# **DM** 502



# **OM** 502

OMLINK



9.3740

5-DIGIT PROGRAMMABLE PROJECTION

MATHEMATIC FUNCTIONS, DIGITAL FILTERS, TARE

- ACCURACY 0,02% S RATE: 100 MEAS./s
- SIZE OF DIN 96 x 48 мм
- POWER SUPPLY 80...250 V AC/DC
- Option
  Comparators Data output Analog output Data record
  Power supply 10...30 V AC/DC

## 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

 $\mbox{USER MENU}$  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.

# OPTION

**COMPARATORS** are assigned to monitor one, two, three or four limit values with relay output. The user may select limits regime: LIMIT/DOSING/FROM-TO. 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.

**MEASURED DATA RECORD** is an internal time control of data collection. It is suitable where it is necessary to register measured values. Two modes may be used. FAST is designed for fast storage (80 records/s) of all measured values up to 8 000 records. Second mode is RTC, where data record is governed by Real Time with data storage in a selected time segment and cycle. Up to 266 000 values may be stored in the instrument memory. Data transmis sion into PC via serial interface RS232/485 and OM Link.

**DM 502DC** DC VOLTMETER AND AMMETER

**OM 502PM** PROCESS MONITOR

**OM 502I** INTEGRATOR

**OM 502LX** LINEARIZER

**OM 502DU** DISPLAY UNIT FOR LINEAR POTENTIOMETERS

**OM 502T** WEIGHING INDICATOR

# STANDARD FUNCTIONS

## PROGRAMMABLE PROJECTION

Setting: manual, in menu optional projection on the display may be set for both limit values of the input signal, e.g. input 0...300,0 V > 0...450,0 Projection: -99999...999999

Weighing function (T): manual or automatic calibration, signalization of stabilized equilibrium, zero stabilization, automatic zero monitoring, defined number of segments on the scale

Projection (T): ±99999 (Mode - Standard) Selection of segment size (T): 0,001/.../0,1/0,2/0,5/1/2/5/10/20/50/100 (Mode - WEIGHT)

# EXCITATION

Range: 5...24 VDC, for feeding of sensors and transmitters

### LINEARIZATION

Linearization: by linear interpolation in 50 points (solely via OM Link) Linearization (LX): by linear interpolation in 256 points and 16 tables

#### DIGITAL FILTERS

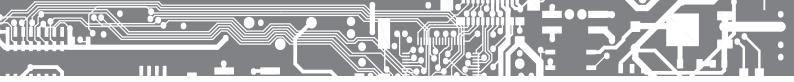
Floating/Exp./Arithmetic average: from 2...30/100/100 measurements Rounding: setting the projection step for display

# MATHEMATIC FUNCTIONS

Min/max. value: registration of min/max. value reached during measurement Tare: designed to reset display upon non-zero input signal Fixed tare (T): firmly preset tare Peak value: the display shows only max. or min. value Mat. operations: polynome, 1/x, logarithm, exponential, power, root, sin x

#### EXTERNAL CONTROL

Lock: control keys blocking Hold: display/instrument blocking Tare: tare activation Resetting MM: resetting min/max value



# TECHNICAL DATA

#### PROJECTION

Display: -99999...999999, red or green 14-segment LED, digit height 14 mm Description: last two characters on the display may be used for description of measured quantities (adjustable in the menu) Decimal point: setting - in menu

Brightness: setting - in menu

### INSTRUMENT ACCURACY

TK: 50 ppm/°C Accuracy: ±0,02% of range + 1 digit (for projection 99999 and 10 m./s) ±0,1% of range + 1 digit ±0,05% of range + 1 digit DC (5 A) DC (1 A), DU, T 
 Hubs or range + 1 digr
 DC (1 A), L

 Rate:
 1...100 meas/s; 0,1...8 meas/s (i),

 Overload capacity:
 2x; 10x (t < 30 ms) - not for 300 V and 5 A</td>

 Time base (i):
 1s (for integration)

 Linearization:
 by linear: interpolation in 50 points
 Linearization (LX): by linear interpolation in 256 points/16 tab. Digital filters: Exp./Floating/Arithmetic average, Rounding Functions: ofset, Min/max value, Tare, Peak value, Mat. operations Ext. control: HOLD, LOCK, Reset Min/Max, Tare Data record: measured data record into instrument memory RTC - 15 ppm/°C, time-date-display value, < 266k data FAST - display value, < 8k data Watch-dog: reset after 0,4 s  $\ensuremath{\mathsf{OM}}$  Link: Company communication interface for operation, setting and update of instruments

Calibration: at 25°C and 40 % r.h.

# COMPARATOR

Type: digital, setting in menu, contact switch < 30 ms Limits: -99999...999999 Hysteresis: 0...9999 Delay: 0...99,9 s Output: 2x relays Form A (250 VAC/30 VDC, 3 A) and 2x Form C relays (250 VAC/50 VDC, 3 A), 2x/4x open collectors, 2x SSR, 2x bistable relays 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 (Messbus) Rate: 600 230 400 Baud 9 600 Baud...12 Mbaud (PROFIBUS) RS 232: isolated RS 485: isolated, addressing (max. 31 instruments)

# ANALOG OUTPUT

Type: isolated, programmable with 16-bit D/A converter, type and range are selectable in programming mode Non-linearity: 0,1% of range

#### TK: 15 ppm/°C

Rate: response to change of value < 1 ms Ranges: 0...2/5/10 V, ±10 V, 0...5 mA, 0/4...20 mA [comp. < 600  $\Omega/12$  V or 1 000  $\Omega/24$  V]

#### EXCITATION

Adjustable: 5...24 VDC/max. 1,2 W, isolated Fixed: 10 VDC, max. load 80  $\Omega$ 

#### POWER SUPPLY

10...30 V AC/DC, ±10 %, max. 13,5 VA, PF≥0,4,  $\rm I_{STP}{<}$  40 A/1 ms 80...250 V AC/DC, ±10 %, max. 13,5 VA, PF≥0,4,  $\rm I_{STP}{<}$  40 A/1 ms 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

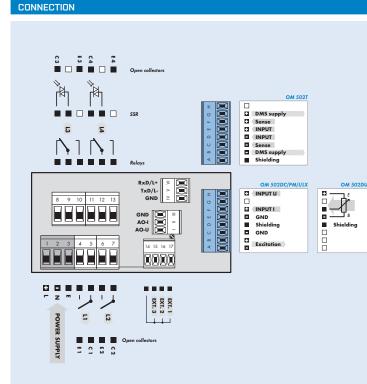
Connection: connector terminal board, section < 1,5/2,5 mm<sup>2</sup> Stabilization period: within 15 minutes after switch-on Working temperature: -20°...60°C Storage temperature: -20°...85°C Cover: IP64 (front panel only) El. safety: EN 61010-1, A2 Dielectric strength: 4 kVAC after 1 min between supply and input 4 kVAC after 1 min between supply and data/analog output 4 kVAC after 1 min between supply and relay output 2,5 kVAC after 1 min between input and data/analog output Insulation resistance: for pollution degree II, measuring cat. III. Power supply > 670 V (ZI), 300 V (DI) input, output, Exc. > 300 V (ZI), 160 V (DI) EMC: EN 61326-1

PI - Primary insulation, DI - Double insulation

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MEA	SURI	NI- L	F 5
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	DC	РМ	I	LX	DU	т
w/o		05/20 mA/ 420 mA ±2/±5/±10 V	05/20 mA/ 420 mA ±2/±5/±10 V	05/20 mA/ 420 mA ±2/±5/±10 V	potentiometer > 500 Ω	14/28/416 mV/V
Α	±99,999 mV					
в	±999,99 mV					
C	±9,9999 V					
D	±99,999 V					
Е	±300,00 V					
F						
к	±999,99 μΑ					
L	±9,9999 mA					
М	±99,999 mA					
Ν	±999,99 mA					
Р	±5,0000 A					
z	on request	on request	on request	on request		



ORDER CODE												
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Order code shall not include blank	spaces!	Т		٠		٠	٠	٠		٠	•	
Power supply	1030 V.	AC/DC	)	0								
	80250 V /	AC/DC	;	1								
Measuring range, see tab	le "Measuring ranges"				?							
Comparators		none				0						
	1x relay (Form A)					1						
	2x relays (Form A)					2						
	relays (2x Form A + 1x Fi					3						
4x	relays (2x Form A + 2x Fo					4						
	2x open coll					5						
0.4 0000	4x open coll n collectors + 2x relays (Fi					6 7						
zx uper	2x relays (Fi 2x relays (Fi					8						
		x SSF				9						
	2x bistabil					A						
	1x relay (Fi					В						
Data output	, -	none					0					
(for Type	"LX" alwys in standard) R	S 232	2				1					
	R	S 485	ō				2					
		DBUS					3					
	PRC	FIBUS	3				4					
Analog output	- · · ·	n						0				
	es (Compensation < 600 (							1				
	(Compensation < 1 000 Ω							2				_
Excitation Data record		yes							1	•		
	no RTC									0		
		FAST								2		
Display color		rec								2	1	
2.02.03 00101		greer									2	
Other	customer version. do no	<u> </u>			_						-	00

Default execution is shown in bold