

# Handheld pressure gauge HMG operating instructions

The handheld pressure gauge HMG1 is usable for measurement of differential- over- underpressure and absolute pressure in air and not aggressive gases.

The pressure meter is powered by a 9V- battery 6F22. The fall short of minimal supply voltage is displayed by "low bat". If "low bat" appears at the display the battery voltage is not high enough to ensure the accuracy of measurement described at the table at second page. The battery must replaced in this case. The cover of the battery case is located at the backside of the instrument.

The tube connectors are usable to connect tubes with 4 mm or 6 mm diameter inside.

## Realisation of pressure measurements:

After switching on the pressure gauge by using sliding switch should be adjust the zero point. With help of a screw driver with width of 2.5 mm its possible to adjust the screw until the display shows "000". After that the tubes should be connected with the pressure gauge. To measure differential pressure you must connect the higher pressure with "P+" and the lower pressure with "P-". For measurement relative pressure (pressure against the environment) please use only the "p+"- connector, for measurement underpressure must be used only "P-" tube connector. The not used tube connector must be open it should not covered to avoid measurement failures.

## Attention!

Don't touch tube connectors with water and other liquids!

After turn on by using sliding switch at the left hand side the 3 ½ digit LC- Display shows the pressure value in the unit (mbar, kPa or Pa) required by the range of the instrument. A zero deviation will be corrected by potentiometer. The potentiometer is located in the little hole at the right side of enclosure.

The red LED at the display turns on in case of exceed maximum pressure range. The maximum overpressure is described at page 2 of this instruction manual.

## Attention!

The exceeding of maximum overpressure may be damage the piecoresistive cell. The guarantee will be lost in this case!

Option analogue output:

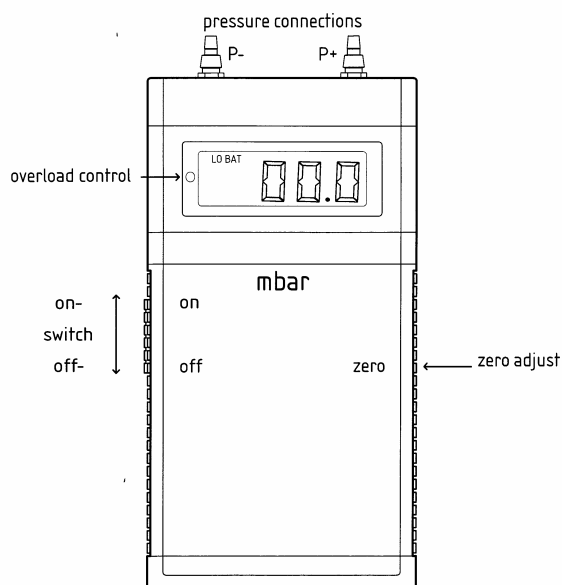
At model HMG1-1 there are an analogue output 0...1 V. The plug with 3.5 mm diameter is included in delivery.

The connection of plug is as follows:

center contact: = signal (+)

periphery contact: = ground (-)

**Important: The ground of analogue output is not connected with minus pole of battery respectively ground of power supply!**



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## technical data HMG1 (difference pressure):

pressure range [mbar]	Pressure range [kPa]	max. over-pressure [mbar]	linear error max. [± % F.S.]	temp.- error typ. [± % full scale] 0-50 °C	long-term-stability [± % full scale / year]	repeat-precision [± % full scale]	measuring [per s]
0 - 1	0 - 0.1	250	1.0	4	2	0.3	2.5
0 - 2.5	0 - 0.25	250	0.8	2.5	2	0.3	2.5
0 - 5	0 - 0.5	350	0.8	1.2	1	0.3	2.5
0 - 10	0 - 1	350	0.8	1.0	0.5	0.2	2.5
0 - 25	0 - 2.5	350	0.7	1.0	0.1	0.1	2.5
0 - 50	0 - 5	350	0.7	1.0	0.1	0.1	2.5
0 - 100	0 - 10	350	0.5	1.0	0.1	0.1	2.5
0 - 1000	0 - 100	x 2	0.5	1.0	0.1	0.1	2.5
0 - 1999	0 - 50	x 2	0.5	1.0	0.1	0.1	2.5
0 - 10 bar	0 - 100	x 1.2	0.5	2.0	0.1	0.1	2.5

## technical data HMG1 (absolute pressure):

700-1100	10-110	triple	± 0.9 mbar	2.3 mbar	0.1	0.1	2.5
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## technical data HMG6 (difference pressure):

0 - 100	0 - 10	350	0.2	0.8	0.1	0.1	2.5
0 - 200	0 - 20	600	0.2	0.8	0.1	0.1	2.5
0 - 1000	0 - 100	2000	0.2	0.8	0.1	0.1	2.5

**operation-temperature range:** 0 to +50 °C

**only use in:** air and all non aggressive gases

**output-signals and power supply:**  $U_{\text{supply}}$  : 9V battery 6F22  
 analog output: 0-1 V optionally available at type HMG1/6-1  
 $R_w$  :  $\geq 2 \text{ k}\Omega$

**connections:** electrical: connection for 3.5 mm 2-pole handle plug (optional for HMG1/6-1)  
 pneumatical: 2 connections for tube with 6 mm or 4 mm diameter inside

**weight:** app. 190 g included battery

**protection class:** IP 54

**dimensions:** 85 mm x 160 mm x 31 mm