

High Pressure Transducer

Model 8221

Code:	8221 E
Manufacturer:	burster
Delivery:	ex stock
Warranty:	24 months



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

- Measuring ranges from 0 ... 1000 bar to 0 ... 5000 bar
- Accuracy < 0.5 %
- Suitable for liquid and gaseous media
- Can be used for dynamic and static measurement
- 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 gage sensor element connected as full bridge and providing a standardized output signal.

The unit is suitable for dynamic and static measurement on liquid and gaseous media. The range of application for this pressure transducer are laboratories, production, 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 actual sensitive element is produced from one piece of solid steel. This enforces the operating reliability because the media does not touch welding seams. The connection between sensitive element and pressure port is done by electron beam welding to save the good physical property of the 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.

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

Bridge resistance: metal coated strain-gauge 350 Ω, nominal
 Calibration resistor: Integrated shunt resistor, indicated by bridging pin E and F.
 This resulting bridge output voltage is shown in the calibration certificate. 80 % F.S. ± 1 %
 Excitation: max. 10 V = or ~
 Sensitivity: 2 mV/V ± 1 %
 Insulation resistance: > 1000 MΩ on 50 V=

Environmental

Temperature, operating: - 30 °C ... 120 °C
 Temperature, compensated: 0 °C ... 100 °C
 Temperature, effect zero: ± 0.02 % F.S./K
 Temperature, effect span: ± 0.02 % Rdg./K

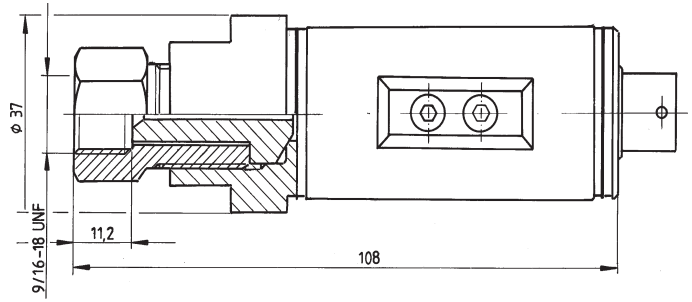
Mechanical

Accuracy: The combined value for non-linearity, hysteresis and non-repeatability < 0.5 % F.S.
 Mode of measuring: against atmosphere
 Ranges: see table
 Dead volume: 74 mm³
 Overload safe: 100 % over capacity or maximum 6 kbar
 Overload burst: 200 % over capacity or maximum 6 kbar
 Frequency of resonance: all ranges 2 kHz
 Dynamic performance recommended: 70 % over capacity
 maximum: 100 % over capacity
 Material: Measuring element stainless steel 17-4PH (similar to 1.4542)
 Housing AISI 304
 Pressure port: Autoclave F-250-C; female 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. EN 60529 IP 65
 Wiring code (standard):
 pin A + signal output (positive)
 pin B - signal output (negative)
 pin C + excitation (positive)
 pin D - excitation (negative)
 pins E + F shunt calibration
 Mating plug: Model 9945
 Souriau 851-06E-C-1-6S part of delivery
 Dimensions: see technical drawing
 Weight: approx. 350 g

Technical Data of the Internal Amplifier

Excitation: current output 10 ... 30 VDC
 voltage output 15 ... 30 VDC
 Protection against short-circuit and polarize: 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
 Temperature, operating: - 30 °C ... 85 °C
 Temperature, compensated: 0 °C ... 70 °C
 Wiring code current output voltage output
 pin A + power supply + output
 pin B - output signal - output
 pins E+F shunt calibration shunt calibration
 pin C + power supply
 pin D - power supply

Scale Drawing



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.

Order Information

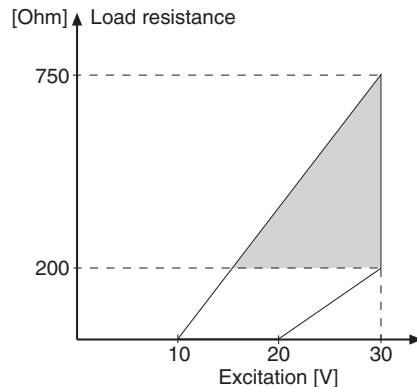
High Pressure Transducer, measuring range 0 ... 5000 bar **Model 8221-6005**
 see table (Please advise options as shown below.)

Options

- Option V103** Internal amplifier, with current output for 4 ... 20 mA , 2 wire
- Option V106** Internal amplifier, with voltage output for 0 ... 5 V
- Option V107** Internal amplifier, with voltage output for 0 ... 10 V

Accessories

- Connecting cable with coupling plug 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 versions for sensors without amplifier **99141-545H-0160030**
 - to 9162 in desktop housing for sensors with amplifier V 103, with calibration jump **99141-545I-0150030**
 - to 9714 in desktop housing for sensors with amplifier V 103 **99141-545K-0150030**
 - to 9180 in desktop housing for sensors with amplifier V 103 **99141-545L-0150030**
 - with open, color-coded and pre-tinned cable ends **99545-000G-0160030**



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