Data Sheet

OM 352UNI

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UNIVERSAL INSTRUMENT

- 3,5-digit programmable projection
- Multifunction input UNI (DC, PM, RTD, T/C, DU)
- Digital filters, Linearization
- Size of DIN 96 x 48 mm
- Power supply 10...30 V AC/DC; 80...250 V AC/DC

- Option
  Comparators • Data output • Analog output
  Three-color display - 20 mm

OM 352UNI

The OMM 352 model series are small 3,5-digit panel programmable instruments designed for maximum usefulness and user comfort while maintaining its fair price.

Type OML 352UNI is a multifunction instrument with the option of configuration for 8 different input options, easily configurable in the instrument 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.

OM 352UNI
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 located 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). 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

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 RS232 and RS485 with the ASCII/PROFIBUS protocols.

ANALOG OUTPUTS will find their place in applications where further evaluating or processing of measured data is required in external devices. We offer universal analog output with the option of selection of the type of output - voltage/current. The value of analog output corresponds with the displayed data. Its type and range are selectable in menu.

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: ±1999

EXCITATION
Range: 5...24 VDC/1,2 W, for feeding sensors and transmitters

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
Lock: control keys blocking
Tare: tare activation

TECHNICAL DATA

INPUT

Number of inputs		1		
DC	Range	optional in configuration menu		
		0...20 mV	> 10 MΩ	Input 4
		0...60 mV	> 10 MΩ	Input 3
		0...1 000 mV	1,25 MΩ	Input 1
PM	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
OHM	Range	fixed - by order		
		0...300 Ω		
		0...1,5 kΩ		
		0...3 kΩ		
		0...30 kΩ		
	Connection	2, 3 or 4 wire		
Pt	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		
Ni	Type	fixed - by order		
		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
	Connection	2, 3 or 4 wire		
Cu	Type	fixed - by order		
		Cu 50/100 with 4 260 ppm/°C		-50°...200°C
		Cu 50/100 with 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	-100°...900°C
		K (NiCr-Ni)	Input 3	-100°...1 300°C
		T (Cu-CuNi)	Input 4	-200°...400°C
		E (NiCr-CuNi)	Input 3	-100°...690°C
		B (PtRh30-PtRh6)	Input 4	700°...1 820°C
		S (PtRh10-Pt)	Input 4	100°...1 760°C
		R (Pt13Rh-Pt)	Input 4	100°...1 740°C
		N (Omegalloy)	Input 3	0°...1 300°C
		L (Fe-CuNi)	Input 3	-100°...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	
		LOC.	control keys blocking	
		TAR.	tare activation	

PROJECTION

Display: ±1999, single color 7-segment LED;
-999...9999, 3-color 7-segment LED
Digit height: 14 or 20 mm
Display color: red or green (height 14 mm)
red/green/orange (height 20 mm)
Decimal point: adjustable - in menu
Brightness: adjustable - in menu

INSTRUMENT ACCURACY

TC: 50 ppm/°C
Accuracy: ±0,2 % of range + 1 digit (for projection ±1999) T/C
±0,3 % of range + 1 digit T/C - B
±0,6 % 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.

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: 1...2x Form A relays (250 VAC/30 VDC, 3 A);
1...2x open collector (30 VDC/100 mA)

DATA OUTPUTS

Protocol: ASCII, PROFIBUS DP
Data format: 8 bit + no parity + 1 stop bit (ASCII)
Rate: 300...230 400 Baud
9 600 Baud...12 Mbaud (PROFIBUS)
RS 232: isolated
RS 485: isolated, addressing (max. 31 instruments)

ANALOG OUTPUTS

Type: isolated, programmable with resolution of max. 4 000 points, analog output corresponds with the displayed data, type and range are selectable in menu
Non-linearity: 0,2 % of range
TC: 50 ppm/°C
Rate: response to change of value < 250 ms
Ranges: 0...2/5/10 V, 0/4...20 mA (comp. < 600 Ω/12 V)

EXCITATION

Adjustable: 5...24 VDC/max. 1,2 W, isolated

POWER SUPPLY

Range: 10...30 V AC/DC, ±10 %, PF≥ 0,4, I_{STP}< 40 A/1 ms, isolated
80...250 V AC/DC, ±10 %, PF≥ 0,4, I_{STP}< 40 A/1 ms, isolated
Consumption: < 6,8 W/6,9 VA
Power supply is protected by a fuse inside the instrument.

MECHANIC PROPERTIES

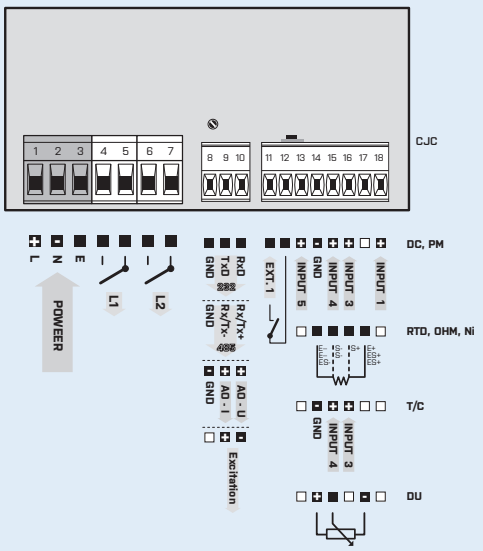
Material: Noryl GFN2 SE1, incombustible UL 94 V-I
Dimensions: 96 x 48 x 120 mm (w x h x d)
Panel cutout: 90,5 x 45 mm (w x h)

OPERATING CONDITIONS

Connection: connector terminal blocks, section < 1,5/2,5 mm²
Stabilization period: within 5 minutes after switch-on
Working temperature: -20°...60°C
Storage temperature: -20°...85°C
Protection: IP64 (front panel only)
El. safety: EN 61010-1, A2
Dielectric strength: 4 kVAC per 1 min test between supply and input
4 kVAC per 1 min test between supply and data/analog output
4 kVAC per 1 min test between input and relay output
2,5 kVAC per 1 min test between input and data/analog output
Insulation resistance: for pollution degree II, measuring cat. III
power supply > 670 V (PI), 300 V (DI)
input, output, PN > 300 V (PI), 150 V (DI)
EMC: EN 61326-1

PI - Primary insulation, DI - Double insulation

CONNECTION



ORDER CODE

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Power supply	10...30 V AC/DC	**0**					
	80...250 V AC/DC	**1**					
Measuring range	**Pt 100/300 Ω**		**A**				
	Pt 500/1,5 kΩ		**B**				
	Pt 1 000/Ni 1 000/3 kΩ		**C**				
	Ni 10 000/30 kΩ		**D**				
Ranges DC, PM, T/C, DU are always fitted	on request		**Z**				
Comparators	**no**			**0**			
	1x relay (Form A)			**1**			
	2x relay (Form A)			**2**			
	1x open collector			**3**			
	2x open collector			**4**			
Output	**Excitation**				**1**		
	Analog output				**2**		
	RS 232				**3**		
	RS 485				**4**		
	PROFIBUS				**6**		
Display color	**red (14 mm)**					**1**	
	green (14 mm)					**2**	
	red/green (20 mm)					**3**	
Specification	**customized version, do not fill in**						**00**

Basic configuration of the instrument is indicated in bold.