OMX 100



- Programmable isolated transmitters
- LCD display, Digital filter, Tare
- Output: 0/4...20 mA/0...5 mA/0,2...2,2 kHz
 0...2/5/10 V
- Power supply 230 VAC



Options

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

OMX 100DC OMX 100PWR OMX 100PM OMX 100OHM OMX 100RTD OMX 100T/C

MX 100RTD THERMOMETER FOR PI/NI
MX 100T/C THERMOMETER
FOR THERMOCOUPLES

MX 100DU LINEAR POTENTIOMETERS

OMX 100DU OMX 100F

UNIVERSAL COUNTER
FREQUENCY METER

DC VOLTMETER AND AMMETER

UNIVERSAL WATTMETER

PROCESS MONITOR

OHMMETER

Description

The OMX 100 model series are programmable transmitters.

The instrument is based on an 8-bit controller with precise A/D converter, which secures high accuracy, stability and easy operation feasibility.

For projection of measured data, easier setting and clear function arrangement is, as a standard, equipped with illuminated LCD display.

Transmitters have galvanic separation with isolation voltage of $500\ V.$

Operation

The instrument is set and controlled by two control keys located on the front panel or via data line RS 232/485.

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.

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 display.

Options

Excitation is suitable for feeding of sensors and transmitters. It has a galvanic isolation with fixed preset value of 12...15 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.

Standard functions

PROGRAMMABLE INPUT

Setting: manual, in menu it is possible to set for both limit values of the input signal arbitrary type (V, mA, Hz) and range of the analog output as well as projection on the LCD display

Setting (F): measuring mode counter/frequency with adjustable calibration coefficient and time base

ANALOG OUTPUT

Type: isolated, programmable with resolution of max. 12 bit, type and range are selectable in programming mode

Ranges: 0...2/5/10 V, on request ± 5 V/ ± 10 V

0...5 mA, 0/4...20 mA, on request ± 20 mA, (comp. < 500 Ω)

Frequency: isolated, programmable, open colector with inside power resistor, 0,2...2 200 Hz

COMPENSATION

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 25 points (solely via OM Link)

DIGITAL FILTERS

Exponential average: from 2...100 measurements Rounding: setting the projection step for display

Filtration constant (F): transmits input signal up to 5...200 Hz

FUNCTIONS

Preset (F): initial non-zero value, which is always read after resetting the instrument to

Tare: resetting display upon non-zero input signal

EXTERNAL CONTROL

Hold: display/instrument blocking Resetting (F): counter resetting Lock: control keys blocking

Technical data

Display: LCD wtih backlighting, 2x 3 characters + 2x description

Description: second and fourth line of LCD display may be used for description of measured quantity, resp. output quantity

Decimal point: setting - in menu

INSTRUMENT ACCURACY

TC: 50 ppm/°C Accuracy: ±0,2 % of range + 1 digit ±0,3 % of range + 1 digit

±0,05% of range + 1 digit

Accuracy of cold junction measurement: ±1°C

Rate: 0,5...80 meas./s

Overload capacity: 10x (t < 30 ms) - not for 200 V a 5A; 2x
Resolution: 0,1°C (RTD), 1°C (T/C), for display

Watch-dog: reset after 20 ms

Functions: HOLD, LOCK, Digital filters, Tare
Linearization (DC, PM, DU): by linear interpolation in 25 points
Functions (f): Data backup, Time backup, Preset

Input filters (F): Filtration constant, Rounding Time base (F): 0,1/0,5/1/5/10/50 s Calibration constant (F): 0,01...9999 Hz

Filtration constant (F): 0/5/40/100 Hz PRESET (F): 0...999

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 prog. mode, contact switch < 50 ms

Limits: 999, resp. -99...999 k Hysteresis: 0...999, resp. 999 k

Delay: 0...99,9 s

Output: 2x Form A relays (250 VAC/30 VDC, 3 A)

DATA OUTPUT

Data format: 8 bit + no parity + 1 stop bit

Rate: 1 200...38 400 Baud

RS 232: isolated

PWR, T/C

RS 485: isolated, addressing (max. 31 instruments)

ANALOG OUTPUT

Type: isolated, programmable with resolution of max. 12 bit, type and range are selectable in programming mode

Non-linearity: 0,2 % of range TC: 50 ppm/°C

Rate: response to change of value < 100 ms

Ranges: 0...2/5/10 V, on request ± 5 V/ ± 10 V

0...5 mA, 0/4...20 mA, on request ±20 mA, (comp. < 500 Ω) Ripple: 5 mV residual ripple at output voltage of 10 V

Frequency: isolated, programmable, open colector with inside power resistor, 0,2...2 200 Hz

EXCITATION

Adjustable: 12...24 VDC/25 mA, isolated

POWER SUPPLY

24, 110, 230 VAC, 50/60 Hz, ±10%, 5 VA

10...30 VDC/max. 150 mA, isolated

er supply is protected by a fuse inside the instrument

MECHANIC PROPERTIES

Material: PA 66, incombustible UL 94 V-I, blue Dimensions: 113 x 98 x 35 mm

Installation: to DIN rail 35 mm wide

OPERATING CONDITIONS

Connection: connector terminal board, section < 2,5 mm²

Stabilization period: within 15 minutes after switch-on

Working temperature: -20°...60°C Storage temperature: -20°...85°C

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.

AC power supply > 600 V (PI), 300 V (DI)
DC power supply, input, output, Exc. > 500 V (PI), 250 V (DI)

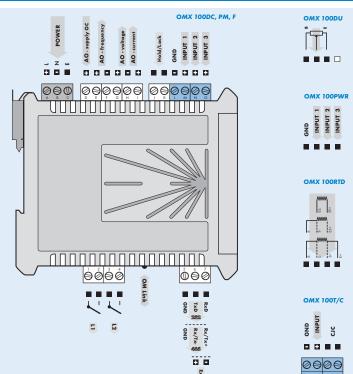
EMC: EN 61326-1 Seismic capacity: IEC 980: 1993, par. 6

PI - Primary insulation, DI - Double insulation

Measuring ranges

	DC	PWR	PWR	PM	ОНМ	DU	F		RTD	T/C
w/o				0/420 mA, 02/5/10 V		lin. potentiometer > 500 Ω	TTL, PNP: (30/150/300V) < 50 kHz	w/o		
Α	±0,4/4/40/400 V, ±4/40 mA				0999 Ω		counter/frequency	1	Pt 100	В
В	±60/150 mV, ±1/5 A				09,99 kΩ		timer/clock	2	Pt 500	R, S, T
C					099,9 kΩ			3	Pt 1 000	E, J, K, N
D								4	Ni 1 000	
E								5	Ni 2 226	
F								6	Ni 10 000	
G								7	Pt 100 (3920 ppm/°C)	
Н					5105 Ω					
К			060/150/300 mV							
P			01/2,5/5 A							
S		010/120 V								
U		0250/450 V								

Connection



Order code

OMX 100				-				
Туре		D	С		•	•	•	•
		Р	М		•		•	•
	0	н	M		•	•	•	٠
	P	w	R		•	••	•	•
	R	T	D		•	•	•	•
Order code shall not include blank spaces!		T	С		•	•	•	•
		D	U		•		•	•
			F		•		•	•
Power supply 2	24 VAC/50 Hz							
23	30 VAC/50 Hz				1			
110 VAC/50 Hz				3				
1030	1030 VDC, isolated				4			
Measuring range, see table "Measuring ranges"						?		
Comparators	no						0	
			yes				1	
Output	none							0
		RS	232					1
RS 485								2
	Excitation							3