



Data Sheet  
**OMM 323UNI**

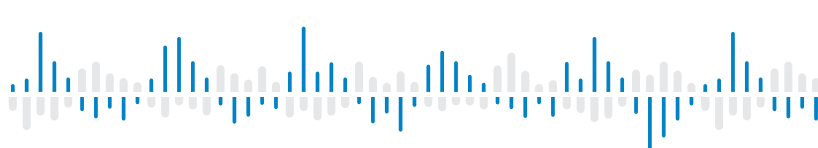
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## OMM 323UNI



The OMM 323 model range are inexpensive 3,5-digit panel programmable instruments designed for simple applications.

Type OMM 323UNI is a multifunction instrument with the possibility of configuration for 8 different input options, easily configurable in the instrument's menu.

The instrument is based on a single-chip microcontroller and an A/D converter, which ensure good accuracy, stability and easy operation of the instrument.

### UNIVERSAL INSTRUMENT

- 3,5-digit programmable projection
- Multifunction input UNI (DC, PM, RTD, T/C, DU)
- Digital filters, Tare, Linearization
- Size of DIN 48 x 24 mm
- Power supply 10...30 V DC/24 VAC

### OMM 323UNI

DC VOLTMETER AND AMMETER

PROCESS MONITOR

OHMMETER

THERMOMETER FOR Pt/Cu/Ni/THERMOCOUPLES

DISPLAY UNIT FOR LINEAR POTENTIOMETERS

### OPERATION

The instrument is controlled by four buttons situated under the front panel. 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).

### STANDARD FUNCTIONS

#### PROGRAMMABLE PROJECTION

**Selection:** of input type and measuring range

**Setting:** manual, optional projection on the display may be set in menu for both limit values of the input signal, e.g. input 0...19,99 V > 0...150,0

**Projection:** -999...9999

#### COMPENSATION

**Of conduct (RTD):** automatic (3-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 of the terminals)

#### FUNCTIONS

**Linearization:** non-linear signals can be linearized by the means of a linearization table (up to 25 points)

**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

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

## TECHNICAL DATA

INPUT				
Number of inputs 1				
<b>DC</b>	Range	optional in configuration menu		
		±90 mA	< 1 V Input 4	
	±180 mA	< 2 V Input 4		
	±30 mV	> 10 MΩ Input 3		
	±60 mV	> 10 MΩ Input 3		
	±1 000 mV	> 10 MΩ Input 3		
	±20 V	1 MΩ Input 1		
	±40 V	1 MΩ Input 1		
	±80 V	1 MΩ Input 1		
	<b>PM</b>	Range	optional in configuration menu	
±5 mA			< 200 mV Input 4	
±20 mA		< 200 mV Input 4		
4...20 mA		< 200 mV Input 4		
±2 V		1 MΩ Input 1		
±5 V		1 MΩ Input 1		
±10 V	1 MΩ Input 1			
<b>OHM</b>	Range	optional in configuration menu		
		0...100 Ω		
		0...300 Ω		
		0...15 kΩ		
		0...3 kΩ		
		0...24 kΩ		
	0...30 kΩ			
	Connection	2 or 3-wire (0...30 kΩ - 2-wire only)		
	<b>Pt</b>	Type	optional in configuration menu	
			EU > 100/500/1 000 Ω, 3 850 ppm	-50°...450°C
US > 100 Ω, 3 920 ppm/°C			-50°...450°C	
RU > 50 Ω, 3 910 ppm/°C			-200°...1 100°C	
RU > 100 Ω, 3 910 ppm/°C	-200°...450°C			
Connection	2 or 3-wire			
<b>Ni</b>	Type	optional in configuration menu		
		Ni 1 000/10 000, 5 000 ppm/°C	-50°...250°C	
		Ni 1 000/10 000, 6 180 ppm/°C	-200°...250°C	
Connection	2 or 3-wire			
<b>Cu</b>	Type	optional in configuration menu		
		Cu 50/100, 4 260 ppm/°C	-50°...200°C	
		Cu 50/100, 4 280 ppm/°C	-200°...200°C	
Connection	2 or 3-wire			
<b>T/C</b>	Type	optional in configuration menu		
		J (Fe-CuNi)	Input 3 -200°...900°C	
		K (NiCr-Ni)	Input 3 -200°...1 300°C	
		T (Cu-CuNi)	Input 4 -200°...400°C	
		E (NiCr-CuNi)	Input 3 -200°...690°C	
		B (PtRh30-PtRh6)	Input 4 300°...820°C	
		S (PtRh10-Pt)	Input 4 -50°...1 760°C	
		R (Pt13Rh-Pt)	Input 4 -50°...1 740°C	
		N (Omegalloy)	Input 3 -200°...1 300°C	
		L (Fe-CuNi)	Input 3 -200°...900°C	
		<b>DU</b>	Pot. 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
	HOLD input stop
	TARE tare activation

### PROJECTION

Display: -999...9999, single color 7-segment LED  
 Digit height: 9,1 mm  
 Display color: red or green  
 Decimal point: adjustable - in menu  
 Brightness: adjustable or automatically controllable

### INSTRUMENT ACCURACY

TC: 50 ppm/°C  
 Accuracy: ±0,15% of range + 1 digit  
 ±0,3% of range + 1 digit **T/C**  
 (for projection -999...1999)  
 Accuracy of cold junction measur.: ±1,5°C  
 Rate: 0,5...20 measurement/s  
 Overload capacity: 2x; 10x (t < 30 ms)  
 Resolution: 0,1°C (RTD), 1°C (T/C)  
 Line compensation: max. 30 Ω (RTD)  
 Cold junction compens.: adjustable -20°...99°C or automatic  
 Linearization: linear interpolation in 25 points (only via OM Link)  
 Digital filters: exponential average, rounding  
 Functions: Tare  
 OM Link: company communication interface for operation, setting and update of instruments  
 Watch-dog: reset after 500 ms  
 Calibration: at 25°C and 40 % r.h.

### POWER SUPPLY

Range: 10...30 VDC/24 VAC, ±10 %, PF ≥ 0,4, I<sub>STP</sub> < 45 A/1,1 ms, isolated  
 Consumption: < 1 W/1,1 VA

### MECHANIC PROPERTIES

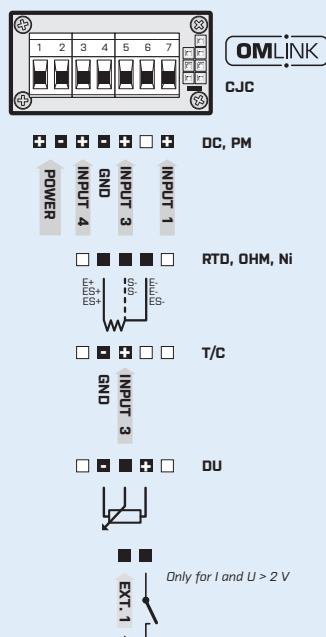
Material: Noryl GFN2 SE1, Incombustible UL 94 V-I  
 Dimensions: 48 x 24 x 72 mm (w x h x d)  
 Panel cutout: 43,5 x 21,5 mm (w x h)

### OPERATING CONDITIONS

Connection: connector terminal blocks, section < 1,5 mm<sup>2</sup>  
 Stabilization period: within 5 minutes after switch-on  
 Working temperature: -20°...60°C  
 Storage temperature: -20°...85°C  
 Protection: IP42 (front panel only)  
 EL safety: EN 61010-1, A2  
 Dielectric strength: 2,5 kVAC per 1 min test between supply and input  
 Insulation resistance: for pollution degree II, measuring cat. III  
 power supply > 300 V (PI)  
 EMC: EN 61326-1

PI - Primary insulation, DI - Double insulation

## CONNECTION



## ORDER CODE

### OMM 323UNI

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Display color	red	<b>1</b>	
	green	<b>2</b>	
Specification	customized version, do not fill in		<b>00</b>
	input 1 > 0...199,9 V		<b>01</b>

Basic configuration of the instrument is indicated in bold.