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PTB110 Barometer for Industrial Use

The Vaisala BAROCAP® Barometer PTB110 offers outstanding long-term stability.

Features/Benefits

- Vaisala BAROCAP® sensor
- Several pressure ranges
- 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)

PTB110

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. Also an external On/Off control is available. This is practical when the supply of electricity is limited.

Technical data

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 (-40 ...+140 °F)
Humidity range	non-condensing

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 5 wires (AWG 28 ... 16)
Terminals	Pin 1: external triggering Pin 2: signal ground Pin 3: supply ground Pin 4: supply voltage Pin 5: signal output
Housing material, plastic cover	ABS/PC blend
Housing classification	IP32
Metal mounting plate	Al
Weight	90 g
Electromagnetic compatibility	Complies with EMC standard EN 61326-1, Electrical equipment for measurement, control and laboratory use - EMC requirements - for use in industrial locations

Accuracy

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.

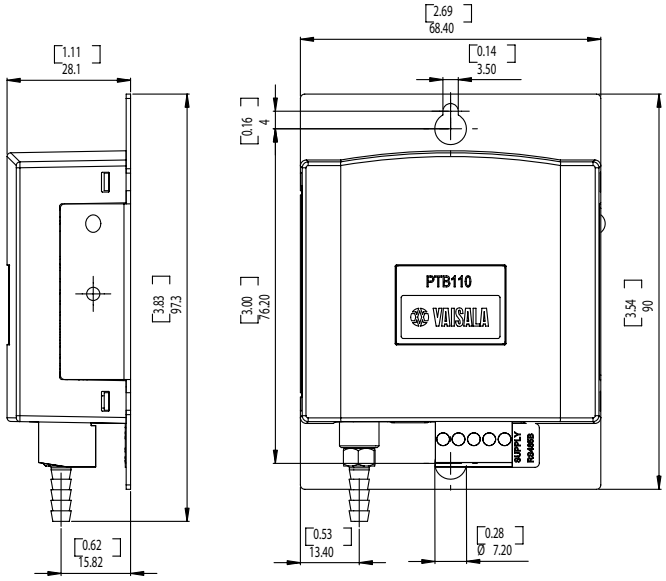
*** Defined as the root sum of the squares (RSS) of end-point non-linearity, hysteresis error, repeatability error and calibration uncertainty at room temperature.

TOTAL ACCURACY AT

+15 ... +25 °C (+59 ...+77 °F)	±0.3 hPa
0 ... +40 °C (+32 ...+104 °F)	±0.6 hPa
-20 ... +45 °C (-4 ...+113 °F)	±1.0 hPa
-40 ... +60 °C (-40 ...+140 °F)	±1.5 hPa
Long-term stability	±0.1 hPa/year

Dimensions

Dimensions in mm (inches)



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For more information, visit www.vaisala.com or contact us at sales@vaisala.com

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