

OM 352/652



- OM 352UNI** PROCESS MONITOR
OHMMETER
THERMOMETER FOR Pt/Ni
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 3 1/2 digit panel programmable instruments designed for maximum efficiency and user comfort while maintaining their good price. Two models are available: UNI, DC and AC.

Type OM 352UNI is a multifunction instrument with the option of configuration for 7 various input options, easily configurable in the instrument menu.

The OM 352DC and OM 352AC types are specified for measuring bigger ranges of DC and AC voltage and current.

The OM 652UC is a cheap universal counter/frequency meter/stopwatch.

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

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).

The measured units may be projected on the display.

Options

Excitation is suitable for feeding of sensors and transmitters. It has a galvanic isolation with continuously adjustable value.

- 3 1/2/6 digit programmable projection
- 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 • Comparators • Data output • Analog output
- Power supply: 10...30 V AC/DC

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/MESSBUS/MODBUS/PROFIBUS protocol.

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 is suitable where time needs to be measured even in case of supply voltage outage (upon power supply outage the instrument does not display) (only for OM 652UC)

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, e.g. input 0...19,99 V ⇒ 0...150,0

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): in menu it is possible to perform compensation for 2-wire connection

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

Input filter (UC): lets through input signal up to 5...200 Hz

FUNCTIONS

Preset (UC): initial non-zero value, which is always read after resetting the instrument to zero

Tare: resetting display upon non-zero input signal

EXTERNAL CONTROL

Hold: display/instrument blocking

Lock: control keys blocking

Resetting: counter resetting

Technical data

PROJECTION

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

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)
 ±0,05% of range + 1 digit (UC)
Rate: 0,5...10 meas./s
Overload capacity: 10x (t < 30 ms) - not for 200/450V and 5A; 2x
Resolution: 0,1°C (RTD), 1°C (T/C)
Watch-dog: reset after 20 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
Input filter (UC): 0/5/40/100/200 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 prog. 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 relay (250 VAC/30 VDC, 3 A)
On request open collector may be fitted

DATA OUTPUT

Protocol: ASCII, MESSBUS, MODBUS - RTU, PROFIBUS
Data format: 8 bit + no parity + 1 stop bit (ASCII)
 7 bit + even parity + 1 stop bit (DIN Messbus)
Rate: 300...230 400 Baud
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, isolated
 80...250 V AC/DC, isolated
Power supply is protected by a fuse inside the instrument

MECHANIC PROPERTIES

Material: Noryl GFN2 SE1, incombustible UL 94 V-1
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), 250 V (DI)
EMC: EN 61000-3-2+A12; EN 61000-4-2, 3, 4, 5, 8, 11; EN 55022, A1, A2

PI - Primary insulation, DI - Double insulation

Measuring ranges

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

type UNI

DC: 0...20/60/1000 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
RTD: Pt 100/Pt 500/Pt 1000
Ni: Ni 1 000
T/C: J/K/T/E/B/S/R/N
DU: Linear potentiometer (min. 500 Ω)

type DC

DC - Hi: 0...0,5 A/0...1 A/0...5 A/0...20 V/0...40 V/0...200 V

type 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

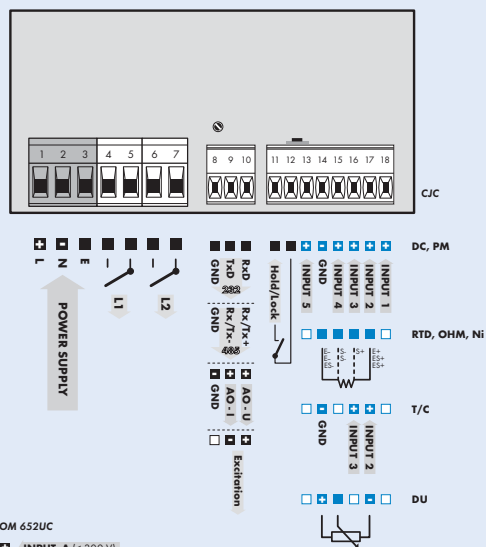
type UC

UC: 0...30 V/0...300 V, comparison levels are adjustable in the menu

	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	B, S, R, T	
DC - Hi		0...20/40/200 V			0...0,5/1/5 A
AC	0...90/450 V	0...50/250 V	0...24/120 V	0...60/300 mV	0...0,5/1/5 A

	UNI	UC
A	Pt 100/0...300 Ohm	counter/frequency
B	Pt 500/0...1500 Ohm	timer/clock
C	Pt 1 000/Ni 1 000/0...3 kOhm	
Z	on request	

Connection



Order code

OM 352/652



Type	U	N	I	.	.	.	.	.	.
	D	A	C	.	.	.	.	.	.
	A	C	.	.	.	.	.	.	.
	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 (switch-on)	1							
	2x relays (switch-on)	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							
Display colore	red (14 mm)	1							
	green (14 mm)	2							
	red/green (20 mm)*	3							

* Scheduled for sale in 1stQ of 2007