OMD 201

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

Options

- Dual comparator • Excitation • Data output • Analog output
- Power supply: 24/110 VAC, 10...30 VDC

OMD 201DC	**DC VOLTMETER AND AMMETER**
OMD 201PWR	**AC NETWORK ANALYSER**
OMD 201PM	**PROCESS MONITOR**
OMD 201OHM	**OHMMETER**
OMD 201RTD	**THERMOMETER FOR Pt/Ni**
OMD 201T/C	**THERMOMETER FOR THERMOCOUPLES**
OMD 201DU	**DISPLAY UNIT FOR LINEAR POTENTIOMETERS**
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 four control keys located on a separate keyboard (5 m cable) or by remote IR control. All programmable settings of the instrument are realised in two adjusting regimes.

Configuration menu (hereinafter referred to as CM) is protected by an optional number code and contains complete instrument setting.

User menu may contain arbitrary programming settings defined in „CM" with another selective restriction (see, change)

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 has a galvanic isolation with continuously adjustable value in the range of 5...24 VDC.

Comparators are assigned to monitor two limit values with relay output. 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 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 CM.

Standard functions

PROGRAMMABLE PROJECTION

Setting: manual, in „CM" optional projection on the display may be set for values of the input signal
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, user-adjustable display color also with measuring units (red-green-orange)

COMPENSATION

of conduct (RTD): in „CM" it is possible to perform compensation for 2-wire connection
of conduct in probe (RTD): internal connection (conduct resistance in measuring head)
of CJC (T/C): manual or automatic, in „CM" 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)

DIGITAL FILTERS

Radius of insensitiveness: band of suppressed change of measured value
Exponen. average (UQC): from 2...100 measurements
n-th value (UQC): from 2...100 measurements
Input filter (UQC): lets through input signal up to 10...2000 Hz

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
Rounding: setting the projection step for display
Tare: resetting display upon non-zero input signal

EXTERNAL CONTROL

Hold: display/instrument blocking
Lock: control keys blocking
Instrument setting: 4-key keyboard with 5 m cable or remote IR control

Technical data

PROJECTION
Display: 4 (100/125 mm) or 6 digit (57/100/125 mm)
Theree-color LED - red/green/orange
Decimal point: setting - in programming mode
Brightness: setting - in programming mode

INSTRUMENT ACCURACY
TC: 100 ppm/°C
Accuracy: ±0,15 % of range + 1 digit
±0,2 % of range + 1 digit (OHM, PWR, RTD, T/C, DU)
±0,01 % of range + 1 digit (UQC)
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
Resolution: 0,1 °C (RTD), 1 °C (T/C)
Functions (UQC): Data backup, Time backup, Preset
Input filters (UQC): Filtration constant, Rounding
Time base (UQC): 0,05...50 s
Calibration constant (UQC): 0,00001...999999
Input filter (UQC): 0/10/20/45/55/.../1000/2000 Hz
PRESET (UQC): 0...999999
Input (RS): setting, RS 232 or RS 485, parameters are identical with „Data output"
Watch-dog: reset after 1,2 s
Functions: HOLD, LOCK, Digital filters, Tare
Calibration: at 25 °C and 40 % r.h.

COMPARATOR
Type: digital, setting in prog. mode, contact switch < 30 ms
Limits: -999...3999
Hysteresis: 0...999
Delay: 0...99,9 s
Output: 2x Form C relay (250 VAC/30 VDC, 3 A)

DATA OUTPUT
Data format: 8 bit + no parity + 1 stop bit (ASCII)
7 bit + even parita + 1 stop bit (DIN Messbus)
Rate: 600...115 200 Baud
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 < 40 ms
Ranges: 0...2/5/10 V, 0...5 mA, 0/4...20 mA (comp. < 500 Ω)

EXCITATION
Adjustable: 5...24 VDC/50 mA, isolated ***DC, PM, UQC***

POWER SUPPLY
24, 110, 230 VAC, 50/60 Hz, ±10%, 15 VA
10...30 VDC/max. 2 A, isolated
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	647	181	88	639 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 mm^2
Stabilization period: within 15 minutes after switch-on
Working temperature: 0°...60°C, (Storage: -10°...85°C)
Cover: IP64
Construction: safety class I
El. safety: EN 61010-1, A2
Insulation resistance: for pollution degree II, measuring cat. III.
AC power supply > 600 V (PI), 300 V (DI)
DC power supply, input, output, Exc. > 300 V (PI), 250 V (DI)
EMC: EN 61000-3-2+A12; EN 61000-4-2, 3, 4, 5, 8, 11; EN 550222, A1, A2
PI - Primary insulation, DI - Double insulation

Measuring ranges

	DC	PWR	PWR	PM	OHM	RTD	T/C	DU	UQC	RS
w/o				0/4...20 mA, 0...2/5/10 V		-99,9°...399,9°C	J, K, T, E, B, S, R, N	potentiometer > 500 Ω	TTL, NPN/PNP < 100 kHz	RS 232/485
A					0...0,4/4/40 kΩ	Pt 100/500/1000 (EU)				
B					0...10/100 kΩ, 5...105Ω	Pt 100/500/1000 (US)				
C						Ni 1 000/10 000 (5000)				
D						Ni 1 000/10 000 (6180)				
I	0...0,4/1/5 A									
K			0...60/150/300 mV							
P			0...1/2,5/5 A							
S		0...10/120 V								
U	0...60/150/300 mV, 0...4/40/400 V	0...250/450 V								
Z	on request	on request	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 ☐☐☐ - ☐☐☐☐☐☐☐☐

Type			D	C	•	•	•	•	•	•	•	•
			P	M	•		•	•	•	•	•	•
		O	H	M	•	•	•	•		•	•	•
		P	W	R	•	••	•	•		•	•	•
		R	T	D	•	•	•	•		•	•	•
			T	C	•		•	•		•	•	•
			D	U	•		•	•		•	•	•
		U	Q	C	•		•	•	•	•	•	•
Order code shall not include blank spaces!			R	S	•		•	•		•	•	•
Power supply	24 VAC/50 Hz				**0**							
	230 VAC/50 Hz				**1**							
	110 VAC/50 Hz				**3**							
	10...30 VDC, isolated				**4**							
Measuring range, see table „Measuring ranges"						**?**						
Comparators	no						**0**					
	yes						**1**					
Output	none							**0**				
	Analog							**1**				
	RS 232							**2**				
	RS 485							**3**				
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**	
Display color	red											**1**
	green											**2**