


**Product Information**

**GMH 3161 / GMH 3181**  
**Manometer / Barometer / Vacuummeter**

**With high precision sensors integrated**



EX-version  
 in protection bag

- **Sturdy metal connector for hose connection**
- **field and laboratory use: with mounting bracket/belt clip**
- **high resolution and accuracy**
- **serial interface**
- **calibratable / traceable**
- **reference instrument for many calibration tasks**
- **Optionally as EX device for use in hazardous areas** 
- **Made in Germany**

**For GMH 3181 additionally:**

- **Logger**
- **Fast measurement with peak detection: 1000/s**
- **Averaging**

**Characterisitcs**

Powerful pressure gauges with integrated sensors in premium quality. The temperature compensated devices are available in numerous versions - from extremely fine resolution manometers with 0.1 Pa resolution up to 2000 hPa - the right one for every purpose.

The absolute pressure gauges GMH 31x1-12 measure down to 0 hPa abs. and are therefore excellent vacuum gauges.

Optional ISO or DAkkS calibration certificates make the purchase of a high-quality utility or factory standard based on the GMH 3100 series both amazingly affordable and easy!

GMH 3161/-81 Series – Reference instruments for professionals through sophisticated functionality.

The GMH 3161 combine the basic functions for professional use.

The GMH 3181 additionally offer a logger function paired with extremely fast measurement and averaging function -ideal companions for the investigation of fluctuating pressures: dynamic pressures, draft and clean room pressure are reliably measured.


Thanks to the data logger's low power function, leak tests can also be carried out on site over a longer period of time - without an additional power supply. Perfect for heating, ventilation, air conditioning and in plant engineering.

The GMH3181-12 vacuum gauges enable analysis and function monitoring of complex systems in vacuum potting and food vacuum packaging.

Other applications: Machine maintenance, dynamic pressure measurement and many more.

Waterproof, shockproof instruments: see GMH 51xx  
 For higher pressures see instruments with external sensors: GMH 3111/-51/-56 or GMH 51xx

**Technical Data**

Pressure port	2 (Variant -12: 1) universal pressure ports for 6x1 mm (inner: Ø4 mm) hoses or others, e.g. With inner Ø 6 mm
Sensors	Piezoresistive sensors, temperature compensated
Pressure units	mbar (=hPa), bar, Pa, kPa, MPa, mmHg, PSI, m water column, depending on variant!
Media	Air and non-aggressive gases
Measuring cycle	Approx. 4 measurements /s (GMH 3181 "Fast": 1000 / s)
Display	Two 4½-digit LCD displays (12.4 mm and 7 mm), plus additional information arrows
Operating elements	6 membrane keys
Output	3-pole jack socket Ø 3,5mm, optional serial interface or analog output
Serial interface	can be connected directly to the RS232 or USB interface of a PC via interface converter GRS 3100 / GRS 3105 or USB 3100 N (accessories).
Analog output	(only GMH3181) 0 ... 1 V, freely scalable (resolution 13 bit, accuracy 0.05 % at nominal temperature)
Power supply	9 V battery as well as additional power supply socket for external 10.5-12 V (Not EX versions!) low battery indicator Automatic switch-off, adjustable
Battery life approx.	500 h (Fast Mode 3181: 120h)
Housing	made of impact-resistant ABS, membrane keypad, transparent window, mounting/suspension bracket
Protection class	IP40
Dimensions	142 (+16 mm socket) x 71 x 26 mm (H x W x D)
Weight approx.	170 g (-EX: approx. 210 g)
Ambient conditions	-25 to 50 °C; 0 to 95 % r.h. (non-condensing)
Standard functions	Min/Max/Hold Zero and slope adjustment GMH 31x1-12: Sea level correction
<b>Additional functions GMH 3181:</b>	
Logger function	manual: 99 data sets (recall via display or interface) autom.: 10.000 data sets (recall via interface), low power function for long time recording without power supply unit adjustable cycle time: 1 s ... 1 h Logger start and stop via keyboard or interface. Software GSOFT 3050 is available for reading out the logger data.
Averaging	over adjustable time averaged value is output - besides min. and max. values
Alarm function	Alarm horn (Not EX versions!), display, adjustable
<b>Additionally GMH 31x1-EX:</b>	
	Electrostatic dissipative protective leather cover (ST-R1/ST-R2)
EX-Approval Certificate	 II 2 G Ex ib IIC T4 Gb EPS 09 ATEX 1 227 X

**Product Information**

**Variants**

Variant	Range	Overload	Precision typ.			Display units
			Hyst. and Lin.	Hyst. and Lin. Option HS	Temp 0-50°C	
002	-500.0 ... +500.0 Pa dif.	250 mbar	0.3 % FS	Not possible	0.4 % FS	Pa,kPa,PSI,mmHg,mH <sub>2</sub> O
01	-100 ... +2500 Pa dif.	100 mbar	0.3 % FS	Not possible	0.4 % FS	mbar,bar,Pa,kPa,PSI,mmHg,mH <sub>2</sub> O
07H	-1.00 ... +70.00 mbar dif.	1 bar	0.1 % FS	integrated	0.4 % FS	mbar,bar,Pa,kPa,PSI,mmHg,mH <sub>2</sub> O
07	-10.0 ... +350.0 mbar dif.	1 bar	0.2 % FS	0.1 % FS	0.4 % FS	mbar,bar,kPa,Mpa,PSI,mmHg,mH <sub>2</sub> O
07B	-10.0 ... +420.0 mbar dif.	1 bar	0.1 % FS	integrated	0.4 % FS	mbar,bar,kPa,Mpa,PSI,mmHg,mH <sub>2</sub> O
12	0 ... 1300 mbar abs.	4 bar abs.	0.2 % FS	0.1 % FS	0.4 % FS	mbar,bar,kPa,Mpa,PSI,mmHg,mH <sub>2</sub> O
13	-100 ... +2000 mbar dif.	4 bar	0.2 % FS	0.1 % FS	0.4 % FS	mbar,bar,kPa,Mpa,PSI,mmHg,mH <sub>2</sub> O
13-MB	-1000 ... +2000 mbar dif.	4 bar	0.2 % FS	0.1 % FS	0.4 % FS	mbar,bar,kPa,Mpa,PSI,mmHg,mH <sub>2</sub> O

**Order Code**

GMH 3161  -  -  -  -

Pressure measuring instrument with integrated sensor

GMH 3181  -  -  -  -

Pressure measuring instrument with integrated sensor and logger

1	Pressure connection	
		Universal pressure port for tube 6x1 mm (4 mm inner-Ø) or 8x1 mm (6 mm inner-Ø)
2	Measuring range	
	01	-100 ... +2500 Pa dif.
	002	-500.0 ... +500.0 Pa dif.
	07	-10.0 ... +350.0 mbar dif.
	07B	-10.0 ... +420.0 mbar dif.
	07H	-1.00 ... +70.00 mbar dif.
	12	0 ... 1300 mbar abs.
	13	-100 ... +2000 mbar dif.
	13-MB	-1000 ... +2000 mbar dif.
3	Set-Option	
	WPD5-GKK	Device with WPD5 in case GKK 3000
4	Option	
	00	Without option
	HS	Higher sensor accuracy
5	Version	
	00	Standard
	EX	Ex-version

**Lieferumfang**

- hand-held measuring device (see order code)
- test report
- battery
- operating instructions

**Zubehör**

**Spare parts:**

- Replacement battery  
GB-9V Art.-No. 601115

**Additional accessories:**

- Interface-converter GMH3xxx <=>PC, USB  
USB 3100 N Art.-No. 601092
- Windows-Software for GMH 3000 and GMH 5000 with logger  
GSOFT 3050 Art.-No. 601336
- Mains adapter for GMH 3XXX-Series  
GNG 10 / 3000 Art.-No. 600273
- Protective bag , Leather , 2 openings  
ST-R2 Art.-No. 601068
- Protective bag , Leather for variant -12  
ST-R1 Art.-No. 601066
- Case with foam lining for universal use  
GKK 1100 Art.-No. 601060
- Magnet holder:  
GMH 1300 Art.-No. 601091