

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. Possible cable lengths up to 300 m. 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, while sensor is still unharmed.

Specification:

Meas. ranges: 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: $RA [\Omega] \leq (Vs [V] - 10 V) / 0.02 A$
0-10 V: $RA [\Omega] > 10 k\Omega$

Auxiliary energy: 10...30 V DC (14...30 V DC at 0-10 V), others upon request
Accuracy:

GBS01: accuracy (% of span): $\leq 0,5$ (setting of cut-off point) resp. $\leq 0,25$ (BFSL)
GBS02: accuracy (% of span): $\leq 0,25$ (setting of cut-off point) resp. $\leq 0,125$ (BFSL)

(The accuracy of the pressure ranges 0.1 and 0.25bar correspond with the type GBS01)
Hysteresis (% of span): $\leq 0,1$
Repeatability (% of span): $\leq 0,05$

Stability per year (% of span): $\leq 0,2$ (at reference conditions)
Operating temperature: -10...+60 °C (GBS01) or -10...+85 °C (GBS02)

Temperature coefficient (% of span): $\leq 0,02 / K$ (for meas. range ≥ 0.4 bar)
Filling: KN77, food safe

Housing: chromium-nickel alloy 1.4571.
Male thread G 1/2" (=1,27 cm) accessible after removal of plastic prot. cap.

Probe dimensions: $\varnothing 27$ mm, length of metal body: approx. 100 mm (GBS01), approx. 147 mm (GBS02), cable \varnothing 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:

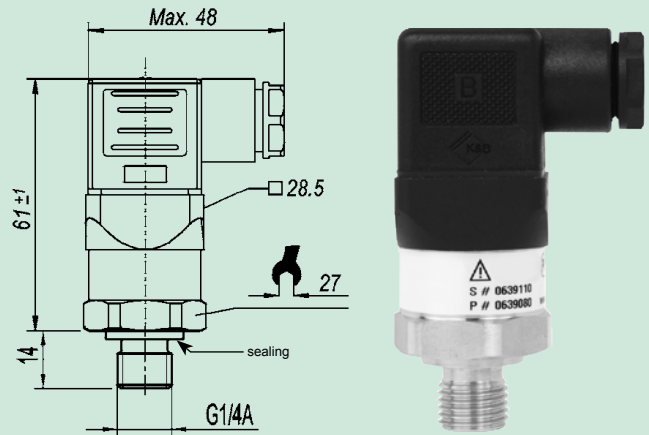
extra long con. cable (FEP, teflon) upcharge per m

lightning protection upcharge:

output signal 0-10 V upcharge:

Ex-protection, zone 0 upcharge:

Pressure transmitter



A-10

(relative pressure, zero output at atmospheric pressure)

Option: absolute pressure upcharge
(0...1bar abs. to 0...25bar abs.)

General application: Suitable for all applications in machine and systems engineering, automotive technology as well as cooling and air conditioning technology.

Specification:

Measuring range (MB), Overload limit (ÜL), Burst pressure (BD):

MB: 1, 1.6, 2.5, 4, 6, 10, 16, 25, 40, 60, 100, 160, 250, 400, 600

ÜL: 2 3.2 5 8 12 20 32 50 80 120 200 320 500 800 1200

BD: 5 10 10 17 34 34 100 100 400 550 800 1000 1200 1700 2400

Output signal: 4-20mA, 2-wire, $RA [\Omega] \leq (Uv [V] - 8V) / 0.02 A$
0-10V, 3-wire, $RA \geq 10 k\Omega$
(other output signals upon request)

Auxiliary energy: 8...30VDC (for output 4-20 mA)
14...30VDC (for output 0-10V)

Accuracy: * $\leq 1,0$ % FS (optional: $\leq 0,5$ % FS)

(* = including non-linearity, hysteresis, zero point and scale error. Corresponds to error of measurement per IEC 61298-2. Sensor adjusted in vertical mounting position with lower pressure connection)

Non-Linearity: $\leq 0,6$ % FS (optional: $\leq 0,3$ % FS)

Zero Offset: $\leq 0,5$ % FS (typ.), $\leq 0,8$ % FS (max.),
(optional: $\leq 0,15$ % FS (typ.), $\leq 0,4$ % FS (max.))

Hysteresis: $\leq 0,16$ % FS

Repeatability: $\leq 0,1$ % FS

Long-term drift: $\leq 0,1$ % FS (according to IEC 61298-3)

Response time: $t_{90} \leq 4$ ms

Perm. temperature of meas. media: 0 ... +80 °C (optional: -30 ... +85 °C)

Ambient temperature: 0 ... +80 °C (optional: -20 ... +80 °C)

Storage temperature: -20 ... +80 °C

Temperature compensated area: 0 ... +80 °C

Temperature error in comp. area: $\leq 1,0$ % FS (typ.), $\leq 2,5$ % FS (typ.)

Material: Parts coming into contact with pres. media

- Pressure connection: 316 L

- Pressure sensor: 316 L (as of 10bar rel. 13-8 PH)

Housing: 316 L

Pressure connection: G 1/4" (= 0,635 cm), DIN 3852-E with NBR sealing

Protection rating: IP65 resp. IP67 with cable

Electric connection: elbow-type plug acc. to DIN 43650 or connection cable, cable length 1.5m

Electric protections: reverse voltage and short-circuit protection

Weight: approx. 150 g

Options, Accessories:

Higher sensor accuracy (class 0,5) upcharge:

Extended temperature range upcharge:

Output signal 0-10 V upcharge:

Fixed connecting cable, 2 m with bend protection upcharge:
(instead of elbow-type plug, IP67)

GWA1214 V4A thread adapter G 1/2" (= 1,27 cm)

with internal thread G 1/4" (= 0,635 cm) and external thread G 1/2" (= 1,27 cm)