Data Sheet

Data Display
OMD 202RS

Distributed by

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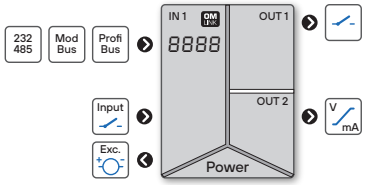
OMD 202RS

- 4/6-digit programmable projection
- Input RS 232/485
- ASCII, PROFIBUS DP, PROFINET, Modbus RTU
- Three-color or higly 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

DATA LARGE DISPLAY



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, Modbus RTU, PROFIBUS DP and PROFINET.

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.

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: non-linear signal is converted by a 50-point linear interpolation
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: polynom, 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 Min/Max: resetting min./max. value

TECHNICAL DATA

INPUT

No. of inputs		1
RS	Input	RS 232/RS 485 PROFIBUS
	Protocol	**ASCII - Master** - 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 **ASCII - Slave** - 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 **ASCII - Universal** - in dynamic menu items (Stat, Ad.Un, Sign, Data, Stop, Req.) you can build your own communication protocol format **MESSBUS** **Modbus RTU** **PROFIBUS DP** **PROFINET**
	Format	8 bit + no parity + 1 stop bit 7 bit + even parity + 1 stop bit
	Adresse	ASCII 0...31 Modbus 1...247 Profibus 1...127
	Rate	300...230 400 Baud 9 600 Baud...12 Mbaud (PROFIBUS)
	Line termination	short-circuit jumper on the connector *resistance inside the instrument is 120 R*

EXTERNAL INPUT

No. of inputs	3, on contact
Function	OFF no function assigned HOLD measurement paused LOCK control keys blocking TARE tare activation CL. M.M. resetting min/max value CL. T. tare resetting

PROJECTION

Display	-999...9999 -99999...999999
Digit height	57 mm 100 mm 125 mm
Display color	red or green with high brightness 1200 mcd red / green / orange
Description	last two characters on the display may be used for description of measured quantities *only for 6-digit display*
Decimal point	adjustable - in menu
Brightness	adjustable - in menu

INSTRUMENT SPECIFICATION

TC	50 ppm/ºC
Functions	Min/max value, math. functions
Digital filters	exponential / floating / arithmetic average, rouding
Math functions	polynomial / inverse polynomial / logarithm / exponential / power / root
OM Link	company communication interface for operation, setting and update of instruments
Watch-dog	reset after 500 ms
Calibration	at 25ºC and 40 % r.h.

RELAYS OUTPUT

No. of outputs	up to 4
Type	digital, menu adjustable
Mode	HYSTER. active above set value WINDOW active in the set window / band BATCH active in set period
Function Relays/OC	CLOSE is closed in active mode OPEN is open in active mode
Limits	-99999...999999
Hysteresis	0...999999
Delay	0...99.9 s
Outputs	1...4x relay with switch-on contact (Form A) (250 VAC/30 VDC, 3 A)*
Relays	1/8 HP 277 VAC, 1/10 HP 125 V, Pilot Duty D300

* values apply for resistance load

ANALOG OUTPUTS

No. of outputs	1
Type	isolated, adjustable with 16-bit DAC, output type and range is selectable
TC	15 ppm/ºC
Non-linearity	0.1 % from FS
Accuracy	±0.02 % of FS
Rate	response to change of value < 1 ms
Ranges	0...2 / 5 / 10 V, ±10 V, resistive load ≥ 1 kΩ 0...5 / 20 mA /4...20 mA, compensation < 600 Ω/12 V or 1000 Ω / 24 V Indication of error message (output < 3.2 mA)

DATA OUTPUTS

No. of outputs	1
Protocol	ASCII, MESSBUS, Modbus RTU, PROFIBUS DP
Data format	8 bit + no parity + 1 stop bit (ASCII) 7 bit + even parity + 1 stop bit (Messbus)
Rate	300...230 400 Baud 9 600 Baud...12 Mbaud (PROFIBUS)
RS 232	isolated
RS 485	isolated, addressing (max. 31 instruments)

EXCITATION

Adjustable	5...24 VDC, <1.2 W, isolated

POWER SUPPLY

Range	10...30 V AC/DC, ±10 %, PF ≥ 0.4, I_{STP} < 40 A / 1 ms, isolated 80...250 V AC/DC, ±10 %, PF ≥ 0.4, I_{STP} < 40 A / 1 ms, isolated *Protection by fuse inside the device.*
Consumption	< 22 W / 22 VA

MECHANIC PROPERTIES

Material	anodized aluminium, black
Dimensions	see picture
Installation	in panel or on wall *wall/ceiling bracket included*

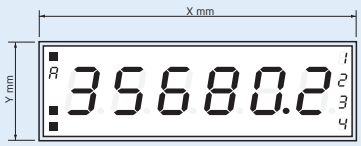
OPERATING CONDITIONS

Connection	connector terminal blocks, section < 1.5 / 2.5 mm²
Stabilization period	within 5 minutes after switch-on
Working temperat.	-20º...60ºC
Storage temperat.	-20º...85ºC
Working humidity	< 95 % r.v., non condensing
Protection	IP64, front panel only
Construction	safety class I
El. safety	EN 61010-1, A2
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
Insulation resist.*	for pollution degree II, measuring cat. III power supply, input > 670 V (PI), 300 (DI) input, output, excitation > 300 V (PI), 150 V (DI)
EMC	EN 61326-1, Industrial area
Seismic capacity	IEC 980: 1993, par. 6
Mechanical resistance	EN 60068-2-6 ed. 2:2008

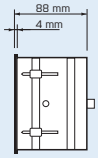
* PI - Primary insulation, DI - Double insulation

DIMENSIONS

Front view

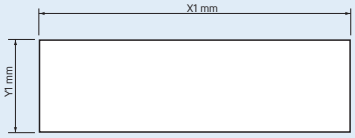


Side view



Panel thickness: 0,5...50 mm

Panel cut



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

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Power supply	10...30 VDC / 24 VAC	**0**								
	80...250 V AC/DC	**1**								
Data protocol	**ASCII**		**A**							
	Modbus RTU		**B**							
	PROFIBUS DP		**C**							
	PRPFINET		**D**							
Comparators	**none**			**0**						
	1x relay			**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**					
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**		
Color/Display type	red (highly luminuous LED)								**1**	
	green (highly luminuous LED)								**2**	
	red/green/orange (7-segment LED)								**3**	
Specification	customized version, do not fill in									**00**

Basic configuration of the instrument is indicated in bold.