

NTP800

Quad-Port Enterprise-Class Network Time Server

The NTP800 provides highly accurate yet economic time distribution over local area networks (LAN) using Network Time Protocol (NTP), the industry-standard means of time distribution over discrete networks.



Features

- Economic quad-port stratum 1 Network Time Server
- Can act as both client and server
- 4x 1GBe combo ports capable of synchronizing up to 4 discrete networks independently.
- 5000 Time requests per second.
- Precision timing circuits ensure stability in event of synchronization signal interruption.
- Multiple holdover oscillator options
- Secure web interface for configuration
- Field upgradable
- Multiple dual redundant power supply options
- 'Reset defaults' button

Input Synchronization Signals

- GNSS, Active or Long Distance Antenna
- 1 PPS with Serial Time of Day
- IRIG-B, AC or DC
- NTP Client
- 10 MHz

Output Signals

- IRIG-B, AC or DC
- 1 PPS
- Serial Time of Day
- 10MHz

** Accuracy subject to Reference Clock and network conditions*

Applications

The NTP800 provides a cost-effective way of providing time from a trusted source, which is critical in many organizations such as airports, railways, financial institutions, telecommunication companies, etc.

Enterprise/Corporate Networks

Any business using devices on a network can benefit from using the NTP800 - not only can it use a selection of highly accurate, trusted time sources, it is easily integrated into internal systems thus eliminating network security issues that arise from using an external time source, such as from the Internet.

Rail

The ability to operate in client mode means that the NTP800 is especially useful as a sub-master clock in rail applications.

Power Utilities

Hardened dual redundant power supplies

Key Benefits:

- Accurate & reliable time data from a trusted source
- Remote configuration and status via web browser, remote monitoring with SNMP
- Synchronization between users - eradicates discrepancies
- System time stamping, such as e-commerce transactions, e-mail sent & received, is highly accurate
- Automatic systems procedures such as backups occur at the correct time and in the correct order
- Additional time signal outputs can feed to other systems
- Multiple time source fall back and priority configuration can ensure high synchronization availability
- Various oscillator choices allow for long holdover to maintain time accuracy when synchronization signals are absent

NTP800 Specifications

Connections

Four combo RJ45/SFP connectors for 10/100/1000 BASE-T networks

GNSS antenna either with 50Ω BNC socket or RJ45

IRIG-B input/output with 50 Ω BNC sockets. Independently supports IRIG-B000 to 0007, or B120 to B127

1PPS input/output (rising edge) with BNC sockets at 5V

10MHz sine wave input/output with BNC sockets at 5V RMS

micro USB-B port for support

Interface Standards

- NTP V3 [RFC 1305], V4 [RFC5905], SNTP V4[RFC 4330]
- SNMP V1[RFC1155/7], V2c[RFC1901/8], V3 [RFC 3411/8]
- Ethernet/ IEEE802.3
- IPv4 [RFC 791], IPv6[RFC2460, 8200]
- ICMP ping [RFC 792]
- SSH [RFC 4250-4254]
- HTTP [RFC 7540]
- DNS [RFC 1034/5]
- FTP [RFC 765]

Configuration and Status

Secure web browser configuration of all Network, Protocol, Input and Output options. Stored in non-volatile memory

“Restore Defaults” button for factory reset

Web browser indicates status and system log

Status available through SNMP9 Digit LED panel displaying Day and Time. Status LEDs to show synchronization status and power

User specific network parameters can be factory-configured upon request

All Ethernet ports available for upgrade of flash code for newer versions or additional options

Physical (stand-alone unit)

Size: 19-inch rack mounting 1U high 200mm deep
 Weight: 10 lbs / 4.5 Kg
 Power: Dual redundant, hot swappable
 AC Power: 90-264VAC 50-60Hz Load 20W (typical) subject to oscillator.
 Connection via 3 pin IEC plug
 DC Power: 18-36VDC
 36-72VDC
 Isolation: 2250VDC Input-Output
 Display: 9 digit display + 6 status LEDs

Environment (Operation & Storage)

Temperature: -5°C to +50°C
 Humidity: up to 95% RH (non-condensing)
 EMC: CE compliant
 Safety: IEC 60950-1, CSA 22-2

Input Synchronization Accuracy (Rb and OCXO Options)

GNSS ±100 ns from UTC
 IRIG-B AC ±500 ns
 IRIG-B DC ±2 us
 PPS with Time of Day ±100 ns
 NTP Client ±50 us from UTC, dependant on network
 10MHz, unit will track input signal

TCXO option – accuracies up to 10 times degraded

Frequency Stability:

| Oscillator | | Stability per °C | Performance while disciplined | | | | | | Holdover accuracy at constant temperature after loss of reference | | |
|------------|-------------|-----------------------|-------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---|------------------------|------------------------|
| | | | Averaging Time | | | | | | Time | Frequency | |
| Option | Description | | 1s | 10s | 100s | 1000s | 10000s | 1 day | 1 day | 1 day | 3 days |
| 01 | TCXO | 1.5x10 ⁻⁸ | 2x10 ⁻⁹ | 5x10 ⁻¹⁰ | 5x10 ⁻¹⁰ | 5x10 ⁻¹⁰ | 6x10 ⁻¹¹ | 1x10 ⁻¹² | <2 ms | <2.0x10 ⁻⁸ | <3.0x10 ⁻⁸ |
| 02 | OCXO | 1.2x10 ⁻¹⁰ | 3x10 ⁻¹⁰ | 3x10 ⁻¹⁰ | 4x10 ⁻¹⁰ | 4x10 ⁻¹⁰ | 5x10 ⁻¹¹ | 1x10 ⁻¹² | <60 μs | <2x10 ⁻⁹ | <4x10 ⁻⁹ |
| 03 | Rubidium | 7x10 ⁻¹² | 3x10 ⁻¹¹ | 8x10 ⁻¹² | 3x10 ⁻¹² | 3x10 ⁻¹² | 2x10 ⁻¹² | 8x10 ⁻¹³ | <1 μs | <1.0x10 ⁻¹¹ | <1.5x10 ⁻¹¹ |

N.B. Option 1 TCXO supplied as standard unless otherwise specified

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