StarLoc II Plus

Precision
GPS Time
& Frequency
Reference

Benefits

- **Reliability and Performance of Rubidium**
  - **Holdover <1μS in 24 Hours**
  - **MTBF Greater than 300,000 Hours**
  - **Never Requires Calibration**
- **Stratum 1 Accuracy (<1E-12) Supports All Base Station Applications**
  - **Cellular**
    - **CDMA**
    - **TDMA**
    - **UMTS**
  - **Fixed Wireless**
    - **MMDS**
    - **LMDS**
    - **Wireless Local Loop**
  - **Broadcast**
    - **DVB**
    - **DAB**
    - **DTV**
  - **Asset Location E911**

StarLoc II Plus Adds Rubidium to Your Stratum 1GPS Solution

StarLoc II Plus™ is Datum's latest addition to its extensive line of precision time and frequency products. This advanced new product incorporates the latest GPS receiver technology, Datum's industry leading X72™ precision Rubidium oscillator and improved tracking algorithms. **StarLoc II Plus**™ is a small, low-cost, low-power requirement package that provides the precision time and frequency synchronization required by **Base Stations, Optical Network Nodes,** and high-speed digital networks. It is the ideal choice for OEM applications in this area.

Using Datum's proprietary **Snapshot**™ technology, a network of **StarLoc II Plus**™ units is able to lock system time to within 20 nsec (RMS) of each other. After a quick initial survey, only one GPS satellite need be visible in order to maintain system accuracy. This is especially important in a crowded urban environment that lacks antenna locations with an unobstructed view of the sky. Another helpful and advanced feature is the **T-RAIM** (time-receiver autonomous integrity monitoring) algorithm which monitor the health of individual GPS satellites. This algorithm assures that timing and position information from a malfunctioning satellite is not used, thus preventing it from negatively affecting your system's accuracy.

Contact Datum to discuss your specific requirements. Discover how our new **StarLoc II Plus**™, or another of the many precision timing and frequency products designed and manufactured by Datum, can enhance your applications and improve your bottom line.

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Features

Electrical Specifications

• Inputs:
L1 GPS (1575.42 MHz.) C/A code (from GPS antenna)
24 Vdc ±20% @ 33W

• Outputs:
1 PPS TTL @ 50Ω
10 MHz Sine @ 50Ω 13 dBm ±2 dB
+5V@80 ma for antenna Amp.
RS-232 for GPS time/status alarms

Accuracy:
Timing Preferred Application (Algorithm TP)
20 nsec RMS between units
Frequency Preferred Application (Algorithm FP)
<5E-11 measured instantaneously
<1E-12 (24 hour average)

• Phase Noise: @10 MHz

	Standard	*Low Noise*
1 Hz	<-90 dBc/Hz	<-100 dBc/Hz
10 Hz	<-120 dBc/Hz	<-125 dBc/Hz
100 Hz	<-130 dBc/Hz	<-145 dBc/Hz
1 KHz	<-145 dBc/Hz	<-150 dBc/Hz
10 KHz	<-150 dBc/Hz	<-155 dBc/Hz

• Holdover[1]:
Standard = <1µs over 12 hours
Extended Option = <1µs over 24 hrs

• Spurious:
Harmonic: <-30 dBc
Non-Harmonic: <-80 dBc

• Timestamp message:
Calendar date and time to 1 second using Datum Serial Interface Protocol

Environmental Specifications

• Operating Temperature: 0°C to +55°C

• Storage Temperature: -40°C to +85°C

• Operating Altitude[2]: Operating: -200 ft to 40,000 ft. (12,200 meters)

• Operating Humidity: 90%, Non-condensing

Physical Specifications

• Size: 8.5" L X 4.0" W X 1.5" H
215.9mm L X 101.6mm W X 38.1mm H

• Weight: ~29 ounces (~822 grams)

• Fault Indicators: Software controlled/Power On LED (GRN)

• Antenna Input: TNC Connector

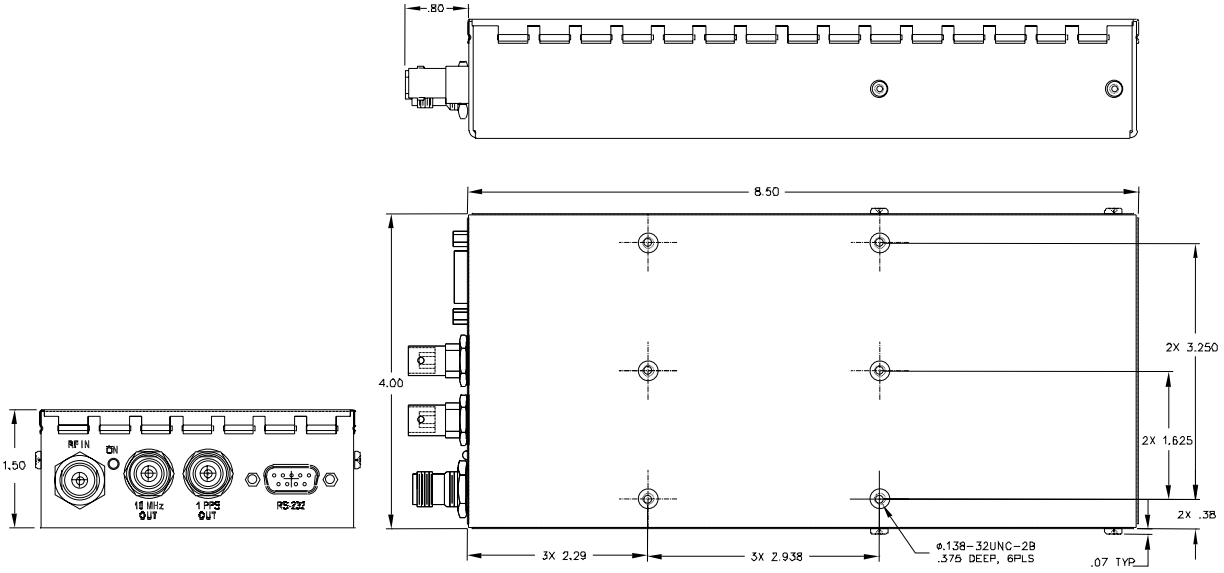
• Outputs: 1 PPS and 10 MHz: BNC connectors
RS-232: DB-9M (DTE)

• Warranty: 1 year (Consult factory for extended warranty)

[1]Holdover refers to operation without GPS signals after an initial period of 8 hours of proper GPS reception in temperature controlled environment (+/-3°C).

[2]Maximum operating temperature derated above 5,000 feet (1,525 meters)

Values are typical unless otherwise noted



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For more information call **1-800-337-2866** in the U.S. Or visit us on the World Wide Web at **http://www.datum.com** for continuously updated product specifications, news and information.