



NTP Network Time Server for high reliability applications

Thunderbolt NTP TS200

Thunderbolt NTP TS200 Time Server

The Protempis 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 GNSS receiver supports multiple constellations, 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 data centers, SCADA systems and PMU synchronization.

Ideal for Demanding Environments

The Thunderbolt NTP TS200 leverages Protempis' 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 & Installation

The Protempis Thunderbolt NTP TS200 Clock offers AC and DC power options for easy deployment in all types of network environments. Matching the NTP TS200 with Protempis rugged antennas such as the Protempis 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
- Holdover <math><1 \times 10^{-10}</math> /24hrs
- Supports 2.5K transaction/second
- Multi-Constellation (GPS, GLONASS, Beidou & Galileo)
- Accurate NTP timestamps
- IPv4 and IPv6 Support
- VLAN support
- Dedicated management port (1xRJ45)
- Electrical and Optical (100/1000 Base-T, 1000 Base SX, 1000 Base LX)
- Supports Optical Fiber
- Network Management: SNMP, Web UI, CLI
- Rack Mountable
- Industrial Temperature -40°C to +85°C

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General Specification

Inputs:GNSS (GPS, GLONASS, Galileo & Beidou)
Outputs:NTP, PPS, 10MHz

Ethernet Ports:

- 1x Mgmt. 10/100/1000 Base T RJ45
- 1x 1G 100/1000 Base T, 1000 Base SX, 1000 Base LX SFP
- 1x 1G 10/100/1000 Base T RJ45

Serial Management9-Pin Comm EIA-232
GNSS AntennaSMA

Protocols:

- NTP, SNTP, IPv4, IPv6, Telnet, SFTP, SSH, RADIUS, TACACS+, SNMP, DAYTIME, TIME, NEMA TOD
- Network ManagementSNMPv2/v3, HTTPS, CLI

User Interfaces:

- CLIMonitoring and Management
- Web UIMonitoring and Management

Performance

Time of day accuracy15ns (1-sigma) from UTC
Frequency accuracy 1.16×10^{-12} (one day aver.)
Holdover $< 1 \times 10^{-10}$ /24hrs

Time accuracy

NTPv4 Stratum-1 server configuration2500 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 lbs.)

Power

DC Power, dual feed-36VDC to -72VDC
AC Power110V / 220 V (adapter incl.)
Current consumption330mA (max)
Power consumption5W 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 EN 62368-1
- CE, CISPR32 Class A
- GR-63; Level 3
- ETSI (EN55032/EN55024) EN 300019, Class T3.2
- ElectricalEMC, 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
- IEEE613-1
- TelcordiaGR-1089
- IEC:60950-1

Synchronization

IETFNTPv4 (RFC5905)

Product Compliant with the following directive:

- 2014/53/EU (RED Directive)
- 2011/65/EU (RoHS2 Directive)
- 2012/19/EU (WEEE Directive)

Please go to www.protempis.com for the latest documentation and tools, part numbers and ordering information.

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