

NTP Time Server Module

Triple Port 10/100/1000 Base-T

For use with Time & Frequency Solutions' M210 and M211 Modular Timing Systems. The NTP Time Server Module from Time & Frequency Solutions provides a proven means of distributing time via Local or Wide Area Networks. Network Time Protocol (NTP) is a method of hierarchical network clock synchronisation and distribution and is widely used in free-standing networks.



Features

- Functionality of a Stratum 1 Server
- Accuracy of better than 1 millisecond over a network
- Distributes time over 2 discrete networks, with option of 3rd via SFP
- Non-volatile system log

Key Benefits

This module, when utilised in a Time System, which is synchronised to a real time source, provides the functionality of a Stratum 1 Server as described in the NTP specification. Suitable real time sources (e.g. GPS, MSF, DCF77, WWVB) are available for inclusion in Time & Frequency Solutions' timing system products.

NTP uses sophisticated algorithms for the transfer of time to an accuracy of better than 1 millisecond over a Network. Many implementations of NTP are available covering most commonly used systems and subsystems.

The addition of the 1000/100/10Base-T NTP Time Server Module also provides the capability to remotely configure and manage the Time System by implementing the Simple Network Management Protocol (SNMP).

This allows configuration and alarm status monitoring using industry standard network management tools like our CMS [please see datasheet].

The module provides a non-volatile system log and installed module information for the whole Time System. These can be accessed through SNMP, TELNET or the module's user serial port.

NTP Time Server Module (Triple Port, 1000Base-T) Specifications

Module Connections

- 2 x RJ45 connections for separate 10/100/1000BASE-T networks.
- An SFP cage socket is also supplied. [NB - SFP module is not supplied as standard].
- An additional RJ45 connection is provided for user configuration

Interface Standards

NTP Version 3 [RFC 1305], NTP v4 [RFC5905] - also SNTP compatible [RFC2030]
SNMP Enterprise MIB (RFC1155, RFC1157, RFC1213)
Daytime Protocol (RFC867), Time Protocol (RFC 868)
HTTP
Ethernet/IEEE802.3
Ipv4 (IPv6-ready)
TCP/UDP/IP
ICMP

Network Configuration

Configuration of network parameters including IP Address, Sub-net Mask, Gateway Address, SNMP Trap Address, and SNMP Read/Write community names via webbrowser or via the front panel keyboard and display.

All such details are stored in non-volatile memory.

User specific network parameters can be factory configured upon request.

NTP Extensions

There are a number of extensions to NTP v3 that the module provides:

Automatic disable - The NTP service can be stopped after a period where there has been loss of sync or an internal error.

Authentication The module supports the optional shared secret key authentication strategy specified in RFC1305.

Broadcast The module can operate as a NTP broadcast server.

Environment (Operation & Storage)

Temperature : 0°C to +40°C

Humidity : Up to 95% RH (non-condensing)

EMC : CE Compliant