- HARDWARE TIME STAMPING
- NTP SERVER STRATUM-1
- PTP IEEE1588 GRANDMASTER
- GNSS anti-jamming/spoofing
- Reference time from GNSS
- GNSS Reacquisition < 1s
- GNSS Hot Start (TTFF) < 5s
- GNSS Warm Start (TTFF) <25s
- GNSS Cold Start (TTFF) <35s

- TCXO based holdover
- Holdover 1 hour* < 4ms
- Holdover 24 hour* < 100ms
- Linux & TCP/IP (IPv4/IPv6*)
- 100/10Mbps Ethernet LAN
- 1PPS precision time support
- NTP authentication
- MD5, RSA, DSA, SSL security
- HTTP, HTTPS, TELNET*, SSH
- SYSLOG
- RS232/485/USB interface
- 30m (38dB) antenna included
- PTP/NTP clock retrieving with
- PPS & ToD output generation

NTS-PICO3

NTP/IEEE 1588 Miniature Time Server

NTS-PICO3 is 3rd generation PICO miniature time server from Elproma.
It delivers UTC or PTP (TAI) ref. time directly to the network using NTP and PTP IEEE1588:2008. The standard version of product includes hardware time stamping of 1PPS and IEEE1588v2 packets. Hardware stamping is also possible for RTC* and NTP-PTP cross-timestamp*.

The **NTS-PICO3** is equipped with single 100/10Mbps Ethernet port supporting both IPv4 and IPv6*. The server has been designed for small industrial applications, incl. the automotive. It has passive cooling and it can operate 24/7 in harsh environmental conditions.

NTS-PICO3 is powered at 9-30 VDC. The product at arrival is equipped with a 38dB GNSS antenna and 30m coax cable SMA ended.

A built-in GNSS satellite receiver incl. TCXO oscillator for a short-time holdover.
The server supports simultaneously GPS and GALILEO or GLONASS, QZSS/BE-IDOU* L1*.

GNSS Synchronization and SBAS support

- GPS L1 w/ AGPS (1575,42MHz)
- GLONASS L1 (1598,06-1605,38MHz)
- GALILEO E1 (1575,42MHz)
- BEIDOU* L1 (1561,09-1575,42MHz)
- EGNOS
- WAAS
- GAGAN

Supported Time Protocols

- NTP v2, v3, v4 (RFC1305, RFC1119, RFC5905, RFC5906, RFC5907, RFC1769)
- PTP v2 IEEE1588-2008 (PTPv2), gPTP (802.1AS), SNTP (RFC2030)
- TSA* a Time Stamping gateway for link with Elproma NTS-TSA-RFC3161 product
- Note! Unit supports all* NTP/PTP modes incl. Unicast, Broadcast and Multicast.

I/O

- 1x LAN Ethernet 10/100 Base-T (RJ45)
- 1x SMA GNSS antenna
- 1x SMA 1PPS* output
- 1x RJ45 RS232C
- 1x RJ45 1PPS* input
- 1x Micro-USB 2.0

Hardware

- Heavy Duty Industrial Solution (metal housing)
- MTBF 50000hrs

Remote configuration

- HTTP • HTTPS • SSH • TELNET* • NTPQ/NTPDC
- SNMP* • ZABBIX*

MultiSAT GNSS receiver & antenna:

- 32-channel (acquisition: -143dBm; reacquisition: -160dBm; tracking: -160dBm)
- GNSS active marine antenna, w/ 38dB amplifier and 30m H155 coax cable (SMA ended)
- Receiver accuracy RMS is better than 15 ns (nanoseconds)

Accuracy (better than)

- GNSS Multi-SAT receiver to UTC (RMS): 15 [ns] (nanoseconds)
- NTP client via public Internet: 100 [ms] (miliseconds)
- NTP client at LAN: 500 [µs] (microseconds)
- PTP hardware timestamping at LAN: 200 [ns] (nanoseconds)
- NTP-PTP software* cross-timestamping: 1.5 [µs] (typ. <1 microseconds)
- OSC holdover* (1 hour): 4 [ms] (miliseconds)
- OSC holdover* (24 hours): 100 [ms] (miliseconds)

Mechanical/environmental

- Size: 83 x 54 x 26mm
- Weight netto NTS-pico3 (only): 0.3kg
- Weight netto GNSS Antenna w/ 30m cable: 2.3kg
- Weight brutto BOX (NTS-pico3 & Antenna): 3.0kg
- Power: 9-30VDC (backup lithium* battery: 3V 620mAh)
- Operating temperature: -20oC to +70oC
- Storage temperature: -40oC to +85oC
- Humidity: up to 95% (non-condensing),
- conformal coating option*
- MTBF 50000hrs

*option

Suitable for: • Industry 4.0 • Autonomous Vehicles • Smart-city • Smart grid • Process Automation • Robots