

# NS8001-NTP

## Product Specification Benchtop or Rackmount Precision Time Server



GNSS Locked NTP Time server provides usec time for the entire network.  
User selectable 3 channel timing outputs with options for 10MHz, PPS, or IRIG signals.

### Key Features:

- NTP
- +/-50us sync accuracy
- 100,000 transactions/second
- DC powered (12 Vdc)
- Compatible with Novus Network timing references
- PPS accuracy 5ns 1 sigma
- GNSS locked reference
- Supports Unicast, Multicast or Broadcast
- Benchtop or Rackmount hardware

### Typical Applications:

- ITU Profiles: ITUG82651, ITUG82751, ITUG82752
- IEEE802.1AS-REV: including IEEE802.1CB tag handling
- Utility: including HSR and PRP tag handling
- 3 channels: 10 MHz Sine or PPS or IRIGB User selectable outputs



## Technical Specifications

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

| <b>GNSS receiver</b>                         |  |
|--|--|
| 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   |

| <b>Front panel Indicators and Control</b> |   |
|---|---|
| System status display                     | Channel status, system status - front panel display LCD color   |
| 5 button selector switches                | Round momentary switch assembly, up, down, left, right, enter.<br>Selects active display mode, system status.           |
| <b>Remote interface</b>                   |   |
| Rear Panel Serial Port                    | USB mini-B to serial interface for system status and system configuration<br>115200 baud default (n81, No flow control) |
| Network Connectivity                      | Ethernet: 10/100/1000mb RJ-45 Rear panel  |
| <b>Power</b>                              |   |
| DC input                                  | +12VDC @ 2A AC to DC Adapter, 25W Power Supply (9 to 36V)   |



PRODUCT DATASHEET

NS8001-NTP

REVISION #:

2

DATE:

2-12-26

## Environmental and Mechanical

| <b>Mechanical</b>                    |   |
|--------------------------------------|---|
| Height                               | 1.77" (45mm) 1RU EIA 19" rack compatible  |
| Width                                | 7.97" (202.4mm)   |
| Depth                                | 8.0" (203.2mm)  |
| Weight                               | 3.0 lbs.  |
| <b>Environmental</b>                 |   |
| Operating temperature                | -10 to 50°C   |
| Storage temperature                  | -20 to 70°C   |
| Humidity                             | 0% - 90% RH non-condensing  |
| Agency Certifications                | UL / FCC Part 15  |
| EU Compliance                        | RoHS, REACH, WEEE   |
| EMC Compliance<br>Emissions/Immunity | CISPR 32 Emissions<br>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  |

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.

## Revision History

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

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