

NS8000-PTP GRANDMASTER

PTP/NTP/SyncE SERVER

Prime Time Precision Time Server



Network Timing Services

NTP v2 v3, v4 RFC 1305 and 5905. Unicast, Broadcast and Multicast.

SNTP v3, v4 RFC 1769, 2030, 4330, and 5905.

PTP v2 – [IEEE 1588™-2019](#) Master Precision Time Protocol (PTP), Slave, E2E, IPv4/v6, Multicast, Unicast, Hybrid (both).

PTP profiles: PTP standard and its associated power profile specific parameters.

[IEEE C37.238-2017](#) and [IEC/IEEE 61850-9-3 2016](#).

SyncE ITU-T 8264

Timing Signals (Options)

10 MHz Sine Output (5 Outputs per Module optional BNC or SMA)

PPS (5 Outputs per Module optional)

IRIG (B-003)

Communications – Monitoring and Configuration Management

Web based user interface HTTP(S)

SNMP v1, v2, v3

USB Mini B serial System Management

RS-232 Serial NMEA and System Status Messages

Technical Specifications

Reference Frequency Output	
10.0 MHz Sine	1 Vrms \pm 0.2, into 50 Ohms
Locked stability (AD)	5E-11
First year frequency stability	+/-40 ppb (unlocked)
Temperature stability	+/-100 ppb (unlocked)
Connector	BNC
10.0 MHz Phase Noise	
	(dBc/Hz)
1 Hz	- 86
10 Hz	-116
100 Hz	-134
1 kHz	-145
10 kHz	-157
100 kHz	-159
PPS	
Amplitude for PPS	3.3 Vdc CMOS (5 Vdc option)
Accuracy	5ns 1 sigma
Pulse width for PPS	Programmable 1 to 500ms in 1 μ sec steps
Rise time for PPS	<5 ns
Load Impedance	50 Ohm
Connector	SMA

Front panel Indicators and Control	
System status display	Channel status, system status - front panel display LCD color
Front panel lights	3 LEDs GPS BIT NET green
5 button selector switches	Round momentary switch assembly, up, down, left, right, enter. Selects active display mode
Remote interface	
Rear Panel Serial	DB-9F, RS232 serial for system status and device configuration 115200 baud default
Network Management	Ethernet: 10/100/1000M RJ-45
Network Time Server	Ethernet: 10/100/1000M RJ45
SNMP	v1, v2c, v3 Status monitoring, Simple Network Management Protocol
System Management	USB, SNMP, SSH, Web UI (network user interface)
Web UI	Administrator interface for Networking, Firewall, Users, Logs, Status
Power	
AC connector	IEC 320-C14
AC input	90 to 230 VAC, 50/60Hz, less than 25 Watts
DC input	Inquire for power supply configuration options
System power switch	Front panel soft switch

Technical Specifications

GNSS receiver	
Constellations	
GPS	L1C/A (1575.42 MHz), L2C (1227.60 MHz)
GLONASS	L1OF (1602 MHz + k*562.5 kHz, k = -7,..., 5, 6) L2OF (1246 MHz + k*437.5 kHz, k = -7,..., 5, 6)
Galileo	E1-B/C (1575.42 MHz), E5b (1207.140 MHz)
BeiDou	B1I (1561.098 MHz), B2I (1207.140 MHz)
Sensitivity (with Novus recommended antenna)	
Tracking	-167 dBm
Reacquisition	-160 dBm
Cold Start	-148 dBm
Hot Start	-157 dBm
GNSS receiver- Dual-Time Base (optional module)	
Constellations	
GPS / SBAS	L1C/A (1575.42 MHz)
GLONASS	L1OF (1602 MHz + k*562.5 kHz, k = -7,..., 5, 6)
Galileo	E1-B/C (1575.42 MHz)
Sensitivity GPS (with Novus recommended antenna)	
Tracking	-161 dBm
Reacquisition	-161 dBm
Cold Start	-147 dBm
Hot Start	-161 dBm
Sensitivity GLONASS (with Novus recommended antenna)	
Tracking	-157 dBm
Reacquisition	-157 dBm
Cold Start	-143 dBm
Hot Start	-157 dBm

Mechanical	
Height	1RU (~1.73") EIA 19" rack compatible
Width	19.0"
Depth	15.0"
Weight	7.0 lbs.
Environmental	
Operating temperature	-10 to 65°C
Storage temperature	-40 to 70°C
Humidity	0% - 90% RH non-condensing
Agency Certifications	UL / FCC Part 15
EU compliance	RoHS, REACH, WEEE
EMC Compliance Emissions/Immunity	CISPR 32 Emissions CISPR 35 Immunity IEC 61000-4-2 ESD IEC 61000-4-3 Radiated IEC 61000-4-4 Transient/burst immunity IEC 61000-4-5 Surge immunity IEC 61000-4-6 Immunity to conducted
Safety	UL 62368-1

Revision History

Rev.	Date	Nature of Changes	Approved By
1	December 15, 2025	Initial release.	Christian Cochran



This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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