OM 352/652

- 3 ½ digit programmable projection (352)
- 6 digit programmable projection (652)
- Multifunction device (DC, PM, RTD, T/C, DU)
- Digital filter, Tare, Linearization
- Size of DIN 96 x 48 mm
- Power supply 80...250 V AC/DC

OMLINK

Options

- Excitation • Dual comparator • Data output • Analog output
- Power supply 10...30 V AC/DC

OM 352UNI	**VOLTMETER AND AMMETER**
	PROCESS MONITOR
	OHMMETER
	THERMOMETER FOR Pt, Ni, Cu
	THERMOMETER FOR THERMOCOUPLES
	DISPLAY UNIT FOR LINEAR POTENTIOMETERS
OM 352AC	**AC VOLTMETER AND AMMETER**
OM 352DC	**DC VOLTMETER AND AMMETER**
OM 652UC	**UNIVERSAL COUNTER**

Description

The OM 352 model series are simple 3 ½ digit panel programmable instruments designed for maximum usefulness and user comfort while maintaining its fair price. Versions UNI, DC and AC are available.

Type OM 352UNI is a multifunction instrument with the option of configuration for 8 different input options, easily configurable in the instrument menu. Versions OM 352DC and OM 352AC are suitable for measurement of larger ranges of DC and AC voltages and currents.

The instrument is based on an 8-bit microcontroller with A/D converter , which ensures good accuracy, stability and easy operation of the instrument.

The OM 652UC type is a universal low-cost counter/frequencymeter/stopwatch/timer.

Operation

The instrument is set and controlled by five control keys 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 perform 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 (they hold even after the instrument is switched off).

Options

Excitation is suitable for feeding of sensors and transmitters. It is isolated, with continuously adjustable value in the range of 5...24 VDC.

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/MODBUS/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 and its type and range are selectable in menu.

Time backup (UC) is suitable where time needs to be measured even in case of supply voltage outage (upon power supply outage the instrument does not display)

Standard functions

PROGRAMMABLE PROJECTION

Selection: of input type and measuring range
Setting: manual, in menu optional projection on the display may be set for both limit values of the input signal
Setting (UC): measuring mode counter/frequency/timer/clock with adjustable calibration coefficient, time base and projection
Projection: ±1999, resp. -99999...999999

COMPENSATION

of conduct (RTD): automatic (3- and 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 brackets)

LINEARIZATION

Linearization: through linear interpolation in 25 points (solely via OM Link)

DIGITAL FILTERS

Exponential average: from 2...100 measurements
Rounding(UC): setting the projection step for display
Filtration constant (UC): transmits input signal up to 5...1 000 Hz

FUNCTIONS

Preset (UC): initial non-zero value, which is always read after resetting the instrument to zero
Setting current value (UC): initial value, e.g. amount passed-trough
Tare: resetting display upon non-zero input signal

EXTERNAL CONTROL

Hold: display/instrument blocking
Lock: control keys blocking
Resetting: counter resetting
Start/Stop: stopwatch/timer control

Technical data

PROJECTION
Display: ±1999 resp. 999999, red or green 7-segment LED, digit height 14 mm
-999...9999, red/green/orange 7-segment. LED, height 20 mm
Decimal point: setting - in menu
Brightness: setting - in menu

INSTRUMENT ACCURACY
TC: 100 ppm/°C, 50 ppm/°C (UC)
Accuracy: ±0,2 % of range + 1 digit
±0,3 % of range + 1 digit (AC, T/C)
Accuracy applies for projection ±1999
±0,05 % of value + 1 digit (UC)
±0,01 % of value ±2 ms (UC - stopky)
±0,01 % of value ±130 ms (UC - RTC)
Accuracy of cold junction measurement: ±1 °C
Rate: 0,5...10 meas./s
Overload capacity: 10x (t < 30 ms) - not for <200 V and 5A; 2x
Resolution: 0,1 °C (RTD), 1 °C (T/C)
Watch-dog: reset after 500 ms
Functions: HOLD, LOCK, Digital filters, Tare
Functions (UC): Data backup, Time backup, Preset
Input filters (UC): Filtration constant, Rounding
Time base (UC): 0,5/1/5/10/50 s
Calibration constant (UC): 0,00001...999999
Filtration constant (UC): 0/5/40/100/1000 Hz
PRESET (UC): 0...999999
OM Link: Company communication interface for operation, setting and update of instruments

Calibration: at 25 °C and 40 % r.h.

COMPARATOR
Type: digital, setting in programming mode, contact switch < 50 ms
Limits: ±1999; -99999...999999; ; -999...9999
Hysteresis: 0...1999; 999999; -999...9999
Delay: 0...99,9 s
Output: 2x Form A relays (250 VAC/30 VDC, 3 A)
On request open collector may be fitted

DATA OUTPUT
Protocol: ASCII, MODBUS - RTU, PROFIBUS
Data format: 8 bit + no parity + 1 stop bit
7 bit + even parity + 1 stop bit (Messbus)
Rate: 300...230 400 Baud
9 600 Baud...12 Mbaud (PROFIBUS)
RS 232: isolated
RS 485: isolated, addressing (max. 31 instruments)

ANALOG OUTPUT
Type: isolated, programmable with resolution of max. 4 000 points, AO corresponds with the displayed data, type and range are selectable in programming mode
Non-linearity: 0,2 % of range
TC: 100 ppm/°C
Rate: response to change of value < 250 ms
Ranges: 0...2/5/10 V, 0...5 mA, 0/4...20 mA (comp. < 500 Ω)

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

POWER SUPPLY
10...30 V AC/DC, ±10%, max. 13,5 VA
80...250 V AC/DC, ±10%, max. 13,5 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
Panel cutout: 90,5 x 45 mm

OPERATING CONDITIONS
Connection: connector terminal board, section < 2,5 mm²
Stabilization period: within 15 minutes after switch-on
Working temperature: 0°...60°C
Storage temperature: -10°...85°C
Cover: IP65 (front panel only)
El. safety: EN 61010-1, A2
Insulation resistance: for pollution degree II, measuring cat. III.
power supply > 670 V (PI), 300 V (DI)
input, output, Exc. > 300 V (PI), 150 V (DI)
EMC: EN 61000-3-2+A12; EN 61000-4-2, 3, 4, 5, 8, 11; EN 550222, A1, A2
Seismic capacity: IEC 980: 1993, par. 6

PI - Primary insulation, DI - Double insulation

Measuring ranges

OM 352 is a multifunction instrument available in following types and ranges

type UNI
DC: ±20/±60/±1 000 mV
PM: 0...20 mA/4...20 mA/0...2 V/0...5 V/0...10 V
OHM: 0...300 Ω/0...1,5 kΩ/0...3 kΩ/0...30 kΩ
RTD: Pt 50/100/500/1 000
Cu: Cu 50/Cu 100
Ni: Ni 1 000/10 000
T/C: J/K/T/E/B/S/R/N/L
DU: Linear potentiometer (min. 500 Ω)

type DC
DC - Hi: ±1 A/±5 A/±20 V/±40 V/±100 V/±200 V

typ AC
AC: 0...1 A/0...5 A
0...60 mV/0...300 mV/0...24 V/0...50 V/0...90 V/0...120 V/0...250 V/0...450 V

type UC
UC: 0...30 V/0...300 V, comparation levels are adjustable in the menu
input frequency 0,02 Hz...50 kHz

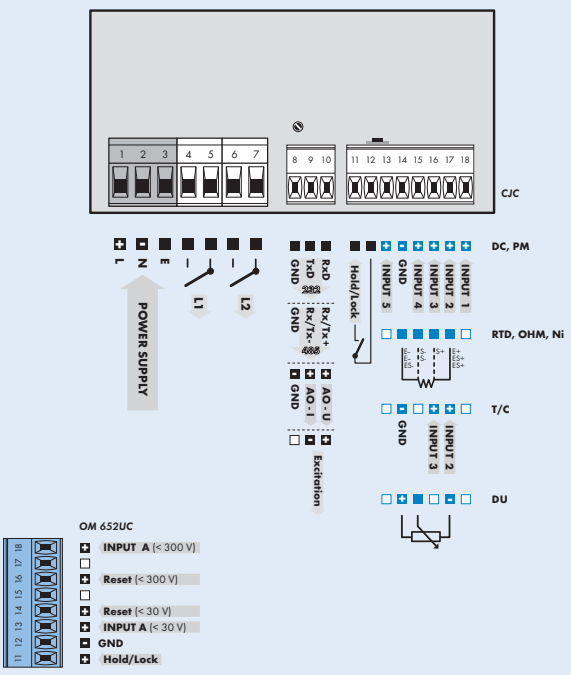
Connecting individual inputs

	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5
DC	0...1 V		0...60 mV	0...20 mV	
PM	0... 5/10 V			0... 2 V	0...20 mA, 4... 20 mA
T/C			J, K, E, N, L	B, S, R, T	
DC - Hi	±100/200 V	±20/40 V			±1±/5 A
AC	0...90/450 V	0...50/250 V	0...24/120 V	0...60/300 mV	0...0,5/1/5 A

Order code specifikacation

	UNI	UC
w/o	---	counter/frequencymeter/stopwatch/timer
A	Pt 100/0...300 Ohm	
B	Pt 500/0...1500 Ohm	
C	Pt 1 000/Ni 1 000/0...3 kOhm	
D	Ni 10 000/0...30 kOhm	
Z	on request	

Connection



Order code

OM 352/652 ☐☐☐ - ☐☐☐☐☐☐

		U	N	I	•	•	•	•		•
Type			D	C	•		•	•		•
			A	C	•		•	•		•
Order code shall not include blank spaces!			U	C	•		•	•	•	•
Power supply	10...30 V AC/DC				0					
	80...250 V AC/DC				1					
Measuring range, see table „Measuring ranges"						?				
Comparators	no						0			
	1x relay *(Form A)*						1			
	2x relays *(Form A)*						2			
	1x open collector						3			
	2x open collector						4			
Output	none							0		
	Excitation							1		
	Analog output							2		
	RS 232							3		
	RS 485							4		
	MODBUS*							5		
	PROFIBUS							6		
Time backup	no								0	
	yes								1	
Display color	red *(14 mm)*									1
	green *(14 mm)*									2
	red/green/orange *(20 mm)*									3

* *Launch for sale has not been set*