

High Pressure Transducer

Model 8221

Code:	8221 EN
Delivery:	ex stock
Warranty:	24 months

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



- Measuring ranges from 0 ... 1000 bar to 0 ... 5000 bar
- Accuracy < 0.5 %
- Suitable for liquid and gaseous media
- For dynamic and static measurements
- Made of stainless steel
- Standardized sensitivity to 2.0 mV/V

Application

This transducer for high pressure is designed for universal use. The features of this unit are good accuracy, high reliability, ruggedness and excellent long-term stability.

It works with a metal-coated strain gauge sensor element connected as full bridge and providing a standardized output signal.

The unit is suitable for dynamic and static measurements on liquid and gaseous media. The range of application for this pressure transducer are laboratories, production field, industrial processing, automatic operation, marine engineering or aviation industry.

Especially to be mentioned is the proven and mature technology of this sensor resulting in a simple and user-friendly operation.

Description

The unit is built from rugged electronic components and ultrasonic tested material. This helps to avoid mechanical faults and enhances the reliability and versatility of the product in industrial use. The measuring element is produced from one piece of solid steel. This enforces the operating reliability because the media do not touch welding seams.

The connection between transducer body and pressure connector is done by electron beam welding to save the good physical property of stainless steel.

To ensure the versatility of the transmitter without recalibration of the following electronics, the output signal is standardized to 2.0 mV/V. Internal amplifiers for 4 ... 20 mA, 0 ... 5 V or 0 ... 10 V are available. The output is protected against polarity reversal and short circuits.

For a simple calibration or to test the following electronics, the high pressure transducer is fitted with an internal shunt resistor.

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Technical Data

Order Code	Measuring Range
8221-6001	0 ... 1000 bar
8221-6002	0 ... 2000 bar
8221-6003	0 ... 3500 bar
8221-6005	0 ... 5000 bar

Electrical values

Bridge resistance: metal-coated strain-gauge 350 Ω, nominal
 Calibration resistor: integrated in sensor;
 Activated by bridging pin E and F. The resulting bridge output voltage is shown in the test certificate.

80 % F.S. ± 1 %
 Excitation voltage: maximum 10 V DC or AC
 Nominal sensitivity: 2 mV/V ± 1 %
 Insulation resistance: > 1000 MΩ at 50 V DC

Environmental conditions

Range of operating temperature: - 30 °C ... 120 °C
 Nominal temperature range: 0 °C ... 80 °C
 Influence of temperature on zero: ± 0.02 % F.S./K
 Influence of temperature on sensitivity: ± 0.02 % Rdg./K

Mechanical values

Accuracy: < 0.5 % F.S.
 Kind of measurement: against atmosphere
 Measuring ranges: refer to table
 Dead volume: 74 mm³
 Overload: 100 % over capacity or maximum 6 kbar
 Burst pressure: 200 % over capacity or maximum 6 kbar
 Resonance frequency: all measuring ranges 2 kHz

Dynamic performance recommended: 70 % of capacity
 maximum: 100 % of capacity

Material:
 Measuring element stainless steel 15-5PH (similar to 1.4545)
 Housing AISI 304
 Pressure port: autoclave F-250-C; internal thread 9/16 -18 UNF
 Torque assembling: max. 100 Nm
 Sealing: by metallic cone

Electrical connection:
 6 pin bayonet model connector VPT07RA 10-6PT2

Protection class: acc. to EN 60529 IP65

Wiring (standard):
 pin A output signal positive
 pin B output signal negative
 pin C excitation voltage positive
 pin D with bridge to pin E excitation voltage negative
 pins E + F calibration shunt

Mating connector: model 9945
 Souriau 851-06E-C-1-6S included in scope of delivery

Dimensions: see technical drawing

Weight: approx. 350 g

Technical Data of the Internal Amplifier

Excitation: current output 10 ... 30 V DC
 voltage output 15 ... 30 V DC

Protection against short-circuit and polarity: yes

Power input: current output max. 20 mA
 voltage output max. 40 mA

Permissible load: current output see diagram
 voltage output max. 1 mA

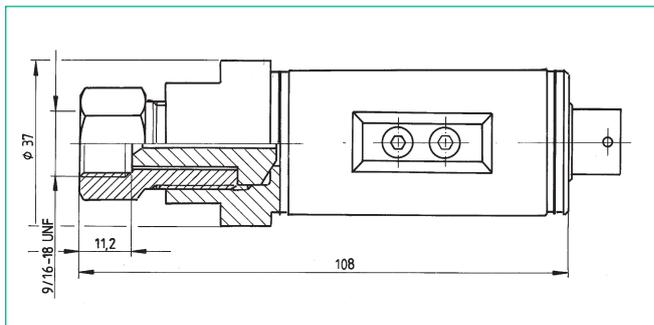
Maximum response time (0 ... 90 % F.S.): current output 8 ms
 voltage output 4 ms

Operating temperature: - 30 °C ... 85 °C

Nominal temperature range: 0 °C ... 70 °C

Wiring code:
 Current output voltage output
 pin A connection, positive output signal positive
 pin B connection, negative output signal negative
 pin C not connected excitation voltage positive
 pin D not connected excitation voltage negative
 pins E+F calibration shunt calibration shunt

Dimensional drawing model 8221



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 Pressure Transducer, measuring range 0 ... 5000 bar
 refer to table (Please mention options with corresponding short terms) **Model 8221-6005**

Accessories

Connecting cable with connector to sensor, bending radius > 5 mm; PVC insulation, shielded, standard length 3 m

to 9162 in desktop housing for sensors without amplifier or with amplifier V106 and V 107, with calibration jump **99141-545G-0150030**

to all other desktop devices for sensors without amplifier **99141-545H-0160030**

to 9180 in desktop version for sensors with amplifier V103 **99141-545L-0150030**

with open, color-coded and tinned cable ends **99545-000G-0160030**

to 9235 or 9310 **99209-545B-0160030**

Options

Internal amplifier with current output 4 ... 20 mA, 2 wire **...- V103**

Internal amplifier with voltage output 0 ... 5 V **...- V106**

Internal amplifier with voltage output 0 ... 10 V **...- V107**

The diagram shows the optimal relation of load and excitation voltage of the amplifier with option V103 (current output).

