



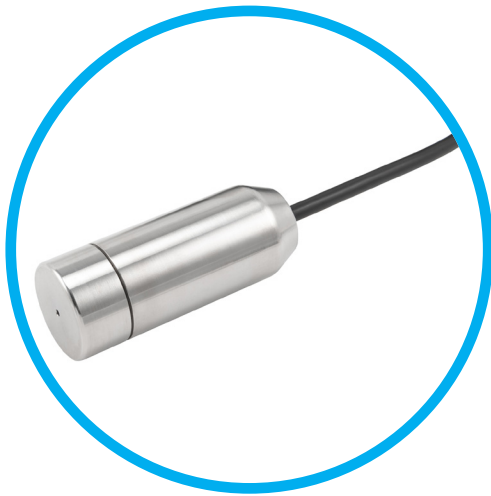
# | P1L SERIES

PRESSURE LEVEL SENSOR

## Introduction

The RoHS compliant P1L incorporates a ceramic capacitive sense element with the latest state-of-the-art ASIC. Built in a rugged stainless steel housing to provide a highly reliable solution for measuring a broad range of liquids including most hydrocarbon based fluids.

The P1L is proposed with an operating and storage temperature range of -40°C to +65°C, and it is available with various cable length options. Standard pressure ranges are available in Bar.



## Features

- Small size (22mm diameter)
- Stainless steel IP68 construction
- Temperature compensated
- EMI protection
- High shock & vibration performance

## Applications

- Fuel and oil tank storage
- Level measurement in vessel and storage systems
- Water treatment plants
- Pump and booster stations
- Ground water systems
- Level measurement in rivers and lakes
- Storm water retention basins



## SPECIFICATIONS

### Operating Pressure

<b>Pressure range</b>	800 to 1400 mbar absolute 800 to 2000 mbar absolute
<b>Proof pressure</b>	2X Full Scale Pressure <sup>(1)</sup>
<b>Burst pressure</b>	3X Full Scale Pressure <sup>(1)</sup>
<b>Random Vibration</b>	IEC 60068-2-6, 10 g's peak-to-peak sinusoidal sweep (10 to 2000hz)
<b>Mechanical Shock</b>	IEC 60068-2-27, 75 G'S 1/2 sine wave

### Electrical

<b>Output Signal</b>	0.5 ... 4.5 VDC ratiometric
<b>Operating supply voltage</b>	5 VDC ± 5%
<b>Excitation current</b>	≤ 5 mA
<b>Response time</b>	≤ 5ms max. to 63% of full scale pressure with step change on input
<b>Overvoltage protection</b>	Min. 33 VDC
<b>Short-circuit proofness</b>	For min. 3 intervals at 5 minutes each

## Accuracy

<b>Total Error Band</b>	+/- 2.25% Vs Typical (See Figure 1)
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## Material

<b>Housing</b>	Stainless Steel 304L
<b>Cable insulation</b>	HDPE
<b>Sealing</b>	Fluorocarbon (FKM)
<b>Potting</b>	Stycast

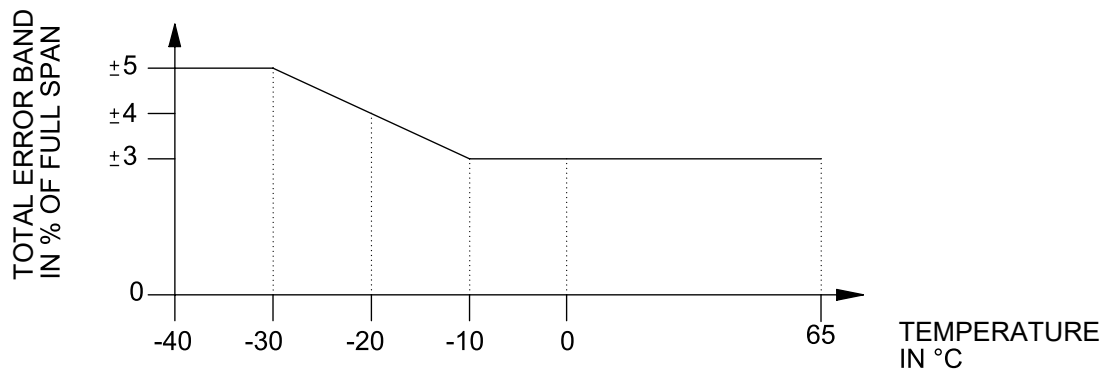
## Other Specifications

<b>Operating Temperature range</b>	-30°C to +65°C, at not freezing medium
<b>Storage temperature</b>	-40°C to +65°C
<b>Media Compatibility<sup>(2)</sup></b>	Fuel, oil and non-potable water
<b>Ingress Protection (per IEC 60529)</b>	IP68
<b>Weight (sensor only)</b>	7.76 oz (220 g)



## TOTAL ERROR BAND

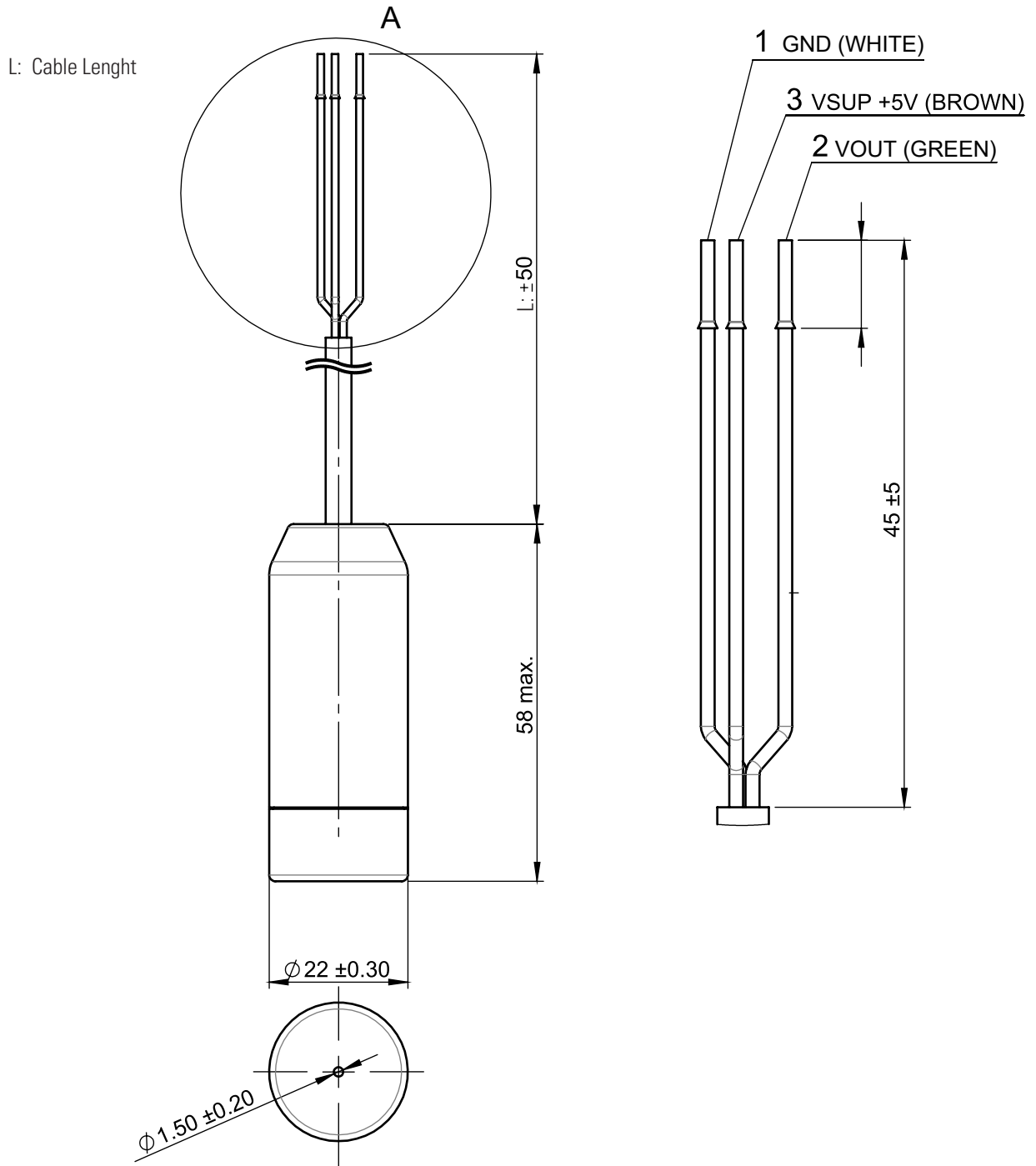
FIGURE 1:  
TOTAL ERROR BAND





## DIMENSIONS

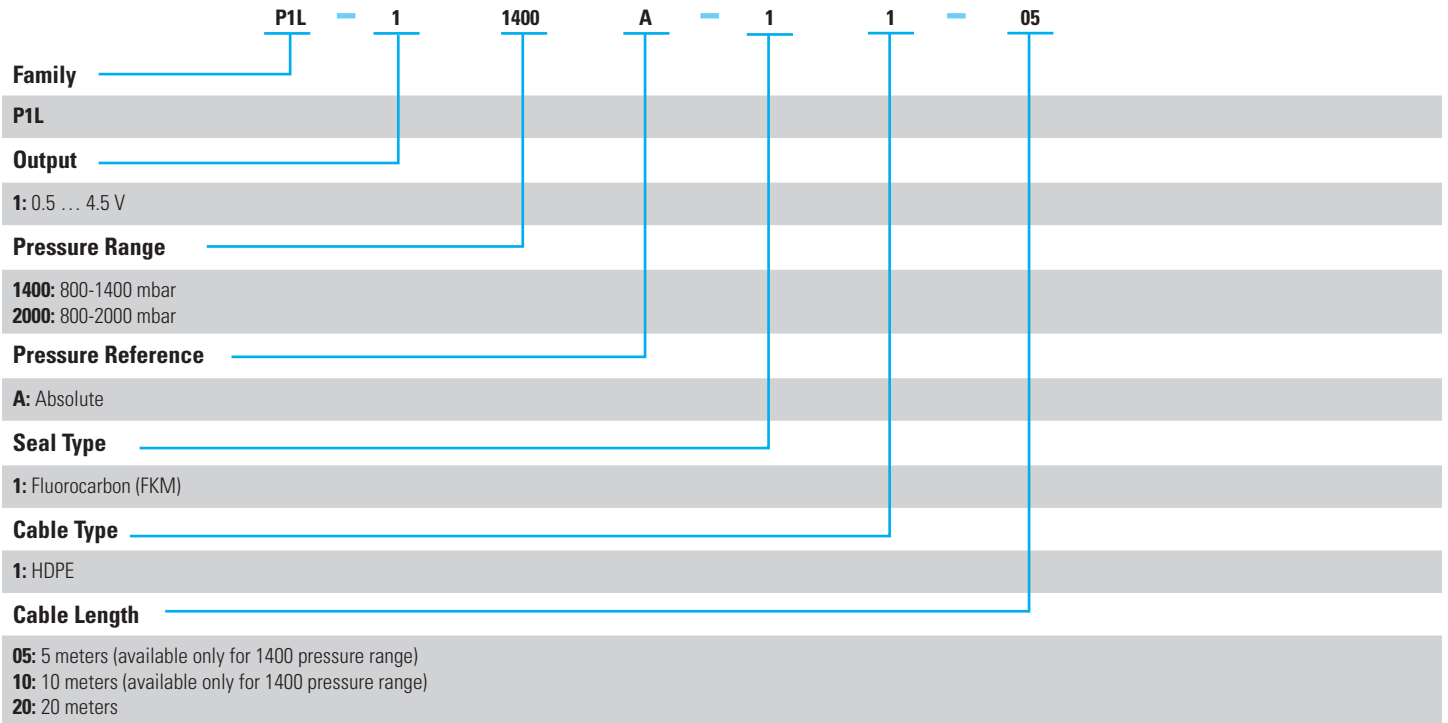
Tolerance, unless otherwise noted:  $\pm 0.25$  mm  
All dimensions are in millimeters





## ORDERING OPTIONS

Example : P1L-11400A-11-05



## STANDARD CONFIGURATIONS

Part Number	Output	Pressure Range	Pressure Reference	Cable Type	Cable Length
P1L-11400A-11-05	0.5-4.5 VDC Ratiometric	800-1400 mbar	Absolute	HD-PE	5 Meter
P1L-11400A-11-10	0.5-4.5 VDC Ratiometric	800-1400 mbar	Absolute	HD-PE	10 Meter
P1L-11400A-11-20	0.5-4.5 VDC Ratiometric	800-1400 mbar	Absolute	HD-PE	20 Meter
P1L-12000A-11-20	0.5-4.5 VDC Ratiometric	800-2000 mbar	Absolute	HD-PE	20 Meter



## GENERAL NOTES

<sup>(1)</sup>FS (Pressure) = Pmax – Pmin

<sup>(2)</sup>Other Media available upon consultation with Sensata.



## AGENCY APPROVALS & CERTIFICATIONS

RoHS	According to 2011/65/EU Directive
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## WARNINGS



### RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE

- The product's side panels may be hot, allow the product to cool before touching
- Follow proper mounting instructions including torque values
- Do not allow liquids or foreign objects to enter this product

**Failure to follow these instructions can result in serious injury, or equipment damage.**



### HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Disconnect all power before installing or working with this equipment
- Verify all connections and replace all covers before turning on power

**Failure to follow these instructions will result in death or serious injury.**

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