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

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.

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		
DC	Range	optional in configuration menu		
		±90 mA	< 1 V	Input 5
		±180 mA	< 2 V	Input 5
		±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
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		
		0...100 Ω		
		0...300 Ω		
		0...1,5 kΩ		
		0...3 kΩ		
		0...24 kΩ		
	Connection	2, 3 or 4 wire		
Pt	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, 3 or 4 wire		
Ni	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		
Cu	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		
T/C	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°...1 820°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
DU	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_{STP} < 45 A/1,1 ms, isolated
Consumption: < 1,8 W/1,9 VA

MECHANIC PROPERTIES

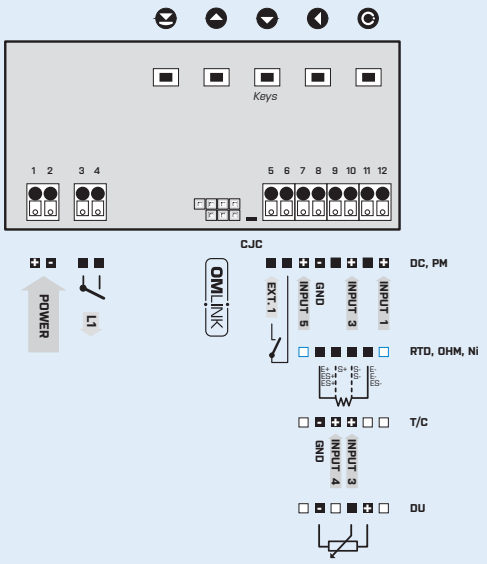
Material: Polycarbonate, incombustible UL 94 V-0
Dimensions: 96 x 48 x 30 mm (w x h x d)
Panel cutout: 92 x 44 mm (w x h)

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)
El. 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

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

Basic configuration of the instrument is indicated in bold.