PAUL-GOTHE-GmbH Bochum

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CE

Manual for DM Digital Pressure Gauge

The DM is a battery-operated, digital pressure gauge for measuring overpressure, vacuum and differential pressure of non-aggressive gases. Operating range DM is 2 hPa to 20 hPa.

At its heart is a pressure measurement capsule with a beryllium bronze membrane spring, which is displaced by the pressure difference between the two chambers of the measurement capsule. A distance measurement system converts this displacement into an electrical signal. A semiconductor sensor is used for measuring pressures in the area of 20 hPa.

Open the battery compartment on the rear of the instrument by sliding off the compartment cover.

The instrument has 4 keys as operating elements.

On-/Off (key 1)

Selection: pressure, Min, Max, Hold (key 2)

Selection pressure unit (key 3)

Zeroing/Configuration (key 4)

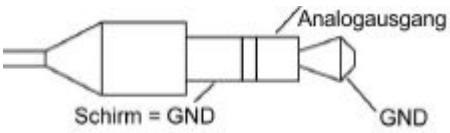
The instrument starts if you briefly depressing the key 1. After the turn on the display show for a short moment the measuring range in hPa. The instrument can use directly after turn on: The lower display show the same flow velocity as the LUGA instruments. No additional programming necessary.

The key allows the user to toggle between the various displays modes. Pressing key 2 once will call up a different display mode. In hold, max and min modes, users can begin a new measurement by briefly depressing the zeroing key. In the display modes min and max, this will reset the display value, because the actual value will be the new min or max value.

The instrument allows the user to toggle between a numbers of different units of pressure. Users can change pressure units during normal operation by depressing the key 3.

Users can recalibrate the zero point by briefly pressing the key 4. Important: No Pitot should be connected and place into a gas flow or any other pressure on the pressure port.

The DM has a 0...2V analogue output, allowing it to read out an output voltage proportional to the pressure. When configuring the instrument, users may set the pressure at which the instrument will read out an output voltage of 2.0V. The output voltage is read out of the instrument via a 3.5 mm jack. The wires of the cable included with the DM correspond to the following assignment:



Battery symbol flashing: Change the battery, in some minutes a measurement cannot longer make.
Display show 'batt Lo' and turn off: Change the battery, no measurement is possible (9 V block battery type IEC 6 LR 61).

Configuration

With the configuration settings was made the instrument ready for use with the LUGA (cylindrical) Pitot tube. Make no changes! If you want to change something, it can be activated by depressing the zero-point key until 'ConF' appears in the top line of the display. After the operator releases this key, the instrument launches the first item (setting units of pressure). To exit the configuration menu, simply press the zero-point key again until 'MEAS' appears in the top line of the display. The new settings are now saved and can be used each time the instrument is switched on.

The following modes are available in the configuration menu, [ ]: symbol will appear in the bottom line of the display:

Settings pressure: [P]; Indication gas velocity: [SPd]; settings density: [ro] (LUGA: 1,20); Pitot factor: [Pit] (LUGA: Ø 15 mm: 0,563); scale of the output signal: [AnH] (here can select the pressure which has the output signal 2 V); analog output '+/-'-measurement: [AOF] (here you can increase the selected digit in increments of output signal with 1.0 V. If the set value exceeds the limits of the setting range, it is not added onto the next highest digit (no overflow); the digit in question is instead set back to 0.; Damping: [dAn] (LUGA: 08); Auto On/Off: [Aut]; default settings: [rES] (**Attention: all LUGA settings get lost!**).

Users may now set the desired units by pressing the keys 2 and 3. Briefly depressing the key 4 will exit this mode and the instrument will continue on to the next configuration parameter.

Technical Data

for DM Digital Pressure Gauge

Technical Data

housing	TEKNET TN22-B.29 (95 x 155 x 28 mm)
supply voltage	9V IEC 6 LR 61 monoblock battery (alkaline-Mn)
analogue output	max. output voltage: 3.3V permissible load: >=2kΩ
pressure port	universal tubing ports 3...6 mm inner diameter
protection	IP 54
operating range	storage temperature -10 ... +70°C operating temperature range 0 ... 50°C
overload range	10 x FVM
linearity	± 0,5 % of FVM at 22°C
temp.-dependent drift	± 0.04%/°C of FVM
response time	0,5 s
medium	Air and non-aggressive gases
resolution	0.05% -0.1% FVM > P > -FVM (FVM = final value in the meas. range)