**PIEZORESISTIVE PRESSURE TRANSUCERS**
**VENTED GAUGE AND ABSOLUTE PRESSURE**

These piezoresistive pressure transmitter-heads are produced on the new KELLER automatic brazing lines, making possible the mass production of high quality pressure transmitters at low cost. This new technology allows the crevice-free construction of the pressure port without using seals or O-rings. In the brass sensor line (Series 6 M), a steel insert and a nickel diaphragm are brazed into a brass housing. In the steel version (Series 6 S), all parts are of stainless steel (AISI 316 L). The header with the silicon pressure sensor and the glass feed-through pins are welded to the steel insert underneath the oil filling.

These transducers are the ideal basis for pressure transmitters, pressure switches or digital pressure instruments. The transducer heads come in 3 basic versions:

**6 M:** Version in brass, lowest price, accuracy 1 %FS. Ranges 5…200 bar

**6 S:** Stainless steel, highest performance, accuracy 0.5 %FS. Ranges: 0.3…1000 bar

Series 6 S and 6 M are low cost sensors for OEM use, tested for function only, with no calibration data supplied. Series 6 ST is supplied tested, with calibration certificate: Linearity, sensitivity, zero point, temperature coefficients 0…50 °C and compensation resistor values (resistors not supplied).

**Series 6 S / 6 M:**
Ranges 5…200 bar (Compact-Version)

**Series 6 S:**
Ranges 0.3…200 bar

Series 6 S: Ranges 400…600 bar

**Series 6 S:**
Ranges 0.3…200 bar

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**Electrical Connections**

Series 6 S / 6 M: 5…200 bar (Compact Version)

Series 6 S: Ranges 0.3…200 bar

Series 6 S: Ranges 400…600 bar
Specifications

Excitation I = 1 mA

| Pressure Ranges (FS) and Overpressure in Bar. Signal Output in mV. |
|-----------------|-----------|-----------|-----------|-----------|
| PR-6            | +1       | -0.5      | -0.3      | 0.3       | 0.5       | 1         | 2         | 5         | 10        | 20        |
| PAA-6           | 0.3      | 0.5       | 1         | 2         | 5         | 10        | 20        |
| PA-6            | -1       | 1         | 2         | 5         | 10        | 20        | 20        | 50        | 100       | 200       | 400       | 600       | 900       |

Signal Output typ. 1) 50 60 100 140 200 225 225 225 225 225 225 225 225 Overpressure 2.5 2.5 2.5 3 10 20 40 100 200 300 225 225 225 225 225 225

Bridge Resistance @ 25 °C Ω 3500 ± 20%
Offset @ 25 °C 1 mA mV ≤ 5 mV typ. ≤ 20 mV max.
Constant Current Supply mA 1 nominal 5 max.
Insulation @ 500 VCC MΩ ≥ 100

Operating Temperature °C -20…+80
Compensated Range °C 0…+50
Storage Temperature °C -40…+120
Vibration (5 to 2000 Hz) g 10, axes X/Y/Z
Shock g 20 sinus 11 ms
Endurance (FS @ 25 °C) Cycles > 100 x 10⁶ FS

Housing and Diaphragm
Pressure Connection G 1/4", Viton seal
Oil Filling Silicone oil
Weight

Dead Volume Change @ 25 °C 0.09 mm³, 12 x Ø 0.1 mm, silicone sheathed, aØ 1.2 mm, Length 7 cm
Electrical Wires (optional) aØ 0.1 mm, 12 x Ø 0.1 mm, silicone sheathed, aØ 1.2 mm, Length 7 cm

Accuracy* %FS 0.5 1

Temp. Coefficients**

- of zero, 0…+50 °C mV / °C 0.025 0.05
- of gain, 0…+50 °C % / °C 0.02 0.03

Long term stability %FS 0.2 0.5

Natural Frequency (Resonance) kHz > 30

Remarks:
- If exposed to extreme temperatures, the compensation resistors should be adjusted.
- The indicated specifications only apply for constant current supply. The sensor should be excited between 0.5 and 5 mA. The sensor signal is proportional to the current.
- If exposure to extreme temperatures, the compensation resistors should have a temperature coefficient of < 50 ppm/°C. Sensor and resistors can be exposed to different temperatures.
- The sensors may be ordered with integrated compensation resistors (surcharge).

Options
- Threads in NPT-/UNF
- Oil fillings
- Leads attached