VIAVI Solutions

VIAVI
SecurePNT 6200 with SecureTime altGNSS/eGNSS Services

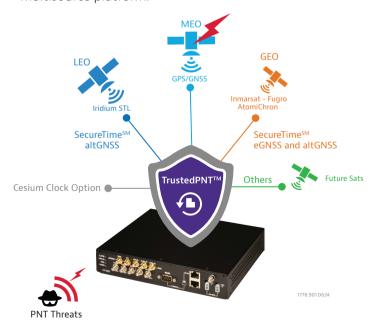## Resilient PNT Clock for Secure Critical Infrastructure

Defense | 5G Communications | Transportation | Data Center | Energy | Financial | Critical Infrastructure

Solving Industry Challenges

Secure and resilient Position, Navigation and Timing (PNT) services are vital to support at-risk critical infrastructure from rising PNT disruptions such as intricate jamming/spoofing Cyber attacks on GPS/GNSS antennas and malicious hacking attacks on network timing targeting NTP/PTP protocols and GPS/GNSS receivers.

Secure and Resilient PNT Clock Solution

The upgraded SecurePNT™ 6200 series is a next-gen resilient timing clock solution powered by innovative TrustedPNT™ technology and an intelligent zero-trust multisource platform.

SecurePNT™ 6200 powered with SecureTime Services

Features

- L1/2/3/5/6+PPP GNSS receiver, supporting GEO Sat Signals, and optional LEO STL receiver
- Holdover options: DOCXO or Rb oscillator (internal)
- Inputs: 10 MHz and 1 PPS for external Cesium clock holdover
- Outputs: 10 MHz/1 PPS
- System: meets PRTC-A ITU-T G.8272 spec, NEBS certified, half 19" width, rack-mountable

Benefits

- Secure and resilient PNT clock solution with new SecureTime^{SM} Services, integrating these alternative and enhanced sources on top of GPS/GNSS:

   - altGNSS^{SM} LEO – alternative GNSS-independent source with encryption, <65 ns RMS accuracy traceable to UTC(NIST), powered by Iridium STL

   - eGNSS^{SM} GEO – enhanced GNSS source, authenticated spoofing detection/mitigation, <5 ns RMS ultra-high accuracy, traceable to UTC, powered by Fugro AtomiChron on Inmarsat

   - altGNSS^{SM} GEO – alternative GNSS-independent source, authenticated spoofing detection/mitigation, <±100 ns peak-to-peak, traceable to NIST, powered by Fugro on Inmarsat and other satellite constellations

- Augmented PNT clock for GPS/GNSS-denied or indoor environments

- Retrofit legacy GPS/GNSS with the µPNTranscoder™ and rapidly transform legacy clocks into resilient PNT clocks at scale

Typical Specifications

SecurePNT™ 6200 Series with SecureTime altGNSS/eGNSS Services		
1 PPS stability with GNSS and multisource SecureTime Services	<5 ns[1] RMS GPS/GNSS locked	
	<65 ns[1] RMS altGNSS LEO locked to Iridium's STL service	
	<5ns[1] RMS eGNSS GEO locked to Fugro AtomiChron service on Inmarsat	
	<100 ns[1] p2p altGNSS GEO locked to Fugro AtomiChron service on Inmarsat	
Holdover performance (over 24 hours @ 25°C, no airflow, no motion)		
Model	**6250/6250S[2]**	**6260/6260S[2]**
	<2 µs[3] with DOCXO	<250 ns[3] with Rb
µPNTranscoder (patented multisource-to-GPS transcoder)	GPS L1 C/A RF output signal to retrofit legacy GPS/GNSS clock equipment	
NMEA messages	USB and RS-232 connectors, GGA, RMC, ZDA, GSV, PASHR, GSA	
GPS/GNSS receiver		
Multifrequency	L1, L2, L3, L5	
Constellations	GPS/Galileo (SBAS)/GLONASS/BeiDou/QZSS/NAVIC	
Tracking Performance (C/NO Threshold)		
Acquisition	33 dB-Hz	
Tracking	20 dB-Hz	
TTF		
Cold Start	<45 sec	
Warm Start	<20 sec	
Reacquisition	1 sec	
GEO Sat Signals	Integrated GEO receiver	
STL LEO receiver	A VIAVI leading edge design	
Sensitivity	-100 dBm tracking	
Intelligent zero-trust multisource switchover	GNSS (4 frequencies), STL LEO, GEO Sat, 10 MHz, 1 PPS	
Inputs		
External reference inputs for Cesium holdover clock	10 MHz Sine Wave (0 dBm to +15 dBm), 1 PPS CMOS options	
Outputs		
10 MHz	2x +13 dBm 10 MHz sine wave, low phase noise option	
Accuracy	<±0.2E-010 after 20 min with GNSS	
1 PPS	2 x 1PPS Outputs via SMA (Coax) (>1K Load), 3.3 V	
	1 x 1PPS Input, SMA, >1 K Load	
Frequency	10MHz, DOCXO or Rb oscillator option	
Stability over temperature (holdover mode)	-10° to +75°C: ±0.2E-09 DOCXO option, ±5E-011 Rb option	
Spurs	<-110 dBc/Hz	

Typical Specifications continued

Power and Consumption		
Supply Voltage (Vdd)		
Power Consumption	Single or Dual redundant +12 V DC inputs	
	<10 W (DOCXO variant)	
Environmental		
Operating Temperature Range	-25°C to +75°C, forced air environment	
Storage Temperature Range	-45°C to +85°C	
Mechanical		
Size	Half 19" width, 1.64" x 8.53" x 8" (H x W x D)	
Weight	1.5 lbs	
Connections		
RF antenna (one for STL, one for GNSS)	SMA (antenna power enable controls on both ports)	
10 MHz in/out, 1 PPS in/out, TTL status	SMA	
In Situ firmware updates	Fully field upgradeable through USB or RS-232 serial ports	

¹Traceable to UTC/NIST
²With LEO STL receiver
³After 7 days with GNSS reference

PNT Compliance List

Compliance Mark
CB: Scheme International Safety
CE: EU Safety and EMC
FCC: USA EMC
RCM: Australia/New Zealand EMC
Emissions
FCC Part 15 (Class A)
ICES 003 (Class A)
ETSI EN 300 386
CISPR 32
EN 55032
ETSI EN 303 413
ETSI EN 301 489-1
ETSI EN 301 489-19
Other
NEBS GR 1089-CORE

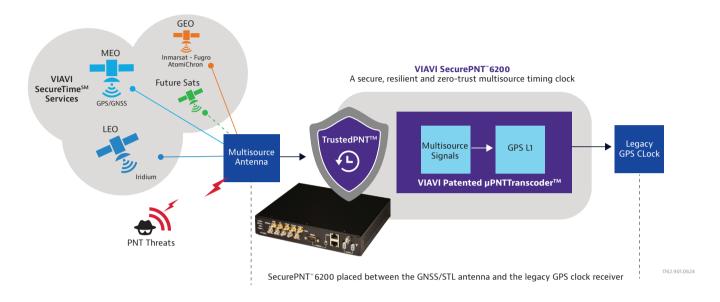| Immunity |
|---|
| ETSI EN 300 386 |
| ETSI EN 301 489-1 |
| ETSI EN 301 489-19 |
| EN 61000-4-2 ESD |
| EN 61000-4-3 radiated immunity |
| EN 61000-4-4 EFT |
| EN 61000-4-5 surge |
| EN 61000-4-6 low frequency common immunity |
| EN 61000-3-2 harmonic emission |
| EN 61000-3-3 voltage fluctuations and flicker emissions |
| EN 61000-4-11 voltage dips and interruptions |
| **Safety** |
| IEC 62368-1 |
| EN 62368-1 |
| **Directives** |
| Safety Directive 2014/35/EU |
| EMC Directive 2014/30/EU |
| Radio Equipment Directive (RED) 2014/53/EU |
| RoHS Directive 2011/65/EU and the (EU) 2015/863 amendment |

Typical Use Case

Quickly retrofit legacy GPS/GNSS clocks, at-risk of rising jamming and spoofing cyberattacks, with a secure, resilient, and zero-trust multisource PNT clock at a fraction of the cost of replacing legacy clocks.

Request your **SecurePNT™ 6200** demo unit today by [clicking here](#) to start your successful POC and to safeguard your network against rising GPS Cyber threats.

SecurePNT™ 6200 placed between the GNSS/STL antenna and the legacy GPS clock receiver

1762.901.0624

Solution to retrofit GPS/GNSS clocks

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