

NTS-pico3

NTP/IEEE 1588 Miniature Time Server



- HARDWARE* PTP STAMPING
- TIME SERVER NTP STRATUM-1
- GRANDMASTER PTP IEEE1588
- GNSS reference UTC time
- <1s GNSS Reacquisition
- <3s GNSS Hot Start (TTFF)
- <25s GNSS Warm Start (TTFF)
- <25s GNSS Cold Start (TTFF)
- TCXO holdover for GNSS-less
- 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, SNMP (MIB-2)
- RS232/485/USB interface
- 30m (38dB) antenna included
- Works with any CLIENT soft:
NTP (ntpd, ntpsec, xntpd)
PTP, SNTP, CHRONY



NTS-pico3 is 3rd generation PICO miniature time server from Elproma. It delivers UTC ref. time directly to network using NTP and PTP protocols. Standard version of product includes software time stamping, but a hardware* stamping is available on request seriously improving accuracy of synchronization. It is equipped with single 100 Mbps Ethernet port working with IPv4/IPv6*. Server has been designed for small industrial networks, it has natural air cooling and it can operate 24/7. It is powered 9–30 VDC. NTS-pico3 time server supports cryptographic authentication for NTP operations.

NTS-pico3 is equipped with 38dB gained GNSS antenna and 30 meter coax cable SMA ended. Surge arrestor shall be purchased separately and it is not included. A build-in satellite receiver includes TCXO oscillator for time holdover GNSS-less operations. Server is supporting simultaneously GPS/GLONASS and it is GALILEO*/BEIDOU* ready. Server has ultra fast Time To First Fix (TTFF) start-up supported by SBAS systems.

SBAS Support

- EGNOS
- WAAS
- GAGAN

GNSS Synchronization

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

Supported Time Protocols

- NTP v2, v3, v4 (RFC1305, RFC1119, RFC5905, RFC5906, RFC5907, RFC1769)
- PTP v2 IEEE1588–2008 (PTPv2), SNTP (RFC2030)
- TSA* RFC3161 (Time Stamping), Daytime RFC867*, Time Protocol (RFC868*)

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

- SNMP • MIB 2 • RADIUS • HTTP • HTTPS • SSH • TELNET* • NTPQ/NTPDC

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] (milliseconds)
- NTP client at LAN: 500 [µs] (microseconds)
- PTP software timestamping at LAN: 800 [µs] (microseconds)
- PTP hardware* timestamping at LAN: 200 [ns] (nanoseconds)
- OSC holdover* (1 hour): 4 [ms] (milliseconds)
- OSC holdover* (24 hours): 100 [ms] (milliseconds)

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: –20°C to +70°C
- Storage temperature: –40°C to +85°C
- Humidity: up to 95%

38dB GNSS antenna w/ 30m coax



Manufactured in EU (Poland) under ISO 9001

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ELPROMA

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Made in EU

* extra feature requiring additional hardware and/or software firmware upgrade

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