

## 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 300m. 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 (100mbar) to 25 bar = 1 to 250m 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:** 4-20mA (option: 0-10V only for GBS02)  
**Permissible impedance:** 4-20mA:  $RA [\Omega] \leq (Vs [V] - 10V) / 0.02 A$   
0-10V:  $RA [\Omega] > 100k\Omega$

**Auxiliary energy:** 10...30VDC (14...30VDC at 0-10V), 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  $\geq 0.4$ bar)

**Filling:** KN77, food safe

**Housing:** chromium-nickel alloy 1.4301 or 1.4571. Male thread G 1/2" accessible after removal of plastic protection cap.

**Probe dimensions:**  $\varnothing 27$  mm, length of metal body: approx. 100 mm (GBS01), approx. 147mm (GBS02), cable  $\varnothing$  approx. 7.5 mm

**Electric connection:** 10m 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:

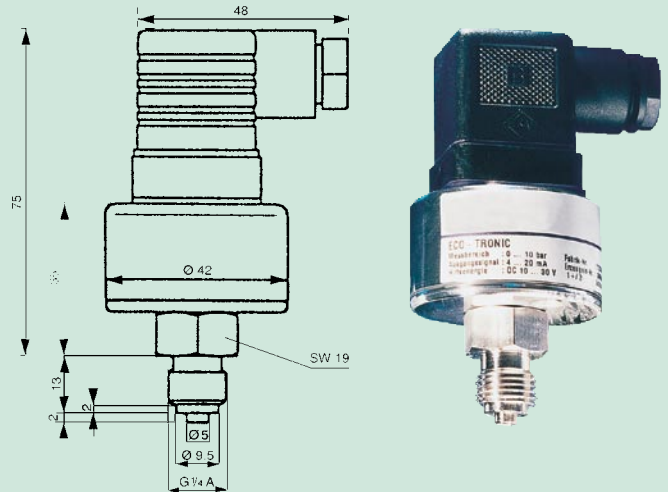
**extra long con. cable (FEP, teflon)** upcharge per m

**lightning protection** upcharge:

**output signal 0-10V** upcharge:

**Ex-protection, zone 0** upcharge:

## Pressure measuring transducer



### GPE 81

(relative pressure, zero output at atmospheric pressure)

**Option: absolute pressure upcharge**  
(0...1bar abs. to 0...10bar abs.)

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

#### Specification:

**Meas. principle:** piezoresistive ( $\leq 10$ bar) or thin-film strain gauge ( $\geq 16$ bar)

**Measuring range (MB), Overload limit (ÜL):** (0-1bar ... 0-1000bar rel.)

**MB:** 1, 1.6, 2.5, 4, 6, 10, 16, 25, 40, 60, 100, 160, 250, 400, 600, 1000

**ÜL:** 5 10 10 17 35 35 50 50 80 120 200 320 500 800 1200 1500

**MB:** -1...+9 -1...15 -1...24

**ÜL:** 35 50 50

**Output signal:** (please select one of the following)

4-20mA, 2-wire,  $RA [\Omega] \leq (Uv [V] - 10V) / 0.02 A$

0-10V, 3-wire,  $RA \geq 10 k\Omega$

1-5V, 3-wire,  $RA \geq 5 k\Omega$  (upon request)

1-6V, 3-wire,  $RA \geq 6 k\Omega$  (upon request)

**Auxiliary energy:** 10...30VDC (for output 4-20 mA)

14...30VDC (for outputs 0-10V, 1-5V, 1-6V)

#### Accuracy:

deviation from parameter (% of span):  $\leq 1,0$  (setting of cut-off point)

(incl. hysteresis)  $\leq 0,5$  (setting of tolerance band, BFSL)

Repeatability (% of span):  $\leq 0,1$

Stability / year (% of span):  $\leq 0,3$  (under reference conditions)

**Response time:**  $t_{90} \leq 5$  ms

**Permissible temperature of meas. media:** -40 ... +100 °C

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

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

**TK in compensated area:**  $\pm 0.04$  % FS / K (zero point)

$\pm 0.03$  % FS / K (span)

**Material:** Parts coming into contact with pres. media: 1.4571 (V4A) or 1.4542  
Housing: 1.4301 (V2A)

**Pressure connection:** G 1/4 B

**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. 150g

#### Options, Accessories:

**Output signal 0-10V** upcharge:

**Fixed connecting cable, 1.5m with bend protection** upcharge:  
(instead of elbow-type plug)

**Longer connection cable, more than 1.5m** upcharge per m:

**GDZ-27** Profile gasket for thread "G1/4"

**GWA1214** V4A (1.4571) thread adapter G1/2"  
with internal thread G1/4" and external thread G1/2"