

Forston Labs GPS Sensor

(Order Code NavGPS)

The Forston Labs GPS Sensor collects real-time latitude, longitude, and altitude data when connected to a LabNavigator. When used in conjunction with other sensors, the location data are saved along with the sensor data. This is particularly useful for environmental studies where you want to know the location of your sampling sites.

Inventory of Items Included with the GPS Sensor

Check to be sure that each of these items is included in your GPS package:

- Forston Labs GPS Sensor
- USB extension cable
- Suction cup
- Forston Labs GPS Sensor booklet (this document)

Collecting Data with the GPS Sensor

GPS Sensor Only

1. Connect the GPS Sensor to the LabNavigator's USB port. Latitude and longitude will be displayed. Note: The first time the GPS Sensor is connected, it may take several minutes to determine its location. Subsequent connections will lock the location in less time. Altitude, speed, and direction over ground will also be collected once data collection has begun. These data will be available in the data table.
2. Latitude and longitude will be displayed. Note: The first time the GPS Sensor is connected, it may take several minutes to determine its location. Subsequent connections will lock the location in less time. Altitude, speed, and direction over ground will also be collected once data collection has begun. These data will be available in the data table.
3. The default data-collection mode is Time Based.
4. You are now ready to collect data.

GPS Sensor with an Environmental Sensor

1. Connect the environmental sensor, such as pH or temperature, to the interface and the GPS Sensor to the LabNavigator's USB port.
2. Start the data-collection software.
3. Latitude, longitude, and the live sensor readout will be displayed. Note: The first time the GPS Sensor is connected, it may take several minutes to determine its location. Subsequent connections will lock in the location in less time. Altitude will also be collected in the data table once data collection has begun.
3. The default data-collection mode is Selected Events. In this mode, data will be collected on command rather than over time, making it easy to collect single points of data at specific sampling sites.
4. You are now ready to collect data.

Units

The Forston Labs GPS Sensor can display units of Decimal Degrees (hddd.ddddd°), used as the default and when importing into most GIS software; Degree Decimal Minutes (hddd°mm.mmmmm'); or UTM (Universal Transverse Mercator). When in UTM, the grid number and letter will be displayed in brackets after each Easting and Northing value.

How the GPS Sensor Works

The GPS Sensor contains a chip that receives radio signals from several of 24 GPS satellites. Knowing the time the signal left each satellite and the time it was received by the GPS Sensor, it uses triangulation to calculate its location. The more satellites it can "see," the more accurate the data. Because of this, readings cannot usually be obtained indoors and may be limited when under heavy tree cover or in a deep canyon.

This sensor is equipped with circuitry that supports auto-ID.

Do I Need to Calibrate the GPS Sensor?

No. The GPS Sensor does not need to be calibrated.

GPS Sensor Specifications

Channels:	16
Update Rate:	1 Hz
Acquisition Times:	
•Hot start, open sky	4 s (typical)
•Cold start, open sky	42 s (typical)
WAAS Capable:	yes
Position Accuracy:	
•Autonomous	2.5 m CEP ¹
•WAAS enabled	2.0 m CEP
Max. Altitude:	18,000 m
Max. Velocity:	515 m/s

Warranty

Forston Labs warrants this product to be free from defects in materials and workmanship for a period of three years from the date of shipment to the customer. This warranty does not cover damage to the product caused by abuse or improper use.



Measure.Analyze.Record

Forston Labs

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Printed on recycled paper.



¹ CEP (Circular Error Probable) means that half of the data points fall within a circle of this radius.