

CW19-NAV GPS Receiver

Description

The CW19 is a small size GPS receiver with integrated antenna that has been specifically designed for use in weak signal GPS environments and ease of use with USB connectivity, while maintaining all the features of a standard GPS solution, such as high accuracy.

Normal GPS systems cannot track satellites below -175 dBW (-145 dBm) however the CW19 can track down a further 10 dB resulting in tracking down to -185 dBW (-155 dBm). This makes it possible to track the person, asset or vehicle as they enter buildings, move under dense vegetation, or drive through dense urban canyons. In order to obtain this level of performance the CW19 uses an innovative GPS engine built into its BB25IC, which enables the system to search in parallel 12288 time/frequency bins. Not only does this enable better sensitivity but also makes for very rapid acquisition of the satellites. At outdoor signal levels the time taken to obtain a 'hot' position fix is under 2 seconds.

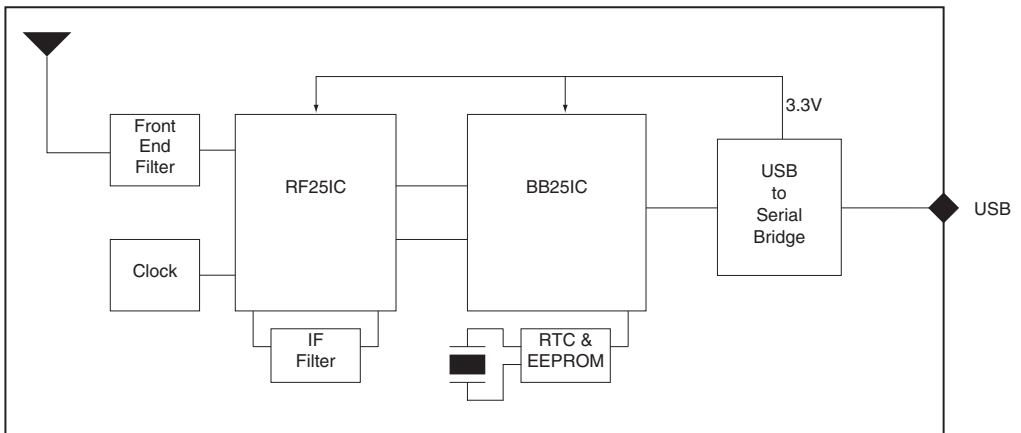
The CW19's integrated package and USB connectivity adds GPS capability to Windows-based or Mac computers. The CW19 supports the NMEA 0183 standard for GPS device communication for compatibility with GPS enabled software.



Features

- Enables indoor use
-173 dBW acquisition and
-185 dBW tracking
- Rapid Time To Fix
<2 second outdoors
- Standalone CW19 Receiver
USB connectivity and
integrated antenna
- Small Size
66mm x 52mm x 11.1mm

Block Diagram



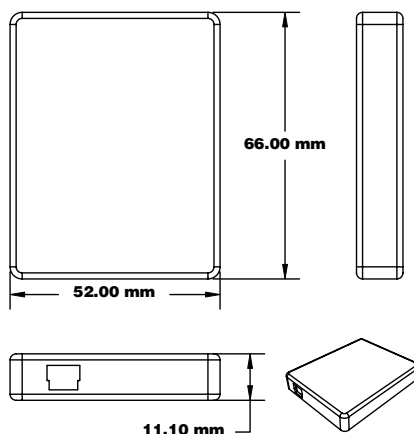
CW19-NAV GPS RECEIVER SPECIFICATIONS¹

Specifications

Physical	Module dimensions	66mm (D) x 52mm (W) x 11.1mm (H)
	Operating Temp Range	-40 to 75°C
	Storage Temp Range	-55 to 125°C
	Humidity	5% to 95% non-condensing
	Max Velocity / Altitude	515ms ⁻¹ / 18,000m (increased rating version available subject to export license)
	Max Acceleration / Jerk	4g / 1gs ⁻¹ (sustained for less than 5 seconds)
Sensitivity	Acquisition/Tracking	-173dBW / -185dBW
	Acquisition Time(Outdoor)	Cold: <60s Warm: <45s Hot: <2s
		Re-acquisition: <0.5s (90%confidence)
Accuracy	Position: Outdoor / Indoor	<5m rms / <50m rms
	Velocity	<0.05ms ⁻¹
	Latency	<200ms
	Raw Measurement Accuracy	Pseudorange <0.3m rms, Carrier phase <5mm rms
	Tracking	Code and carrier coherent
Power	Typical/Maximum	.8W/.95W
Interfaces	Type	USB2.0 Compliant with Virtual COM Port Driver
General	Receiver Type	12 Parallel Channel x 32 taps up to 32 pointFFT. Channels, taps, and FFT can be switched off to minimize power or simulate simpler designs.
	Processor User Memory	ARM 966E-S on a 0.18μ process at 96MHz. 64K loaded from 24K on module EEPROM or external EEPROM.

Footnotes: This value is based on a software build which has all peripherals powered. For applications where power consumption is an issue some of these may be turned off to provide a saving in this area.

Physical Characteristics



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