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## Gas Parameters Monitor - model MPG21

### Application

Gas Parameters Monitor has been designed for measurements of humidity ( $0 \div 100\%$ ), temperature ( $-50 \div 200\text{ }^{\circ}\text{C}$ ) and absolute pressure of gases ( $500 \div 1500\text{ hPa}$ ), including dusty gases, in the range of temperature up to  $200\text{ }^{\circ}\text{C}$ . Based on set density of dry gas in conventional conditions by the user, this device calculates gas moisture degree, density of damp gas in conventional conditions and in the conditions of the measurement. The computer program which is supplied along with the device allows the user to set easily needed density, both for clean air and for other gas mixtures. Density of dry gas can be changed directly in the monitor using keys fixed on front panel.

The monitor is supplied from built-in accumulators or from the external power supply adapter. Fully charged accumulators are enough for 10-hour operation of the device.

### Monitor Description

#### Temperature and humidity measurement system

The monitor is fitted with the probe for measuring temperature and humidity. The probe is connected with the monitor by multi-contact connector of high quality that is fitted with a security mechanism that prevents from accidental disconnection.

Humidity and temperature sensors, fixed on the tip of the probe, are protected from damage and dustiness by the use of a replaceable cover. A standard cover is fitted with a mesh filter with the holes of  $20 \div 25\text{ mm}$ . If necessary, it is possible for the user to replace standard cover with the cover consisting of steel, sintered filter with the holes of  $5\text{ mm}$  or Teflon filter with the holes of  $10\text{ mm}$ .

#### Absolute pressure measurement system

Piezoresistive sensor in bridge circuit has been used for pressure measurement. The sensor has been mounted inside the device. Pressure signal is supplied to the monitor through a ferrule placed in the side wall of casing.

Every monitor is calibrated and thermally compensated within the range of  $0 \div 40\text{ }^{\circ}\text{C}$ . The pressure sensor applied guarantees accurate measurement and very good long-termed indication stability.

### Software



Software for the computers operating in Windows98/ME/2000/XP operating systems is provided with the device. The software allows to set in the device required value of dry gas density in conventional conditions. This value can be stated and entered immediately in dialog window or determined on the basis of the composition of the gas mixture.

The device communicates with a computer through RS232C serial interface or when an adapter was added through universal USB bus.

## Technical data

### Measuring system:

- Measuring ranges:
  - Temperature: -50 ÷ 200 °C
  - Relative humidity: 0 ÷ 100 %
  - Absolute pressure: 500 ÷ 1500 hPa
- Indication resolution
  - Temperature: 0,1 °C
  - Relative humidity: 0,1 %
  - Absolute pressure: 1 hPa
- Expanded uncertainty, 95%:
  - Temperature: ± 0,3 °C
  - Relative humidity: ± 1,5 %
  - Absolute pressure: ± 1 hPa
- Power supply:
  - Direct voltage: 9 V
  - Maximum current: 200 mA
- Casing:
  - Dimensions (height x width x length): 82 x 150 x 45 mm
  - Weight without power supply adapter: 0,3 kg