DIGITAL FILTERS

**Floating/Exp./Arithm. average:** from 2...30/100/100 measurements

**Rounding:** setting the projection step for display

##### EXTERNAL CONTROL

**Lock:** control keys blocking

**Hold:** display/instrument blocking

**Tare:** tare activation

**Resetting MM:** resetting min./max. value

## TECHNICAL DATA

### INPUT

<b>RS Input</b>	fixed - by order RS 232/RS 485 PROFIBUS
<b>Protocol</b>	ASCII - data display, controlled from the master system <b>ASCII - Master</b> - the instrument controls data sending from the slave system - „COMM“ can be used to select the received data - the instrument asks with the rate of 10 queries/s <b>ASCII - Slave</b> - Passive bus display where other devices or computers communicate in „MAST.“ mode. If the „COMM“ and the requested data are correctly received, they will be displayed by the instrument <b>ASCII - Universal</b> - in dynamic menu items (Stat, Ad.Un, Sign, Data, Stop, Req.) you can build your own communication protocol format <b>MESSEBUS</b> <b>MODBUS RTU</b> <b>PROFIBUS DP</b>
<b>Format</b>	8 bit + no parity + 1 stop bit 7 bit + even parity + 1 stop bit
<b>Rate</b>	300...230 400 Baud 9 600 Baud...12 Mbaud (PROFIBUS)

### PROJECTION

**Display:** -999...9999 or -99999...999999  
single color - highly luminous individ. LED  
three-color - segment LED  
**Digit number:** 4 [100/125 mm] or 6 [57/100/125 mm]  
**Digit height:** 57, 100 or 125 mm  
**Display color:** red or green [highly luminous - 1200 mcd]  
red/green/orange  
**Description:** the last two digits for a 6-digit display can be used to describe the measured quantities (menu adjustable)  
**Decimal point:** adjustable - in menu  
**Brightness:** adjustable - in menu

**INSTRUMENT ACCURACY**  
**TK:** 50 ppm/°C  
**Linearization:** linear interpolation in 50 points (only via OM Link)  
**Digital filters:** Exp./Floating/Arithm. average, Rounding  
**Functions:** Offset, Min/max value, Tare, Peak value, Mat. operations  
**OM Link:** Company communication interface for operation, setting and update of instruments.  
**Watch-dog:** reset after 400 ms  
**Calibration:** at 25°C and 40 % r.h.

### COMPARATOR

**Type:** digital, menu adjustable, contact switch-on < 30 ms  
**Hysteresis mode:** switching limit, hysteresis band „Lim ±1/2 Hys.“ and time [0...99.9 s] determining the switching delay  
**Mode From-To:** switching on and switching off interval  
**Mode Batch:** period, its multiples and time [0 ... 99.9 s], within which the output is active  
**Output:** 1...4x relays Form A (250 VAC/50 VDC, 3 A)

### ANALOG OUTPUTS

**Type:** isolated, programmable with a 16-bit D/A converter, output type and range are optional in the menu  
**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, separated

### POWER SUPPLY

**Range:** 10...30 V AC/DC, ±10 %, PF ≥ 0,4, I<sub>STB</sub> < 75 A/1 ms, isolated  
80...250 V AC/DC, ±10 %, PF ≥ 0,4, I<sub>STB</sub> < 45 A/1 ms, isolated  
**Consumption:** < 22 W/22 VA  
**Power supply is protected by a fuse inside the instrument.**

### MECHANIC PROPERTIES

**Material:** Anodized aluminium, black  
**Dimensions:** see picture

### OPERATING CONDITIONS

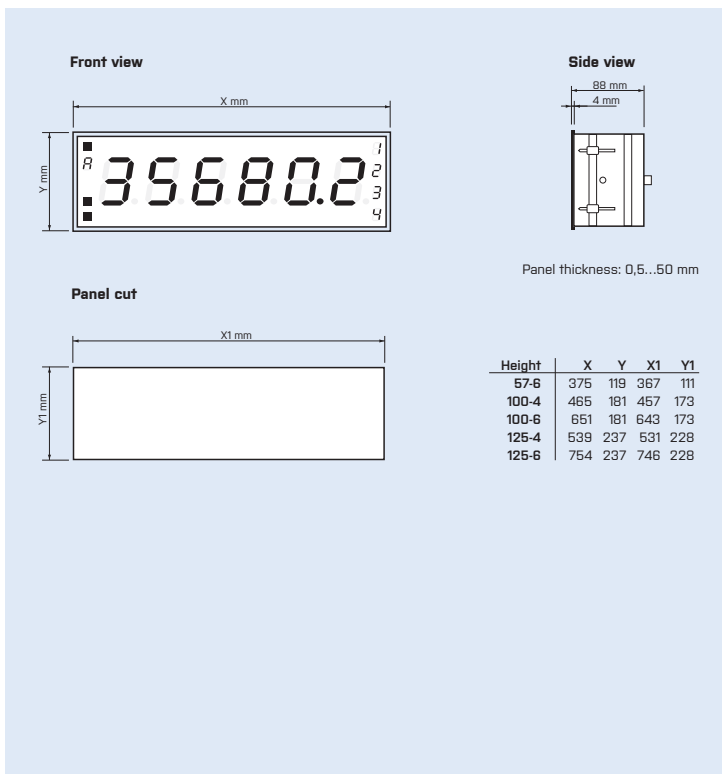
**Connection:** connector terminal blocks, section < 1,5/2,5 mm<sup>2</sup>  
**Stabilization period:** within 15 minutes after switch-on  
**Working temperature:** -20°...60°C  
**Storage temperature:** -20°...85°C  
**Protection:** IP64  
**Dielectric strength:** 4 kVAC per 1 min test between supply and input  
4 kVAC per 1 min test between supply and data/analog output  
4 kVAC per 1 min test between input and relay output  
2,5 kVAC per 1 min test between input and data/analog output  
**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, PN > 300 V (PI), 150 V (DI)  
**EMC:** EN 61326-1

### ACCESSORIES

- holder for wall/ceiling installation

PI - Primary insulation, DI - Double insulation

## DIMENSIONS



## ORDER CODE

OMD 202RS		-									
<b>Power supply</b>	10...30 VDC/24 VAC 80...250 V AC/DC	<b>0</b>									
<b>Data protocol</b>	ASCII Modbus RTU Profibus DP	<b>1</b>	<b>A</b>								
<b>Comparators</b>	none 1x relay 2x relays 3x relays 4x relays		<b>B</b>								
<b>Analog output</b>	no yes (compensation < 600 Ω/12 V) yes (compensation < 1 000 Ω/24 V)		<b>C</b>								
<b>Excitation</b>	no yes			<b>0</b>							
<b>Digit height</b>	57 mm 100 mm 125 mm				<b>1</b>						
<b>Number of digits</b>	4 digits [100/125 mm] 6 digits					<b>2</b>					
<b>Color/Display type</b>	red (highly luminous LED) green (highly luminous LED) red/green/orange (7-segment LED)						<b>3</b>				
<b>Specification</b>	customized version, do not fill in										<b>00</b>

Basic configuration of the instrument is indicated in bold.