



# 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**

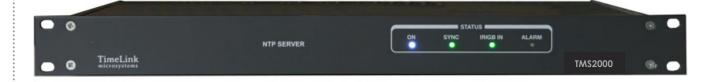
Remote monitoring of the equipment is done over the network link using an integrated web server.

## Oscillator

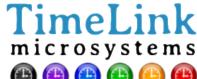
The internal oscillator provides better stability than 1.10-9 when the server is synchronized to available sources.

## 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  $\pm$  500 ns relative to the beginning of the

IRIG-B frame when disciplined with IRIG-B

## IRIG-B code:

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

Code inputs are compliant with the "year" information.

## Internal reference:

OCXO 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-

condensina)

#### **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

