

ELTS100

High Gain GPS/GLONASS Antenna with embedded NTP Server

Most of the processes that occur at every moment within an IP data network are strongly influenced by the accuracy of data packet time stamping. Having an accurate, reliable and always available synchronization is a key aspect in determining the order in which events occur. The most widely accepted method for maintaining an accurate time reference in a local area network is the use of **NTP** (Network Time Protocol), or its simplified version, **SNTP**.

The **ELTS100** is a smart and innovative NTP Server, specifically designed to provide simple, effective, accurate and economic synchronization from small local networks to large distributed infrastructures and is the first NTP Server ever built to be fully integrated in the GPS/GLONASS antenna's body.

The Stratum 1 level is obtained by deriving the time directly from the atomic clocks aboard the GPS and GLONASS satellites.

The GPS/GLONASS constellation receiver provides the primary reference

and keeps track of every satellite in view, ensuring high accuracy and reliability of service. In the event of temporary loss of the satellite reference, the system automatically disables the NTP service (squench) until the reference becomes available again.

The extremely compact form factor and the PoE (Power over Ethernet) supply, combined with unprecedented ease of installation, make this system an ideal solution for all types of applications requiring high scalability in highly distributed environments.

The management and control of the system is completely performed via an intuitive web interface from any remote point in the network, without having to install any additional software.

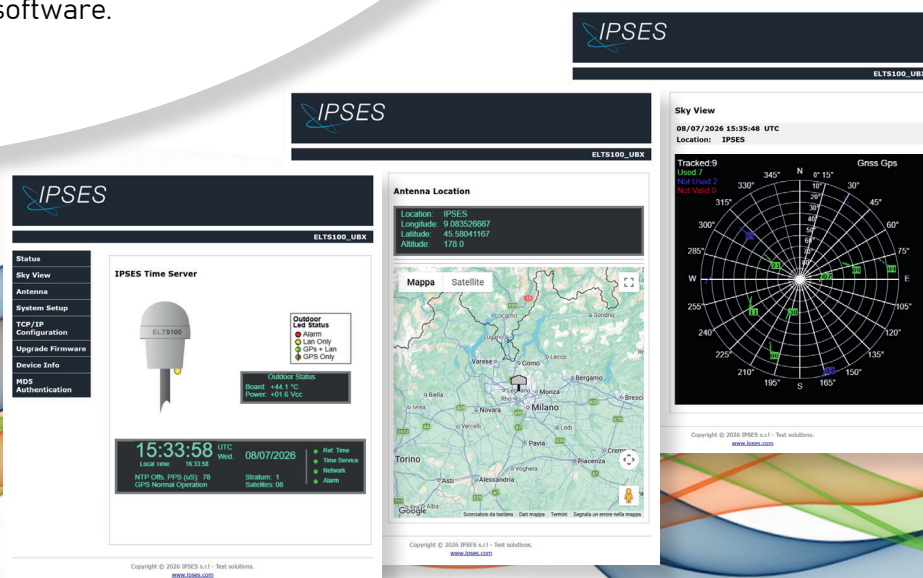


Key Features

- Stratum 1 operation via GPS/GLONASS satellites
- Secure web-based management
- SSH, SSL, SCP, SNMP v3, custom MIB, HTTPS
- Connection via standard UTP Ethernet Cable, up to 100m
- Nanosecond time accuracy to UTC
- Single satellite timing
- Status Info LED showing: reference time, time service, network and alarm status

Fields of applications

- Enterprise networks
- Industrial automation
- Remote systems, marine, offshore, renewable energy plants
- Laboratories and test benches
- Retail, logistics, passenger transport



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Physical

Installation	Outdoor mounting
Operating temperature	-40 °C ~ +80 °C
Relative humidity	95%
Height antenna+mast	360 mm
Diameter Antenna+ mounting base	86 mm
Total weight Antenna + mast + mounting base	830 g
Mast diameter vert. or horiz	30 mm ~ 38 mm
Output connector	8 poles IP67 circular
Supply voltage	PoE or 9-30 Vdc
Current absorption	20 mA max

Network Protocol

NTP (v2 - RFC1119, v3 - RFC1305, v4 - RFC5905)
SNTP Simple Network Time Protocol (RFC4330)
SNMPv3 (RFC3584)
Custom MIB
IPv4
MD5 Authentication (RFC1321)

Receiver/Antenna

GPS: L1C (1575.42 MHz) - GLONASS: L1OF (1602 MHz)
Minimum number of satellites for time accuracy: 1 (intermittently)
Accuracy <50 ns RMS to UTC, > 3 satellites tracked (typical)

NTP Server Performance

Stratum 1: 3000 NTP requests per second while maintaining an overall time stamp accuracy of 100 µsec to UTC
RJ-45 Network connection 10/100 Mbit/s

Use Practices

Accurate Synchronization is directly related to how often the time clients update their time from the time server
It is advisable to configure time to clients reference at least two time servers
Peering between time servers assures timing continuity to clients in case the GPS reference is not available

Product Code

ELTS100-PoE	Power supply via PoE
ELTS100-DC	External power supply 9-30Vdc

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