

Pressure Transducer with amplifier

DGW-12-HF / 2.5...2500 bar

DGW-12K-HF / 10...2500 bar



Purpose

Measuring, especially remote measuring of pressure in hydraulicsystems with oil or grease.

Operating

Signal of strain gauge bridge upon the diaphragm is amplified by an internal amplifier

Advantages

- Tight, non corroding, high overload
- Small dead room, deaeration screw
- Very small combined error
- Suitable for wet areas, waterproof receptacle with gold-plated contacts
- Protected against HF-Interferences by shielding and filter
- 10 V-output allows indicating + evaluating without additional amplifier
- Since 1991 furnished with a CAL-unit
- ZERO and SPAN are remote adjusted from feeding set
- K-Option is improved in accuracy and shift. It has three years guarantee
- Similar model DGW-15 (data sheet E 01.8) has hydraulic connection SW-13

Application

Measuring static and dynamic pressure, remote control, even in wet and electrically disturbed areas. Electro-hydraulic control, e.g. of screw down movement of top roll of mill, together with our feeding sets NK-10/15 Z2/3] or NW-16 (data sheet E 12.4 / E 12.8)

Construction

Diaphragm, fabricated together with the pressure connection thread from one part of stainless steel, bronze or aluminium is furnished with:

- strain gauge bridge with adjusting elements for ZERO/SPAN (K-option f. shift)
- print-card with amp and CAL-unit in shock-proof SMD-technics, bridge and amplifier with separate feeding
- the front plate with the receptacle
- shield tube sealed by joint O-rings.

Accessories

We deliver, in foam-plastics packaging, together with the following accessories: protection caps, joint rings, spanner for hook + deaeration screw, cable-connector.

Electrical Data

Bridge resistance.....4 x 350 Ω nominal
 " actual value.....test certificate
 Flange connector.....T 3106-003 (7 p.)
 " Option.....LEMO RAE 2307
 Bridge excitation.....max. 12 V symmetr.
 " Contacts.....6 / 3
 Amplifier feeding.....- 15 V / 0 V / + 15 V
 " Contacts..... 2 / 7 / 4
 Output(0..nom.press.).. 0...10 V
 " Contacts.....5 / 7
 Balancing.....± 1 V for ± 10 %
 " Contact.....1

Tolerances (20°C).....Standard K-Option

Balancing*).....< 2 % < 1 %
 "Thermal shift/10K.....< 0.5 % < 0.2 %
 Output*)/nom.value.....< 2 % < 1 %
 " /type plate.....< 0.1 % < 0.05 %
 "Thermal shift/10K.....< 0.5 % < 0.1 %
 *)adjustable by potis in feeding sets

Combined error.....< 0.1 % at 10 bar
 < 1 % at 5 bar
 < 1.5 % at 2.5 "

Common mode reject...100 dB 100 Hz typ.
 Amplif.frequ.range.....0...20 kHz 3 dB
 Nominal Temp.-range...- 20°C...+ 80°C
 Tolerated range.....- 50°C...+ 120°C

For testing the cabeling we recommend
 Phantom for DGW-12(data sheet E 01.5)

Data sheet E 01.4 page 2 (11/1994)

Mechanical Data

Pressure connection.....M 20 x 1.5
 " Option (more cost).....G 1/2"
 Dead volume.....< 3 cm³
 Option.....< 3 cm³
 Working pressure.....1.5 x nom. pressure
 (But output limited to
 nearly 12 V DC)

Limiting pressure.....2 x nominal pressure
 Destroying ".....> 4 x nom. pressure
 Standard steps(bar).....2.5#) - 5#) - 10
 #)not in K-Option).....25 - 50 - 100
 250 - 500 - 1000

without deaer. screw:...2500

Other steps: higher price + delivery time

Natural frequencies.....1.3 - 4 - 13 - 40kHz

at nom. pressure.....2.5-25-250-2500 bar

Weight.....nearly .4 kg

Dimensions.....see drawing

Since 1991, our DGW-12 contain a CAL-unit
 simulating 100 % nominal pressure for
 remote control. This is done by pressing
 down the CAL-key of feeding sets NK 10-
 15/Z2/3 or AN 15/P2 (data sh. E 12.4) or
 newer models NW 17/1/2 (data sh. E 12.9).
 It is not neces-sary to measure at the place
 of transducer, or to induce a known pressure
 to it. But older models of feeding sets, e.g.
 NK 10-15/Z1, re-main compatible, of course
 without the remote calibrating.

