

NTS-4000

PTP/NTP Ethernet Network Time Server

- STRATUM 1 Server PTP*/NTP
- GPS +GLONASS +GALILEO
- OCXO* oscillator



- IEEE1588 PTP Master Clock*
- NTP/SNTP Time Server
- SBAS & DCF77* support
- 2-6* Ethernet w/ PoE IPv4/6
- PLL/FLL (1PPS) technology
- Max. 100,000 NTP clients
- Max. 200 PTPv2 clients
- RS232/485 & USB interface
- SNMP v1,v2,v3 & MIB2 agent
- RADIUS client*
- MD5, RSA, DSA, SSL security
- NTP authentication
- IRIG-B* in/out
- 1PPS in/out + 10MHz out
- -55C/-67F antenna available*
- remote configuration:
HTTP, HTTPS, TELNET, SSH

CLEPSYDRA
TIME SYSTEMS

a new global brand of ELPROMA



Server NTS-4000 delivers time directly to network using NTP/SNTP or PTPv2 protocols. It is equipped with 2 (max. 6*) independent Ethernet ports working with both IPv4/6 protocols. Single server acts simultaneously NTP/SNTP Server and PTPv2* Master Clock. Multi-satellite GPS +GLONASS +GALILEO signals are standard time reference but time can be simultaneously drawn from other all sources incl. DCF77*, external CS (cesium) beam such as 5071A atomic clock or any other external 1PPS/RS232 source.

The NTS-4000 is equipped with two redundant A/B antennas inputs, each receiving independent satellite systems simultaneously. Built-in OCXO* guarantees precision time for 1 month operation missing SAT signals.

Server is STRATUM-1. It is ultra high-bandwidth Time Server and PTPv2 Master Clock. NTS4000 synchronize time monotonously (jump-free) and can simultaneously serve up to 100,000 NTP and 200 PTPv2 clients. Std. version of product incl. 2x LAN (PoE) Ethernet (RJ45) dedicated for NTP/SNTP. Optionally NTS-4000 can be equipped with max. 6x LAN interfaces (incl max. 2pcs for PTPv2 or all 6pcs dedicated for NTP/SNTP). The Fiber Optic* (FO) of Ethernet is available on request (max. 2 pcs) for NTP & PTP*.

Redundant Synchronization Sources – All Served Simultaneously

- 2x Antenna INPUT (to connect max. 2 independent, redundant 32ch MultiSAT RCV) supported simultaneously SAT systems and frequency ranges:
 - GPS L1 (1575,42MHz)
 - GLONASS L1 (1598,06-1605,38MHz)
 - GALILEO L1 (1575,42MHz)
 - BEIDOU* /COMPASS/ L1 (1561,09-1575,42MHz)

both powered by •SBAS, and w/ extra RF AM* decoder •DCF77* for Central Europe, also •External Clock Devices 1PPS+RS232 •IRIG-B •2x PTPv2* Slave CLK •20x NTP

- 2x Antenna OUTPUT GPS NMEA emulation for NTP/SNTP STRATUM-2 Time Servers also •1PPS+RS232 timestamping •IRIG-B •10MHz SIN •max. 2x PTPv2* Master CLK

Synchronization Time Protocols: NTP v2,v3,v4, SNTP, PTP/PTPv2*

- RFC1305 •RFC1119 •RFC5905 •RFC5906 •RFC5907 •RFC1769 •RFC2030 •Full IEEE1588-2008 PTP, PTPv2

I/O

- 2-6* LAN Ethernet 10/100 Base-T (RJ45), • 2x RS232C (D-SUB9), 1PPS (BNC)
- 2x Antenna RS485(RJ45), • 2x 1PPS (BNC) • 2x USB 2.0 (for firmware upload)

Remote configuration

- SNMP (v1,2,3) •MIB 2 •RADIUS •HTTP •HTTPS •SSH •TELNET •NTPQ/NTPDC IEC*61850(networking)

Antenna & MultiSAT receiver:

- 32 channel external MultiSAT active receiver w/ built-in antenna and FQ converter
- 600m [2000ft] UTP cat. 5 or 1.2km [4000ft] STP (no need to use signal amplifiers)
- NTS-protect* surge protectors are available as separate product (Phoenix Contact)
- Custom built* version of Fiber Optic (or PTPv2) I/O is available on special request

Time Accuracy

- MultiSAT receiver accuracy is better than: 15x 10E-9s (nS- nanosecond)
- Internal TIME SERVER accuracy is better than: 10x 10E-9s (nS- nanosecond)
- NTP client accuracy over LAN is better than: 100x 10E-6s (uS- microsecond)
- NTP client accuracy over Internet is better than: 100x 10E-3s (mS- millisecond)
- PTP/PTPv2* master CLK time accuracy is up to: 25x 10E-9s (uS- nanosecond)
- PTP/PTPv2* slave CLK time accuracy is up to: 50x 10E-9s (uS- nanosecond)

Mechanical/environmental

- Size: 484 x 300 x 44,4 mm (RACK'19 1U)
- Power: 110/230 VAC (max 1A) w/ 2x PoE
- Operating temperature: 0°C to +50°C
- Storage temperature: -40°C to +80°C
- Humidity: up to 95%


Lifetime Warranty

is available to buy from distributor NTS-4000 unit has natural cooling (no fan or ventilators) MTBF > .280 million hours [24°C]

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* extra feature requiring additional hardware & software