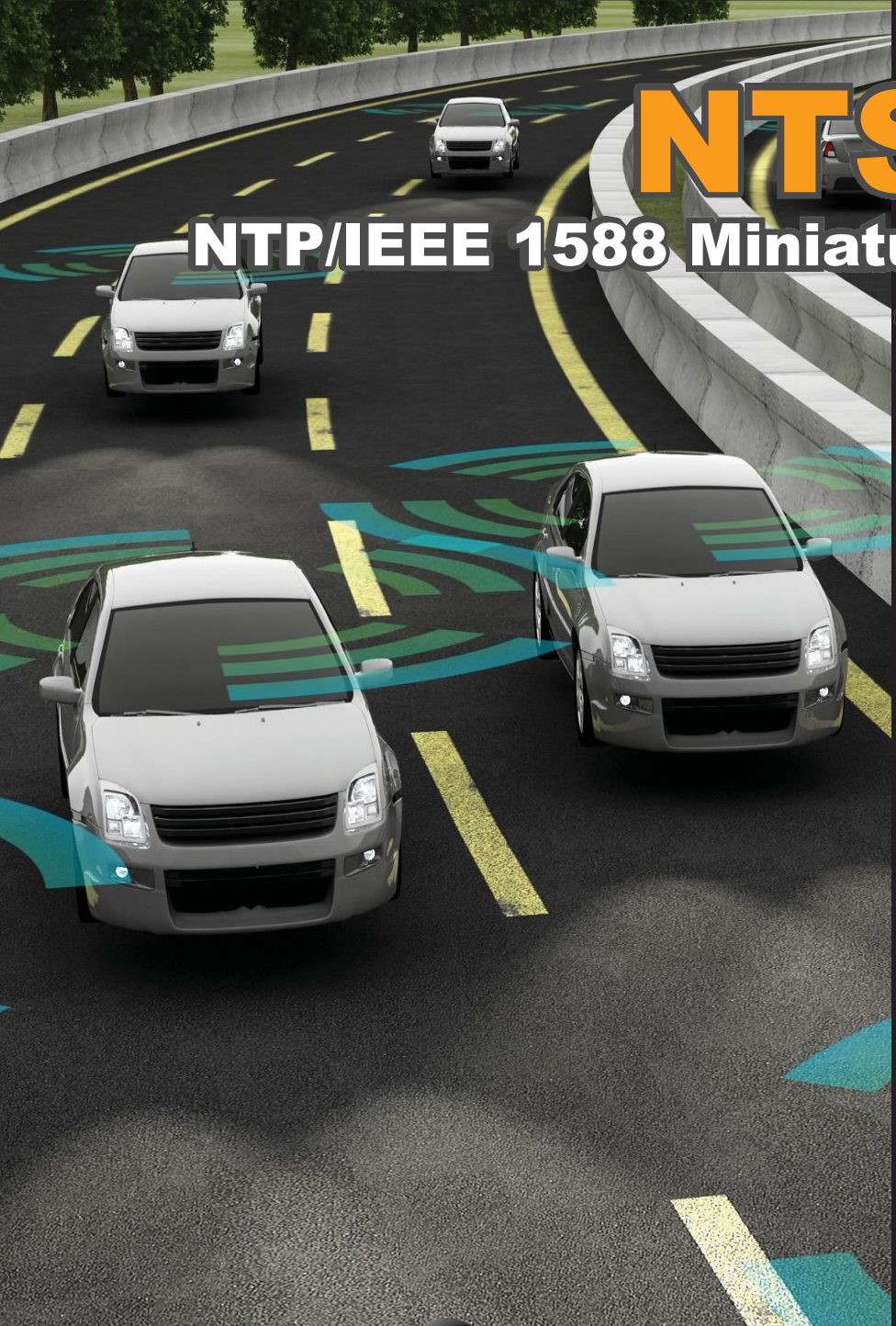
NTS-pico3

NTP/IEEE 1588 Miniature Time Server



- 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**

New Slave

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

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www.elpromatime.com

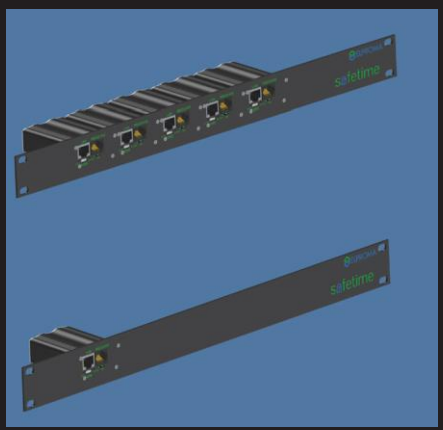
* extra feature requiring additional hardware and/or software firmware upgrade

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 - Antena 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-pico3

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*. It seriously improves accuracy of synchronization. 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. The device is powered at 9-30 VDC. The NTS-pico3 supports crypto-authentication for NTP operations*. The product at arrival is equipped with a 38dB GNSS antenna and 30m coax cable SMA ended. Surge arrester shall be purchased separately. A built-in GNSS satellite receiver incl. TCXO oscillator for a short-time holdover. The server supports simultaneously GPS and GALILEO or GLONASS, QZSS/BEIDOU* L1*. Server advantage is ultra-fast Time To First Fix (TTFF) start-up supported by SBAS systems. Multiple NTS-pico3 can be mounted in a rack 19" cabinet acting as multiple-LAN 1U server.

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

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

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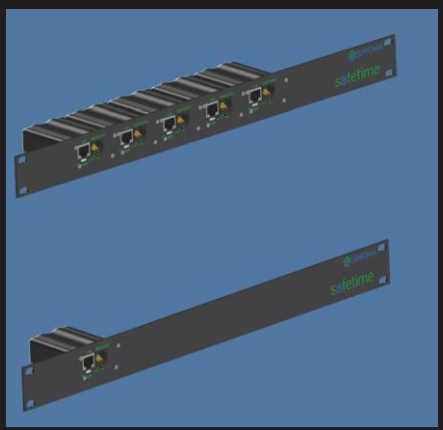
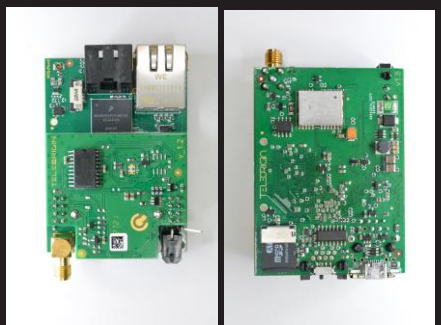


5) Optional rack 19" panel



Also available in an embedded version

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