

# Barometric Pressure Sensor Vaisala PTB 110

Order-No: P 6331.2 - PTB 110.3, 800.....1100 hPa

P 6332.2 - PTB 110.2, 600.....1100 hPa P 6333.2 - PTB 110.1, 500.....1100 hPa

- Vaisala BAROCAP® sensor
- Several pressure ranges, from 500/600/800....1100 hPa
- Accuracy ± 0.3 hPa at +20 °C
- Long-term stability
- On/off control with external trigger
- Output voltage 0 ... 2.5 or 0 ... 5 VDC
- Current consumption less than 4 mA
- Mountable on a (35 mm wide) DIN rail
- NIST traceable (certificate included)



### **Description:**

The Vaisala BAROCAP® Barometer PTB110 is designed both for accurate barometric pressure measurements at a room temperature and for general environmental pressure monitoring over a wide temperature range.

Vaisala BAROCAP® technology. The PTB110 barometer uses the Vaisala BAROCAP® Sensor, a silicon capacitive absolute pressure sensor developed by Vaisala for barometric pressure measurement applications. The sensor combines the outstanding elasticity characteristics and mechanical stability of single-crystal silicon with the proven capacitive detection principle.

## Accuracy and stability:

The excellent long-term stability of the barometer minimizes or even removes the need for field adjustment in many applications.

### Applications:

The PTB110 is suitable for a variety of applications, such as environmental pressure monitoring, data buoys, laser interferometers, and in agriculture and hydrology.

The compact PTB110 is especially ideal for data logger applications as it has low power consumption.

# Specification Barometric Pressure Sensor Vaisala PTB 110: P6331.2 / P6332.2 / P6333.2

**Operating range (1 hPa=1mbar)** 

Pressure ranges	500 1100 hPa
	600 1100 hPa
	800 1100 hPa
	800 1060 hPa
	600 1060 hPa
Temperature range	-40 +60 °C
Humidity range	non-condensing

### <u>Accuracy</u>

Linearity*	±0.25 hPa
Hysteresis*	±0.03 hPa
Repeatability*	±0.03 hPa
Calibration uncertainty**	±0.15 hPa
Accuracy at +20 °C***	±0.3 hPa

- \* Defined as ±2 standard deviation limits of end-point non-linearity, hysteresis error or repeatability error.
- \*\* Defined as ±2 standard deviation limits of inaccuracy of the working standard including traceability to NIST.
- \*\*\* Defined as the root sum of the squares (RSS) of end-point non-linearity, hysteresis error, repeatability error and calibration uncertainty at room temperature.

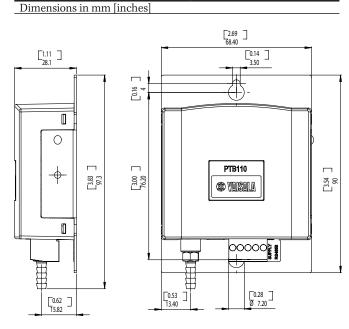
### Total accuracy at

+15 +25 °C	±0.3 hPa
0 +40 °C	±0.6 hPa
-20 +45 °C	±1.0 hPa
-40 +60 °C	±1.5 hPa
Long-term stability	±0.1 hPa/year

#### General

General	
Supply voltage	10 30 VDC
Suppply voltage control	with TTL level trigger
Supply voltage sensitivity	negligible
Current consumption	less than 4 mA
in shutdown mode	less than 1 μA
Output voltage	0 2.5 VDC
	0 5 VDC
Output frequency	500 1100 Hz
Resolution	0.1 hPa
Load resistance	minimum 10 kohm
Load capacitance	maximum 47 nF
Settling time	1 s to reach full accuracy after
	power-up
Response time	500 ms to reach full accuracy
	after a pressure step
Acceleration sensitivity	negligible
Pressure connector	M5 (10-32) internal thread
Pressure fitting	barbed fitting for 1/8"
Minimum pressure limit	0 hPa abs
Maximum pressure limit	2000 hPa abs
Electrical connector	removable connector for
m · 1	5 wires (AWG 28 16)
Terminals	Pin 1: external triggering
	Pin 2: signal ground
	Pin 3: supply ground
	Pin 4: supply voltage
Housing masterial plastic corre	Pin 5: signal output
Housing material, plastic cover	ABS/PC blend IP32
Housing classification	Al
Metal mounting plate	
Weight	90 g
Electromagnetic compatibility	Complies with EMC standard EN 61326-1,
	stanuaru EN 01520-1,

# **Dimensions**



Generic Environment