



Data Sheet

## OMM 350UNI

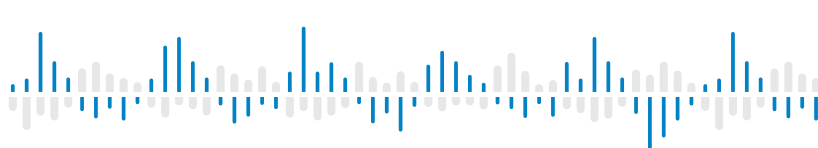
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Bristol Instruments  
90 Canal Street, 4th Floor  
Boston, MA 02114

Toll free  
877-866-8500



## OMM 350UNI



The OMM 350 model series are small 3,5-digit panel programmable instruments designed for maximum usefulness and user comfort while maintaining its fair price.

Type OMM350UNI is a multifunction instrument with the option of configuration for 8 different input options, easily configurable in the instrument's menu.

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
- Size of DIN 72 x 24 mm
- Power supply 10...30 VDC/24 VAC
  
- Option  
Comparators

### OMM 350UNI

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 on 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).

All settings are stored in the EEPROM memory (settings 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.

### STANDARD FUNCTIONS

#### PROGRAMMABLE PROJECTION

**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:** -99999...9999

#### 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 (temperature at the input 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

**Lock:** control keys 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			
		±20 mV	> 10 MΩ Input 4		
		±60 mV	> 10 MΩ Input 3		
		±1 000 mV	1,25 MΩ Input 1		
<b>PM</b>	Range	optional in configuration menu			
		0...20 mA	< 200 mV Input 5		
		4...20 mA	< 200 mV Input 5		
		0...2 V	10 MΩ Input 4		
		0...5 V	1,25 MΩ Input 1		
		0...10 V	1,25 MΩ Input 1		
<b>OHM</b>	Range	fixed - by order			
		0...300 Ω			
		0...1,5 kΩ			
		0...3 kΩ			
		0...30 kΩ			
		Connection	2, 3 or 4 wire		
<b>Pt</b>	Type	fixed - by order			
		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		
<b>Ni</b>	Type	fixed - by order			
		Ni 1 000/10 000, 5 000 ppm/°C	-50°...250°C		
		Ni 1 000/10 000, 6 180 ppm/°C	-50°...250°C		
		Connection	2, 3 or 4 wire		
<b>Cu</b>	Type	fixed - by order			
		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	-200°...900°C		
		K (NiCr-Ni) Input 3	-200°...1300°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		
		<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					
LOC. control keys blocking					
HOD display stop					
TAR. tare activation					

### PROJECTION

Display: -99999...999999, single color 7-segment LED  
 Digit height: 9,1 mm  
 Display color: red or green  
 Decimal point: adjustable - in menu  
 Brightness: adjustable - in menu

### INSTRUMENT ACCURACY

T/C  
 TC: 50 ppm/°C  
 Accuracy: ±0,2% of range + 1 digit (for projection -999...1999)  
 ±0,3% of range + 1 digit  
 Accuracy of cold junction measur.: ±1,5°C  
 Rate: 0,5/1/2/2,5/5/10 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.

### COMPARATORS

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: 1...2x relay with bistable contact (48 VAC/30 VDC, 3 A); 1...2x open collector (30 VDC/100 mA)

### POWER SUPPLY

Range: 10...30 VDC/24 VAC, ±10 %, PF ≥ 0,4, I<sub>STR</sub> < 45 A/1 ms, isolated  
 Consumption: < 2,1 W/2,2 VA

### MECHANIC PROPERTIES

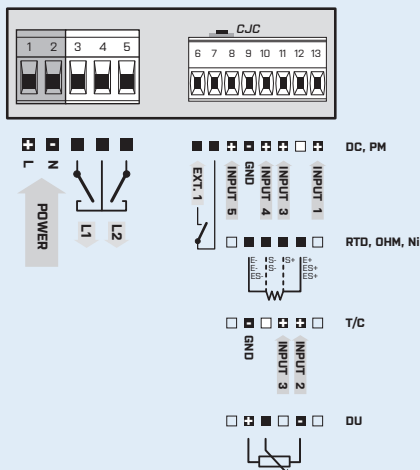
Material: Noryl GFN2 SE1, incombustible UL 94 V-1  
 Dimensions: 72 x 24 x 10,6 mm (w x h x d)  
 Panel cutout: 68 x 21,5 mm (w x h)

### OPERATING CONDITIONS

Connection: connector terminal blocks, section < 1,5/2,5 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)  
 Et. 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  
 Instrument power supply, input > 300 V (PI), 150 V (DI)  
 EMC: EN 61326-1  
 Seismic capacity: IEC 980:1993, par. 6

PI - Primary insulation, DI - Double insulation

## CONNECTION



## ORDER CODE

### OMM 350UNI

- 0 - -

Power supply	10...30 VDC/24 VAC, isolated	<b>0</b>			
Measuring range	Pt 100/300 Ω	<b>A</b>			
	Pt 500/1,5 kΩ	<b>B</b>			
	Pt 1 000/Ni 1 000/3 kΩ	<b>C</b>			
	Ni 10 000/30 kΩ	<b>D</b>			
Ranges DC, PM, T/C, DU are always fitted on request					
Comparators	no	<b>0</b>			
	1x relay (Form A)	<b>1</b>			
	2x relay (Form A)	<b>2</b>			
	1x open collector	<b>3</b>			
	2x open collector	<b>4</b>			
Display color	red		<b>1</b>		
	green		<b>2</b>		
Specification	customized version, do not fill in				<b>00</b>

Basic configuration of the instrument is indicated in bold.