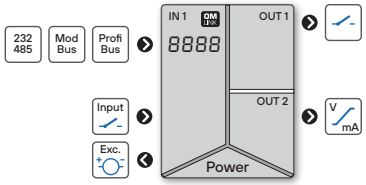
OM 602RS

- 6-digit programmable projection
- Input RS 232/485
- ASCII, MESSBUS, PROFIBUS DP, Modbus RTU
- Digital filter
- Size of DIN 96 x 48 mm
- Power supply 10...30 V AC/DC; 80...250 V AC/DC

Option

Excitation ● Comparators ● Analog output ● Three-color display (20 mm)

DATA DISPLAY RS 232/485



Type OM 602RS is a 6-digit panel data display from serial lines RS 232/485 with protocol ASCII, MESSBUS, PROFIBUS DP and Modbus RTU.

The instrument is based on a single-chip microprocessor, which guarantees accuracy, stability and easy control.

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). The measured units may be projected on the display.

OPTION

EXCITATION is suitable for feeding sensors and transmitters. It is continuously adjustable within the range of 5...24 VDC.

COMPARATORS are assigned to monitor one, two, three or four limit values with relay output. As a user you can select the mode limit: LIMIT/BATCH/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.

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
Input: both RS 232 and RS 485
Protocol: ASCII - Master/Slave/Universal, MESSBUS, PROFIBUS DP, Modbus RTU
Projection: -99999...999999

FUNCTIONS
Min./max. value: registration of min/max value reached during measurement
Mathemat. operations: polynom, 1/x, log., exponential, power, root, sin x

DIGITAL FILTERS
Floating average: from 2...30 measurements
Exponential average: from 2...100 measurements
Arithmetic average: from 2...100 measurements
Rounding: setting the projection step for display

EXTERNAL CONTROL
Hold: display/instrument blocking
Lock: control keys blocking
Resetting Min/Max: resetting min./max. value
Functions: control of optional functions from instrument menu

TECHNICAL DATA

INPUT

No. of inputs		1
RS	Input	RS 232/RS 485 PROFIBUS
	Protocol	**ASCII - Master** - the instrument controls data sending from the slave system - „COMM" can be used to select the received data - the instrument asks with the rate of 10 queries/s **ASCII - Slave** - Passive bus display where other devices or computers communicate in „MAST." mode. If the „COMM" and the requested data are correctly received, they will be displayed by the instrument **ASCII - Universal** - in dynamic menu items (Stat, Ad.Un, Sign, Data, Stop, Req.) you can build your own communication protocol format **MESSBUS** **Modbus RTU** **PROFIBUS DP** **PROFINET**
	Format	8 bit + no parity + 1 stop bit 7 bit + even parity + 1 stop bit
	Adresse	ASCII 0…31 Modbus 1…247 Profibus 1…127
	Rate	300…230 400 Baud 9 600 Baud…12 Mbaud (PROFIBUS)
	Line termination	short-circuit jumper on the connector *resistance inside the instrument is 120 R*

EXTERNAL INPUT

No. of inputs	3, on contact
Function	OFF no function assigned HOLD measurement paused LOCK control keys blocking TARE tare activation CL. M.M. resetting min/max value CL. T. tare resetting

PROJECTION

Display	-99999…999999, single color 14-segment LED 99.59.59 hours/minutes/seconds TIME 23.59.59 hours/minutes/seconds TIME 9999.59 hours/minutes TIME 9999.59 minuty/seconds TIME 59.59.99 minuty/seconds/hundredths TIME 99.59.99 minuty/seconds/hundredths TIME 9.59.59.9 hours/min./seconds/hundredths TIME 9.99.59.9 days/hours/minutes/seconds TIME 99.23.59 days/hours/minutes TIME
Digit height	14 mm
Display color	red or green
Description	last two characters on the display may be used for description of measured quantities
Decimal point	adjustable - in menu
Brightness	adjustable - in menu

INSTRUMENT SPECIFICATION

TC	50 ppm/ºC
Functions	Min/max value, math. functions
Digital filters	exponential / floating / arithmetic average, rouding
Math functions	polynomial / inverse polynomial / logarithm / exponential / power / root
OM Link	company communication interface for operation, setting and update of instruments
Watch-dog	reset after 500 ms
Calibration	at 25ºC and 40 % r.h.

RELAYS / OC OUTPUT

No. of outputs	up to 4
Type	digital, menu adjustable
Mode	HYSTER. active above set value WINDOW active in the set window / band BATCH active in set period
Function Relays/OC	CLOSE is closed in active mode OPEN is open in active mode
Limits	-99999…999999
Hysteresis	0…999999
Delay	0…99.9 s
Outputs	1…2x relay with switch-on contact (Form A) (250 VAC/30 VDC, 3 A)* 1…2x relay with switching contact (Form C) (250 VAC/50 VDC, 3 A)* 2x bistable relays (250 VAC/250 VDC, 3 A/0,3 A) 2…4x open collector (30 VDC/100 mA)
Relays	1/8 HP 277 VAC, 1/10 HP 125 V, Pilot Duty D300

* values apply for resistance load

ANALOG OUTPUTS

No. of outputs	1
Type	isolated, adjustable with 16-bit DAC, output type and range is selectable
TC	15 ppm/ºC
Non-linearity	0.1 % from FS
Accuracy	±0.02 % of FS
Rate	response to change of value < 1 ms
Ranges	0…2 / 5 / 10 V, ±10 V, resistive load ≥ 1 kΩ 0…5 / 20 mA /4…20 mA, compensation < 600 Ω/12 V or 1000 Ω / 24 V Indication of error message (output < 3.2 mA)

EXCITATION

Adjustable	2…24 VDC, <1.2 W, isolated

POWER SUPPLY

Range	9…50 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 *Protection by fuse inside the device.*
Consumption	< 6.5 W /6 VA

MECHANIC PROPERTIES

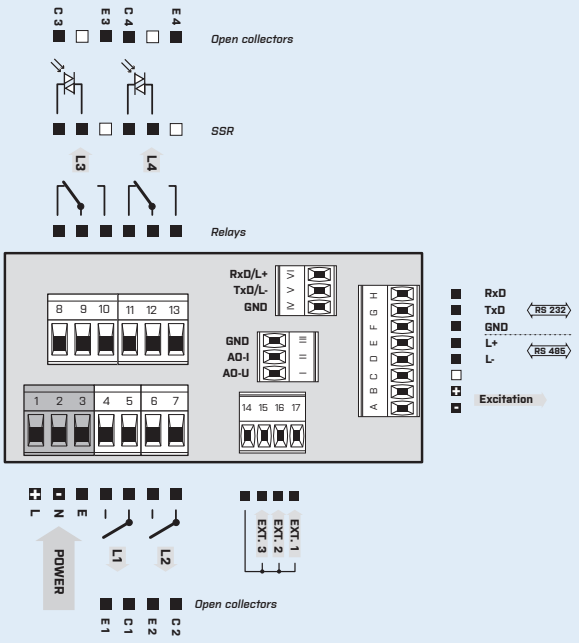
Material	Noryl GFN2 SE1, incombustible UL 94 V-I, black
Dimensions	96 x 48 x 142 mm (w x h x d)
Panel cutout	90.5 x 45 mm (w x h)

OPERATING CONDITIONS

Connection	connector terminal blocks, section < 2.5 mm²
Stabilization period	within 5 minutes after switch-on
Working temperat.	-20º…60ºC
Storage temperat.	-20º…85ºC
Working humidity	< 95 % r.v., non condensing
Protection	IP64, front panel only
Construction	safety class I
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 resist.*	for pollution degree II, measuring cat. III power supply, input > 670 V (PI), 300 (DI) input, output, excitation > 300 V (PI), 150 V (DI)
EMC	EN 61326-1, Industrial area
Seismic qualification	IEC/IEEE 60980-344 Edition 1.0, 2020, par. 6, 9
Mechanical resistance	EN 60068-2-6 ed. 2:2008

* PI - Primary insulation, DI - Double insulation

CONNECTION



ORDER CODE

OM 602RS - [ ][ ][ ][ ][ ][ ] - [ ]

Power supply	10…30 V AC/DC	**0**
	80…250 V AC/DC	**1**
Protocol	**ASCII/MESSBUS**	**A**
	Modbus RTU	**B**
	PROFIBUS DP	**C**
Comparators	none	**0**
	1x relay (Form A)	**1**
	2x relay (Form A)	**2**
	3x relays (2x Form A + 1x Form C)	**3**
	4x relays (2x Form A + 2x Form C)	**4**
	2x open collector	**5**
	4x open collector	**6**
	2x open collector + 2x relays (Form C)	**7**
	2x relays (Form C)	**8**
	2x SSR	**9**
	2x bistable relays	**A**
	1x relay (Form C)	**B**
Analog output	no	**0**
	yes (compensation < 600 Ω/12 V)	**1**
	yes (compensation < 1 000 Ω/24 V)	**2**
Excitation	no	**0**
	yes	**1**
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.