ORBIT MERRET® represents the Czech Republic and Slovakia the following companies:

- **Czech Republic**
  - ORBIT MERRET®
  - ORBIT CONTROLS AG
  - Thermokon - Danelko

- **Slovakia**
  - TECHROG, spol. s r. o.
  - TECHROG, spol. s r. o.

- **Russia**
  - OOO “ORBIT MERRET”

- **Singapore**
  - ORBIT MERRET®

- **Italy**
  - ABB Italia
  - ELCON

- **Iran**
  - SegalTech

- **USA**
  - BRISTOL INSTRUMENTS

- **Great Britain**
  - VARIOHM- EUROSENSORS Ltd.

- **Pakistan**
  - ILKE

- **Ukraine**
  - SEA Company

- **Japan**
  - ORBIT MERRET®

- **Singapore**
  - ORBIT MERRET®

- **China**
  - Shanghai EJH Group Co., Ltd.

- **Egypt**
  - El-Gammal Industrial Systems Co.

- **Australia**
  - AUTOTECH Control

- **Austria**
  - GRUBER ELECTRIC GmbH

- **Belgium**
  - INELMATEC

- **Bosnia and Herzegovina**
  - Instruments Ltd.

- **Canada**
  - A-Tech Instruments Ltd.

- **Chile**
  - El-Gammal Industrial Systems Co.

- **Colombia**
  - Autotech SA

- **Costa Rica**
  - Eletrocnica S.A.

- **Cuba**
  - Electronica Industrial Cubana, S.A.

- **Dominican Republic**
  - Electronica Industrial Cubana, S.A.

- **Ecuador**
  - Electronica Industrial Cubana, S.A.

- **El Salvador**
  - Electronica Industrial Cubana, S.A.

- **Guatemala**
  - Electronica Industrial Cubana, S.A.

- **Honduras**
  - Electronica Industrial Cubana, S.A.

- **Iceland**
  - Electronica Industrial Cubana, S.A.

- **India**
  - ELCON

- **Indonesia**
  - Indonesian Institute of Technology

- **Iran**
  - SegalTech

- **Israel**
  - ELCON

- **Kazakhstan**
  - SAR Technology

- **Korea**
  - SUNDEO CO., LTD.

- **Kuwait**
  - KCC Engineering & Contracting Co.

- **Latvia**
  - SIA "CEDRUS GRUPA"

- **Lithuania**
  - AXIS Industries

- **Malaysia**
  - EC Instruments & Engineering Sdn Bhd

- **Netherlands**
  - AE Sensors B.V.

- **New Zealand**
  - Contact Electronics Ltd.

- **Norway**
  - VARIOHM- EUROSENSORS Ltd.

- **North America**
  - Bristol Instruments

- **Poland**
  - TR Automatyka Sp.z o.o.

- **Portugal**
  - Zeben – Sistemas Electrónicos Lda.

- **Romania**
  - SYNCHRO COMP S.R.L.

- **Russia**
  - OOO “ORBIT MERRET”

- **Singapore**
  - ORBIT MERRET®

- **Spain**
  - Ingenieros Asociados de Control S.L.

- **Sweden**
  - GRITZ MONTAGE (AB)

- **Switzerland**
  - ORBIT CONTROLS AG

- **Thailand**
  - Lamax and Partners Co., Ltd.

- **Turkey**
  - ILKE

- **Ukraine**
  - SEA Company

- **USA**
  - BRISTOL INSTRUMENTS

- **United Kingdom**
  - VARIOHM- EUROSENSORS Ltd.

- **United States**
  - Bristow Instruments
1. **General Business Terms**

   **General Terms and Conditions**

2. **Price of the Subject of performance**

   2.1. Catalogues and price lists issued by the Supplier as well as oral and telephone information about the price of the Subject of performance are of informative nature, not constituting the price for the Supplier and not binding to the Customer. The Supplier reserves the right to modify technical parameters, or alter the case, if this is the result of the performance of work without the approval or other modifications and without the approval of Section 262, par. 1 of the Commercial Code by the order of the Customer.

3. **Concluding the contract**

   3.1. Individual business deals are concluded on the basis of written orders from the Customer, sent either by mail, fax, e-mail, or orally, if agreed-upon in virtue of issued pro-forma invoice. The delivery time stated in the Order confirmation to the Customer no later than within 3 – 8 business days of the date of delivery of the order.

4. **Orders cancelled by the Customer**

   4.1. In case the Customer Order requires a non-standard Subject of performance or the amount is paid. In case of default in payment of this amount the Supplier is entitled to enforce the compensation.

5. **Terms of payment**

   5.1. Unless special terms of payment were arranged for, our invoices are due for payment within 14 days. If the Customer Order is confirmed the delivery term is considered fulﬁlled also by personal collection by the Customer or the bearer of the consignment, and record it in writing on the delivery note or the delivery note of the forwarding service, however, 2 business days from delivery at the latest under caption of this character will not be taken into account.

6. **Guarantee terms**

   6.1. The Supplier provides a 60 months guarantee for non-defective operation of the Subject of performance, the guarantee will not be taken into account.

7. **Delivery of the Subject of performance**

   7.1. The right of ownership to the Subject of performance is transferred to the Customer at the moment of delivery of the full amount of the purchase price.

8. **Setting up the subject of performance**

   8.1. The Supplier provides a 60 months guarantee for non-defective operation of the Subject of performance, which period starts running from the date of delivery, unless the Customer has expressly requested for another type of performance.

9. **Guarantee terms**

   9.1. In cases when the General business terms differ from the terms set out in the submitted Customer orders, the provisions contained in the General terms are binding for the Customer.
<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Height (mm)</th>
<th>Width (mm)</th>
<th>DC/VA-meters</th>
<th>AC-VA meters</th>
<th>Process monitors</th>
<th>Integrators</th>
<th>Ohmmeters</th>
<th>Wuffmeters AC-VA meters</th>
<th>Lineman Instruments</th>
</tr>
</thead>
<tbody>
<tr>
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<td>±10…30 V AC/DC</td>
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<td>42 x 24</td>
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</tbody>
</table>

**Notes:**
- **DC** and **VA-meters:** "For more info, please consult the 'Process monitors' section.
- **AC-VA meters:** For more info, please consult the 'Integrators' section.
- **Lineman Instruments:** For more info, please consult the 'Ohmmeters' section.
- **Wuffmeters AC-VA meters:** For more info, please consult the 'Lineman Instruments' section.

**Specifications:**
- Input specifications are given in ±V or ±mA.
- Measurement range and accuracy are indicated for each model.
- Power supply specifications are provided for various voltage ranges.
- Compatibility with different power supply options is indicated.

**Additional Features:**
- **Linearization:** Linearization in various points, such as 50 points, 100 points, and 250 points.
- **Data Handling:** Data averaging, peak detection, and other advanced data handling features are detailed.
<table>
<thead>
<tr>
<th>Type</th>
<th>Projection</th>
<th>Height (mm)</th>
<th>IP code</th>
<th>Panel (mm)</th>
<th>Baby (mm)</th>
<th>Accuracy (± % of reading)</th>
<th>Limits</th>
<th>Aging</th>
<th>Digital</th>
<th>Output</th>
<th>Functions</th>
<th>AVG</th>
<th>Max Power</th>
<th>Power supply</th>
<th>Dimensions (mm)</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>OM 323LUN</td>
<td>±1999</td>
<td>S3</td>
<td>M 5900/02000, N 1000/0000, Cu 50/100 ±999999</td>
<td>0,1...20</td>
<td>±0,26</td>
<td>× × × × × × × × × ×</td>
<td>• Hold, Lock</td>
<td>× × ×</td>
<td>× × ×</td>
<td>× × ×</td>
<td>× × ×</td>
<td>× ×</td>
<td>10...30 V AC/DC</td>
<td>48 ± 24</td>
<td>70 ± 40</td>
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<td>OM 336RTD</td>
<td>±1999</td>
<td>14</td>
<td>M 100/000, N 1020</td>
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<td>±0,26</td>
<td>× × × × × × × × × ×</td>
<td>• Hold, Lock</td>
<td>× × ×</td>
<td>× × ×</td>
<td>× × ×</td>
<td>× × ×</td>
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<td>10...30 V AC/DC</td>
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<td>70 ± 30</td>
<td>70 ± 30</td>
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<td>±1999</td>
<td>S1</td>
<td>M 5900/02000, N 1000/0000, Cu 50/100 ±999999</td>
<td>0,1...10</td>
<td>±0,22</td>
<td>O × × × × × × × × × ×</td>
<td>• Hold, Lock</td>
<td>× × ×</td>
<td>× × ×</td>
<td>× × ×</td>
<td>× × ×</td>
<td>× ×</td>
<td>10...30 V AC/DC</td>
<td>72 ± 24</td>
<td>90 ± 30</td>
<td>90 ± 30</td>
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<td>DHL 343LUN</td>
<td>±1999</td>
<td>14</td>
<td>M 5900/02000, N 1000/0000, Cu 50/100 ±999999</td>
<td>0,1...20</td>
<td>±0,26</td>
<td>O × × × × × × × × × ×</td>
<td>• Hold, Lock</td>
<td>× × ×</td>
<td>× × ×</td>
<td>× × ×</td>
<td>× × ×</td>
<td>× ×</td>
<td>10...30 V AC/DC</td>
<td>96 ± 48</td>
<td>32 ± 60</td>
<td>32 ± 60</td>
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<td>14</td>
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<td>±0,22</td>
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<td>• Hold, Lock</td>
<td>× × ×</td>
<td>× × ×</td>
<td>× × ×</td>
<td>× × ×</td>
<td>× ×</td>
<td>10...30 V AC/DC</td>
<td>96 ± 48</td>
<td>32 ± 60</td>
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<tr>
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<td>0,1...20</td>
<td>±0,22</td>
<td>O × × × × × × × × × ×</td>
<td>• Hold, Lock</td>
<td>× × ×</td>
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<td>× ×</td>
<td>10...30 V AC/DC</td>
<td>96 ± 48</td>
<td>32 ± 60</td>
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</table>

For linear potentiometers

For LVDT

For strain gauges

Universal counters

Data displays

Programmable AV

PID regulator

Logger

Thermometers

Displays
### INSTRUM. OVERVIEW

<table>
<thead>
<tr>
<th>Type</th>
<th>Projection</th>
<th>Height (mm)</th>
<th>Panel</th>
<th>Protective (IP)</th>
<th>Levels</th>
<th>Analog</th>
<th>Date</th>
<th>Air of Data</th>
<th>Exclusion</th>
<th>Digital Pres.</th>
<th>Functions</th>
<th>RIC</th>
<th>DB Link</th>
<th>Power Supply</th>
<th>Dimensions (mm)</th>
<th>Page</th>
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<tbody>
<tr>
<td><strong>Bargraphs</strong></td>
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<td>OME 422UNI</td>
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</tbody>
</table>

- **on request**
- **standard**
- **cannot be ordered**
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<thead>
<tr>
<th>Type</th>
<th>Projection</th>
<th>Height (mm)</th>
<th>Input</th>
<th>Rate (meas./s)</th>
<th>Accuracy (% of Range)</th>
<th>Limits</th>
<th>RTC</th>
<th>OM Link-USB II</th>
<th>Digital transmitters to DIN rail</th>
</tr>
</thead>
<tbody>
<tr>
<td>OMX 39DC</td>
<td>±3 LCD + descr.</td>
<td>118 x 98</td>
<td>60 mV…450 V</td>
<td>5 mA…5 A</td>
<td>continuous ±0.1</td>
<td>10…30 V AC/DC</td>
<td>±0.2</td>
<td>±0.15</td>
<td>±0.15</td>
</tr>
<tr>
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<td>±3 LCD + descr.</td>
<td>118 x 98</td>
<td>60 mV…450 V</td>
<td>5 mA…5 A</td>
<td>continuous ±0.2</td>
<td>10…30 V AC/DC</td>
<td>±0.2</td>
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<tr>
<td>OMX 39PM</td>
<td>±3 LCD + descr.</td>
<td>103 x 70</td>
<td>4…20 V, 0…10 V</td>
<td>0.1…20 mA</td>
<td>continuous ±0.2</td>
<td>10…30 V AC/DC</td>
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<td>±3 LCD + descr.</td>
<td>103 x 70</td>
<td>0…5 A</td>
<td>4…20 V</td>
<td>continuous ±0.2</td>
<td>10…30 V AC/DC</td>
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<td>0…5 A</td>
<td>4…20 V</td>
<td>continuous ±0.2</td>
<td>10…30 V AC/DC</td>
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<td>103 x 70</td>
<td>Pt 100/200/500, Ni 1000</td>
<td>50…850°C</td>
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<td>10…30 V AC/DC + 250 V AC/DC</td>
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<td>103 x 70</td>
<td>3+3 LCD</td>
<td>3,5</td>
<td>continuous ±0.1</td>
<td>10…30 V AC/DC + 250 V AC/DC</td>
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<td>±0.15</td>
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<tr>
<td>OMX 102UNI</td>
<td>±3 LCD + descr.</td>
<td>90 x 79</td>
<td>±25/±50/±100/±200/±400 V</td>
<td>±1/±5 A</td>
<td>continuous ±0.15</td>
<td>10…30 V AC/DC</td>
<td>±0.2</td>
<td>±0.15</td>
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<tr>
<td>OMX 333DC</td>
<td>±3 LCD + descr.</td>
<td>90 x 79</td>
<td>±20/60/1000 mV</td>
<td>0…20 mA</td>
<td>continuous ±0.15</td>
<td>10…30 V AC/DC</td>
<td>±0.2</td>
<td>±0.15</td>
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<tr>
<td>OMX 333UNI</td>
<td>±3 LCD + descr.</td>
<td>90 x 79</td>
<td>±20/60/1000 mV</td>
<td>0…20 mA</td>
<td>continuous ±0.15</td>
<td>10…30 V AC/DC</td>
<td>±0.2</td>
<td>±0.15</td>
<td>±0.15</td>
</tr>
<tr>
<td>OMX 380PM</td>
<td>±3 LCD + descr.</td>
<td>90 x 79</td>
<td>±25/±50/±100/±200/±400 V</td>
<td>±1/±5 A</td>
<td>continuous ±0.15</td>
<td>10…30 V AC/DC</td>
<td>±0.2</td>
<td>±0.15</td>
<td>±0.15</td>
</tr>
<tr>
<td>OMX 380DU</td>
<td>±3 LCD + descr.</td>
<td>90 x 79</td>
<td>±25/±50/±100/±200/±400 V</td>
<td>±1/±5 A</td>
<td>continuous ±0.15</td>
<td>10…30 V AC/DC</td>
<td>±0.2</td>
<td>±0.15</td>
<td>±0.15</td>
</tr>
<tr>
<td>OMX 390T</td>
<td>±3 LCD + descr.</td>
<td>90 x 79</td>
<td>±25/±50/±100/±200/±400 V</td>
<td>±1/±5 A</td>
<td>continuous ±0.15</td>
<td>10…30 V AC/DC</td>
<td>±0.2</td>
<td>±0.15</td>
<td>±0.15</td>
</tr>
<tr>
<td>OMX Profibus</td>
<td>±3 LCD + descr.</td>
<td>90 x 79</td>
<td>±25/±50/±100/±200/±400 V</td>
<td>±1/±5 A</td>
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<td>±3 LCD + descr.</td>
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<td>±0.2</td>
<td>±0.15</td>
<td>±0.15</td>
</tr>
</tbody>
</table>

- **O**: on request
- **S**: standard
- **X**: cannot be ordered

**Accessories**
- Protection IP64: 96 x 48 154

**Digital transmitters to DIN rail**
- OMX 390PM
- OMX 390DU
- OMX 390T
- OMX Profibus

**Transmitter PROFIBUS**
- OMX 380D
- OMX 390T

**Stabilized sources to DIN rail**
- OMX 380D
- OMX 390T

**Measur. after switch**
- OMX Link-USB II
- OMX USB-RS II
- OMX USB-II

**OM Link-USB II**
- 50 x 24 154

**OM USB-RS II**
- 50 x 24 154

**OM USB-II**
- 50 x 24 154
The program OM Link is designed for easy configuration, operation, firmware upgrade of instruments and converters and for visualization of the measuring process. The new ORBIT MERRET instruments include the OM Link interface in their standard features. To connect to PC an OML cable is required (version USB or RS232).

The program may be used for configuration (1 instrument) or data collection via RS 232 and RS 485 line, more suitable for on-line connection during operation.

**CONNECTION MANAGER**

Connection manager facilitates creating and cancelling connections, provides their list classified as per Type, noting the basic parameters and measureable values (channels), and serves as home location for starting measurements, configuring the OM instruments, projecting their properties etc.

Connection is the key entity of the OM link application - it represents physical or virtual connection with an OM device and is the basic subject of many application functions.

Connection modes:
- **On-line**, represents a physical connection to an OM device.
- **Off-line**, serves for projection of instrument menu and its configuration for later use in the on-line mode.
- **Mathematic**, represents a mathematical operation with measured data acquired from other connections [on-line].
- **Line tapping**, serves to analyse communication in progress among autonomous measuring systems.

**Connection manager**

Create new connection
Main menu: Program > Connec. manager

Open new measurement window
Main menu: Measurement > New window

Load/save configuration of windows, connection & measurement
Main menu: Program > Load configuration

End connection
Main menu: Connection > End

Connection configuration
Main menu: Connection > Change...

End all connections
Main menu: Connection > End connection

Display measurement
Main menu: Measurement > New window/open

Load data from instrument
Main menu: Instrument > Load data...

Clear memory contents
Main menu: Instrument > Reset memory

Instrument setting
Main menu: Instrument > Setting

Table of Linearization
Main menu: Instrument > Table of Linearization

Instrument properties and service
Main menu: Instrument > Properties...

Script start
Main menu: Instrument > Start script...

Upload firmware into instrument
Main menu: Instrument > Firmware upload...

Information about application
Main menu: Help > About the program...
MEASUREMENT MANAGER
Measurement manager facilitates creating and cancelling measurement files, graphs and individual data, provides their structured overview and enables modification of graph and value parameters.

WINDOW MEASUREMENT
Window Measurement provides view of historic and current process of measuring certain quantities and their groups. The window offers three possible modes of viewing the measured data:

1) graphs - they reflect the historic course of measurement in selectable time Range. By means of the control panel in this mode it is possible to shift the displayed time period, modify the displayed time Range (from 1 sec up to 15 days) and set additional parameters of graph projection, (names, date on time axis).

2) Indicators – they show current values of the measured data

3) Table – depicts the history of the measuring process in table numeric format.

By means of the control panel in this mode it is possible to switch between the projection of interpolated values in particular time steps and the projection of truly taken sample values.

The graph and table modes also enable to discontinue the measurement in process and restart it again. At the same time it is also possible to specify whether upon restarting the process the measurement retains its former course (history) and the measurement is reassumed or whether it starts anew and the history is cancelled.

Values from the instrument may be added to the measurement e.g. from the Connection manager by selecting certain instrument channel from the on-line connection (or calculated connection or line tapping connection) and dragging it over to the Window Measurement. This way new values (quantities) may also be incorporated in already existing graphs (in case of graph mode), i.e. two quantities in one graph with common standard and time axis.

Structuring the quantities and graphs and changing their parameters (names, ranges, colors) may also be performed in Measurement Manager.

DEVICE SETUP
One of the main features of the OM Link program is the opportunity to set up the instruments comfortably from your computer.

• Setting the device values and parameters
• View of the complete setting menu [PROFI/LIGHT/USER]
• Individual configuration of the complete menu
• Device setup export and import

All existing items may be set, even those that are inaccessible or blocked in the instrument.

In majority of the items on the instrument menu their attribute may be set for the “User menu” [see/change/ hide] and in addition it is possible to remove or add any item from the “LIGHT menu”. Client menu of the instrument may be compiled eventually this way for given application and level of service proficiency.

Each setting of the devicemenu may be stored in a file and used for configuration of other instruments. An advantage is also the possibility of sending complete menu via e-mail directly to the technical support of the manufacturer.
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: -999…9999

COMPENSATION
Of conduct (RTD): automatic (3-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 of the terminals)

FUNCTIONS
Linearization: through linear interpolation in 25 points (solely via OM Link)
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
Tare: designed to reset display upon non-zero input signal

OPERATION
The instrument is controlled by four buttons situated under 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].

OMM 323UNI
DC VOLTMETER AND AMMETER
PROCESS MONITOR
OHMMETER
THERMOMETER FOR PT/CU/NI/Thermocouples
DISPLAY UNIT FOR LINEAR POTENTIOMETERS

UNIVERSAL INSTRUMENT
- 3,5-DIGIT PROGRAMMABLE PROJECTION
- MULTIFUNCTION INPUT UNI (DC, PM, RTD, T/C, DU)
- DIGITAL FILTERS, TARE, LINEARIZATION
- SIZE OF DIN 48 x 24 mm
- POWER SUPPLY 10…30 V DC/24 V AC

OMM 323 model Range are inexpensive 3,5-digit panel programmable instruments designed for simple applications.
Type OMM 323UNI is a multifunction instrument with the possibility of configuration for 8 different input options, easily configurable in the instrument’s menu.
The instrument is based on a single-chip microcontroller and an A/D converter, which ensure good accuracy, stability and easy operation of the instrument.

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## TECHNICAL DATA

### INPUT

<table>
<thead>
<tr>
<th>DC Range</th>
<th>Optional in configuration menu</th>
<th>Input</th>
</tr>
</thead>
<tbody>
<tr>
<td>±10 mA</td>
<td>±1 V</td>
<td>Input 4</td>
</tr>
<tr>
<td>±100 mA</td>
<td>±2 V</td>
<td>Input 4</td>
</tr>
<tr>
<td>±30 mV</td>
<td>±100 mΩ</td>
<td>Input 3</td>
</tr>
<tr>
<td>±30 mV</td>
<td>±100 mΩ</td>
<td>Input 3</td>
</tr>
<tr>
<td>±100 mV</td>
<td>±100 mΩ</td>
<td>Input 3</td>
</tr>
<tr>
<td>±20 V</td>
<td>±100 mΩ</td>
<td>Input 1</td>
</tr>
<tr>
<td>±40 V</td>
<td>±100 mΩ</td>
<td>Input 1</td>
</tr>
<tr>
<td>±80 V</td>
<td>±100 mΩ</td>
<td>Input 1</td>
</tr>
</tbody>
</table>

### PM Range

<table>
<thead>
<tr>
<th>Optional in configuration menu</th>
<th>Input 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>±20 mA</td>
<td>±200 mV</td>
</tr>
<tr>
<td>±20 mA</td>
<td>±200 mV</td>
</tr>
<tr>
<td>±2 V</td>
<td>±1000 mΩ</td>
</tr>
<tr>
<td>±5 V</td>
<td>±1000 mΩ</td>
</tr>
<tr>
<td>±10 V</td>
<td>±1000 mΩ</td>
</tr>
</tbody>
</table>

### OM Range

<table>
<thead>
<tr>
<th>Optional in configuration menu</th>
<th>Input 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>±5 mA</td>
<td>±200 mV</td>
</tr>
<tr>
<td>±10 mA</td>
<td>±200 mV</td>
</tr>
<tr>
<td>±15 mA</td>
<td>±1000 mΩ</td>
</tr>
<tr>
<td>±25 mA</td>
<td>±1000 mΩ</td>
</tr>
<tr>
<td>±30 mA</td>
<td>±1000 mΩ</td>
</tr>
</tbody>
</table>

Connect. 2 or 3 wires (30 kΩ - 2-wire only)

### RTD Type

<table>
<thead>
<tr>
<th>Optional in configuration menu</th>
<th>Input 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU 0/100/0,000 0,0 with 3 850 ppm</td>
<td>±25°C</td>
</tr>
<tr>
<td>US 100 0, with 3 500 ppm</td>
<td>±25°C</td>
</tr>
<tr>
<td>RJ 100 0, with 3 800 ppm</td>
<td>±25°C</td>
</tr>
</tbody>
</table>

Connect. 2 or 3 wires

### Ni Type

<table>
<thead>
<tr>
<th>Optional in configuration menu</th>
<th>Input 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ni 1/000 0,000 with 5 000 ppm</td>
<td>±50°C</td>
</tr>
<tr>
<td>Ni 1/000 0,000 with 6 150 ppm</td>
<td>±50°C</td>
</tr>
</tbody>
</table>

Connect. 2 or 3 wires

### DU Type

<table>
<thead>
<tr>
<th>Optional in configuration menu</th>
<th>Input 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ov 100/0 0,00 with 4 260 ppm</td>
<td>±50°C</td>
</tr>
<tr>
<td>Ov 100/0 0,00 with 4 260 ppm</td>
<td>±50°C</td>
</tr>
</tbody>
</table>

Connect. 2 or 3 wires

### T/C Type

<table>
<thead>
<tr>
<th>Optional in configuration menu</th>
<th>Input 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>J (Fe-CuNi)</td>
<td>±200°C</td>
</tr>
<tr>
<td>K (NiCr-Ni)</td>
<td>±200°C</td>
</tr>
<tr>
<td>T (Cu-CuNi)</td>
<td>±200°C</td>
</tr>
<tr>
<td>E (NiCr-CuNi)</td>
<td>±200°C</td>
</tr>
<tr>
<td>B (PtRh30-PtRh6)</td>
<td>±200°C</td>
</tr>
<tr>
<td>S (PtRh10-Pt)</td>
<td>±200°C</td>
</tr>
</tbody>
</table>

### DU 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
    - HOLD: display stop
    - TARE: tare activation

### PROJECTION

- Display: 600 x 900mm, single color 7-segment LED
- Digit height: 8.1 mm
- Display color: red or green
- Decimal point: adjustable - in menu
- Brightness: adjustable or automatically controllable

### INSTRUMENT ACCURACY

- TK: 50 ppm/°C
- Accuracy: ±1.5% of range + 1 digit
- (for projection: ±1.999)
- Accuracy of cold junction meausre: ±0.5°C
- Rpt: 0.5...20 measur./s
- Overload capacity: 2x; 10x (t < 30 ms)
- Resolution: 0.1°C [RTD], 0.5°C [T/C]
- Line compensation: max. 0.01 [RTD], 0.1°C [T/C]
- 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.

### POWER SUPPLY

- Range: 10...30 VDC/24 VAC, ±10 %, PF ≥ 0.4, I STP< 45 A/1, 1 ms, isolated
- Consumption: < 1 W/1,1 VA

### MECHANIC PROPERTIES

- Material: Noryl GFN2 SE1, incombustible UL 94 V-I
- Dimensions: 48 x 24 x 72 mm (w x h x d)
- Panel cutout: 43,5 x 21,5 mm (w x h)

### OPERATING CONDITIONS

- Connection: connector terminal blocks, section < 1.5 mm²
- Stabilization period: within 15 minutes after switch-on
- Working temperature: -20°...60°C
- Storage temperature: -20°...85°C
- Protection: EN 60529, IP42
- EL safety: EN 61326, A2
- Diacritic strength: 2.5 kW for 1 min heat between supply and input
- Insulation resistance: for pollution degree II, measuring cat. III power supply > 300 V (PI)
- EMC: EN 61326, I

### ORDER CODE

- **OMM 323UNI**
  - Display color: red or green
  - Specification: customized version, do not fill in
  - Input 1: ±199,9 V
  - Input 2: ±199,9 V

---

Basic configuration of the instrument is indicated in bold.
**UNIVERSAL COUNTER**

- **4-DIGIT PROGRAMMABLE PROJECTION**
- **COUNTER/FREQUENCY/CLOCK/TIMER**
- **0.1 Hz...50 KHz; UP/DW COUNTER, IRC**
- **DIGITAL FILTERS, TARE, LINEARIZATION, SUM**
- **SIZE OF DIN 48 x 24 MM**
- **POWER SUPPLY 10...30 VDC/24 VAC**

**OPERATION**

The instrument is controlled by four buttons situated under 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).

**STANDARD FUNCTIONS**

**PROGRAMMABLE PROJECTION**

Input: NPN, PNP, on contact, IRC,
Setting: measuring mode counter/frequency/timer with adjustable calibration coefficient, time base and projection
Measur. modes: counter/frequency meter/UP-DW counter/frequency/counter for IRC
Measur. channels: A and B, from one measuring input two independent functions may be evaluated (counter/frequency)
Time base: 0,5/1/5/10 s
Projection: -999…9999 with fix or floating DT format 10/24/60

**FUNCTIONS**

- **Linearity:** through linear interpolation in 25 points (solely via OM Link)
- **Tare:** designed to reset display upon non-zero input signal
- **Reset:** initial nonzero value that is always read after resetting the device
- **Current value:** one-off setting of the initial value
- **Summation:** registration of figures upon shift operation

**DIGITAL FILTERS**

- **Exponential average:** from 2...100 measurements
- **1/Fr.:** filter to convert frequency to time
- **Rounding:** setting the projection step for display
- **Input filter:** passes the input signal up to 5...1 000 Hz

**EXTERNAL CONTROL**

- **Hold:** display/instrument blocking
- **Lock:** control keys blocking
- **Reset:** counter resetting
- **Start/Stop:** timer/clock control
- **Sum:** projection/resetting
- **Projection:** counter/frequency measurement

**OMM 323UQC**

Type OM 323UQC is an inexpensive 4-digit universal panel counter/frequency meter/timer/clock, designed for maximum usefulness and user comfort while maintaining its fair price.

The instrument is based on a single-chip microcontroller and an A/D converter, which ensure good accuracy, stability and easy operation of the instrument.
**TECHNICAL DATA**

**INPUT**
- **UQC** input: optional in configuration menu. 
  
- **maximal freq.**
  - 0,1 Hz - 50 Hz (Mode SINGLE)
  - 0,1 Hz - 20 Hz (Mode UP/DOWN)
  - 0,1 Hz - 10 Hz (Mode QUADR. - counter) 
  
- **Input filter**: 0/5/40/100/1000 Hz

**PROJECTION**
- **Display**: 9999, 9999, single color 7-segment LED
  - Digit height: 6,1 mm
  - Display color: red or green
  
**ORDER CODE**

**OMM 323UQC**

<table>
<thead>
<tr>
<th>Power supply</th>
<th>10...30 VDC/24 VAC, ±10 %</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display color</td>
<td>red</td>
<td>1</td>
</tr>
<tr>
<td>Specification</td>
<td>customized version, do not fill in</td>
<td>2</td>
</tr>
</tbody>
</table>

**MECHANIC PROPERTIES**
- **Material**: Noryl GFN 2 SE1, incombustible UL 94 V-1
- **Dimensions**: 48 x 24 x 72 mm (w x h x d)

**OPERATING CONDITIONS**
- **Connection**: connector terminal blocks, section < 1,5 mm²
  
- **Stabilisation period**: within 15 minutes after switch-on

- **Working temperature**: -20°...60°C

- **Storage temperature**: -20°...85°C

- **Protection**: IP42 (front panel only)

- **El. safety**: EN 61010-1, A2

- **IEC/EN 61326-1**

**POWER SUPPLY**
- **Range**: 10…30 VDC/24 VAC, ±10 %, PF ≥ 0,4, I STP< 45 A/1,1 ms

**PROJECTION**
- **Display**: 9999, 9999, single color 7-segment LED
- **Digit height**: 6,1 mm
- **Display color**: red or green
- **Decimal point**: adjustable - in menu

**INSTRUMENT ACCURACY**
- **Accuracy**: ±0,05 % of value + 1 digit

- **Overload capacity**: 2x; 10x (t < 30 ms)

- **Watch-dog**: reset after 500 ms

- **Digital filters**: exponential average, rounding

- **Functions**: data backup, Reset, Summation

**INPUT FILTER**
- **Trellis**: UP - DOWN counter/frequency

- **Display color**: red or green

**WATCH DOG**
- **reset after 500 ms**

**POWER**
- **Input filters**: filtration constant, rounding

**ORDER CODE**

**OMM 323UQC**

<table>
<thead>
<tr>
<th>Power supply</th>
<th>10...30 VDC/24 VAC, ±10 %</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display color</td>
<td>red</td>
<td>1</td>
</tr>
<tr>
<td>Specification</td>
<td>customized version, do not fill in</td>
<td>2</td>
</tr>
</tbody>
</table>

**FUNCTION**
- **Preset**: Summation
  
**CONNECTION**
- **External input**: 1 input, on contact

  
- **OM Link**: Company communication interface for operation, setting and update of instruments.

**POWER SUPPLY**
- **Input filter**: 0/5/40/100/1000 Hz

**OPERATING CONDITIONS**
- **Connection**: connector terminal blocks, section < 1,5 mm²

**ACCURACY**
- **TK**: ±50 ppm/°C

**CONNECTION**
- **Timer**

**MECHANIC PROPERTIES**
- **Material**: Noryl GFN 2 SE1, incombustible UL 94 V-1

- **Dimensions**: 48 x 24 x 72 mm (w x h x d)

**OPERATING CONDITIONS**
- **Connection**: connector terminal blocks, section < 1,5 mm²

- **Stabilisation period**: within 15 minutes after switch-on

**INPUT FILTER**
- **Input filter**: 0/5/40/100/1000 Hz

**INSTRUMENT ACCURACY**
- **Accuracy**: ±0,05 % of value + 1 digit

**INPUT FILTER**
- **Input filter**: 0/5/40/100/1000 Hz

- **Meas. mode**: QUADR. counter/freq. meter for RC sensors

**ORDER CODE**

**OMM 323UQC**

<table>
<thead>
<tr>
<th>Power supply</th>
<th>10...30 VDC/24 VAC, ±10 %</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display color</td>
<td>red</td>
<td>1</td>
</tr>
<tr>
<td>Specification</td>
<td>customized version, do not fill in</td>
<td>2</td>
</tr>
</tbody>
</table>
DATA DISPLAY RS 485
- 4-DIGIT PROGRAMMABLE PROJECTION
- INPUT: RS 485
- DIGITAL FILTER
- SIZE OF DIN 48 X 24 MM
- POWER SUPPLY 10…30 VDC/24 VAC

OMM 323RS
DATA DISPLAY RS 485

OMM 323RS is a 4-digit data display from the serial line RS 485. The instrument is based on a single-chip microcontroller, which ensures good accuracy, stability, and easy operation of the instrument.

OPERATION
The instrument is controlled by four buttons situated under 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).

STANDARD FUNCTIONS

PROGRAMMABLE PROJECTION
Input: RS 485
Protocol: ASCII - Master/Slave/Universal or MODBUS RTU
Projection: 9999

DIGITAL FILTERS
Exponential average: from 2...100 measurements
Rounding: setting the projection step for display
**INPUT**

**RS Input**
- RS 485
- 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

**LINE TERMINATION**
- Short-circuit jumper on the connector

**CONNECTION**

**ORDER CODE**

**TECHNICAL DATA**

**PROJECTION**
- Display: 9999.9999, single color 7-segment LED
- Digit height: 9.1 mm
- Display color: red or green
- Decimal point: adjustable in menu
- Brightness: adjustable or automatically controllable

**INSTRUMENT ACCURACY**
- TK: 50 ppm/°C
- Watchdog: reset after 500 ms
- OM Link: Company communication interface for operation, setting and update of instruments
- Calibration: at 25°C and 40 % r.h.

**POWER SUPPLY**
- Range: 10…30 VDC/24 VAC, ±10 %, PF ≥ 0.4, I ≤ 45 mA
- Power supply: > 300 V (PI)
- Input: ASCII
  - MODBUS RTU
- Display color: red or green

**MECHANIC PROPERTIES**
- Material: Noryl GFN2 SE1, incombustible UL 94 V-1
- Dimensions: 48 x 24 x 72 mm (w x h x d)
- Panel cutout: 43.5 x 21.5 mm (w x h)
- Brightness: adjustable or automatically controllable

**OPERATING CONDITIONS**
- Connection: connector terminal block, section < 1.5 mm²
- Stabilization period: within 15 minutes after switch-on
- Working temperature: -20°...+60°C
- Storage temperature: -20°...+80°C
- Protection: IP42 (front panel only)
- EL safety: EN 61010-1, A2
- Dielectric strength: 2.5 kVAC per 1 min test between supply and input
- Insulation resistance: for pollution degree II, measuring cat. II

**POWER SUPPLY**
- Range: 10…30 VDC/24 VAC, ±10 %, PF ≥ 0.4, I ≤ 45 mA
- Power supply: > 300 V (PI)
- Input: ASCII
  - MODBUS RTU
- Display color: red or green
- Specification: customized version, do not fill in

**ORDER CODE**
OMM 335PAS

OMM 335PAS is a 4-digit passive analog loop display 4...20 mA. The instrument is based on a microcontroller with a very low power consumption and an A/D converter, which ensures good accuracy and easy operation of the instrument. The 22 mm cross-section of the circular instrument body allows its convenient mounting into mosaic and signaling panels.

PASSIVE LOOP DISPLAY 4...20 mA
- 4-DIGIT PROGRAMMABLE PROJECTION
- INPUT: 4...20 mA
- LINEARIZATION
- SIZE OF DIN 50,5 X 28,5 MM
- POWER SUPPLY FROM THE LOOP

OPERATION

The instrument is set and controlled by two buttons located on its the body. Standard equipment is the OM Link USB interface, which, when using the control program, allows you to edit and archive all device settings and to update firmware. All settings are stored in FLASH memory (they hold even after the power is turned off).

STANDARD FUNCTIONS

PROGRAMMABLE PROJECTION
Setting: manual, optional projection on the display may be set in menu for both limit values of the input signal, e.g. input 4...20mA > 0...250,0
Projection: -999...9999

FUNCTIONS
Linearization: linear interpolation in 50 points (only via OM Link)
## TECHNICAL DATA

### INPUT

<table>
<thead>
<tr>
<th>PAS</th>
<th>Number</th>
<th>Range</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>12 - 345</td>
</tr>
</tbody>
</table>

### PROJECTION
- Display: 099...9999, single color LED, 7-segment
- Digit height: 14 mm
- Display color: red or green
- Decimal point: adjustable - in menu
- Brightness: fixed

### INSTRUMENT ACCURACY
- TK: 50 ppm/°C
- Accuracy: ±0.1% of range + 1 digit
  - [for projection: 999...999]
- Rate: 0.1...100 measur./s
- Overload capacity: 2x
- Linearization: linear interpolation in 50 points (only via OM Link)
- OM Link: Company communication interface for operation, setting and update of instruments (microUSB)
- Watch-dog: reset after 500 ms

### COMPARATORS
- Type: digital, menu adjustable
- Hysteresis mode: switching limit, hysteresis band "Lim ±1/2Hys." and time (±99.9 s) determining the switching delay
- Output: 2x Power MOSFET, (30 VDC/0.5 A)

### POWER SUPPLY
- from current loop 4...20 mA, voltage drop < 5.5 V

### MECHANIC PROPERTIES
- Material: PA66, incombustible UL 94 V-0
- Dimensions: 50.5 x 28.5 x 66 mm (w x h x d)
- Panel cutout: # 22.5 mm

### OPERATING CONDITIONS
- Connection: connector terminal blocks, section < 1.3 mm²
- Stabilization period: within 15 minutes after switch-on
- Working temperature: -20°...+60°C
- Storage temperature: -20°...+85°C
- Protection: IP65 (front panel only)
- E1 safety: EN 61010-1, A2
- EMC: EN 61326-1

---

## ORDER CODE

<table>
<thead>
<tr>
<th>OMM 335PAS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Display color</td>
<td>red</td>
</tr>
<tr>
<td>Specification</td>
<td>customized version, do not fill in</td>
</tr>
</tbody>
</table>

---

Basic configuration of this instrument is indicated in bold.
OMM 335PM

OMM 335PM is a 4-digit process monitor. The instrument is based on a microcontroller and an A/D converter, which ensures good accuracy and easy operation of the instrument. The 22 mm cross-section of the circular instrument body allows its convenient mounting into mosaic and signaling panels.

PROCESS MONITOR
- **4-DIGIT PROGRAMMABLE PROJECTION**
- **RANGE:** ±5 mA/±20 mA/4..20 mA  
  ±2 V/±5 V/±10V
- **DIGITAL FILTERS, LINEARIZATION**
- **SIZE OF DIN 50.5 X 28.5 MM**
- **POWER SUPPLY** 10…30 V DC/24 V AC

**NEW**

**OPERATION**
The instrument is set and controlled by two buttons located on its body. Standard equipment is the OM Link USB interface, which, when using the control program, allows you to edit and archive all device settings and to update firmware. All settings are stored in FLASH memory [they hold even after the power is turned off].

**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…10 V > 0…150,0
- **Projection:** 9999...9999

**FUNCTIONS**
- **Linearization:** linear interpolation in 50 points [only via OM Link]
## TECHNICAL DATA

### INPUT

<table>
<thead>
<tr>
<th>PM</th>
<th>Number</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM</td>
<td></td>
<td>±5 mA</td>
</tr>
<tr>
<td>PM</td>
<td></td>
<td>±20 mA</td>
</tr>
<tr>
<td>PM</td>
<td></td>
<td>±50 mA</td>
</tr>
<tr>
<td>PM</td>
<td></td>
<td>±20 mA</td>
</tr>
<tr>
<td>PM</td>
<td></td>
<td>±2 V</td>
</tr>
<tr>
<td>PM</td>
<td></td>
<td>±5 V</td>
</tr>
</tbody>
</table>

**Display:** 0.999…9999, single color 7-segment LED

**Digit height:** 14 mm

**Display color:** red or green

**Decimal point:** adjustable - in menu

**Brightness:** adjustable

### INSTRUMENT ACCURACY

**Tf:** 50 ppm/°C

**Accuracy:** ±0.05% of range + 1 digit [for projection: 0.999…9999]

**Rate:** 0.5…100 measur./s

**Overload capacity:** 2x; 10x (t < 30 ms)

**Linearization:** linear interpolation in 50 points (only via OM Link)

**OM Link:** Company communication interface for operation, setting and update of instruments.

**Watch-dog:** reset after 500 ms

### POWER SUPPLY

**Range:**
- 24 V DC/AC, ±10 %, PF > 0.4, \( I_{\text{STP}} < 45 \text{ A/1ms} \)
- 10…30 V DC/24 V AC, ±10 %, PF > 0.4, \( I_{\text{STP}} < 45 \text{ A/1ms} \), isolated

**Consumption:** < 0.2 W/0.2 VA

### MECHANIC PROPERTIES

**Material:** PA66, incombustible UL 94 V0

**Dimensions:** 50.5 x 28.5 x 66 mm (w x h x d)

**Panel cutout:** Ø 22.5 mm

### OPERATING CONDITIONS

**Connection:** connector terminal blocks, section < 1.3 mm²

**Stabilization period:** within 15 minutes after switch-on

**Working temperature:** -20°…60°C

**Storage temperature:** -20°…85°C

**Protection:** IP65 (front panel only)

**EL safety:** EN 61010-1, A2

**Dielectric strength:** 700 VAC per 1 min test between supply and input

**Insulation resistance:** for pollution degree II, measuring cat. II

**Power supply:** > 250 V (PI)

**EMC:** EN 61326-1

**PI:** Primary insulation, **DI:** Double insulation

---

### ORDER CODE

**OMM 335PM**

- **Power supply**
  - K1: 33 V AC/DC 0
  - 24 V AC/DC 2

- **Display color**
  - red 1
  - green 2

- **Specification**
  - customized version, do not fill in 00

---

Basic configuration of the instrument is indicated in bold.
OMM 335RTD

OMM 335RTD is a 4-digit thermometer for resistive Pt/Ni sensors. The instrument is based on a microcontroller and an A/D converter, which ensures good accuracy and easy operation of the instrument. The 22 mm cross-section of the circular instrument body allows its convenient mounting into mosaic and signaling panels.

THERMOMETER FOR PT/NI SENSORS

- 4-DIGIT PROJECTION
- INPUT: 
  - Pt 100/500/1 000
  - Ni 1 000/10 000
  - 0…3900 Ω
- DIGITAL FILTERS, LINEARIZATION
- SIZE OF DIN 50.5 X 28.5 MM
- POWER SUPPLY 10…30 V DC/24 V AC

OPERATION

The instrument is set and controlled by two buttons located on its body. Standard equipment is the OM Link USB interface, which, when using the control program, allows you to edit and archive all device settings and to update firmware. All settings are stored in FLASH memory (they hold even after the power is turned off).

STANDARD FUNCTIONS

PROGRAMMABLE PROJECTION
- Selection: of input type and measuring range
- Projection: -999…9999

COMPENSATION
- Of conduct (RTD): automatic (3-wire) or manual in menu (2-wire)
- Of conduct in probe (RTD): internal connection [conduct resistance in measuring head]

FUNCTIONS
- Linearization: linear interpolation in 50 points [only via OM Link]
**TECHNICAL DATA**

### INPUT

<table>
<thead>
<tr>
<th>Number</th>
<th>1</th>
</tr>
</thead>
</table>

**RTD**

- **Type**: optional in configuration menu<br>
  - EU > 100/000 Ω, with 3 950 ppm/°C 50°...60°C<br>
  - RU > 100 Ω, with 3 910 ppm/°C -200°...450°C<br>
- **Connect.**: 2 or 3-wire

**Ni**

- **Type**: optional in configuration menu<br>
  - N1 000 with 5 000 ppm/°C -50°...250°C<br>
  - N1 000 with 6 180 ppm/°C -200°...250°C<br>
- **Connect.**: 2 or 3-wire

**OHM**

- **Type**: optional in configuration menu<br>
  - 0...390 Ω<br>
  - 0...3 900 Ω<br>
- **Connect.**: 2 or 3-wire

### PROJECTION

- **Display**: 999...3999, single color 7-segment LED<br>
  - Digit height: 14 mm<br>
  - Display color: red or green<br>
  - Decimal point: adjustable - in menu<br>
  - Brightness: adjustable

### INSTRUMENT ACCURACY

- **TK**: 50 ppm/°C<br>
  - Accuracy: ±0,05% of range ± 1 digit (for projection 999...3999)<br>
- **Rate**: 0,5...100 measur./s<br>
- **Overload capacity**: max. 30 Ω<br>
- **Line compensation**: max. 30 Ω<br>
- **Linearization**: linear interpolation in 50 points (only via OM Link)<br>
- **OM Link**: Company communication interface for operation, setting and update of instruments.<br>
- **Watch-dog**: reset after 500 ms<br>
- **Calibration**: at 25°C and 40 % r.h.

### POWER SUPPLY

- **Range**: 24 V DC/AC, ±10 %, PF ≥ 0,4, I<sub>SHORT</sub> = 45 A/1 ms<br>
- **10...30 V DC/24 V AC, ±10 %, PF = 0,4, I<sub>SHORT</sub> = 45 A/1 ms, isolated<br>
- **Consumption**: < 0,2 W/0,2 VA<br>

### MECHANIC PROPERTIES

- **Material**: PA66, incombustible UL 94 V-I<br>
- **Dimensions**: 50,5 x 28,5 x 66 mm (w x h x d)<br>
- **Panel cutout**: ≤ 22,5 mm

### OPERATING CONDITIONS

- **Connection**: connector terminal blocks, section ≤ 1,3 mm²<br>
- **Stabilization period**: within 15 minutes after switch-on<br>
- **Working temperature**: -20°...60°C<br>
- **Storage temperature**: -20°...85°C<br>
- **Protection**: IP65 (front panel only)<br>
- **EL safety**: EN 61010-1, A2<br>
- **Dielectric strength**: 700 VAC per 1 min test between supply and input<br>
- **Insulation resistance**: for pollution degree 4, measuring cat. II<br>
- **power supply**: 250 V [P]<br>
- **EMC**: EN 61326-1

---

**ORDER CODE**

**OMM 335RTD**

- **Power supply**: 24 V AC/DC<br>
  - 24 V AC/DC<br>
- **Display color**: red<br>
  - Display color: red<br>
- **Specification**: customized version, do not fill in<br>
  - Specification: customized version, do not fill in

---

R - Primary insulation, DI - Double insulation

---

Basic configuration of the instrument is indicated in bold.
**UNIVERSAL COUNTER**

- 4-DIGIT PROGRAMMABLE PROJECTION
- COUNTER/FREQUENCY/CLOCK/TIMER
- 0.1 Hz...10 kHz
- DIGITAL FILTERS, LINEARIZATION
- SIZE OF DIN 50.5 X 28.5 MM
- POWER SUPPLY 10...30 V DC/24 V AC

**OPERATION**

The instrument is set and controlled by two buttons located on its body. Standard equipment is the OM Link USB interface, which, when using the control program, allows you to edit and archive all device settings and to update firmware. All settings are stored in FLASH memory (they hold even after the power is turned off).

**STANDARD FUNCTIONS**

**PROGRAMMABLE PROJECTION**

Input: NPN, PNP, on contact.

Setting: measuring mode counter/frequency/timer with adjustable calibration coefficient, time base and projection.

Measur. channels: A and B, two independent functions (number/frequency) can be evaluated from one measuring input.

Time base: 0.1...50 s

Projection: -999...9999 with fixed or floating DT format 10/24/60

**FUNCTIONS**

Linearization: linear interpolation in 50 points (only via OM Link).

Preset: initial nonzero value that is always read after resetting the device.

**DIGITAL FILTERS**

1/Fr.: filter to convert frequency to time.

Input filter: passes the input signal up to 1...1 000 Hz.

Type OM 335UQC is a universal 4-digit counter/frequency meter/timer/cLock. The instrument is based on a microcontroller and an A/D converter, which ensures good accuracy and easy operation of the instrument. The 22 mm cross-section of the circular instrument body allows its convenient mounting into mosaic and signaling panels.
TECHNICAL DATA

INPUT

<table>
<thead>
<tr>
<th>UC</th>
<th>Input</th>
<th>optional in configuration menu on contact, NPN/PNP</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1</td>
<td>0…10 kΩ</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measure.</th>
<th>mode</th>
<th>counter</th>
</tr>
</thead>
<tbody>
<tr>
<td>FREQ,</td>
<td>Frequency measurement</td>
<td></td>
</tr>
<tr>
<td>TIME,</td>
<td>Timer</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time base</th>
<th>0,1/0,5/1/5/10/50 s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calibr. constant</td>
<td>0,001…9999</td>
</tr>
<tr>
<td>Preset</td>
<td>0…9999</td>
</tr>
<tr>
<td>Input filter</td>
<td>0/5/10/45/55/65/100/1000 Hz</td>
</tr>
</tbody>
</table>

Functions | preset |

PROJECTION

Display: 0000…9999, single color 7-segment LED
Projection for the mode "TIME" |

<table>
<thead>
<tr>
<th>99.59 hours/minutes</th>
<th>23.59 hours/minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>59.59 minutes/seconds</td>
<td>59.99 seconds/hundredths</td>
</tr>
<tr>
<td>99.59 days/hours</td>
<td></td>
</tr>
</tbody>
</table>

Digit height: 14 mm
Display color: red or green
Decimal point: adjustable in menu
Brightness: adjustable

INSTRUMENT ACCURACY

TK: 50 ppm/°C
Accuracy: ±0,05 % of value + 1 digit
Overload capacity: 2x
Linearization: linear interpolation in 50 points (only via OM Link)
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.

POWER SUPPLY

Range: 24 V DC/AC, ±10 %, PF ≥ 0,4, ISTP< 45 A/1,1 ms
10…30 V DC/24 V AC, ±10 %, PF ≥ 0,4, ISTP< 45 A/1,1 ms, isolated
Consumption: ≤ 2 W/0,2 VA

MECHANIC PROPERTIES

Material: PA66, incombustible UL 94 V-I
Dimensions: 50,5 x 28,5 x 66 mm (w x h x d)
Panel cutout: ∅ 22,5 mm

OPERATING CONDITIONS

Connection: connector terminal blocks, section < 1,3 mm²
Stabilization period: within 15 minutes after switch-on
Working temperature: -20°…60°C
Storage temperature: -20°…85°C
Protection: IP65 (front panel only)
Safety: EN 61010-1, A2
Dielectric strength: 700 VAC per 1 min test between supply and input
Insulation resistance: for pollution degree 2, measuring cat. II, power supply > 250 V (P)
EMC: EN 61326-1

ORDER CODE

OMM 335UQC - - - -

<table>
<thead>
<tr>
<th>Power supply</th>
<th>24 V AC/DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specification</td>
<td>customized version, do not fill in</td>
</tr>
</tbody>
</table>

Basic configuration of the instrument is indicated in bold.
OMM 335RS

OMM 335RS is a 4-digit data display from the serial line RS 485. The instrument is based on a microcontroller and an A/D converter, which ensures good accuracy and easy operation of the instrument. The 22 mm cross-section of the circular instrument body allows its convenient mounting into mosaic and signaling panels.

DATA DISPLAY RS 485
- 4-DIGIT PROGRAMMABLE PROJECTION
- INPUT: RS 485
- ASCII, MODBUS-RTU
- SIZE OF DIN 50.5 X 28.5 MM
- POWER SUPPLY 10…30 VDC/24 VAC

OPERATION
The instrument is set and controlled by two buttons located on its body. Standard equipment is the OM Link USB interface, which, when using the control program, allows you to edit and archive all device settings and to update firmware. All settings are stored in FLASH memory (they hold even after the power is turned off).

STANDARD FUNCTIONS
PROGRAMMABLE PROJECTION
Input: RS 485
Protocol: ASCII - Master/Slave/Universal or MODBUS RTU
Projection: 9999
### TECHNICAL DATA

**INPUT**

<table>
<thead>
<tr>
<th>Protocol</th>
<th>ASCII - Master</th>
<th>- the instrument controls data sending from the slave system</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ASCII - Slave</td>
<td>- Passive bus display where other devices or computers communicate in “MAST” mode. If the &quot;COMM&quot; and the requested data are correctly received, they will be displayed by the instrument</td>
</tr>
<tr>
<td></td>
<td>ASCII - Universal</td>
<td>- in dynamic menu items [Stat, Ad.Un, Sign, Data, Stop, Req.] you can build your own communication protocol format</td>
</tr>
</tbody>
</table>

**MODBUS RTU**

- Format: 8 bit + no parity + 1 stop bit
- Rate: 300…230 400 Baud
- Line termination: short-circuit jumper on the connector

**PROJECTION**

- Display: 069-9999, single color 7-segment LED
- Digit height: 14 mm
- Display color: red or green
- Decimal point: adjustable - in menu
- Brightness: adjustable

**INSTRUMENT ACCURACY**

- TK: 50 ppm/°C
- OM Link: Company communication interface for operation, setting and update of instruments.
- Watchdog: reset after 500 ms

**POWER SUPPLY**

- Range: 24 V DC/AC, ±10 %, PF ≥ 0.4, I_{P} = 0.04 A/1 ms
- Consumption: < 0.2 W/0.2 VA

**MECHANICAL PROPERTIES**

- Material: PA66, incombustible UL 94 V-1
- Dimensions: 50.5 x 28.5 x 66 mm (w x h x d)
- Panel cutout: ø 22.5 mm

**OPERATING CONDITIONS**

- Connection: connector terminal blocks, section < 1.3 mm²
- Stabilization period: within 15 minutes after switch-on
- Working temperature: -20°…60°C
- Storage temperature: -20°…80°C
- Protection: IP65 (front panel only)
- EL safety: EN 61010-1, A2
- Dielectric strength: 700 VAC per 1 min test between supply and input
- Insulation resistance: for pollution degree II, measuring cat. II
- Power supply > 250 V (PI)
- EMC: EN 61326-1

### ORDER CODE

<table>
<thead>
<tr>
<th>OMM 335RS</th>
<th>-</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply</td>
<td>24 V AC/DC</td>
<td>1</td>
</tr>
<tr>
<td>Display color</td>
<td>red</td>
<td>2</td>
</tr>
<tr>
<td>Specification</td>
<td>customized version, do not fill in</td>
<td>00</td>
</tr>
</tbody>
</table>

Basic configuration of the instrument is indicated in bold.
**OPERATION**

The instrument is controlled by four buttons situated 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).

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.

---

**OMM 350DC**

The OMM 350 model series are small 3,5-digit panel programmable instruments designed for maximum usefulness and user comfort while maintaining its fair price.

Type OMM 350DC is a multi-range DC-VA meter.

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.

**DC V·A METER**

- 3,5-DIGIT PROGRAMMABLE PROJECTION
- RANGE: ±1 A±5 A
  ±20 V±40 V±100 V±200 V
- DIGITAL FILTERS, LINEARIZATION
- SIZE OF DIN 72 x 24 mm
- POWER SUPPLY 10...30 VDC/24 VAC

**STANDARD FUNCTIONS**

**PROGRAMMABLE PROJECTION**

Setting: manual, optional projection on the display may be set in menu for both limit values of the input signal, e.g. input 0...100 V > 0...250,0

Projection: 9999...9999

**FUNCTIONS**

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

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: designed to reset display upon non-zero input signal

**OMM 350DC**

DC VOLTMETER AND AMMETER
### TECHNICAL DATA

**INPUT**

<table>
<thead>
<tr>
<th>DC</th>
<th>Range</th>
<th>Read, by order</th>
<th>±5 A</th>
<th>±10 mV</th>
<th>Input 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>±5 A</td>
<td>±10 mV</td>
<td>Input 5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>±10 V</td>
<td>±50 mV</td>
<td>Input 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>±20 V</td>
<td>±100 mV</td>
<td>Input 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>±50 V</td>
<td>±200 mV</td>
<td>Input 1</td>
</tr>
</tbody>
</table>

**External input**

- 1 input, on contact
- The following functions can be assigned:
  - DIFF: input off
  - LOC: control keys blocking
  - HSD: display stop
  - TAG: tare activation

**PROJECTION**

- Display: 999999.999999, single color, 7-segment LED
- Digit height: 9.1 mm
- Display color: red or green
- Decimal point: adjustable, in menu
- Brightness: adjustable in menu

**INSTRUMENT ACCURACY**

- TK: 50 ppm/°C
- Accuracy: 0.2 % of range + 1 digit (for projection: 999.9999)
- Rate: 0.5...10 measurements/s
- Overload capacity: 2x, 10x (t < 30 ms), not for 200 V and 5 A
- Linearity: ±0.2 % of range, 25 points (only via OM Link)
- Digital filters: exponential, average, rounding

**COMPARATORS**

- Type: digital, menu adjustable, contact switch-on < 50 ms
- Hysteresis mode: switching limit, hysteresis band "Lim ±1/2Hys." and time (±99.9 s) determining the switching delay
- Output: 1...2x relay with bistable contact (48 VAC/30 VDC, 3 A)
- 1...2x open collector (30 VDC/100 mA)

**POWER SUPPLY**

- Range: 10...30 VDC/24 VAC, ±10 %, PF ≥ 0.4, I STP< 45 A/1 ms, isolated
- Consumption: < 2.1 W/2.2 VA

**MECHANIC PROPERTIES**

- Material: Noryl GF32 SE1, incombustible, UL 94 V-1
- Dimensions: 72 x 24 x 106 mm (w x h x d)
- Panel cutout: 68 x 21.5 mm (w x h)

**OPERATING CONDITIONS**

- Connection: connector terminal blocks, section < 1.5/2.5 mm²
- Stabilization period: within 15 minutes after switch-on
- Working temperature: -20...60°C
- Storage temperature: -20...85°C
- Protection: IP42 (front panel only)
- EL safety: EN 61010-1, A2
- Dielectric strength: 2.5 kVAC per 1 min test between supply and input
- Insulation resistance: for pollution degree II, measuring cat. III
- EMC: EN 61326-1

### ORDER CODE

**OMM 350DC**

- **Power supply**: 10...30 VDC/24 VAC, isolated

**Comparators**

- 1x relay (Form A)
- 2x relay (Form A)
- 1x open collector
- 2x open collector

**Display color**

- Red or green

**Specification**

- Customized version, do not fill in

---

**R** - Primary insulation, **D** - Double insulation

Basic configuration of the instrument is indicated in bold.
The instrument is controlled by four buttons situated 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.

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.

**STANDARD FUNCTIONS**

**PROGRAMMABLE PROJECTION**

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: -99999...9999

**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 (temperature at the input terminals)

**FUNCTIONS**

- Linearization: through linear interpolation in 25 points (solely via OM Link)
- 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: designed to reset display upon non-zero input signal
TECHNICAL DATA

INPUT

DC
Range
optional in configuration menu
±20 mA
+ 10 MO Input 4
±80 mA
+ 10 MO Input 3
0 to 2000 mA
125 MO Input 1

PN
Range
optional in configuration menu
0.25 mA
+ 200 MO Input 5
4.20 mA
+ 200 MO Input 5
0.2 V
10 MO Input 4
0.5 V
125 MO Input 1
0.1 V
125 MO Input 1

QHM
Range
fixed - by order
0.30 GΩ

Connect.
2, 3, or 4 wire

RTD
Type
fixed - by order
Cu 50/100 with 4 280 ppm/°C
-200°…200°C
Cu 50/100 with 4 260 ppm/°C
-50°…200°C
Ni 1000/10000 with 6 180 ppm/°C
-50°…250°C
Ru > 100 Ω with 3 910 ppm/°C
-200°…450°C
Ru > 50 Ω with 3 910 ppm/°C
-200°…1100°C
US > 100 Ω with 3 920 ppm/°C
-50°…450°C
EU > 100/500/1000 Ω, with 3 850 ppm
-50°…450°C

Connect.
2, 3, or 4 wire

NI
Type
fixed - by order
N 1000/200 000 with 5 000 ppm/°C
-50°…250°C
N 1002/200 000 with 6 150 ppm/°C
-50°…250°C

Connect.
2, 3, or 4 wire

DU
Type
fixed - by order
Du 50/100 with 4 260 ppm/°C
-60°…200°C
Du 50/100 with 4 260 ppm/°C
-60°…200°C

Connect.
2, 3, or 4 wire

T/C
Type
fixed - by order
J (Fe-CuNi)
Input 3 -200°…900°C
K (NiCr-Ni)
Input 3 -200°…1300°C
L (Fe-CuNi)
Input 3 -200°…900°C
N (Omegalloy)
Input 3 -200°…1300°C
R (Pt13Rh-Pt)
Input 4 -50°…1740°C
S (PtRh10-Pt)
Input 4 -50°…1760°C
B (PtRh30-PtRh6)
Input 4 300°…1820°C
E (NiCr-CuNi)
Input 3 -200°…690°C
T (Cu-CuNi)
Input 4 -200°…400°C
K (NiCr-Ni)
Input 3 -200°…1300°C
J (Fe-CuNi)
Input 3 -200°…900°C

POWER SUPPLY

10…30 VDC/24 VAC, ±1 %, Is ± 45 mA, Isolated
Consumption < 21 W, 2 VA

MECHANIC PROPERTIES

Material: Noryl GFN2 SE1, incombustible UL 94 V-1
Dimensions: 72 x 24 x 106 mm (w x h x d)
Panel cutout: 68 x 21,5 mm (w x h)

OPERATING CONDITIONS

Connection: connector terminal blocks, section < 1,5/2,5 mm ²
Stabilization period: within 15 minutes after switch-on
Working temperature: 20°…60°C
Storage temperature: 20°…85°C
Protection: IP42 (front panel only)
EL safety: EN 61010-1, A2
Data etc: strength: 5x KAC per 1 min test between supply and input
Insulation resistance: for pollution degree II, measuring cat. II
Instrument power supply: input = 300 V [R], 150 V [D]
EMC: EN 61326-1
Seismic capacity: IEC 68-1993, part 6

PROJECTION

Display: 999999-999999, single color 7-segment LED
Digit height: 91 mm
Display color: red or green
Decimal point: adjustable - in menu
Brightness: adjustable - in menu

INSTRUMENT ACCURACY

T/C: ±5 ppm/°C
Accuracy: ±0,3 % of range + 1 digit (for projection - 999…9990)
Accuracy of cold junction measure: ±6°C
Rate: 0,5/1,2/2,5/5/10 meas./s
Overload capacity: 2x, 10x [t = 30 ms]
Resolution: 0,1°C [RTD], 1°C [T/C]
Line compensation: max. 30 D [RTD]
Cold junction compens.: adjustable -20°…99°C or automatic
Linearization: linear interpolated in 26 points (only via OM Link)

Digital filters: exponential average, rounding
Functions: TAR.
OM Link: Company communication interface for operation, setting and update of instruments.
Watchdog: reset after 500 ms
Calibration: at 25°C and 40 % r.h.

COMPARATORS

Type: digital, menu adjustable, contact switch-on = 50 ms
Hysteresis mode: switching limit, hysteresis band “Lim ±1/2Hys.” and time [t = 99.9 s], which determines switching delay
Output: 1, 2x relay with bistable contact (48 VAC/30 VDC, 3 A)
1…2x open collector (30 VDC/60 mA)

ORDER CODE

OMM 350UNI - 0

Power supply
10…30 VDC/24 VAC, isolated

Measuring range
Pt 100/200

Comparators
1x relay [Form A]
2x relay [Form A]

Display color
red

Specification
customized version, do not fill in

Basic configuration of this instrument is indicated in bold.
OML 343DC

OML 343DC

Type OML 343DC is an inexpensive programmable 3.5-digit panel direct current VA-meter designed for simple applications with an instrument box depth of only 30 mm.

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.

DC V-A METER

- 3.5-DIGIT PROGRAMMABLE PROJECTION
- RANGE: ±1 A/±5 A
  ±120 V/±240 V
- DIGITAL FILTERS, LINEARIZATION, TARE
- SIZE OF DIN 96 x 48 mm
- POWER SUPPLY 10...30 VDC/24 VAC

- Option Comparator

OPERATION

The instrument is set and controlled by five buttons accessible from the rear. 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

COMPARATOR is 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.

STANDARD FUNCTIONS

PROGRAMMABLE PROJECTION

Selection: 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...100 A > 0...100 V
Projection: ±1999

FUNCTIONS

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

OML 343DC
DC VOLTMETER AND AMMETER
CONNECTION

ORDER CODE

OML 343DC - -

<table>
<thead>
<tr>
<th>Comparator</th>
<th>no</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display color</td>
<td>red</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Gasket</td>
<td>no</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Specification</td>
<td>customized version, do not fill in</td>
<td>00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Basic configuration of the instrument is indicated in bold.
OML 343AC

AC V-A METER
- 3.5-DIGIT PROGRAMMABLE PROJECTION
- RANGE: 0…1 A/5 A
  0…80 mV/300 mV
  0…24 V/60 V/120 V/250 V
- DIGITAL FILTERS, LINEARIZATION, TARE
- SIZE OF DIN 96 x 48 mm
- POWER SUPPLY 10…30 VDC/24 VAC
- Option Comparator

OPERATION
The instrument is set and controlled by five buttons accessible from the rear. 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].

STANDARD FUNCTIONS

PROGRAMMABLE PROJECTION
Selection: 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…60 mV > 0…100,0
Projection: ±1999

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

OPTION
COMPARATOR is 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…999,9 s. Reaching the preset limits is signalled by LED and simultaneously by the switch-on of the relevant relay.

OML 343AC
AC VOLTMETER AND AMMETER

Type OML 343AC is an inexpensive programmable 3.5-digit panel alternative current VA-meter designed for simple applications with an instrument box depth of only 30 mm.

The instrument is based on a single-chip microcontroller with a true RMS converter, which ensures good accuracy, stability and easy operation of the instrument.
**TECHNICAL DATA**

**INPUT**

<table>
<thead>
<tr>
<th>AC Range</th>
<th>0…1 A</th>
<th>&gt; 30 mV</th>
<th>Input 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0…5 A</td>
<td>&gt; 150 mV</td>
<td>Input 5</td>
</tr>
<tr>
<td></td>
<td>0…60 mV</td>
<td>12 kΩ</td>
<td>Input 4</td>
</tr>
<tr>
<td></td>
<td>0…300 mV</td>
<td>12 kΩ</td>
<td>Input 4</td>
</tr>
<tr>
<td></td>
<td>0…24 V</td>
<td>500 kΩ</td>
<td>Input 2</td>
</tr>
<tr>
<td></td>
<td>0…50 V</td>
<td>1 MΩ</td>
<td>Input 1</td>
</tr>
<tr>
<td></td>
<td>0…60 V</td>
<td>500 kΩ</td>
<td>Input 2</td>
</tr>
<tr>
<td></td>
<td>0…250 V</td>
<td>1 MΩ</td>
<td>Input 1</td>
</tr>
</tbody>
</table>

**Input frequency**

0…400 Hz for amplitude up to 8 V

**External input**

1 input, on contact

The following functions can be assigned:

- OFF input off
- HLD. display stop
- TAR. tare activation

**PROJECTION**

Display: 0…1999, single color 7-segment LED

- Digit height: 14 mm
- Display color: red or green
- Decimal point: adjustable - in menu
- Brightness: adjustable or automatically controllable

**INSTRUMENT ACCURACY**

TK: 50 ppm/°C

- Accuracy: 0.5% of range + 1 digit
- Rate: 0.5/1/2/3/5 measurement/s

- Overload capacity: 2x; 10x (t < 30 ms) - not for > 250 V and 5 A
- Watchdog: reset after 500 ms

**Digital filters:** exponential average, rounding

**Functions:**

- TAR: tare activation
- OM Link: Company communication interface for operation, setting and update of instruments.

**Calibration:** at 25°C and 40% ch.

**COMPARATOR**

- Type: digital, menu adjustable, contact switch-on = 50 ms
- Hysteresis mode: switching limit, hysteresis band “Lim ±1/2Hys.” and time (0.01 s) determining the switching delay
- Output: 1x Form A relay (250 VAC/250 VDC, 3 A), 1x open collector (30 VDC/100 mA)

**POWER SUPPLY**

- Range: 10…30 VDC/24 VAC, ±10%, PF ≥ 0.4, I STP< 45 A/1 ms, isolated
- Consumption: < 1.8 W/1.9 VA

**MECHANIC PROPERTIES**

- Material: Polycarbonate, incombustible UL 94 V-0
- Dimensions: 96 x 48 x 30 mm (w x h x d)
- Panel cutout: 92 x 44 mm (w x h)

**OPERATING CONDITIONS**

- Connection: connector terminal blocks, section < 1.5 mm²
- Stabilization period: within 15 minutes after switch-on
- Working temperature: 0°F…60°C
- Storage temperature: -20°F…85°C
- Protection: IP65 [front panel only with a gasket]
- UL safety: EN 60950.1, A2
- Dielectric strength: 2.5 kVAC per 1 min test between supply and input
- 4 kVAC per 1 min test between input and relay output
- Insulation resistance: for pollution degree II, measuring cat. III
- Power supply > 300 V (PI), input, output > 300 V (DI)
- EMC: EN 61326.1

**ORDER CODE**

**OML 343AC**

<table>
<thead>
<tr>
<th>Comparator</th>
<th>no</th>
<th>1x relay [Form A]</th>
<th>1x open collector</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Display color</td>
<td>red</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Gasket</td>
<td>yes</td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

- Specification customized version, do not fill in

PI - Primary insulation, DI - Double insulation

Basic configuration of the instrument is indicated in bold.
UNIVERSAL INSTRUMENT
- 3,5-DIGIT PROGRAMMABLE PROJECTION
- MULTIFUNCTION INPUT (DC, PM, RTD, T/C, DU)
- DIGITAL FILTERS, LINEARIZATION, TARE
- SIZE OF DIN 96 x 48 mm
- POWER SUPPLY 10…30 VDC/24 VAC

OPERATION
The instrument is set and controlled by five buttons accessible from the rear. 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
COMPARATOR is 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…999 s. Reaching the preset limits is signalled by LED and simultaneously by the switch-on of the relevant relay.

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…10 V > 0…150,0
Projection: ±1999

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: through linear interpolation in 25 points (solely via OM Link)
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
Tare: tare activation

OML 343UNI
Type OML 343UNI is a multifunction instrument with the option of configuration for 8 different input options, easily configurable in the instrument menu. Depth of the instrument box only 30 mm. 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.
**TECHNICAL DATA**

### INPUT

<table>
<thead>
<tr>
<th>DC Range</th>
<th>optional in configuration menu</th>
<th>±30 mA</th>
<th>&lt; 1 V</th>
<th>Input 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>±60 mA</td>
<td>&lt; 2 V</td>
<td>Input 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>±100 mA</td>
<td>&lt; 10 MΩ</td>
<td>Input 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>±200 mA</td>
<td>&lt; 10 MΩ</td>
<td>Input 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>±500 mA</td>
<td>&lt; 10 MΩ</td>
<td>Input 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>±10 V</td>
<td>&gt; 10 MΩ</td>
<td>Input 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>±20 V</td>
<td>&gt; 10 MΩ</td>
<td>Input 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>±40 V</td>
<td>&gt; 10 MΩ</td>
<td>Input 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>±80 V</td>
<td>&gt; 10 MΩ</td>
<td>Input 3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PM Range</th>
<th>optional in configuration menu</th>
<th>±0.5 mA</th>
<th>&lt; 200 mV</th>
<th>Input 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>±1 mA</td>
<td>&lt; 200 mV</td>
<td>Input 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>±2 V</td>
<td>&lt; 200 mV</td>
<td>Input 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>±20 mA</td>
<td>&lt; 1 MΩ</td>
<td>Input 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>±50 mA</td>
<td>&lt; 1 MΩ</td>
<td>Input 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>±100 mA</td>
<td>&lt; 1 MΩ</td>
<td>Input 1</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OHM Range</th>
<th>optional in configuration menu</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0…100 Ω</td>
</tr>
<tr>
<td></td>
<td>0…300 Ω</td>
</tr>
<tr>
<td></td>
<td>0…1,5 kΩ</td>
</tr>
<tr>
<td></td>
<td>0…3 kΩ</td>
</tr>
<tr>
<td></td>
<td>0…24 kΩ</td>
</tr>
</tbody>
</table>

Connect: 2, 3 or 4 wire

### RTD Type

| EU | ±50 ppm/°C |
| N | ±100 ppm/°C |
| Ni | ±200 ppm/°C |

### NI Type

| N1 | ±100 ppm/°C |
| N2 | ±300 ppm/°C |

Connect: 2, 3 or 4 wire

### Cu Type

| Cu | ±5 ppm/°C |
| Cu | ±10 ppm/°C |

Connect: 2, 3 or 4 wire

### T/C Type

| J | ±1.8 ppm/°C |
| K | ±2 ppm/°C |
| T | ±3 ppm/°C |
| E | ±4 ppm/°C |
| B | ±5 ppm/°C |
| S | ±6 ppm/°C |
| R | ±7 ppm/°C |
| N | ±8 ppm/°C |

Connect: 2, 3 or 4 wire

### DU Potentiometer power supply

2.5 VDC/6 mA, Potentiometer resistance > 500 Ω

### CONNECTION

**External input**

- Input: on contact
- The following functions can be assigned:
  - OFF, input off
  - HLD, display stop
  - DML, tare activation

**PROJECTION**

- Display: 1559, single-color 7-segment LED
- Digit height: 14 mm
- Display color: red or green
- Decimal point: adjustable in menu
- Brightness: adjustable or automatically controllable

**INSTRUMENT ACCURACY**

| TK | ±50 ppm/°C |
| T/C | ±100 ppm/°C |
| N | ±200 ppm/°C |

- Accuracy: ±0.15 % of range + 1 digit
- ±0.3 % of range + 1 digit

### COMPARATOR

- Type: digital, menu adjustable, contact switch-on < 50 ms
- Hysteresis mode: switching limit, hysteresis band “Lim ±1/2Hys.” and time (±99.9 s) determining the switching delay
- Output: 1x Form A relay (250 VAC/30 VDC, 3 A), 1x open collector (30 VDC/100 mA)

### POWER SUPPLY

- Range: 10…30 VDC/24 VAC, ±10 %, PF ≥ 0.4, I STP< 45 A/1.1 ms, isolated
- Consumption: < 1.8 W/1.9 VA

### MECHANIC PROPERTIES

- Material: Polycarbonate, incombustible UL 94 V-0
- Dimensions: 96 x 48 x 30 mm (w x h x d)
- Panel cutout: 92 x 44 mm (w x h)

### OPERATING CONDITIONS

**External input**

- Input: on contact
- The following functions can be assigned:
  - OFF, input off
  - HLD, display stop
  - DML, tare activation

- Display: 1559, single-color 7-segment LED
- Digit height: 14 mm
- Display color: red or green
- Decimal point: adjustable in menu
- Brightness: adjustable or automatically controllable

### INSTRUMENT ACCURACY

- TK: ±50 ppm/°C
- T/C: ±100 ppm/°C

- Accuracy: ±0.15 % of range + 1 digit
- ±0.3 % of range + 1 digit

### COMPARATOR

- Type: digital, menu adjustable, contact switch-on < 50 ms
- Hysteresis mode: switching limit, hysteresis band “Lim ±1/2Hys.” and time (±99.9 s) determining the switching delay
- Output: 1x Form A relay (250 VAC/30 VDC, 3 A), 1x open collector (30 VDC/100 mA)

### POWER SUPPLY

- Range: 10…30 VDC/24 VAC, ±10 %, PF ≥ 0.4, I STP< 45 A/1.1 ms, isolated
- Consumption: < 1.8 W/1.9 VA

### MECHANIC PROPERTIES

- Material: Polycarbonate, incombustible UL 94 V-0
- Dimensions: 96 x 48 x 30 mm (w x h x d)
- Panel cutout: 92 x 44 mm (w x h)

### ORDER CODE

**OML 343UNI**

- Comparator no
  - 0: 1x relay (Form A)
  - 1: 1x open collector
- Display color
  - 1: red
  - 2: green
- Gasket no
  - 0: yes
  - 1: no
- Specification
  - customized version, do not fill in

---

R - Primary insulation, D - Double insulation

Basic configuration of the instrument is indicated in bold.
DC V-A METER

- 3,5-DIGIT PROGRAMMABLE PROJECTION
- RANGE: ±1 A/±5 A
  ±20 V/±40 V/±80 V/±200 V
- 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

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 signaled 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…100 A > 0…150,0
Projection: ±1999

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

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

OM 352DC
DC VOLTMETER AND AMMETER

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 OM 352DC is a multi-range direct current VA-meter.
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.
## TECHNICAL DATA

### INPUT

<table>
<thead>
<tr>
<th>DC</th>
<th>Range</th>
<th>Optional in configuration menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1 A</td>
<td>±12 mV</td>
<td>Input 5</td>
</tr>
<tr>
<td>0.5 A</td>
<td>±100 mV</td>
<td>Input 5</td>
</tr>
<tr>
<td>2 A</td>
<td>±200 mV</td>
<td>Input 2</td>
</tr>
<tr>
<td>4 A</td>
<td>±400 mV</td>
<td>Input 2</td>
</tr>
<tr>
<td>10 A</td>
<td>±1000 mV</td>
<td>Input 1</td>
</tr>
<tr>
<td>20 A</td>
<td>±2000 mV</td>
<td>Input 1</td>
</tr>
</tbody>
</table>

**External input**

1. input; on contact
2. The following functions can be assigned:
   1. OFF input: off
   2. HLD. display: stop
   3. LOC. control keys: blocking
   4. TAR. tare: activation

**POWER SUPPLY**

- Range: 10…30 V AC/DC, ±10 %, PF = 0.4, IP < 40 A/ms, isolated
- 80…250 V AC/DC, ±10 %, PF = 0.4, IP < 40 A/ms, isolated

Consumption: < 0.8 W/8 VA

Power supply is protected by a fuse inside the instrument.

### PROJECTION

- **Display:** 1399, 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)

### INSTRUMENT ACCURACY

**TK:** 50 ppm/°C

**Accuracy:** ±0.2 % of range + 1 digit (for projection ±1999)

**Rate:** 0.5…10 measure/s

**Overload capacity:** 2x; 10x (t < 30 ms) - not for > 200 V and 5 A

**Linearization:** linear, interpol. in 26 points (only via OM Link)

### EXCITATION

- **Adjustable:** 5…24 VDC/max. 1.2 W, isolated
- **Range:** 2/5/10 V, 0/4…20 mA (comp. < 600 Ω/12 V)

### POWER SUPPLY

- **Range:** 10…30 V AC/DC, ±10 %, PF = 0.4, IP < 40 A/ms, isolated
- 80…250 V AC/DC, ±10 %, PF = 0.4, IP < 40 A/ms, isolated

**Consumption:** < 0.8 W/8 VA

Power supply is protected by a fuse inside the instrument.

### OPERATING CONDITIONS

**Connection:** connector terminal blocks, section < 1.5/2.5 mm²

**Stabilization period:** within 15 minutes after switch-on

**Working temperature:** -20…85°C

**Storage temperature:** -20…85°C

**Protection:** IP64 (front panel only)

**E1: safety:** EN 61010-1, A2

**Diode strength:** 4 kVAR per 1 min fast between supply and input

**4 kVAR per 1 min fast between supply and data/analog output

**4 kVAR per 1 min fast between input and relay output**

**2.5 kVAR per 1 min fast between input and data/analog output

**Insulation resistance:** for pollution degree II, measuring cat. II

**Power supply > 670 V (PI), 300 V (DI)**

**Input, output, PN > 300 V (PI), 150 V (DI)**

**EN: EN 61326-1**

### MECHANIC PROPERTIES

**Material:** Noryl GFN2 SE1, incombustible UL 94 V-I

**Dimensions:** 56 x 48 x 120 mm (w x h x d)

### ORDER CODE

**OM 352DC**

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>Customized version, do not fill in</td>
</tr>
</tbody>
</table>

R – Primary insulation, DI – Double insulation

---

**DIAGRAM**: Basic configuration of the instrument is indicated in bold.
OM 352AC

AC V-A METER

- 3.5-DIGIT PROGRAMMABLE PROJECTION
- RANGE: 0…1/5 A; 0…60/300 mV;
  0…24/50/90/120/250/450 V
- 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 352AC
AC VOLTMETER AND AMMETER

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 OM 352AC is a multi-range alternating VA-meter.
The instrument is based on a single-chip microcontroller with a true RMS converter, which ensures good accuracy, stability and easy operation of the instrument.

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].

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 signaled 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 and the type of 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…5,00 V > 0…100,0

PROJECT: ±1999

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

<table>
<thead>
<tr>
<th>AC</th>
<th>Range</th>
<th>Optional in configuration menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1 A</td>
<td>&gt; 30 mV</td>
<td>Input 5</td>
</tr>
<tr>
<td>0.8 A</td>
<td>&gt; 120 mV</td>
<td>Input 5</td>
</tr>
<tr>
<td>0.2 A</td>
<td>120 mV</td>
<td>Input 4</td>
</tr>
<tr>
<td>0.25 A</td>
<td>120 mV</td>
<td>Input 4</td>
</tr>
<tr>
<td>0.2 A</td>
<td>500 kΩ</td>
<td>Input 3</td>
</tr>
<tr>
<td>0.1 A</td>
<td>1 MΩ</td>
<td>Input 2</td>
</tr>
<tr>
<td>0.5 A</td>
<td>1 MΩ</td>
<td>Input 2</td>
</tr>
<tr>
<td>0.5 A</td>
<td>500 kΩ</td>
<td>Input 3</td>
</tr>
<tr>
<td>0.2 A</td>
<td>180 V</td>
<td>Input 1</td>
</tr>
<tr>
<td>0.2 A</td>
<td>250 V</td>
<td>Input 2</td>
</tr>
<tr>
<td>0.5 A</td>
<td>180 V</td>
<td>Input 1</td>
</tr>
</tbody>
</table>

Input frequency: 50 Hz, for amplitude from 6 V.

**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: 0.315", single color 7-segment LED, 0.199", 3 color 7-segment LED

- Digit height: 14 or 20 mm
- Brightness: adjustable - in menu

**INSTRUMENT ACCURACY**

TK: 50 ppm/°C

**Non-linearity**: 0.2 % of range

**Rate**: response to change of value < 250 ms

**Ranges**: 0.2/5/10 V, 0/4…20 mA (comp. < 600 Ω/12 V)

**POWER SUPPLY**

- Power supply
  - 10…30 V AC/DC, ±10 %, PF ≥ 0.4, IP = 40 A/1 ms, isolated
  - 80…250 V AC/DC, ±10 %, PF ≥ 0.4, IP = 40 A/1 ms, isolated

Consumption: 6.8 W/6.5 VA

Power supply is protected by a fuse inside the instrument

**Mechanical properties**

- Material: Noryl GF25 SE, incombustible UL 94 V-1
- Dimensions: 56 x 48 x 120 mm (w x h x d)
- Weight: 500 x 46 mm (w x h)

**OPERATING CONDITIONS**

- Connection: connector terminal blocks, section < 1.5/2.5 mm²
- Stabilization period: within 15 minutes after switch-on
- Working temperature: -20°...65°C
- Storage temperature: -20°...85°C
- El. safety: EN 61010-1, A2
- Dielectric strength: 4 kVAC per 1 min fast between supply and input
- 4 kVAC per 1 min fast between supply and data/analog output
- 4 kVAC per 1 min fast between input and relay output
- 2.5 kVAC per 1 min fast between input and data/analog output

**EMC**

EN 61326-1

**CONNECTION**

**ORDER CODE**

<table>
<thead>
<tr>
<th>OM 352AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply</td>
</tr>
<tr>
<td>80-250 V AC/DC</td>
</tr>
<tr>
<td>Comparators</td>
</tr>
<tr>
<td>1x relay (Form A)</td>
</tr>
<tr>
<td>1x open collector</td>
</tr>
<tr>
<td>2x relay (Form A)</td>
</tr>
<tr>
<td>2x open collector</td>
</tr>
<tr>
<td>Output</td>
</tr>
<tr>
<td>Analog output</td>
</tr>
<tr>
<td>RS 232</td>
</tr>
<tr>
<td>RS 485</td>
</tr>
<tr>
<td>RS 422</td>
</tr>
<tr>
<td>PROFIBUS</td>
</tr>
<tr>
<td>Display color</td>
</tr>
<tr>
<td>green</td>
</tr>
<tr>
<td>red/green/orange</td>
</tr>
<tr>
<td>red</td>
</tr>
<tr>
<td>Specification</td>
</tr>
</tbody>
</table>

Basic configuration of the instrument is indicated in bold.
The OM 352 model series are small 3.5-digit panel programmable instruments designed for maximum usefulness and user comfort while maintaining its fair price. Type OM 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.

**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

**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).

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

**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.

**OM 352UNI**
- DC VOLTMETER ANDammeter
- PROCESS MONITOR
- OHMMETER
- THERMOMETER FOR PT/CU/NI/THERMOCOUPLES
- DISPLAY UNIT FOR LINEAR POTENTIOMETERS
**TECHNICAL DATA**

**INPUT**

- **DC**
  - Optional in configuration menu:
    - 0...20 mA: Input 4
    - 0...10 mA: Input 3
    - 0...4 mA: Input 2
    - 0...20 mA: Input 1

- **PM**
  - Optional in configuration menu:
    - 0...20 mA: Input 5
    - 0...10 mA: Input 4
    - 0...2 V: Input 3
    - 0...10 mA: Input 1

- **Diff.**
  - Connect. by order
  - 2...5 VDC/6 mA, Potentiometer resistance > 500 Ω

- **PM**
  - Connect. by order
  - Cu 50/100 with 4 260 ppm/°C -50°…250°C
  - Ni 1000/10000 with 6 180 ppm/°C -200°…450°C
  - RU > 100 Ω with 3 910 ppm/°C -200°…1100°C
  - EU > 100/500/1000 Ω, with 3 850 ppm -50°…450°C

**RTD**

- **Type**
  - N (Omegalloy) Input 3 0°…1300°C
  - R (Pt13Rh-Pt) Input 4 100°…1740°C
  - S (PtRh10-Pt) Input 4 100°…1760°C
  - E (NiCr-CuNi) Input 3 -100°…690°C
  - J (Fe-CuNi) Input 3 -100°…900°C

- **CJC**
  - 2x open collector (30 VDC/100 mA)

**NI**

- **Type**
  - N1 1000/00 with 5000 ppm/°C -50°…250°C
  - N1 100/00 with 6 180 ppm/°C 62 kHz

**Cu**

- **Type**
  - Cu 50/100 with 4 260 ppm/°C -60°…200°C

**T/C**

- **Type**
  - J [PtCu30]
  - K [NiCu4]
  - T [Cu/Ni]
  - E [NiCu]
  - B [PtRh30]
  - S [PtRh50]
  - R [PtPtRh]
  - N [NiCu]

**DU**

- **Power**
  - 2.5 VDC mA, Potentiometer resistance > 500 Ω

**PROJECTION**

- **Display**
  - 1999, single color 7-segment LED
  - 999,999, 3-color, 7-segment LED

- **Digit height**
  - 14 or 20 mm

- **Display color**
  - red/green/orange (height 20 mm)

- **Decimal point**
  - adjustable - in menu

**INSTRUMENT ACCURACY**

- **T/C**
  - ±0.2 % of range + 1 digit

- **Accuracy**
  - ±0.3 % of range + 1 digit

- **Range**
  - ±1999, single color 7-segment LED

**EMC**

- **EN 61326-1**

**OTHER CONDITIONS**

- **Dimensions**
  - 96 x 48 x 120 mm (w x h x d)

**OPERATING CONDITIONS**

- **Power supply**
  - 80…250 V AC/DC, ±10 %, PF ≥ 0.4, I STP < 40 A/1 ms, isolated

**ORDER CODE**

**OM 352UNI**

- **Power supply**
  - 11…30 V AC/DC
  - 0…250 V AC/DC

- **Measuring range**
  - P1 100/200 D
  - P1 900/300 D
  - P1 1000/500 D
  - N1 1000/300 D

- **Rama**
  - Cu, T/C, DU are always fitted

- **Comparators**
  - 1x relay (Form A)
  - 1x open collector

- **Output**
  - Analog output
  - RS 232
  - RS 485

- **Display color**
  - red (1 mm)
  - green (1 mm)
  - orange (20 mm)

**SPECIFICATION**

- Customized version, do not fill in

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** Surge immunity**

- 2,5 kVAC per 1 min test between input and data/analog output

- 4 kVAC per 1 min test between input and relay output

**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 input and relay output

**Insulation resistance**

- for pollution degree II, measuring cat. III

**Hysteresis**

- ±1999, single color 7-segment LED

**Calibration**

- ±1999, single color 7-segment LED; adjustable - in menu

**Function set**

- 0,5/1,2/2,5/5/10 measur./s

**Digital filters**

- Linear interpol. in 25 points (only via OM Link)

- exponential average, rounding

**Resolution**

- ±0.6 % of range + 1 digit

**Accuracy**

- ±0.3 % of range + 1 digit

**Rate**

- 0…300 Ω

**Display**

- 0…5 V 1.25 MΩ Input 1

- 0…2 V 10 MΩ Input 4

- 0…20 mA < 200 mV Input 5

**Order**

- DM 352UNI -
The OM 402 model series are 4-digit panel programmable instruments designed for maximum efficiency and user comfort while maintaining their favourable price. Type OM 402LC is an instrument for connection of strain gauge bridges. The instrument is based on a single-chip microcontroller and a multichannel 24-bit sigma-delta converter, which secures high accuracy, stability and easy operation of the instrument.

**Display for strain gauges**
- 4-Digit programmable projection
- Range: 1...4/2...8/4...16 mV/V
- Digital filters, tare, 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
- Measured data record
- Three-color display - 20 mm

**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 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 signaled 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.

**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 [40 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 transmission into PC via serial interface RS232/485 and OM Link.

**Standard functions**

**Programmable projection**
- Measuring range: adjustable in menu
- Calibration: manual - setting sensitivity and maximum measuring range of the sensor, automatic - setting measuring range's limits and use of the reference load
- Projection: 999...9999

**Excitation**
- Fixed: 10 VDC, load ≥ 80 Ω

**Functions**
- Linearization: linear interpolation in 50 points [only via OM Link]
- Min./max. value: registration of min./max. value reached during measurement
- Peak value: the display shows only max. or min. value
- Mathemat. operations: polynomial, 1/x, logarithm, exponential, power, root, sin x

**Digital filters**
- Floating/Exp./Arithm. average: from 2...30/100/100 measurements
- Rounding: setting the projection step for display

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

**OM 402LC**

**Display for strain gauges**

**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 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 signaled 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.

**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 [40 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 transmission into PC via serial interface RS232/485 and OM Link.

**Standard functions**

**Programmable projection**
- Measuring range: adjustable in menu
- Calibration: manual - setting sensitivity and maximum measuring range of the sensor, automatic - setting measuring range's limits and use of the reference load
- Projection: 999...9999

**Excitation**
- Fixed: 10 VDC, load ≥ 80 Ω

**Functions**
- Linearization: linear interpolation in 50 points [only via OM Link]
- Min./max. value: registration of min./max. value reached during measurement
- Peak value: the display shows only max. or min. value
- Mathemat. operations: polynomial, 1/x, logarithm, exponential, power, root, sin x

**Digital filters**
- Floating/Exp./Arithm. average: from 2...30/100/100 measurements
- Rounding: setting the projection step for display

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

**LC**
- Range: optional in configuration menu.
  - ± 90° C (±30° C)
  - ± 80° C (±20° C)
- Connect.: B+T

**Ext. inputs**
- 3 inputs, on contact
- The following functions can be assigned:
  - Open collectors
  - Relays
  - SSR
  - Digital filters
  - Linearization: linear interpolation in 50 points
- Accuracy: ±10% of range ± 1 digit [for prog. 9999 and 5 measur./s]
- Rate: 0.1…0.4 measure/s
- Overload capacity: 2x, 10x [± 30° C]

**Connection**
- dI 3 wire
- 4…16 mV/V
- 2…8 mV/V
- ±0.1 % of range

**Knobs**
- 1…2x relays Form A (250 VAC/30 VDC, 3 A)
- 1…2x relays Form C (250 VAC/250 VDC, 0.5 A/0.3 A)

**Display**
- 99999…99999, single color 14-segment LED
- 999…999, 3 color 7-segment LED

**Display color**
- Red or green [height 14 mm]
- Red/green (20 mm)

**Include**
- RS 232
- RS 485
- MODBUS*
- PROFIBUS

**OPERATING CONDITIONS**
- Connection: connector terminal blocks, section < 15/2.5 mm²
- Operating temperature: 0°...80°C
- Storage temperature: -20°...80°C
- Protection: IES (front panel only)
- ETI: safety: EN 60091-1, A2

**DIEN**
- 80…250 V AC/DC, ±10 %, PF ≥ 0.4, ISTP < 40 A/1 ms, isolated
- 80…250 V AC/DC, ±10 %, PF ≥ 0.4, ISTP < 40 A/1 ms, isolated

**ORDER CODE**
- OM 402LC

**Display**
- 99999…99999, single color 14-segment LED
- 999…999, 3 color 7-segment LED
- Display color: red or green [height 14 mm]
- Description: last two characters on the display may be used for description of measured quantities.
- Power supply: 90…250 V AC/DC, ±10 %, PF ≥ 0.4, ISTP < 40 A/1 ms, isolated
- Consumption: c 0.4 W/0.9 VA

**ORDER CODE**
- OM 402LC

**Power supply**
- Power supply is protected by a fuse inside the instrument.

**MECHANIC PROPERTIES**
- Material: Noryl GFN2 SEI, incombustible UL 94 V-1
- Dimensions: 98 x 48 x 120 mm (w x h x d)

**Commissioning**
- OM Link: Company communication interface for operation, setting and update of instruments.
- Calibration: at 25°C and 40 % r.h.

**COMPARATOR**
- Types: digital, menu adjustable, contact switch-on < 30 ms
- Hysteresis mode: switching limit, hysteresis band “lim ±0.2 Hz.” and time [± 30° C] determining the switching delay
- Mode-From-To: switching on and switching off interval
- Mode Batch: period, its multiples and time [0...99.9 s], within which the output is active
- Output: 1…2x relays Form A (250 VAC/250 VDC, 3 A) and 1…2x relays Form C (250 VAC/250 VDC, 3 A)
- 10x4x open collector (30 VDC/200 mA, 2x 650 [250 VAC/1 A])
- 2x bistable relays (250 VAC/250 VDC, 3 A/3 A)

**DATA OUTPUTS**
- Protocol: ASCII, MESSBUS, MODBUS RTU, PROFIBUS DP
- Data format: 8 bit + parity + 1 stop bit [ASCII]
- 7 bit + even parity + 1 stop bit [MODBUS]
- Rate: 600, 230, 400 Baud, 0.0096...12 Mbaud [PROFIBUS] 122: 220: isolated
- RS 485: isolated, addressing [max. 31 instruments]

**ANALOG OUTPUTS**
- Types: Isolated, programmable with a 16 bit D/A converter, output type and range are optional in the menu
- Non-linearity: ± 0.1 % of range
- Rate: ±0.1 % of range ± 1 digit [for proj. 99999 and 5 measur./s]
- Gain: 0…2/5/10 V, ±10 V, 0…5 mA, 0/4…20 mA

**EMC**
- EN 61326-1
- EN 61010-1, A2
- IEC 980: 1993, par. 6

**Insulation resistance:**
- 2,5 kVAC per 1 min test between input and data/analog output
- 4 kVAC per 1 min test between input and data/analog output
- 10 kVAC per 1 min test between input and data/analog output
- 2.5 kVAC per 1 min test between input and data/analog output
- 2,5 kVAC per 1 min test between input and data/analog output
- Insulation resistance: for pollution degree II, measuring cat. II

**Dielectric strength:**
- 4 kVAC per 1 min test between supply and data/analog output
- 4 kVAC per 1 min test between input and data/analog output
- 4 kVAC per 1 min test between input and data/analog output

**Protection:**
- IP64 (front panel only)
- EN 60529: IP65
- EN 60335: D(90 min)

**Seismic capacity:**
- EC 980:1993, par. 6

**Seismic capacity:**
- EC 980:1993, par. 6
The OM 402PWR model series are 4-digit panel programmable instruments designed for maximum efficiency and user comfort while maintaining their favourable price.

Type OM 402PWR is a universal alternating current V-A meter with the extension of functions for further network analysis. The instrument measures voltage, current, active power, frequency, and with calculation also reactive power, apparent power and cos φ.

The instrument is based on a single-chip microcontroller with a true RMS converter, which ensures good accuracy, stability and ease of operation of the instrument.

AC V-A METER/NETWORK ANALYSER

- **4-DIGIT PROGRAMMABLE PROJECTION**
- **RANGE:** 0...1/2.5/5 A; 0...60/150/300 mV; 0...10/120/250/450 V
- **DIGITAL FILTERS, TARE, LINEARIZATION**
- **SIZE OF DIN 96 x 48 mm**
- **POWER SUPPLY 10...30 V AC/DC; 80...250 V AC/DC**
- **Option**

COMPANIES • Data output • Analog output
Data record • Three-color display - 20 mm

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 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.

**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.

**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 (40 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 transmission into PC via serial interface RS232/485 and OM Link.

STANDARD FUNCTIONS

**PROGRAMMABLE PROJECTION**

Measuring range: adjustable in menu
Measur. modes (PWR): voltage (V_{RMS}), current (A_{RMS}), power (W), frequency (Hz) and with calculation reactive power (Q), apparent power (S), power factor (cos φ)
Setting: manual, optional projection on the display may be set in menu for both limit values of the input signal, e.g. input 0...60 mV > 0...500.0
Projection: -999...9999

**FUNCTIONS**

Linearization: linear interpolation in 50 points (only via OM Link)
Min./max. value: registration of min./max. value reached during measurement
Tare: designed to reset display upon non-zero input signal
Mathemat. operations: polynom, 1/x, logarithm, exponential, power, root, sin x

**DIGITAL FILTERS**

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

EXTERNAL CONTROL

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

- **AC**
  - Range: partially fixed, by order
    - 0...65 mV: 21 kΩ Input 1 – I
    - 0...150 mV: 21 kΩ Input 1 – I
    - 0...300 mV: 12 kΩ Input 1 – I
    - 0...1 A: > 950 mΩ Input 1 – I
    - 0...2.5 A: > 850 mΩ Input 1 – I
    - 0...5 A: > 850 mΩ Input 1 – I
    - 0...10 V: 150 kΩ Input 2 – B
    - 0...15 V: 190 kΩ Input 3 – U
    - 0...5 A: < 150 mV Input 1 – I
    - 0...2.5 A: < 150 mV Input 1 – I
    - 0...1 A: < 150 mV Input 1 – I
    - 0...300 mV: 1.2 kΩ Input 1 – I
    - 0...150 mV: 21 kΩ Input 1 – I

- **DC**
  - Range: partially fixed, by order
    - 0...250 V: 730 kΩ Input 2 – U
    - 0...5 A: > 950 kΩ Input 2 – A

- **Input frequency** for amplitude from 0 V

- **Meas. quant.**
  - Power factor (cos φ)
  - Reactive power (Q)
  - Active power (P)
  - Current (ARMS)
  - Voltage (V RMS)
  - Frequency (f Hz)

**CONNECTION**

- **Ext. inputs**: 3 inputs, on contact
  - The following functions can be assigned:
    - OFF: input off
    - HLD: display stop
    - LOCK: control keys blocking
    - SW: menu access blocking
    - TARE I: tare activation for “Channel I”
    - TARE U: tare activation for “Channel U”
    - TARE P: tare activation for “Channel P”
    - TARE F: tare activation for “Channel F”
    - C.T. AL: tare resetting on all channels
    - C.T. ACT: tare resetting on current channel
    - SAVE: data recording start [FAST/RTC]
    - SWIT.: sequential or BCD channel switching
    - PASS.: menu access blocking
    - HOLD: display stop
    - OFF: input off

**TECHNICAL DATA**

- **SWIT. sequential or BCD channel switching**
- **SAVE data recording start (FAST/RTC)**
- **C.T. AL. tare resetting on all channels**
- **TARE F tare activation for “Channel F”**
- **TARE P tare activation for “Channel P”**
- **TARE I tare activation for “Channel I”**
- **PASS. menu access blocking**
- **HOLD display stop**
- **OFF input off**

**INSTRUMENT ACCURACY**

- **TK**: 50 ppm/C
- **Accuracy**: ±0.3% (0.8/0.3 % of range + 1 digit)
  - for proj. 9995 and 5 measure/minute
  - for proj. 9995 and 5 measure/minute

- **Load compensation**: 0.5...5 measure/A

- **Overload capacity**: 2x 10x f [30 ms] - not for > 250 V and 5 A

- **Meas. modes (PAM)**: voltage (V RMS), current (A RMS), power (W), frequency (Hz), and with calibration: 0, 5, cos φ, cos θ

- **Linearization**: linear interpolation in 50 points

- **Digital filters**: Expanding/Averaging, rounding

- **Functions**: offset, min./max. value, reference, peak value

- **Data record**: measured data record into instrument memory

- **RTC**: 15 ppm/C, time data display value = 2500 data

- **Watchdog**: reset after 0.4 s

- **OM Link**: Company communication interface for operation, setting and update of instruments

- **Calibration**: at 25°C and 40 % r.h.

- **COMPARATOR**
  - Type: digital, menu adjustable, contact switch-on = 30 ms

- **Hysteresis**: type, its multiples and time (0 ... 99.9 s), within which the output is active

- **Output**: 1...2x relays Form A (250 VAC/30 VDC, 3 A) and Form C (250 VAC/250 VDC, 3 A)

- **Data outputs**: Protocol: ASCII, MESSBUS, MODBUS RTU, PROFIBUS DP

**OUTPUTS**

- **Data output**: 2x relays, bistabile
  - 1x relay (Form C)
  - 2x relays (Form C)

**ORDER CODE**

- **OM 402PWR**

**Measuring range - U**

- Power supply: 90...250 V AC/DC
- Measuring range: 0...10/25/50 V

**Measuring range - I**

- Power supply: 90...250 V AC/DC
- Measuring range: 0...1/2.5/5 A

**Input range**

- 0...10/25/50 V on request

**Comparators**

- 1x relay (Form A)
- 2x relay (Form A)

**Data output**

- RS 232
- RS 485
- MODBUS RTU

**Excitation**

- YES

**Display color**

- Red (14 mm)

**Display**

- -99999...99999, single color 14-segment LED

**OPERATING CONDITIONS**

- **Power supply**: > 670 V (PI), 300 V (DI)
- **Insulation resistance**: > 2,5 kVAC per 1 min test between input and data/analog output
- **Dielectric strength**: > 4 kVAC per 1 min test between supply and input
- **Overload capacity**: ±0.3 % (0.6/0.9 %) of range + 1 digit
- **Calibration**: Reset after 0.4 s
- **EMC**: Class B, C in compl. with IEC 62138, 61226
- **Safety**: EN 61010-1, A2
- **Display color**
  - Red or green (14 mm)

**ORDER CODE**

- **OM 402PWR**

**Measuring range - U**

- Power supply: 90...250 V AC/DC
- Measuring range: 0...10/25/50 V

**Measuring range - I**

- Power supply: 90...250 V AC/DC
- Measuring range: 0...1/2.5/5 A

**Excitation**

- YES

**Display**

- -99999...99999, single color 14-segment LED

**Display color**

- Red (14 mm)

**DATA OUTPUTS**

- Protocol: ASCII, MESSBUS, MODBUS RTU, PROFIBUS DP

**MECHANICAL PROPERTIES**

- **Power supply**: < 9.4 W
- **Measurement**: < 0.6 W
- **SW validation (UNI)**: Class B, C in compl. with IEC 61010-1, A2
- **Display color**
  - Red or green (14 mm)

**TECHNICAL DATA**

- **Display**: -99999...99999, single color 14-segment LED
- **Brightness**: red/green/orange (height 20 mm)
- **Display color**: red or green (height 14 mm)
- **Digit height**: 14 or 20 mm
- **Display**
  - -999999...999999, single color 14-segment LED

- **Excitation**: no
- **Power supply**: > 670 V (PI), 300 V (DI)
- **Insulation resistance**: > 2,5 kVAC per 1 min test between input and data/analog output
- **Dielectric strength**: > 4 kVAC per 1 min test between supply and input and relay output
- **Overload capacity**: ±0.3 % (0.6/0.9 %) of range + 1 digit
- **Calibration**: Reset after 0.4 s
- **EMC**: Class B, C in compl. with IEC 62138, 61226
- **Safety**: EN 61010-1, A2
- **Display color**
  - Red or green (14 mm)

**ORDER CODE**

- **OM 402PWR**

**Measuring range - U**

- Power supply: 90...250 V AC/DC
- Measuring range: 0...10/25/50 V

**Measuring range - I**

- Power supply: 90...250 V AC/DC
- Measuring range: 0...1/2.5/5 A

**Excitation**

- YES

**Display**

- -999999...999999, single color 14-segment LED

**Display color**

- Red or green (14 mm)

**DATA OUTPUTS**

- Protocol: ASCII, MESSBUS, MODBUS RTU, PROFIBUS DP

**MECHANICAL PROPERTIES**

- **Power supply**: < 9.4 W
- **Measurement**: < 0.6 W
- **SW validation (UNI)**: Class B, C in compl. with IEC 61010-1, A2
- **Display color**
  - Red or green (14 mm)
The OM 402 model series are 4-digit panel programmable instruments designed for maximum efficiency and user comfort while maintaining their favourable price.

Type OML 402UNI is a multifunction instrument with the option of configuration for 8 different input options, easily configurable in the instrument menu. By completing the input modules, larger ranges of DC voltage and current can be measured to extend the number of inputs to 4 (applies to PM).

The instrument is based on a single-chip microcontroller and a multichannel 24-bit sigma-delta converter, which secures high accuracy, stability and easy operation of the instrument.

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 modification and filing of all instrument settings as well as performing firmware updates (with OML cable). The program is also designed for modification and filing of all instrument settings as well as performing firmware updates (with OML cable).

All settings are stored in the EEPROM memory ([settings hold even after the instrument is switched off].

OPTION

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 signaled 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.

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 (40 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 transmission into PC via serial interface RS232/485 and OM Link.

STANDARD FUNCTIONS

PROGRAMMABLE PROJECTION
Selection of input type and measuring range
Measuring range: adjustable, either fixed or with automatic change (OHM)
Setting: manual, optional projection on the display may be set in menu for both limit values of the input signal, e.g. input 0...10,00 V > 0...850.0
Projection: 9999...9999

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

COMPENSATION
Of conduct (RTD, OHM): 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 (temperature of terminals)

FUNCTIONS
Linearization: linear interpolation in 60 points (only via OM Link)
Min./max. value: registration of min./max. value reached during measurement
Tare: designed to reset display upon non-zero input signal
Peak value: the display shows only max. or min. value
Mathemat. operations: polynom, 1/x, logarithm, exponential, root, root
and operations between inputs - součet, podíl

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

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

UNIVERSAL INSTRUMENT
- 4-DIGIT PROGRAMMABLE PROJECTION
- MULTIFUNCTION INPUT (DC, PM, RTD, T/C, DU)
- DIGITAL FILTERS, TARE, 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
  Data record • Three-color display - 20 mm
## TECHNICAL DATA

### INPUT

<table>
<thead>
<tr>
<th>DC</th>
<th>Range</th>
<th>optional in configuration menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vdc</td>
<td>±30 mV</td>
<td>100 MOhm input U, input I</td>
</tr>
<tr>
<td></td>
<td>±50 mV</td>
<td>100 MOhm input U, input I</td>
</tr>
<tr>
<td></td>
<td>±100 mV</td>
<td>100 MOhm input U, input I</td>
</tr>
<tr>
<td></td>
<td>±200 mV</td>
<td>100 MOhm input U, input I</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PM</th>
<th>Range</th>
<th>optional in configuration menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vdc</td>
<td>0.02 mV</td>
<td>1 MOhm input I</td>
</tr>
<tr>
<td>Vdc</td>
<td>0.05 mV</td>
<td>1 MOhm input I</td>
</tr>
<tr>
<td>Vdc</td>
<td>0.1 mV</td>
<td>1 MOhm input I</td>
</tr>
<tr>
<td>Vdc</td>
<td>0.2 mV</td>
<td>1 MOhm input I</td>
</tr>
</tbody>
</table>

### OCM Range

<table>
<thead>
<tr>
<th>optional in configuration menu with aut. range change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vdc</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Connect. 2, 3 or 4 wire

### RTD Type

<table>
<thead>
<tr>
<th>optional in configuration menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 x 10 500 kΩ 0.0 5 ppm/K neg.</td>
</tr>
<tr>
<td>28 x 10 500 kΩ 0.0 5 ppm/K pos.</td>
</tr>
<tr>
<td>0 – 500 ppm/K 0.0 500 ppm/K</td>
</tr>
<tr>
<td>0 – 100 ppm/K 0.0 100 ppm/K</td>
</tr>
</tbody>
</table>

Connect. 2, 3 or 4 wire

### NI Type

<table>
<thead>
<tr>
<th>optional in configuration menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 x 10 500 kΩ 0.0 5 ppm/K neg.</td>
</tr>
<tr>
<td>28 x 10 500 kΩ 0.0 5 ppm/K pos.</td>
</tr>
<tr>
<td>0 – 500 ppm/K 0.0 500 ppm/K</td>
</tr>
<tr>
<td>0 – 100 ppm/K 0.0 100 ppm/K</td>
</tr>
</tbody>
</table>

Connect. 2, 3 or 4 wire

### Cu Type

<table>
<thead>
<tr>
<th>optional in configuration menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 x 10 500 kΩ 0.0 5 ppm/K neg.</td>
</tr>
<tr>
<td>28 x 10 500 kΩ 0.0 5 ppm/K pos.</td>
</tr>
<tr>
<td>0 – 500 ppm/K 0.0 500 ppm/K</td>
</tr>
<tr>
<td>0 – 100 ppm/K 0.0 100 ppm/K</td>
</tr>
</tbody>
</table>

Connect. 2, 3 or 4 wire

### TC Type

<table>
<thead>
<tr>
<th>optional in configuration menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 x 10 500 kΩ 0.0 5 ppm/K neg.</td>
</tr>
<tr>
<td>28 x 10 500 kΩ 0.0 5 ppm/K pos.</td>
</tr>
<tr>
<td>0 – 500 ppm/K 0.0 500 ppm/K</td>
</tr>
<tr>
<td>0 – 100 ppm/K 0.0 100 ppm/K</td>
</tr>
</tbody>
</table>

### DU Supply

<table>
<thead>
<tr>
<th>optional in configuration menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 x 15 V DC – 2 x 30 V DC – 2 x 40 V DC – 2 x 50 V DC</td>
</tr>
<tr>
<td>4 x 15 V DC – 4 x 30 V DC – 4 x 40 V DC – 4 x 50 V DC</td>
</tr>
</tbody>
</table>

### OPTION „A“

<table>
<thead>
<tr>
<th>DC</th>
<th>Range</th>
<th>optional in configuration menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vdc</td>
<td>±30 mV</td>
<td>100 MOhm input U, input I</td>
</tr>
<tr>
<td>Vdc</td>
<td>±50 mV</td>
<td>100 MOhm input U, input I</td>
</tr>
<tr>
<td>Vdc</td>
<td>±100 mV</td>
<td>100 MOhm input U, input I</td>
</tr>
<tr>
<td>Vdc</td>
<td>±200 mV</td>
<td>100 MOhm input U, input I</td>
</tr>
</tbody>
</table>

Connect. 2, 3 or 4 wire

### OPTION „B“

<table>
<thead>
<tr>
<th>PM</th>
<th>Range</th>
<th>optional in configuration menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vdc</td>
<td>0.02 mV</td>
<td>1 MOhm input I</td>
</tr>
<tr>
<td>Vdc</td>
<td>0.05 mV</td>
<td>1 MOhm input I</td>
</tr>
<tr>
<td>Vdc</td>
<td>0.1 mV</td>
<td>1 MOhm input I</td>
</tr>
<tr>
<td>Vdc</td>
<td>0.2 mV</td>
<td>1 MOhm input I</td>
</tr>
</tbody>
</table>

### PROJECTION

**Display:**
- 960 x 960 pixels, single color 14-segment LED.
- 99999 x 999999, single color 14-segment LED.

**Brightness:**
- Adjustable - in menu

### INSTRUMENT ACCURACY

- ±0.1% of range + 1 digit (for proj. 9999 and 5 measur./s)
- ±0.15% of range + 1 digit
- ±0.5% of range (option “A”)

### OPERATING CONDITIONS

- **Power supply:**
  - 10…30 V AC/DC, 100%, ±90°, ±300 V DC, 100%, ±500 V DC
  - ±150 mV > 100 MΩ input U

- **Seismic capacity:**
  - EN 61010-1, A2

- **Dielectric strength:**
  - 2x; 10x (t < 30 ms) - not for > 200 V and 5 A

- **Temper. working/storage:**
  - ±0…2/5/10 V, ±10…500 V DC, ±10…500 V AC

- **Connection:**
  - 2x open collector + 2x relays (Form C)

### ANALOG OUTPUTS

- **Type:**
  - Optional, programmable with a 16-bit DA converter, output type and range are optional in the menu

- **Non-linearity:**
  - 0.1% of range

### POWER SUPPLY

- **Rated oper. voltage:**
  - ±10…25 V, ±10…250 V, ±10…500 V AC/DC

- **Input protection:**
  - ±99999…999999, single color 14-segment LED;
    - ±500 V 20 MΩ Input U

### MECHANICAL PROPERTIES

- **Material:**
  - Noryl (Q217 SE), embossable LD 94 V-I

### ORDER CODE

**OM 402UNI**

<table>
<thead>
<tr>
<th>Power supply</th>
<th>10…30 V AC/DC</th>
<th>20…250 V AC/DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring range</td>
<td>standard</td>
<td>option „A“</td>
</tr>
<tr>
<td>Comparators</td>
<td>1x relay (Form C)</td>
<td>2x relay (Form C)</td>
</tr>
<tr>
<td>Data output</td>
<td>RS 232</td>
<td>RS 485</td>
</tr>
<tr>
<td>Exclusion</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>Data record</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Display color</td>
<td>red</td>
<td>green</td>
</tr>
<tr>
<td>Response to change of value</td>
<td>&lt; 1 ms</td>
<td>&lt; 1 ms</td>
</tr>
<tr>
<td>Specifications</td>
<td>customized version</td>
<td>do not fill in</td>
</tr>
</tbody>
</table>

*GND (Input + Option A) is galvanically connected with inputs EXT. and the OM Link connector
*In case of Option B we recommend to connect terminals GND (main board/addit. board) by ext. connection

---

**ORDER CODE**

1. 10…30 V AC/DC
2. 20…250 V AC/DC
3. Standard
4. Option „A“
5. Option „B“
6. 1x relay (Form C)
7. 2x relay (Form C)
8. 3x relays (2x Form A + 1x Form C)
9. RS 232
10. RS 485
11. MODBUS*
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…20 mA > 0…500,0
  - Projection: -999…9999

- **PID REGULATOR**
  - Execution: parallel PID, PI or proportional
  - Relay output: double, two-state, PWM
  - Analog output: el. isolated, modes: heating, cooling, both
  - Required value: set, from analog output, from program
  - Number of programs/points: 14/64
  - Launching: time - one-off /weekly, by external input, by buttons

- **RELAY OUTPUTS**
  - Type: digital, adjustable in menu
  - Outputs: relays L1, L2 are alarm ones, relays L3, L4 are intended as regulatory but they can also be used as alarms

- **ANALOG OUTPUT**
  - Usage: where this type of signal is requested by action devices, or it can be used for processing of the measured value by external devices
  - Type: el. isolated, programmable with a 12 bit D/A converter, functions, type and range of the output are selectable in the instrument’s menu

- **COMPENSATION**
  - Of conduct (RTD, OHM): 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 (temperature of terminals)

- **DIGITAL FILTERS**
  - Floating/Exp./Arithm. average: from 2...30/100/100 measurements
  - Rounding: setting the projection step for display

- **FUNCTIONS**
  - Linearization: linear interpolation in 50 points (only via OM Link)
  - Min./max. value: registration of min./max. value reached during measurement
  - Tare: designed to reset display upon non-zero input signal
  - Peak value: the display shows only max. or min. value
  - Mathematical operations: polynom, root

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

- **INPUT OF DESIRED VALUE** enables the regulator to be used for follow-up control. Both current and voltage inputs can be used.
- **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 isolated RS232 and RS485 with the ASCII/PROFIBUS protocols.

OM 402PID

OM 402PID is a 4-digit universal panel PID regulator designed for maximum flexibility and user comfort while maintaining its favourable price. It is a multifunction instrument with the option of configuration for 8 various input options, easily configurable in the instrument menu.

In its basic configuration the OM 402PID has two regulatory relays and two relay alarm outputs. Desired value can either be constant or defined by one of 14 programmes.

The instrument is based on a single-chip microcontroller and a multichannel 24-bit sigma-delta converter, which secures high accuracy, stability and easy operation of the instrument.
**TECHNICAL DATA**

**INPUT**

<table>
<thead>
<tr>
<th>DC</th>
<th>Range</th>
<th>Optional in configuration menu</th>
<th>Input U</th>
<th>Input U</th>
</tr>
</thead>
<tbody>
<tr>
<td>850 mV</td>
<td>± 100 mV</td>
<td>Input U</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1050 mV</td>
<td>± 100 mV</td>
<td>Input U</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000 mV</td>
<td>± 100 mV</td>
<td>Input U</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PH</th>
<th>Range</th>
<th>Optional in configuration menu</th>
<th>Input U</th>
<th>Input U</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.20 mA</td>
<td>&lt; 400 mA</td>
<td>Input I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.20 mA</td>
<td>&lt; 400 mA</td>
<td>Input I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 V</td>
<td>1 MΩ</td>
<td>Input U</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16 V</td>
<td>1 MΩ</td>
<td>Input U</td>
<td></td>
<td></td>
</tr>
<tr>
<td>360 V</td>
<td>1 MΩ</td>
<td>Input U</td>
<td></td>
<td></td>
</tr>
<tr>
<td>± 200 Ω</td>
<td>1 MΩ</td>
<td>Input U</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Required value**

Optional extensions - by order

**CONNECTION**

**POWER SUPPLY**

- Power supply: 10...30 V AC/DC, ±10 %, 150 V DC, 500 mA, ±20 mA
- (comp. < 600 Ω/12 V or 1000 Ω/24 V)
- EXCITATION

- Line compens.: max. 30 V (970)
- Cold junction compens.: adjustable -20...99°C
- Auto-Tune: (±0.4 measure/15°C)
- Hysteresis: mode: step, hysteresis band ±0.5°C
- Data record: (±0.5°C)
- Data accuracy: ±0.01°C

**ORDER CODE**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OM 402PID</td>
<td></td>
</tr>
</tbody>
</table>

**DATA OUTPUTS**

- Protocol: ASI, MODBUS, MODBUS RTU, ROFIBUS DP
- Data format: 8 bit = no parity = 1 stop bit = ASCII
- 7 bit = even parity = 1 stop bit (Messel)
- Rate: 100...500 400 Baud, 9,600 Baud, 38400 Baud (PROFIBUS)
- RS 232 isolated
- RS 485 isolated, addressing (max. 31 instruments)

**ANALOGUDE OUTPUT**

- Type: e.g., programmable
- With bit B2 converter, function, type and output range are selectable in the menu
- Non-linearity: 0.1 % of range
- Temperature: 15 °C
- Range: ±2/20 V, ±5 V, ±10 V, ±20 mA
- (comp. = 80/100 V or 1000 V)
- EXCITATION

- Adjustable: ±24 VDC/12 W

**POWER SUPPLY**

- Range: 10...30 V AC/DC, ±10 %, 150 V DC, 500 mA, ±20 mA
- (comp. < 600 Ω/12 V or 1000 Ω/24 V)
- EXCITATION

- Adjustable: ±24 VDC/12 W

**OPERATING CONDITIONS**

- Temperature: working/storing: -20°...60°C/-20°...80°C
- Stabilization period: within 15 minutes after switch-on
- Temperature: working/storing: 20°...50°C
- Protection: IP54 (front panel only)
- E1: safety: EN 61326, A2
- Pollution degree: II, measuring cat. III

**SPECIFICATIONS**

- Dimensions: 96 x 48 x 120 mm (w x h x d)
- Panel cutout: 96 x 48 x 120 mm (w x h x d)
- Ex: yes
- Ex: V01.2, 9 mm
- Power supply: 2 x 250 VAC/30 VDC, 1 A; 1 x 600 VAC/100 VDC
- Power supply isolation: 4 x 600 VAC/100 VDC
- Input, output: 4 x 20 mA/400 mV
- Insulation resistance: 10 GΩ, measurement test between supply and data/analog output
- Isolation: 4 x 600 VAC/100 VDC
- Power supply isolation: 4 x 600 VAC/100 VDC
- Insulation resistance: 10 GΩ, measurement test between supply and data/analog output
- Isolation: 4 x 600 VAC/100 VDC
- Power supply isolation: 4 x 600 VAC/100 VDC
- Insulation resistance: 10 GΩ, measurement test between supply and data/analog output
- Isolation: 4 x 600 VAC/100 VDC

**DIAGRAM**

![Diagram of technical specifications](image-url)

*For the "Requested value", we recommend to connect terminals OM (main board/additional board) by external connection."
OM 45DC

Type OM 45DC is an inexpensive, low 4.5-digit direct current panel VA-meter. Thanks to its dimensions the instrument is suitable for installation into mosaic panels.

**DC V-A METER**
- **4.5-DIGIT PROJECTION**
- **RANGE:** ±199,99 mV
  - ±1,9999 V; ±19,999 V; ±199,99 V
  - ±199,99 µA; ±1,9999; ±19,999; ±199,99 mA
- **SIZE OF DIN 96 x 24 mm**
- **POWER SUPPLY** 12...24 VDC; 230 VAC

**OPERATION**
The instrument is designed for simple measurements without further control. Placement of the decimal point is selectable by a shorting link under the front panel.

**CALIBRATION**
Possible corrections of display projection for both limit values of input signal may be performed by trimmers situated under the front panel (±10%).
**TECHNICAL DATA**

### INPUT

<table>
<thead>
<tr>
<th>DC</th>
<th>Range</th>
<th>Fixed by order</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>±500 mA Input 1</td>
<td>±500 mA Input 1</td>
</tr>
<tr>
<td></td>
<td>±500 V Input 1</td>
<td>±500 V Input 1</td>
</tr>
<tr>
<td></td>
<td>±500 mA Input 1</td>
<td>±500 mA Input 1</td>
</tr>
<tr>
<td></td>
<td>±200 V Input 1</td>
<td>±200 V Input 1</td>
</tr>
<tr>
<td></td>
<td>±200 mA Input 1</td>
<td>±200 mA Input 1</td>
</tr>
<tr>
<td></td>
<td>±199,99 µA Input 1</td>
<td>±199,99 µA Input 1</td>
</tr>
<tr>
<td></td>
<td>±19,999 mA Input 1</td>
<td>±19,999 mA Input 1</td>
</tr>
<tr>
<td></td>
<td>±1,9999 V 1 MΩ Input 1</td>
<td>±1,9999 V 1 MΩ Input 1</td>
</tr>
<tr>
<td></td>
<td>±19,999 V 1 MΩ Input 2</td>
<td>±19,999 V 1 MΩ Input 2</td>
</tr>
<tr>
<td></td>
<td>±199,99 V 1 MΩ Input 2</td>
<td>±199,99 V 1 MΩ Input 2</td>
</tr>
</tbody>
</table>

### PROJECTION

- Display: 65390C, single color 7-segment LED
- Digit height: 14 mm
- Display color: red or green
- Decimal point: adjustable by shorting link
- Brightness: adjustable by trimmers under the front panel

### INSTRUMENT ACCURACY

<table>
<thead>
<tr>
<th>Tc: 100 ppm/°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy: ±0.5% of range + 1 digit</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rate: 1/2/5/10 measur./s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overload capacity: 2x, 10x (t &lt; 30 ms) - not for 200 V</td>
</tr>
<tr>
<td>Calibration: at 25°C and 48% r.h.</td>
</tr>
</tbody>
</table>

### POWER SUPPLY

- Range: 230 VAC/50 Hz, ±10%, 2.5 VA
- 12…24 VDC max: 2.3 W, uninsulated
- Power supply is protected by a fuse inside the instrument.

### MECHANIC PROPERTIES

<table>
<thead>
<tr>
<th>Material: Noryl GN2 SE1, incombustible UL 94 V-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions: 96 x 24 x 100 mm (w x h x d)</td>
</tr>
<tr>
<td>Panel cutout: 90.5 x 21.5 mm (w x h)</td>
</tr>
</tbody>
</table>

### OPERATING CONDITIONS

- Connection: connector terminal block, section < 2,5 mm²
- Stabilization period: within 15 minutes after switch-on
- Working temperature: 0°...60°C
- Storage temperature: 0°...80°C
- Protection: IP40 (front panel only)
- EL safety: EN 61010-1, A2
- Dielectric strength: 2.5 kVAC per 1 min test between supply and input
- Insulation resistance: for pollution degree II, measuring cat. III
- AC power supply = 600 V [R], 300 V [D]
- DC power supply input = 300 V [R], 150 V [D]
- EMC: EN 61326-1

### ORDER CODE

**OM 450C**

- Power supply: 230 VAC/50 Hz
- 12...24 VDC, uninsulated

<table>
<thead>
<tr>
<th>Measuring range</th>
</tr>
</thead>
</table>
| ±199,99 V[
| ±19,999 V[
| ±199,99 µA[
| ±199,99 mA[
| ±199,99 µA[
| ±199,99 mA[

<table>
<thead>
<tr>
<th>Display color</th>
</tr>
</thead>
<tbody>
<tr>
<td>red [1]</td>
</tr>
<tr>
<td>green [2]</td>
</tr>
</tbody>
</table>

Basic configuration of the instrument is indicated in bold.
**OPERATION**

The instrument is designed for simple measurements without further control. Placement of the decimal point is selectable by a shorting link under the front panel.

**CALIBRATION**

Possible corrections of display projection for both limit values of input signal may be performed by trimmers situated under the front panel (±10%).
### TECHNICAL DATA

#### INPUT

<table>
<thead>
<tr>
<th>PM</th>
<th>Range</th>
<th>Fixed/By Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5 mA</td>
<td>&lt; 900 mV</td>
<td></td>
</tr>
<tr>
<td>0.25 mA</td>
<td>&lt; 500 mV</td>
<td></td>
</tr>
<tr>
<td>4...20 mA</td>
<td>&lt; 500 mV</td>
<td></td>
</tr>
<tr>
<td>±2 V</td>
<td>1 MΩ</td>
<td></td>
</tr>
<tr>
<td>±5 V</td>
<td>1 MΩ</td>
<td></td>
</tr>
<tr>
<td>±10 V</td>
<td>1 MΩ</td>
<td></td>
</tr>
</tbody>
</table>

#### PROJECTION

- Display: 7-segment LED, single color
- Digit height: 14 mm
- Display color: red or green
- Decimal point: adjustable, by shorting link
- Brightness: adjustable, by trimmers under the front panel

#### INSTRUMENT ACCURACY

- Tk: 100 ppm/°C
- Accuracy: ±0.15 % of range ± 1 digit
- Rate: 1/2/5/10 measure/s
- Overload capacity: 3x, 15x ($t < 30$ ms)
- Calibration: at 25°C and 40 % r.h.

#### POWER SUPPLY

- Range: 230 VAC/50 Hz, ±10 %, 2.5 VA
- 12...24 VDC: max. 2.3 W, uninsulated
- Power supply is protected by a fuse inside the instrument.

#### MECHANICAL PROPERTIES

- Material: Noryl GFN2 SE1, incombustible UL 94 V-1
- Dimensions: 96 x 24 x 100 mm (w x h x d)
- Panel cutout: 90.5 x 21.5 mm (w x h)

#### OPERATING CONDITIONS

- Connection: connector terminal blocks, section < 2.5 mm²
- Stabilization period: within 15 minutes after switch-on
- Working temperature: 0°...60°C
- Storage temperature: -10°...85°C
- Protection: IP40 (front panel only)
- EL safety: EN 61010-1, A2
- Dielectric strength: 2.5 kVAC per 1 min test between supply and input
- Insulation resistance: for pollution degree II, measuring cat. III
- AC power supply > 600 V, 300 V (DI)
- DC power supply, input > 300 V (DI), 150 V (DI)
- EMC: EN 61326-1

---

**ORDER CODE**

<table>
<thead>
<tr>
<th>Connection</th>
<th>code</th>
</tr>
</thead>
<tbody>
<tr>
<td>OM 45PM</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power supply</th>
<th>230 VAC/50 Hz</th>
<th>12...24 VDC, uninsulated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring range</td>
<td>0...5 mA</td>
<td>0...20 mA</td>
</tr>
<tr>
<td>Display color</td>
<td>red</td>
<td>green</td>
</tr>
</tbody>
</table>

**Note:** In your order kindly state the requested projection for the selected input range (e.g. input 0...20 mA > projection 0.00...100.00)!
DC V-A METER
- 5-DIGIT PROGRAMMABLE PROJECTION
- RANGE: ±99,999 mV…±300,00 V
  ±999,99 µA…±5,0000 A
- MATHEMATIC FUNCTIONS, DIGITAL FILTERS, TARE
- ACCURACY: 0,02 %, RATE: 100 MEAS./S
- 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
  Data record

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.

STANDARD FUNCTIONS

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

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

FUNCTIONS
Linearization: linear interpolation in 50 points (only via OM Link)
Min./max. value: registration of min./max. value reached during measurement
Peak value: the display shows only max. or min. value
Mathemat. operations: polynomial, 1/x, logarithm, 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
Lock: control keys blocking
Hold: display/instrument blocking
Tare: tare activation
Resetting MM: resetting min./max. value

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.

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.

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 [40 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 268 000 values may be stored in the instrument memory. Data transmission into PC via serial interface RS232/485 and OM Link.
**TECHNICAL DATA**

**INPUT**

<table>
<thead>
<tr>
<th>DC</th>
<th>Range</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>±99999 µA</td>
<td>&lt; 300 µmA</td>
<td>Input 1</td>
</tr>
<tr>
<td>±99999 mA</td>
<td>≤ 300 mA</td>
<td>Input 1</td>
</tr>
<tr>
<td>±99999 mA</td>
<td>&lt; 300 mA</td>
<td>Input 1</td>
</tr>
<tr>
<td>±5000 A</td>
<td>≤ 10 mA</td>
<td>Input 1</td>
</tr>
<tr>
<td>±9999 mA</td>
<td>18 MA</td>
<td>Input 2</td>
</tr>
<tr>
<td>±9999 mA</td>
<td>18 MA</td>
<td>Input 3</td>
</tr>
<tr>
<td>±999 V</td>
<td>18 MA</td>
<td>Input 4</td>
</tr>
<tr>
<td>±9999 V</td>
<td>18 MA</td>
<td>Input 5</td>
</tr>
</tbody>
</table>

**Extr. inputs**

3 inputs, optional

The following functions can be assigned:

- OFF: input off
- HOLD: display stop
- LOOX: control keys blocking
- PASS: menu access blocking
- Tab: tab activation
- CL: TA: tare activation
- CL: M: returning min/max value
- SMD: data recording start (FAST/RTC)
- CL: MM: resetting min/max value
- CL: TA: tare resetting
- CHAN. A: value display "Channel A"
- FL: A: value display "Channel A" + filter
- MAT. FN: value display "Math. functions"

**INSTRUMENT ACCURACY**

- TC: 50°C/C
- Accuracy: ±0,2 % of range ± 1 digit (for projection 0-99999 in 10 mV)
- ±0,1 % of range + 1 digit DC (B A)
- ±0,05 % of range + 1 digit DC (A)

**DATA OUTPUTS**

- Data format: ASCII, MSGBUS, MESSBUS, STL, PROFIBUS DP
- Data format: 8 bit + no parity + 1 stop bit (ASCII)
- 9600 Baud…12 Mbaud (PROFIBUS)
- 8 bit + no parity + 1 stop bit (Modbus)

**COMPARATOR**

- Type: digital, menu adjustable, contact switch-on < 30 ms
- Hysteresis mode: switching limit, hysteresis band "Lim ±1/2 Hys." and time (0…99,9 s) determining the switching delay
- Mode From Off: switching on and switching off internal
- Mode Batch: period, its multiples and time (0…99,9 s), within which the output is active

- Output 1: 1x relay Form A [250 VAC/50 VDC, 3 A]
- Output 2: 1x relay Form A [250 VAC/50 VDC, 3 A]
- Output 3: 1x relay Form C [250 VAC/50 VDC, 3 A]
- Output 4: 1x relay Form C [250 VAC/50 VDC, 3 A]

**DATA OUTPUTS**

- Protocol: ASCII, MODBUS, MESSBUS, STL, PROFIBUS DP
- Data format: 8 bit + no parity + 1 stop bit (Modbus)
- RS 232: isolated
- RS 485: isolated, addressing (max. 31 instruments)

**ANALOG OUTPUTS**

- Type: isolated, programmable with a 18 bit D/A converter, output type and range are optional in the menu
- Linearization: ±0,1 % of range ± 1 digit
- ±0,05 % of range ± 1 digit

**ORDER CODE**

<table>
<thead>
<tr>
<th>OM 502 DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply</td>
</tr>
<tr>
<td>Measuring range</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
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<td></td>
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<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Comparator</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
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<tr>
<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Data output</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Analog output</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Excitation</td>
</tr>
<tr>
<td>Display color</td>
</tr>
</tbody>
</table>

**SPECIFICATION**

- Customized version, do not fill in

---

*Unavailable in combination with RTC/IN*
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.

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.

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**PROCESS MONITOR**

- **5-DIGIT PROGRAMMABLE PROJECTION**
- **RANGE:** 0...5 mA; 0...20 mA; 4...20 mA
- **±2 V; ±5 V; ±10V**
- **MATHEMATIC FUNCTIONS, DIGITAL FILTERS, TARE**
- **ACCURACY:** 0,02 %, **RATE:** 100 MEAS./S
- **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
  - Data record

**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.

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.

**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.

**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.

**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 [40 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 268 000 values may be stored in the instrument memory. Data transmission into PC via serial interface RS232/485 and OM Link.

---

**OM 502PM**

Type OM 502PM is a precision 5-digit programmable panel process monitor. The instrument is based on a single-chip microcontroller with a fast 24-bit sigma-delta converter, which secures high accuracy, stability and easy operation of the instrument.
**TECHNICAL DATA**

**INPUT**

<table>
<thead>
<tr>
<th>PM</th>
<th>Range</th>
<th>optional in configuration menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>0...5 mA</td>
<td>&lt; 300 mV</td>
<td>Input U</td>
</tr>
<tr>
<td>0...20 mA</td>
<td>&lt; 300 mV</td>
<td>Input U</td>
</tr>
<tr>
<td>±2 V</td>
<td>18 MD</td>
<td>Input U</td>
</tr>
<tr>
<td>±5 V</td>
<td>18 MD</td>
<td>Input U</td>
</tr>
</tbody>
</table>

*Ext. inputs 3 inputs, on contact*  
The following functions can be assigned:  
OFF: input off  
HOLD: display stop  
LOCK: control keys blocking  
PASS: menu access blocking  
CL: TA: tare reset  
CL: ME: data recording reset (FAST/RTC)  
SAVE: data recording start (FAST/RTC)  
CL: MM: resetting min/max value  
PASS: menu access blocking  
LOCK: control keys blocking  
HOLD: display stop  

**PROJECTION**

- ±10 V 1,8 MΩ Input U  
- ±5 V 1,8 MΩ Input U  
- ±2 V 1,8 MΩ Input U  
- 4…20 mA < 300 mV Input I  
- 0…20 mA < 300 mV Input I  
- 0…5 mA < 300 mV Input I

**EXCITATION**

- Display: 0.00000…999999, single color 14-segment LED  
- Digit height: 14 mm  
- Display color: red or green  
- Description: the last two characters on the display can be used to display the measured quantities  
- Decimal point: adjustable in menu  
- Brightness: adjustable in menu

**INSTRUMENT ACCURACY**

- Tk: 50 ppm/°C  
- Accuracy: ±0.2% of range ± 1 digit [for projection 0.00000…999999 and 10 ms/b]  
- Rate: 1.30 measure/s  
- Overload capacity: 2x 10k (1 ~ 30 ms)  
- Linearity: ±0.2% of range [only via OM Link]  
- 15 ppm/°C, 100 ms  
- Data record: measured data record into instrument memory  
- Watchdog: reset after 400 ms  
- OM Link: Company communication interface for operation, setting and update of instruments  
- Calibration: at 25°C and 40 % r.h.

**COMPARATOR**

- Type: digital, menu adjustable, contact switch-on < 30 ms  
- Hysteresis mode: switching limit, hysteresis band “Lim ±s2 Hz” and time [0…99.9 s]  
- Mode Batch: period, its multiples and time [0…99.9 s], within which the output is active  
- Output: 1x 2x relays Form A [250 VAC/50 VDC, 3 A]  
- and 1x 2x relays Form C [250 VAC/50 VDC, 3 A]  
- 2x 4x open collector [50 VDC/200 mA]  
- 2x SSR  
- 2x bistable relays [250 VAC/250 VDC, 3 A/0.3 A]

**DATA OUTPUTS**

- Protocol: ASCII, MODBUS*  
- Data format: 8 bit + no parity + 1 stop bit [ASCII]  
- 7 bit + even parity + 1 stop bit [Messbus]  
- Rate: 200, 300, 400 Baud  
- RS 232: isolated  
- RS 485: isolated, addressing [max. 31 instruments]  

**ANALOG OUTPUTS**

- Type: isolated, programmable with a 16-bit D/A converter, output type and range are optional in the menu  
- Non-linearity: 0.1% of range  
- Tk: 16 ppm/°C  
- Rate: response to change of value < 1 ms  
- Ranges: 0, 2.5/5/10 V, ±10 V, 0/4…20 mA  
- [comp.: 800 0/2 V or 1 000 0/24 V]

**ORDER CODE**

**OM 502PM**

<table>
<thead>
<tr>
<th>Power supply</th>
<th>10…30 V AC/DC</th>
<th>0</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparators</td>
<td>none</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1x relay Form A</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2x relay Form A</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3x relays (2x Form A + 1x Form C)</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4x relays (2x Form A + 2x Form C)</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>2x open collector</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>4x open collector</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>2x open collector + 2x relays Form C</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>2x relays Form C</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>2x SSR</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
</tbody>
</table>

**Data output**

| none | 0 | 0 |
| RS 232 | 1 | 1 |
| RS 485 | 2 | 2 |
| MODBUS* | 3 | 3 |
| RS485* | 4 | 4 |

**ANALOG output**

| yes | 0 | 0 |
| yes (compensation = 800 0/2 V) | 1 | 1 |
| yes (compensation = 1 000 0/24 V) | 2 | 2 |

**Exication**

| yes | 0 | 0 |
| RTC | 1 | 1 |
| FAST | 2 | 2 |

**Display color**

| red | 0 | 0 |
| green | 1 | 1 |

**Specification**

| customized version, do not fill in | 0 | 0 |

---

* 1x available in combination with RTCC/FAST

**ORBIT MERRET™ | 2017.1 | en**
Standard functions

Programmable projection
Setting: manual, in menu optional projection on the display can be set for both limit values of the input signal (e.g. input 4…20 mA > 0…500,0), dividing and multiplying constant, deadband or suppression of negative value

Time base: 1 s, projection of both integrated and instantaneous values

Projection: -99999…99999

Excitation
Range: 5…24 VDC/1,2 W, for feeding sensors and transmitters

Functions
Linearization: linear interpolation in 50 points (only via OM Link)
Min./max. value: registration of min./max. value reached during measurement
Tare: designed to reset display upon non-zero input signal
Peak value: the display shows only max. or min. value
Mathemat. operations: polynomial, 1/x, logarithm, 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
Lock: control keys blocking
Hold: display/instrument blocking
Tare: tare activation
Resetting MM: resetting min./max. value

Measured data record

Data output

Analog output

Record

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

Comparators • Data output • Analog output
Data record

Integrator

OM 502I

Type OM 502I is a precision 5-digit programmable panel integrator with projection of both integrated and instantaneous values.

The instrument is based on a single-chip microcontroller with a fast 24-bit sigma-delta converter, which secures high accuracy, stability and easy operation of the instrument.
## TECHNICAL DATA

### INPUT

<table>
<thead>
<tr>
<th>I</th>
<th>Range</th>
<th>optinal in configuration menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5 mA</td>
<td>&lt; 300 mA</td>
<td>Input 1</td>
</tr>
<tr>
<td>0.5 mA</td>
<td>&lt; 300 mA</td>
<td>Input 1</td>
</tr>
<tr>
<td>0.2 mA</td>
<td>&lt; 300 mA</td>
<td>Input 1</td>
</tr>
<tr>
<td>±3 V</td>
<td>U8 MD</td>
<td>Input U</td>
</tr>
<tr>
<td>±5 V</td>
<td>U8 MD</td>
<td>Input U</td>
</tr>
<tr>
<td>±10 V</td>
<td>U8 MD</td>
<td>Input U</td>
</tr>
</tbody>
</table>

**Time base**
- 1s
- 10s
- 100s
- 1000s
- 3000s

**Multiplication constant**
- 1.10 100

**Division constant**
- 0
- 100

**Deadband**
- signal integration up from the set value
- optional in configuration menu
- 1.10 100

**Negative value**
- option allows to suppress negative signal value, the device integrates only in positive values (adds)

**Autoreset**
- setting of an automatic reset on display overflow

### PROJECTION

**Display**
- ±99999.9, ±99999.9 single color 14-segment LED
- Digit height: 14 mm

**Display color**
- red or green

**Description**
- the last two characters on the display can be used to describe the measured quantities

**Decimal point**
- adjustable - in menu

**Brightness**
- adjustable - in menu

### INSTRUMENT ACCURACY

**Type**
- 50 ppm/°C

**Accuracy**
- 0.02% of range + 1 digit (a projection: 0.0000 and 10 m/s)
- Rate: 1.00 measure/s

**Overload capacity**
- 2x, 10x (1x = 10 ms)

**Linearization**
- linear interpolation in 50 points [only via OM Link]

**Digital filters**
- Exp, Floating Average, Rounding

**Functions**
- Offset, Max/min value, Tare, Peak value, Mat. operations

**Data record**
- measured data record into instrument memory
- RTC - 15 ppm/°C, time-date-display value < 266k data

**Watchdog**
- reset after 400 ms

**Functions**
- 2x bistable relays (250 VAC/250 VDC, 3 A/0.3 A)

### OUTPUTS

- 2x open collector + 2x relays (Form C)

### POWER SUPPLY

**Ranges**
- ±10...20 V AC/DC, ±10 %, PF ≥ 0,4, I STP< 40 A/1 ms, isolated
- ±20...250 V AC/DC, ±10 %, PF ≥ 0,4, I STP< 40 A/1 ms, isolated

**Consumption**
- ±10 W/30 mA

**Power supply**
- protected by a fuse inside the instrument

### MECHANIC PROPERTIES

**Material**
- Noryl GFN 2 SE1, incombustible UL 94 V-1

**Dimensions**
- 96 x 48 x 120 mm [w x h x d]

**Panel output**
- 90.5 x 64mm [w x h]

### OPERATING CONDITIONS

**Connection**
- connector terminal blocks, section < 15/5 mm²

**Stabilization period**
- within 15 minutes after switch-on

**Working temperature**
- 20...60°C

**Storage temperature**
- 20...-60°C

**Protection**
- IP65 (front panel only)

**EL safety**
- EN 61010-1

**Dcatic circuit strength**
- 4 kVAC per 1 min test between supply and input
- 4 kVAC per 1 min test between supply and data/analog output
- 2.5 kVAC per 1 min test between input and data/analog output

**Insulation resistance**
- for pollution degree II, measuring cat. III

### ANALOG OUTPUTS

- 1x relay (Form C)
- 2x open collector
- 4x relay (2x Form A + 2x Form C)
- 2x relay (Form C)
- 2x relay (Form A)
- 2x relay (Form C)
- 2x relay (Form C)
- 2x relay (Form C)
- 2x relay (Form A)

### EXCITATION

**Adjustable**
- 5...34 VDC max. 1/2 W, isolated

### ORDER CODE

**OM 5021**

**Power supply**
- 10...30 V AC/DC
- 80...250 V AC/DC

**Comparators**
- 1x relay (Form A)
- 2x relay (Form A)
- 3x relays (2x Form A + 1x Form C)
- 4x relays (2x Form A + 2x Form C)
- 2x open collector
- 4x open collector
- 2x open collector + 2x relays (Form C)
- 2x relays (Form C)
- 2x SR
- 2x bistable relays

**Data output**
- RS 232
- RS 485
- MODBUS
- PROFIBUS

**Analog output**
- YES (compensation: ±800/120 V)
- YES (compensation: ±1000/240 V)

**Excitation**
- yes

**Data record**
- RTD
- FAST

**Display color**
- red

**Specification**
- customized version, do not fill in

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**Note**
- Primary insulation: Di - Double insulation

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**DIAGRAM**

- Connectors and terminal blocks
- Schematic diagram of the instrument

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**ORDER CODE**

- OM 5021
The OM 502LX is a precision 5-digit panel programmable display for nonlinear input signals. With the OM Link program, linear interpolation can be performed in up to 256 points and 16 tables.

The instrument is based on a single-chip microcontroller with a fast 24-bit sigma-delta converter, which secures high accuracy, stability and easy operation of the instrument.

**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.

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**

- **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.

- **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.

**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 [40 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 transmission into PC via serial interface RS232/485 and OM Link.

**LINEARIZER**

- **5-DIGIT PROGRAMMABLE PROJECTION**
- **RANGE:** 0...5 mA; 0...20 mA; 4...20 mA
  ±2 V; ±5 V; ±10 V
- **LINEARIZATION IN 256 POINTS/16 TABLES**
- **MATHEMATIC FUNCTIONS, DIGITAL FILTERS, TARE**
- **SIZE OF DIN 96 x 48 mm**
- **POWER SUPPLY 10...30 V AC/DC; 80...250 V AC/DC**

**STANDARD FUNCTIONS**

- **PROGRAMMABLE PROJECTION**
  - Setting: manual, optional projection on the display may be set in menu for both limit values of the input signal, e.g. input 0...5 V > 0...250,0
  - Linearization: through linear interpolation in 256 points and up to 16 tables
  (only via OM Link)
  - Projection: -99999…99999

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

- **MATHEMATIC FUNCTIONS**
  - Min./max. value: registration of min./max. value reached during measurement
  - Tare: designed to reset display upon non-zero input signal
  - Peak value: the display shows only max. or min. value
  - Mathematical operations: polynomial, 1/x, logarithm, 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**
  - Lock: control keys blocking
  - Hold: display/instrument blocking
  - Tare: tare activation
  - Resetting MM: resetting min./max. value

- **DATA OUTPUT**
  - RS232/485 with the ASCII/PROFIBUS protocols

- **ANALOG OUTPUT**
  - Universal analog output with the option of selection of the type of output - voltage/current
  - Range of output: 0...5 mA; 0...20 mA; 4...20 mA
  - ±2 V; ±5 V; ±10 V
  - Linearization in 256 points/16 tables

- **COMPARATORS**
  - Assigned to monitor one, two, three or four limit values with relay output
  - 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**
  - 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**
  - Suitable for further evaluating or processing of measured data in external devices
  - Universal analog output with the option of selection of the type of output - voltage/current

- **MEASURED DATA RECORD**
  - Suitable for registering measured values
  - Two modes: FAST and RTC
  - Data record is governed by Real Time
  - Data transmission into PC via serial interface RS232/485 and OM Link.
**Input Data**

**LX**  
- Range: optional in configuration menu  
- 0...8 mA: ≈ 300 mV  
- 0...20 mA: ≈ 300 mV  
- 4...20 mA: ≈ 300 mV  
- ≤2 V: 1,8 MO  
- ≥5 V: 1,8 MO  
- ≥10 V: 1,8 MO  

**Connection**

- 3 inputs, on contact  
- Ext. inputs  
- Linearization by linear approximation in 256 points and up to 10 tables (only via OM Link)  
- Ext. inputs  
- LED display  
- menu access blocking  
- TARE activation  
- PASS. menu access blocking  
- LOCK control keys blocking  
- OFF input off  
- The following functions can be assigned:  
  - 16 tables (only via OM Link)  
  - by linear approximation in 256 points and up to  
  - ±10 V  
  - 1,8 MΩ Input U  
  - ±5 V  
  - 1,8 MΩ Input U  
  - ±2 V  
  - 1,8 MΩ Input U  
  - 4...20 mA  
  - ≤300 mV Input I  
  - 0...20 mA  
  - ≤300 mV Input I  
- L1  
- E1  
- C1  
- L2  
- E2  
- C4  
- L3  
- E3  
- C4  
- L4  
- E4  

**Technical Data**

**Intrument Accuracy**  
- Tk: 50 ppm/°C  
- Accuracy: ±0,02% of range + 1 digit (for projection 99999 and 10 m/s)  
- Rate: 1...100 measur./s  
- Overload capacity: 2x 10x (1...30 ms)  
- Digital filters: Exp./Rising/Rising, average, Rounding  
- Functions: Offset, Min/max value, Tare, Peak value, Mat. operations  
- Data record: measured data record into instrument memory  
- RTC: 15 ppm/°C, time-data display value < 266k data  
- FAST: display value < 8k data  
- Watchdog: reset after 400 ms  
- OM Link: Company communication interface for operation, setting and update of instruments  
- Calibration: ±50 ppm/°C at 25°C and 40 % r.h.  
- Comparator: Type: digital, menu adjustable, contact switch-on < 30 ms  
- Switching limit: high/low limit band “lim a/b” Hz/°  
- and time [40...99,9 s] determining the switching delay  
- Mode From-To: switching on and switching off interval  
- Mode Batch period: its multiples and time [0...99,9 s], within which the output is active  
- Output 1...2: relays Form A [250 VAC/50 VDC, 3 A]  
- and 1...2: relays Form C [250 VAC/50 VDC, 3 A]  
- Time delay: open collector [38 VDC/100 mA]  
- Switching delay: relays [250 VAC/50 VDC, 3 A/0,5 A]  

**Data Outputs**

- Protocol: ASCII  
- Data format: 8 bit + no parity + 1 stop bit  
- Rate: 9600, 2400 baud  
- RS 232: isolated  
- RS 485: isolated, addressing (max. 31 instruments)  

**Analog Outputs**

- Type: isolated, programmable with a 16-bit D/A converter, output type and range are optional in the menu  
- Non-linearity: 0,1% of range  
- Tk: 16 ppm/°C  
- Rate: response to change of value < 1 ms  
- Ranges: ±0...5/10 V, ±10 V, ±5 mA, 0/4...20 mA  
  - [comp. = 600...24 V]  

**Excitation**

- Adjustable: 6...34 VDC max. 1/2 W, separated  
- Power Supply  
  - Range: 10...30 V AC/DC, ±10 %, (IF < 0,1 A, Iac < 0,4 A) ms, isolated  
  - 80...250 V AC/DC, ±10 %, (IF < 0,4 A, Iac < 0,4 A) ms, isolated  

- Consumption: 0,06 W  

- Power supply is protected by a fuse inside the instrument  

**Mechanical Properties**

- Material: Noryl GFN2 SE1, incombustible UL 94 V-1  
- Dimensions: 96 x 48 x 120 mm (w x h x d)  
- Panel output: 90,5 x 45 mm [w x h]  

**Operating Conditions**

- Connection: connector terminal blocks, section < 1,5/2,5 mm²  
- Stabilization period: within 15 minutes after switch-on  
- Working temperature: -20°...+60°C  
- Storage temperature: -25°...+85°C  
- Protection: IP64 (front panel only)  
- EL safety: EN 61010-1, A2  
- Electric strength: 4 kVAC per 1 min between supply and input  
- 4 kVAC per 1 min between supply and data/analog output  
- 2,5 kVAC per 1 min between input and data/analog output  
- Insulation resistance: for pollution degree 1, measuring cat. III  
- Power supply: 870 V [PE], 300 V [DI]  
- Input/output: 300 V [PE], 150 V [DI]  
- EMI: EN 61326  

**Order Code**

- OM 502LX  

- Power supply  
  - 10...30 V AC/DC  
  - 80...250 V AC/DC  

- Comparators  
  - none  
  - 1 relay Form A  
  - 2x relay Form A  
  - 3x relays Form C  
  - 4x relays Form C  
  - 1x open collector  
  - 4x open collector  
  - 2x open collector  
  - 2x bistable relays Form F  

- Data output  
  - RS 232  
  - RS 485  

- Analog output  
  - yes (compensation = 800...24 V)  
  - yes (compensation = 1000...24 V)  

- Excitation  
  - yes  

- Data record  
  - no  
  - RTC  
  - FAST  
  - yes  

- Display color  
  - red  

- Specification  
  - customized version, do not fill in  

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Basic configuration of the instrument is indicated in bold.
Type OM 502DU is a precision 5-digit programmable panel display unit for linear potentiometers. The instrument is based on a single-chip microcontroller with a fast 24-bit sigma-delta converter, which secures high accuracy, stability and easy operation of the instrument.

**DISPLAY UNIT FOR LINEAR POTENTIOMETERS**
- 5-DIGIT PROGRAMMABLE PROJECTION
- INPUT FOR LINEAR POTENTIOMETER
- MATHEMATIC FUNCTIONS, DIGITAL FILTERS, TARE
- ACCURACY: 0,02 %, RATE: 100 MEAS./S
- 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
  - Data record

**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**
- **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.

- **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.

- **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 [40 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 transmission into PC via serial interface RS232/485 and OM Link.

**STANDARD FUNCTIONS**
- **PROGRAMMABLE PROJECTION**
  - Setting: manual, in menu optional projection on the display can be set for both limit values of the potentiometer, e.g. start/end of the range > 0...500,00
  - Projection: -99999...99999
- **FUNCTIONS**
  - Linearization: linear interpolation in 50 points (only via OM Link)
  - Min./max. value: registration of min./max. value reached during measurement
  - Tare: designed to reset display upon non-zero input signal
  - Peak value: the display shows only max. or min. value
  - Matheomat. operations: polynom, 1/x, logarithm, 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**
- **Lock**: control keys blocking
- **Hold**: display/instrument blocking
- **Tare**: tare activation
- **Resetting MM**: resetting min./max. value
**INPUT**

**DU**

Range
1. Setting numeric value for start and end of the potentiometer range
2. Calibration of the start and end position of the potentiometer

<table>
<thead>
<tr>
<th>Power supply</th>
<th>25 VDC/8 mA, Potentiometer resistance = 500 Ω</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ext. inputs</td>
<td>3 inputs, on contact</td>
</tr>
</tbody>
</table>

The following functions can be assigned:
- OFF
- Input off
- HOLD display stop
- LOCK control keys blocking
- OFF input off
- The last two characters on the display can be used to describe the measured quantities
- Decimal point adjustable - in menu
- Brightness adjustable - in menu

**INSTRUMENT ACCURACY**

- TIC: 50 ppm/°C
- Accuracy: ±0,02 % of range + 1 digit (for projection 99999.0 and 10 m/s)
- Rate: 1, 100 measure/s
- Overload capacity: 2x, 10x (1 – 30 ms)
- Linearity: Linear interpolation in 52 points (only via OM Link)
- Digital filters: Exp, Floating, Arith. average, Rounding
- Functions: Offset, Min/max value, Tare, Peak value, Mat. operations
- Data record: measured data record into instrument memory
- RTC: 15 ppm/°C, time-date-display value < 266k data
- FAST: display value + 8k data
- Watchdog: reset after 400 ms
- OM Link: Company communication interface for operation, setting and update of instruments

**COMPARATOR**

Type: digital, menu adjustable, contact switch-on < 30 ms
- HySTEResis mode: switching limit, hysteresis band „Lim ±h HYST“ and time (0...99.9 s) determining the switching delay
- Mode From-To: switching on and switching off interval
- Mode Batch: period, its multiples and time (0 ... 99.9 s), within which the output is active
- Output: 1…2x relays Form A [250 VAC/250 VDC, 3 A]
- 1…2x relays Form C [250 VAC/250 VDC, 3 A]
- 2x4 open collector [250 VDC/400 mA]
- 2x SSR [250 VAC/250 VDC, 3 A/3 A]

**DATA OUTPUTS**

- Protocol: ASCII, MESSBUS, MODBUS RTU, RAYBUS DP
- Data format: 8 bit + parity + 1 stop bit (ASCII), 7 bit + even parity + 1 stop bit (Messebus)
- Rate: 600, 2400, 4800, 9600, 19200, 38400, 57600 (Raybus DP)
- RS 232: isolated
- RS 485: isolated, addressing (max. 31 instruments)

**ANALOG OUTPUTS**

Type: isolated, programmable with a 16 bit D/A converter, output type and range are optional in the menu
- Non-linearity: 0,1 % of range
- TIC: 16 ppm/°C
- Rate: response to change of value < 1 ms
- Ranges: 0, 1/2/10 V, ±10 V, ±5 mA, ±0.2 V, ±0.1 A
- Consumption: < 0.8 W, 0.0 VA
- Power supply: protected by a fuse inside the instrument

**OPERATING CONDITIONS**

- Connection: connector terminal blocks, section < 1,0 x 0,7 mm²
- Shrinkage period: within 15 minutes after switch-on
- Working temperature: 20°…80°C
- Storage temperature: 20°…85°C
- Protection: IP54 (front panel only)
- E1 safety: EN 61010-1, A2
- Diaphragm 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 = 1700 V [IEC], 300 V [DI]
- Factory calibration: at 25°C and 40 % r.h.
- Ranges: 0, 1/2/10 V, ±10 V, ±5 mA, ±0.2 V, ±0.1 A

**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: < 0.9 W/78 VA

**MECHANICAL PROPERTIES**

- Material: Nonyl (GN2 GEI, incombustible UL 94 V-1)
- Dimensions: 96 x 48 x 120 mm [w x h x d]
- Panel output: 90,5 x 45 mm [w x h]
- Weight: 525 g

**TECHNICAL DATA**

**ORDER CODE**

<table>
<thead>
<tr>
<th>Power supply</th>
<th>10...30 V AC/DC</th>
<th>80...250 V AC/DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparators</td>
<td>none</td>
<td>1x relay (Form A)</td>
</tr>
<tr>
<td></td>
<td>2x relay (Form A)</td>
<td>2x relays (2x Form A + 1x Form C)</td>
</tr>
<tr>
<td></td>
<td>3x relays (2x Form A + 2x Form C)</td>
<td>4x relays (2x Form A + 2x Form C)</td>
</tr>
<tr>
<td></td>
<td>2x open collector</td>
<td>4x open collector</td>
</tr>
<tr>
<td></td>
<td>2x open collector</td>
<td>2x open collector + 2x relays (Form C)</td>
</tr>
<tr>
<td></td>
<td>2x relays (Form C)</td>
<td>2x SSR</td>
</tr>
<tr>
<td></td>
<td>2x SSR + 2x bistable relays</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1x relay (Form C)</td>
<td>1x relay (Form C)</td>
</tr>
<tr>
<td>Data output</td>
<td>none</td>
<td>RS 232</td>
</tr>
<tr>
<td></td>
<td>RS 485</td>
<td>MODBUS RTU</td>
</tr>
<tr>
<td></td>
<td>RAYBUS DP</td>
<td>RAYBUS DP</td>
</tr>
<tr>
<td>Analog output</td>
<td>yes (compensation = 800/12 V)</td>
<td>yes (compensation = 1000/12 V)</td>
</tr>
<tr>
<td>Data record</td>
<td>RTC</td>
<td>FAST</td>
</tr>
<tr>
<td>Display color</td>
<td>red</td>
<td>green</td>
</tr>
<tr>
<td>Specification</td>
<td>customized version, do not fill in</td>
<td>60</td>
</tr>
</tbody>
</table>
**STANDARD FUNCTIONS**

- **Programmable Projection**
  - Manual, in menu optional projection on the display can be set for both limit values of the sensor, e.g. start/end of the range > 0…500,0
  - Projection: -99999…99999

- **Linearization**
  - Linear interpolation in 50 points (only via OM Link)

- **Min./max. Value**
  - Registration of min./max. value reached during measurement

- **Tare**
  - Designed to reset display upon non-zero input signal

- **Peak Value**
  - The display shows only max. or min. value

- **Mathematic Operations**
  - Polynomial, 1/x, logarithm, 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**

- **Lock**
  - Control keys blocking

- **Hold**
  - Display/instrument blocking

- **Tare**
  - Tare activation

- **Resetting MM**
  - Resetting min./max. value

---

**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**

**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.

**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.

**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 [40 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 transmission into PC via serial interface RS232/485 and OM Link.

---

**OM 502LVDT**

Type OM 502LVDT is a precision 5-digit programmable panel display for LVDT sensors. The instrument is based on a single-chip microcontroller with a fast 24-bit sigma-delta converter, which secures high accuracy, stability and easy operation of the instrument.
### TECHNICAL DATA

#### INPUT

**LVD**
- **Range**: Setting in two steps
  - 1: setting numeric value for start and end of the potentiometer range
  - 2: calibration of the start and end position of the potentiometer

**Sensor power supply**
- 1 / 3 / 5 WAC with frequency 25 / 50 / 10 kHz

**Connect**
- 3, 6 or 10 wires

**Ext. Inputs**
- 3 inputs, on contact
- The following functions can be assigned:
  - OFF, input off
  - HOLD, display stop
  - USER, control keys blocking
  - TAR, tare activation
  - CL, T, M, N, reset the min/max value
  - SINV, data recording start (FAST/RTC)
  - CL, ME, data recording stop
  - CHAN A, value display, "Channel A"
  - FL, A, value display, "Channel A + filter"
  - PMT, FN, value display, "Math. functions"

**PROJECTOR**
- Resolution: ±0.2% of range + 1 digit for projection 99999 and 10 m/s
- Rate: 1.35 ms measure/s
- Overload capacity: 20 x 10 ms
- Linearity: Linear interpolation in 50 points (only via OM Link)
- Digital filter: Exp, float, average, rounding

**LVD INPUT CONNECTION**
- Function: Offset, Min/Max value, Tare, Peak value, Math operations
- Data record: measured data recorded into instrument memory
- FAST: display value + 150 data
- Hold: reset after 400 ms

**OM Link**
- Company communication interface for operation, setting and adjustment of instruments
- Calibration: at 25°C and 40 % r.h.

#### COMPARATOR
- Type, digital: menu adjustable, contact switch-on < 30 ms
- Hysteresis mode: switching limit, hystereresis band "Lim ±52 Hys."

#### ANALOG OUTPUTS
- Protocol: ASCII, MODBUS, MODBUS RTU, PROFIBUS DP
- Data format: 8 bit + no parity + 1 stop bit [ASCII]
- 7 bit + even parity + 1 stop bit [MODBUS]

#### ORDER CODE

- **OM 502LVD**
- **Power supply**
  - 10...30 V AC/DC
  - 80...250 V AC/DC
- **Comparators**
  - none
  - 1x relay [Form A]
  - 2x relays [Form A]
  - 3x relays [Form A + Form C]
  - 4x relays [Form A + Form C]
  - 2x open collector
  - 4x open collector
  - 2x open collector + 2x relays [Form C]
  - 2x relays [Form C]
  - 2x SSR
  - 2x bistable relays
  - 1x relay [Form C]

- **Data output**
  - none
  - RS 232
  - RS 485
  - MODBUS RTU

- **Analog output**
  - none (compensation ±0.01% of V)
  - none (compensation ±1.00% of V)

- **Data record**
  - FAST
  - RTC

- **Display color**
  - red
  - green

- **Specification**
  - customized version, do not fill in

**NORIL**
- Primary insulation, DI = Double insulation

---

**Basic configuration of the instrument is indicated in bold.**

*Unavailable in combination with RTC/FAST
**OM 502T**

Type OM 502T is a precision programmable panel display for strain gauges supplemented by weighing functions. The instrument is based on a single-chip microcontroller with a fast 24-bit sigma-delta converter, which secures high accuracy, stability and easy operation of the instrument.

**DISPLAY FOR STRAIN GAUGES**

- **5-DIGIT PROGRAMMABLE PROJECTION**
- **RANGE:** 1...4/2...8/4...16 mV/V
- **WEIGHING FUNCTION, DIGITAL FILTERS, TARE**
- **ACCURACY:** 0.05 %, RATE: 100 MEAS./S
- **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
  - Data record

**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 FUNCTIONS**

- **PROGRAMMABLE PROJECTION**
  - Calibration: manual - setting sensitivity and maximum measuring range of the sensor
  - automatic - setting limit values of the measuring range using reference load
  - Weighing function: signalization of stabilized equilibrium, zero stabilization, automatic zero monitoring, defined number of segments on the scale
  - Selection of segment size: 0.001/…/0.1/0.2/0.5/1/2/5/10/20/50/100 (Mode - WEIGHT)
  - Projection: ±99999 (Mode - Standard)
- **EXCITATION**
  - Fixed: 10 VDC, load ≥ 80 Ω
- **FUNCTIONS**
  - Linearization: linear interpolation in 50 points (only via OM Link)
  - Min./max. value: registration of min./max. value reached during measurement
  - Tare: designed to reset display upon non-zero input signal
  - Fixed tare: firmly preset tare
  - Peak value: the display shows only max. or min. value
  - Mathemat. operations: polynom, 1/x, logarithm, 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**
  - Lock: control keys blocking
  - Hold: display/instrument blocking
  - Tare: tare activation
  - Resetting MM: resetting min./max. value

**OPTION**

- **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.

**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.

**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 [40 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 265 000 values may be stored in the instrument memory. Data transmission into PC via serial interface RS232/485 and OM Link.
**TECHNICAL DATA**

**INPUT**
- **Range**: optional in configuration menu
  - 1.4 mV
  - 2…8 mV/V
  - 4 mV

**Excitation**
- +5…-5V, 10mA

**Connect**
- **Segment size**
  - 0/500/1000/2000/5000/10000/12/24/36/100/200/10/20/50/100
- **Zero monitoring**
  - in ±1% of the measuring range zero equals automatically, however on condition that the correction may not be greater than ±0.5 segm./second
- **Automat. zero reset**
  - if for the period of > 5 s there is a stabilised negative value on the display (when function Tare is active) tare is automatically cleared

**Ext. inputs**
- 3 inputs, on contact
- OFF
- input off
- HDLD: display stop
- LDEK: control keys blocking
- PADS: menu access blocking
- TAOE: tare activation
- CL…TA: tare resetting
- CL…M: resetting min/max value
- GNAL: data recording start [FAST/RTC]
- GNAR: data recording reset [FAST/RTC]
- CHAN A: value display ‘Channel A’
- RL A: value display ‘Channel A’ + filter
- MAT. FN: value display ‘Math. functions’

**PROJECTION**
- **Display**: 0.99999…99999 single color 14-segment LED
- **Digit height**: 14 mm
- **Display color**: red or green
- **Description**: the last two characters on the display can be used to describe the measured quantities
- **Decimal point**: adjustable - in menu
- **Brightness**: adjustable - in menu

**INSTRUMENT ACCURACY**
- **T**: 50 ppm/°C

**Ranges**: ±50% of range + 1 digit
- **Rate**: 1…100 measur./s
- **Overload capacity**: 2x, 10x (1 → 30 ms)

**Linearization**: Linear interpolation in 50 points [only via OM Link]
- **Digital filters**: Exp., Floating, Arithmetic average, Rounding
- **Functions**: Offset, Min/max value, Tare, Peak value, Math, operations
- **Data record**: measured data record into instrument memory
- **RTC**: 15 ppm/°C, time-date display value < 266k data
- **FAST**: display value < 8k data
- **Watchdog**: reset after 400 ms

**OM Link**: Company communication interface for operation, setting and update of instruments
- **Calibration**: at 25°C and 40 % r.h.

**COMPARATOR**
- **Type**: digital, menu adjustable, contact switch-on < 30 ms
- **hysteresis mode**: switching limit, hysteresis band “Lim ±y2 Tdy” and time “[y, y–9, y]” determining the switching delay

**Node From-To**: switching on and switching off interval
- **Node Batch**: period, its multiplex and time “[b, 0…9]”, within which the output is active

**Output 1**: 2x relays Form A [250 VAC/250 VDC, 3 A] and 1.2x relays Form C [250 VAC/250 VDC, 3 A]
- 2x open collector [30 VDC/200 mA], 2x SSR [250 VAC/1 A]
- 2x bistable relays [250 VAC/250 VDC, 3 A/0.3 A]

**DATA OUTPUTS**
- **Protocol**: ASCII, MESSBUS, MODBUS RTU, PROFIBUS DP
- **Data format**: 7 bit + even parity + 1 stop bit [ASCII]
  - 8 bit + even parity + 1 stop bit [MESSBUS]
  - 9 bit + odd parity + 1 stop bit [MODBUS]
- **Rate**: 600…250 400 Baud
  - 900 Baud…12 Mbaud [PROFIBUS]
- **RS 232**: isolated
- **RS 485**: isolated, addressing [max. 31 instruments]

**ANALOG OUTPUTS**
- **Type**: isolated, programmable with a 16-bit D/A converter; output type and range are optional in the menu
- **Non-linearity**: 0.1% of range
- **Tc**: 16 ppm/C
- **Rate**: response to change of value < 1 ms
- **Ranges**: 0, 2/3/4/5/6/7/8/9/10 V or ±0…5 mA, 0/4…20 mA
  - [comp. < 800/12 / V or 1000/024 / V]

**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**: < 0,9 W/13 VA
- **Power supply is protected by a fuse inside the instrument**

**MECHANIC PROPERTIES**
- **Material**: Noryl G262 SE, incombustible UL 94 V-0
- **Dimensions**: 90 x 14 x 50 mm [w x h x d]
- **Panel output**: 90,5 x 45 mm [w x h]

**OPERATING CONDITIONS**
- **Connection**: connector terminal blocks, socket < 1/2/5/6 mm²
- **Stabilization period**: within 15 minutes after switch-on
- **Working temperature**: 20…80°C
- **Storage temperature**: 20…95°C
- **Protection**: IP54 [front panel only]
- **El. safety**: EN 60061, A2
- **Diodelectric strength**: 4 kVAC par 1 min test between supply and output
- **4 kVAC par 1 min test between supply and data/analog output
  - 4 kVAC par 1 min test between input and relay output
- **2,5 kVAC par 1 min test between input and relay output
  - 2,5 kVAC par 1 min test between input and data/analog output
- **Insulation resistance**: for pollution degree II, measuring cat. III
  - power supply > 670 V [IEC], 300 V [DIN]
  - input, output, supply > 300 V [IEC], 150 V [DIN] (requirement harmonic factor 0.3)

**EMC**: EN 61326-1

**ORDER CODE**

**OM 502T**

**Power supply**
- 10…30 V AC/DC
- 80…250 V AC/DC

**Comparators**
- none
- 1x relay [Form A]
- 2x relays [Form A]
- 3x relays [2x Form A + 1x Form C]
- 4x relays [2x Form A + 2x Form C]
- 2x open collector
- 2x open collector + 2x relays [Form C]
- 2x relays [Form C]
- 2x SSR [2x Form A]
- 2x bistable relays [2x Form A]

**Data output**
- none
- RS 232
- RS 485
- MODBUS RTU
- PROFIBUS DP

**Analogue output**
- yes [compensation = ±100/024 / V]
- yes [compensation = ±1000/24 / V]

**Data record**
- RTC
- FAST

**Display color**
- red
- green

**Specification**
- customized version, do not fill in

**ORDER CODE**

| Basic configuration of the instrument is indicated in bold. * | Unavailable in combination with RTC/FAST |
**OPERATION**

The instrument is controlled by four buttons situated 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).

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.
- **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).

---

**UNIVERSAL COUNTER**

- 6-DIGIT PROGRAMMABLE PROJECTION
- COUNTER/FREQUENCY/CLOCK/TIMER
- 0,1 Hz…50 kHz; UP/DOWN COUNTER
- DIGITAL FILTERS, LINEARIZATION
- SIZE OF DIN 72 x 24 mm
- POWER SUPPLY 10…30 VDC/24 VAC
- Option: Comparators, Time backup

---

**STANDARD FUNCTIONS**

**PROGRAMMABLE PROJECTION**

- Input: NPN, PNP on contact
- Setting: measuring mode counter/frequency/timer/clock with adjustable calibration coefficient, time base and display
- Measur. modes: counter/frequency meter/UP-DOWN counter/timer/clock
- Measur. channels: A and B, two independent functions (number/frequency) can be evaluated from one measuring input
- Projection: ±99999...999999 with stable or floating DT in format 10/24/60

**FUNCTIONS**

- Linearization: through linear interpolation in 25 points (solely via OM Link)
- Preset: initial nonzero value that is always read after resetting the device
- Current value: one-off setting of the initial value

**DIGITAL FILTERS**

- Exponential average: from 2...100 measurements
- Rounding: setting the projection step for display
- Input filter: passes the input signal up to 5...1000 Hz

**EXTERNAL CONTROL**

- Hold: display/instrument blocking
- Lock: control keys blocking
- Resetting: counter resetting
- Start/Stop: timer/clock control
**TECHNICAL DATA**

**INPUT**

**Input**
- Optional in configuration menu
- On contact, TTL, NPN/PNP
- IS 3055 V, comparison levels are adjustable in the menu

**Input frequency**
- 51 Hz, 50 Hz (Mode SINE/L1)
- 51 Hz, 60 Hz (Mode L1/D1)

**Measure. mode**
- SINGLE: count/frequency
- UP/DOWN: count/counter/freq meter
- Measures on inputs A & B (direction) and can display numbers/frequency
- Time: Timer
- Clock: Clock

**Time**
- 3.600.000 s

**Calibr. constant**
- 1000000

**Preset**
- 1000000

**Input filter**
- 25/42/50/100/1000 Hz

**Functions**
- Preset
- Time backup (Timer/lock)
- External input
  - The following functions can be assigned:
  - OFF: input off
  - LOCK: control keys blocking
  - HOLD: display stop
  - TARE: tare activation
  - CLEAR: display reset
  - CLR.ST.: reset/clear preset/timer

**POWER SUPPLY**

**Range**
- 10…30 VDC/24 VAC, ±10 %, PF ≥ 0.4, I STP ≤ 45 A, isolated

**Consumption**
- < 2.1 W/2.2 VA

**MECHANIC PROPERTIES**

**Material**
- Noryl GFN2 SE1, incombustible UL 94 V-I

**Dimensions**
- 72 x 24 x 106 mm (w x h x d)

**Panel cutout**
- 68 x 21.5 mm (w x h)

**OPERATING CONDITIONS**

**Connection**
- On contact terminal blocks, section < 1.5/2.5 mm²

**Stabilization period**
- within 15 minutes after switch-on

**Working temperature**
- 20°…60°C

**Storage temperature**
- 20°…80°C

**Protection**
- IP42 (front panel only)

**El. safety**
- EN 61010-1, A2

**Dielectric strength**
- 2.5 kVAC per 1 min test between supply and input
- 4 kVAC per 1 min test between input and relay output

**Insulation resistance**
- for pollution degree II, measuring cat. III

**Instrument power supply, input > 300 V**
- Primary insulation (PI)
- Double insulation (DI)

**EMC**
- EN 61326-1

**Seismic capacity**
- IEC 68-2-6

**INSTRUMENT ACCURACY**

**TK**
- ±0.05 %/°C

**Accuracy**
- ±0.05 % of value ±1 digit
- ±0.01 % of value ±2 ms (Timer)
- ±0.01 % of value ±100 ms (RTC)

**Overload capacity**
- 2x, 10x (t < 30 ms), not for 300 V

**Functions**
- Data backup, Time backup, Preset, Summation, Tare

**Digital filters**
- Exponential average, rounding

**Input filters**
- Filtration constant, rounding

**Watch-dog**
- Reset after 500 ms

**OM Link**
- Company communication interface for operation, setting and update of instruments

**Calibration**
- at 25°C and 40 % r.h.

**COMPARATORS**

**Type**
- Digital, menu adjustable, contact switch-on ≤ 50 ms

**Hysteresis mode**
- Switching limit, hysteresis band “Lim ±1/2 Hys.” and time (0…99.9 s) determining the switching delay

**Mode C-Puls [L1]**
- Automatic counter resetting at the set value

**Mode On Run [L2]**
- Output is active when the timer is running

**Output**
- 1x 2x relay with bistable contact (48 VAC/30 VDC, 3 A)
- 1x 2x open collector (30 VDC/100 mA)

**ORDER CODE**

**OMM 650UC**

**Power supply**
- 10…30 VDC/24 VAC, isolated
- No: 0

**Comparators**
- 1x relay (Form A): 0
- 2x open collector: 1

**Time backup**
- No: 0

**Display color**
- Red: 1
- Green: 2

**Specification**
- Customized version, do not fill in
**OPERATION**

The instrument is set and controlled by five buttons accessible from the rear. 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**

- **COMPARATOR** is assigned to monitor one limit value 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 signaled by LED and simultaneously by the switch-on of the relevant relay.
- **TIME BACKUP** is suitable where time needs to be measured even in case of voltage supply outage (upon power supply outage the instrument does not display).

**STANDARD FUNCTIONS**

**PROGRAMMABLE PROJECTION**

- Selection: measuring mode
- Setting: measur. mode counter/frequency/timer with adjustable calibration coefficient, time base and projection
- Measur. modes: counter/frequency meter/UP-DW counter/frequency/counter for IRC
- Measur. channels: A and B, two independent functions (number/frequency) can be evaluated from one measuring input
- Projection: 999999...999999 with stable or floating DT in format 10/24/60

**FUNCTIONS**

- Linearization: through linear interpolation in 25 points (solely via OM Link)
- Tare: designed to reset display upon non-zero input signal
- Preset: initial nonzero value that is always read after resetting the device
- Current value: one-off setting of the initial value
- Summation: registration of figures upon shift operation
- Time backup: time is running even when the power supply is turned off (the display is off)

**DIGITAL FILTERS**

- Exponential average: from 2...100 measurements
- 1/Fr.: filter to convert frequency to time
- Rounding: setting the projection step for display
- Input filter: passes the input signal up to 6...1000 Hz

**EXTERNAL CONTROL**

- Hold: display/instrument blocking
- Lock: control keys blocking
- Resetting: counter resetting
- Start/Stop: timer/clock control
- Magnet: operation of preselected functions

**UNIVERSAL COUNTER**

- 6-DIGIT PROGRAMMABLE PROJECTION
- COUNTER/FREQUENCY/CLOCK/TIMER
- 0,1 Hz...50 kHz; UP/DW COUNTER, IRC
- DIGITAL FILTERS, TARE, LINEARIZATION, SUM
- SIZE OF DIN 96 x 48 mm
- POWER SUPPLY 10...30 VDC/24 VAC
- Option Comparator, Time backup

**OML 643UQC**

Type OML 643UQC is an inexpensive 6-digit universal panel counter/frequency meter/timer/clock with a box depth of only 30 mm.

The instrument is based on a single-chip microcontroller, which secures good accuracy, stability and easy operation of the instrument.
TECHNICAL DATA

INPUT
UQC input  
- optional in configuration menu  
on contact, TTL, NPN/PNP  
- 0…30 V: comparison levels are adjustable in the menu or automatic

Input frequency  
- 0,1 Hz to 50 kHz (Mode SINGLE)  
- 0,1 Hz to 20 kHz (Mode UP/DW)  
- 0,1 Hz to 10 kHz (Mode QUADR. - frequency)  
- (for duty cycle 50 %)

Measure. mode  
- QUADR: counter/frequency for RC sensors  
- UP/DW: counter/frequency  
- UP/DW: counter/frequency  
- UP - DW: counter/frequency

INPUT ORDER CODE

MECHANIC PROPERTIES
Material: Polycarbonate, incombustible UL 94 V-0  
Dimensions: 96 x 48 x 30 mm (w x h x d)

OPERATING CONDITIONS
Connection: connector terminal blocks, section < 1,5 mm²
Stabilization period: within 15 minutes after switch-on  
Working temperature: -20°…60°C  
Storage temperature: -20°…85°C

Protection: IP65 (front panel only with a gasket)  
El. safety: EN 61010-1, A2

Basic configuration of the instrument is indicated in bold.

ORDER CODE

<table>
<thead>
<tr>
<th>OML 643UQC</th>
<th>10...30 VDC/24 VAC</th>
<th>10...30 VDC/24 VAC, isolated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply</td>
<td>10...30 VDC/24 VAC</td>
<td>10...30 VDC/24 VAC, isolated</td>
</tr>
<tr>
<td>Comparator</td>
<td>no</td>
<td>1x relay (Form A)</td>
</tr>
<tr>
<td>Time backup</td>
<td>no</td>
<td>1x open collector</td>
</tr>
<tr>
<td>Display color</td>
<td>red</td>
<td>green</td>
</tr>
<tr>
<td>Gasket</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Magnet</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>Specification</td>
<td>customized version, do not fill in</td>
<td></td>
</tr>
</tbody>
</table>
**DATA DISPLAY RS 485**

- 6-DIGIT PROGRAMMABLE PROJECTION
- INPUT: RS 485
- DIGITAL FILTERS
- SIZE OF DIN 96 x 48 mm
- POWER SUPPLY 10…30 VDC/24 VAC
- Option
  Comparator

**OPERATION**

The instrument is set and controlled by five buttons accessible from the rear. 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**

**COMPARATOR** is assigned to monitor one limit value 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.

**STANDARD FUNCTIONS**

**PROGRAMMABLE PROJECTION**

Input: RS 485
Protocol: ASCII - Master/Slave/Universal or MODBUS RTU
Projection: 999999…999999

**FUNCTIONS**

- Linearization: through linear interpolation in 25 points (solely via OM Link)
- **DIGITAL FILTERS**
  - Exponential average: from 2…100 measurements
  - Rounding: setting the projection step for display

**OML 643RS**

Type OML 643RS is a 6-digit data display from the serial line RS 485 with a box depth of only 30 mm.
The instrument is based on a single-chip microcontroller, which secures good accuracy, stability and easy operation of the instrument.
TECHNICAL DATA

INPUT

<table>
<thead>
<tr>
<th>Protocol</th>
<th>ASCII - Master</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- the instrument controls data sending from the slave system</td>
</tr>
<tr>
<td></td>
<td>- &quot;COMM&quot; can be used to select the received data</td>
</tr>
<tr>
<td></td>
<td>- the instrument asks with the rate of 10 queries/s</td>
</tr>
<tr>
<td>ASCII - Slave</td>
<td></td>
</tr>
<tr>
<td>October bus display where other devices or computers communicate in &quot;MAST&quot; mode. If the &quot;COMM&quot; and the requested data are correctly received, they will be displayed by the instrument</td>
<td></td>
</tr>
<tr>
<td>ASCII - Universal</td>
<td></td>
</tr>
<tr>
<td>- in dynamic menu items (Stat, Ad.Un, Sign, Data, Stop, Req.) you can build your own communication protocol format</td>
<td></td>
</tr>
</tbody>
</table>

MODBUS RTU

| Format | 8 bit + no parity + 1 stop bit |
| Line termination | short-circuit jumper on the connector |

CONNECTION

| Interface | RS 485 |
| Protocol | ASCII - Master |
| Input | RS 485 |
| RS 485 Protocol | ASCII - Master |
| ASCII - Slave |
| ASCII - Universal |
| ASCII - Universal |

PROJECTION

Display: 999999...999999, single color 7-segment LED
Digit height: 14 mm
Display color: red or green
Decimal point: adjustable - in menu
Brightness: adjustable or automatically controllable

INSTRUMENT ACCURACY

Tk: 50 ppm/°C
Watch: reset after 500 ms
Digital filter: exponential averaging, rounding
OM Link: Company communication interface for operation, setting and updates of instruments
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 ±1/2 Hys." and time (0...99.9 s) determining the switching delay
Output: 1x Form A relay (250 VAC/30 VDC, 3 A)
1x open collector (30 VDC/100 mA)

POWER SUPPLY

Range: 10...30 VDC/24 VAC, ±10 %, PF ≥ 0.4, I STP < 45 A/1.1 ms
10...30 VDC/24 VAC, ±10 %, PF ≥ 0.4, I STP < 45 A/1.1 ms, isolated
Consumption: < 1.8 W/1.9 VA

MECHANIC PROPERTIES

Material: Polycarbonate, incombustible UL 94 V-0
Dimensions: 96 x 48 x 30 mm (w x h x d)
Panel cutout: 92 x 44 mm (w x h)

OPERATING CONDITIONS

Connection: connector terminal blocks, section < 1.5 mm²
Stabilization period: within 15 minutes after switch-on
Working temperature: -20°...60°C
Storage temperature: -20°...85°C
Protection: IP65 (front panel only with a gasket)
UL safety: EN 60950-1, A2
Dielectric strength: 2.5 kVAC per 1 min test between supply and input
4 kVAC per 1 min test between input and relay output
Insulation resistance: for pollution degree II, measuring cat. III
Power supply: > 300 V [P]
Input, output: > 300 V [D]

EMC: EN 61326-1

PI - Primary insulation, DI - Double insulation

ORDER CODE

OML 643RS

| Power supply | 10...30 VDC/24 VAC |
| Protocol | M03BUS RTU |
| Comparator | no |
| Display color | red |
| Gasket | no |
| Specification | customized version, do not fill in |

Basic configuration of the instrument is indicated in bold.
UNIVERSAL COUNTER

- 6-DIGIT PROGRAMMABLE PROJECTION
- COUNTER/FREQUENCY/CLOCK/TIMER
- 0.1 Hz…50 kHz; UP/DW COUNTER, IRC
- DIGITAL FILTERS, TARE, LINEARIZATION, SUM
- 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

OPERATION

The instrument is set and controlled by five buttons situated 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 signaled 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.

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).

STANDARD FUNCTIONS

PROGRAMMABLE PROJECTION

Selection: measuring mode
Setting: measur. mode counter/frequency/timer/clock with adjustable calibration coefficient, time base and projection
Measur. modes: counter/frequency meter/UP-DW counter/frequency/counter for IRC
Measur. channels: A and B, two independent functions (number/frequency) can be evaluated from one measuring input
Projection: 999999…999999 with stable or floating DT in format 10/24/60

EXCITATION

Range: 5/12/17/24 VDC/100 mA, for feeding sensors and transmitters

FUNCTIONS

Linearization: through linear interpolation in 25 points (solely via OM Link)
Tare: designed to reset display upon non-zero input signal
Preset: initial nonzero value that is always read after resetting the device
Current value: one-off setting of the initial value
Summation: registration of figures upon shift operation
Time backup: time is running even when the power supply is turned off (the display is off)

DIGITAL FILTERS

Exponential average: from 2…100 measurements
$1 \text{Hz}$ filter to convert frequency to time
Rounding: setting the projection step for display
Input filter: passes the input signal up to 0.1 000 Hz

EXTERNAL CONTROL

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

OM 653UQC

UNIVERSAL COUNTER

Type OM 653UQC is an inexpensive universal 6-digit panel counter/frequency meter/timer/clock designed for maximum efficiency and user comfort. The instrument is based on a single-chip microcontroller, which secures good accuracy, stability and easy operation of the instrument.

OM 653UQC

UNIVERSAL COUNTER

□ 6-DIGIT PROGRAMMABLE PROJECTION
□ COUNTER/FREQUENCY/CLOCK/TIMER
□ 0.1 Hz…50 kHz; UP/DW COUNTER, IRC
□ DIGITAL FILTERS, TARE, LINEARIZATION, SUM
□ 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
**TECHNICAL DATA**

**INPUT**

**UOC**
- input: optional in configuration menu.
- on contact, TTL, NPN/PNP
- 0...30/500 V, companion levels are adjustable in the menu or automatic.

**Input frequency**
- 0.1 Hz...50 Hz (Mode SINGLE)
- 0.1 Hz...20 Hz (Mode UP/DOWN)
- 0.1 Hz...20 Hz (Mode QUADR.
- 0.1 Hz...10 Hz (Mode QUADR.
- [for duty cycle 50%]

**Measur. mode**
- SINGLE - count/replay for AC sensors
- UP/DOWN - UP/DOWN count/replay and can display numbers/frequency
- UP - DN - UP - DN count/replay, can display numbers/frequency
- measures on inputs A, B (direction)
- and can display numbers/frequency

**Time**
- TIME - Timer
- and can display numbers/frequency
- measures on inputs A (UP), B (DOWN)
- UP - DW UP - DW counter/frequency
- and can display numbers/frequency

**Frequency**
- 0,1 Hz...10 kHz (Mode QUADR. - counter)
- 0,1 Hz...20 kHz (Mode QUADR. - frequency)
- 0,1 Hz...50 kHz (Mode SINGLE)
- 0,5/1/5/10 s

**OPERATING CONDITIONS**
- Dimensions: 96 x 48 x 120 mm (w x h x d)
- Panel cutout: 90.5 x 45 mm (w x h)

**POWER SUPPLY**
- Range: 8...30 V AC/DC, ±10 %, PF ≥ 0.4, I STP< 40 A/1 ms, isolated
- 8...250 V AC/DC, ±10 %, PF ≥ 0.4, I STP< 40 A/1 ms, isolated
- Consumption: < 0,9 W/73 VA

**Display**
- Display: 999.999, 999999, single color 7-segment LED;
- 999,9999, 3 color 7-segment LED

**CONNECTION**

**EXCITATION**
- Adjustable: 5/10/17/24 VDC max. 2,5 mA; isolated

**Mechanical Properties**
- Material: Noryl GFN2 SE1, re-moldable UL 94 V-1
- Dimensions: 96 x 48 x 120 mm (w x h x d)

**Display color**
- red (14 mm)
- green (14 mm)
- red/green (20 mm)

**ORDER CODE**

**OM 653UOC**

**POWER SUPPLY**
- Range: 8...30 V AC/DC, ±10 %, PF ≥ 0.4, I STP< 40 A/1 ms, isolated
- 8...250 V AC/DC, ±10 %, PF ≥ 0.4, I STP< 40 A/1 ms, isolated
- Consumption: < 0,9 W/73 VA

**Display**
- Display: 999.999, 999999, single color 7-segment LED;
- 999,9999, 3 color 7-segment LED

**CONNECTION**

**INSTRUMENT ACCURACY**
- Accuracy: ±0,01% of range + 1 digit [frequency]
- ±0,02% of value ±20ms (RTC)
- Overload capacity: 2x, 10x [9 to 30 ms] - not for 300 V

**Digital filters**
- exponential average, rounding, input filter, T/f.

**Functions**
- Data backup, Time backup, Preset, Sum, Total

**WATCH-DOG**
- Company communication interface for operation, setting and update of instruments.

**CALIBRATION**
- at 25°C and 40 % r.h.

**REFERENCE**
-±0,02 % of value ±130ms (RTC)
-±0,02 % of value ±2ms (Timer)
-±0,1 % of range
-±15 ppm/°C
-±50 ppm/°C

**Digital filters**
- response to change of value < 1 ms

**Response time**
- to change of value < 1 ms

**Time backup**
- no
- yes

**Display color**
- red and green (14 mm)
- green (14 mm)
- red/green (20 mm)

**Specifications**
- customized version, do not fill in

Basic configuration of the instrument is indicated in bold.
STANDARD FUNCTIONS

PROGRAMMABLE PROJECTION
Input: NPN, PNP, on contact, IRC, line
Measur. modes: counter/frequency meter/UP-DW counter + frequency/counter for IRC + frequency
Calibration: calibration coefficient for each channel may be set in menu independently
Projection: -99999…999999 with stable or floating DT in format 10/24/60
Measur. channels: A and B, from one or more measuring inputs two independent functions may be evaluated
Time base: 0,05/0,5/1/2/5/10/20 s /1/2/5/10/15 min

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

FUNCTIONS
Linearization: linear interpolation in 50 points (only via OM Link)
Tare: designed to reset display upon non-zero input signal
Min./max. value: registration of min./max. value reached during measurement
Peak value: the display shows only max. or min. value
Mathemat. operations: polynom at the same time between inputs - sum, difference, product, quotient, absolute value
Preset: initial nonzero value that is always read after resetting the device
Current value: one-off setting of the initial value
Summation: registration of figures upon shift operation
Time backup: time is running even when the power supply is turned off (the display is off)

DIGITAL FILTERS
Input filter: transmits input signal up to 1 MHz…10 min
Floating/Exp./Arithm. average: from 2...30/100/100 measurements
Rounding: setting the projection step for display

EXTERNAL CONTROL
Lock: control keys blocking
Hold: display/instrument blocking
Tare: tare activation
Resetting MM: resetting min./max. value, counter resetting
Start/Stop: timer/clock 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
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.

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.

MEASURING DATA RECORD is an internal time control of data collection. It is suitable where it is necessary to register measured values. Data record is governed via RTC with data storage in a selected time segment and cycle. Up to 2,66 000 values may be stored in the instrument memory. Data transmission into PC via serial interface RS232/485 and OM Link.
**TECHNICAL DATA**

**INPUT**
- **UQC**
  - Input: 2 separate inputs selectable in the configuration menu
  - on contact: TTL, NPN/PNP, Line
  - 0...9 V, comparison levels are adjustable in the menu
  - Input frequency: 0.002 Hz...1 kHz (Mode STDBA)
  - 0.002 Hz...50 kHz (Mode QDUA and L15000)

**MEASUREMENT MODE**
- **SINGLE**
  - counter/frequency
- **A** + **B**
  - counter/frequency with function AND
- **VNO**
  - counter/frequency with function XOR

**DUTY CYCLE MEASUREMENT**
- **QUADTR**
  - counter/frequency meter for 4 IC sensors
  - L/P/D/N counter/frequency
  - - measures on inputs A, B (direction)
  - and can display numbers/frequency

**TIME**
- **LIP**
  - LIP - DIFF counter/frequency
  - - measures on inputs A (LIP), B (SW)
  - and can display numbers/frequency

**MODES**
- **TIME**
  - Timer
  - Clock

**FUNCTIONS**
- **SAVE**
  - data recording start (FAST/RTC)
- **C.SUM.**
  - x sum reset - kanál 1, 2, obě
- **TAR.**
  - x tare activation - 1, 2, Všechny, Aktuální
- **HOLD**
  - display stop
- **LOCK**
  - control keys blocking

**The following functions can be assigned:**
- One time setting of the initial value
- Summation
- Preset
- 1/10 min
- 2/5/10 s
- 1/10/45/55/65/100 Hz
- 1/10/100/250/500/1000 kHz
- off
- 0,00001...999999
- 1/2/5/10 min
- RTC - Clock
- TIME - Timer
- - measures on inputs A (UP), B (DW)
- UP - DW counter/frequency
  - and can display numbers/frequency
- UP/DW counter/frequency
- QUADR counter/freq. meter for IRC sensors
- xNOR counter/frequency with function NOR
- SINGLE counter/frequency

**LEVELS**
- 0,002 Hz...500 kHz (Mode QUADR. a UP/DW)
- 0,002 Hz...100 kHz (Mode STRIDA)

**VALUES**
- 0...60 V, comparison levels are adjustable in the menu

**POWER**
- **RANGE**
  - 10...50 V AC/DC, ±10 %, ±10 %, DI/DO, 4...20 mA
  - ±0,01 % of range + 1 digit (frequency)

**DISPLAY**
- **BRIGHTNESS**
  - adjustable - in menu

**INSTRUMENT ACCURACY**
- **TI**
  - 50 ppm/°C

**FUNCTIONS**
- **EXCITATION**
  - (comp. < 600 Ω/12 V or 1000 Ω/24 V)

**RANGES**
- **Rate**
  - for input, output, PN > 300 V (PI), 150 V (DI)
  - power supply > 670 V (PI), 300 V (DI)

**NON-LINEARITY**
- **0.1 % of range**

**ACCURACY**
- **±0,01 % of range**

**INPUT**
- **L1**
  - 2x open collectors
- **L2**
  - 2x relays (Form C)
- **L3**
  - 3x relays (2x Form A + 1x Form C)

**ORDER CODE**

**POWER SUPPLY**
- Range: 10...50 V AC/DC, ±10 %, DI/DO, 4...20 mA
- ±0,01 % of range + 1 digit (frequency)
- Consumption: < 0,8 W/78 VA

**OPERATING CONDITIONS**
- Connection: connector terminal blocks, section < 1.5/0.5 mm²
- Sheathing period: within 15 minutes after switch-on
- Working temperature: 20...60°C
- Storage temperature: 20...85°C
- Protection: IP54 (front panel only)
- EL safety: EN 60950-1, A2
- Diacritic strength: 4 kVAC per 1 min test between supply and input
- ±4 kVAC per 1 min test between supply and data/analogue output
- ±4 kVAC per 1 min test between input and relay output
- Insulation resistance: for pollution degree II, measuring cat. II
- power supply = 170 V [IEC 330 V [ID], 100 V [ID]
- input, output: PN = 300 V [IEC], 150 V [ID]
- EMC: EN 61326-1
- Flexibility: 10 mV/10°, within which the output is active

**INSULATION**
- Ceramic capacity: ±0.01 % of range + 1 digit (frequency)

**DATA OUTPUTS**
- **PROTOCOL**
  - ASCII, MESSBUS, MODBUS RTU, PROFIBUS DP
  - Data format: 8 bit + no parity + 1 stop bit (ASCII)
  - isolated, addressing (max. 31 instruments)

**ANALOG OUTPUTS**
- **TYPE**
  - isolates, programmable with a 16 bit 0/1 A converter, type and range of output is optional in the menu

**DATA RECORD**
- **.Attributes**
  - 0, 1, 2, 3, 4
  - 0/1/2/3/4 20 mA (comp.: 0/4...20 mA)

**EXCITATION**
- Adjustability: 0.00001...999999

**ORDER CODE**

**DM 602UQC**

**Power supply**
- 10...50 V AC/DC
- ±10 %, ±10 %, DI/DO, 4...20 mA

**Input**
- 2x standard (10 mV/10°, 0...30 V AC/DC)

**Comparators**
- none

**Data output**
- none

**Data record**
- none

**Time backup**
- only for measur. mode / Time/clock

**Display color**
- red

**Specification**
- customized version, do not fill in

---

**CONNECTION**

**OM 602UQC**

**Inputs**

**Outputs**

**Order code**

---

**R** - Primary insulation, **O** - Double insulation

---

*Unavailable in combination with RTC*
OM 602AV

OM 602AV is a panel programmable analog output. The instrument is based on a single-chip microprocessor and precision D/A converter, which guarantees accuracy, stability and easy control.

PROGRAMMABLE ANALOG OUTPUT
- 6-DIGIT PROGRAMMABLE PROJECTION
- OUTPUT: 0...5/20 mA/4...20 mA
  0...2/5/10 V, ±10 V
- SINUS/SAW/TRIANGLE/RECTANGLE/RANDOM FUNCTION
- SIZE OF DIN 96 x 48 mm
- POWER SUPPLY 10...30 V AC/DC; 80...250 V AC/DC
- Option
  Excitation • Comparators • Data output
  Three-color display - 20 mm

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.
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.

STANDARD FUNCTIONS
PROGRAMMABLE PROJECTION
Setting: optional projection may be set for both limit values of the AV range
Projection: 999999...999999
ANALOG OUTPUT
Type: isolated, programmable with a resolution of 16 bit, rate < 1 ms
Output signal: sinus/ramp/triangle/square/random function
Range: 0...2/5/10 V, ±10 V, 0...5 mA, 0/4...20 mA
EXTERNAL CONTROL
Hold: display/instrument blocking
Lock: control keys blocking
Functions: control of optional functions from instrument menu
**TECHNICAL DATA**

**OUTPUT**

**AV**
- Type: isolated, programmable with an 18-bit D/A converter
- Output type and range are optional in the menu

<table>
<thead>
<tr>
<th>Range</th>
<th>B...0 V</th>
<th>B...0.5 V</th>
<th>B...1 V</th>
<th>B...2 V</th>
<th>B...5 V</th>
<th>±0 V</th>
<th>±5 V</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0…1000 µA compensation</td>
<td>1500 µA/2 V</td>
<td>2500 µA/2 V</td>
<td>5000 µA/2 V</td>
<td>1500 µA/2 V</td>
<td>5000 µA/2 V</td>
<td>5000 µA/2 V</td>
</tr>
<tr>
<td></td>
<td>±2500 µA compensation</td>
<td>±5000 µA compensation</td>
<td>±10000 µA compensation</td>
<td>±100000 µA compensation</td>
<td>±100000 µA compensation</td>
<td>±1000000 µA compensation</td>
<td>±1000000 µA compensation</td>
</tr>
</tbody>
</table>

**Non-linearity**
- 0.1 % of range

**1K**
- 15 ppm/°C

**Rate**
- response to change of value < 1 ms

**Functions**
- the instrument generates a signal within the set range and frequency, in addition, you can set the min. and max. signal change times as well as number of generated pulses

**INSTRUMENT ACCURACY**
- TK: 50 ppm/°C
- Watch-dog: reset after 0.4 s

**COMPARATOR**
- Type: digital, menu adjustable, contact switch-on < 30 ms
- Hysteresis mode: switching limit, hysteresis band ±1/2 Hys.
- Mode From-To: switching on and switching off interval
- Mode Batch: its multiples and time (0 ... 99.9 s), within which the output is active
- Mode CH1,CH2: switching on and switching off intervals, which represent the measuring range. Above and under the set intervals the instrument displays an error message, underflow/overflow

**DATA OUTPUTS**
- Protocol: ASCII, MESSBUS, MODBUS RTU, PROFINET
- Data format: 8 bit + no parity + 1 stop bit
- Rate: 9600, 19200 bps
- RS 232: isolated
- RS 485: isolated, addressing (max. 31 instruments)

**EXCITATION**
- Adjustable: 5...24 VDC/max. 1.2 W

**ORDER CODE**

<table>
<thead>
<tr>
<th>Power supply</th>
<th>10...30 V AC/DC</th>
<th>80...250 V AC/DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparators</td>
<td>none</td>
<td>1x relay (Form A)</td>
</tr>
<tr>
<td></td>
<td>2x relay (Form A)</td>
<td>3x relays (2x Form A + 1x Form C)</td>
</tr>
<tr>
<td></td>
<td>4x relays (2x Form A + 2x Form C)</td>
<td>2x open collector</td>
</tr>
<tr>
<td></td>
<td>2x open collector</td>
<td>2x SSR</td>
</tr>
<tr>
<td></td>
<td>2x SSR</td>
<td>2x bistable relays</td>
</tr>
<tr>
<td></td>
<td>2x bistable relays</td>
<td>1x relay (Form C)</td>
</tr>
<tr>
<td>Data output</td>
<td>none</td>
<td>RS 232</td>
</tr>
<tr>
<td></td>
<td>RS 485</td>
<td>MODBUS</td>
</tr>
<tr>
<td></td>
<td>PROFINET</td>
<td>PROFINET</td>
</tr>
<tr>
<td>Excitation</td>
<td>no</td>
<td>red/green (14 mm)</td>
</tr>
<tr>
<td></td>
<td>2 pcs</td>
<td>(green) (14 mm)</td>
</tr>
<tr>
<td></td>
<td>1x relay (Form C)</td>
<td>red/pulse (20 mm)</td>
</tr>
<tr>
<td></td>
<td>3 pcs</td>
<td>Specifications</td>
</tr>
<tr>
<td></td>
<td>SW validation:</td>
<td>- EEC 62208, EEC 62206</td>
</tr>
</tbody>
</table>

**OPERATING CONDITIONS**
- Connection: connector terminal blocks, section = 1,5/2,5 mm²
- Stabilization period: within 15 minutes after switch-on
- Working temperature: -20°...60°C
- Storage temperature: -20°...85°C
- Protection: IP 65 (front panel only)
- E1: safety: EN 61010-1, A2
- Dielectric strength: 4 kVAC per 1 min between supply and input
- 4 VA per 1 min between supply and data/analog output
- 4 kVAC per 1 min between input and relay output
- 2.5 kVDC per 1 min between input and data/analog output
- Insulation resistance: for pollution degree II, measuring cat. I, power supply > 600 V [P], 300 V [O]
- swing: output: Rs > 300 V [P], 160 V [O]
- EMC: EN 61268-1
- Seismic capacity: EEC 988-1993, par. 6
- SW validation: Class B, C as compl. with EEC 62258, 61226

**MATERIALS AND COMPONENTS**
- Power supply is protected by a fuse inside the instrument

---

**ORDER CODE**: DM 602AV

- Basic configuration of the instrument is indicated in bold.

---

**POWERSUPPLY**
- Range: 10...30 V AC/DC, ±10 %, 10 mA, ±0.4 A, ±40 A/1 ms, isolated
- 80...260 V AC/DC, ±10 %, PF=0.4, ±40 A/1 ms, isolated
- Consumption: < 0.4 W, ±0.4 VA

---

**MECHANICAL PROPERTIES**
- Material: Noryl QNY2 SE1, incombustible UL 94 V-1
- Dimensions: 98 x 48 x 120 mm (w x h x d)
- Panel output: 50.0 x 46 mm (w x h)

---

**OPERATING CONDITIONS**
- Connection: connector terminal blocks, section = 1.5/2.5 mm²
- Stabilization period: within 15 minutes after switch-on
OM 602RS

DATA DISPLAY RS 232/485
- 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

OM 602RS
DATA DISPLAY RS 232/485

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 (w/ 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 signaled 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: -999999…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 MM: resetting min/max. value
Functions: control of optional functions from instrument menu

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.
INPUT

HI Input
Read by order
48 232/485
RPOB/ROB

Protocol
ASCII
- data display, controlled from the master system
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 "PACT" 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
MOSBUS RTU
MODBUS RTU
MODBUS DP

FORMAT
8 bit + no parity + 1 stop bit
7 bit + even parity + 1 stop bit

Rate
300, 200, 480 baud
9600 baud, 32 Mbaud (max baud)

Ext. inputs
3 inputs, on contact
The following functions can be assigned:
RFIE input off
LOCK control keys blocking
HOLD display stop
TACE time activation
CL MMM last reading min/max value
CL T time resetting

TECHNICAL DATA

PROJECTION
Display: 599999, 3 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

FUNCTIONS
Digital filters: Exp., Floating, Average, Rounding
Functions: Tare
OM Link: Company/communication interface for operation, setting and update of instruments
Calibration: at 25°C and 40 % rh.

COMPARATOR
Type: digital, menu adjustable, contact switch-on < 30 ms
Hysteresis mode: switching limit, hysteresis band ±0.5 °C
and time (0...59.9 s), which determine the switching delay
Mode From To: switching on and closing off interval
Mode Batch: period, its multiples and time (0 ... 99.9 s), within which the output is active
Output: 1. 2x relays Form C (250 VAC/250 VDC, 3 A)
and 1. 2x relays Form A (250 VAC/50 VDC, 3 A)
2x/4 open collector (30 VDC/50 mA)
2x SSR (250 VAC/2A VDC, 3 A/0.3 A)

ANALOG OUTPUTS
Type: isolated, programmable with a 16 bit D/A converter, type and range of output is optional in the menu
Non-linearity: 0.1 % of range
TK: 15 ppm/°C
Rate: response to change of value < 1 ms
Range: 0...2/5/10 V, ±10 V, 0...5 mA, 0/4...20 mA
(comp. < 600 mV/12 V or 1 000 mV/24 V)

EXCITATION
Adjustable: 5...24 VDC, max. 1.2 W

POWER SUPPLY
Range: 10...30 V AC/DC, ±10 %, ±5/0.4, ±3...10 A/1 ms, isolated
80...260 V AC/DC, ±10 %, ±5/0.4, ± 40 A/1 ms, isolated
Consumption: < 0.4 W/2 W, 4
Power supply is protected by a fuse inside the instrument

MECHANICAL PROPERTIES
Material: nylon 6/62 SEI, recombustible UL 94 V-1
Dimensions: 58 x 48 x 120 mm (w x h x d)
Panel output: 50/5 x 46 mm (w x h)

OPERATING CONDITIONS
Connection: connector terminal blocks, section < 1.5/2.5 mm²
Stabilization period: within 15 minutes after switch-on
Working temperature: 20°...65°C
Storage temperature: -20°...85°C
Protection: IP44 (front panel only)
El. safety: EN 61010-1, A2
Dielectric strength: 4 kVAC per 1 min test between supply and input
2 kVAC per 1 min test between supply and data/analog output
3 kVAC per 1 min test between input and relay output
Insulation resistance: for pollution degree II, measuring cat. II
power supply > 670 V (P), 300 V (O)
input, output: PN = 300 V (P), 160 V (O)
EMC: EN 61801-1
Searay capacity: EC 98/993, par. 6

ORDER CODE

DM 602RS

Power supply
10...30 V AC/DC
80...260 V AC/DC

Protocol
1

Comparators
no

Analog output
yes (compensation < 600 mV/12 V)
yes (compensation < 1 000 mV/24 V)

Excitation
no

digital
no

Display color
red (14mm)
green (14mm)
red/green (20mm)

Specification
customized version, do not fill in

R - Primary insulation, D - Double insulation
OM 621BCD

**Model OM 621BCD** is a 6-digit panel monitor of serial or parallel BCD/BIN signal and monitor of active transformer tapping leads, allowing for projection of transitional status and servomotor running.

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

### BCD MONITOR

- **6-DIGIT PROGRAMMABLE PROJECTION**
- **INPUT:** BCD/TRANSFORMER TAPPING LEADS
- **MATHEMATIC FUNCTIONS, DIGITAL FILTERS**
- **SIZE OF DIN 96 x 48 mm**
- **POWER SUPPLY 9...50 V AC/DC; 80...250 V AC/DC**
- **Option**
  - Excitation
  - Comparators
  - Data output
  - Analog output

### OPERATION

The instrument is set and controlled by five buttons located on the front panel.

**CONFIGURATION MENU** is protected by an optional number code and contains complete instrument setting. All settings are stored in the EEPROM memory (settings hold even after the instrument is switched off).

### 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.

**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**
- Calibration: the type of BCD/transformer lead input may be set in menu
- Projection: 999999...999999

**OUTPUT**
- Relays’ functions: for the tapping leads display device it is possible to set the regime of relay switching (10=10000)/BIN (10=01010)

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

**DIGITAL FILTERS**
- Floating average: from 2...30 measurements
- Exponential average: from 2...100 measurements
- Rounding: setting the projection step for display
### TECHNICAL DATA

#### INPUT

<table>
<thead>
<tr>
<th>BCD - monitor</th>
<th>Range</th>
<th>Serial BCD</th>
<th>Addressing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5…24 VDC</td>
<td>4 data = 6 strobes</td>
<td>up to 8 monitors</td>
</tr>
<tr>
<td></td>
<td>10…60 VDC</td>
<td>8 data = 3 strobes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12 data = 2 strobes</td>
<td>4 data = 3 positions + 1 strobe</td>
<td></td>
</tr>
<tr>
<td>BCD - transformer tapping leads monitor</td>
<td>Range</td>
<td>Top. leads number</td>
<td>Input resistance</td>
</tr>
<tr>
<td></td>
<td>5…24 VDC</td>
<td>24 x 1 signaling</td>
<td>5.5 kΩ/V</td>
</tr>
<tr>
<td></td>
<td>90…130 VDC (110 VDC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>190…250 VDC (230 VDC)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### PROJECTION

- Display: 999999...000000, single color 14-segment LED
- Digit height: 14 mm
- Display color: red or green
- Description: the last two characters on the display can be used to describe the measured quantities
- Decimal point: adjustable - in menu
- Brightness: adjustable - in menu

#### INSTRUMENT ACCURACY

- Tk: 60 ppm/°C
- Calibration: at 25°C and 40 % r.h.

#### COMPARATOR

- Type: digital, menu adjustable, contact switch-on < 15 ms
- Mode Batch: period, its multiples and time (0…99.9 s) determining the switching delay
- Output: 1…2x relays Form C and 1…3x relays Form A (250 VAC/50 VDC, 3 A)

#### DATA OUTPUTS

- Data format: 7 bit + even parity + 1 stop bit [DIN Messbus]
- Rate: 600…115 200 Baud
- RS 232: isolated
- RS 485: isolated, addressing (max. 31 instruments)

#### ANALOG OUTPUTS

- Type: isolated, programmable with resolution of max. 10 000 points, analog output corresponds to the data on display, output type and range are optional in menu
- Non-linearity: 0.2 % of range
- Tk: 50 ppm/°C
- Rise: response to change of value < 40 ms
- Range: 0...2/5/10 V, 0...5 mA, 0/4...20 mA (comp. < 600 Ω)

#### POWER SUPPLY

- Range: 9...50 V AC/DC, 230 V AC/DC, 90...250 V DC (100 ms, isolated)
- Consumption: < 6 W/6 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 154 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
- Shakedown period: within 15 minutes after switch-on
- Working temperature: 20°...60°C
- Storage temperature: 20°...85°C
- Protection: EN 61010-1, A2
- Diodelectric 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 relay output
- Insulation resistance: for pollution degree II, measuring cat. III
- Insulation resistance: for pollution degree II, measuring cat. III
- EMC: EN 61326-1

#### CONNECTION

![Connection Diagram](image)

#### ORDER CODE

<table>
<thead>
<tr>
<th>OM 621BCD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Input</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Comparators</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td>Output</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Excitation</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Display color</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
OMU 408UNI

OMU 408UNI is an 8-channel measuring instrument designed for maximum efficiency and user comfort while maintaining its favourable price. It is a multifunction instrument with the option of configuration for 8 various input options, easily configurable in the instrument menu.

The instrument is based on a single-chip microcontroller with multichannel 24-bit sigma-delta converters that secure high accuracy, stability and easy operation of the instrument.

Great merit of the instrument, owing to the high rate of sampling on individual channels, is the chance to evaluate all measuring inputs at the same time.

## 8-CHANNEL MEASURING INSTRUMENT

- **4-DIGIT PROGRAMMABLE PROJECTION**
- **MULTIFUNCTION INPUT (DC, PM, RTD, T/C, DU)**
- **DIGITAL FILTERS, TARE, 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
  - Measured data record

### 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/ 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.

**DIGITAL FILTERS, TARE, LINEARIZATION**

- **DIGITAL FILTERS**
  - Rounding:
    - Arithmetic average:
    - Exponential average:
    - Floating average:
  - Mathemat. operations:
    - Peak value:
    - Tare:
    - Linearization:

- **TARE**
  - Manual:
  - Automatic (3- or 4-wire) or manual in menu (2-wire)

- **LINEARIZATION**
  - Of CJC (T/C):
  - Of conduct in probe (RTD):
  - Of conduct (RTD, OHM):

**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

Projection: -999...9999

**SWITCHING OF INPUTS**

Manual: by control key on the front panel or from the outside (inputs EXT.)

Automatic: by a set time interval

**COMPENSATION**

- **Of conduct (RTD, OHM):** 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 (temperature of terminals)

**FUNCTIONS**

Lin realize: through linear interpolation in 256 points/8 channels (solely via OM Link)

Tare: designed to reset display upon non-zero input signal

Min./max. value: registration of min./max. value reached during measurement

Peak value: the display shows only max. or min. value

Mathemat. operations: polynomial, 1/x, logarithm, exponential, power, root, sin x, and operations between inputs - sum, difference, product and quotient

**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 MM: resetting min./max. value

Functions: control of optional functions from instrument menu
**TECHNICAL DATA**

**INPUT**

**DC**

<table>
<thead>
<tr>
<th>Range</th>
<th>0 mV</th>
<th>Range</th>
<th>10...100 mA</th>
<th>Range</th>
<th>0...20 mA</th>
<th>Range</th>
<th>0...100 mA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>0-0.5 V/100 Ohm</td>
<td>Input</td>
<td>0-1.0 V/100 Ohm</td>
<td>Input</td>
<td>0-2.0 V/100 Ohm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PI  - Primary insulation, DI - Double insulation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PW**

<table>
<thead>
<tr>
<th>Range</th>
<th>0...250 mA</th>
<th>Range</th>
<th>0...200 mA</th>
<th>Range</th>
<th>0...100 mA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>0-0.5 V/100 Ohm</td>
<td>Input</td>
<td>0-1.0 V/100 Ohm</td>
<td>Input</td>
<td>0-2.0 V/100 Ohm</td>
</tr>
<tr>
<td>PI  - Primary insulation, DI - Double insulation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**OHM**

<table>
<thead>
<tr>
<th>Range</th>
<th>0...100 Ω</th>
<th>Range</th>
<th>0...10 kΩ</th>
<th>Range</th>
<th>0...100 kΩ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>0-0.5 V/100 Ohm</td>
<td>Input</td>
<td>0-1.0 V/100 Ohm</td>
<td>Input</td>
<td>0-2.0 V/100 Ohm</td>
</tr>
<tr>
<td>PI  - Primary insulation, DI - Double insulation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CONNECTION**

**POWER**

<table>
<thead>
<tr>
<th>Range</th>
<th>0...30 V AC/DC</th>
<th>Range</th>
<th>15...40 mA</th>
<th>Range</th>
<th>0...20 mA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>0-105 V/200 Ohm</td>
<td>Input</td>
<td>0-5.5 mA/120 Ohm</td>
<td>Input</td>
<td>0-20 mA</td>
</tr>
<tr>
<td>PI  - Primary insulation, DI - Double insulation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ANALOG OUTPUTS**

Type: isolated, programmable with an 18 bit D/A converter, type and range of output is optional in the menu.

**ORDER CODE**

OMU 408UNI

-  

| Power supply | 0 | 1 |
| Number inputs | 4 | 0 |
| Input | 0 | 1 |
| Comparators | none | 0 |
| i/o relays | none | 0 |
| Output | Analogue | 0 |
| RS 232 | RS 485 | 0 |
| Data record | no | 0 |
| Display color | red | 0 |
| Specification | customized version, do not fill in | 0 |

*Data record in FAST mode is only available from odd channels, i.e. 1, 3, 5 and 7.*
The OMB 402 model series are panel programmable three-color bargraphs with auxiliary display designed for maximum efficiency and user comfort while maintaining its favourable price.

The OMB 402UNI is a multifunction instrument with the option of configuration for 8 various input options, easily configurable in the instrument menu. The instrument is based on a single-chip microcontroller with multichannel 4bit sigma-delta converter, which secures high accuracy, stability and easy operation of the instrument.

**Universal Bargraph**

- **Horizontal Bargraf - 30 LED with Display**
- **Multifunction Input (DC, PM, RTD, T/C, DU)**
- **Digital Filters, Tare, Linearization**
- **Size of DIN 96 x 48 mm**
- **Power Supply 10...30 V AC/DC; 80...250 V AC/DC**

**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 OM 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**

- Comparators
- Data output
- Analog output
- Measured data record

**Standard Functions**

**Programmable Projection**
- Selection: of input type and measuring range
- Measuring range: adjustable, either fixed or with automatic change [OhM]
- Setting: manual, optional projection on the display may be set in menu for both limit values of the input signal, e.g. input 0...10.00 V > 0.850.0
- Projection: 30 LED + 6-digit auxiliary display

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

**Compensation**
- Of conduct [RTD, OhM]: 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 [temperature of terminals]

**Functions**

- Linearization: linear interpolation in 60 points (only via OM Link)
- Tare: designed to reset display upon non-zero input signal
- Min./max. value: registration of min/max. value reached during measurement
- Peak value: the display shows only max. or min. value
- Mathemat. operations: polynomial, 1/x, logarithm, exponential, power, root, sin x

**Digital Filters**
- Floating average: from 2...30 measurements
- Exponential average: from 2...100 measurements
- Rounding: setting the projection step for display

**External Control**
- Lock: control keys blocking
- Hold: display/instrument blocking
- Tare: tare activation
- Resetting MM: resetting min/max value
**TECHNICAL DATA**

**INPUT**

<table>
<thead>
<tr>
<th>DC</th>
<th>Range</th>
<th>optional in configuration menu</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>±5 V</td>
<td>= 100 kΩ</td>
</tr>
<tr>
<td></td>
<td>±25 V</td>
<td>= 100 kΩ</td>
</tr>
<tr>
<td></td>
<td>±500 mV</td>
<td>= 100 kΩ</td>
</tr>
<tr>
<td></td>
<td>±1.2 V</td>
<td>= 100 kΩ</td>
</tr>
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<table>
<thead>
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<th>PM</th>
<th>Range</th>
<th>optional in configuration menu</th>
</tr>
</thead>
<tbody>
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<td>&lt; 400 mV</td>
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<tr>
<td></td>
<td>±40 mA</td>
<td>&lt; 400 mV</td>
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<tr>
<td></td>
<td>±50 mV</td>
<td>&lt; 100 kΩ</td>
</tr>
<tr>
<td></td>
<td>±500 mV</td>
<td>&lt; 100 kΩ</td>
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</table>

**OHM**

<table>
<thead>
<tr>
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<th>optional in configuration menu with aut. range change</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1 Ω</td>
<td>±100 V/10 MΩ, Input U</td>
</tr>
<tr>
<td>1 Ω</td>
<td>±100 V/10 MΩ, Input U</td>
</tr>
<tr>
<td>10 kΩ</td>
<td>±100 V/10 MΩ, Input U</td>
</tr>
<tr>
<td>100 kΩ</td>
<td>±100 V/10 MΩ, Input U</td>
</tr>
</tbody>
</table>

**DC**

<table>
<thead>
<tr>
<th>Range</th>
<th>optional in configuration menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>±5 A</td>
<td>&lt; 30 V</td>
</tr>
<tr>
<td>±10 A</td>
<td>&lt; 50 V</td>
</tr>
<tr>
<td>±15 A</td>
<td>&lt; 50 V</td>
</tr>
<tr>
<td>±25 V</td>
<td>&lt; 50 V</td>
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<tr>
<td>±50 V</td>
<td>20 MHz</td>
</tr>
<tr>
<td>±250 V</td>
<td>20 MHz</td>
</tr>
<tr>
<td>±500 V</td>
<td>20 MHz</td>
</tr>
</tbody>
</table>

**OPTION „A“**

<table>
<thead>
<tr>
<th>DC</th>
<th>Range</th>
<th>optional in configuration menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>±5 A</td>
<td>&lt; 30 V</td>
<td>Input I</td>
</tr>
<tr>
<td>±10 A</td>
<td>&lt; 50 V</td>
<td>Input I</td>
</tr>
<tr>
<td>±15 A</td>
<td>&lt; 50 V</td>
<td>Input I</td>
</tr>
<tr>
<td>±25 V</td>
<td>&lt; 50 V</td>
<td>Input I</td>
</tr>
<tr>
<td>±50 V</td>
<td>20 MHz</td>
<td>Input U</td>
</tr>
<tr>
<td>±250 V</td>
<td>20 MHz</td>
<td>Input U</td>
</tr>
<tr>
<td>±500 V</td>
<td>20 MHz</td>
<td>Input U</td>
</tr>
</tbody>
</table>

**PROJECTION**

- Bar graph display: 56 LED
- Color: red, green/orange
- Auxiliary display: 69999, 699999, single color, 7-segment LED

**Data format:** 8 bit + 1 parity + 1 stop bit (ASCII)
- 7 bit + even parity + 1 stop bit (Massbus)
- Rate: 600, 200/400 baud, 600.000, 1.2 Mbaud (PROFIBUS)
- RS 232: isolated
- RS 485: isolated, addressing (max. 31 instruments)

**ANALOG OUTPUTS**

Type: isolated programmable with a 18-bit D/A converter, output type and range are optional in the menu.

**Excitation**

- Adjustable: 0...24 V (max. 1.2 W)
- Power supply: protected by a fuse inside the instrument

**MECHANICAL PROPERTIES**

- Material: Noryl GPN25, incombustible UL 94 V1
- Dimensions: 98 x 48 x 32 mm (w x h x d)
- Panel cutout: 90,5 x 45 mm (w x h)

**OPERATING CONDITIONS**

- Connection: connector terminal blocks, section: 1.5/0.25 mm²
- Working temperature: -20...+65°C
- Storage temperature: -20...+85°C
- Protection: IP66 (front panel only)
- Safety: EN 60950-1, 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 and analog output
- Insulation resistance: for pollution degree II, measuring cat. III
- Power supply: 600 V DC, 300 V AC
- Power dissipation: < 22 W (DIN), < 40 W (DI)
- Dimensions: 96 x 48 x 32 mm (w x h x d)
- EMC: EN 61326-1
- Seismic capacity: EC 985, 1993, par. 6
- GW validation: Class B, 0C in compl. with EC 61326, 81226

**ORDER CODE**

**OMB 402UNI**

- Power supply: 10...30 V AC/DC
- 80...250 V AC/DC
- Measuring range: standard option „A“
  - Analog output: yes (compensation < 600 V DC) yes (compensation < 1000 V DC)
  - Data output: yes
  - Data record: yes
  - Excitation: yes
  - Display color: red (54 mm)
  - Specification: customized version, do not fill in

**COMPARISONS**

- 1x relay (Form C)
- 2x relays (Form A)
- 2x relays (Form C)
- 1x relay (Form C)
- 1x relay (Form C)

**COMMUNICATIONS**

- Rate: 1...4x relays Form A (250 VAC/30 VDC, 3 A)
- Digital, menu adjustable, contact switch-on < 30 ms
- 2x open collector + 2x relays Form C (250 VAC 5 A)
- Insulation resistance: < 10,6 W/10,4 VA

**PROPORTIONS**

- Width: 96 x 48 x 32 mm (w x h x d)
- Dimensions: 98 x 48 x 32 mm (w x h x d)
- Panel cutout: 90,5 x 45 mm (w x h)

**INTERFACES**

- COMPARATOR: IEC 61010-1, A2
- SW validation - IEC 62138, IEC 61226
The OMB 412 model series are panel programmable three-color bargraphs with auxiliary display designed for maximum efficiency and user comfort while maintaining its favourable price. The OMB 412UNI is a multifunction instrument with the option of configuration for 8 various input options, easily configurable in the instrument menu. The instrument is based on a single-chip microcontroller with multichannel 4bit sigma-delta converter, which secures high accuracy, stability and easy operation of the instrument.

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.

STANDARD FUNCTIONS

- PROGRAMMABLE PROJECTION
  Selection: of input type and measuring range
  Measuring range: adjustable, either fixed or with automatic change [Ohm]
  Setting: manual, optional projection on the display may be set in menu for both limit values of the input signal, e.g. input 0...10,00 V > 0...850.0
  Projection: 24 LED + 3-digit auxiliary display

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

- COMPENSATION
  Of conduct [RTD, Ohm]: 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 (Y/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 of terminals)

- FUNCTIONS
  Linearity: linear interpolation in 60 points (only via OM Link)
  Tare: designed to reset display upon non-zero input signal
  Min./max. value: registration of min./max. value reached during measurement
  Peak value: the display shows only max. or min. value
  Mathemat. operations: polynomial, 1/x, logarithm, 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

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

COMPARATORS are assigned to monitor four or eight limit values with relay output. For each input the user may select an arbitrary number of relays with the regime: LIMIT/BATCH/T/RM/TG. The limits have adjustable hysteresis within full range of the display and selectable delay of the switch-on within the range of 0...99 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 ASCIIMESSBUS/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 and the option of assigning it to arbitrary input. 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 (40 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 transmission into PC via serial interface RS232/485 and OM Link.

COMPARATORS

- MULTIFUNCTION INPUT (DC, PM, RTD, T/C, DU)
- DIGITAL FILTERS, TARE, LINEARIZATION
- SIZE OF DIN 48 x 96 mm
- POWER SUPPLY 10...30 V AC/DC; 80...250 V AC/DC
- Option
  Comparators • Data output • Analog output
  Measured data record

UNIVERSAL BARGRAPH

- VERTICAL BARGRAF - 24 LED WITH DISPLAY
- MULTIFUNCTION INPUT (DC, PM, RTD, T/C, DU)
- DIGITAL FILTERS, TARE, LINEARIZATION
- SIZE OF DIN 48 x 96 mm
- POWER SUPPLY 10...30 V AC/DC; 80...250 V AC/DC
- Option
  Comparators • Data output • Analog output
  Measured data record

VERTICAL BARGRAF - 24 LED WITH DISPLAY

- MULTIFUNCTION INPUT (DC, PM, RTD, T/C, DU)
- DIGITAL FILTERS, TARE, LINEARIZATION
- SIZE OF DIN 48 x 96 mm
- POWER SUPPLY 10...30 V AC/DC; 80...250 V AC/DC
- Option
  Comparators • Data output • Analog output
  Measured data record

POWER SUPPLY 10...30 V AC/DC; 80...250 V AC/DC

- Option
  Comparators • Data output • Analog output
  Measured data record

When not in use, the instrument may be switched off. The measured units may be projected on the display. 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.

The instrument is 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.
**GND (Input + Option A) is galvanically connected with inputs EXT. and the OM Link connector**

### CONNECTION

**R** - Primary insulation, **C** - Double insulation

### TECHNICAL DATA

#### INPUT

<table>
<thead>
<tr>
<th>DC</th>
<th>Range</th>
<th>Optional in configuration menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>±20 mV</td>
<td>Input U</td>
<td>±100 MΩ</td>
</tr>
<tr>
<td>±20 mV</td>
<td>Input U</td>
<td>±100 MΩ</td>
</tr>
<tr>
<td>±300 mV</td>
<td>Input U</td>
<td>±100 MΩ</td>
</tr>
<tr>
<td>±200 mV</td>
<td>Input U</td>
<td>±100 MΩ</td>
</tr>
</tbody>
</table>

#### PM

<table>
<thead>
<tr>
<th>Optional in configuration menu</th>
<th>±20 mV</th>
<th>±400 mV</th>
<th>±20 mV</th>
<th>±400 mV</th>
<th>±20 mV</th>
<th>±400 mV</th>
<th>±20 mV</th>
<th>±400 mV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input U</td>
<td>±1 MΩ</td>
<td>Input U</td>
<td>±1 MΩ</td>
<td>Input U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>±20 mV</td>
<td>±1 MΩ</td>
<td>Input U</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>±20 mV</td>
<td>±1 MΩ</td>
<td>Input U</td>
<td></td>
<td></td>
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<td></td>
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</table>

#### PM

<table>
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<th>±20 mV</th>
<th>±400 mV</th>
<th>±20 mV</th>
<th>±400 mV</th>
<th>±20 mV</th>
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<th>±400 mV</th>
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</thead>
<tbody>
<tr>
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<td>±1 MΩ</td>
<td>Input U</td>
<td>±1 MΩ</td>
<td>Input U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>±20 mV</td>
<td>±1 MΩ</td>
<td>Input U</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>±20 mV</td>
<td>±1 MΩ</td>
<td>Input U</td>
<td></td>
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</tr>
</tbody>
</table>

#### POWER SUPPLY

- **Ranges:** 10…30 V AC/DC, ±10 %, ±(±0.4 A ± 40 A) mA, isolated.
- **Options:** 250 V A/AC, ±10 %, ±(±0.4 A ± 40 A) mA, isolated.
- **Consumption:** < 10 W (WPS) VA
- **Protection:** Power supply is protected by a fuse inside the instrument.

#### TECHNOLOGICAL CHARACTERISTICS

- **RTD:**
  - 2 V DC/6 mA, Potentiometer resistance > 500 Ω
  - Optional in configuration menu

- **Connect.:** 2, 3 or 4 wire

#### DESCRIPTION

- **Seria:** 149920 G120 Ni123
- **Material:** Incombustible UL 94 V-0
- **Dimensions:** 248 ± 0.5 mm (w x h x d)
- **Panel cutout:** 45 ± 0.5 mm (w x h)

### ORDERING CODE

- **DMB 412UNI**
  - **Power supply:** 10...30 V DC/AC, 10...250 V AC/DC
  - **Measuring range:** Standard option "A"
  - **Comparators:**
    - 1x relay Form C
    - 2x relay Form A
  - **Analog output:**
    - 1x relay Form C
  - **Excitation:**
    - 0 ± 15 ppm/°C
  - **Data format:**
    - 9 bit
  - **Data record:**
    - 0 ± 15 ppm/°C
  - **Display color:** Red (14 mm)
  - **Bargraph display:** ±250 V 20 MΩ Input U

### ENVIRONMENTAL SPECIFICATIONS

- **Protection:** IP65 (front panel only)
- **Power supply:** 10...30 V DC/AC, 10...250 V AC/DC
- **Measuring range:** Standard option "A"
- **Memory:** 31 instruments

### ENVIRONMENTAL REQUIREMENTS

- **Operating conditions:**
  - **Working temperature:** -20°C...60°C
  - **Storage temperature:** -20°C...85°C

### ELECTRICAL SPECIFICATIONS

- **Input:**
  - ±10 mV
  - ±100 mV
  - ±500 mV
- **Input:**
  - ±10 V
  - ±50 V
  - ±100 V

### ANALOG OUTPUTS

- **RS 485:**
  - 2x bistable relays (250 V AC/DC, 400 mA/20 mA)
  - 2x relays Form C
  - 2x relays Form C
  - 2x relays Form C
  - 2x relays Form C
  - 2x relays Form C
  - 2x relays Form C

### DATA TRANSFER

- **Modbus RTU:**
  - 1x relay Form C
  - 2x relays Form A
  - 3x relays Form C
  - 4x relays Form C
  - 2x open collector
  - 2x open collector
  - 2x open collector
  - 2x open collector
  - 2x open collector
  - 2x open collector
  - 2x open collector
  - 2x open collector
  - 2x open collector
  - 2x open collector
  - 2x open collector

### NON-PHYSICAL DATA

- **Model:** OMB 412UNI
- **Certification:** Class B, C in compl. with EC 61326, 61226
- **Dimensions:** 90 x 90 x 120 mm
- **Material:** Noryl GFN2 SE1
The OMB 451UNI model series are panel programmable three-color bargraphs with auxiliary display and adjustable LCD scale.

Type OMB 451UNI is a multifunction instrument with the option of configuration for 8 various input options, easily configurable in the instrument menu.

The instrument is based on a single-chip microcontroller with multichannel 24-bit sigma-delta converter, which secures high accuracy, stability and easy operation of the instrument.

**OPERATION**

The instrument is set and controlled by two control keys and a turn knob 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].

**STANDARD FUNCTIONS**

- **PROGRAMMABLE PROJECTION**
  - Selection: of input type and measuring range
  - Measuring range: adjustable, either fixed or with automatic change (Ohm)
  - Setting: manual, optional projection on the display may be set in menu for both limit values of the input signal, e.g. input 0..10.00 V > 0..850.0
  - Projection: 50 LED + 6 digit auxiliary display
  - Scale: LCD, freely programmable

- **EXCITATION**
  - Range: 5..24 VDC/1.2 W, for feeding sensors and transmitters

- **COMPLEMENTARY**
  - Of conduct (RTD, Ohm): automatic (3- or 4-wire) or manual in menu (2-wire)
  - Of conduct in probe (RTD): internal connection [conductance 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 of terminals]

- **FUNCTIONS**
  - Linearization: linear interpolation in 60 points [only via OM Link]
  - Tare: designed to reset display upon non-zero input signal
  - Min/max: value: registration of min./max. value reached during measurement
  - Peak value: the display shows only max. or min. value
  - Mathemat. operations: polynomial, Yx, logarithm, exponential, power, root, sin x, and operations between inputs - sum, difference

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

**COMPARATORS** are assigned to monitor four or eight limit values with relay output. For each input the user may select an arbitrary number of relays with the regime: LIMIT/BATCH/FROM-TO. The limits have adjustable hysteresis within full range of the display and selectable delay of the switch-on within the range of 0...99 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 and the option of assigning it to arbitrary input. The value of analog output corresp. 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 [40 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 transmission into PC via serial interface RS 232/485 and OM Link.
**TECHNICAL DATA**

**INPUT**
- DC: Range: optimal in configuration menu
  - ±0.25 mA, ±100 Ω, ±300 mA, ±1000 Ω
  - ±0.25 mA, ±100 Ω
  - ±0.25 mA, ±100 Ω

- DC: Range: optimal in configuration menu
  - ±0.25 mA, ±100 Ω, ±300 mA, ±1000 Ω

- PM: Range: optimal in configuration menu
  - ±0.25 mA, ±100 Ω, ±300 mA, ±1000 Ω
  - ±0.25 mA, ±100 Ω, ±300 mA, ±1000 Ω
  - ±0.25 mA, ±100 Ω, ±300 mA, ±1000 Ω

**PM Range**
- ±0.25 mA, ±100 Ω
- ±0.25 mA, ±100 Ω
- ±0.25 mA, ±100 Ω
- ±0.25 mA, ±100 Ω
- ±0.25 mA, ±100 Ω
- ±0.25 mA, ±100 Ω
- ±0.25 mA, ±100 Ω
- ±0.25 mA, ±100 Ω

**DMM** Range: optimal in configuration menu with aut. range change:
- ±0.25 mA, ±100 Ω
- ±0.25 mA, ±100 Ω
- ±0.25 mA, ±100 Ω
- ±0.25 mA, ±100 Ω
- ±0.25 mA, ±100 Ω
- ±0.25 mA, ±100 Ω
- ±0.25 mA, ±100 Ω
- ±0.25 mA, ±100 Ω

**CONNECT**

**OPTION ‘A’**
- DC: Range: optimal in configuration menu
  - ±0.25 mA, ±100 Ω
  - ±0.25 mA, ±100 Ω
  - ±0.25 mA, ±100 Ω
  - ±0.25 mA, ±100 Ω
  - ±0.25 mA, ±100 Ω

**OPTION ‘B’**
- DC: Range: optimal in configuration menu
  - ±0.25 mA, ±100 Ω
  - ±0.25 mA, ±100 Ω
  - ±0.25 mA, ±100 Ω
  - ±0.25 mA, ±100 Ω
  - ±0.25 mA, ±100 Ω

**PROJECTION**
- Bargraph display: ±50 LED

**INSTRUMENT ACCURACY**
- TK: ±50 ppm/°C

**DATA OUTPUTS**
- 2x/4x open collector (30 VDC/100 mA)
- ±0.25 mA, ±100 Ω, ±300 mA, ±1000 Ω

**ORDER CODE**
- Power supply: 80...250 V AC/DC
- Measuring range:
  - standard: ±0.25 mA, ±100 Ω
  - option ‘A’:
    - ±0.25 mA, ±100 Ω
    - ±0.25 mA, ±100 Ω

**COMPARATOR**
- Digital multi-function adjustable, contact switching: ±0.25 mA, ±100 Ω, ±300 mA, ±1000 Ω

**DATA OUTPUTS**
- Protocol: ASCII, MODBUS, MODBUS RTU, PROFIBUS DP
- Data format: 7 bit or parity + 1 stop bit (ASCII)
- 7 bit or parity + 1 stop bit (Modbus)
- Rate: 600...2000 baud, 0.1..2.5 MHz (PROFIBUS)

**ANALOG OUTPUT**
- ±0...20 mA, ±500 V DC, ±100 V AC

**EXCITATION**
- Adjustable: ±5...24 V DC/12 W

**POWER SUPPLY**
- Range: 80...250 V AC/DC, ±10 %, ±0.25 mA, ±100 Ω, ±300 mA, ±1000 Ω

**MECHANIC PROPERTIES**
- Noryl GFN2 SE1, incombustible UL 94 V-1
- Dimensions: 100 x 60 x 30 mm

**OPERATING CONDITIONS**
- Connection: connector terminal block, size: 15/5,5 mm²
- Working temperature: -20...60°C
- Storage temperature: -20...80°C
- Protection: IP65 (front panel only)
- Safety: EN 60034-1, A2
- Dielectric strength: 4 kVAC per 1 min between supply and output
  - 4 kVAC per 1 min between data and analog output
- Isolation resistance for pollution degree II, measuring cat. III
- Compliance: EN 61010-1, A2
- Measurement cat. III, measuring cat. III
The OMB 452 model series are panel programmable three-color bargraphs with auxiliary display and adjustable LCD scale. Type OMB 452UNI is a multifunction instrument with the option of configuration for 8 various input options, easily configurable in the instrument menu. The instrument is based on a single-chip microcontroller with multichannel 24-bit sigma-delta converter, which secures high accuracy, stability and easy operation of the instrument.
**TECHNICAL DATA**

**INPUT**

- **DC**
  - Range: optional in configuration menu
    - ±20 mV = ±100 MOH Input U
    - ±50 mV = ±100 MOH Input U
    - ±200 mV = ±200 MOH Input U

- **AC**
  - Range: optional in configuration menu
    - ±20 mA = ±400 mV Input I
    - ±40 mA = ±400 mV Input I
    - ±200 mA = ±200 mV Input I

**PM**

- Range: optional in configuration menu
  - ±10 mA = ±400 mV Input I
  - ±1 MOH = ±1 MOH Input U
  - ±500 mV = ±1 MOH Input U
  - ±1 V = ±1 MOH Input U

**DIN**

- Range: optional in configuration menu with autorange change
  - ±100 mV = ±100 MOH Input U
  - ±10 mA = ±10 MOH Input U
  - ±100 mA = ±100 MOH Input U

Connect: 2, 3 or 4 wire

**RTD**

- Type: optional in configuration menu
  - Cu: ±0,1…40 meas./s
  - CuNi: ±1°/0,1°/0,01°C
  - PM: ±0,15 % of range + 1 digit

**Ni**

- Type: optional in configuration menu
  - Ni 1000/10 000 with 6 180 ppm/°C -50°…250°C

**Cu**

- Type: optional in configuration menu
  - Cu 50/100 with 4 280 ppm/°C -200°…200°C

**OPTION_A**

- **DC**
  - Range: optional in configuration menu
    - ±10 A = ±300 mV Input I
    - ±10 mA = ±300 mV Input I
    - ±2 A = ±150 mV Input I

- **PM**
  - Range: optional in configuration menu
    - ±10 mA = ±400 mV Input I
    - ±500 V = ±1 MOH Input U
    - ±100 V = ±200 MOH Input U

**OPTION_B**

- **PM**
  - Range: optional in configuration menu
    - ±10 mV = ±1 MOH Input U

**OPTION_B**

- **PM**
  - Range: optional in configuration menu
    - ±10 mV = ±1 MOH Input U

**PROJECTION**

- Bargraph display: ±50 ±50 LED, upper row displays the input value, the lower one indicates the set limits
- Bar color: red/green/orange
- Scale: LCD backlight and freely programmable
- Auxiliary display: ±999.999 ± 99, single color 14-segment LED
- Digit height: 4mm (4 digits) × 15 mm [2 digits]
- Display color: red or green
- Description: the last two characters on the display can be used to describe the measured quantities
- Decimal point: adjustable - in menu
- Brightness: adjustable - in menu

**INSTRUMENT ACCURACY**

- **TK:** ±50 ppm/°C
- Accuracy: ±1% of range + 1 digit (for progs. 59999.1 and 5 measure/A)
- TK:<0.1°C
- Accuracy of cold junction measure: ±0.5°C
- Rate: ±1°/0.1°/0.01°C
- Overload capacity: 2x, 10x [1 = 30 mA] - not far > 250 V and 5 A
- Resolution (RTD, IDC): 1°/0.1°C
- Line compensation: max. 30 °C (RTD)
- Cold junction compens.: adjustable -20°…99°C or automatic
- Linearization: linear interpolation in 53 points (only via OM Link)
- Digital filters: Exp, Floating/Keith, average, Blending
- Functions: Start/Stop, Min/Max value, Time, Peak value, Math, operations, data download: measurement data safe record into instrument memory
- Time & day information: display data duration ± 24h data
- MODE: display value ± 99 data

**ORDER CODE**

*QND (Input + Option A) is galvanically connected with inputs EXT AND the DIN Link connector*

*In case of Option B we recommend to connect terminals GND (main board/digital board) by ext. connection*
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
Projection: 20 LED

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

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

COMPARATOR
is assigned to monitor one limit value with relay output. The limit has adjustable hysteresis within full range of the display and selectable delay of the switch-on within the range of 0...99 s. Reaching the preset limits is signalled by LED and simultaneously by the switch-on of the relevant relay.

OPERATION
The instrument is set and controlled by five buttons located under the front panel.
All programmable settings of the instrument may be performed in two adjusting modes.
LIGHT MENU contains solely items necessary for instrument setting.
PROFI MENU contains complete instrument setting, which is accessible only via OM Link.
Standard equipment is the OM Link interface, which together with the operation program enables modification and filing of all instrument settings as well as performing firmware updates (with OML cable).
All settings are stored in the EEPROM memory (settings hold even after the instrument is switched off).

OPTION

COMPARATOR

The OMB 200/300/500UNI model series are simple bargraphs designed for maximum efficiency and user comfort while maintaining their favourable price.
Type OMB 200UNI is a multifunction instrument with the option of configuration for 5 various input options, easily configurable in the instrument menu.
The instrument is based on a single-chip microcontroller with an A/D converter, which secures good accuracy, stability and easy operation of the instrument.
By selecting the insertion mode of the front plexiglass [reverse/face] you may choose the required scale printing for vertical or horizontal design of the instrument.

UNIVERSAL BARGRAPH

THREE-COLOR BARGRAPH - 20 LED
MULTIFUNCTION INPUT [PM, OHM, RTD, DU]
DIGITAL FILTERS, LINEARIZATION
SIZE OF DIN 72 x 24 mm
POWER SUPPLY 10...30 VDC/24 VAC
Option Comparator

OMB 200UNI
PROCESS MONITOR
OHM/MIETER
THERMOMETER FOR PT/NI
DISPLAY UNIT FOR LINEAR POTENITIOMETERS
TECHNICAL DATA

INPUT

<table>
<thead>
<tr>
<th>PM</th>
<th>Range</th>
<th>optional in configuration menu</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0…20 mA</td>
<td>&lt; 1,2 V Input 1</td>
</tr>
<tr>
<td></td>
<td>0…2 V</td>
<td>182 kΩ Input 2</td>
</tr>
<tr>
<td></td>
<td>0…5 V</td>
<td>182 kΩ Input 2</td>
</tr>
<tr>
<td></td>
<td>0…10 V</td>
<td>182 kΩ Input 2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OBM</th>
<th>Range</th>
<th>optional in configuration menu</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0…100 kΩ</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RTD</th>
<th>Type</th>
<th>optional in configuration menu</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EU &gt; 1 000 Ω, with 3 850 ppm/°C</td>
<td></td>
</tr>
</tbody>
</table>

Connect. 2 wire

<table>
<thead>
<tr>
<th>NI</th>
<th>Type</th>
<th>optional in configuration menu</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ni 1 000 with 5 000 ppm/°C</td>
<td></td>
</tr>
</tbody>
</table>

Connect. 2 wire

<table>
<thead>
<tr>
<th>DU</th>
<th>Potential power supply</th>
<th>2,5 VDC ± 0,1 mA, Potentiometer resistance &gt; 500 Ω</th>
</tr>
</thead>
</table>

External input 1 input, on contact

The following functions can be assigned:

<table>
<thead>
<tr>
<th></th>
<th>function</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>input off</td>
</tr>
<tr>
<td>HOLD</td>
<td>display stop</td>
</tr>
<tr>
<td>LOCK</td>
<td>control keys blocking</td>
</tr>
</tbody>
</table>

ORDER CODE

OMB 200UNI

<table>
<thead>
<tr>
<th>Comparator</th>
<th>no 1x relay (Form A)</th>
</tr>
</thead>
</table>

Specification customized version, do not fill in 00
**UNIVERSAL BARGRAPH**

- THREE-COLOR BARGRAPH - 30 LED
- MULTIFUNCTION INPUT (PM, OHM, RTD, DU)
- DIGITAL FILTERS, LINEARIZATION
- SIZE OF DIN 96 x 24 mm
- POWER SUPPLY 10...30 VDC/24 VAC
- Option

**OPERATION**

The instrument is set and controlled by five buttons located under the front panel. All programmable settings of the instrument may be performed in two adjusting modes.

**LIGHT MENU** contains solely items necessary for instrument setting.

**PROFI MENU** contains complete instrument setting, which is accessible only via OM Link.

Standard equipment is the OM Link interface, which together with the operation program enables modification and filing of all instrument settings as well as performing firmware updates (with OML cable).

All settings are stored in the EEPROM memory (settings hold even after the instrument is switched off).

**OPTION**

**COMPARATORS** are assigned to monitor one, two or three limit values with relay output. The limit has adjustable hysteresis within full range of the display and selectable delay of the switch-on within the range of 0...99 s. Reaching the preset limits is signalled by LED and simultaneously by the switch-on of the relevant relay.

**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
- **Projection**: 30 LED

**FUNCTIONS**

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

**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

---

**OMB 300UNI**

The OMB 200/300/500UNI model series are simple bargraphs designed for maximum efficiency and user comfort while maintaining their favourable price. Type OMB 300UNI is a multifunction instrument with the option of configuration for 5 various input options, easily configurable in the instrument menu. The instrument is based on a single-chip microcontroller with an A/D converter, which secures good accuracy, stability and easy operation of the instrument. By selecting the insertion mode of the front plexiglass (reverse/face) you may choose the required scale printing for vertical or horizontal design of the instrument.
## TECHNICAL DATA

### INPUT

**PM**
- Range: optional in configuration menu
- 0…20 mA < 1,2 V Input 1
- 0…5 V 182 kΩ Input 2

**OHM**
- Range: optional in configuration menu
- 0…100 kΩ

**RTD**
- Type: optional in configuration menu
- EU > 1 000 Ω, with 3 850 ppm/°C
- -50°…450°C

**Ni**
- Type: Ni 1 000 with 5 000 ppm/°C
- -50°…250°C

**DU**
- Potential 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
  - HOLD: display stop
  - LOCK: control keys blocking
  - Blk L3: block operation of relay L3 (PM)

### PROJECTION

- Display: 30 LED
- Bar color: red/green/orange
- Brightness: adjustable - in menu

### INSTRUMENT ACCURACY

- Tk: 50 ppm/°C
- Accuracy: ±1 % of range + 1 digit
- Rate: 0,5/5/5/max. measurement/s
- Overload capacity: 2x < 30 ms
- Line compensation: max. 30 °C (RTD)
- Linearity: linear interpolation in 25 points [only via OM Link]
- Digital filters: exponential average, rounding
- OM Link: Company communication interface for operation, setting and update of instruments
- Watchdog: reset after 25 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 ±1/2 Hys." and time (0…99,9 s) determining the switching delay
- Output: 1…3x bistable relays (250 VAC/30 VDC, 3 A)

### POWER SUPPLY

- Range: 10…30 VDC/24 VAC, ±10 %, PF ≥ 0,4, I STP < 45 A/1,1 ms, isolated
- Consumption: < 2,3 W/2,4 VA

### MECHANIC PROPERTIES

- Material: Noryl GFN2 SE1, incombustible UL 94 V-I
- Dimensions: 96 x 24 x 100 mm (w x h x d)
- Panel cutout: 92 x 21,5 mm (w x h)

### OPERATING CONDITIONS

- Connection: connector terminal blocks, section < 1,5/2,5 mm²
- Stabilization period: within 15 minutes after switch-on
- Working temperature: -20°…60°C
- Storage temperature: -20°…85°C
- Protection: IP20 [front panel only]
- EL safety: EN 61010-1, A2
- Dielectric strength: 2,5 kVAC per 1 min test between supply and input
- Insulation resistance for pollution degree IV measuring cat. III power supply > 300 V [PI]
- input, output > 300 V [PI], 150 V [DI]
- EMC: EN 61326-1

### COMPARATORS

- 1x relay (Form A)
- 2x relays (Form A/Form C)

### ORDER CODE

**OMB 300UNI**

- **Comparators**
  - no: 0
  - 1x relay (Form A): 1
  - 2x relays (Form A/Form C): 2
  - 3x relays (Form A): 3

- **Specification**
  - customized version, do not fill in 00
**UNIVERSAL BARGRAPH**
- THREE-COLOR BARGRAPH - 50 LED
- MULTIFUNCTION INPUT (PM, OHM, RTD, DU)
- DIGITAL FILTERS, LINEARIZATION
- SIZE OF DIN 144 x 48 MM
- POWER SUPPLY 10...30 V AC/DC; 80...250 V AC/DC
- Option
  - Comparators

**OPERATION**
The instrument is set and controlled by five buttons located under the front panel. All programmable settings of the instrument may be performed in two adjusting modes.

- LIGHT MENU contains solely items necessary for instrument setting.
- PROFI MENU contains complete instrument setting, which is accessible only via OM Link.

Standard equipment is the OM Link interface, which together with the operation program enables modification and filing of all instrument settings as well as performing firmware updates (with OML cable).

All settings are stored in the EEPROM memory (settings hold even after the instrument is switched off).

**OPTION**
COMPARATORS are assigned to monitor one or two limit values with relay output. The limit has adjustable hysteresis within full range of the display and selectable delay of the switch-on within the range of 0...99 s. Reaching the preset limits is signaled by LED and simultaneously by the switch-on of the relevant relay.

**OMB 500UNI**
The OMB 200/300/500UNI model series are simple bargraphs designed for maximum efficiency and user comfort while maintaining their favourable price. Type OMB 500UNI is a multifunction instrument with the option of configuration for 5 various input options, easily configurable in the instrument menu. The instrument is based on a single-chip microcontroller with an A/D converter, which secures good accuracy, stability and easy operation of the instrument. By selecting the insertion mode of the front plexiglass (reverse/face) you may choose the required scale printing for vertical or horizontal design of the instrument.

**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
- Projection: 50 LED

**FUNCTIONS**
- Linearization: through linear interpolation in 25 points (solely via OM Link)
- Exponential average: from 2...100 measurements
- Rounding: setting the projection step for display

**EXTERNAL CONTROL**
- Hold: display/instrument blocking
- Lock: control keys blocking
**TECHNICAL DATA**

### INPUT

<table>
<thead>
<tr>
<th>PM</th>
<th>Range</th>
<th>Optional in configuration menu:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0…20 mA</td>
<td>&lt; 12 V</td>
<td>Input 1</td>
</tr>
<tr>
<td>4…20 mA</td>
<td>&lt; 12 V</td>
<td>Input 1</td>
</tr>
<tr>
<td>0…2 V</td>
<td>182 kΩ</td>
<td>Input 2</td>
</tr>
<tr>
<td>0…5 V</td>
<td>182 kΩ</td>
<td>Input 2</td>
</tr>
<tr>
<td>0…10 V</td>
<td>182 kΩ</td>
<td>Input 2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OHM</th>
<th>Range</th>
<th>Optional in configuration menu:</th>
</tr>
</thead>
<tbody>
<tr>
<td>3…10 kΩ</td>
<td></td>
<td>Input 2</td>
</tr>
</tbody>
</table>

### CONNECTION

- **Power supply:**
  - 10…30 V AC/DC
  - 0…250 V AC/DC

- **Comparators:**
  - 1x relay (Form A)
  - 2 relay (Form A)
  - 1x open collector

- **External input:**
  - 1 input, on contact
  - HLD: display stop
  - LOCK: control keys blocking

### PROJECTION

- **Display:**
  - 50 LED
  - Bar color: red/green/orange

- **Decimals point:**
  - Adjustable - in menu

### INSTRUMENT ACCURACY

- **TK:** 50 ppm/°C
- **Accuracy:** ±1 % of range + 1 digit
- **Rate:** 0.5/5/50/max. measur./s
- **Overload capacity:** 2x; 10x (t < 30 ms)
- **Line compensation:** max. 30 Ω (RTD)

### COMPARATOR

- **Type:** digital, menu adjustable, contact switch-on < 50 ms
- **Hysteresis mode:** switching limit, hysteresis band ‘Lim ±1/2 Hys.’
- **Output:** 1…2x relays Form A [250 VAC/30 VDC, 3 A], 1…2x open collector [30 VDC/100 mA]

### POWER SUPPLY

- **Range:**
  - 10…30 V AC/DC: ±10 %, PF = 0.4, _P_{STP} = 45 A/½ ms, isolated
  - 0…250 V AC/DC: ±10 %, PF = 0.4, _P_{STP} = 45 A/½ ms, isolated
- **Consumption:** < 3.5 W/3.9 VA

### MECHANIC PROPERTIES

- **Material:** Noryl GFN2 SE1, incombustible UL 94 V-I
- **Dimensions:** 144 x 48 x 75 mm (w x h x d)
- **Panel cutout:** 138 x 43.5 mm (w x h)

### OPERATING CONDITIONS

- **Connection:** connector terminal blocks, section < 1.5/2.5 mm²
- **Stabilization period:** within 15 minutes after switch-on
- **Working temperature:** -20°…60°C
- **Storage temperature:** -20°…85°C
- **Protection:** IP40 (front panel only)
- **Safety:** EN 61010-1, A2
- **Dielectric strength:** 4 kVAC per 1 min test between supply and input
- **Insulation resistance:** for pollution degree II, measuring cat. II
- **Power supply > 300 V (PI) input, output > 300 V (PI), 150 V (DI)
- **EMC:** EN 61326-1

---

**ORDER CODE**

<table>
<thead>
<tr>
<th>OMB 500UNI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply: 10…30 V AC/DC</td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>Comparators:</td>
</tr>
<tr>
<td>1x relay (Form A)</td>
</tr>
<tr>
<td>2x relay (Form A)</td>
</tr>
<tr>
<td>1x open collector</td>
</tr>
<tr>
<td>Specification:</td>
</tr>
</tbody>
</table>

**Basic configuration of the instrument is indicated in bold.**
**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
Projection: 50 LED

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

**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

**OPERATION**

The instrument is set and controlled by five buttons located under the front panel. All programmable settings of the instrument may be performed in two adjusting modes.

**LIGHT MENU** contains solely items necessary for instrument setting.
**PROFI MENU** contains complete instrument setting, which is accessible only via OM Link.

Standard equipment is the OM Link interface, which together with the operation program enables modification and filing of all instrument settings as well as performing firmware updates (with OML cable).

All settings are stored in the EEPROM memory (settings hold even after the instrument is switched off).

**OPTION**

Comparators are assigned to monitor one or two limit values with relay output. The limit has adjustable hysteresis within full range of the display and selectable delay of the switch-on within the range of 0...99 s. Reaching the preset limits is signalled by LED and simultaneously by the switch-on of the relevant relay.

**UNIVERSAL BARGRAPH**
- THREE-COLOR BARGRAPH: 2x 50 LED
- TWO-CHANNEL DESIGN
- MULTIFUNCTION INPUT (PM, OHM, RTD, DU)
- DIGITAL FILTERS, LINEARIZATION
- SIZE OF DIN 144 x 48 MM
- POWER SUPPLY 10...30 V AC/DC; 80...250 V AC/DC
- Option: Comparators

**OMB 502UNI**

The OMB 200/300/500UNI model series are simple bargraphs designed for maximum efficiency and user comfort while maintaining their favourable price.

Type OMB 502UNI is a multifunction instrument with the option of configuration for 5 various input options, easily configurable in the instrument menu.

The instrument is based on a single-chip microcontroller with an A/D converter, which assures good accuracy, stability and easy operation of the instrument.

By selecting the insertion mode of the front plexiglass (reverse/face) you may choose the required scale printing for vertical or horizontal design of the instrument.
## TECHNICAL DATA

### INPUT

| Number inputs | 2 |
| PM Range | optional in configuration menu |
| PM 0.2 mA | 12 V Input 1 |
| PM 0.2 mA | 12 V Input 1 |
| PM 2 V | 182 kΩ Input 2 |
| PM 2 V | 182 kΩ Input 2 |
| PM 10 V | 182 kΩ Input 2 |
| PM 10 V | 182 kΩ Input 2 |

| OHM Range | optional in configuration menu |
| OHM 0 | 100 kΩ |

Connect. 2 wires

### RTD Type

| RTD Type | optional in configuration menu |
| RTD EU | ±0.05°C |
| RTD EU | ±0.05°C |

Connect. 2 wires

### NI Type

| NI Type | optional in configuration menu |
| NI 100 | 500 kΩ |

Connect. 2 wires

### DU Potent.

| DU Power | supply |
| DU 2.5 VDC | 6 mA |

External input | 1 input, on contact |

The following functions can be assigned:
- OFF input off
- HOLD display stop
- LOCK control keys blocking

## PROJECTION

Display: 2x 50 LED
Bar color: red/green/orange
Decimal point: adjustable - in menu
Brightness: adjustable - in menu

## INSTRUMENT ACCURACY

| TK: 50 ppm/°C |
| Accuracy: ±1% of range + 1 digit |
| Rate: 0.5/5/50 max. measur./s |
| Overload capacity: 2x; 10x (t < 30 ms) |
| Line compensation: max. 30 Ω (RTD) |
| Digital filters: exponential average, rounding |
| OM Link: Company communication interface for operation, setting and update of instruments. |

## WATCH-DOG

Reset after 25 ms |

## COMPARATOR

Type: digital, menu adjustable, contact switch-on = 50 ms |

Hysteresis mode: switching limit, hysteresis band “Lim ±1/2 Hys.” and time (0…99,9 s) determining the switching delay |

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

## POWER SUPPLY

| Range: 10…30 V AC/DC, ±10 %, PF ≥ 0.4, I STP< 45 A/1 ms, isolated |
| Range: 80…250 V AC/DC, ±10 %, PF ≥ 0.4, I STP< 45 A/1 ms, isolated |

Consumption: < 5.0 W, 6 VA |

Power supply is protected by a fuse inside the instrument.

## MECHANICAL PROPERTIES

Material: Noryl GFN2 SE1, incombustible UL 94 V-1 |
Dimensions: 144 x 48 x 75 mm (w x h x d) |
Panel cutout: 138 x 43,5 mm (w x h) |

## OPERATING CONDITIONS

Connection: connector terminal blocks, section < 1.5/2.5 mm² |
Stabilization period: within 15 minutes after switch-on |
Working temperature: -20...+60°C |
Storage temperature: -20...+85°C |
Protection: IP40 (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 input and relay output |

Insulation resistance: for pollution degree II, measuring cat. III power supply = 300 V (PI) input, output > 300 V (PI), 150 V (DI) |

EMC: EN 61326-1 |

## CONNECTION

### ORDER CODE

| OMB 502UNI |
| Power supply | 10...30 V AC/DC |
| Comparators | no |
| Specification | customized version, do not fill in |

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
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<td>3</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>4</td>
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</tbody>
</table>

Basic configuration of the instrument is indicated in bold.
**BARGRAPH FOR DATA LINES**
- THREE-COLOR BARGRAPH - 20 LED
- INPUT: RS 232/485
- ASCII, MODBUS RTU
- DIGITAL FILTERS, LINEARIZATION
- SIZE OF DIN 72 x 24 mm
- POWER SUPPLY 10...30 VDC/24 VAC
- Option Comparator

**OPERATION**

The instrument is set and controlled by five buttons located under the front panel. All programmable settings of the instrument may be performed in two adjusting modes.

**LIGHT MENU** contains solely items necessary for instrument setting.

**PROFI MENU** contains complete instrument setting, which is accessible only via OM Link.

Standard equipment is the OM Link interface, which together with the operation program enables modification and filing of all instrument settings as well as performing firmware updates (with OML cable).

All settings are stored in the EEPROM memory (settings hold even after the instrument is switched off).

**OPTION COMPARATOR** is assigned to monitor one limit value with relay output. The limit has adjustable hysteresis within full range of the display and selectable delay of the switch-on within the range of 0...99 s. Reaching the preset limits is signalled by LED and simultaneously by the switch-on of the relevant relay.

**STANDARD FUNCTIONS**

**PROGRAMMABLE PROJECTION**
- Input: RS 232/485
- Protocol: ASCII - Master/Slave/Universal or MODBUS RTU
- Projection: -99999...99999
- Projection: 20 LED

**DIGITAL FILTERS**
- Exponential average: from 2...100 measurements
- Rounding: setting the projection step for display

**OMB 200RS**
DATA DISPLAY RS 232/485

The OMB 200/300/500UNI model series are simple bargraphs. Type OMB 200RS is a bargraph for data lines RS 232/485. The instrument is based on a single-chip microcontroller, which secures an easy operation of the instrument. By selecting the insertion mode of the front plexiglass [reverse/face] you may choose the required scale printing for vertical or horizontal design of the instrument.
**TECHNICAL DATA**

**INPUT**

**RS**
- Input: RS 232/RS 485

**Protocol**
- ASCII - data display, controlled from the master system
- ASCII - Slave
  - Passive bus display where other devices or computers communicate in "HAND" 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, Res.] you can build your own communication protocol format

**MODBUS RTU**
- Format: 8 bit + no parity + 1 stop bit
- 7 bit + even parity + 1 stop bit
- Rate: 9600, 2400, 1200 baud

**PROJECTION**
- Display: 20 LED
- Bar color: red/green/orange
- Decimal point: adjustable - in menu
- Brightness: adjustable - in menu

**INSTRUMENT ACCURACY**
- TK: 50 ppm/°C
- **Linearization**: linear interpolation in 25 points (only via OM Link)
- Digital filters: exponential average, rounding
- **OM Link**: Company communication interface for operation, setting and update of instruments
- **Watchdog**: reset after 25 ms

**COMPARATOR**
- Type: digital, menu adjustable, contact switch-on = 50 ms
- **Hysteresis mode**: switching limit, hysteresis band "Lim ±1/2 Hys." and time (0…999 s) determining the switching delay
- **Output**: 1x bistable relays (250 VAC/30 VDC, 3 A)

**POWER SUPPLY**
- **Range**: 10…30 VDC/24 VAC, ±10 %, PF ≥ 0,4, I<sub>STP</sub> < 45 A/1,1 ms, isolated
- Consumption: < 1,8 W/1,9 VA

**MECHANIC PROPERTIES**
- **Material**: Noryl GfN2 SE1, incombustible UL 94 V-I
- **Dimensions**: 72 x 24 x 100 mm (w x h x d)
- Panel cutout: 68 x 21,5 mm (w x h)

**OPERATING CONDITIONS**
- Connection: connector terminal blocks, section < 1,5/2,5 mm²
- Stabilization period: within 15 minutes after switch-on
- **Working temperature**: -20°…60°C
- **Storage temperature**: -20°…85°C
- **Protection**: IP40 (front panel only)
- EL safety: EN 61010-1, A2
- **Dielectric strength**: 2,5 kVAC per 1 min test between supply and input
- Insulation resistances: for pollution degree II, measuring cat. II
- **power supply**: > 300 V (PI)
- **input, output**: > 300 V (PI), 150 V (DI)
- **EMC**: EN 61326-1

**ORDER CODE**

**OMB 200RS**

- Comparator: no
  - 1x relay (Form A)
- Specifi cation: customized version, do not fill in

---

Basic configuration of the instrument is indicated in bold.
The OMB 200/300/500UNI model series are simple bargraphs. Type OMB 300RS is a bargraph for data lines RS 232/485. The instrument is based on a single-chip microcontroller, which secures an easy operation of the instrument. By selecting the insertion mode of the front plexiglass (reverse/face) you may choose the required scale printing for vertical or horizontal design of the instrument.

**BARGRAPH FOR DATA LINES**
- THREE-COLOR BARGRAPH - 30 LED
- INPUT: RS 232/485
- ASCII, MODBUS RTU
- DIGITAL FILTERS, LINEARIZATION
- SIZE OF DIN 96 x 24 mm
- POWER SUPPLY 10…30 VDC/24 VAC
- Option

**OPERATION**
The instrument is set and controlled by five buttons located under the front panel. All programmable settings of the instrument may be performed in two adjusting modes.

LIGHT MENU contains solely items necessary for instrument setting.
PROFI MENU contains complete instrument setting, which is accessible only via OM Link.

Standard equipment is the OM Link interface, which together with the operation program enables modification and filing of all instrument settings as well as performing firmware updates (with OML cable).

All settings are stored in the EEPROM memory (settings hold even after the instrument is switched off).

**OPTION**
COMPARATORS are assigned to monitor one, two or three limit values with relay output. The limit has adjustable hysteresis within full range of the display and selectable delay of the switch-on within the range of 0...99 s. Reaching the preset limits is signalled by LED and simultaneously by the switch-on of the relevant relay.

**STANDARD FUNCTIONS**

**PROGRAMMABLE PROJECTION**
Input: RS 232/485
Protocol: ASCII - Master/Slave/Universal or MODBUS RTU
Projection: -99999...999999
Projection: 30 LED

**DIGITAL FILTERS**
Exponential average: from 2...100 measurements
Rounding: setting the projection step for display
**INPUT**

**Protocol**
- **ASCII** - data display, controlled from the master system
- **ASCII - Master** - the instrument controls data sending from the slave system
- **ASCII - Slave** - Passive bus display where other devices or computers communicate in “MASTER” mode. If the “COMM” and the requested data are correctly received, they will be displayed by the instrument
- **ASCII - Universal** - in dynamic menu items [Shi, Ad, Un, Sign, Data, Stop, Res.] you can build your own communication protocol format

**MODBUS RTU**
- **Format**
  - 8 bit + no parity + 1 stop bit
  - 7 bit + even parity + 1 stop bit
- **Rate**
  - 9600, 230400 baud

**PROJECTION**
- 30 LED
- Bar color: red/green/orange
- Decimal point: adjustable - in menu
- Brightness: adjustable - in menu

**INSTRUMENT ACCURACY**
- **TK:** 50 ppm/°C
- **Linearization:** linear interpol. in 25 points (only via OM Link)
- **DM Link:** Company communication interface for operation, setting and update of instruments
- **Watchdog:** reset after 25 ms

**COMPANION**
- Type: digital, menu adjustable, contact switch-on = 50 ms
- **Hysteresis mode:** switching limit, hysteresis band “Lim ±1/2 Hyst.” and time (0...999 s) determining the switching delay
- **Output:** 1...3x bistable relays (250 VAC/30 VDC, 3 A)

**POWER SUPPLY**
- **Range:** 10...30 VDC/24 VAC, ±10 %, PF ≥ 0,4, I STP< 45 A/1,1 ms, isolated
- **Consumption:** ≤ 2,3 W/2,4 VA

**MECHANIC PROPERTIES**
- **Material:** Noryl GF20 SE1, incombustible UL 94 V-0
- **Dimensions:** 96 x 24 x 100 mm (w x h x d)
- **Panel output:** 90 x 215 mm (w x h)

**OPERATING CONDITIONS**
- **Connection:** connector terminal blocks, section ≤ 1,5/2,5 mm²
- **Stabilization period:** within 15 minutes after switch-on
- **Working temperature:** -20°...60°C
- **Storage temperature:** -20°...85°C
- **Protection:** IP40 (front panel only)
- **EL safety:** EN 61010-1, A2
- **Dielectric strength:** 2,5 kVAC per 1 min test between supply and input
- **Insulation resistance:** for pollution degree II, measuring cat. II
  - Power supply > 300 V (PI)
  - Input, output > 300 V (PI), 150 V (DI)
- **EMC:** EN 61326-1

**CONNECTION**

**ORDER CODE**

**OMB 300RS**

<table>
<thead>
<tr>
<th>Comparators</th>
<th>no</th>
<th>1x relay (Form A)</th>
<th>2x relays (Form A/Form C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specification</td>
<td>customized version, do not fill in</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
STANDARD FUNCTIONS

PROGRAMMABLE PROJECTION
Input: RS 232/485
Protocol: ASCII - Master/Slave/Universal or MODBUS RTU
Projection: -99999...999999

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

OPTION

COMPARATORS are assigned to monitor one or two limit values with relay output. The limit has adjustable hysteresis within full range of the display and selectable delay of the switch-on within the range of 0..99 s. Reaching the preset limits is signalled by LED and simultaneously by the switch-on of the relevant relay.
## TECHNICAL DATA

### INPUT

**Input**
- RS 232/485

**Protocol**
- ASCII: data display, controlled from the master system
- MODBUS RTU: company communication for operation, setting and update of instruments

**Modbus RTU**
- 8 bit + no parity + 1 stop bit
- 7 bit + even parity + 1 stop bit

<table>
<thead>
<tr>
<th>Rate</th>
<th>300…230 400 Baud</th>
</tr>
</thead>
</table>

### PROJECTION

- 50 LED
- Bar color: red/green/orange
- Brightness: adjustable - in menu

### ORDER CODE

**Order Code**
- OMB 500RS

<table>
<thead>
<tr>
<th>Power supply</th>
<th>10…30 V AC/DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparators</td>
<td>1x relay (Form A)</td>
</tr>
<tr>
<td>Specification</td>
<td>Customized version, do not fill in</td>
</tr>
</tbody>
</table>

### POWER SUPPLY

- Range: 10…30 V AC/DC, ±10 %, PF ≥ 0.4, IP = 45 A/1 ms, isolated
- Consumption: < 3.5 W/3.9 VA

### MECHANIC PROPERTIES

- Material: Noryl GF2 SE1, incombustible UL 94 V-0
- Dimensions: 144 x 48 x 75 mm (w x h x d)
- Panel cutout: 138 x 43,5 mm (w x h)

### OPERATING CONDITIONS

- Connection: connector terminal blocks, section < 1,5/2,5 mm²
- Stabilization period: within 15 minutes after switch-on
- Working temperature: -20°…60°C
- Storage temperature: -20°…85°C
- Insulation resistance: for pollution degree II, measuring cat. III, power supply > 300 V (PI)

### OUTPUT

- 1x relay (Form A)
- 2x relay (Form A)
- 1x open collector
- 2x open collector

### EMC

- EN 61326-1
**STANDARD FUNCTIONS**

- **COMPENSATION**
  - Of conduct (RTD): automatic (3-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:** linear interpolation in 50 points (only via OM Link)
  - **Tare:** designed to reset display upon non-zero input signal
  - **Min./max. value:** registration of min./max. value reached during measurement
  - **Peak value:** the display shows only max. or min. value
  - **Mathemat. operations:** polynom, 1/x, logarithm, exponential, power, root, sin x and operations between inputs

**DIGITAL FILTERS**

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

**EXTERNAL CONTROL**

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

**OPERATION**

The instrument is set and controlled by an IR remote control. 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 can be displayed on the 6-digit display.

**OPTION**

- **EXCITATION** for feeding sensors and transmitters. It is continuously adjustable in the range of 5 ... 24 VDC.
- **COMPARATORS** are assigned to monitor 1 - 4 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.
- **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.
**TECHNICAL DATA**

**INPUT**

<table>
<thead>
<tr>
<th>DC</th>
<th>Range</th>
<th>optional in configuration menu</th>
<th>±250 mV</th>
<th>±1000 mV</th>
<th>±3000 mV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20 mA</td>
<td>±250 mV, ±1000 mV, ±3000 mV</td>
<td>Input U</td>
<td>Input U</td>
<td>Input U</td>
</tr>
</tbody>
</table>

**PH**

<table>
<thead>
<tr>
<th>Range</th>
<th>optional in configuration menu</th>
<th>±20 mA</th>
<th>±400 mA</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 mA</td>
<td>±20 mA, ±400 mA</td>
<td>Input U</td>
<td>Input U</td>
</tr>
</tbody>
</table>

**PHM**

<table>
<thead>
<tr>
<th>Range</th>
<th>optional in configuration menu</th>
<th>±3 mA</th>
<th>±150 mA</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 mA</td>
<td>±3 mA, ±150 mA</td>
<td>Input U</td>
<td>Input U</td>
</tr>
</tbody>
</table>

**OIM**

<table>
<thead>
<tr>
<th>Range</th>
<th>optional in configuration menu</th>
<th>±1 mA</th>
<th>±5 A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mA</td>
<td>±1 mA, ±5 A</td>
<td>Input U</td>
<td>Input U</td>
</tr>
</tbody>
</table>

**DHM**

Connect. 2, 3 or 4 wire

**RTD**

<table>
<thead>
<tr>
<th>Type</th>
<th>optional in configuration menu</th>
<th>±250 mV, ±1000 mV</th>
<th>±3000 mV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cu</td>
<td>±250 mV, ±1000 mV, ±3000 mV</td>
<td>Input U</td>
<td>Input U</td>
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</table>

**NI**

<table>
<thead>
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<th>±3000 mV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cu</td>
<td>±250 mV, ±1000 mV, ±3000 mV</td>
<td>Input U</td>
<td>Input U</td>
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</table>

**Cu**

<table>
<thead>
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<th>±250 mV, ±1000 mV</th>
<th>±3000 mV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cu</td>
<td>±250 mV, ±1000 mV, ±3000 mV</td>
<td>Input U</td>
<td>Input U</td>
</tr>
</tbody>
</table>

**Includes**

- Optional in configuration menu

**OUTPUT**

<table>
<thead>
<tr>
<th>DC</th>
<th>Range</th>
<th>optional in configuration menu</th>
<th>±10 mA</th>
<th>±50 mA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3 mA</td>
<td>±10 mA, ±50 mA</td>
<td>Input U</td>
<td>Input U</td>
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</tbody>
</table>

**OIM**

<table>
<thead>
<tr>
<th>Range</th>
<th>optional in configuration menu</th>
<th>±0.5 mA</th>
<th>±2.5 mA</th>
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<tbody>
<tr>
<td>0.5 mA</td>
<td>±0.5 mA, ±2.5 mA</td>
<td>Input U</td>
<td>Input U</td>
</tr>
</tbody>
</table>

**DIMENSIONS**

<table>
<thead>
<tr>
<th>Front view</th>
<th>Side view</th>
<th>Panel thickness: 0.5…5.0 mm</th>
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<tbody>
<tr>
<td>X mm</td>
<td>Y mm</td>
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<tr>
<td>1074</td>
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**ORDER CODE**

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<tr>
<th>DMD 202UNI</th>
<th>Power supply</th>
<th>Measuring range</th>
<th>Comparators</th>
<th>Analog output</th>
<th>Data output</th>
<th>Excitation</th>
<th>Number of digits</th>
<th>Color/Display type</th>
<th>Specification customized version, do not fill in</th>
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</thead>
<tbody>
<tr>
<td>0</td>
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<td>±10…30 V AC/DC</td>
<td>none</td>
<td>yes</td>
<td>none</td>
<td>yes</td>
<td>0</td>
<td>red</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>±10…30 V AC/DC</td>
<td>1x relay</td>
<td>yes (compensation + 100 V)</td>
<td>0/4…20 mA</td>
<td>5 A</td>
<td>0</td>
<td>red/green/orange (7-segment LED)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>±10…30 V AC/DC</td>
<td>2x relays</td>
<td>yes (compensation + 100 V)</td>
<td>0/4…20 mA</td>
<td>5 A</td>
<td>0</td>
<td>red/green/orange (7-segment LED)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>±10…30 V AC/DC</td>
<td>3x relays</td>
<td>yes (compensation + 100 V)</td>
<td>0/4…20 mA</td>
<td>5 A</td>
<td>0</td>
<td>red/green/orange (7-segment LED)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>±10…30 V AC/DC</td>
<td>4x relays</td>
<td>yes (compensation + 100 V)</td>
<td>0/4…20 mA</td>
<td>5 A</td>
<td>0</td>
<td>red/green/orange (7-segment LED)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>±10…30 V AC/DC</td>
<td>1x relay</td>
<td>yes (compensation + 100 V)</td>
<td>0/4…20 mA</td>
<td>5 A</td>
<td>0</td>
<td>red/green/orange (7-segment LED)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td>±10…30 V AC/DC</td>
<td>2x relays</td>
<td>yes (compensation + 100 V)</td>
<td>0/4…20 mA</td>
<td>5 A</td>
<td>0</td>
<td>red/green/orange (7-segment LED)</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>±10…30 V AC/DC</td>
<td>3x relays</td>
<td>yes (compensation + 100 V)</td>
<td>0/4…20 mA</td>
<td>5 A</td>
<td>0</td>
<td>red/green/orange (7-segment LED)</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>9</td>
<td>±10…30 V AC/DC</td>
<td>4x relays</td>
<td>yes (compensation + 100 V)</td>
<td>0/4…20 mA</td>
<td>5 A</td>
<td>0</td>
<td>red/green/orange (7-segment LED)</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>10</td>
<td>±10…30 V AC/DC</td>
<td>1x relay</td>
<td>yes (compensation + 100 V)</td>
<td>0/4…20 mA</td>
<td>5 A</td>
<td>0</td>
<td>red/green/orange (7-segment LED)</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>11</td>
<td>±10…30 V AC/DC</td>
<td>2x relays</td>
<td>yes (compensation + 100 V)</td>
<td>0/4…20 mA</td>
<td>5 A</td>
<td>0</td>
<td>red/green/orange (7-segment LED)</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>12</td>
<td>±10…30 V AC/DC</td>
<td>3x relays</td>
<td>yes (compensation + 100 V)</td>
<td>0/4…20 mA</td>
<td>5 A</td>
<td>0</td>
<td>red/green/orange (7-segment LED)</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>13</td>
<td>±10…30 V AC/DC</td>
<td>4x relays</td>
<td>yes (compensation + 100 V)</td>
<td>0/4…20 mA</td>
<td>5 A</td>
<td>0</td>
<td>red/green/orange (7-segment LED)</td>
<td></td>
</tr>
</tbody>
</table>
STANDARD FUNCTIONS

PROGRAMMABLE PROJECTION
Input: NPN, PNP, on contact, IRC, line
Measur. modes: counter/frequency meter/UP-DW counter + frequency/counter for IRC + frequency
Calibration: in menu you can set calibration coefficient, time base and projection
Measur. channels: A and B, two independent functions can be evaluated
Time base: 0,05/0,5/1/2/5/10/20 s /1/2/5/10/15 min
Projection: -999…9999/-99999…999999 with stable or floating DT in format 10/24/60

FUNCTIONS
Linearization: linear interpolation in 50 points (only via OM Link)
Tare: designed to reset display upon non-zero input signal
Min./max. value: registration of min./max. value reached during measurement
Peak value: the display shows only max. or min. value
Mathemat. operations: polynom, 1/x, logarithm, exponential, power, root, sin x and operations between inputs
Preset: initial nonzero value that is always read after resetting the device
Current value: one-off setting of the initial value
Summation: registration of figures upon shift operation
Time backup: time is running even when the power supply is turned off (the display is off)

DIGITAL FILTERS
Input filter: transmits input signal up to 1 MHz...10 min
Floating/Exp./Arithm. average: from 2...30/100/100 measurements
Rounding: setting the projection step for display

EXTERNAL CONTROL
Lock: control keys blocking
Hold: display/instrument blocking
Tare: tare activation
Resetting MM: resetting min./max. value
Resetting: counter resetting
Start/Stop: timer/clock control

OPTION
Excitation: feeding sensors and transmitters. It is continuously adjustable in the range of 5...24 VDC
Comparators: are assigned to monitor 1...4 limit values with relay output. As a user you can select the mode limit: LIMIT/BATCH/FRON-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/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.

SHORT DESCRIPTION
OMD 202 model series are large programmable displays for indoor and outdoor use with IP64 protection.
Type OMD 202UQC is universal 6-digit two-channel programmable panel impulse counter/frequency meter/signal evaluation from IRC sensors and timer/clock.
The instrument is based on a single-chip microcontroller and a powerful programmable gate array, which secures high accuracy, stability and easy operation of the instrument. Displays are suitable for projection of measured data in production lines and manufacture with good legibility up to 80 m.

OPTION
Excitation: for feeding sensors and transmitters. It is continuously adjustable in the range of 5...24 VDC
Comparators: are assigned to monitor 1...4 limit values with relay output. As a user you can select the mode limit: LIMIT/BATCH/FRON-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/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.
**TECHNICAL DATA**

**INPUT**
- **UO**
  - Input on contact, TTL, NPN/PNP, Line
  - 0…60 V, comparison levels are adjustable in the menu
- **Input frequency**
  - 0.002 Hz, 1 kHz [Mode STRIDA]
  - 0.002 Hz, 5 kHz [Mode QUADR, a UP/WN]
- **Meas. mode**
  - SINGLE: count/Hz
  - QUADR: count/Hz
  - STRIDA: duty cycle measurement
- **Input**
  - 0…999999
- **Preset**
  - constant
- **Calibr. base**
  - 0,00001…999999
- **Time**
  - 1/10, 1/10/100, 250, 500, 1000 kHz
- **mode**
  - 1/10 min
  - 1/2 min
  - 5/10 min
  - 0,05 s
  - 1 s
  - 2 s
  - 3 s
  - 5 s
  - 10 s
- **Panel cut**
  - 0.00021…999999
- **Input**
  - 100…250 V AC, ±10 %, PF ≥ 0.4, Iskop < 75 A/1 ms, isolated

**POWER SUPPLY**
- Range: 80…250 V AC/DC, ±10 %, PF = 0.4, Iskop = 45 A/1 ms, isolated
- Consumption: < 22 W/22 VA
- Power supply is protected by a fuse inside the instrument

**MECHANIC PROPERTIES**
- Material: Anodized aluminium, black
- Dimensions: see picture

**OPERATING CONDITIONS**
- Connection: connector terminal blocks, section < 1,5/2,5 mm²
- Stabilization period: within 15 minutes after switch-on
- Working temperature: 0°C...65°C
- Storage temperature: -20°C...85°C
- Protection: IP64
- Diode: strength: 4 kVAC per 1 ms test between supply and input

**ACCESSORIES**
- holder for wall/ceiling installation

---

**ORDER CODE**

**OMD 202UQC**

<table>
<thead>
<tr>
<th>Power supply</th>
<th>10...30 V/250 V AC/DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>standard line</td>
</tr>
<tr>
<td>Comparators</td>
<td>none</td>
</tr>
<tr>
<td>Analog output</td>
<td>yes (compensation = 600 ± 0.1%)</td>
</tr>
<tr>
<td>Data output</td>
<td>none</td>
</tr>
<tr>
<td>Excitation</td>
<td>yes</td>
</tr>
<tr>
<td>Height</td>
<td>109</td>
</tr>
<tr>
<td>Width</td>
<td>109</td>
</tr>
</tbody>
</table>

---

Basic configuration of the instrument is indicated in bold.
The OMD 202 model series are large programmable displays for indoor and outdoor use with IP64 protection.

Type OMD 202U0C is a 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 microcontroller, which secures accuracy, stability and easy operation of the instrument. Displays are suitable for projection of measured data in production lines and manufacture with good legibility up to 80 m.

DATA DISPLAY

- 4/6-DIGIT PROGRAMMABLE PROJECTION
- INPUT: RS 232/485
- ASCII, MESSBUS, PROFIBUS DP, MODBUS RTU
- THREE-COLOR OR HIGH LUMINOUS LED
- DIGIT HEIGHT 57; 100; 125 mm, IR OPERATION
- POWER SUPPLY 10...30 V AC/DC; 80...250 V AC/DC

OPERATION

The instrument is set and controlled by an infrared remote control. 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 can be displayed on the 6-digit display.

OPTION

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

COMPARATORS are assigned to monitor 1 - 4 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 signaled 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
Input: both RS 232 and RS 485
Protocol: ASCII - Master/Slave/Universal, MESSBUS, PROFIBUS DP, MODBUS RTU
Projection: 999...9999/99999...999999

MATHEMATIC FUNCTIONS
Linearization: linear interpolation in 50 points (only via OM Link)
Tare: designed to reset display upon non-zero input signal
Min./max. value: registration of min./max. value reached during measurement
Peak value: the display shows only max. or min. value
Mathemat. operations: polynom, 1/x, logarithm, exponential, power, root, sin x

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

EXTERNAL CONTROL
Lock: control keys blocking
Hold: display/instrument blocking
Tare: tare activation
Resetting MM: resetting min./max. value
**TECHNICAL DATA**

**INPUT**

<table>
<thead>
<tr>
<th>RS Input</th>
<th>Feature</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>48 232/485</td>
<td>485</td>
<td>RCOMBIS</td>
</tr>
</tbody>
</table>

**Protocol**

- ASCII: data display, controlled from the master system
- ASCII - Slave: the instrument transmits data from the slave system
- COMM: can be used to select the received data
- Slave: the instrument asks with the rate of 10 queries/s

**Technical Data**

<table>
<thead>
<tr>
<th>Format</th>
<th>Rate</th>
<th>Protocol</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 bit</td>
<td>9600 Baud</td>
<td>PROFIBUS DP</td>
</tr>
<tr>
<td>7 bit</td>
<td>9600 Baud</td>
<td>MODBUS RTU</td>
</tr>
</tbody>
</table>

**Dimensions**

- Panel cut: dimensions are optional in the menu
- **Panel thickness:** 0.5...50 mm
- **Panel cut:** dimensions are optional in the menu

**Instrument Accuracy**

- Linearity: linear interpolation in 50 points (only via OM Link)
- Functions: Offset, Min/Max value, Tare, Peak value, Mat. operations
- Watchdog: reset after 400 ms

**ANALOG OUTPUTS**

- Type: isolated, programmable with a 16-bit D/A converter, output type and range are optional in the menu
- Non-linearity: 0.1% of range
- Function: menu adjustable
- Rate: response to change of value < 1 ms

**Excitation**

- Adjustable: 0...24 VDC

**POWER SUPPLY**

- Maintenance: 0...250 V AC/DC, ±10% I ≤ 30 A
- Isolated: 0...250 V AC/DC, ±10%, I ≤ 75 A

**Mechanical Properties**

- **Material:** Anodized aluminium, black
- **Dimensions:** see picture

**Operating Conditions**

- Connection: converter terminal blocks, section 1.5/2.5 mm²
- Stabilization period: within 15 minutes after switch on
- **Temperature:** 0...60°C
- **Humidity:** 20...85% RH

**Accessories**

- Holder for wall/ceiling installation

---

**ORDER CODE**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Power supply</td>
</tr>
<tr>
<td>1</td>
<td>Data protocol</td>
</tr>
<tr>
<td>2</td>
<td>Comparators</td>
</tr>
<tr>
<td>3</td>
<td>Analog output</td>
</tr>
<tr>
<td>4</td>
<td>Excitation</td>
</tr>
<tr>
<td>5</td>
<td>Digit height</td>
</tr>
<tr>
<td>6</td>
<td>Number of digits</td>
</tr>
<tr>
<td>7</td>
<td>Color/Display type</td>
</tr>
</tbody>
</table>

---

**DIMENSIONS**

- Front view
- Side view
- Panel cut

---

**PROJECTION**

- Display: 000.0000 or 00000.0000
- Single-color: Highly luminous, segment LED
- Three-color: Segment LED
- Digit number: 4 (100/125 mm), 6 (125/150 mm)
- Digit color: Red: green: orange

**ORDER CODE**

- 00: Customized version, do not fill in

---

**ORDER CODE**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Power supply</td>
</tr>
<tr>
<td>1</td>
<td>Data protocol</td>
</tr>
<tr>
<td>2</td>
<td>Comparators</td>
</tr>
<tr>
<td>3</td>
<td>Analog output</td>
</tr>
<tr>
<td>4</td>
<td>Excitation</td>
</tr>
<tr>
<td>5</td>
<td>Digit height</td>
</tr>
<tr>
<td>6</td>
<td>Number of digits</td>
</tr>
<tr>
<td>7</td>
<td>Color/Display type</td>
</tr>
</tbody>
</table>

---

**APPLICATIONS**

- Company communication interface for operation, setting and update of instruments.
- Ofset, Min/max value, Tare, Peak value, Mat. operations
- Digital filters: Exp./Floating/Arithm. average, Rounding
- Linearization: 50 ppm/°C

**Technical Details**

- Dimensions: see picture
- Power supply is protected by a fuse inside the instrument
- Protection: IP44
- Diode: 24 VAC per 1 min test between supply and input
- Diode: 24 VAC per 1 min test between input and relay output
- Diode: 24 VAC per 1 min test between input and data/analog output
- Diode: 600 V DC, 150 V DC

---

**CONTACTS**

- 0: 1x relay
- 1: 2x relays
- 2: 3x relays
- 3: 4x relays
The OMX 39 model series are low-price and simple analog transmitters with mounting on a 35 mm wide DIN rail.
Type OMX 39DC is a transmitter for galvanic separation of DC voltage or current.
The transmitters have galvanic separation with isolation voltage of 600 V and thus they are suitable as primary isolation for majority of industrial applications.

**OMX 39DC**

**OPERATION**
The transmitter is designed for simple measurements without further control.

**CALIBRATION**
By trimmers accessible from the face of the transmitter you may adjust the range of the output signal within the range of ±10 %.

**OPTION**
**EXCITATION** with continuously adjustable value is suitable for feeding sensors and transmitters.

**ISOLATED TRANSMITTER DC V-A > U/I**
- **INPUT:** 0...10 mV ~ 450 V
  0...5 mA ~ 5 A
- **OUTPUT:** 0...5 mA, 0...20 mA, 4...20 mA, ±20 mA
  0...2 V, 0...5 V, 0...10 V, ±10 V
- **GALVANIC SEPARATION:** 3,75 kVAC
- **POWER SUPPLY:** 10...30 V AC/DC; 80...250 V AC/DC
- **Option:** Excitation
## TECHNICAL DATA

### INPUT

<table>
<thead>
<tr>
<th>DC Range</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0…10 mV</td>
<td>0…90 V, fixed unipolar or bipolar, Input U</td>
</tr>
<tr>
<td>0…5 V</td>
<td>0…100 V, fixed unipolar or bipolar, Input U</td>
</tr>
<tr>
<td>0…5 mA</td>
<td>0…5 A, fixed unipolar or bipolar, Input I</td>
</tr>
</tbody>
</table>

### INSTRUMENT ACCURACY

- **TK:** 50 ppm/°C
- **Accuracy:** ±0,1 % of range
- **Rate:** continuous measurement
- **Overload capacity:** 2x; 10x [t < 30 ms] - not for > 300 V and 5 A
- **Calibration:** ±25°C and 40 % r.h.

### ANALOG OUTPUTS

- **Type:** isolated, fixed, setting
- **TK:** 50 ppm/°C
- **Rate:** response to change of value < 1 ms
- **Voltage:** 0…2 V, 0…5 V, 0…10 V, on request ±10 V (minimum load 1 kΩ)
- **Current:** 0…20 mA, 4…20 mA, on request ±20 mA

### EXCITATION

- **Adjustable:** 5…24 VDC, max. 1,2 W

### POWER SUPPLY

- **Range:**
  - 10…30 V AC/DC, ±10 %, PI x 3,0 A, 4 kVAC per 1 min test between supply and input
  - 80…250 V AC/DC, ±10 %, PI x 4,0 A, 4 kVAC per 1 min test between supply and analog output

### MECHANIC PROPERTIES

- **Material:** PA 66, incombustible UL 94 V-1, blue
- **Dimensions:** 22 x 98 x 113 mm (w x h x d)
- **Installation:** on DIN rail, width 35 mm

### OPERATING CONDITIONS

- **Connection:** connector terminal blocks, section < 2,5 mm²
- **Stabilization period:** within 5 minutes after switch on
- **Working temperature:** -20°…60°C
- **Storage temperature:** -20°…85°C
- **Protection:** IP20
- **El. safety:** EN 61010-1, A2
- **Dielectric strength:** 4 kVAC per 1 min test between supply and output
- **Insulation resistance:** for pollution degree II, measuring cat. II

### ORDER CODE

<table>
<thead>
<tr>
<th>Input range*</th>
<th>Voltage</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>0…10 mV</td>
<td>0…90 V</td>
<td>0…100 V</td>
</tr>
<tr>
<td>0…5 V</td>
<td>0…100 V</td>
<td>0…5 A</td>
</tr>
<tr>
<td>0…5 mA</td>
<td>0…5 A</td>
<td>0…5 mA</td>
</tr>
</tbody>
</table>

### CONNECTION

![Connection Diagram]

* Basic configuration of the instrument is indicated in bold.

---

* Kindly specify the required input range in the order!
The OMX 39 model series are low-price and simple analog transmitters with mounting on a 35 mm wide DIN rail.
Type OMX 39AC is a transmitter for galvanic separation of AC voltage or current.
The transmitters have galvanic separation with isolation voltage of 600 V and thus they are suitable as primary isolation for majority of industrial applications.

**OPERATION**
The transmitter is designed for simple measurements without further control.

**CALIBRATION**
By trimmers accessible from the face of the transmitter you may adjust the range of the output signal within the range of ±10 %.

---

**OMX 39AC**
**ISOLATED TRANSMITTER AC V-A > U/I**
- INPUT: 0...60 mV ~ 450 V
  0...5 mA ~ 5 A
- OUTPUT: 0...5 mA, 0...20 mA, 4...20 mA, ±20 mA
  0...2 V, 0...5 V, 0...10 V, ±10 V
- GALVANIC SEPARATION: 3.75 kVAC
- POWER SUPPLY 10...30 V AC/DC; 80...250 V AC/DC

---

**OMX 39AC**
**GALVANIC SEPARATION FOR AC VOLTAGE OR CURRENT**
**TECHNICAL DATA**

**INPUT**

<table>
<thead>
<tr>
<th>AC</th>
<th>Range</th>
<th>Input U</th>
<th>Input I</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0…60 mV ~ 450 V</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0…5 mA ~ 5 A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Instrument Accuracy**

- TK: 50 ppm/°C
- Accuracy: 0,1 % of range
- Rate: continuous measurement
- Overload capacity: 2x, 10x [t ≤ 30 ms] - not for > 300 V and 5 A
- Calibration: at 25°C and 40 % r.h.

**Analog Outputs**

- Type: isolated, fixed setting
- TK: 50 ppm/°C
- Rate: response to change of value < 1 s
- Voltage: 0…2 V, 0…5 V, 0…10 V, ±10 V (minimum load 1 kΩ)
- Current: 0…20 mA, 4…20 mA
- Power supply is protected by a fuse inside the instrument.

**Mechanical Properties**

- Material: PA 66, incombustible UL 94 V-I, blue
- Dimensions: 22 x 98 x 113 mm (w x h x d)
- Installation: on DIN rail, width 35 mm

**Operating Conditions**

- Connection: connector terminal blocks, section < 2,5 mm²
- Stabilization period: within 5 minutes after switch on
- Working temperature: -20°...60°C
- Storage temperature: -20°...85°C
- Protection: IP20
- EL safety: EN 61010-1, A2
- Dielectric strength: 4 kVAC per 1 min test between supply and input
- Insulation resistance: for pollution degree II, measuring cat. III
- Power supply: > 600 V (PI), 300 V (DI)
- Input, output: > 500 V (PI), 250 V (DI)
- EMC: EN 61326-1

**Connection**

- Shielding: EN 61326-1
- Component identification: PI - Primary insulation, DI - Double insulation

**Order Code**

**OMX 39AC**

<table>
<thead>
<tr>
<th>Power supply</th>
<th>Measuring range*</th>
<th>Analog output</th>
</tr>
</thead>
<tbody>
<tr>
<td>10…30 V AC/DC</td>
<td>Voltage (V)</td>
<td>Current (mA)</td>
</tr>
<tr>
<td>80…250 V AC/DC</td>
<td>0</td>
<td>0.2</td>
</tr>
<tr>
<td>0…2 V</td>
<td>0.5</td>
<td>0.1</td>
</tr>
<tr>
<td>0…10 V</td>
<td>0.1 mA</td>
<td>0.29</td>
</tr>
<tr>
<td>0…5 mA</td>
<td>±10 V</td>
<td>±20 mA</td>
</tr>
</tbody>
</table>

* Kindly specify the required input range in the order!
The OMX 39 model series are low-price and simple analog transmitters with mounting on a 35 mm wide DIN rail.
Type OMX 39PM is a galvanic separator.
The transmitters have galvanic separation with isolation voltage of 600 V and thus they are suitable as primary isolation for majority of industrial applications.

**ISOLATED TRANSMITTER - SEPARATOR**
- **INPUT:** 0...5 mA; 0...20 mA; 4...20 mA
  0...2 V; 0...5 V; 0...10 V
- **OUTPUT:** 0...5 mA, 0...20 mA, 4...20 mA, ±20 mA
  0...2 V, 0...5 V, 0...10 V, ±10 V
- **GALVANIC SEPARATION:** 3,75 kVAC
- **POWER SUPPLY** 10...30 V AC/DC; 80...250 V AC/DC
- **Option**
  - Excitation

**OPERATION**
The transmitter is designed for simple measurements without further control.

**CALIBRATION**
By trimmers accessible from the face of the transmitter you may adjust the range of the output signal within the range of ±10 %.

**OPTION**
**EXCITATION** with continuously adjustable value is suitable for feeding sensors and transmitters.
**TECHNICAL DATA**

**INPUT**

<table>
<thead>
<tr>
<th>PM</th>
<th>Range</th>
<th>Fixed: please specify the required range in the order</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0…5 mA</td>
<td>&lt; 400 mV Input I</td>
</tr>
<tr>
<td>B</td>
<td>0…20 mA</td>
<td>&lt; 400 mV Input I</td>
</tr>
<tr>
<td>C</td>
<td>4…20 mA</td>
<td>&lt; 400 mV Input I</td>
</tr>
<tr>
<td>D</td>
<td>0…2 V</td>
<td>0,5 MO Input U</td>
</tr>
<tr>
<td>E</td>
<td>0…5 V</td>
<td>0,5 MO Input U</td>
</tr>
<tr>
<td>F</td>
<td>0…10 V</td>
<td>0,5 MO Input U</td>
</tr>
<tr>
<td>G</td>
<td>±10 V</td>
<td>±10 V Input U</td>
</tr>
</tbody>
</table>

**INSTRUMENT ACCURACY**

TK: 50 ppm/°C

Accuracy: ±0,1 % of range

Rate: continuous measurement

Overload capacity: 2x; 10x [t < 30 ms]

Calibration: at 25°C and 40 % r.h.

**ANALOG OUTPUTS**

| Type: isolated, fixed setting |
| TK: 50 ppm/°C |
| Rate: response to change of value < 1 ms |

Voltage: 0…2 V, 0…5 V, 0…10 V, 0…20 mA, 4…20 mA, ±10 V (minimum load 1 kΩ)

Current: 0…20 mA, 4…20 mA, ±20 mA (line compensation up to 600 Ω)

**EXCITATION**

Adjustable: 5…24 VDC max. 1,2 W

**POWER SUPPLY**

<table>
<thead>
<tr>
<th>Range</th>
<th>10…30 V AC/DC, ±10 %, PF=0,4, ( I_{\text{PK}} \times 10 \text{ A} \times 1 \text{ ms} ), isolated</th>
</tr>
</thead>
<tbody>
<tr>
<td>voltage</td>
<td>80…250 V AC/DC, ±0 %, PF=0,4, ( I_{\text{PK}} \times 10 \text{ A} \times 1 \text{ ms} ), isolated</td>
</tr>
</tbody>
</table>

Consumption: 2,4 W/2,6 VA

Power supply is protected by a fuse inside the instrument.

**MECHANIC PROPERTIES**

Material: PA 66, incombustible UL 94 V-I, blue

Dimensions: 22 x 98 x 113 mm (w x h x d)

Installation: on DIN rail, width 35 mm

**OPERATING CONDITIONS**

Connection: connector terminal blocks, section < 2,5 mm²

Stabilization period: within 5 minutes after switch on

Working temperature: 20…60°C

Storage temperature: 20…85°C

Protection: IP00

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 analog output

3,75 kVAC per 1 min test between input and analog output

Insulation resistance: for pollution degree II, measuring cat. III

power supply > 600 V (PI), 300 V (DI)

input, output, PN > 500 V (PI), 250 V (DI)

EMC: EN 61326-1

**ORDER CODE**

**OMX 39PM**

<table>
<thead>
<tr>
<th>Power supply</th>
<th>10…30 V AC/DC</th>
<th>80…250 V AC/DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring range</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0…5 mA</td>
<td>0…20 mA</td>
<td>4…20 mA</td>
</tr>
<tr>
<td>0…2 V</td>
<td>0…20 mA</td>
<td>4…20 mA</td>
</tr>
<tr>
<td>0…10 V</td>
<td>±10 V</td>
<td>±20 mA</td>
</tr>
<tr>
<td>±5 mA</td>
<td>±20 mA</td>
<td>±5 mA</td>
</tr>
</tbody>
</table>

Excitation: 0…2 V, 0…5 V, 0…10 V, 0…20 mA, 4…20 mA, ±10 V

Analog output: 0…2 V, 0…5 V, 0…10 V, 0…20 mA, 4…20 mA, ±10 V

Basic configuration of the instrument is indicated in bold.

R - Primary insulation, DI - Double insulation
The OMX 39 model series are low-price and simple analog transmitters with mounting on a 35 mm wide DIN rail. Type OMX 39W is a transmitter for galvanic separation and power measurement. The transmitters have galvanic separation with isolation voltage of 600 V and thus they are suitable as primary isolation for majority of industrial applications.

**ISOLATED POWER TRANSMITTER > U/I**
- **INPUT:** 0...60 mV ~ 300 mV
  0...120 V ~ 450 V
  0...5 mA ~ 5 A
- **OUTPUT:** 0...5 mA, 0...20 mA, 4...20 mA, ±20 mA
  0...2 V, 0...5 V, 0...10 V, ±10 V
- **GALVANIC SEPARATION:** 3.75 kVAC
- **POWER SUPPLY** 10...30 V AC/DC; 80...250 V AC/DC

**OPERATION**
The transmitter is designed for simple measurements without further control.

**CALIBRATION**
By trimmers accessible from the face of the transmitter you may adjust the range of the output signal within the range of ±10 %.
**TECHNICAL DATA**

**INPUT**

<table>
<thead>
<tr>
<th>W</th>
<th>Range</th>
<th>Fixed - please specify the required range in the order</th>
</tr>
</thead>
<tbody>
<tr>
<td>0…120 V</td>
<td>1 MΩ</td>
<td>Input U</td>
</tr>
<tr>
<td>0…150 V</td>
<td>1 MΩ</td>
<td>Input U</td>
</tr>
<tr>
<td>0…250 V</td>
<td>1 MΩ</td>
<td>Input U</td>
</tr>
<tr>
<td>0…450 V</td>
<td>1 MΩ</td>
<td>Input U</td>
</tr>
<tr>
<td>0…60 mV</td>
<td>&lt; 400 mV</td>
<td>Input I</td>
</tr>
<tr>
<td>0…150 mV</td>
<td>&lt; 400 mV</td>
<td>Input I</td>
</tr>
<tr>
<td>0…300 mV</td>
<td>&lt; 400 mV</td>
<td>Input I</td>
</tr>
<tr>
<td>0…1 A</td>
<td>&lt; 400 mV</td>
<td>Input I</td>
</tr>
</tbody>
</table>

Input frequency: 40…2 500 Hz

**INSTRUMENT ACCURACY**

<table>
<thead>
<tr>
<th>TK</th>
<th>50 ppm/°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy</td>
<td>0,5 % of range</td>
</tr>
<tr>
<td>Rate</td>
<td>continuous measurement</td>
</tr>
<tr>
<td>Overload capacity</td>
<td>2x; 10x [t &lt; 30 ms] - not for &gt; 300 V and 5 A</td>
</tr>
<tr>
<td>Calibration</td>
<td>at 25°C and 40 % r.h.</td>
</tr>
</tbody>
</table>

**ANALOG OUTPUTS**

<table>
<thead>
<tr>
<th>Type</th>
<th>Isolated, fixed setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>TK</td>
<td>50 ppm/°C</td>
</tr>
<tr>
<td>Rate</td>
<td>response to change of value &lt; 1 s</td>
</tr>
</tbody>
</table>

Voltage: 0…2 V, 0…5 V, 0…10 V, on request ±10 V (minimum load 1 kΩ)

Current: 0…20 mA, 4…20 mA, on request ±20 mA (line compensation up to 600 Ω)

Power supply is protected by a fuse inside the instrument.

**MECHANICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Material</th>
<th>PA 66, incombustible UL 94 V-1, blue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>22 x 98 x 113 mm (w x h x d)</td>
</tr>
</tbody>
</table>

**OPERATING CONDITIONS**

Connection: connector terminal blocks, section < 2,5 mm²

Stabilization period: within 5 minutes after switch on

Working temperature: -20°…60°C

Storage temperature: -20°…85°C

Protection: IP00

EL safety: EN 61010-1, A2

Dielectric strength: 4 kVAC per 1 min test between supply and input

Insulation resistance: for pollution degree II, measuring cat. III: power supply > 600 V [P1], 350 V [D1] input, output, Pn > 500 V [P1], 250 V [D1]}

**EMC**

EN 61326-1

**ORDER CODE**

<table>
<thead>
<tr>
<th>DMX 39W</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Power supply</th>
<th>0…30 V AC/DC, 80…250 V AC/DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring range - U</td>
<td>0…120 V</td>
</tr>
<tr>
<td></td>
<td>0…150 V</td>
</tr>
<tr>
<td></td>
<td>0…250 V</td>
</tr>
<tr>
<td></td>
<td>0…450 V</td>
</tr>
<tr>
<td>Measuring range - I</td>
<td>0…60 mV</td>
</tr>
<tr>
<td></td>
<td>0…150 mV</td>
</tr>
<tr>
<td></td>
<td>0…300 mV</td>
</tr>
<tr>
<td></td>
<td>0…1 A</td>
</tr>
<tr>
<td></td>
<td>0…5 A</td>
</tr>
<tr>
<td>Analog output</td>
<td>0…2 V</td>
</tr>
<tr>
<td></td>
<td>0…5 V</td>
</tr>
<tr>
<td></td>
<td>0…10 V</td>
</tr>
<tr>
<td></td>
<td>0…20 mA</td>
</tr>
<tr>
<td></td>
<td>4…20 mA</td>
</tr>
</tbody>
</table>

RI - Primary insulation, DI - Double insulation

Basic configuration of the instrument is indicated in bold.
ISOLATED RESISTANCE TRANSMITTER > U/I

- INPUT: 0...0.1 ~ 100 kΩ
- OUTPUT: 0...5 mA, 0...20 mA, 4...20 mA, ±20 mA 0...2 V, 0...5 V, 0...10 V, ±10 V
- GALVANIC SEPARATION: 3.75 kV AC
- POWER SUPPLY: 10...30 V AC/DC; 80...250 V AC/DC

OPERATION

The transmitter is designed for simple measurements without further control.

CALIBRATION

By trimmers accessible from the face of the transmitter you may adjust the range of the output signal within the range of ±10%.
### TECHNICAL DATA

**INPUT**

<table>
<thead>
<tr>
<th>OMX</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>fixed</td>
<td>Please specify the required range in the order</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0…0.1 – 100 kΩ)</td>
</tr>
<tr>
<td></td>
<td>Connect.</td>
<td>2, 3 or 4 wire</td>
</tr>
</tbody>
</table>

**INSTRUMENT ACCURACY**

- **TK:** 50 ppm/°C
- **Accuracy:** ±0.2 % of range
- **Rate:** continuous measurement
- **Overload capacity:** 2x; 10x (t < 30 ms)
- **Calibration:** at 25°C and 40 % r.h.

**ANALOG OUTPUTS**

- **Type:** isolated, fixed setting
- **TK:** 50 ppm/°C
- **Rate:** response to change of value < 1 s
- **Voltage:** 0…2 V, 0…5 V, 0…10 V, on request ±10 V (minimum load 1 kΩ)
- **Current:** 0…20 mA, 4…20 mA, on request ±20 mA

**POWER SUPPLY**

- **Range:** 10…30 V AC/DC, ±10 %, PFx4.4, I<sub>SP</sub> = 40 A/1 ms, isolated
- **80…250 V AC/DC, ±10 %, PFx4.4, I<sub>SP</sub> = 40 A/1 ms, isolated
- **Consumption:** ±2.4 W/2.8 VA
- **Power supply is protected by a fuse inside the instrument.**

**MECHANIC PROPERTIES**

- **Material:** PA 66, incombustible UL 94 V-I, blue
- **Dimensions:** 22 x 98 x 113 mm (w x h x d)
- **Installation:** on DIN rail, width 35 mm

**OPERATING CONDITIONS**

- **Connection:** connector terminal blocks, section < 2.5 mm²
- **Stabilization period:** within 5 minutes after switch on
- **Working temperature:** -20°...60°C
- **Storage temperature:** -20°...85°C
- **Protection:** IP20
- **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 analog output
  - 3.75 kVAC per 1 min test between input and analog output
- **Insulation resistance:** for pollution degree II, measuring cat. III
- **Power supply:** > 600 V (P), 350 V (D)
- **input, output, PN:** > 500 V (P), 250 V (D)
- **EMC:** EN 61326-1

**ORDER CODE**

- **OMX 390HM**

<table>
<thead>
<tr>
<th>Power supply</th>
<th>10…30 V AC/DC</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection</td>
<td>2-wire</td>
<td>1</td>
</tr>
<tr>
<td>Analog output</td>
<td>0…2 V</td>
<td>1</td>
</tr>
</tbody>
</table>

Kindly specify the required input range in the order!
The OMX 39 model series are low-price and simple analog transmitters with mounting on a 35 mm wide DIN rail.

Type OMX 39RTD is a transmitter for galvanic separation of temperature resistance sensors Pt 100/500/1 000.

The transmitters have galvanic separation with isolation voltage of 600 V and thus they are suitable as primary isolation for majority of industrial applications.

**ISOLATED TRANSMITTER Pt > U/I**

- **INPUT:** Pt 100/500/1 000
- **OUTPUT:** 0...5 mA, 0...20 mA, 4...20 mA, ±20 mA
  0...2 V, 0...5 V, 0...10 V, ±10 V
- **GALVANIC SEPARATION:** 3,75 kVAC
- **POWER SUPPLY:** 10...30 V AC/DC; 80...250 V AC/DC

**OPERATION**

The transmitter is designed for simple measurements without further control.

**CALIBRATION**

By trimmers accessible from the face of the transmitter you may adjust the range of the output signal within the range of ±10 %.
**TECHNICAL DATA**

**INPUT**

<table>
<thead>
<tr>
<th>RTD Type</th>
<th>Measuring range*</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT 100</td>
<td>Pt 100 with 3850 ppm/°C -50°…850°C</td>
</tr>
<tr>
<td>PT 500</td>
<td>Pt 500 with 3850 ppm/°C -50°…850°C</td>
</tr>
<tr>
<td>PT 1000</td>
<td>Pt 1000 with 3850 ppm/°C -50°…850°C</td>
</tr>
</tbody>
</table>

**Connect.** 2, 3 or 4 wire

**INSTRUMENT ACCURACY**

- **Type:** isolated, fixed setting
- **TK:** 50 ppm/°C
- **Accuracy:** ±0.2 % of range
- **Rate:** continuous measurement
- **Overload capacity:** 2x; 10x (t ≤ 30 ms)
- **Calibration:** at 25°C and 40 % r.h.

**ANALOG OUTPUTS**

- **Type:** isolated, fixed setting
- **TK:** 50 ppm/°C
- **Rate:** response to change of value < 1 s
- **Voltage:** 0…2 V, 0…5 V, 0…10 V, on request ±10 V (minimum load 1 kΩ)
- **Current:** 0…20 mA, 4…20 mA, on request ±20 mA
  - (line compensation up to 600 Ω)

**POWER SUPPLY**

- **Range:** 10…30 V AC/DC, ±10 %, PF=0,4, Ipt=40 A/1 ms, isolated
- **80…250 V AC/DC, ±10 %, PF=0,4, Ipt=40 A/1 ms, isolated
- **Consumption:** < 2,4 W/2,6 VA
- **power supply is protected by a fuse inside the instrument.**

**MECHANIC PROPERTIES**

- **Material:** PA 66, incombustible UL 94 V-1, blue
- **Dimensions:** 22 x 98 x 113 mm (w x h x d)
- **Installation:** on DIN rail, width 35 mm

**OPERATING CONDITIONS**

- **Connection:** connector terminal blocks, section < 2,5 mm²
- **Stabilization period:** within 5 minutes after switch on
- **Working temperature:** -20°…60°C
- **Storage temperature:** -20°…85°C
- **Protection:** IP20
- **El. safety:** EN 61010-1, A2
- **Dielectric strength:** 4 kVAC per 1 min test between supply and input
- **3,75 kVAC per 1 min test between input and analog output
- **Insulation resistance:** for pollution degree II, measuring cat. III power supply > 600 V (PI), 300 V (DI)
- **input, output, PN > 500 V (PI), 250 V (DI)
- **EMC:** EN 61326-1

**ORDER CODE**

<table>
<thead>
<tr>
<th>OMX 39RTD</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply</td>
<td>10...30 V AC/DC</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Measuring range*</td>
<td>Pt 100</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pt 500</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pt 1000</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Connection</td>
<td>2-wire</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3-wire</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4-wire</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Analog output</td>
<td>0…2 V</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0…5 V</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0…10 V</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0…20 mA</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>±10 V</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>±50 mA</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0…5 mA</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

* Please specify the required input temperature range in the order!

---

**OMX 39RTD -**

- Primary insulation, DI - Double insulation

---

**CONNECTION**
OMX 39DU

The OMX 39 model series are low-price and simple analog transmitters with mounting on a 35 mm wide DIN rail. Type OMX 39DU is a transmitter for galvanic separation of linear potentiometers. The transmitters have galvanic separation with isolation voltage of 600 V and thus they are suitable as primary isolation for majority of industrial applications.

ISOLATED TRANSMITTER FOR LIN. POTENTIOMETERS

- INPUT: LINEÁRNÍ POTENCIOMETR
- OUTPUT: 0…5 mA, 0…20 mA, 4…20 mA, ±20 mA, 0…2 V, 0…5 V, 0…10 V, ±10 V
- GALVANIC SEPARATION: 3,75 kVAC
- POWER SUPPLY 10…30 V AC/DC; 80…250 V AC/DC

OPERATION

The transmitter is designed for simple measurements without further control.

CALIBRATION

By trimmers accessible from the face of the transmitter you may adjust the range of the output signal within the range of ±10%.
**TECHNICAL DATA**

**INPUT**

<table>
<thead>
<tr>
<th>DU</th>
<th>Range</th>
<th>DC VCC/20 mA, Potentiometer resistance &gt; 500 Ω</th>
</tr>
</thead>
</table>

**INSTRUMENT ACCURACY**

<table>
<thead>
<tr>
<th>TK</th>
<th>Accuracy: 10.2% of range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>continuous measurement</td>
</tr>
</tbody>
</table>

**Overload capacity:** 2x; 10x [t < 30 ms]

**Calibration:** at 25°C and 40% r.h.

**ANALOG OUTPUTS**

<table>
<thead>
<tr>
<th>Type</th>
<th>Isolated, fixed setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>TK</td>
<td>50 ppm/°C</td>
</tr>
</tbody>
</table>

**Rate:** response to change of value < 1 ms

**Voltage:**

- 0…2 V
- 0…5 V
- 0…10 V (on request ±20 mA)
- 0…10 V
- 0…20 mA
- 4…20 mA
- ±20 mA

**Power Supply**

<table>
<thead>
<tr>
<th>Range</th>
<th>10…30 V AC/DC, ±10%, PF=0.4, IP=40 A/ ms, isolated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>80…250 V AC/DC, ±10%, PF=0.4, IP=40 A/ ms, isolated</td>
</tr>
</tbody>
</table>

**Consumption:** ±2.4 W/2.8 W

**Power supply is protected by a fuse inside the instrument.**

**MECHANIC PROPERTIES**

<table>
<thead>
<tr>
<th>Material</th>
<th>PA 6.6, incombustible UL 94 V-0, blue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>22 x 98 x 113 mm (w x h x d)</td>
</tr>
</tbody>
</table>

**OPERATING CONDITIONS**

<table>
<thead>
<tr>
<th>Connection</th>
<th>Connector terminal blocks, section &lt; 2.5 mm²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stabilisation period</td>
<td>within 5 minutes after switch on</td>
</tr>
</tbody>
</table>

**Working temperature:** -20°…60°C

**Storage temperature:** -20°…85°C

**Protection:** IP20

**E. Safety:** EN 61010-1, A2

**Dielectric strength:** 4 kVAC per 1 min test between supply and input

**3.75 kVAC per 1 min test between input and analog output**

**Insulation resistance:** for pollution degree II, measuring cat. III

**Power supply > 600 V (PI), 300 V (DI)**

**Input, output, PN > 500 V (PI), 250 V (DI)**

**EMC:** EN 61326-1

---

**ORDER CODE**

**OMX 39DU**

<table>
<thead>
<tr>
<th>Power supply</th>
<th>10…30 V AC/DC</th>
<th>0</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analog output</td>
<td>0…2 V</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>0…5 V</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>0…10 V</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>0…20 mA</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>4…20 mA</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>±10 V</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>±20 mA</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>±5 mA</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

----

**PI** - Primary insulation, **DI** - Double insulation

---

Basic configuration of the instrument is indicated in bold.
PROGRAMMABLE ISOLATED TRANSMITTER

- 2x MULTIFUNCTION INPUT (DC, PM, RTD, T/C, DU)
- LCD DISPLAY, DIGIT. FILTERS, TARE, LINEARIZATION
- 2x OUTPUT
  0/4…20 mA/0…5 mA/0,2…2,2 kHz/0…2/5/10 V/±10 V
- GALVANIC SEPARATION: 2,5 kVAC
- POWER SUPPLY 10…30 V AC/DC; 80…250 V AC/DC
- Option
  Excitation • Comparators • Data output

OPERATION

The instrument is set and controlled by two 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 can be projected on the display.

OPTION

EXCITATION for feeding sensors and transmitters. It is galvanically isolated with optional values 5/12/17/24 V.

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 and LAN.

STANDARD FUNCTIONS

PROGRAMMABLE INPUT

Selection: of input type and measuring range

Setting: manual, in menu it is possible to set for both limit values of the input signal arbitrary type (V, mA, Hz) and range of the analog output as well as projection on the LCD display

ANALOG OUTPUT

Type: isolated, programmable with a resolution of 16 bit, rate < 1 ms

Range: 0…2/5/10 V, ±10 V, 0…5 mA, 0/4…20 mA, 0,1…10 100 Hz

COMPENSATION

Of conduct (RTD, OHM): 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: linear interpolation in 177 points [only via OM Link]

Tare: designed to reset display upon non-zero input signal

Min./max. value: registration of min./max. value reached during measurement

Peak value: the display shows only max. or min. value

Mathemat. operations: polynom, 1/x, logarithm, exponential, power, root, sin x and operations between inputs

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

Tare: activation and tare resetting

Resetting MM: resetting min/max value

OMX 102UNI

The OMX 102 model series are DIN rail mountable programmable transmitters designed with the utmost versatility and user comfort whilst keeping the cost at a favourable level.

Type OMX 102UNI is a multifunction two-input instrument with 8 possible input configurations easily adjustable in the instrument’s menu.

The instrument is based on a single-chip microcontroller with a 24-bit A/D converter, which ensures good accuracy, stability and easy operation of the instrument.

For displaying measured data, easier setup and clear function arrangement, the instrument is delivered with a backlit LCD display.

OMX 102UNI

DC VOLTMETER AND AMMETER

PROCESS MONITOR

OHMMETER

THERMOMETER FOR PT/CT/N/THERMOCOUPLES

DISPLAY FOR LINEAR POTENTIOMETERS

OMX 102UNI

DC VOLTMETER AND AMMETER

PROCESS MONITOR

OHMMETER

THERMOMETER FOR PT/CT/N/THERMOCOUPLES

DISPLAY FOR LINEAR POTENTIOMETERS
**TECHNICAL DATA**

**INPUT**

**Number inputs** 2, isolated

**DC Range**
- optional in configuration menu
- ±10 mA = 200 mV Input 5
- ±50 mA = 200 mV Input 5
- ±100 mA = 10 MD Input 3
- ±200 mA = 100 MD Input 3
- ±500 mA = 1000 MD Input 3
- ±1 V = 125 MD Input 1
- ±2 V = 125 MD Input 1
- ±5 V = 5 MD Input 1

**PN Range**
- optional in configuration menu
- ±5 V = 200 mV Input 5
- ±50 mA = 200 mV Input 5
- ±20 mA = 200 mV Input 5
- ±5 V = 1 MD Input 1
- ±5 V = 1 MD Input 1

**C/H Range**
- optional in configuration menu
- ±5 V = 200 mV Input 5
- ±50 mA = 200 mV Input 5
- ±20 mA = 200 mV Input 5
- ±5 V = 1 MD Input 1
- ±5 V = 1 MD Input 1

**Connect.**
- Type optional in configuration menu
- Con 12 800 1000 0 0 0 0 0 0 0 0 0 0 0 0 0
- Con 12 800 1000 0 0 0 0 0 0 0 0 0 0 0 0 0

**RTD Type**
- Type optional in configuration menu
- EU +10 0/50 0.000 0, with 3,500 ppm/°C, 0...40°C
- US +10 0, with 3,500 ppm/°C, 0...40°C
- EU +10 0, with 3,500 ppm/°C, 0...10°C
- RU +10 0, with 2,500 ppm/°C, 0...10°C

**Connect.**
- Type optional in configuration menu
- Con 12 800 1000 0 0 0 0 0 0 0 0 0 0 0 0 0
- Con 12 800 1000 0 0 0 0 0 0 0 0 0 0 0 0 0

**Cu Type**
- Cu 50/100 with 4 280 ppm/°C 0...40°C
- Cu 50/100 with 4 280 ppm/°C 0...40°C

**Connect.**
- Type optional in configuration menu
- Con 12 800 1000 0 0 0 0 0 0 0 0 0 0 0 0 0
- Con 12 800 1000 0 0 0 0 0 0 0 0 0 0 0 0 0

**T/C Type**
- Type optional in configuration menu
- J: 100°C with ±0,5°C
- K: 100°C with ±0,5°C
- R (Pt100): 0...400°C
- S (Pt100): 0...600°C
- B ((Pt13Rh-Pt)): 0...1200°C
- N (NiCrCu): 0...1200°C
- L (CuNi): 0...1200°C

**Connect.**
- Type optional in configuration menu
- Con 12 800 1000 0 0 0 0 0 0 0 0 0 0 0 0 0
- Con 12 800 1000 0 0 0 0 0 0 0 0 0 0 0 0 0

**DU**
- Potential power supply: 2,5 VDC/8 mA, Potentialmeter resistance > 5000 Ω

**Ext. inputs**
- 2 inputs, on contact
- The following functions can be assigned:
  - CMN / SAVE / LOC

**PROJECTION**
- Display: 55mm (prefix: pm), X, Y, µm
- LCD with backlighting, 2x 3 digits + 2x description (3 digits)

**Description**
- second and fourth line of the LCD display may be used for description of measured quantity, resp. output quantity (adjustable in menu)

**Connecting point**: adjustable in menu

**INSTRUMENT ACCURACY**
- T/C, 50 ppm/°C
- Accuracy: ±0,15% of range + 1 digit

**Accuracy of cold junction measure**: ±5°F

**Rate**: ±0,15 mV/s

**Overload capacity**: 2x 10 V [t = 30 ms], not for > 200 V and 5 A

**Resolution**: 0,01°C (RTD), 0,1°C (T/C), for display

**Digital filters**: Exp, IIR, Moving average, rounding

**Function limit**: Start, Max/min value, Tare, Peak value, Max operations

**Linearization**: (DC, PM, DL) linear interpolation in 177 points and 3 tab

**OM Options**: Company communication interface for operation, setting and update of instruments.

**Watchdog**: after read of 20 ms

**Calibration**: at 25°C and 40 % h. t.

**COMPARATOR**
- Type: digital, menu adjustable, contact switch-on > 50 ms

**Hysteresis mode**: switching limit, hysteresis band ±3 mV/°C, and time (0...60 s), determining the switching delay

**Mode From**: switching on and switching off internal

**Mode Batch period**: its multiples and time (0...300 s), within which the output is active

**Mode Error**: adjustable limits for signaling underflow/overflow

**Output**: 1, 2x from A relays (255 VAC/250 VDC, 3 A), 1, 2x open collector (35 VDC/100 mA)

**DATA OUTPUTS**
- Protocol: ASCII, MODBUS RTU, RS485/DS 485
- Data format: 8 bit + no parity + 1 stop bit (ASCII)
- Rate: 9600, 19200, 38400 baud
- RS 232/485: isolated, addressing (max. 31 instruments/RS485)
- RS 232/485: isolated, addressing (max. 31 instruments/RS485)
- USB: non-isolated, two-way communication

**ANALOG OUTPUTS**
- Type: isolated, dual programmable with 16 bit D/A converter, type and range are selectable in programming mode

**Non-linearity**: 0,1% of range
- Temp: 15 ppm/°C

**Rate**: response to change of value < 1 ms

**Ranges**: ±0,05/0,1 V, ±0,5/1 V, ±0,5/20 mA

**Input**: 600 VDC/500 VAC

**Frequency**: isolated, programmable, open collector with inside power FGS: 2 200 Hz

**EXCITATION**
- Adjustable: 0,1/0,17/0,4 VDC/25 kΩ, isolated

**POWER SUPPLY**
- Range: 10...30 V AC/DC, ±10 %, PF ≤ 0,4, 1x ≤ 40 A/m, isolated
- 80...250 V AC/DC, ±10 %, PF ≤ 0,4, 1x ≤ 40 A/m, isolated
- Consumption: ≤ 0,4 W/30 VA

**Power supply is protected by a fuse inside the instrument**

**MECHANIC PROPERTIES**
- Material: PA 66, incombustible UL 94 V-0
- Dimensions: 36 x 98 x 113 mm (w x h x d)
- Installation: on DIN rail, width 35 mm

**OPERATING CONDITIONS**
- Connection: connector terminal blocks, section < 1,5/2,5 mm²
- Shakedown period: within 15 minutes after switch-on
- Working temperature: 0...60°C
- Storage temperature: -20...80°C
- Protection: IP65
- El. safety: EN 61010-1, A2
- Dielectric strength: 4 kVAC per 1 min test between input and supply and output and 4 kVAC per 1 min test between supply and data/analog output and supply and input and relay output
- 3,75 kVAC per 1 min test between input and data/analog output and 3,75 kVAC per 1 min test between input and data/analog output
- Insulation resistance: for pollution degree II, measuring cat. II, power supply, input, output, PN > 600 V (500 V / 300 V)
- EMC: EN 61010-2-30
- Seismic capacity: EC 980: 1993, par. 6
- SW validation: Class B, C in compl. with EC 62138, 61235

**ORDER CODE**

**DMX 102UNI**

- | Power supply | 10...30 V AC/DC 10...250 V AC/DC |
- | No. inputs | 1 input 2 inputs |
- | Comparators | 1x relay (Form A) 1x relay (Form A) 1x open collector 1x open collector |
- | Analog outputs | 1x relay (Form A) 2x relay (Form A) 1x open collector 1x open collector |
- | HART [not with data output] | 2x |
- | Output | none |
- | RS 232 | RS 485 (ASCII, MODBUS) RS485 |
- | Exclination | none |
- | Data record | none |
- | Specification | customized version, do not fill in |

**Basic configuration of the instrument is indicated in bold.**

**R** - Primary insulation, **C** - Double insulation

* Launch for sale has not been set.
**PROGRAMMABLE ISOLATED TRANSMITTER**

- **RANGE:** ±0,5/±1/±5 A  
  ±25/±50/±100/±200/±400 V  
- **DIGITAL FILTERS, TARE, LINEARIZATION**  
- **OUTPUT:** 0/4..20 mA/0..5 mA/0..2/5/10 V/±10 V  
- **GALVANIC SEPARATION:** 2,5 kVAC  
- **POWER SUPPLY:** 10..30 VDC/24 VAC  
- **Option**  
  - Comparators  
  - Data output

**OMX 333DC**

The OMX 333 model series are simple DIN rail mountable programmable transmitters. Type OMX 333DC is designed for measurements of higher DC and AC voltage and current, easily adjustable in the instrument’s menu. The instrument is based on a single-chip microcontroller with a 16-bit A/D and D/A converter, which provides good accuracy, stability and ease of use.

**OPERATION**

Instrument can be controlled by two push buttons and a DP switch located on the front panel. When frequent changes of settings are needed, we recommend the use of OM Link interface, which in conjunction with free control SW allows for modification and storage of all instrument’s settings and also for firmware upload (using OM Link cable) from a PC.

The above mentioned SW can also be used for visualisation and archiving of measured values from a number of instruments via the RS 485 line.

All settings are stored in the EEPROM memory (they 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 RS485 with ASCII protocol.

**STANDARD FUNCTIONS**

**PROGRAMMABLE INPUT**  
Setting: manual, in menu it is possible to set for both limit values of the input signal arbitrary AV conversion as well as type of the analog output

**ANALOG OUTPUT**  
Type: isolated, programmable with a resolution of 16 bit, rate < 0.2 ms  
Ranges: 0...2/5/10 V/±10 V, 0...5 mA/0/4...20 mA (comp. < 600 Ω)

**FUNCTIONS**  
Linearization: through linear interpolation in 25 points (solely via OM Link)  
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: activation and tare resetting
**INSTRUMENT ACCURACY**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>TK:</td>
<td>50 ppm/°C</td>
</tr>
<tr>
<td>Accuracy</td>
<td>±0.15 % of range (for 20 m/s)</td>
</tr>
<tr>
<td>Rate:</td>
<td>0.5, 30 measure/s</td>
</tr>
<tr>
<td>Digital filter:</td>
<td>exponential, rounding</td>
</tr>
</tbody>
</table>

**Linearity:**
- Through linear interpolation in 25 points
- OM Link: Company communication interface for operation, setting and update of instruments.

**Overload capacity:**
- 2x; 10x (t < 30 ms) - not for > 200 V and 5 A

**Digital filters:**
- Exponential average, rounding

**Linearization:**
- Through linear interpolation in 25 points

**GT:**
- 15 ppm/°C

**Rate:**
- Response to change of value < 1 ms

**Ranges:**
- 0…0.5/1.0 V, ±10 V, 0…5 mA, 0/4…20 mA

**Ripple:**
- 5 mV residual ripple at output voltage of 10 V

**POWER SUPPLY**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate:</td>
<td>response to change of value &lt; 1 ms</td>
</tr>
<tr>
<td>Frequency</td>
<td>0…60/0 Hz</td>
</tr>
</tbody>
</table>

**EMC:**
- EN 61326-1

**Mechanical properties**
- Material: PA 66, incombustible UL 94 V0, blue
- Dimensions: 25 x 79 x 90.5 (w x h x d)
- Installation: on DIN rail, width 35 mm

**Operating conditions**
- Connection: connector terminal blocks, section < 1.5 mm²
- Stabilization period: within 15 minutes after switch-on
- Working temperature: -20°…60°C
- Storage temperature: -20°…80°C
- Protection: IP00
- Safety: EN 61010-1, A2
- Diode: 250 VAC per 1 min test between power supply, inputs and outputs
- Insulation resistance: for pollution degree II, measuring cat. II power supply > 550 V (PI), 255 V (DI)
- ENEC: EN 61010-1

**Connection**

**Order code**

```
OMX 333DC
```

<table>
<thead>
<tr>
<th>Specification</th>
<th>Customized version, do not fill in</th>
</tr>
</thead>
</table>

**Basic configuration of the instrument is indicated in bold.**
**PROGRAMMABLE ISOLATED TRANSMITTER**
- MULTIFUNCTION INPUT (DC, PM, RTD, T/C, DU)
- DIGITAL FILTERS, TARE, LINEARIZATION
- OUTPUT: 0/4...20 mA/0...5 mA/0...2/5/10 V/±10 V
- GALVANIC SEPARATION: 2.5 kVAC
- POWER SUPPLY 10...30 VDC/24 VAC
- Option: Comparators • Data output

**OPERATION**
Instrument can be controlled by two push buttons and a DP switch located on the front panel. When frequent changes of settings are needed, we recomend the use of OM Link interface, which in conjunction with free control SW allows for modification and storage of all instrument’s settings and also for firmware upload (using OM Ling cable) from a PC.

The above mentioned SW can also be used for visualisation and archiving of measured values from a number of instruments via the RS 485 line.

All settings are stored in the EEPROM memory (they hold even after the instrument is switched off).

**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 signaled 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 RS485 with ASCII protocol.

**OMX 333UNI**
The OMX 333 model series are simple DIN rail mountable programmable transmitters.
Type OMX 333UNI is a multifunction transmitter with 8 possible input configurations easily adjustable in the instrument’s menu.
The instrument is based on a single-chip microcontroller with a 16-bit A/D and D/A converter, which provides good accuracy, stability and ease of use.

**OMX 333UNI**
DC VOLTMETER AND AMMETER
PROCESS MONITOR
OHMMETER
THERMOMETER FOR PT/TC/NI/HERMOCOUPLES
TRANSMITTER FOR LINEAR POTENTIOMETERS
### TECHNICAL DATA

#### INPUT

<table>
<thead>
<tr>
<th>DC Type</th>
<th>Range</th>
<th>Optional in configuration menu</th>
<th>Additional features</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>±10 mA</td>
<td>≤ 100 mV</td>
<td>±0,3 % of range</td>
</tr>
<tr>
<td>-</td>
<td>±50 mA</td>
<td>≤ 500 mV</td>
<td>±0,15 % of range</td>
</tr>
<tr>
<td>-</td>
<td>±100 mA</td>
<td>≤ 1000 mV</td>
<td>±0,1 % of range</td>
</tr>
<tr>
<td>-</td>
<td>±500 mA</td>
<td>≤ 5000 mV</td>
<td>±0,05 % of range</td>
</tr>
<tr>
<td>-</td>
<td>±1000 mA</td>
<td>≤ 10000 mV</td>
<td>±0,01 % of range</td>
</tr>
<tr>
<td>-</td>
<td>±5000 mA</td>
<td>≤ 50000 mV</td>
<td>±0,005 % of range</td>
</tr>
<tr>
<td>-</td>
<td>±10000 mA</td>
<td>≤ 100000 mV</td>
<td>±0,001 % of range</td>
</tr>
<tr>
<td>-</td>
<td>±50000 mA</td>
<td>≤ 500000 mV</td>
<td>±0,0005 % of range</td>
</tr>
</tbody>
</table>

#### PM Range

<table>
<thead>
<tr>
<th>Optional in configuration menu</th>
<th>±10 mV</th>
<th>≤ 100 mV</th>
<th>±0,3 % of range</th>
</tr>
</thead>
<tbody>
<tr>
<td>±20 mV</td>
<td>≤ 200 mV</td>
<td>±0,15 % of range</td>
<td></td>
</tr>
<tr>
<td>±50 mV</td>
<td>≤ 500 mV</td>
<td>±0,1 % of range</td>
<td></td>
</tr>
<tr>
<td>±100 mV</td>
<td>≤ 1000 mV</td>
<td>±0,05 % of range</td>
<td></td>
</tr>
<tr>
<td>±500 mV</td>
<td>≤ 5000 mV</td>
<td>±0,01 % of range</td>
<td></td>
</tr>
<tr>
<td>±1000 mV</td>
<td>≤ 10000 mV</td>
<td>±0,005 % of range</td>
<td></td>
</tr>
<tr>
<td>±5000 mV</td>
<td>≤ 50000 mV</td>
<td>±0,001 % of range</td>
<td></td>
</tr>
<tr>
<td>±10000 mV</td>
<td>≤ 100000 mV</td>
<td>±0,0005 % of range</td>
<td></td>
</tr>
</tbody>
</table>

#### OHM Range

<table>
<thead>
<tr>
<th>Optional in configuration menu</th>
<th>±100 °C</th>
<th>±1,5°C</th>
<th>±0,15 % of range</th>
</tr>
</thead>
<tbody>
<tr>
<td>±200 °C</td>
<td>±2°C</td>
<td>±0,1 % of range</td>
<td></td>
</tr>
<tr>
<td>±300 °C</td>
<td>±3°C</td>
<td>±0,05 % of range</td>
<td></td>
</tr>
<tr>
<td>±400 °C</td>
<td>±4°C</td>
<td>±0,01 % of range</td>
<td></td>
</tr>
</tbody>
</table>

#### CONNECTION

- **OMX 333UNI**

  - **Digital filters:** exponential average, rounding
  - **Non-linearity:** ±0,1 % of range
  - **Accuracy:** ±0,05 % of range
  - **Response to change of value:** < 1 ms
  - **Hysteresis mode:** switching limit, hysteresis band "Lim ±1/2 Hys." and time (5…99.9 s) determining the switching delay
  - **Mode READY:** output switching signals flawless status
  - **Mode Error:** output switching signals flawless status
  - **Output:** 1,2x Form A relays (30 VDC/24 VAC, ±10 %, PF ≥ 0,4, I STP< 40 A/1 ms, isolated, addressing (max. 31 instruments)
  - **Accuracy of cold junction measurement:** ±0,05°C
  - **Rate:** 0,5…100 measur./s
  - **Data format:** 8 bit + no parity + 1 stop bit (ASCII)
  - **Protocol:** RS 485
  - **Isolation:** > 2000 V

### ORDER CODE

**OMX 333UNI**

- **Comparators:** none
- **Output:** none
- **Specifications:** customized version, do not fill in

**R** - Primary insulation, **D** - Double insulation

### MECHANIC PROPERTIES

- **Material:** PA 6.6, incombustible UL, 94 V0, blue
- **Dimensions:** 25 x 70 x 90,5 (w x h x d)
- **Installation:** on DIN rail, width 35 mm
- **Protection:** IP00
- **Stabilization period:** within 15 minutes after switch-on
- **Working temperature:** -20°...60°C
- **Storage temperature:** -20°...80°C
- **Power supply:** 565 V [Pi], 265 V [Di]

**EN 61010-1, A2**

#### Datasheet:

- **Diode strength:** 25kV per 1 min test between pow. supply, inputs and outputs
- **Insulation resistance:** for pollution degree II, measuring cat. II
- **ISEU > 100 Ω, with 3 910 ppm/°C -200°…450°C**
- **IUS > 100 Ω, with 3 920 ppm/°C -50°…450°C**
- **EU > 100/500/1000 Ω, with 3 850 ppm/°C -50°…450°C**
- **0…30 kΩ (only for 2- or 4-wire connection)**
- **0…24 kΩ**
- **0…3 kΩ**
- **0…1,5kΩ**
- **0…300 Ω**
- **0…100 Ω**
- **±10 V 1 MΩ Input 1**
- **±5 V 1 MΩ Input 1**
- **±2 V 1 MΩ Input 1**
- **±20 mA < 200 mV Input 5**
- **±80 V 1,25 MΩ Input 1**
- **±40 V 1,25 MΩ Input 1**
- **±20 V 1,25 MΩ Input 1**
- **±1000 mV > 100 MΩ Input 3**
- **±60 mV > 10 MΩ Input 3**
- **±30 mV > 10 MΩ Input 3**
- **±180 mA < 200 mV Input 5**
- **±90 mA < 200 mV Input 5**
**STANDARD FUNCTIONS**

- **PROGRAMMABLE INPUT**
  - Setting: measuring mode counter/frequency with adjustable calibration coefficient and time base

- **ANALOG OUTPUT**
  - Type: isolated, programmable with a resolution of 16 bit, rate < 0.2 ms
  - Ranges: 0…2/5/10 V/±10 V, 0…5 mA/0/4…20 mA (comp. < 600 Ω)

- **FUNCTIONS**
  - Linearization: through linear interpolation in 25 points (solely via OM Link)
  - Tare: designed to reset display upon non-zero input signal
  - Reset: initial nonzero value that is always read after resetting the device

**DIGITAL FILTERS**

- Exponential average: from 2…100 measurements
- Rounding: setting the projection step for display
- Input filter: passes the input signal up to 5…1 000 Hz

**EXTERNAL CONTROL**

- Hold: display/instrument blocking
- Lock: control keys blocking
- Tare: activation and tare resetting
- Resetting: counter resetting

**OPTION**

- Comparators
- Data output

**PROGRAMMABLE ISOLATED TRANSMITTER**

- **COUNTER/FREQUENCY/CLOCK/TIMER**
- **DIGITAL FILTERS, TARE, LINEARIZATION, SUM**
- **OUTPUT:** 0/4…20 mA/0…5 mA/0…2/5/10 V/±10 V
- **GALVANIC SEPARATION:** 2,5 kVAC
- **POWER SUPPLY:** 10…30 VDC/24 VAC

**OPERATION**

Instrument can be controlled by two push buttons and a DP switch located on the front panel. When frequent changes of settings are needed, we recomend the use of OM Link interface, which in conjunction with free control SW allows for modification and storage of all instrument’s settings and also for firmware upload (using OM Link cable) from a PC.

The above mentioned SW can also be used for visualisation and archiving of measured values from a number of instruments via the RS 485 line.

All settings are stored in the EEPROM memory (they hold even after the instrument is switched off).

**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 RS485 with ASCII protocol.

**OMX 333UQC**

The OMX 333 model series are simple DIN rail mountable programmable transmitters.

Type OMX 333UQC is a universal transmitter - counter/frequency meter/timer/clock adjustable in the instrument’s menu.

The instrument is based on a single-chip microcontroller, which provides good stability and ease of use.

**OMX 333UQC**

**UNIVERSAL COUNTER**
**OUTPUTS**

* **Analog Outputs**
  - Type: linear, programmable with a 16 bit D/A converter, type and range are selectable in menu
  - Non-linearity: 0.1% of range
  - Temperature: 15 ppm/°C
  - Response to change of value: < 1 ms
  - Accuracy: ±0.01% of range

* **Digital Outputs**
  - Type: digital, menu adjustable, contact switch-on off after reset
  - Hysteresis mode: switching limit, hysteresis band ±1/2 Hys.
  - Reset: automatic counter resetting at the set value
  - Mode Once: switching limit, which will switch off only after the counter has been reset

**Power Supply**
- Range: 10...30 VDC/24 VAC, ±10 %, PF=0.4, Lm=40 A
- 10...30 VDC/24 VAC, ±10 %, PF=0.4, Lm=40 A
- Isolated Consumption: <3 W/2 VA

**EN 61326-1**
- Primary insulation, DI-Double insulation
OMX 380PM

The OMX 380 model series are very fast DIN rail mountable digital transmitters with a Teach-in function.
Type OMX 380PM is a galvanic separator adjustable in the instrument’s menu.
The instrument is based on a single-chip microcontroller and a 24-bit A/D and 16-bit D/A converter, which ensures excellent accuracy, stability and easy operation of the instrument.

PROGRAMMABLE ISOLATED TRANSMITTER
- INPUT: 0...20 mA/4...20 mA/0...10 V
- OUTPUT: 4...20 mA/0...10 V/±10 V
- RATE UP TO 7 500 m/s
- DIGITAL FILTERS, TARE, TEACH-IN
- GALVANIC SEPARATION: 2.5 kVAC
- POWER SUPPLY 18...30 VDC/24 VAC
- Option
  Excitation • Data output

OPERATION
The instrument is set and controlled by two push buttons located on the front panel. Type of the output signal and access to the instrument setting is managed by a switch on the front panel.
Standard equipment is the OM Link interface, which together with operating program allows modification and filing of all instrument’s settings as well as performing firmware updates (with OML cable).
All settings are stored in the EEPROM memory (they hold even after the instrument is switched off).

OPTION
EXCITATION for feeding sensors and transmitters with a fixed value of 15 V or 24 V.
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 RS485 with ASCII protocol.

STANDARD FUNCTIONS

PROGRAMMABLE INPUT
Selection: measuring range
Tech-in: semiautomatic mode of input calibration of both limit values of the output range

ANALOG OUTPUT
Type: programmable with resolution of 16 bit, rate < 0.2 ms
Range: 0...10 V, ±10 V, 4...20 mA

EXCITATION
Fixed: 15 VDC or 24 VDC

FUNCTIONS
Tare: designed to reset display upon non-zero input signal
Fixed tare: firmly preset tare

DIGITAL FILTERS
Floating average: from 2...30 measurements
Exponential average: from 2...100 measurements
Arithmetic average: from 2...100 measurements

EXTERNAL CONTROL
Hold: display/instrument blocking
Lock: control keys blocking
Tare: activation and tare resetting
**INPUT**

**PM**  
Range: optional in configuration menu  
- 0…20 mA = 200 mV (Input 1)  
- 4…20 mA = 200 mV (Input 1)  
- 0…10 V = 1 MΩ (Input U)

**Ext. inputs**  
2 inputs, on contact  
The following functions can be assigned:  
- DIFF: input off  
- HLD: display stop  
- TAR: tare activation  
- CL.TAR: tare resetting

**INSTRUMENT ACCURACY**  
TK: 10 ppm/°C  
Accuracy: ±0.01% of range  
±0.03% of range  
Ref.: 25°C, ±500 ms/tick  
Overload capacity: 2x 10 s [t ≤ 30 ms]

**DATA OUTPUTS**  
Type: RS 485  
Protocol: ASCII, MESSAGE, MODBUS RTU  
Date format: 8 bit + no parity + 1 stop bit  
Rate: 600…230400 baud  
Addressing: ASCII - max. 31 instruments  
MODBUS - max. 246 instruments

**ANALOG OUTPUTS**  
Type: programmable with a 16-bit D/A converter, output type and range are optional  
Non-linearity: ±0.024% of range  
TK: 10 ppm/°C

**POWER SUPPLY**  
Range: 10…30 VDC/24 VAC, ±10%  
Power: 2x; 10x (t < 30 ms)

**MECHANIC PROPERTIES**  
Material: PA 66, incombustible UL 94 V0, blue  
Dimensions: 25 x 79 x 90.5 (w x h x d)  
Installation: on DIN rail, width 35 mm

**OPERATING CONDITIONS**  
Connection: connector terminal blocks, section < 1.5 mm²  
Stabilization period: within 15 minutes after switch-on  
Working temperature: -20°…60°C  
Storage temperature: -20°…80°C  
Protection: IP20  
El. safety: EN 61010-1, A2  
Dielectric strength: 2.5 kVAC per 1 min test between supply and input  
2.5 kVAC per 1 min test between input and data/analog 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 > 550 V (PI), 255 V (DI)  
EMC: EN 61326-1

**ORDER CODE**

**OMX 380PM**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply</td>
<td>10…30 VDC, isolated 0</td>
</tr>
<tr>
<td>Output</td>
<td>Analog 1</td>
</tr>
<tr>
<td>Excitation</td>
<td>15 VDC 3</td>
</tr>
<tr>
<td>Specification</td>
<td>customized version, do not fill in 00</td>
</tr>
</tbody>
</table>

Basic configuration of the instrument is indicated in bold.
OMX 380DU

The OMX 380 model series are very fast DIN rail mountable digital transmitters with a Teach-in function. Type OMX 380DU is a transmitter for linear potentiometers. The instrument is based on a single-chip microcontroller and a 24-bit A/D and 16-bit D/A converter, which ensures excellent accuracy, stability and easy operation of the instrument.

PROGRAMMABLE ISOLATED TRANSMITTER
- INPUT FOR LINEAR POTENTIOMETERS
- OUTPUT: 4...20 mA/0...10 V/±10 V
- RATE UP TO 7 500 m/s
- DIGITAL FILTERS, TARE, TEACH-IN
- GALVANIC SEPARATION: 2,5 kVAC
- POWER SUPPLY 18...30 VDC/24 VAC

- Option
  - Data output

OPERATION

The instrument is set and controlled by two push buttons located on the front panel. Type of the output signal and access to the instrument setting is managed by a switch on the front panel.

Standard equipment is the OM Link interface, which together with operating program allows modification and filing of all instrument’s settings as well as performing firmware updates (with OML cable).

All settings are stored in the EEPROM memory (they hold even after the instrument is switched off).

OPTION

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 RS485 with ASCII protocol.

OMX 380DU
TRANSMITTER FOR LINEAR POTENTIOMETERS

STANDARD FUNCTIONS

PROGRAMMABLE INPUT
Tech-in: semiautomatic mode of input calibration of both limit values of the output range

ANALOG OUTPUT
Type: programmable with resolution of 16 bit, rate < 0,2 ms
Range: 0...10 V, ±10 V, 4...20 mA

FUNCTIONS
Tare: designed to reset display upon non-zero input signal

DIGITAL FILTERS
Floating average: from 2...30 measurements
Exponential average: from 2...100 measurements
Arithmetic average: from 2...100 measurements

EXTERNAL CONTROL
Hold: display/instrument blocking
Lock: control keys blocking
Tare: activation and tare resetting
TECHNICAL DATA

INPUT

**Du**

- Power supply: 24 VDC 5 mA, Potentiometer resistance = 500 Ω

Ext. Inputs

- 2 inputs, on contact
- The following functions can be assigned:
  - OFF: input off
  - HLD: display stop
  - TAR: tare activation
  - CL.TAR: tare resetting

INSTRUMENT ACCURACY

- Tk: 10 ppm/°C
- Accuracy: ±0.01 % of range
- Rate: 25...7500 measurgical
  
Digital filters: exp/float/arithm. average

Functions: Teach-in, Tare

OM Link: Company communication interface for operation, setting and update of instruments

Watch-dog: reset after 400 ms

Calibration: at 25°C and 40 % r.h.

DATA OUTPUTS

**Type**: RS 485

- Protocols: ASCII, MESSBUS, MODBUS RTU

- Data format: 8 bit + no parity + 1 stop bit

- Rate: 600...230 400 Baud

- Addressing: ASCII - max. 31 instruments

- MODBUS - max. 246 instruments

ANALOG OUTPUTS

**Type**: programmable with a 16 bit D/A converter, output type and range are optional

- Non-linearity: ±0.024 % of range

- Tk: 10 ppm/°C

- Rate: response to change of value < 0.2 ms

- Ranges: 0...10 V, ±10 V, 4...20 mA (comp. < 600 Ω)

- Ripple: 5 mV residual ripple at output voltage of 10 V

POWER SUPPLY

- Range: 10...30 VDC/24 VAC, ±10 %, PF ≥ 0.4, I STP< 40 A/1 ms

- Consumption: < 2 W/1.8 VA

MECHANIC PROPERTIES

- Material: PA 66, incombustible UL 94 V0, blue

- Dimensions: 25 x 79 x 90.5 (w x h x d)

- Installation: on DIN rail, width 35 mm

OPERATING CONDITIONS

**Connection**: connector terminal blocks, section < 1.5 mm²

- Stabilization period: within 15 minutes after switch-on

- Working temperature: -20°...60°C

- Storage temperature: -20°...80°C

- Protection: IP20

- El. safety: EN 61010-1, A2

- Dielectric strength: 2.5 kVAC per 1 min test between supply and input

- 2.5 kVAC per 1 min test between supply and data/analog 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 > 550 V (PI), 255 V (DI)

EMC: EN 61326:1

ORDER CODE

OMX 380DU -

| Power supply | 18...30 VDC | 0
|--------------|-------------|----|
|              | 10...30 VDC, isolated | 1
| Output       |   | 2  |
| Analog       |   | 3  |
| Specification | custom version, do not fill in | 00 |

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**PI** - Primary insulation, **DI** - Double insulation

Basic configuration of the instrument is indicated in bold.
OMX 380T

The OMX 380 model series are very fast DIN rail mountable digital transmitters with a Teach-in function.

Type OMX 380T is a transmitter for strain gauges. The instrument is based on a single-chip microcontroller and a 24-bit A/D and 16-bit D/A converter, which ensures excellent accuracy, stability and easy operation of the instrument.

OMX 380T
TRANSMITTER FOR STRAIN GAUGES

PROGRAMMABLE ISOLATED TRANSMITTER

- INPUT FOR STRAIN GAUGES
- OUTPUT: 4..20 mA/0..10 V/±10 V
- RATE UP TO 7 500 m/s
- DIGITAL FILTERS, TARE, TEACH-IN
- STRAIN GAUGE EXCITATION
- GALVANIC SEPARATION: 2.5 kVAC
- POWER SUPPLY 18..30 VDC/24 VAC

- Option

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 RS485 with ASCII protocol.

OPERATION

The instrument is set and controlled by two push buttons located on the front panel. Type of the output signal and access to the instrument setting is managed by a switch on the front panel.

Standard equipment is the OM Link interface, which together with operating program allows modification and filing of all instrument’s settings as well as performing firmware updates (with OML cable).

All settings are stored in the EEPROM memory (they hold even after the instrument is switched off).

OPTION

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 RS485 with ASCII protocol.

STANDARD FUNCTIONS

PROGRAMMABLE INPUT

Selection: measuring range
Tech-in: semiautomatic mode of input calibration of both limit values of the output range

ANALOG OUTPUT

Type: programmable with resolution of 16 bit, rate < 0.2 ms
Range: 0..10 V, ±10 V, 4..20 mA

EXCITATION

Fixed: 10 VDC, load ≥ 80 Ω

FUNCTIONS

Tare: designed to reset display upon non-zero input signal
Fixed tare: firmly preset tare

DIGITAL FILTERS

Floating average: from 2..30 measurements
Exponential average: from 2..100 measurements
Arithmetic average: from 2..100 measurements

EXTERNAL CONTROL

Hold: display/instrument blocking
Lock: control keys blocking
Tare: activation and tare resetting
**TECHNICAL DATA**

**INPUT**

<table>
<thead>
<tr>
<th>T</th>
<th>Range</th>
<th>optional in configuration menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excitation</td>
<td>10 VDC, load ≥ 80 Ω</td>
<td></td>
</tr>
<tr>
<td>Ext. inputs</td>
<td>2 inputs, on contact</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The following functions can be assigned:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OFF, input off</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HLD, display stop</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TAB, tare activation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CL.TAR, tare resetting</td>
<td></td>
</tr>
</tbody>
</table>

**INSTRUMENT ACCURACY**

| TK:          | 10 ppm/°C |
| Accuracy:    | ±0.025 % of value |
| Rate:        | 1,000…7,500 measur./s |
| Overload capacity: 2x 10x [t < 30 ms] |
| Digital filters:  exp/float/arithmetic/average |
| Functions:   | Teach-in, Tare |
| OM Link:     | Company communication interface for operation, setting and update of instruments |
| Watchdog:    | reset after 400 ms |
| Calibration: | at 25°C and 40 % r.h. |

**DATA OUTPUTS**

| Type:         | RS 485 |
| Protocol:     | ASCII, MESSBUS, MODBUS RTU |
| Data format:  | 8 bit + no parity + 1 stop bit |
| Rate:         | 600…230,400 Baud |
| Addressing:   | ASCII - max. 31 instruments |
|               | MODBUS - max. 246 instruments |

**ANALOG OUTPUTS**

| Type:         | programmable with a 16 bit D/A converter, output type and range are optional |
| Non-linearity: | 0.024 % of range |
| Rate:         | response to change of value < 0.2 ms |
| Ranges:       | 0…10 V, ±10 V, 4…20 mA [comp. < 600 Ω] |
| Ripple:       | 5 mV residual ripple at output voltage of 10 V |

**POWER SUPPLY**

| Range:        | 10…30 VDC/24 VAC, ±10 %, IFx0,4, IPE< 40 A/m |
|              | 10…30 VDC/24 VAC, ±10 %, IFx0,4, IPE< 40 A/m |
| Consumption:  | < 2,5 W, 2,3 VA |

**MECHANIC PROPERTIES**

| Material:     | PA 66, incombustible UL 94 V0, blue |
| Dimensions:   | 25 x 79 x 90,5 (w x h x d) |
| Installation: | on DIN rail, width 35 mm |

**OPERATING CONDITIONS**

| Connection:   | connector terminal blocks, section < 1,5 mm² |
| Stabilization period: | within 15 minutes after switch-on |
| Working temperature: | -20°…60°C |
| Storage temperature: | -20°…80°C |
| Protection:   | IP20 |
| EL safety:    | EN 60950, A2 |
| Dielectric strength: | 2,5 kVAC per 1 min test between supply and input |
|               | 2,5 kVAC per 1 min test between supply and data/analog 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: | > 550 V (PI), 255 V (DI) |
| EMC:          | EN 61326-1 |

**ORDER CODE**

**OMX 380T**

| Power supply: | 10…30 VDC, isolated |
|              | 0 1 |
| Output:      | Analog |
|              | 0 1 2 |
| Specification | customized version, do not fill in |
|              | 0 1 2 3 |

R - Primary insulation, D - Double insulation

Basic configuration of the instrument is indicated in bold.
OPERATION

The instrument is designed for transfer of communication among the OM xxx instruments to PROFIBUS bus without further control. On the front panel of the transmitter there are 4 LED diodes for signalization of the operational status and communication in progress.
**TECHNICAL DATA**

### INTERFACE PROFIBUS

**PB**
- **Input**: EIA RS-485
- **Protocol**: PROFIBUS DP
- **Rate**: 9.6 kbit/s, 3.4 Mbit/s
- **Address**: 0-165, addressable in OM instrum. with address 00
- **Data transfer**: 548 bytes to OM, 440 bytes from OM
- **Modes**:
  - reading values + setting limits
  - value display FLOAT (Real)/LONG
  - text display
  - sending OM ASCII instructions
  - setting mode
  - using a repeater
- **Transfer state**: 4x signal LED

### INTERFACE RS 485

**RS**
- **Input**: RS 485
- **Protocol**: OM ASCII
  - modified company protocol for connecting OM instruments
- **Format**: 8 bit + no parity + 1 stop bit
- **Rate**: 600…115 200 Baud
- **OM instr.**
- **Number**: < 32
- **Communication rate**: 0.1...17 s

### CONNECTION

- **Cable Type**: shielded twisted double-line
- **Resist.**: characteristic resistance 150...165 Ω
- **Capacity**: < 30 pF/m
- **Section**: > 0.32 mm²
- **Length**:
  - 200 m at baud rate 9.6 / 19.2 / 93.75 kBit/s
  - 400 m at baud rate 500 kBit/s
  - 100 m at baud rate 1500 kBit/s
- **Transmission rate**:
  - up to transmission rate of max. 1500 kBit/s
- **Moving line**: is allowed up to transmission rate of max. 1500 kBit/s, for increased security a transmission rate greater than 500 kBit/s should not be used.

### POWER SUPPLY

- **Range**: 10…30 V AC/DC, ±10 %, PF=0.4, I<sub>STP</sub>= 40 A/1 ms, isolated
- **Consumption**: < 1.5 W/1.5 VA

### MECHANIC PROPERTIES

- **Material**: PA 6.6, incombustible UL 94 V-0 blue
- **Dimensions**: 22 x 98 x 113 (w x h x d)
- **Installation**: on DIN rail, width 35 mm

### OPERATING CONDITIONS

- **Connection**: connector terminal blocks, section < 2.5 mm²
- **Stabilization period**: within 5 minutes after switch on
- **Working temperature**: -20°C...60°C
- **Storage temperature**: -20°C...85°C
- **Protection**: IP20
- **El. safety**: EN 61010-1, A2
- **Dielectric strength**: 4 kVAC per 1 min test between supply and input
- **Insulation resistance**: for pollution degree II, measuring cat. III

### EMC

- **EN 61326-1

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**ORDER CODE**

**OMX Profibus**
- **Power supply**: 10…30 V AC/DC, isolated*
- **Basic configuration**: indicated in bold.

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* R - Primary insulation, D - Double insulation
OMP 38

The OMP 38 is a DIN rail mountable stabilized source for sensor excitation. The source is in a plastic box with terminal blocks to DIN rail. On the face of the transmitter there are LEDs, which indicate operating status of the source.

STABILIZED SOURCE

- ADJUSTABLE STABILIZED SOURCE
- OUTPUT: 5/12/24 VDC
  5/15/24 VDC
- CURRENT AND HEAT PROTECTION
- POWER SUPPLY 80...250 V AC/DC

OPERATION

Switch for setting the output voltage is located on the lower edge of the instrument.
TECHNICAL DATA

OUTPUT

Output:
A - 5 VDC/450 mA; 12 VDC/300 mA; 24 VDC/150 mA
B - 5 VDC/450 mA; 15 VDC/240 mA; 24 VDC/150 mA
[adjustable by a switch on the box]

Tolerance: ±0.25 V

Regulation: ±0.1 V

Ripple: < 50 mVpp

Outage span: < 200 ms

Efficiency: 63%

Functions: active current restriction as per selected range, over/stepping the restriction is signalled by red LED

POWER SUPPLY

Range: 80..250 V AC/DC, 50/60 Hz, ±10%, PF ≥ 0.4

Consumption: < 6 W/6 VA

Input frequency: 3C, 47..55 Hz

Input current: 105..45 mA

Starting current: < 20 A, < 15 ms

Protection: by a fuse inside the instrument (T630mA)

MECHANIC PROPERTIES

Material: PA 66, incombustible UL 94 V-I, blue

Dimensions: 22 x 98 x 113 (w x h x d)

Installation: on DIN rail, width 35 mm

OPERATING CONDITIONS

Connection: connector terminal blocks, section < 2.5 mm²

Stabilization period: within 5 minutes after switch on

Working temperature: 20°..60°C

Storage temperature: -20°..85°C

Protection: IP20

El. safety: EN 61010-1, A2

Dielectric strength: 4 kVAC per 1 min test between supply and output

Insulation resistance: for pollution degree II, measuring cat. III

Instrument’s power supply, output > 300 V (PI), 150 V (DI)

EMC: EN 55221

Seismic capacity: IEC 68/1993, par. 8

ORDER CODE

OMP 38

Basic configuration of the instrument is indicated in bold.
The OMP 100 is a DIN rail mountable universal power source with active power factor compensation. The source is in a plastic box with terminal blocks to DIN rail. On the face of the transmitter there is a two-color LED, which indicates operating status of the source.

**STABILIZED SOURCE**
- **OUTPUT:**
  2x 5 VDC/8 A  
  2x 12 VDC/4 A  
  2x 15 VDC/3.2 A
- **CURRENT AND HEAT PROTECTION**
- **POWER SUPPLY**
  230 VAC

**OPERATION**
The output voltage is selected by connecting the input terminals. Outputs can be operated in parallel, in series or independently, as separated with a 60 VDC insulation.
**TECHNICAL DATA**

**OUTPUT**
- A: 2x 5 VDC/8 A
- B: 2x 12 VDC/4 A
- C: 2x 15 VDC/3.2 A

Connection: outputs can be connected in parallel or in series
- Tolerance: ±0.25 V
- Regulation: ±0.1 V
- Ripple: <50 mVpp
- Outage span: <200 ms
- Efficiency: 80%
- Functions: active current restriction, overslopping is signalled by red LED

**POWER SUPPLY**
- Range: 230 VAC, 50/60 Hz, ±10 %, PF ≥ 0.4
- Consumption: <115 W
- Input frequency: DC, 47…63 Hz
- Input current: 500…45 mA
- Starting current: <20 A, <1.5 ms

Protection: a fuse inside the instrument [T4A]

**MECHANIC PROPERTIES**
- Material: PA 66, incombustible UL 94 V-I, blue
- Dimensions: 22 x 98 x 113 (w x h x d)
- Installation: on DIN rail, width 35 mm

**OPERATING CONDITIONS**
- Connection: connector terminal blocks, section < 2.5 mm²
- Stabilization period: within 5 minutes after switch on
- Working temperature: -20°…60°C
- Storage temperature: -20°…85°C
- Protection: IP20

El. safety: EN 61010-1, A2
- Dielectric strength: 4 kVAC per 1 min test between supply and output
- Insulation resistance: for pollution degree II, measuring cat. III
- Instrument’s power supply, output > 300 V [PI], 150 V [DI]
- EMC: EN 61326-1
- Seismic capacity: IEC 68-2-6, par. 6

**CONNECTION**
Basic configuration of the instrument is indicated in bold.
The OMA 10S is a manual panel switch of measuring points. For its parameters, low transitional resistance and high endurance the switch is designed for low-voltage applications (e.g. for sensors Pt100).

**OPERATION**
Switching of the measuring points is performed by a revolving switch on the front panel.

**SWITCH OF MEASURING POINTS**
- MANUAL SWITCH OF MEASURING POINTS 4x 10
- SIZE OF DIN 96 x 48 MM

**OMA 10S**
MANUAL SWITCH OF MEASURING POINTS
TECHNICAL DATA

INPUT
- Connection: 4x 10 positions
- Number of positions is adjustable inside the switch (2...10x d)
Max. load: 30 VDC/100 mA
Max. switched current: 5 mA

MECHANIC PROPERTIES
Material: Noryl GN2 SE1, incombustible UL 94 V-1
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 mm²
Working temperature: -20°...60°C
Storage temperature: -20°...85°C
Protection: IP40
Insulation resistance: 50 V
El. safety: EN 61010-1, A2

CONNECTION

ORDER CODE

OMA 10S
OM Link-USB II

Isolated USB transducer for configuration of OM instruments. Transducer in conjunction with the OM Link program, which is freely available on our website, is intended for configuration of OM instruments prior to their use in technology.

TRANSDUCER FOR CONFIG. OF OM INSTRUMENTS

- GALVANIC SEPARATION: 2.5 kVAC
- COMPACT DESIGN

OPERATION

For correct operation of the transducer kindly download the drivers, which are available on our website

## TECHNICAL DATA

### FUNCTIONS

**Connection with PC**
- **Type**: USB 2.0
- **Rate**: 12 Mb
- **Connect.**: connector USB-A

**Connection connection with OM instruments**
- **Type**: RS 232
- **Rate**: < 230 400 Baud
- **Connect.**: exchangeable “OM Cable” with connectors, length 1 m

**Signaling**
- **Type**: color LED in transducer
- **USB**: indication of power supply from USB, green
- **TxD**: transmission indication, yellow
- **RxD**: indication of reception, yellow
- **PROG**: indication of instrument’s programming mode, red
- **OM**: indication of power supply from the instrument, green

### POWER SUPPLY
- Fixed: 5 VDC/100 mA, powered from USB and OM instrument

### MECHANIC PROPERTIES
- **Material**: PC, incombustible UL 94 V-0, blue
- **Dimensions**: 50 x 24 x 14 mm (w x h x d)

### OPERATING CONDITIONS
- **Connection**: USB-A, cable with connectors for connecting the OM instrument
- **Working temperature**: 0°...60°C
- **Storage temperature**: -10°...85°C
- **ESD**: 15 kV
- **Dielectric strength**: 2.5 kVAC per 1 min test between input and output
- **Insulation resistance**: for pollution degree II, measuring cat. III

### ACCESSORIES
- **OML Cable**: exchangeable cable with connectors for connecting OM instruments
- **PI** - Primary insulation, **DI** - Double insulation

### ORDER CODE

- Complete transducer
  - **OM Link-USB II**
- Replacement exchangeable cable
  - **OM Cable**
**OM USB-RS II**

Galvanically separated transducer of USB bus to serial lines RS 232/485. The output lines RS 232 and RS 485 have galvanic connection and via excitors they are connected to one UART. Therefore it is possible to use always one output only.

**OPERATION**

For correct operation of the transducer kindly download the drivers, which are available on our website: www.merret.cz/en/produkty/pristroje-pro-mar/prislusenstvi/om-usb-rs

**TRANSUDER USB <-> RS 232/485**

- **GALVANIC SEPARATION:** 2,5 kVAC
- **RATE:** < 921,6 kBaud
- **COMPACT DESIGN**
### TECHNICAL DATA

#### CONNECTION

<table>
<thead>
<tr>
<th>POWER SUPPLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed: 5 VDC/100 mA, powered from USB</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MECHANIC PROPERTIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material: PC, incombustible UL 94 V-0, blue</td>
</tr>
<tr>
<td>Dimensions: 50 x 24 x 14 mm (w x h x d)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OPERATING CONDITIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection: USB-A, connector terminal blocks, section &lt; 1.5 mm²</td>
</tr>
<tr>
<td>Working temperature: 0°…+60°C</td>
</tr>
<tr>
<td>Storage temperature: -10°…+85°C</td>
</tr>
<tr>
<td>ESD: 15 kV</td>
</tr>
<tr>
<td>Dielectric strength: 2.5 kVAC per 1 min test between input and output</td>
</tr>
<tr>
<td>Insulation resistance: for pollution degree II, measuring cat. III input/output &gt; 300 V(PI), 150 V(DI)</td>
</tr>
</tbody>
</table>

### ORDER CODE

**OM USB-RS II**

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#### CONNECTION

<table>
<thead>
<tr>
<th>TECHNICAL DATA</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>FUNCTIONS</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Connection with PC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
</tr>
<tr>
<td>Rate</td>
</tr>
<tr>
<td>Connect.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Data output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
</tr>
<tr>
<td>Rate</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Connect.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Signaling</th>
</tr>
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<tbody>
<tr>
<td>Type</td>
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<td>USB</td>
</tr>
<tr>
<td>TxD</td>
</tr>
<tr>
<td>RxD</td>
</tr>
</tbody>
</table>

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#### ORDER CODE

**OM USB-RS II**
OM USB-ISO

Isolator for USB line. The isolator provides galvanic separation from Full Speed USB bus and thus safely protects your connected device from interference, discharge and overvoltage up to 4 kV.

OPERATION

Using the isolator does not require installation of any drivers.

USB ISOLATOR

- USB 2.0
- GALVANIC SEPARATION: 4 kVAC
- RATE 12 Mbaud
- COMPACT DESIGN
## TECHNICAL DATA

### FUNCTIONS

<table>
<thead>
<tr>
<th>Input</th>
<th>Type</th>
<th>Rate</th>
<th>Connect.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>USB 2.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate</td>
<td>12Mb</td>
<td></td>
<td>USB-A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Output</th>
<th>Type</th>
<th>Rate</th>
<th>Connect.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>USB 2.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate</td>
<td>12Mb</td>
<td></td>
<td>USB-A</td>
</tr>
<tr>
<td>Load</td>
<td>output current &lt; 200 mA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### POWER SUPPLY

Fixed: 5 VDC/250 mA, powered from USB

### MECHANIC PROPERTIES

- Material: PC, incombustible UL 94 V-0, blue
- Dimensions: 50 x 24 x 14mm [w x h x d]

### OPERATING CONDITIONS

- Connection: USB-A
- Working temperature: 0°...60°C
- Storage temperature: -10°...85°C
- ESD: 15 kV
- Dielectric strength: 4 kVAC per 1 min test between input and output
- Insulation resistance: for pollution degree II, measuring cat. III
  - input/output > 600 V(PI), 300 V(DI)

### ORDER CODE

OM USB-ISO
1. Všeobecné obchodní podmínky

1.1 Na vlastní nesouzení přijímá „OM“ (státní zemědělský obchodní úřad) vydaná pod ročním číslem 142 000 Praha 4 jako prodávající či poskytovatel služeb (dále jen "OM") a jejími obchodními smlouvami, které podařilo uzavřít se společností ORBIT MERRET, spol. s r.o., IČ: 00551309, se sídlem Klánova 81/141, 105 00 Praha 4 jak daným postupem, který je podle právních předpisů přijatelný, jako opodstatnění tohoto obchodního podnikání.

1.2 Zboží bude dodáno na základě písemné objednávky Partnera zaslaných poštou nebo faxem, ve lhůtě ne delší než 3 pracovní dny poté, co obdrží objednávku, zpravidla mezi pracovními dny.

1.3 Zboží bude dodáno na základě písemné objednávky Partnera v souladu s technickými podklady a v souladu s podmínkami dodávky obvyklé a soukromého obchodu.

1.4 Předpokládaný termín plnění je uveden v potvrzení objednávky. OM může ve výjimečných případech prodlením o příslušné lhůty plnění.

1.5 Předpokládaný termín plnění je obvyklé použití předmětu plnění. Jakékoliv specifické požadavky na předmět plnění se musí výslovně uvést v objednávce.

2. Uvážení dodávatele

2.1 Zboží bude dodáno na základě písemné objednávky Partnera zaslaných poštou nebo faxem, ve lhůtě ne delší než 3 pracovní dny poté, co obdrží objednávku, zpravidla mezi pracovními dny.

2.2 OM oznámí Partnerovi ve lhůtě ne delší než 3 pracovní dny poté, co obdrží objednávku, zpravidla mezi pracovními dny, že zboží se dodává.

3. Základní podmínky

3.1 Zboží bude dodáno na základě písemné objednávky Partnera v souladu s technickými podklady a v souladu s podmínkami dodávky obvyklého obchodu.

3.2 Předpokládaný termín plnění je obvyklé použití předmětu plnění. Jakékoliv specifické požadavky na předmět plnění se musí výslovně uvést v objednávce.

4. Obchodní podmínky

4.1 OM je oprávněn dodávat zboží, které má vady, splní OM svou povinnost vyplývající z odpovědnosti za vady poskytnutím nového zboží, které má na základě dodávky poskytnutého zboží.

4.2 Místem dodání je sídlo OM, výdejní místo OM nebo předání prvnímu veřejnému přepravci a je příslušné podmíněno podmínkami dodávky obvyklého obchodu.

4.3 Prodlení v dodací lhůtě subdodavatelů, stávkou, zákazy vývozu nebo dovozu, válka, jakož i jiné případy vyšší nepředvídatelného stavu (vyšší věra) měří se obvykle tím, že prodlení lhůty se nebude cyklického lonu podnikání.

4.4 OM předpokládá obvyklé použití předmětu plnění. Jakékoliv specifické požadavky na předmět plnění se musí výslovně uvést v objednávce.

4.5 Předpisem o dodacích listech, smlouvě o službách nebo obchodním oddělení podnikání.

4.6 Prodlení v dodací lhůtě subdodavatelů, stávkou, zákazy vývozu nebo dovozu, válka, jakož i jiné případy vyšší nepředvídatelného stavu (vyšší věra) měří se obvykle tím, že prodlení lhůty se nebude cyklického lonu podnikání.

4.7 Prodlení v dodací lhůtě subdodavatelů, stávkou, zákazy vývozu nebo dovozu, válka, jakož i jiné případy vyšší nepředvídatelného stavu (vyšší věra) měří se obvykle tím, že prodlení lhůty se nebude cyklického lonu podnikání.

4.8 Prodlení v dodací lhůtě subdodavatelů, stávkou, zákazy vývozu nebo dovozu, válka, jakož i jiné případy vyšší nepředvídatelného stavu (vyšší věra) měří se obvykle tím, že prodlení lhůty se nebude cyklického lonu podnikání.

4.9 Náklady spojené s dodáním do jiného místa plnění, než je sídlo či výdejní místo OM, nese Partner.

4.10 Prodlení v dodací lhůtě subdodavatelů, stávkou, zákazy vývozu nebo dovozu, válka, jakož i jiné případy vyšší nepředvídatelného stavu (vyšší věra) měří se obvykle tím, že prodlení lhůty se nebude cyklického lonu podnikání.

4.11 Zjistí-li Partner rozpor s dodacím listem, rozdíl v množství a druhu plnění, zjevné poškození obalů či předmětu plnění, má OM právo na sankci ve výši 50% z celkové ceny.

4.12 Prodlení v dodací lhůtě subdodavatelů, stávkou, zákazy vývozu nebo dovozu, válka, jakož i jiné případy vyšší nepředvídatelného stavu (vyšší věra) měří se obvykle tím, že prodlení lhůty se nebude cyklického lonu podnikání.

4.13 Závěrečné ustanovení