

# NTS-pico3

## NTP/IEEE 1588 Miniature Time Server

- HARDWARE\* TIME STAMPING
- NTP SERVER STRATUM-1
- PTP IEEE1588 GRANDMASTER
- Reference time from GNSS
- GNSS Reacquisition < 1s
- GNSS Hot Start (TTFF) < 3s
- GNSS Warm Start (TTFF) < 25s
- GNSS Cold Start (TTFF) < 25s
- TCXO holdover
- Holdover 1 hour\* < 4ms
- Holdover 24 hour\* < 100ms
- Linux & TCP/IP (IPv4/IPv6\*)
- 100/10Mbps Ethernet LAN
- 1 PPS 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
- Suitable for Industry 4.0, Autonomous Vehicles, Process Automation Smart-City



 **ELPROMA**  
www.elpromatime.com



1) NTS-pico3 (DIN-rail mount)



2) Accessories - Antenna 38db (30m)



3) Accessories - GPS Signal Splitter 1 to 6



4) Accessories - GPS Surge Arrester



5) Accessories - Rack 19" panel Available for 1-6 NTS-pico3

**Standard Product includes:**

- 1) NTS-pico3 NTP/PTP Time-Server w/ 100-250VAC Power Adapter
- 2) Accessories - Antenna 38db gain w/ 30m coax cable

**Extra Accessory Options:**

- 3) Signal Splitter GPS 1 to 6
- 4) Surge/Overvoltage arrester for ANT
- 5) Rack"19 panel (1U) for multiple NTS-pico

**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 hardware stamping is available too. It seriously improving accuracy of synchronization. NTS-pico3 is equipped with single 100Mbps. It supports both IPv4 and IPv6\*. The Server has been designed for small industrial LAN. It has natural air cooling and it can operate 24/7 in taught environmental conditions. It is powered 9-30 VDC. The NTS-pico3 time server supports crypto-authentication for NTP operations. Product at arrival is equipped with 38dB GNSS antenna and 30 meter coax cable SMA ended. Surge arrestor shall be purchased separately. A built-in GNSS satellite receiver includes TCXO oscillator for a short-time holdover. Server supports simultaneously GPS and GLONASS or GALILEO\* or BEIDOU\*. NTS-pico3 has ultra fast Time To First Fix (TTFF) start-up supported by SBAS systems. Multiple pico can be mounted in rack"19 cabinet acting multiple-LAN time server (1U).

**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), 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**

- 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%
- MTBF 50000hrs

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Manufactured in EU, Madie in Poland under CE and ISO 9001



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