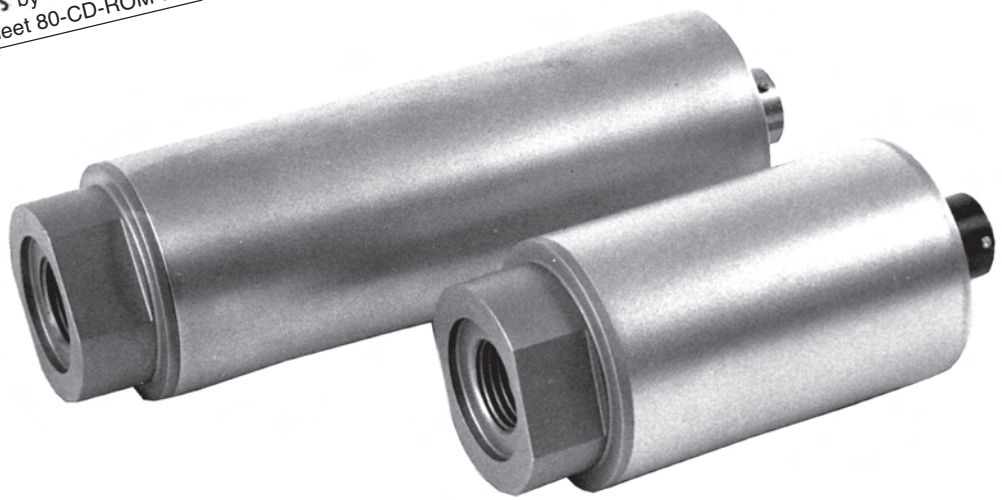
High Precision Pressure Transducer

Model 8201H

Code:	8201H E
Manufacturer:	burster
Delivery:	ex stock/6 weeks
Warranty:	24 months

CAD data in 3D/2D available on powerPARTS by web2CAD
Info: data sheet 80-CD-ROM-E



- **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**

8201 H-E

Application

The high precision pressure transducers model 8201, type 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 are also very suitable for process quality control in the industrial sector. The material and the resistance strain gauges are the guarantees of a long-term stability and a high degree of reliability for the user. As the high precision pressure transducer is resistant against aggressive media being either liquid or gaseous, the measurements are easy to handle.
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.

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 4 arm 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 electric connection is made by plug or integral cable. The pressure port is formed by a M 16 x 1.5 metric female thread with sealing ring slot. With the help of adaptors, part of our product range, the pressure port can be changed.

Technical Data

Order Code	Measuring	Frequency of Resonance [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

Bridge resistance: 4 arm 350 Ω strain gauge bridge 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: recommended 5 V =
maximum 10 V =

Sensitivity: standardized, 1.0 mV/V ± 0.25 %

Environmental

Temperature operating: - 30 °C ... 120 °C

Temperature compensated: 0 °C ... 70 °C

Temperature effect zero: ≤ ± 0.005% F.S./K.

Temperature effect span: ≤ ± 0.005% Rdg./K.

Mechanical

Accuracy: The combined value for non-linearity, hysteresis and non-repeatability < ± 0.1 % F.S.

Mode of measuring: against atmosphere

Dead volume: 5.8 cm^3

Change in volume: negligibly small

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

Overload burst: >100 % over capacity

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

Design:
Diaphragm model pressure transducer with hermetically sealed pressure chamber.

Material: stainless steel, 1.4542

Pressure port: female thread M 16 x 1.5

Sealing:
Sealing of the transducer is ensured by the thurst- and O-ring which is part of delivery. For critical applications there is also a TEFLON-coated VITON® O-ring with thrust ring available, see accessories.

Torque assembling: max. 3 Nm

Electrical connection:
6-pin bayonet type connector Souriau 851 07A 10 - 6 P

Wiring code:			
pins	A + B	+ excitation	(positive)
pins	C + D	- excitation	(negative)
pin	E	- signal output	(negative)
pin	F	+ signal output	(positive)

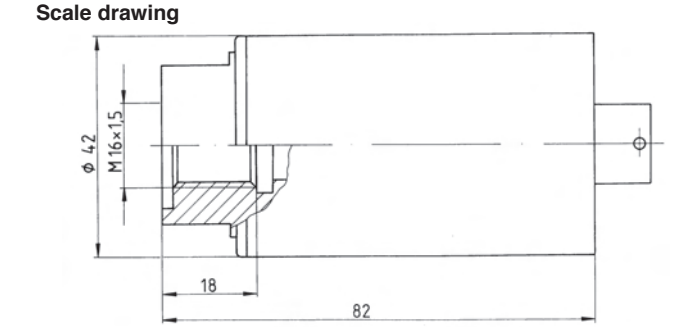
Dimensions: see technical drawing

Weight: approx. 420 g ... 650 g

Protection class: acc. EN 60529 IP 54

Mating plug: model 9945
Souriau 851-06E-C-10-6S or Amphenol 62-GB-16F-10-6S part of delivery

Scale drawing



Transducers with integrated amplifier are 46 mm longer.

Sensor CAD drawing can be imported in 3D or 2D version from CD-ROM or downloaded from the Internet.
For more information on powerPARTS by web2CAD please refer to the introduction of product section 8 in the catalog.

Options

Option 33 Internal amplifier for voltage output 0 ... 5V

Option 37 Internal amplifier for current output 0 ... 20 mA

Option 39 Internal amplifier for current output 4 ... 20 mA

Option DKD Calibration report with 21 points in 10 % steps for rising and falling pressure, done in our DKD office (German Calibration Service) with an accuracy better ± 0.12 %.
see data sheet Pressure Calibration

Option WKS Manufacturer calibration certificate with 11 measuring points in 20 % steps for rising and falling pressure.
For more detailed information
see data sheet Pressure Calibration

Technical Data of the Internal Amplifiers

Excitation: 15 ... 30 V

Current consumption: max. 65 mA

Circuitry: 3-conductor

Sensitivity adjustment: 200 Ω (15 V) ... 800 Ω (24 V)

Frequency range: (- 3 dB) 1 kHz

Temperature, operating: 0°C ... 60°C

Wiring code:			
Pin	A	+ excitation	(positive)
Pin	B	mass	
Pin	C	mass	
Pin	D	+ output	(positive)
Pins	E + F		non-connection

Dimensions: see scale drawing, additional length 50 mm for internal amplifier

Accessories

Thread adaptor with O-ring, material 1.4571 for following connecting threads

Male thread M 16 x 1.5	**model 8281**
Male thread G 1/2" A	**model 8283**
Male thread R 1/4" *	**model 8285**
Male thread M 20 x 1.5	**model 8286**
Male thread 3/4 - 16 UNF	**model 82822**
Male thread M 14 x 1.5	**model 82825**
Female thread 3/4 - 16 UNF	**model 82827**
Female thread 1/4 - 18 NPT*	**model 82829**

*max. pressure up to 500 bar only

Standard sealing ring set (part of delivery)	**model 82911**
PTFE-sealing ring set for critical applications TEFLON-coated VITON®, thrust- and O-ring	**model 82910**

Connecting cables

for transducers with plug and without amplifier completely with coupler plug and socket coupler, 6 wire, shielded, bending radius > 5 mm, PVC isolation, standard length of 3 m.

for all burster indicators table version	**model 9911**
for process indicator 9162	**model 99545 - 564C - 0100030**
with open, color coded and stinned cable ends	**model 9986**
with open, color coded and stinned cable ends, for sensors with internal amplifier	**model 99545 - 000D - 0160030**

Other cable lengths and customized cables upon request.