

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

Accuracy @ RT	% 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)
Non-linearity	% of the range ≤ 0.15	
Repeatability	% of the range ≤ 0.10	
Stability/year	% of the range ≤ 0.10	
For pressure ranges above 2000 bar:		
Accuracy @ RT	% 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)
Non-linearity	% of the range ≤ 0.30	
Repeatability	% of the range ≤ 0.20	
Stability/year	% of the range ≤ 0.20	
Overrange pressure	up to 2x rated pressure	
Burst pressure	up to 5x rated pressure	
Pressure cycles	> 10 million	

Timing

Power up	< 2 ms
Response time	max 1 ms

Environment

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

Electronics

Output → Supply	0.3...2.7V - (with 3V supply Voltage) I ² C, digital - (with 3V supply Voltage) 0.5...4.5 V (with 5V supply Voltage) I ² C, digital - (with 5V supply Voltage)
Output impedance	< 100 Ω
Current consumption	6 mA for 5 V supply sensors 5 mA for 3 V supply sensors
Reverse voltage protection	Yes
Mechanics	
Housing	304 stainless steel
wetted parts	up to 2000 bar 17-4PH stainless steel above 2000 bar: titanium
Pressure port	see select table
Electrical connection	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 ² C, digital - (with 3V supply Voltage) 55 = 0.5...4.5 V (with 5V supply Voltage) 56 = I ² C, digital - (with 5V supply Voltage)	A - 600 mm cable F - M12 x 1 round connector
* Standard option Custom options available on request					

Pressure Range

Bar	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
Code	00060	00100	00160	00250	00400	00600	01000	01600	02500	04000	05000	06000	10000	16000	25000	40000	60000	100000	160000	200000	400000	500000

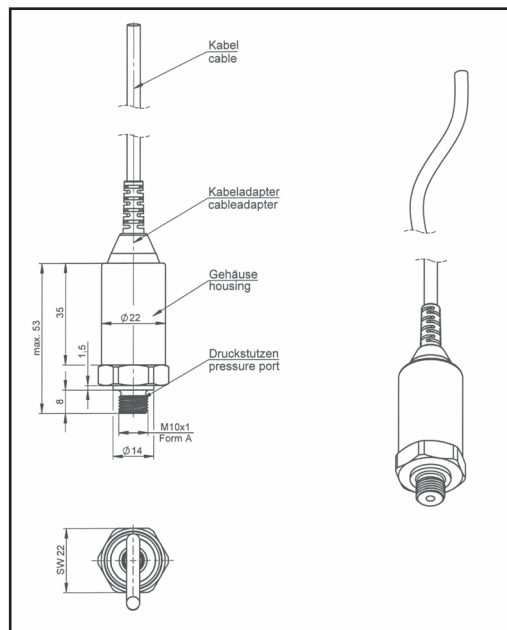
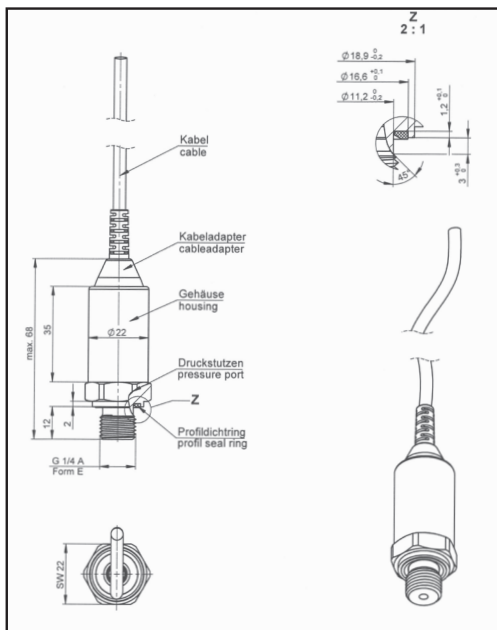


The EPT31LE series is backed by a 1 Year Warranty. The purchaser is responsible for compatibility of the media, functional adequacy and correct installation of the transmitter.


Subject to change without notice

Dimensions in mm

With 600 mm cable assembly



Wiring

Type	Output	PIN 1	PIN 2	PIN 3	PIN 4
 Round connector M12x1 A	0,5 - 4,5V , 1 - 5 V , 0 - 10 V	+ Supply	n / a	- Supply	Output +
	I ² C	1 V+	2 V-	3 SCL	4 SDA
Type	Output	RED	BLACK	WHITE	GREEN
Cable	0,5 - 4,5V	+ Supply	- Supply	Output +	-
	I ² C	V+	V-	SCL	SDA