Thunderbolt NTP TS200

NTP Network Time Server for high reliability applications

Thunderbolt NTP TS200 Time Server

The Trimble Thunderbolt® NTP TS200 Time Server is designed for demanding applications that require high accuracy NTP time stamping. The TS200 supports synchronization of thousands of workstations, routers, switches and other network elements for logging and security forensics. VOIP IPBX systems also require very accurate NTP timestamps to ensure CDR events are correctly registered and reported.

The Thunderbolt NTP TS200 supports multiple constellations GNSS, which enables tracking of GPS, GLONASS, and Beidou satellites enhancing redundancy and satellite availability.

Industrial applications

Automation systems and industrial environments that use SCADA or other network monitoring, measurement and control systems require high precision NTP reference to ensure reliable and accurate operations.

The NTP TS200 is optimized to deliver extremely stable and accurate time of day (TOD) synchronization for a variety of time sensitive applications such as datacenters, SCADA systems and PMU synchronization.

Ideal for demanding environments

The Thunderbolt NTP TS200 leverages Trimble's decades of experience in GNSS systems with millions of timing devices integrated into telecommunications, digital broadcasting, computer networks and other industrial applications.

The NTP TS200 Time Server offers extended operating temperature ranges to ensure suitability for use in demanding environments.

The NTP TS200 supports a large number of clients making it suitable for medium and large scale deployment. The low cost per client of the TS200 helps reduce the total cost of deployment while maintaining superior reliability

Integration and Installation

The Trimble Thunderbolt NTP TS200 Clock offers AC and DC power options for easy deployment in all types of network environments.

Matching the NTP TS200 with Trimble rugged antennas such as the Trimble Bullet™ 360 provides reliable reference acquisition in challenging RF signal environments.

Bullet 360 rugged antennas provide multi-GNSS capabilities so that critical applications can obtain high precision timing signals with the best reliability in the industry.

Key Features

- NTP v4 Time Server
- Supports 2.5K transaction/second
- Multi-Constellation
  (GPS, GLONASS, Beidou & Galileo)
- 15ns time accuracy (GPS locked)
- Holdover of ±1.5us over 4hours
  (constant temperature and when locked to GPS for 7 days)
- IPv4 and IPv6 Support
- Dedicated management port
  (1xRJ45)
- Network Management: SNMP, Web UI, CLI

Benefits

- Extended environmental capabilities allow for installation in difficult industrial environments where other NTP servers cannot be deployed
- Dual power input provides power redundancy
- Superior holdover performance via Trimble proprietary algorithm gives extra time error budget for network design and dimensioning.
- Low cost helps reduce total cost of NTP deployment
- Small form factor allows for easy installation
- Side by side capabilities facilitate redundancy implementation

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GENERAL SPECIFIATIONS

Inputs:……………GNSS (GPS, GLONASS, Galileo & Beidou)
Outputs:……………………………………NTP, PPS, 10MHz
Ethernet Ports: 1x Mgmt RJ45
1x 1G SFP
1x 1G RJ45
GNSS Antenna ………………………………………………….…SMA

Protocols:
NTP, SNTP, IPv4, IPv6, Telnet, SFTP, SSH, RADIUS,
TACACS+, SNMP, DAYTIME, TIME
Network Management…………………...SNMPv2, HTTPS, CLI

User Interfaces:
CLI…………………………………Monitoring and Management
Web UI………………………...Monitoring and Management

PERFORMANCE

Time of day accuracy……………15ns (1-sigma) from UTC
Frequency accuracy………………1.16×10^{-12} (one day ave.)
   Holdover……………………………………$<1 \times 10^{-10}$ /24hrs

Time accuracy
   Tracking to PRC………………………………<15ns (locked)
   Holdover…………………< ±1.5µs/4hrs (7 days locked)

NTPv4 Stratum-1 server configuration……….2500 tps
Surveyed accuracy………<3m Horizontal, <5m Vertical

PHYSICAL CHARACTERISTICS

Dimensions in cm (L x W x H):…………………20.8 x 20 x 4.4
(19" half-rack x 1U)
Weight……………………………………………………< 3Kg (6 lb)

POWER

DC Power, dual feed……………………..-36VDC to -72VDC
AC Power………………………110V / 220 V (adapter incl.)
Current consumption…………………….....330mA (max)
Power consumption…….5W average, 10W maximum

REGULATORY & STANDARDS

Operating Conditions
   Temperature………………………………….-40°C to +85°C
   Humidity…………5%-95% RH non-condensing (+60°C)

Storage Temperature……………………….-55°C to +105°C

Safety & Environmental:
   UL / CSA 60950-1
   EN: 60950-1, 300019
   CE, CISPR22 class A
   GR-63; Level 3
   ETSI (EN55022/EN55024) EN 300019, Class T3.2

Electrical……………….EMC, ESD Immunity & susceptibility
   FCC Part 15 Class B / ICES 003 Class-B
   Korea KN32 / KN35 Class A
   EN……..301 489-1, EN 301 489-19 EN 303 413
   IEEE………………………………………………………1613-1
   Telcordia…………………………………………….GR-1089

Synchronization
   IETF………………………………………………………….NTPv4

Product Compliant with following directive:
   2014/53/EU (RED Directive)
   2011/65/EU (RoHS2 Directive)
   2012/19/EU (WEEE Directive)

Visit www.trimble.com/timing for part numbers and information about where to buy.

Parts of the product are patent protected.

Trimble has relied on representations made by its suppliers in certifying this product as RoHS-II compliant.

Specifications are subject to change without notice.

Trimble Inc. is not responsible for the operation or failure of operation of GNSS satellites or the availability of GNSS satellite signal.

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