6 PORT NTP AND PTP TIME SERVER

NTS 03-E
NETWORK TIME SERVER

The NTS 03-E is a secure, accurate and reliable 6-port NTP Time Server for synchronizing control and SCADA networks. In addition to electrical isolation and robustness, new features such as remote configuration, added security, support for Ethernet networking, and optional PTP support, make the NTS 03-E ideal for use in power plants and substation environments.

SUPPORTS

- DC IRIG-B (Un-modulated, DCLS - C37.118, C37.118.1)
- NTP/ SNTP (IEC 61850)
- PTP (Supports Power Profile - C37.238, and Telecom Slave Profile ITU G. 8265.1)
- SNMP v1, v2c & v3

KEY FEATURES

- Redundant power supply
- 3 or 6 NTP/SNTP ports with copper or fiber Ethernet options
- UTC and LST with user defined DST
- PTP (IEEE 1588v2) Master/ Slave function
- Remote configuration
- Configuration encryption and security
- Enhanced security and encryption that exceeds NERC CIP requirements
- Remote firmware upgrades

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DIMENSIONS

(W) 430 mm x (D) 270 mm x (H) 45 mm, 2.0 kg
1U 19" rack mount
IP40 (Ingress Protection rating)

FRONT PANEL

2-line x 16 character FSTN LCD display
2 LEDs indicating multiple statuses, including:
- Sync Status
- Antenna cable fault
- Satellite acquisition mode
- Display mode button
- USB configuration port (Type B)

GPS RECEIVER

L1, C/A code, 14 Channel Parallel-tracking receiver
Frequency: 1575.42 Mhz
Sensitivity:
Acquisition   -142 dBm
Tracking   -160 dBm

OSCILLATOR - TCXO

Holdover characteristics operating at 25 degrees C;
- TCXO 1PPS drifts 0.55 ms over a 24 hour period.
- Drift rate: 7 ppb per second

INPUTS AND OUTPUTS

3 or 6 x RJ45 10/100 Ethernet UTP connectors
(ST multi-mode fiber Ethernet available on Eth2
& Eth6)
Timing accuracy: <100 ns to UTC (NTP/SNTP + PTP)

Protocols Supported:
General
DHCP auto-configuration with fallback to ARP
tested link-local address
VLAN packet tagging

NTP
Stratum-1 NTP & SNTP time server
Multicast & Broadcast server capability
Optional MD5 authentication

PTP (IEEE 1588v2)
One or Two Step operation
End to End or Peer to Peer delay calculations
Layer 2 (Ethernet) or Layer 3 (UDP) transport
Slave only mode
Default Profile support
Power Profile support (C37.238)
Telecom Profile support (Slave only - ITU G. 8265.1)
C37.238 TLV supported
Alternate Time Offset TLV supported with
automatic or manual offset
C37.238 SNMP MIB supported

SNMP
v1, v2c & v3 support can be independently enabled
Configurable v1, v2c community names &
security groups
Fully configurable via SNMP
v3 User-based Security Module (USM) support
USM authentication methods: MD5, SHA
USM privacy methods: DES, AES
USM MIB support

Notifications
SNMP trap generation v1, v2c & v3
SNMPv3 traps can be authenticated & privatised
via USM Syslog (RFC-3164 & 5424 verities)

Plus:
1 x ESD protected, RS422 (-7 V to +12 V common
mode range) IRIG-B input, 1/8th unit load.
RS422 IRIG-B Input: 1/8 unit load (150 k Ohm)
                           Built in 120 Ohm terminator
                           ESD protection
                           IEC61000-4-2

Plus:
1 x ESD protected, RS422 +-3.3 V IRIG-B output,
50 unit loads
Timing accuracy: <100 ns to UTC
RS422 IRIG-B Output: Open circuit: ±3.3 V
                           Loaded: ±1 V @ 80 mA
                           ESD protection
                           IEC61000-4-2

Plus:
4 x Configurable Relay Outputs, NO contacts.
Relay outputs: 4 x Normally Open
                           Solid State
                           Relays
                           ESD protection ITU K.20/21
                           Contact rating: 275 Vdc,
                           100 mA
                           Contact protection:
                           275 Vdc,
                           0.5 A (fused)

Copper back panel

ENVIRONMENT AND ELECTRICAL

Power supply*:	L = 14 - 36 Vdc (2 pin)
	M = 20 - 75 Vdc (2 pin)
	H = 90 - 300 Vdc (2 pin)
	I = 85 - 265 Vac (IEC 320 inlet)

*Redundant power supply available

Power Rating:	3 W max. for 3 UTP port option
	6 W max. for 6 UTP port option
Operating Temperature:	-10°C to +65°C
Humidity:	10 to 95% RH (non condensing)

OPTIONAL ACCESSORIES

Physical
- GNSS antenna
- Antenna cable
- Adjustable antenna mount
- Lightning protection kit

Refer to tekron.com for full techinical specifications.

CONFIGURATION SOFTWARE

Windows based configuration software is available for download on the Tekron website.
Remote configuration over Ethernet includes the following user adjustable features:
- Multi-level access control
- Privacy & authentication methods equivalent to SNMP USM
- "Supervisor-mode" prevents non-approved changes
- Test mode
- Commissioning tool

Timing & Synchronization
Worldwide daylight savings and local time configuration using either rule based or fixed date methods. Options that allow equipment checks prior to full installation and adjustable hold-over times to increase reliability in the case of poor GPS coverage. Adjustments to compensate for installation parameters such as delay of GPS signal through antenna cable.

ABOUT TEKRON

Tekron is a leading developer of accurate GPS/GLONASS clocks and time synchronisation solutions for use in industrial applications.

WORLD WIDE WARRANTY
10 YEARS

CONTACT US

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Note:
The quickest and most effective method to request a quote is through the online quote request form on the Tekron website.

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because timing is everything