

# Pressure Sensor - EPT31LE



Eurosensor

- Up to 5000 Bar pressure range
- High strength, rugged stainless steel design
- Low power consumption

The EPT31LE is a high quality all stainless steel pressure transducer. The very quick Power-up time, quick response time and low power consumption make the sensor ideal for use with battery powered wireless transmitting systems.

Typical applications are agricultural surveillance.

With additional EMI / RFI protection, low static and thermal errors and high resistance to shock and vibration as standard, the EPT31LE assures trouble free operation at temperatures up to 125°C.

The EPT31LE 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.



## Specification

### Performance

<b>Accuracy @ RT</b>	% of the range (gauge and vacuum sensors) < 0.5 BFSL ≤ 0.125 % of the range	(incl. nonlinearity, hysteresis, repeatability, zero-offset and final offset acc. to IEC 61298-2)
<b>Non-linearity</b>	% of the range ≤ 0.15	
<b>Repeatability</b>	% of the range ≤ 0.10	
<b>Stability/year</b>	% of the range ≤ 0.10	
<b>For pressure ranges above 2000 bar:</b>		
<b>Accuracy @ RT</b>	% of the range (gauge and vacuum sensors) < 1.0 BFSL ≤ 0.5 % of the range	(incl. nonlinearity, hysteresis, repeatability, zero-offset and final offset acc. to IEC 61298-2)
<b>Non-linearity</b>	% of the range ≤ 0.30	
<b>Repeatability</b>	% of the range ≤ 0.20	
<b>Stability/year</b>	% of the range ≤ 0.20	
<b>Overrange pressure</b>	up to 2x rated pressure	
<b>Burst pressure</b>	up to 5x rated pressure	
<b>Pressure cycles</b>	> 10 million	

### Timing

<b>Power up</b>	< 2 ms
<b>Response time</b>	max 1 ms

### Environment

<b>Temperature [°C]:</b>	
<b>Measuring medium</b>	-40...125
<b>Ambience</b>	-40...105
<b>Storage</b>	-40...125
<b>Compensated range</b>	-20...85
<b>Temperature coefficient within the compensated range:</b>	
<b>Mean TC offset</b>	% of the range ≤ 0,15 / 10K
<b>Mean TC range</b>	% of the range ≤ 0,15 / 10K
<b>Shock</b>	1000 G, 11 msec., 1/2 Sine
<b>Vibration</b>	25 G peak, 20 to 2000 Hz
<b>Sealing</b>	IP 67

### Electronics

<b>Output → Supply</b>	0.3...2.7V - (with 3V supply Voltage) I <sup>2</sup> C, digital - (with 3V supply Voltage) 0.5...4.5 V (with 5V supply Voltage) I <sup>2</sup> C, digital - (with 5V supply Voltage)
<b>Output impedance</b>	< 100 Ω
<b>Current consumption</b>	6 mA for 5 V supply sensors 5 mA for 3 V supply sensors
<b>Reverse voltage protection</b>	Yes
<b>Mechanics</b>	
<b>Housing</b>	304 stainless steel
<b>wetted parts</b>	up to 2000 bar 17-4PH stainless steel above 2000 bar: titanium
<b>Pressure port</b>	see select table
<b>Electrical connection</b>	see select table

## Ordering Information

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

**Sample Code: EPT31LE - A - 01000 - B - 35 - A**

Series	Port Configuration	Pressure Range	Pressure Unit	Output Signal	Electrical Interface
EPT 31LE	A* - G 1/4" Male B* - 1/4" NPT Male C - 1/8" NPT Male D - 7/16" -20 UNF Male E - 9/16" -18 UNF Male F - M14x1.5 Male G - 1/4" SAE Female 7/16" UNF Female incl. Schrader opener H - 3/8x24 UNF Male (Dash Size 3) M10 - M10 x 1	Please use code from table below	B - gauge pressure V - vacuum pressure	35 = 0.3...2.7V - (with 3V supply Voltage) 36 = I <sup>2</sup> C, digital - (with 3V supply Voltage) 55 = 0.5...4.5 V (with 5V supply Voltage) 56 = I <sup>2</sup> C, digital - (with 5V supply Voltage)	A - 600 mm cable

Custom options available on request

\* Standard option

Pressure Range	
<b>Bar</b>	0,6 1,0 1,6 2,5 4 6 10 16 25 40 50 60 100 160 250 400 600 1000 1600 2000 4000 5000
<b>Code</b>	00060 00100 00160 00250 00400 00600 01000 01600 02500 04000 05000 06000 10000 16000 25000 40000 60000 100000 160000 200000 400000 500000

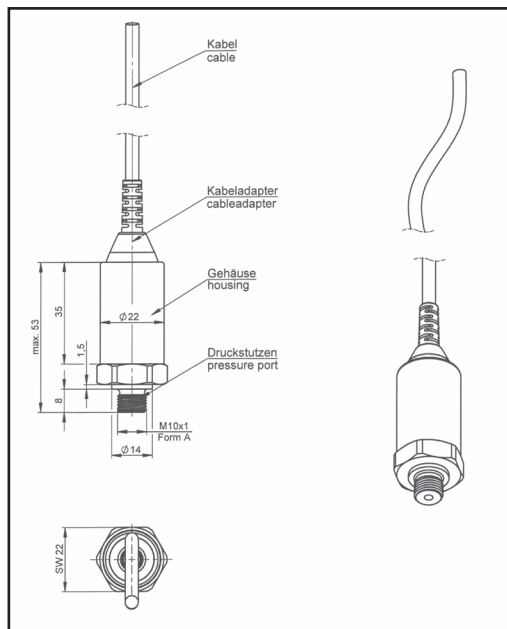
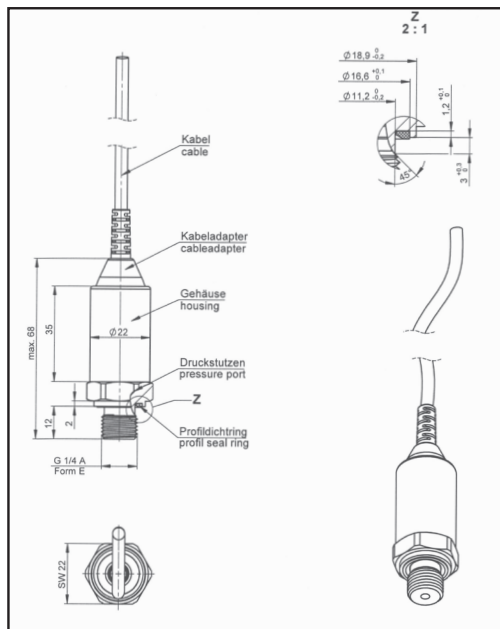
The EPT31LE series is backed by a 1 Year Warranty. The purchaser is responsible for compatibility of the media, functional adequacy and correct installation of the transmitter.



Subject to change without notice

## Dimensions in mm

With 600 mm cable assembly



## Wiring

Output	RED	BLACK	WHITE	GREEN
0.5 - 4.5V	+ Supply	- Supply	Output +	-
IC	V+	V-	SCL	SDA