What Is a Barometric Altimeter?

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A barometric altimeter is a sensor that estimates altitude by measuring atmospheric pressure.

Atmospheric pressure generally decreases as altitude increases because there is less air above a location exerting pressure. A barometric altimeter uses this relationship to estimate how high a device is above a reference level.

How Does a Barometric Altimeter Work?

The sensor measures the surrounding atmospheric pressure and uses pressure changes to estimate changes in elevation.

As a person moves to a higher altitude, atmospheric pressure generally decreases. As they descend, pressure generally increases.

The watch processes these pressure measurements to calculate an estimated altitude.

What Is It Used For?

In a smartwatch, a barometric altimeter can provide information about:

- Current estimated altitude.
- Changes in elevation.
- Ascent and descent during supported outdoor activities.

This information can be particularly relevant to activities involving changes in elevation, such as hiking and climbing.

What Can Affect Altimeter Readings?

Barometric altimeters measure atmospheric pressure rather than altitude directly. As a result, changes in weather and surrounding atmospheric conditions can affect their readings.

Factors include:

- Changes in weather systems.
- Changes in atmospheric pressure.
- Temperature variations.
- Pressure changes unrelated to changes in elevation.

For this reason, barometric altitude readings are estimates and may require calibration against a known elevation or reference pressure.

Which Reebok Smartwatch Includes a Barometric Altimeter?

The barometric altimeter is available on the Reebok Kinetic.