Pressure measuring transducer for absolute pressure or over/under pressure and pressure difference

- freely scalable
- change between 4-20 mA / 0-10 V
- with display
- switching output

GMUD MP-S (pressure range > 30 mbar)
GMUD MP-F (fine pressure range < 25 mbar)

Microprocessor controlled, digital pressure transducer with display and operation via 3 buttons. With freely scalable analog output that can be switch between 4-20 mA and 0-10 V.

Suitable for: air and non-aggressive gases

Area of application:
- controlling, measuring and monitoring
- climate and ventilation
- environmental and medical technology

Types of pressure: Absolute pressure (vacuum used as reference) for measuring over pressure over absolute zero (sensor displaying barometric air pressure when coming into contact with atmospheric pressure). Relative pressure (reference atmosphere or ambient pressure) for over/under pressure measurements and pressure difference measurements (sensor displaying zero when coming into contact with atmospheric or ambient pressure).

Specification:

Sensor element: piezoresistive pressure sensor with integrated temperature

Relative fine pressure range:	Measuring range	Overload	Burst pressure
MP-F-MR0	0,000 … 1,000 mbar rel.	150 mbar	200 mbar
MP-F-MR1	0,00 … 10,00 mbar rel.	150 mbar	200 mbar
MP-F-MR2	0,00 … 20,00 mbar rel.	150 mbar	200 mbar
	Optimized special ranges possible: see option - MBF (e.g. -15 ... +15 mbar)		
Relative pressure range:	**Measuring range**	**Overload**	**Burst pressure**
MP-S-MR0	0,0 … 100,0 mbar rel.	1000 mbar	1500 mbar
MP-S-MR1	0,0 … 500,0 mbar rel.	1000 mbar	1500 mbar
MP-S-MR2	0 … 1000 mbar rel.	2000 mbar	3000 mbar
MP-S-MR3	0 … 2000 mbar rel.	4000 mbar	6000 mbar
MP-S-MR4	0 … 5000 mbar rel.	7000 mbar	7000 mbar
Absolute pressure range:	**Measuring range**	**Overload**	**Burst pressure**
MP-S-MA0	0 … 1100 mbar abs.	2000 mbar	3000 mbar
MP-S-MA1	0 … 2000 mbar abs.	4000 mbar	6000 mbar
	Optimized special ranges possible: see option - MBS (e.g. -350 ... +350 mbar)		

Typ. accuracy: GMUD MP-S: ±0,15 % FS (lin.), ±0,6 % FS (hysteresis and temperature 0 ... 70 °C)
GMUD MP-F: ±0,35 % FS (lin.), ±0,6 % FS (hysteresis and temperature 0 ... 70 °C)
Output signal: 4 ... 20 mA / 0 ... 10 V (selectable in menu)
Auxiliary energy: only needed if 0...10 V output signal is selected (18 ... 30 V DC / 24 V AC)
Permissible burden: (4 ... 20 mA): Ra[Ω] = (Uv [V] - 12 [V]) / 0.02 A
Permissible load: (0 ... 10 V): >= 3000 Ω
Operating temperature: -20 ... +70 °C
Storage temperature: -40 ... +70 °C
Display / operation: 4-digit 7-segment display and 3 buttons
Pressure connection: universal pressure connecting pieces for 6 x 1 mm or 8 x 1 mm plastic tubes (4 or 6 mm inner pipe diameter)
Mounting position: any position (small influence of mounting position for low ranges)
Housing: ABS (IP65), with fixing holes for wall mounting (accessible after cover has been removed)
Electric connection: elbow-type plug acc. to EN 175301-803/A (IP65); max. wire cross section: 1.5 mm2 , wire/cable Ø: 4.5mm to max. 7mm

ordering example: ±700 mbar rel. with switching output: GMUD MP-S/MBS:-700 ... +700 mbar, OUT
0 ... 100 mbar rel. with lacquering and switching output: GMUD MP-S-MR0/LACK, OUT

Options:

LACK: card coated on both sides (for outdoor application)

OUT: switching output (max 28 V, 40 mA), switches if meas. value falls below or exceeds limit value connection via 2nd elbow-type plug

WE: default settings according to customer's specifications, includes: output signal, measuring range, default state in case of error (without upcharge if together with MBF / MBS)

MBF: option any fine pressure range range < 25 mbar
please state desired measuring range

MBS: option any pressure range range > 30 mbar … 5000 mbar
please state desired measuring range

Tube and accessories: see page 50 - 51

Water level / well probe Tank contents meas. probe

GBS 01

For simple and inexpensive applications. Suitable for permanent level measuring in tanks, rivers, lakes, drinking-water wells, drilling holes, waste water plants...

GBS 02

For measuring the level of fuel and other aggressive media. The sensor is highly precise, insensitive to lateral flow and offers optionally lightning protection and other output signals (e.g. 0-10V). For measuring of gasoline please order ex-design.

Description: piezoresistive pressure sensor with temperature compensation. Welded, non-corrosive design with integral and additionally sealed water-proof connecting cable. The pressure compensation is done via a cable-integrated air path to the atmosphere. A special feature is the lateral flow resistance, which prevents media ingress. Therefore only the cable has to be replaced in case of a corresponding defect.

Specification:

Meas. reanges: 0.1 bar (100 mbar) to 25 bar = 1 to 250 m water column
Available ranges:
0.1, 0.25, 0.4, 0.5, 0.6, 1, 1.6, 2.5, 4, 6, 10, 16, 25
Overload (bar):
1 2 2 2 4 5 10 10 17 35 35 80 80
Output signal:
4-20 mA (option: 0-10 V only for GBS02)
Permissible impedance:
4-20 mA: R_A [Ω] ≤ (Vs [V] - 10 V) / 0.02 A
0-10 V: R_A [Ω] > 10 0kOhm
Auxiliary energy: 10...30 V DC (14...30 V DC at 0-10 V), others upon request
Accuracy:
GBS01: accuracy (% of span): ≤ 0,5 (setting of cut-off point) resp. ≤ 0,25 (BFSL)
GBS02: accuracy (% of span): ≤ 0,25 (setting of cut-off point) resp. ≤ 0,125 (BFSL)
(The accuracy of the pressure ranges 0.1 and 0.25bar correspond with the type GBS01)
Hysteresis (% of span): ≤ 0,1
Repeatabilty (% of span): ≤ 0,05
Stability per year (% of span): ≤ 0,2
(at reference conditions)
Operating temperature: -10...+60 °C (GBS01) or -10...+85°C (GBS02)
Temperature coefficient (% of span)**:**
≤ 0,02 / K (for meas. range ≥ 0.4bar)
Filling: KN77, food safe
Housing: chromium-nickel alloy 1.4571.
Male thread G 1/2" accessible after removal of plastic protection cap.
Probe dimensions: Ø 27 mm, length of metal body: approx. 100 mm (GBS01), approx. 147 mm (GBS02), cable Ø approx. 7.5 mm
Electric connection: 10 m stationary casted PUR cable (GBS01) resp. FEP-cable (GBS02). Glass-fibre screen protects cable against tearing. (Extra long cable against upcharge - please specify when ordering)

Options GBS01:

extra long connection cable (PUR)
upcharge per m

Optionen GBS02:

extra long con. cable (FEP, teflon)
upcharge per m
lightning protextion upcharge:
output signal 0-10 V upcharge:
Ex-protection **upon request**