



OMX 333UNI

OMLINK

The OMX 333 model series are simple DIN rail mountable programmable transmitters.

Type OMX 333UNI is a multifunction transmitter with 8 possible input configurations easily adjustable in the instrument's menu.

The instrument is based on a single-chip microcontroller with a 16-bit A/D and D/A converter, which provides good accuracy, stability and ease of use.

PROGRAMMABLE ISOLATED TRANSMITTER

- MULTIFUNCTION INPUT (DC, PM, RTD, T/C, DU)
- DIGITAL FILTERS, TARE, LINEARIZATION
- OUTPUT: 0/4...20 mA/0...5 mA/0...2/5/10 V/±10 V
- GALVANIC SEPARATION: 2,5 kVAC
- POWER SUPPLY 10...30 VDC/24 VAC
- Option
Comparators • Data output

OMX 333UNI

DC VOLTMETER AND AMMETER

PROCESS MONITOR

OHMMETER

THERMOMETER FOR PT/CU/NI/THERMOCOUPLES

TRANSMITTER FOR LINEAR POTENTIOMETERS

OPERATION

Instrument can be controlled by two push buttons and a DIP switch located on the front panel. When frequent changes of settings are needed, we recommend the use of OM Link interface, which in conjunction with free control SW allows for modification and storage of all instrument's settings and also for firmware upload (using OM Ling cable) from a PC.

The above mentioned SW can also be used for visualisation and archiving of measured values from a number of instruments via the RS 485 line.

All settings are stored in the EEPROM memory (they hold even after the instrument is switched off).

OPTION

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 RS485 with ASCII protocol.

STANDARD FUNCTIONS

PROGRAMMABLE INPUT

Setting: manual, in menu it is possible to set for both limit values of the input signal arbitrary AV conversion as well as type of the analog output

ANALOG OUTPUT

Type: isolated, programmable with a resolution of 16 bit, rate < 0,2 ms

Ranges: 0...2/5/10 V/±10 V, 0...5 mA/0/4...20 mA (comp. < 600 Ω)

COMPENSATION

Of conduct (RTD, OHM): automatic (3- or 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

FUNCTIONS

Linearization: through linear interpolation in 25 points (solely via OM Link)

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

DIGITAL FILTERS

Exponential average: from 2...100 measurements

Rounding: setting the projection step for display

EXTERNAL CONTROL

Hold: display/instrument blocking

Lock: control keys blocking

Tare: activation and tare resetting

TECHNICAL DATA

INPUT

DC	Range	optional in configuration menu		
	±90 mA	< 200 mV	Input 5	
	±180 mA	< 200 mV	Input 5	
	±30 mV	> 10 MΩ	Input 3	
	±60 mV	> 10MΩ	Input 3	
	±1000 mV	> 100 MΩ	Input 3	
	±20 V	1,25 MΩ	Input 1	
	±40 V	1,25 MΩ	Input 1	
	±80 V	1,25 MΩ	Input 1	
PM	Range	optional in configuration menu		
	±20 mA	< 200 mV	Input 5	
	4...20 mA	< 200 mV	Input 5	
	±2 V	1 MΩ	Input 1	
	±5 V	1 MΩ	Input 1	
	±10 V	1 MΩ	Input 1	
OHM	Range	optional in configuration menu with aut. range change		
	0...100 Ω			
	0...300 Ω			
	0...15kΩ			
	0...3 kΩ			
	0...24 kΩ			
	0...30 kΩ (only for 2- or 4-wire connection)			
	Connect.	2, 3 or 4 wire		
RTD	Type	optional in configuration menu		
	EU > 100/500/1 000 Ω, with 3 850 ppm/°C	-50°...450°C		
	US > 100 Ω, with 3 920 ppm/°C	-50°...450°C		
	RU > 50 Ω with 3 910 ppm/°C	-200°...1 100°C		
	RU > 100 Ω with 3 910 ppm/°C	-200°...450°C		
	Connect.	2, 3 or 4 wire		
NI	Type	optional in configuration menu		
	Ni 1 000/10 000 with 5 000 ppm/°C	-50°...250°C		
	Ni 1 000/10 000 with 6 180 ppm/°C	-50°...250°C		
	Connect.	2, 3 or 4 wire		
Cu	Type	optional in configuration menu		
	Cu 50/100 with 4 280 ppm/°C	-50°...200°C		
	Cu 50/100 with 4 280 ppm/°C	-200°...200°C		
	Connect.	2, 3 or 4 wire		
T/C	Type	optional in configuration menu		
	J [Fe-CuNi]	-200°...900°C		
	K [NiCr-Ni]	-200°...1 300°C		
	T [Cu-CuNi]	-200°...400°C		
	E [NiCr-CuNi]	-200°...690°C		
	B [PtRh30-PtRh6]	300°...1 820°C		
	S [PtRh10-Pt]	-50°...1 760°C		
	R [Pt13Rh-Pt]	-50°...1 740°C		
	N [Omegalloy]	-200°...1 300°C		
	L [Fe-CuNi]	-200°...900°C		

DU Potent. power supply 2,5 VDC/6 mA, Potentiometer resistance > 500 Ω

External input 1 input, on contact
The following functions can be assigned:
OFF input off
HLD. display stop
LOCK control keys blocking
TAR. tare activation

INSTRUMENT ACCURACY

TK: 50 ppm/°C
Accuracy: ±0,15% of range (for 20 m/s)
±0,3% of range **T/C**
Accuracy of cold junction measur.: ±1,5°C
Rate: 0,5...100 measur./s
Overload capacity: 2x; 10x (t < 30 ms)
Digital filters: exponential average, rounding
Functions: Tare
Linearization (DC, PM, DU): through linear interpolation in 25 points
DM Link: Company communication interface for operation, setting and update of instruments.
Watch-dog: reset after 20 ms
Calibration: at 25°C and 40 % r.h.

COMPARATOR

Type: digital, menu adjustable, contact switch-on < 50 ms
Hysteresis mode: switching limit, hysteresis band „Lim ±1/2 Hys.“ and time (0...99,9 s) determining the switching delay
Mode READY - output switching signals flawless status
Mode Error - output switching signals error status
Output: 1...2x Form A relays (250 VAC/30 VDC, 3 A); 1...2x open collector (30 VDC/100 mA)

DATA OUTPUTS

Protocol: ASCII
Data format: 8 bit + no parity + 1 stop bit (ASCII)
Rate: 600...230 400 Baud
RS 485: isolated, addressing (max. 31 instruments)

ANALOG OUTPUTS

Type: isolated, programmable with a 16 bit D/A converter, type and range are selectable in 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)
Ripple: 5 mV residual ripple at output voltage of 10 V

POWER SUPPLY

Range: 10...30 VDC/24 VAC, ±10 %, PF ≥ 0,4, I_{SP} < 40 A/1 ms, isolated
Consumption: < 2 W/2 VA

MECHANIC PROPERTIES

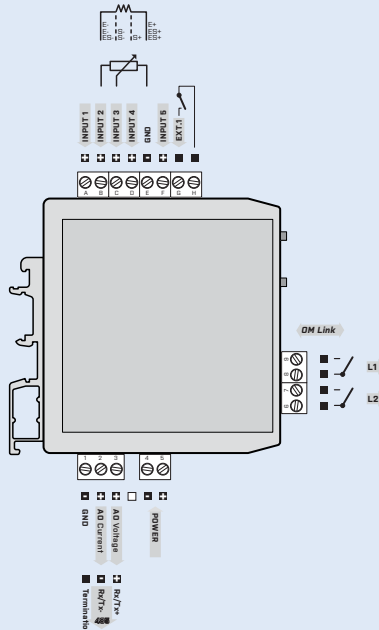
Material: PA 66, incombustible UL 94 V0, blue
Dimensions: 25 x 79 x 90,5 (w x h x d)
Installation: on DIN rail, width 35 mm

OPERATING CONDITIONS

Connection: connector terminal blocks, section < 1,5 mm²
Stabilization period: within 15 minutes after switch-on
Working temperature: -20°...60°C
Storage temperature: -20°...80°C
Protection: IP20
El. safety: EN 61010-1, A2
Dielectric strength: 2,5kV per 1 min test between pow. supply, inputs and outputs
Insulation resistance: for pollution degree II, measuring cat. III power supply > 550 V [PI], 255 V [DI]
EMC: EN 61326-1

PI - Primary insulation, DI - Double insulation

CONNECTION



ORDER CODE

OMX 333UNI

- [] - []

Comparators	no	0	0
1x relay (Form A)	1	1	
2x relay (Form A)	2	2	
1x open collector	3	3	
2x open collector	4	4	
Output	none	0	
	analog	1	
	RS 485	2	
Specification	customized version, do not fill in		00

Basic configuration of the instrument is indicated in bold.