



Data Sheet  
**OMB 452**

*Distributed by*



[www. BristolInstruments.com](http://www.BristolInstruments.com)

Bristol Instruments  
90 Canal Street - 4th Floor  
Boston, MA 02114

Toll free  
877-866-8500



## OMB 452

The OMB 452 model series are programmable, three-color panel bargraphs with auxiliary display and adjustable LCD scale. The instruments are designed as dimensional replacement of the ZEPAKOMP instruments. Available are types UNI, PWR and UQC.

Type OMB 452UNI is a multifunction instrument with the option of configuration for 8 different types of input, easily configurable in the instrument menu.

The instrument is based on an 8-bit microcontroller with multi-channel 24-bit sigma-delta converter, which secures high accuracy, stability and easy operation of the instrument.



- BARGRAPH - 50 LED WITH DISPLAY AND LCD SCALE
- MULTIFUNCTION INPUT (DC, PM, RTD, T/C, DU)
- DIGITAL FILTERS, TARE, LINEARIZATION
- SIZE OF DIN 160 x 80 MM
- POWER SUPPLY 80...250 V AC/DC
- Option
  - Comparators • Data output • Analog output • Data record
  - Power supply 10...30 V AC/DC

**OMB 452UNI**

DC VOLTMETER AND AMMETER  
 PROCESS MONITOR  
 OHMMETER  
 THERMOMETER FOR PT/CU/NI/THERMOCOUPLES  
 DISPLAY UNIT FOR LINEAR POTENTIOMETERS

**OMB 452PWR**

AC VOLTMETER AND AMMETER  
 AC NETWORK ANALYSER

**OMB 452UQC**

UNIVERSAL COUNTER

**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 are implemented in three setting modes.

**LIGHT MENU** is protected by optional number code and contains solely items necessary for instrument setting

**PROFI MENU** is protected by optional number code and contains complete instrument setting

**USER MENU** may contain arbitrary items from the programming menu (LIGHT/PROFI), which determine the right (see, change). Access w/o password.

Standard equipment is the OM Link interface, which together with operation program enables modification and filing of all instrument settings as well as perform firmware updates (with OML cable). The program is also designed for visualization and filing of measured values from more instruments.

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

**OPTION**

**COMPARATORS** are assigned to monitor one, two, three or four limit values with relay output. The user may select limits regime: LIMIT/DOSING/FROM-TO. The limits have adjustable hysteresis within the full range of the display as well as selectable delay of the switch-on in the range of 0...99,9 s. Reaching the preset limits is signalled by LED and simultaneously by the switch-on of the relevant relay.

**DATA OUTPUTS** are for their rate and accuracy suitable for transmission of the measured data for further projection or directly into the control systems. We offer an isolated RS232 and RS485 with the ASCII/MESSBUS/MODBUS/PROFIBUS protocol.

**ANALOG OUTPUTS** will find their place in applications where further evaluating or processing of measured data is required in external devices. We offer universal analog output with the option of selection of the type of output - voltage/current. The value of analog output corresponds with the displayed data and its type and range are selectable in menu.

**MEASURED DATA RECORD** is an internal time control of data collection. It is suitable where it is necessary to register measured values. Two modes may be used. FAST is designed for fast storage (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 as fixed or with automatic change (OHM)

**Scale:** LCD, freely programmable

**Measuring modes (PWR):** voltage ( $V_{RMS}$ ), current ( $A_{RMS}$ ), real power (W), frequency (Hz) and with calculation of Q, S, cos φ

**Setting (UQC):** measuring mode 2x counter (UP/DW, IRC)/2x frequency/timer/clock with adjustable calibration coefficient, time base and projection

**Setting:** manual, in menu optional projection on the display may be set for both limit values of the input signal

**Projection:** 50 LED + 6-digit auxiliary display

**COMPENSATION**

**Of conduct (RTD, OHM):** automatic (3- and 4-wire) or manual in menu (2-wire)

**of conduct in probe (RTD):** internal connection (conduct resistance in measuring head)

**of CJC (T/C):** manual or automatic, in menu it is possible to perform selection of the type of thermocouple and compensation of cold junctions, which is adjustable or automatic

**LINEARIZATION**

**Linearization (DC, PM, DU):** through linear interpolation in 50 points (solely via OM Link)

**DIGITAL FILTERS**

**Filtration constant (UQC):** transmits input signal up to 10...2 000 Hz

**Floating/Exp./Arithmetic average:** from 2...30/100/100 measurements

**Rounding:** setting the projection step for display

**EXCITATION**

**Range:** 5...24 VDC, for feeding of 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

**Mat. operations:** polynome, 1/x, logarithm, exponential, power, root, sin x and at the same time between inputs - sum, difference, product, quotient

**EXTERNAL CONTROL**

**Lock:** control keys blocking

**Hold:** display/instrument blocking

**Tare:** tare activation

**Resetting MM:** resetting min/max value

