

Pressure Transducers with Hydraulic Connector and Amplifier for 4...20 mA, 3/4 Leads DGZ-11(K) / 10...500 bar



Purpose

Pressure measuring, esp. remote measuring

Operating

The signal of strain gauge array applied to the diaphragm is amplified and converted to an impressed current signal 4...20 mA.

Advantages

- Tight, non corroding, high overload
- Extreme small dead room, normally no evacuation necessary
- Simple mounting: SAE-standard flange
- Zero signal extremely independent from mounting influences
- Reproducibility and linearity very good
- Suitable for wet areas; flange receptacle waterproof with gold-plated contacts
- HF-protected by shielding and filter
- 4...20 mA-Output allows indicating and processing even at rather long distance
- CAL-Unit within the transducer allows inquiring without special feeding set
- K-Option has small tolerances and three years guarantee
- Simple supply by voltage 18...30 V DC, no special feeding set is necessary; a direct connection to "SPS" is possible

Application

Static and dynamic pressure measuring, remote control even in wet or electrically disturbed areas.

Electro-hydraulic control, e.g. for adjusting the gap of rolling mills.

Construction

The diaphragm part as well as the whole mechanical parts of the transducer are made from high strength stainless steel or bronze. It bears:

- Strain gauge array and adjusting elements for Zero and Range, at K-Option moreover for shift
- Amplifier in shock-proof SMD-technics with HF-protection, remote switchable CAL-Unit, strain gauges internal excited
- Front plate with flange receptacle
- Protecting tube, tightened by O-rings and fastened by screws

Delivery: within foam plastic packaging with caps, spare O-rings, cable connector, flange according SAE DN-19.

Electrical Data

Resistance, nom. value.....4 x 350 Ω
 " actual value.....see test certificate
 Flange receptacle.....Binder Ser.723 5p,
IP67 prof. class
 gold-platedcontacts
 Strain gauge exciting.....internal generated

Supply voltage.....18...30 V DC
 Burden.....≤ 500 Ω
 Output at overload.....≤ 34 mA ≤ 100 Ω
 CAL-Unit simulates.....100 % nom.
pressure

Tolerances(20°C).....Standard/K-Option
 Zero signal¹⁾.....< 2 % < 1 %
 " Temp.-Shift/10K.....< 0.3 % < 0.1 %
 Output¹⁾/nom. value.....< 1 % < 0.1 %
 Output/type plate.....< 0.1 % < 0.05 %
 " Temp.-Shift/10K.....< 0.3 % < 0.1 %
¹⁾ incl. Unbalance caused by fastening

Comb. error≤ 0.7 %
 " K-Type | 250 bar:.....≤ 0,1 %
 > 250 bar:.....≤ 0,25 %*)

Common mode rejection.....100 dB 100 Hz typ.
 Ampl.frequency range.....0...20 kHz 3 dB

Nominal temp.-range.....- 20°C...+ 80°C
 Tolerated temp.-range.....- 50°C...+100°C

Mechanical Data

Pressure connector.....SAE plug-in conn.
 with staple flange.....DN-19
 Very small dead room.....Normally no
 evacuationnecessary

Working pressure.....1.5 x nom.
pressure
 Limiting pressure.....2 x nom.
 pressure
 Destroying pressure.....> 4 x nom.
Pressure

Standard ranges (bar).....10 — 25 — 50
100 — 250 — 500

Other ranges.....optional
 Natural frequencies.....4...13 kHz
 at ranges.....25...250 bar
 Weight without flange.....0.35 kg
 Weight with flange.....0.7 kg

Dimensions.....see drawing

Transducers DGZ-11(K) contain a CAL-Unit simulating 100% nominal pressure to be remote activated by inducing a voltage +U_B 18 V...30 V to the CAL-cable. This can be done in the control room, e.g. by SPS a.s.o. Therefore it is not more necessary to measure near the transducer or to induce an exact value of pressure to the transducer.

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