TMS5020

NTP server multiport, 3xRJ45 indépendant outputs

Stratum 1 NTP server

SSH access

SNMP & web server monitoring

PPS accuracy within ±50ns / UTC when disciplined to GNSS.

Synchronization clients within 10 ms (< 2 ms typical)

Unlimited number of clients.

Configuration on SDCARD

10 MHz output

The TMS50200 is rack mount equipment synchronized by an internal GNSS receiver and is able to provide a high stability time source through any Ethernet TCP/IP network using NTP protocol.

NTP Server

The TMS50200 uses NTP standard protocol (Network Time Protocol) allowing any computer or equipment linked to the network to synchronize. Customer's computers can be synchronized with an accuracy of 1 to 10 ms. NTP client software must be installed on each client for its synchronization with the server.

GNSS

The internal GNSS receiver is a specific receiver dedicated to time application. It is able to acquire 24 or more satellites (depending on the type of receiver) simultaneously. It delivers a very high precision second UTC reference pulse.

Remote control

The remote control of the equipment is done via the network, using:

- The SNMP standard protocol (MIB provided)
- The integrated web server

An UDP frame containing the time and status of the equipment is emitted every second.

Oscillator

An internal OCXO type oscillator provides a 10 MHz frequency used to maintain time with a stability of (Δ F/F) $1x10^{-9}$/day in case of loss of external time source. When disciplined the stability is better than $5x10^{-11}$.

Configuration

The entire configuration of the equipment is contained in a removable SDCARD memory for easy system configuration and equipment update. In case of equipment replacement, the current configuration can be simply transferred by plugging the SDCARD in the new equipment minimizing the MTTR.
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TimeLink
microsystems
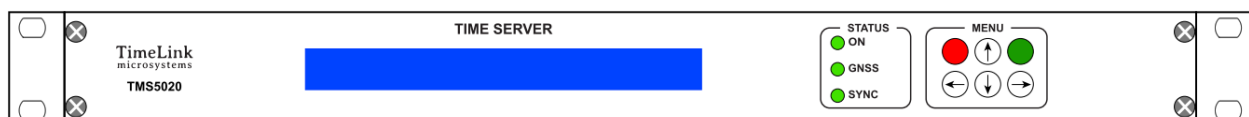
Spécifications

NTP

NTP (RFC 1305) SNTP (RFC 1361) using UDP 123 port
Server configuration V3, V4 or automatic V3/V4
RJ45 connector
Ethernet IEEE 802.3. 10/100 Base TX

SNMP

(Simple Network Management Protocol):
(RFC 1155, 1157, 1213) V2c
SNMP provides to the network administrator the equipment status.
For security reasons no configuration changes can be made with this protocol.

SSH

(Secure Shell Protocol)
SSH allows accessing securely the equipment.
It's especially used to update the internal software of the equipment.

Connectors

TNC antenna input.
BNC 10 MHz output
RJ45 network link.

Network nterface

Ethernet IEEE 802.3. 10/100 Base TX.
Primary LAN (1xRJ45):
 HTTP : TCP port 80 (monitoring)
SNMP v2c (monitoring)
SSH : TCP port 22 (maintenance)
NTP: UDP port 123 - Stratum 1
Secondary LAN (2x RJ45)
DHCP service with Option 230
NTP: UDP port 123 - Stratum 1

1 PPS accuracy

PPS accuracy within ± 100 ns /UTC when disciplined to GNSS.

Internal reference

OCXO type Oscillator, 10 MHz
Long term stability in free running mode:
$<1.10^{-9}$ / day,
$<4.10^{-8}$ / month,
$<3.10^{-7}$ / year
Long term stability in locked mode:
$< 5.10^{-11}$

Phase noise:
1Hz	-90 dBc
10Hz	-110 dBc
100 Hz	-130 dBc
1KHz	-140 dBc
>10KHz	-145 dBc

GNSS Antenna

TNC connector
3V or 5V active antenna powered by receiver

Ordering Code

TMS5020: standard model

Dimensions

Rack 1U, 19''
Poids : 3 kg
Consommation : 30 W

MTBF :

TMS5020   : 100 000 h
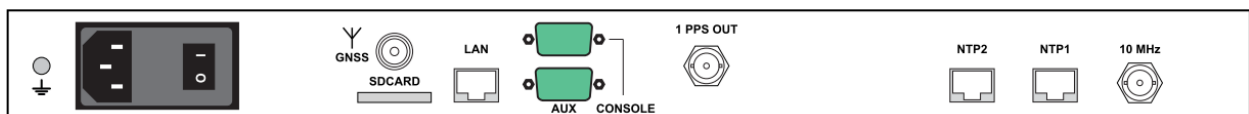
TMS5020 Rear face of the equipment