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NTS-pico

NTP/IEEE 1588 Miniature Time Server

- NTP SERVER STRATUM 1
- PTP IEEE1588 GRANDMASTER
- GNSS ref. UTC or TAI* time
- Software TimeStamps
- Supports L2 & L4 layers*
- 1s   GNSS* Hot Start (TTFF)
- 25s GNSS* Warm Start (TTFF)
- 30s GNSS* Cold Start (TTFF)
- Holdover*   1 hour < 4ms
- Holdover* 24 hour < 100ms
- Linux Inside, IPv4 (IPv6 ready)
- 100/10Mbps Ethernet LAN
- 1PPS* precision time support
- NTP authentication
- MD5, RSA, DSA, SSL security
- HTTP, HTTPS, TELNET, SSH
- SYSLOG, SNMP
- Built-in GSM modem*
- RS232/485/USB interface
- 30m (38dB) antenna included
- Works w/any CLIENT software PTP, NTP (ntpd/chrony), SNTP

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

Time Server NTS-pico delivers time directly to network using NTP and PTP protocols. It is equipped with single 100/10Mbps Ethernet port working with IPv4 (IPv6 ready). It basis on Linux. Unit is very small and natural air cooling. It has been designed for small industrial networks and it can operate 24/7. It is powered in range 9 - 30VDC.

The NTS-pico is ready to use server. It is equipped with GNSS antenna and 30 meter coax cable (SMA ended). Marine antenna has built-in GPS signal amplifier and TCXO holdover oscillator* for GNSS less operations. Server has multi-satellites receiver simultaneously supporting: GPS, GLONASS. It is GALIELO*, BEIDOU* ready. Server has very fast, less than 0.5ms +/- 1ppm, Time To First Fix TTFF* synchronization startup. The receiver accuracy is better than 15ns (at 2 sigma).

Optionally NTS-pico is equipped with GSM modem for synchronization monitoring, remote configuration, firmware upgrade/downgrade support and alarm/event LOG transfer. Server supports cryptographic authentication.

Holdover mode ensure synchronization accuracy to be better than 4ms in first hour. After 24h the max. holdover error is not bigger than 100ms on server output.

Synchronization

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

(all above with 0.5ms Time To First Fix startup +/- 1 ppm)

Supported Time Protocols

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

  Unit supports all NTP/PTP modes incl. Unicast, Broadcast and Multicast

I/O

- 1x LAN Ethernet 10/100 Base-T (RJ45) • 1x RS232C (RJ45)
- 1x SMA GNSS for antenna 1x 1PPS IN (RJ45)*
- 1x SMA GSM* for antenna 1x USB 2.0 (micro-USB)

Hardware

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

Remote configuration

- SNMP MIB 2 • GSM • RADIUS • HTTP HTTPS SSH TELNET NTPQ/NTPDC IEC*61850 (networking)

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

- GNSS MultisSAT receiver to UTC better than: 15 [ns] (nanosecond)
- NTP client via Public Internet better than: 100 [ms] (milisecond)
- NTP client at local LAN typically better than: 500 [µs] (microseond)
- PTP (software stamping) better than: 800 [µs] (microseond)
- OSC* holdover (1 hour) better than: 4 [ms] (miliseconds)
- OSC* holdover (24 hours) better than: 100 [ms] (miliseconds)

Mechanical/environmental

- Size : 80 x 60 x 34 mm Weight netto: 0.3kg Weight brutto: 0.5kg
- Power: 9-30VDC . Backup* lithium battery: 3V 620mAh (included*)
- Operating temperature: -20 °C to +45 °C (special version supports up +55 °C)
- Storage temperature : -40 °C to +80 °C
- Humidity : up to 95%

38dB Gain Antenna w/ 30m coax incl.

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