GPS16X-HVS

Garmin Geographic Position Receiver

CAMPBELL SCIENTIFIC®
WHEN MEASUREMENTS MATTER

The GPS16X-HVS consists of a receiver and an integrated antenna. This device receives signals from orbiting Geographic Positioning System (GPS) satellites then uses the signals to calculate position and velocity. The GPS16X-HVS can also provide a highly accurate one-pulse-per-second (PPS) output for precise timing measurements.

The GPS16X-HVS receiver is manufactured by Garmin® International. Campbell Scientific configures the receiver and modifies its cable. The modified cable terminates in pigtails that attach directly to the control ports of a CR800, CR850, CR1000, or CR3000 datalogger.

The GPS16X-HVS is a high-sensitivity, 12-channel receiver that continuously tracks satellites and reports your precise position.

Features

- Connects directly to our CR800, CR850, CR1000, and CR3000 dataloggers
- Processes data from up to 12 satellites depending on the number of satellites viewable above the horizon
- Supports real-time WAAS or RTCM corrections that provide a 3 to 5 m position accuracy
- Configured by Campbell Scientific to output RMC and GGA data strings at 38400 bps
- Allows the datalogger clock to be set to the highly accurate GPS time
- Provides a timing pulse (PPS) at one second intervals. The timing pulses are extremely accurate and can be used to synchronize time between the datalogger and other instruments

The GPS16X-HVS connects directly to COM port pairs of a CR800, CR850, CR1000 (shown), or CR3000 datalogger.

Ordering Information

Model	Description
GPS16X-HVS	GPS Receiver with antenna and 15-ft cable. The cable terminates in pigatails that connect directly to the control ports of a CR800, CR850, CR1000, or CR3000.
17212	Magnetic Mount that allows the sensor to be attached to a magnetically susceptible metallic surface, typically the CM235 Magnetic Stand.
CM235	Magnetic Mounting Stand for attaching the GPS16X-HVS to a crossarm such as the CM202, CM204, or CM206, or a tripod or tower mast.

The CM235 Magnetic Mounting Stand attaches the GPS16X-HVS to a mast or a crossarm such as the CM202, CM204, or CM206.

Specifications

Receiver: WAAS enabled; 12 parallel channel GPS receiver continuously tracks and uses up to 12 satellites (up to 11 with PPS active) to compute and update your position.

Update Rate: Factory set to 1 second between updates; programmable from 1 to 900 seconds*

PPS Output: 1 Hz pulse, 1 microsecond accuracy, width factory set to 80 milliseconds

Reacquisition: <2 seconds

Baud Rate: Factory set to 38400 bps bps; 300, 600, 1200, 2400, 4800, 9600, and 19200 baud rates also available*

Temperature Range:
-30° to 80°C operating,
-40° to 80°C storage

Operating Voltage: 8 to 40 Vdc

Current Drain: 65 mA active @ 12 Vdc

Accuracy

Position (95% typical):
<15 m with GPS Standard Positioning Service (SPS);
3 to 5 m with DGPS (USCG/RTCM) correction;
<3 m with DGPS (WAAS) correction

Velocity: 0.1 knot RMS steady state

Acquisition Times

Reacquisistion: <2 seconds

Hot: ~1 second (all data known)

Warm: ~38 seconds (initial position, time and almanac known, ephemeris unknown)

Cold: ~45 seconds

Physical

Dimensions
Diameter: 3.58" (9.1 cm) ,
Height: 1.65" (4.2 cm)

Weight: 12 oz. (332 g) with 15' (5 m) cable

**Changing the default settings or options requires the SC110 cable and a PC running GPS16 software. The software can be downloaded, at no charge, from the Garmin web site (www.garmin.com).*

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