

## Finest manometer / manometer for over/under pressure and pressure difference

**GMH 3161-002**

Art. no. 600469

Gerät -500,0 ... +500,0 Pa ( $\pm 500,0 \text{ Pa}^2$ )**GMH 3181-002**

Art. no. 600470

Gerät -500,0 ... +500,0 Pa ( $\pm 500,0 \text{ Pa}^2$ ), Logger**GMH 3161-002-EX**

Art. no. 606685

Device type with Ex-protection

**GMH 3181-002-EX**

Art. no. 609063

Device type with Ex-protection

**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, mH<sub>2</sub>O

**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

For type specific data please refer to page 78.

\*1 measuring range possible by changing the pressure connection ports

\*2 without changing the pressure connection ports

**Special design type:**

**Ex-protection** (II 2 G Ex ib IIC T4 Gb)

Device type with Ex-protection

**GMH 3161-01**

Art. no. 600397

Device -100 ... 2500 Pa ( $\pm 2500 \text{ Pa}^1$ )**GMH 3181-01**

Art. no. 600417

Device -100 ... 2500 Pa ( $\pm 2500 \text{ Pa}^1$ ), Logger**GMH 3161-07H**

Art. no. 600405

Device -1.00 ... 70.00 mbar ( $\pm 70.00 \text{ mbar}^1$ )**GMH 3181-07H**

Art. no. 600417

Device -1.00 ... 70.00 mbar ( $\pm 70.00 \text{ mbar}^1$ ), Logger**GMH 3161-01-EX**

Art. no. 607458

Device type with Ex-protection

**GMH 3181-01-EX**

Art. no. 600796

Device type with Ex-protection

**GMH 3161-07H-EX**

Art. no. 610042

Device type with Ex-protection

**GMH 3181-07H-EX**

Art. no. 604074

Device type with Ex-protection

**Specifications:**

	... - 01	... - 07H
<b>Measuring range:</b>	-100 ... 2500 Pa (-1.00 ... 25.00 mbar)	-1.00 ... +70.00 mbar
<b>Overload:</b>	max. 100 mbar	max. 1000 mbar
<b>Resolution:</b>	1 Pa (0.01 mbar)	0.01 mbar
<b>additional pressure units:</b>	bar, kPa, PSI, mmHg, mH <sub>2</sub> O	bar, Pa, kPa, PSI, mmHg, mH <sub>2</sub> O

**Accuracy (typ. values)**

**Hysteresis and linearity:**  $\pm 0.3 \%$  FS  $\pm 0.1 \%$  FS

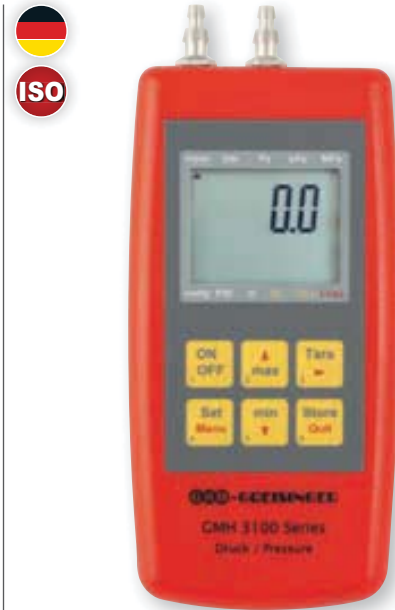
**temperature-influence from 0-50 °C:**  $\pm 0.4 \%$  FS  $\pm 0.4 \%$  FS

**Option higher accuracy available:** no already integrated

**Pressure connection:** 2

For type specific data please refer to page 78.

\*1 measuring range possible by changing the pressure connection ports

**GMH 3161-07**

Art. no. 600400

Device -10.0 ... +350.0 mbar ( $\pm 350.0 \text{ mbar}^1$ )**GMH 3181-07**

Art. no. 600413

Device -10.0 ... +350.0 mbar ( $\pm 350.0 \text{ mbar}^1$ ), Logger**GMH 3161-07B**

Art. no. 600402

Device -10.0 ... 420.0 mbar (-7.5 ... 315.0 mmHg)

**GMH 3181-07B**

Art. no. 600415

Device -10.0 ... 420.0 mbar (-7.5 ... 315.0 mmHg), Logger

**GMH 3161-07-EX**

Art. no. 604435

Device type with Ex-protection

**GMH 3181-07-EX**

Art. no. 601386

Device type with Ex-protection

**GMH 3161-07B-EX**

Art. no. 609064

Device type with Ex-protection

**GMH 3181-07B-EX**

Art. no. 604724

Device type with Ex-protection

**Specifications:**

	... - 07	... - 07B
<b>Measuring range:</b>	-10.0 ... +350.0 mbar	-10.0 ... +420.0 mbar (-7.5 ... 315.0 mmHg)
<b>Overload:</b>	max. 1 bar	max. 1 bar
<b>Resolution:</b>	0.1 mbar	0.1 mbar (0.1 mmHg)
<b>Additional pressure units:</b>	bar, kPa, MPa, PSI, mmHg, mH <sub>2</sub> O	bar, kPa, MPa, PSI, mH <sub>2</sub> O

**Accuracy (typ. values)**

**Hysteresis and linearity:**  $\pm 0.2 \%$  FS ( $\pm 0.1 \%$  FS)<sup>3</sup>  $\pm 0.1 \%$  FS

**Temperature-influence from 0-50 °C:**  $\pm 0.4 \%$  FS  $\pm 0.4 \%$  FS

**Option higher accuracy available:** yes already integrated

**Pressure connection:** 2

For type specific data please refer to page 78.


\*1 measuring range possible by changing the pressure connection ports

\*2 without changing the pressure connection ports

\*3 Option higher accuracy

## A series of 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 FEATURES GMH 3181-...:**

Type specific data:	GMH 3161 - ...	GMH 3181 - ...	GMH 3161 - ... -EX	GMH 3181 - ... -EX
<b>Display:</b>	2 x 4½-digit LCD	2 x 4½-digit LCD	2 x 4½-digit LCD	2 x 4½-digit LCD
<b>Sensor:</b>	piezoresistive differential pressure sensor internally built into the instrument. Suitable for air and non-aggressive gases. (Note: Not suited for water!)			
<b>Pressure connection:</b>	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			
<b>Output:</b>	interface	interface or AAG	interface *	interface or AAG*
<b>serial interface:</b>	x	x	x	x
<b>analog output:</b>	--	0 ... 1 V, freely adjustable (resolution 12 bit)	--	0 ... 1 V, freely adjustable (resolution 12 bit)
<b>Power supply:</b>	9 V-battery, d.c. connector	9 V-battery, d.c. connector	9 V-battery, d.c. connector *	9 V-battery, d.c. connector *
	suitable 9 V-battery, d.c. connector for external 10.5 ... 12 V direct voltage supply. (suitable power supply: GNG10/3000)			
<b>Sensor adjustment:</b>	digital offset and scale input	digital offset and scale input	digital offset and scale input	digital offset and scale input
<b>Peak value memory:</b>	--	≥1 ms	--	≥1 ms
<b>Measuring cycle:</b>	„slow“ 4 measurements / s	4 measurements / s	4 measurements / s	4 measurements / s
	„fast“ (with filter) --	≥1000 measurements / s	--	≥1000 measurements / s
	„peak-detect“ --	≥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.
<b>Averaging function:</b>	--	x	--	x
<b>Battery life:</b>	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)
<b>Working condition:</b>	-25 ... +50 °C, 0 ... +95 % RH (non-condensing)		-10 ... +50 °C, 0 ... 95 % RH (non-condensing)	
<b>Housing:</b>	142 x 71 x 26 mm (without pressure connection pin - pin approx. 11 mm protruding at front side of device), impact-resistant ABS plastic housing. Integrated pop-up clip for table top or suspended use.			
<b>Weight:</b>	approx. 165 g	approx. 170 g	approx. 205 g (incl. leather case)	approx. 210 g (incl. leather case)
<b>Scope of supply:</b>	Device, battery, manual	Device, battery, manual	Device, battery, manual	Device, battery, manual

\* Please refer to note to Ex-design types (p. 73)

**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)

**LoggerFunctions:**

- 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.