

**PRODUCT DATASHEET**

NS8000

**REVISION #:**

1

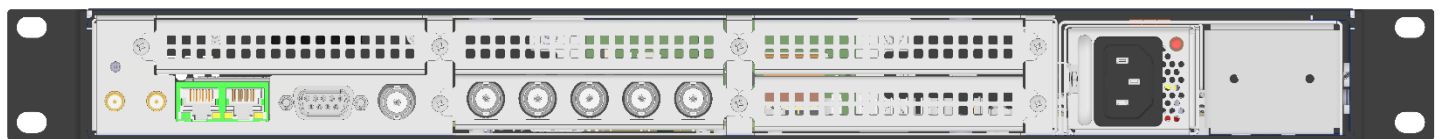
**DATE:**

12/15/2025

# NS8000

## PTP/NTP 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](#).

#### 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



|                   |            |
|-------------------|------------|
| PRODUCT DATASHEET | NS8000     |
| REVISION #:       | 1          |
| DATE:             | 12/15/2025 |

## 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 $\mu$ 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<br>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 + $k \cdot 562.5$ kHz, $k = -7, \dots, 5, 6$ )<br>L2OF (1246 MHz + $k \cdot 437.5$ kHz, $k = -7, \dots, 5, 6$ ) |
| 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 + $k \cdot 562.5$ kHz, $k = -7, \dots, 5, 6$ ) |
| 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<br>IEC 61000-4-2 ESD<br>IEC 61000-4-3 Radiated<br>IEC 61000-4-4 Transient/burst immunity<br>IEC 61000-4-5 Surge immunity<br>IEC 61000-4-6 Immunity to conducted |

|        |            |
|--------|------------|
| Safety | UL 62368-1 |
|--------|------------|



|                   |            |
|-------------------|------------|
| PRODUCT DATASHEET | NS8000     |
| REVISION #:       | 1          |
| DATE:             | 12/15/2025 |

## 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.

All information provided herein is the property of Novus Power Products LLC. The information included may be reproduced for the purpose of operating the Novus equipment.

This document is copyright © 2025 - 2026 Novus Power Products LLC. All rights reserved.