

HAND-HELD MEASURING DEVICES WITH INTEGRATED SENSOR



HIGHLIGHTS:

- Integrated pressure sensor
- Sturdy metal connection pin
- Tare function / zero point offset
- Model with protection available

ADDITIONAL FUNCTIONS GMH 3181-...:



Type specific data:	GMH 3161 - ...	GMH 3181 - ...	GMH 3161 - ... -EX	GMH 3181 - ... -EX
Display:	2 x 4½-digit LCD	2 x 4½-digit LCD	2 x 4½-digit LCD	2 x 4½-digit LCD
Sensor:	Piezoresistive differential pressure sensor internally built into the instrument. Suitable for air and non-aggressive gases. (Note: Not suited for water!)			
Pressure connection:	2 pressure port for universal 6 x 1 mm (4 mm hose inside diameter) or 8 x 1 mm (6 mm hose inside diameter) plastic tubing			
Output:	interface	interface or AAG	interface*	interface or AAG*
Serial interface:	x	x	x	x
Analog output:	--	0 ... 1 V, freely adjustable (resolution 12 bit)	--	0 ... 1 V, freely adjustable (resolution 12 bit)
Power supply:	9 V battery, d.c. connector suitable 9V-battery, d.c. connector for external 10.5 ... 12 V direct voltage supply. (suitable power supply: GNG10/3000)			
Sensor adjustment:	digital offset and scale input			
Peak value memory:	--	≥1 ms	--	≥1 ms
Measuring cycle:	„slow“ 4 measurements / s	4 measurements / s	4 measurements / s	4 measurements / s
	„fast“ (with filter) --	≥1000 measurements / s	--	≥1000 measurements / s
	„peak-detect“ -- (Spitzenwertspeicher)	≥1000 measurements / s The min- / max- value memory stored unfiltered pressure peaks ≥1 ms	--	≥1000 measurements / s The min- / max- value memory stored unfiltered pressure peaks ≥1 ms
Averaging function:	--	x	--	x
Battery life:	approx. 500 h	approx. 500 h (slow mode) approx. 120 h (fast = 1000 Hz)	approx. 500 h	approx. 500 h (slow mode) approx. 120 h (fast = 1000 Hz)
Operating conditions:	-25 ... +50 °C, 0 ... +95 % RH (non-condensing)		-10 ... +50 °C, 0 ... 95 % RH (non-condensing)	
Housing:	142 x 71 x 26 mm (H x W x D) (without pressure connection pin - pin approx. 16 mm protruding at front side of device), Impact-resistant ABS plastic housing, membrane keyboard, transparent panel, integrated pop-up clip			
Weight:	approx. 165 g	approx. 170 g	approx. 205 g (incl. leather case)	approx. 210 g (incl. leather case)
Scope of supply:	Device, battery, calibration protocol, manual	Device, battery, calibration protocol, manual	Device, battery, manual	Device, battery, manual

* Please refer to note to Ex-design types (p. 84)

Additional functions:

Serial interface: direct connection to RS232 or USB interface of a PC via electrically isolated interface adapter GRS 3100, GRS 3105 or USB 3100 N.

GMH 3181:

Low power logger mode: (only in measuring cycle „slow“) Only one measurement carried out at the end of the respective logger cycle. The battery life is considerably prolonged. For long-term recordings (e.g. leaktest).

Averaging function: integrates the meas. values during a selectable period of time and then calculates the average display value.

Controlling function: with the help of the switching module GAM3000 (optionally) electric equipment can be switched on/off or alarm monitored (see accessories)

Logger functions:

- manual: 99 data sets

- cyclic: 10000 data sets (max. 64 recording sequences),
adjustable cycle time: 1 ... 3600 s

Note to the pressure unit selection: (information for all GMH31xx):

The choice of a specific pressure unit is possible, if its whole measuring range is displayable within the display of the device and the sensor is supporting these resolution.

FINEST MANOMETER / MANOMETER FOR OVER / UNDER PRESSURE AND PRESSURE DIFFERENCE



-500.0 ... +500.0 Pa (± 500.0 Pa^{*2})

GMH 3161-002

Art. no. 600469

Pressure hand-held measuring device with integr. sensor

GMH 3181-002

Art. no. 600470

Pressure hand-held measuring device with integr. sensor

GMH 3161-002-EX

Art. no. 606685

Pressure hand-held measuring device with integr. sensor, Ex-protection (Ex II 2 G Ex ib IIC T4 Gb)

GMH 3181-002-EX

Art. no. 609063

Pressure hand-held measuring device with integr. sensor, Ex-protection (Ex II 2 G Ex ib IIC T4 Gb)

Specifications:

Measuring range: -500.0 ... +500.0 Pa
(-5.000 ... +5.000 mbar)

Overload: max. 250 hPa (mbar)

Resolution: 0.1 Pa (0.001 mbar)

Additional pressure units: kPa, PSI, mmHg, mH₂O

Accuracy: (typ. values)

Hysteresis and linearity: 0.3 % FS

Temperature-influence from 0-50 °C 0.4 % FS

Option higher accuracy available: no

Pressure connection: 2



-100 ... +2500 Pa (± 2500 Pa^{*1})

GMH 3161-01

Art. no. 600397

Pressure hand-held measuring device with integr. sensor

GMH 3181-01

Art. no. 600411

Pressure hand-held measuring device with integr. sensor

GMH 3161-01-EX

Art. no. 607458

Pressure hand-held measuring device with integr. sensor, Ex-protection (Ex II 2 G Ex ib IIC T4 Gb)

GMH 3181-01-EX

Art. no. 600796

Pressure hand-held measuring device with integr. sensor, Ex-protection (Ex II 2 G Ex ib IIC T4 Gb)

-1,00 ... +70,00 mbar ($\pm 70,00$ mbar^{*1})

GMH 3161-07H

Art. no. 600405

Pressure hand-held measuring device with integr. sensor

GMH 3181-07H

Art. no. 600417

Pressure hand-held measuring device with integr. sensor

GMH 3161-07H-EX

Art. no. 610042

Pressure hand-held measuring device with integr. sensor, Ex-protection (Ex II 2 G Ex ib IIC T4 Gb)

GMH 3181-07H-EX

Art. no. 604074

Pressure hand-held measuring device with integr. sensor, Ex-protection (Ex II 2 G Ex ib IIC T4 Gb)

Specifications:

	... - 01	... - 07H
Measuring range:	-100 ... 2500 Pa (-1.00 ... 25.00 mbar)	-1.00 ... +70.00 mbar
Overload:	max. 100 mbar	max. 1000 mbar
Resolution:	1 Pa (0.01 mbar)	0.01 mbar
Additional pressure units:	bar, kPa, PSI, mmHg, mH ₂ O	bar, Pa, kPa, PSI, mmHg, mH ₂ O
Accuracy: (typ. values)		
Hysteresis and linearity:	± 0.3 % FS	± 0.1 % FS
Temperature-influence from 0-50 °C	± 0.4 % FS	± 0.4 % FS
Option higher accuracy available:	no	already integrated
Pressure connection:	2	



-10,0 ... +350,0 mbar ($\pm 350,0$ mbar^{*1})

GMH 3161-07

Art. no. 600400

Pressure hand-held measuring device with integr. sensor

GMH 3181-07

Art. no. 600413

Pressure hand-held measuring device with integr. sensor

GMH 3161-07-EX

Art. no. 604435

Pressure hand-held measuring device with integr. sensor, Ex-Schutz (Ex II 2 G Ex ib IIC T4 Gb)

GMH 3181-07-EX

Art. no. 601386

Pressure hand-held measuring device with integr. sensor, Ex-Schutz (Ex II 2 G Ex ib IIC T4 Gb)

-10,0 ... +420,0 mbar (-7,5 ... +315,0 mmHg)

GMH 3161-07B

Art. no. 600402

Pressure hand-held measuring device with integr. sensor

GMH 3181-07B

Art. no. 600415

Pressure hand-held measuring device with integr. sensor

GMH 3161-07B-EX

Art. no. 609064

Pressure hand-held measuring device with integr. sensor, Ex-Schutz (Ex II 2 G Ex ib IIC T4 Gb)

GMH 3181-07B-EX

Art. no. 604724

Pressure hand-held measuring device with integr. sensor, Ex-Schutz (Ex II 2 G Ex ib IIC T4 Gb)

Specifications:

	... - 07	... - 07B
Measuring range:	-10.0 ... +350.0 mbar	-10.0 ... +420.0 mbar (-7.5 ... 315.0 mmHg)
Overload:	max. 1 bar	max. 1 bar
Resolution:	0.1 mbar	0.1 mbar (0.1 mmHg)
Additional pressure units:	bar, kPa, MPa, PSI, mmHg, mH ₂ O	bar, kPa, MPa, PSI, mH ₂ O
Accuracy: (typ. values)		
Hysteresis and linearity:	± 0.2 % FS (± 0.1 % FS) ³	± 0.1 % FS
Temperature-influence from 0-50 °C	± 0.4 % FS	± 0.4 % FS
Option higher accuracy available:	yes	already integrated
Pressure connection:	2	

For type specific data please refer to page 90.

*1 measuring range possible by changing the pressure connection ports

*2 without changing the pressure connection ports

*3 Option higher accuracy