

High Precision Pressure Transducer

Series 8201

Version H

Code:	8201 H EN
Delivery:	ex stock/3 weeks
Warranty:	24 months

CAD data 2D/3D for this sensor:
Download directly at www.traceparts.com
Info: refer to data sheet 80-CAD-EN



Now for
USB interface, with up to
2500 measurements/s

- Measuring ranges from 0 ... 30 bar to 0 ... 500 bar
- Accuracy < 0.1 %
- Output 0 ... 5 V, 0 ... 20 mA or 4 ... 20 mA available
- Suitable for liquid and gaseous media
- Can be used for dynamic and static measurements
- Made of stainless steel, reliable and sturdy
- Standardized sensitivity to 1.0 mV/V

Application

The high precision pressure transducers series 8201 H are of a sturdy and compact construction. Due to their resistance against mechanical strain they enable exact measurements. Therefore they can not only be used in laboratories of research and development but they are also very suitable for process quality control in the industrial sector. The material and the strain gauges are the guarantees of a long-term stability, a high degree of reliability and insensibility against aggressive mediums measured in liquid or in gaseous condition.

The construction of the transducer is realized without moving parts so that it is highly insensitive against shock loads and vibrations.

For critical cases of application a set of PTFE rings is available to seal the pressure port. Critical media may cause problems at the welding seams of the sensor body, please contact us. Customized models are available on request.

Description

The high precision pressure transducers can be configured with a lot of options, the standard version is available ex stock.

The medium is led via the pressure port into the measuring chamber, which is closed with a welded diaphragm, the measuring element. The diaphragm is deformed in proportion to pressure exercised. On the reverse side of the diaphragm a four-legged film strain gauge bridge is applied. The physical value pressure is converted into an electrical change of resistance. The measuring of pressure is performed against ambient pressure, the space behind the diaphragm is in connection with the reference atmosphere.

Each transducer is available with an internal amplifier, a so-called pressure transmitter with a voltage or a current output. The amplifier's input is immune against polarity reversal. The output is safe against over-voltage. Thanks to the design of the amplifier circuit, inexpensive uncontrolled mains adapter may also be used. The electrical connection is made by a housed and MIL specified connector. The pressure port is formed by a M 16 x 1.5 metric female thread with sealing ring groove. With the help of adapters, part of our product range, the pressure port can be changed.

8201 H EN

Technical Data

Order Code	Measuring Range	Resonance Frequency [kHz]
8201-5030-H021A	0 ... 30 bar	5.0
8201-5050-H021A	0 ... 50 bar	7.0
8201-5100-H021A	0 ... 100 bar	10.0
8201-5200-H021A	0 ... 200 bar	12.5
8201-5300-H021A	0 ... 300 bar	15.0
8201-5500-H021A	0 ... 500 bar	20.0

Electrical values

Bridge resistance:
 full bridge circuit of foil strain gauge 350 Ω, nominal

Calibration resistor: 100 kΩ
 The bridge output voltage resulting from a shunt of this value is shown in the test certificate.

Excitation voltage: recommended 5 V DC
 maximum 10 V DC

Nominal sensitivity: standardized; 1.0 mV/V ± 0.25 %

Environmental conditions

Range of operating temperature: - 30 °C ... 120 °C
 Nominal temperature range: 0 °C ... 70 °C
 Influence of temperature on zero: ≤ ± 0.005 % F.S./K
 Influence of temperature on sensitivity: ≤ ± 0.005 % Rdg./K

Mechanical values

Combined error consisting of non-linearity, hysteresis and variation: < ± 0.1 % F.S

Kin of measurement: measurement against atmosphere

Dead volume: 5.8 cm³

Volume change: negligibly small

Overload: measuring range ≤ 0 ... 300 bar 50 % over capacity
 measuring range ≥ 0 ... 500 bar 25 % over capacity

Burst pressure: >100 % over capacity

Dynamic performance: recommended 50 % of capacity
 maximum 70 % of capacity

Design:

Diaphragm pressure transducer with hermetically sealed measuring chamber (without internal sealing elements).

Material: stainless steel, 1.4548.9

Pressure port: internal thread M 16 x 1.5

Sealing:

Sealing of the transducer is ensured by the thrust and O-ring which is included in scope of delivery. For critical applications there is also a Teflon-coated Viton® O-ring with thrust ring available, see accessories.

Mounting torque: max. 3 Nm

Electrical connection:

6 pin bayonet model connector Souriau 851 07A 10 - 6 P

Wiring code: pins A + B excitation voltage positive
 pins C + D excitation voltage negative
 pins E signal output negative
 pins F signal output positive

Dimensions: refer to dimensional drawing

Weight: approx. 420 g ... 650 g

Protection class: acc. to EN 60529 IP65

Mating plug: model 9945

Souriau 851-06E-C-10-6S or Amphenol 62-GB-16F-10-6S included in scope of delivery

Technical Data of the Internal Amplifier

Excitation voltage: 15 ... 30 V

Current consumption: max. 65 mA

Connection technology: 3 wire

Output resistance: 200 Ω (15 V) ... 800 Ω (at 24 V)

Cut-off frequency: (- 3 dB) 1 kHz

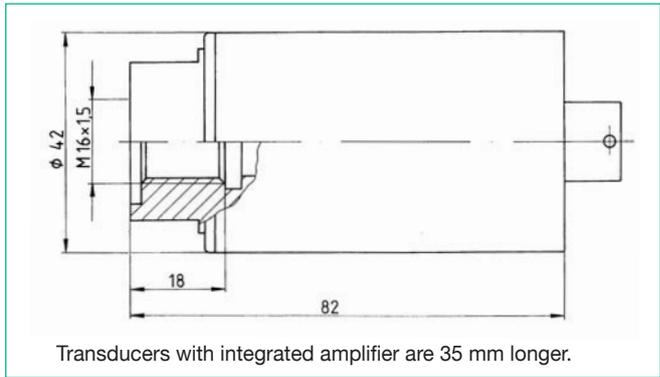
Range of operating temperature: 0 °C ... 60 °C

Wiring code:

pin A excitation voltage positive
 pin B ground
 pin C ground
 pin D signal output positive
 pins E + F not connected

Dimensions: see dimensional drawing

Dimensional drawing model 8201 H



The CAD drawing (3D/2D) for this sensor can be imported online directly into your CAD system.

Download via www.burster.com or directly at www.traceparts.com. For further information about the burster traceparts cooperation refer to data sheet 80-CAD-EN.

Order Information

High precision pressure transducer, measuring range 0 ... 200 bar, integrated amplifier for 0 ... 5 V

8201-5200-H331A

Accessories

- Thread adapter, material 1.4571, for following connecting threads
- External thread M 16 x 1.5 **Model 8281**
- External thread G 1/2" A **Model 8283**
- External thread R 1/4" (max. 500 bar) **Model 8285**
- External thread M 20 x 1.5 **Model 8286**
- External thread 3/4 - 16 UNF **Model 82822**
- External thread M 14 x 1.5 **Model 82825**
- Internal thread 3/4 - 16 UNF **Model 82827**
- Internal thread 1/4 - 18 NPT (max. 500 bar) **Model 82829**
- Standard sealing ring set (included in scope of delivery) **Model 82911**
- PTFE sealing ring set for critical applications; Teflon-coated Viton® thrust and O-ring **Model 82910**

Connecting Cables

for transducers plug-in connection and bridge output, completely with connector and socket, 6 wire, shielded PVC isolated cable, bending radius > 5 mm, standard length of 3 m.

to burster desktop indicators with 12 pin connection **Model 9911**

to SENSORMASTER 9163 **Model 99209-545D-0160030**

with open, color coded and tinned cable ends **Model 9986**

for transducers with internal amplifier; with open, color coded and tinned cable ends **Model 99545-000D-0160030**

Other cable lengths or customized cables on request.

Option

- Option 33 internal amplifier for voltage output 0...5 V
- Option 37 internal amplifier for current output 0...20 mA
- Option 39 internal amplifier for current output 4...20 mA
- Option 41 internal USB interface

Evaluation and configuration software

- DigiVision model 9205-P001, maximal 200 measurements/s
 - DigiVision model 9205-P100, allows up to 2500 measurements/s

Option DKD Calibration certificate according to standard DKD-R 6-1 with 21 measuring points in 10 % increments for rising and falling pressure.

Option WKS Manufacturer calibration certificate with 11 measuring points in 20 % increments for rising and falling pressure, done twice.