

DGY-10(K)

Pressure transducer with threaded connection

Amplifier for 0... 20 mA, 3/4-wire system
Measuring ranges 0... 10 bar to 0... 500 bar



Purpose, Functioning

Pressure measurement, in particular remote measurement.

The signal from a strain gauge bridge on the membrane is amplified and converted into an impressed current signal 0... 20 mA.

Vorzüge

- Tight, corrosion-resistant, capable of withstanding high overloads
- Extremely small deadspace, venting is usually not required
- Excellent reproducibility and linearity
- Suited for wet areas, flange connector (IP 67) with gold-plated contacts, permanent cable connection upon request (IP 65)
- Immune to HF interference thanks to shield and suppressor
- Calibrating standard in the transducer, can be remotely activated for final value balancing from an external device without test pressure to be known
- DGY-10 K has restricted tolerances and three years warranty
- Simple supply from 18... 30 V DC, no special power supply required, direct connection to the PLC power supply possible

- Parallel type DGY-11 (Datenblatt 01.5a) has a plug-in steckbaren hydraulic connection SAE NW-20

Application

Static and dynamic pressure measurement, also in wet and electrically disturbed areas, e.g. in the rolling machine hydraulics of cold and hot rolling stands.

Design

The membrane body with threaded pressure connection, of corrosion-resistant steel or bronze, carries the following components

- Strain gauge collar with balancing elements for zero and span, in the K option also for temperature drift
- Amplifier in shockproof SMD technology with HF protection and remotely switchable CALNormal, DMS strip bridge internally fed
- Front plate with flange type connector
- Conduit, sealed by means of O rings, screwed connections

Unit supplied in foamed-plastic packing including protective caps, seal rings, cable coupling

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Electrical data / physical characteristics		
Flange socket IP 67	BINDER series 723, 5 gold-plated contacts	
Feeding voltage	18...30 (nominal 24)V DC	
Strain gauge exciting	generated internal	
Output signal	0...20 mA	
Burden	≤ 500 Ω	
Output on overload	≤ 30 mA	
Calibration standard corresponds to	100 % nominal pressure	
Tolerances (20°C)		
	Standard	K-Option
Zero drift (including drift due to mounting).	< 0,1 %	< 0,1 %
Combined temperature errors for zero and span, % full scale /10 K	<0,15 %	< 0,07 %
Combined errors due to non-linearity, hysteresis and reproducibility	≤ 250 bar: 0,1 % > 250 bar: 0,2 %	
Total error band (at -20°C...+ 80°C)		
K-Typ ≤ 250 bar:	≤ ± 0,3 %	
K-Typ > 250 bar:	≤ ± 0,4 %	
Standard Typ	≤ ± 0,7 %	
Common-mode rejection	100 db 100 Hz typ.	
Amplifier frequency response	0...20 kHz 3 db	
Nominal temp. range	- 20°C...+ 80°C	
Admissible range	- 50°C...+ 120°C	

Mechanical data	
Druckanschluss M 20 x 1,5 od. G 1/2"	extremely small dead space
Working pressure	1,5 x nominal pressure
Limit pressure	2,0 x nominal pressure
Berstdruck	> 4 x nominal pressure
Standard nom pressure	10 - 25 - 50 100 - 250 - 500 bar
Special pressure stages	optional
Lowest natural freq. at pressure stages	4...14 kHz 25...500 bar
Weight, appr.	0,3 kg
Dimensions	see drawing

DGY-10 (K) transducers have a CAL standard that corresponds to 100% nominal pressure and can be activated remotely. It is activated by connecting + UB 18 V... 30 V (nom. 24 VDC) to the CAL line. It is no longer necessary to measure at the location of the transducer or to load it with a precisely known medium pressure.

