

# VIAVI

## PNT-6200 Series

### Critical Infrastructure Time and Frequency Reference

The PNT-6200 Series offers a variety of product configurations to meet customer-resilient timing network needs via Plug-and-Play connections to your legacy GPS devices.

The PNT-6200 Series is perfect for achieving emerging requirements such as the recently introduced Executive Order 13905 that require the local generation of position (E911 requirements), and nanosecond-accurate UTC timing anywhere in the world, and optionally completely independent of any GNSS signal.

The PNT-6200 Series incorporates satellite time and location (STL) from signals in a Low Earth Orbit (LEO) constellation. These STL signals are up to 1000 times stronger than GPS allowing indoors reception. GNSS is relied on for timing synchronization for 4G and 5G nodes throughout the network, whether they be macro sites, small cells, femtocell, etc. Operators using PTP configurations realize that these PTP configurations often do not provide the needed accuracy.

The units are targeted at network operators, back-office timing applications, data centers, financial transaction timing, deep-indoors timing and positioning applications, ship-board timing applications, or R&D labs that require a GNSS independent timing and positioning reference.

### Features

- Low Earth Orbit (LEO) receiver
- L1, L2, L3, L5 RTK GNSS Receiver
- Available with Rubidium, Double Oven OCXO
- PTP/IEEE-1588 EGM, 10MHz/1PPS
- Patented RF distribution output for legacy GPS systems
- Backward compatible with legacy GPS systems

### Benefits

- Built-in PTP Edge Grandmaster with Slave capability
- A solution for GPS denied environments
- Secure LEO broadcast will give you indoor capability when not available from GPS
- Stratum-0 PRTC-A ITU-T G.8272, NEBS certified<sup>1</sup>
- Optional external holdover clock inputs for 10MHz and 1PPS



## Detailed Specifications

Module Specification	
1 PPS Stability	<5 ns rms GPS locked, <65 ns rms STL LEO locked
Holdover Performance over 24 hours (at 25°C, no airflow, no motion)	After 7 days with GNSS reference: <250 ns (Rubidium), <2 µs DOCXO
RF Distribution (GPS Transcoder) GPS L1 RF output option	Generates GPS L1 C/A RF output signal to retrofit GPS equipment
NMEA Messages	USB and RS-232 connectors, GGA, RMC, ZDA, GSV, PASHR, GSA
GNSS Receiver	Multi-Frequency: L1, L2, L3, L5 GPS/Glonass/Galileo/BeiDou/QZSS/SBAS
STL LEO Receiver	Custom-designed Low Earth Orbit STL receiver
GPS Sensitivity	Acquisition -148 dBm, Tracking -167 dBm
GNSS TTFF	Cold Start: <29 sec, Warm Start: <2 sec, Hot Start: <2 sec
STL Sensitivity	-100 dBm tracking
Supply Voltage (Vdd)	Single or Dual Redundant +12V DC inputs
Power Consumption	<10 W (DOCXO variant)
Operating Temperature	-25°C to +55°C, forced air environment
Storage Temperature	-45°C to +95°C
External Reference input options (e.g. 5071A Cesium Beam Clock)	10 MHz Sine Wave (0 dBm to +15 dBm), 1 PPS CMOS options
Auto Switchover between external UTC references	GNSS (four frequencies), STL/LEO, PTP/IEEE1588, 10 MHz, 1 PPS
10 MHz output	2x +13 dBm 10 MHz Sine Wave, Low Phase Noise and ADEV
1 PPS Outputs	2x CMOS 3.3 V 1PPS (5 V option), 50 Ohms coax (>1 K Ohms termination)
Oscillator Specification	
Frequency Output	10 MHz from TCXO, DOCXO, CSAC, or Rubidium internal oscillator options
10 MHz Accuracy	< ±0.2E-010 after 20 minutes with GNSS
Frequency Stability over Temperature (in Holdover)	-25°C to +55°C: ±0.2E-09 DOCXO option, ±5E-011 Rubidium option
Output spurs	< -110d Bc/Hz
Connections	Connector Type
RF Antenna (one for STL, one for GNSS)	SMA
10MHz in/out, 1PPS in/out, TTL status	SMA
PTP/IEEE1588 Grandmaster/Slave option	32x to 256x PTP clients, RJ-45 for PTP and configuration console
In Situ firmware updates	Fully field upgradeable through USB or RS-232 serial ports

<sup>1</sup>NEBS Certification is in process.



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