



Data Sheet

## OML 343UNI

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## OML 343UNI



Type OML 343UNI is a multifunction instrument with the option of configuration for 8 different input options, easily configurable in the instrument menu. Depth of the instrument box only 30 mm.

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

### UNIVERSAL INSTRUMENT

- 3,5-digit programmable projection
- Multifunction input (DC, PM, RTD, T/C, DU)
- Digital filters, Linearization, Tare
- Size of DIN 96 x 48 mm
- Power supply 10...30 VDC/24 VAC
  
- Option  
Comparator

### OML 343UNI

DC VOLTMETER AND AMMETER  
 PROCESS MONITOR  
 OHMMETER  
 THERMOMETER FOR Pt/Cu/Ni/THERMOCOUPLES  
 DISPLAY UNIT FOR LINEAR POTENTIOMETERS

### OPERATION

The instrument is set and controlled by five buttons accessible from the rear. 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).

### OPTION

**COMPARATOR** is 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.

### 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...10 V > 0...150,0

**Projection:** ±1999

#### COMPENSATION

**Of conduct (RTD):** 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:** 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:** tare activation

## TECHNICAL DATA

INPUT					
Number of inputs 1					
<b>DC</b>	Range	optional in configuration menu			
		±90 mA	< 1 V		
	±180 mA	< 2 V			
	±30 mV	> 10 MΩ			
	±60 mV	> 10 MΩ			
	±1 000 mV	> 10 MΩ			
	±20 V	1 MΩ			
	±40 V	1 MΩ			
	±80 V	1 MΩ			
	<b>PM</b>	Range	optional in configuration menu		
±20 mA			< 200 mV		
4...20 mA		< 200 mV			
±2 V		1 MΩ			
±5 V		1 MΩ			
±10 V		1 MΩ			
<b>OHM</b>	Range	optional in configuration menu			
		0...100 Ω			
		0...300 Ω			
		0...15 kΩ			
		0...3 kΩ			
0...24 kΩ					
Connection	2, 3 or 4 wire				
	<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°...1100°C		
RU > 100 Ω, 3 910 ppm/°C			-200°...450°C		
Connection			2, 3 or 4 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, 3 or 4 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, 3 or 4 wire		
<b>T/C</b>	Type	optional in configuration menu			
		J (Fe-CuNi)	Input 3		
		K (NiCr-Ni)	Input 3		
		T (Cu-CuNi)	Input 4		
		E (NiCr-CuNi)	Input 3		
		B (PtRh30-PtRh6)	Input 4		
		S (PtRh10-Pt)	Input 4		
		R (Pt13Rh-Pt)	Input 4		
		N (Omegalloy)	Input 3		
		L (Fe-CuNi)	Input 3		
		<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
HLD.	display stop
TAR.	tare activation

### PROJECTION

Display: ±1999, single color 7-segment LED  
 Digit height: 14 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**  
 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.

### COMPARATOR

Type: digital, menu adjustable, contact switch-on < 50 ms  
 Hysteresis mode: switching limit, hysteresis band (Lim and ±1/2 Hys.) and time (±99,9 s) determining the switching delay  
 Output: 1x Form A relay (250 VAC/30 VDC, 3 A),  
 1x open collector (30 VDC/100 mA)

### POWER SUPPLY

Range: 10...30 VDC/24 VAC, ±10 %, PF ≥ 0,4, I<sub>STP</sub> < 45 A/1,1 ms, isolated  
 Consumption: < 1,8 W/1,9 VA

### MECHANIC PROPERTIES

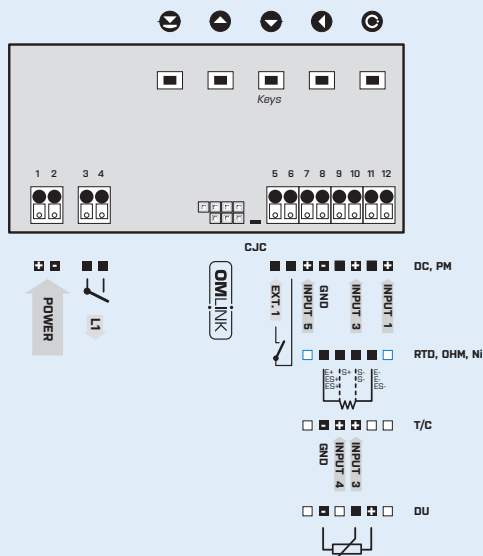
Material: Polycarbonate, incombustible UL 94 V-0  
 Dimensions: 96 x 48 x 30 mm (w x h x d)  
 Panel cutout: 92 x 44 mm (w x h)

### OPERATING CONDITIONS

Connection: connector terminal blocks, section < 1,5 mm²  
 Stabilization period: within 5 minutes after switch-on  
 Working temperature: -20°...60°C  
 Storage temperature: -20°...85°C  
 Protection: IP65 (front panel only with a gasket)  
 E1 safety: EN 61010-1, A2  
 Dielectric strength: 2,5 kVAC per 1 min test between supply and input  
 4 kVAC per 1 min test between input and relay output  
 Insulation resistance: for pollution degree II, measuring cat. III  
 power supply > 300 V (PI)  
 input, output > 300 V (DI)  
 EMC: EN 61326-1

PI - Primary insulation, DI - Double insulation

## CONNECTION



## ORDER CODE

### OML 343UNI

- [ ] [ ] [ ] - [ ]

<b>Comparator</b>	no	0		
	1x relay (Form A)	1		
	1x open collector	2		
<b>Display color</b>	red	1		
	green	2		
<b>Gasket</b>	no		0	
	Silicone gasket between instrument and panel	yes	1	
<b>Specification</b>	customized version, do not fill in			00

Basic configuration of the instrument is indicated in bold.