

# Pressure Sensor - EPT7100



- Up to 10 Bar pressure range
- High strength, rugged stainless steel design
- Competitively priced

The **EPT7100** is a high quality all stainless steel pressure transducer, intended for use in the measurement of gases and liquids compatible with stainless steel.

The **EPT7100** is suitable for automotive, industrial hydraulics, refrigeration, off-road, construction and agricultural applications.

With additional EMI / RFI protection, low static and thermal errors and high resistance to shock and vibration as standard, the **EPT7100** assures trouble free operation at temperatures up to 125°C.

The **EPT7100** piezo resistive sensing element coupled with the latest ASIC circuitry, assures excellent accuracy, choice of high level outputs and long stability, protected within a rugged, stainless steel housing.

The **EPT7100** high strength stainless steel construction contains no silicone oil and no internal O- rings. Measurements are available in gauge and absolute pressure, with ranges up to 10 bar and are backed by a one-year warranty.



## FEATURES

- Hermetic Pressure Ports
- Integral Electrical Connector
- Survives High Vibration
- $\pm 0.25\%$  Accuracy

## APPLICATIONS

- On and Off Highway Engines and Vehicles
- HVAC Refrigeration Controls
- Compressors
- Hydraulics
- Energy and Water Management

## Standard Ranges

Range (Bar)	Gauge	Absolute	Sealed Gauge
0 to 1	*		
0 to 2	*	*	*
0 to 3.5	*	*	*
0 to 7	*	*	*
0 to 10	*	*	*

## Performance Specifications

Ambient Temperature: 25°C (unless otherwise specified)

### Performance

Accuracy @ RT	% of the range (gauge and vacuum sensors) BFSL	(combined linearity, hysteresis & repeatability) +/- 0.25
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Total Error Band	+/- 1.0 % Span <sup>1</sup>
Stability/year	% of the range +/- 0.25
Response time	(10..90%) t(ms)1
Overrange pressure	up to 3x rated pressure
Burst pressure	up to 4x rated pressure
Pressure cycles	> 10 million

Note 1: TEB includes all accuracy errors, thermal errors, span and zero tolerances over the compensated temperature range.

### Environment

Temperature [°C]:	
Measuring medium	-40...125
Ambience	-40...125
Storage	-40...125
Compensated range	-20...85
Humidity (@40°C)	93 %RH
Shock	Half-Sine, Peak: 50g, 11ms MIL-STD-202, Method 213B, Condition A
Vibration	20g, 10 ~ 2000Hz MIL-STD-810C, Method 514.2, Curve L
Sealing	IP67 (IEC60529)

### Electronics

Output → Supply	0.5..4.5 V → 5V
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Load Resistance	10 kΩ
Output impedance	< 100 Ω
Insulation Resistance (500Vdc)	100 MΩ
Current consumption	< 10 mA
Output Noise @ 1kHz	10 mV
Reverse voltage protection	Yes

### Mechanics

Housing incl. wetted parts	316 stainless steel
Pressure port	see select table
Electrical connection	see select table
Weight	ca. 40 g

# Pressure Sensor - EPT7100



## Ordering information

(Please use the characters in the chart below to construct your product code)

**Sample Code: EPT7100 - M10x1 - 01000 - B - 5 - C**

Series	Port Configuration	Pressure Range	Pressure Unit	Output Signal	Electrical Interface
EPT7100	A- G1/4, DIN 3852-E, Male B- 1/4-18 NPT Male C- 1/8-27 NPT Male M10x1 - M10x1.0, ISO 6149-2, Male	Please use code from table below	A - Absolute B - Vented gauge S - Sealed gauge	5 = 0.5..4.5 V - (with 5V supply voltage)	C - Packard Connector

Custom options available on request.

Minimum order quantity: 20 pieces (except stock models)

Pressure Range					
Bar	1	2	3.5	7	10
Order Code	00100*	00200	00350	00700	01000

**Stock model: EPT7100-M10x1-00350-A-5-C**

\*Gauge only

The EPT7100 series is backed by a 1 Year Warranty. The purchaser is responsible for compatibility of the media, functional adequacy and correct installation of the transmitter.

## Pressure Ports

Pressure Port Options	Dim A (see drawing)	Tightening Torque (Nm)
A = G1/4, DIN 3852-E, Male	12.0	30~35
B = 1/4-18 NPT Male	14.2	2~3 T.F.F.T.
C = 1/8-27 NPT Male	9.7	2~3 T.F.F.T.
M10x1 = M10 x 1.0, ISO 6149-2, Male	9.5	15~16

### Notes: Installation

\*T.F.F.T.: Turns From Finger Tight

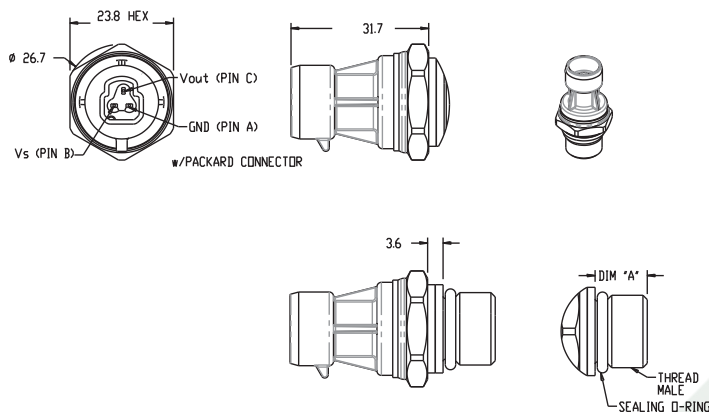
Transducers can be installed by either spanner or deep socket. Torque values provided are for reference: actual torque depends upon mating port material, surface finish, lubrication and sealing mechanism. Transducers calibration and/or zero may shift if part is over-torqued during installation. Check for a zero shift after installing.

### Notes: Connector

Do not apply torque to the connector housing of transducer.

To ensure proper environmental sealing and electrical connection when using a mating connector, follow the manufacturer's installation guidelines.

## Dimensions mm



## Applied standards

RoHS: RoHS 2 (Directive 2011/65/EU)

EMC Performance Criteria: Output Change < ±1.5% FSO

IEC61000-4-2 ESD: 8kV Contact / 15kV Air; Discharge Rate > 10s

IEC61000-4-3 EM Field: 100V/m, 1kHz 80% Modulation, 80 ~ 1000MHz

IEC61000-4-4 Electrical Fast Transient: Level 2, 1KV each line, Capacitance coupling

IEC61000-4-5 Surge: Level 2, 42Ω Impedance, Figure 11 (L-L 500V, L-E 1KV)

IEC61000-4-6 Conducted RF: Level 2, 3V/130dB, 150KHz ~ 80MHz, 2s Dwell, Clamp Injection

IEC61000-4-9 Pulse Magnetic Field: Level 3, 100A/m, 10 Second pulse interval

IEC55022 Emission: Class B, 30dB @ 30-230MHz, 37dB @ 230-1000MHz



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