

TMS2000

NTP server with GNSS & IRIG-B time source

The TMS2000 is a rackable device that provides a source of good stability time on an Ethernet TCP / IP network. The TMS2000 is a time server that uses Network Time Protocol (NTP) to synchronize all connected computers on the network.

NTP Server

The integrated server is Primary NTP type with the following features:

- Level 1 server, compliant with the configurable NTP v3-v4 protocol
 - Method :
 - o Server mode (question / answer)
- Client computers can be synchronized with an accuracy of 1 to 10 ms. An NTP client software must be installed on each client workstation for synchronization with the server.
- The server has the following interfaces:
- o IEEE802.3 10/100 Mbs network link
 - o UTC Time Synchronous pulse received (MPS).
 - o RS232 serial link for initial equipment configuration

The TMS2000 synchronizes on two independent sources (Time & PPS) :

- o An integrated GNSS receiver.
 - o An IRIG-B input.
- Priority is given to the GNSS source when it is available because of its greater accuracy.

GNSS

The embedded GNSS receiver is a multi-constellation dedicated to time application; it is able to acquire 24 satellites simultaneously. It delivers a top-second of very high precision.

IRIG-B

The received IRIG-B signal is amplitude modulated of 1 KHz carrier signal (code B12x)

Remote Control

Remote monitoring of the equipment is done over the network link using an integrated web server.

Oscillator

The internal oscillator provides better stability than 1.10⁻⁹ when the server is synchronized to available sources.

Configuration

The entire configuration of the equipment is contained in a removable SDCARD type memory to increase the security.



TMS2000 Front Face

Features

NTP/SNTP

(Network Time Protocol):

NTP (RFC 1305) SNTP (RFC 1361) port UDP 123.

Server configuration: V3, V4 or V3/V4 automatic.

TP (Time Protocol)

DAY TIME

Time (RFC 868) using port UDP37

HTTP:

Web pages for remote control

Connectors:

TNC for GNSS input antenna

BNC isolated: IRIG-B input

BNC for 1PPS output

SUB'D 9 pins female for the console serial link

RJ45 for network connection

Network interface:

Ethernet IEEE 802.3. 10/100 Base TX

1 PPS accuracy:

± 100 ns relative to UTC when the equipment is disciplined with GNSS

± 500 ns relative to the beginning of the IRIG-B frame when disciplined with IRIG-B

IRIG-B code:

IRIG-B, signal amplitude modulated 1/3, 1/1 – isolated by transformer

Code inputs are compliant with the "year" information.

Internal reference:

OEXO 10 MHz 1ppm

Long term stability (GNSS disciplined)

< 1.10⁻⁹

Accessories:

To be specifies at time of order regarding the receiver type:

- Antenna GNSS (GPS, GLONASS, GALILEO Ready...)
- lightning arrester

Temperature:

Temperature: -20 ° to 60 ° C

Storage temperature: -20 ° to 70 ° C

Relative Humidity range: 10% to 90% (non-condensing)

Storage Relative Humidity: 5% to 95% (non-condensing)

Dimensions:

Rack 1U, 19", and depth: 350 mm

Weight: 3 kg

MTBF:

100 000 hours

Certification:

CE, ROHS & ITAR Free

Standard Power supply:

Single AC Power Supply

Female CEE 2P+T filter & with On/Off

Voltage: 85-264VAC / 47-440Hz

Consumption STD: < 20W

SNMP

(Simple Network Management Protocol): (RFC 1155, 1157, 1213) V2c

SNMP provides to the network administrator the status of the equipment. For safety reasons, no configuration changes can be made in this way

NMEA Output

Output frames in NMEA standard, GGA and RMC Emission at 4800 baud, 1 time per second to "AUX" DB9

Electrical interface RS232



TMS2000 Rear face for standard model

Ordering code

TMS2000: standard model

TMS2000-OPT2: System with SNMP service

TMS2000-OPT3: System with NMEA outputs in RS232 mode