



## Pressure sensors: for use with GMH311x, GMH315x and GDUSB1000

Application: • air and non-corrosive, non-ionising gases  
• sensor are not suitable for water / liquids.

### Relative pressure sensors: for measuring of over / under pressure and pressure difference

Specification:	GMSD 2,5 MR	GMSD 25 MR	GMSD 350 MR	GMSD 2 BR	GMSD 10 BR
<b>Measuring range:</b>	-1,999 ... +2,500 mbar	-19,99 ... +25,00 mbar	-199,9 ... +350,0 mbar	-1000 ... +2000 mbar	-1.00 ... +10.00 bar
<b>Overload:</b>	max. 200 mbar	max. 300 mbar	max. 1 bar	max. 4 bar	max. 10.34 bar
<b>Resolution:</b>	0,001 mbar (0,1 Pa)	0,01 mbar (1 Pa)	0,1 mbar	1 mbar	10 mbar
<b>Accuracy:</b> (typ. values)					
hysteresis and linearity	± 0,2 % FS	± 0,2 % FS	± 0,2 % FS	± 0,2 % FS	± 0,2 % FS
temperature influence from 0-50°C	± 1,0 % FS	± 0,5 % FS	± 0,4 % FS	± 0,4 % FS	± 0,4 % FS
Option higher accuracy available	no	no	yes	yes	yes

### Absolute pressure sensors: for measuring of absolute pressure

Specification:	GMSD 1,3 BA	GMSD 2 BA	GMSD 7 BA
<b>Measuring range:</b>	0 ... 1300 mbar abs.	0 ... 2000 mbar abs.	0.00 ... 7,00 bar abs.
<b>Overload:</b>	max. 4 bar abs.	max. 4 bar abs.	max. 10,34 bar abs.
<b>Resolution:</b>	1 mbar	1 mbar	10 mbar
<b>Accuracy:</b> (typ. values)			
hysteresis and linearity	± 0,2 % FS	± 0,2 % FS	± 0,2 % FS
temperature influence from 0-50°C	± 0,4 % FS	± 0,4 % FS	± 0,4 % FS
Option higher accuracy available	yes	yes	yes

### General specification:

**Sensor:** piezoresistive pressure sensor.  
**Pressure connection:** 2 connection pins for tubes 6 x 1 mm (6mm inside-Ø and 4mm outside-Ø)  
**Electronics:** PC board with amplifier and data memory for sensor data (measuring. range/calibration etc.) integrated in sensor housing.  
**Working temperature:** 0 ... +70 °C  
**Relative humidity:** 0 ... +95 %RH (non-condensing)  
**Storage temperature:** -40 ... +80 °C  
**Housing:** ABS plastic with suspension eye, dimensions do not incl. conn. pin: 68 x 32,5 x 15 mm, dimensions with connection pin: 68 x 32,5 x 27,5 mm.  
**Device connection:** 1m PVC connection cable, screened with integral 6-pin Mini-DIN-plug, lockable  
**Weight:** approx. 75 g

### Options, upcharges:

**Special pressure ranges** upon request

### Probes for Ex-protection

(Ex II 2 G Ex ib IIC T4 - EPS 09 ATEX 1 227 X)

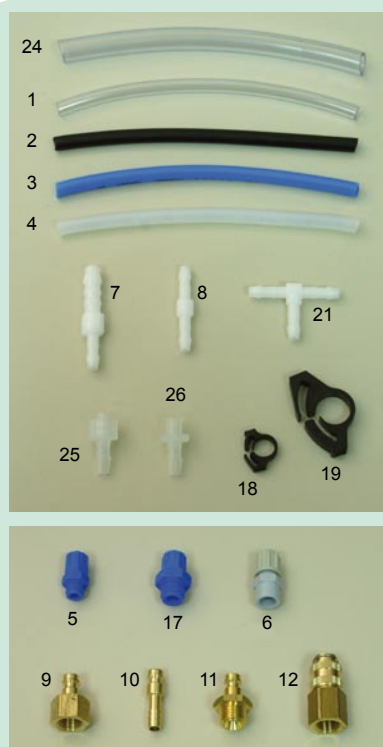
**Higher probe accuracy** by multi point calibration  
 Additional individual linearisation points are stored in sensor memory.  
 (not possible for GMSD 2,5 MR and GMSD 25 MR !)

### Certificate of calibration WPD5

(f. ISO9000 ff.) incl. several calibration points stored in probe certificate of calibration: 5 point increase, 5 point decrease.

### Certificate of calibration WPD10

(f. ISO9000 ff.) incl. several calibration points stored in probe certificate of calibration: 10 point increase, 10 point decrease.



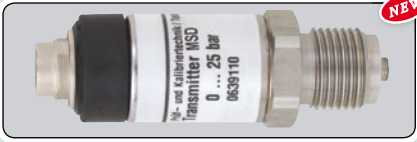
## TUBE, TUBE CLIPS, ADAPTER, COUPLINGS, etc.

for GMH31xx, GMSD, GDH and pressure measuring transducers.

- GDZ-01** = PVC-tube 6/4 (6 mm outside-Ø, 4 mm inside-Ø) ( 5 bar @ 23°C)
- GDZ-24** = PVC-tube 10/7 (10 mm outside-Ø, 7 mm inside-Ø) ( 5 bar @ 23°C)
- GDZ-02** = PE (polyethylene) 6/4 (6 mm outside-Ø, 4 mm inside-Ø) (10 bar @ 23°C)
- GDZ-03** = PUR (polyurethane) 6/4 (6 mm outside-Ø, 4 mm inside-Ø) ( 9 bar @ 23°C)
- GDZ-04** = PA (polyamide) 6/4 (6 mm outside-Ø, 4 mm inside-Ø) (25 bar @ 23°C)
- GDZ-05** = Screw-type glanding for 6/4 tube with outside thread G<sup>1</sup>/<sub>8</sub>"
- GDZ-06** = Increaser glanding for 6/4 tube with inside thread G<sup>1</sup>/<sub>8</sub>"
- GDZ-07** = Double reducer for tubes with 6 inside-Ø to 6/4 tube
- GDZ-08** = Double adapter for 6/4 tube to 6/4 tube
- GDZ-09** = Coupling adapter (NW5) made of brass with inside thread G<sup>1</sup>/<sub>4</sub>" (suitable for GDZ-12)
- GDZ-10** = Coupling adapter (NW5) made of brass for tube with 6mm inside-Ø (suitable for GDZ-12)
- GDZ-11** = Coupling adapter (NW5) made of brass with outside thread G<sup>1</sup>/<sub>4</sub>" (suitable for GDZ-12)
- GDZ-12** = Coupler socket (NW5) made of brass (single-hand use) with inside thread G<sup>1</sup>/<sub>4</sub>"
- GDZ-17** = Screw-in connection for 6/4 tube with outside thread G<sup>1</sup>/<sub>4</sub>"
- GDZ-18** = Tube clamp for 6/4 tube
- GDZ-19** = Tube clamp for 8/6 tube (8mm outside-Ø and 6mm inside-Ø)
- GDZ-21** = T-piece for 6/4 tubes
- GDZ-25** = Luer-Lock male to 6/4 tube
- GDZ-26** = Luer-Lock female to 6/4 tube
- GDZ-29** = Filter-Membrane incl. Luer-Locks (GDZ-25 and GDZ-26) (without picture)
- GOG-N** = needle, Ø 0.9 mm - suitable to Luer-Lock male (5 pieces) (without picture)

**NEW**

for additional accessories refer to page 23



## Stainless steel pressure sensors:

for use with GMH311x, GMH315x (p.r.t page 20 - 21) and GDUSB1000 (p.r.t page 61)

Application: • air, aggressive gases  
• aggressive liquids / water, etc.

Follow-on type for **GMSD-stainless-steel-sensors**

Absolute pressure	Measuring range	Overload	Resolution
MSD 1 BAE	0 ... 1000 mbar abs.	max. 5 bar abs.	1 mbar
MSD 2,5 BAE	0 ... 2500 mbar abs.	max. 10 bar abs.	1 mbar
MSD 4 BAE	0 ... 4000 mbar abs.	max. 17 bar abs.	1 mbar
MSD 6 BAE	0 ... 6000 mbar abs.	max. 35 bar abs.	1 mbar

Relative pressure			
MSD 400 MRE	0,0 ... 400,0 mbar rel.	max. 2 bar rel.	0,1 mbar
MSD 1 BRE	0 ... 1000 mbar rel.	max. 5 bar rel.	1 mbar
MSD 2,5 BRE	0 ... 2500 mbar rel.	max. 10 bar rel.	1 mbar
MSD 4 BRE	0 ... 4000 mbar rel.	max. 17 bar rel.	1 mbar

MSD 6 BRE	0 ... 6000 mbar rel.	max. 35 bar rel.	1 mbar
MSD 10 BRE	0,00 ... 10,00 bar rel.	max. 35 bar rel.	10 mbar
MSD 25 BRE	0,00 ... 25,00 bar rel.	max. 50 bar rel.	10 mbar
MSD 40 BRE	0,00 ... 40,00 bar rel.	max. 80 bar rel.	10 mbar
MSD 60 BRE	0,00 ... 60,00 bar rel.	max. 120 bar rel.	10 mbar
MSD 100 BRE	0,0 ... 100,0 bar rel.	max. 200 bar rel.	0,1 bar
MSD 160 BRE	0,0 ... 160,0 bar rel.	max. 320 bar rel.	0,1 bar
MSD 250 BRE	0,0 ... 250,0 bar rel.	max. 500 bar rel.	0,1 bar
MSD 400 BRE	0,0 ... 400,0 bar rel.	max. 800 bar rel.	0,1 bar
MSD 600 BRE	0,0 ... 600,0 bar rel.	max. 1200 bar rel.	0,1 bar
MSD 1000 BRE	0 ... 1000 bar rel.	max. 1500 bar rel.	1 bar

### MSD ...

### Stainless steel pressure sensors without cable

Connection cable MSD-K31 has to be ordered separately (Accessories)

### MSD-K31

1 m connection cable for MSD-sensors for use with GMH 31xx and GDUSB 1000

#### General specification:

**Sensor:** stainless steel pressure sensor (parts coming into contact with media). Suitable for aggressive media, water, etc.

**Accuracy:** (typ. values) ± 0,2 % FS (hysteresis and linearity)  
± 0,2 % FS / K (TC for zero or slope)

**Electronics:** PC board with amplifier and data memory for sensor data (meas. range, calibration, etc.) integrated in sensor housing, sealed sensor electronic

**Medium temperature:** -25 ... +100 °C (compensated range: 0 ... 70 °C)

**Working conditions:** -20 ... +80 °C

**Storage temperature:** -40 ... +80 °C

**Pressure connection:** connection thread G1/2B (other threads or adapter on request).

**Cable connection:** M12 built-in plug

**Housing:** made of CrNi-steel (parts coming into contact with media)  
length: 88,5 mm, Ø 27 mm, approx. 220 g

**Protection class:** IP 67 (sensor), IP54 (plug)

#### Options, upcharges:

**Special pressure ranges** upon request

#### Higher probe accuracy

by multi point calibration (additional individual linearisation points are stored in sensor memory)

#### Probes for Ex-protection

#### Certificate of calibration WPD5

(f. ISO9000 ff.) incl. several calibration points stored in probe certificate of calibration: 5 point increase, 5 point decrease

#### Certificate of calibration WPD10

(f. ISO9000 ff.) incl. several calibration points stored in probe certificate of calibration: 10 point increase, 10 point decrease

#### Accessories:

**MSD-K31** Connection cable for use with GMH 31xx  
1 m PVC connection cable, screened with integral 6-pin Mini-DIN-plug and M12-socket

Note: 1 cable per device is also with several sensors sufficient



**well probe / submersible probe:** for use with GMH311x, GMH315x and GDUSB1000

Application area: measurings in water, aggressive media, etc.

### GMSD 1 BTS

#### Specification:

**Measuring range:** 0.0 ... 1000.0 mbar rel. (0 ... 10 m)

**Overload:** max. 5 bar rel.

**Accuracy:** (typ. values) ± 0,25 %FS (hysteresis and linearity)  
± 0,02 %FS / K (TK for offset or slope)

**Working conditions:**  
Sensor head, -cable: -10 ... +70 °C  
Adapter housing: 0 ... +50 °C, 0 ... +95 %RH (non-condensing)

**Storage temperature:** -30 ... +80 °C

**Device connection:** approx. 1m PVC cable with 6-pin Mini-DIN-plug to the adapter housing.

**Electronics:** PC board with data memory for sensor data integrated in sensor housing.

**Sensor cable:** approx. 10 m, at sensor head stationary casted FEP-cable with integrated tube for pressure balance

**Sensor head:** stainless steel, approx. 27 mm Ø, length of metal body approx. 147 mm



## TUBE ADAPTER, COUPLINGS, etc.

**GDZ-13** = Increaser/reducer made of brass with G<sup>1</sup>/<sub>2</sub>" outside thread and G<sup>1</sup>/<sub>8</sub>" inside thread

**GDZ-14** = Screw-in nozzle for 6/4 tube with outside thread G<sup>1</sup>/<sub>8</sub>"

**GDZ-15** = Screw-in nozzle for tube with 6 mm inside-Ø with outside thread G<sup>1</sup>/<sub>4</sub>"

**GDZ-16** = Screw-in nozzle for 6/4 tube with outside thread G<sup>1</sup>/<sub>4</sub>"

**GDZ-20** = Screw-on connection made of brass for 6/4 tube with inside thread G<sup>1</sup>/<sub>4</sub>"

**GDZ-22** = Coupling adapter (NW5) made of brass with tube connection 6/4 (suitable for GDZ-12)

**GDZ-23** = Adapter G<sup>1</sup>/<sub>2</sub>" inside thread to G<sup>1</sup>/<sub>4</sub>" outside thread, made of brass

**GDZ-27** = Manometer profile gasket (thickness 3 mm, Cu) for thread G<sup>1</sup>/<sub>4</sub>"

**GDZ-28** = Flat gasket (thickness 5 mm, Cu) for thread G<sup>1</sup>/<sub>2</sub>"

**GWA 1214** = Adapter G<sup>1</sup>/<sub>2</sub>" inside thread to G<sup>1</sup>/<sub>4</sub>" outside thread

for additional accessories refer to page 22