



3-PORT NTP TIME SERVER

NTS 02-E NETWORK TIME SERVER

The NTS 02-E is a secure, accurate and reliable 3-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, and support for Ethernet networking, make the NTS 02-E ideal for use in power plants and substation environments.

KEY FEATURES

- Isolated power supply
- 3 NTP/SNTP ports with copper or fiber Ethernet options
- UTC and LST with user defined DST
- Remote configuration over Ethernet
- Configuration encryption and security
- Enhanced security and encryption that exceeds NERC CIP requirements
- Remote firmware upgrades

SUPPORTS

- DC IRIG-B (Un-modulated, DCLS - C37.118, C37.118.1)
- NTP/ SNTP (IEC 61850)
- SNMP v1, v2c & v3

PHYSICAL

(W) 160 mm x (D) 155 mm x (H) 40 mm, 0.8 kg
1U 19" rack mount bracket accessory included
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 x RJ45 10/100 Ethernet UTP connectors
(ST multi-mode fiber Ethernet available on Eth2
& Eth3)
Timing accuracy: <100 ns to UTC (NTP/SNTP)

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

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 of UTC
RS422 IRIG-B Output: Open circuit: ±3.3 V
Loaded: ±1V @ 80 mA
ESD protection
IEC61000-4-2

Plus:

2 x Configurable Relay Outputs, NO contacts.
Relay outputs: 2 x Normally Open,
Solid State Relays
ESD protection ITU K.20/21
Contact rating: 275 Vdc,
100 mA
Contact protection:
275 Vdc,
0.5A (fused)

ENVIRONMENT AND ELECTRICAL

Power supply: L = 14 - 36 Vdc (3 pin)
M = 20 - 75 Vdc (3 pin)
H = 85 - 265 Vac / 90 - 300
Vdc (3 pin)
Power Rating: 3 W max.
Operating Temperature: -10°C to +65°C
Humidity: 10 to 95% RH
(non condensing)

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.

OPTIONAL ACCESSORIES

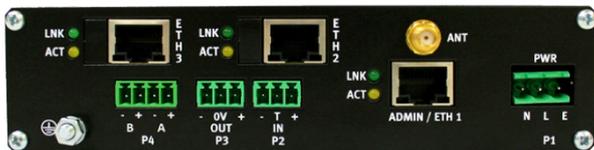
Physical

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

Refer to tekron.com for full technical specifications.



Fiber back panel



Copper back panel

ABOUT TEKRON

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



CONTACT US

Web:
www.tekron.com

Phone No:
+64 4 566 7722

Sales Freephone: (Australia)
1800 608 572

Sales Freephone: (North America)
1800 256 2309

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