

Alarm LED Status

The alarm LED on the front panel provides a guide to the status of the appliance:

Red LED, Slow Flash	No GPS/GNSS Lock
Green LED, Slow Flash	Self Survey
Green LED, Slow Flash	GPS/GNSS Lock OK, No NTP Synchronisation
Green LED, Constant	GPS/GNSS Lock OK, NTP Synchronisation OK

Troubleshooting

Browser Cannot Connect to Device:

Check that the host PC's IP address is in the same network segment/domain as the NTP server.

No Signal Lock Obtained:

1. Check the GPS/GNSS status web page – if satellites are visible with a high SNR (>25), leave the device for a longer period to obtain a signal lock.
2. Check the GPS status web page – if antenna open or short is displayed, this will indicate a cable fault.
3. Check antenna position. Check antenna cabling and connectors for visible damage. Check that any surge suppressor is fitted the correct way around.

Signal Lock Obtained, but NTP Clients Cannot Synchronise:

It can take as long as 30 minutes for NTP to synchronise after a signal lock is obtained. Wait for 30 minutes and try again.



CAUTION:

Before installing and configuring any T-Series NTP server appliance, please read the supplied product documentation and safety instructions carefully. Full product documentation can be found on the supplied CD.

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Quick Start Guide

T-Series NTP Servers

Models Covered: **T100, T300, T550**

Default IP Addresses: **Eth0: 192.168.3.222**
Eth1: DHCP Client (T550 models only).

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The latest version of this user guide can be obtained from TimeTools.co.uk.



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Installation

TimeTools T-Series NTP servers should only be installed indoors. Locate the device safely in a rack, on a shelf, or in a cupboard. The device should not be supported by the attached cables.

Antenna Installation

Ideally, the GPS/GNSS antenna should be positioned in a location where the top of the antenna has a clear view of the sky. If required, longer cable lengths can be obtained from TimeTools.

Connect the antenna coax cable and antenna to the TNC connector labelled 'Antenna' at the rear of the appliance. Ensure that the TNC connectors are fully screwed in - do not over-tighten.

Networking

Connect a RJ-45 Ethernet cable to the female RJ-45 connector on the rear of the appliance, labelled Eth0 or Eth1, and then to a hub or switch on your network.

Alternatively, the NTP server can be connected, peer-to-peer, directly to a host PC Ethernet network port using a RJ-45 Ethernet cable for configuration purposes.

Configuration

Before configuring the NTP server, you will need to acquire the following basic configuration information: IP address, Net mask, Gateway, Domain name servers or confirm availability of a network DHCP server for dynamic networking configuration.



IMPORTANT:

When first installing the T-Series on your network, ensure that no other device conflicts with the default IP address of the appliance.

Default IP Address (Eth0): 192.168.3.222

Default IP Address (Eth1): DHCP Client

Ethernet Port 0 (Eth0)

Connect a PC to the same network segment as the NTP server. The default IP address of the T-Series Eth0 port is **192.168.3.222**.

Dual Ethernet Port Models (T550) (Eth1)

If the installation network has a DHCP server, the NTP servers Eth1 network port can be used to automatically acquire network configuration.

Power

AC (mains) powered models (T300 and T550) should only be powered using the supplied mains cable. Apply power by inserting the supplied mains cable into the IEC inlet at the rear of the appliance and into an appropriate AC power source.

DC powered models (T100) should only be powered using the supplied 7.5V DC power adapter. Apply power by plugging the power adapter into the appliance DC IN connector and into an appropriate AC power source.

On power-up, after a few seconds, the alarm LED will flash red/green rapidly for 30 seconds to indicate that the appliance is booting.

Configuring the NTP Server Network Settings For Your Network.

Open a browser such as Internet Explorer or Chrome on a host PC on the same network segment as the appliance and type the appliances IP address into the address bar.

At the password prompt enter the default password 'admin', the main status page will be displayed.

To Change the T-Series IP address, click the 'Network' button at the bottom of the web page. Enter the IP address, network mask, gateway and any other network options you may require and click 'Save'.

In order for the settings to take effect, the device must be restarted. Click 'Local', then 'Restart' and 'OK' to restart the device.

RS232 Console Configuration

The T-series can also be configured from a host PC using a RS232 console interface and a dumb terminal emulator, such as Hyper-terminal or Putty. Please see the T-series user guide for more information.

GPS/GNSS Operation

At first power-up, if the antenna has been properly mounted (see GPS/GNSS Installation Guide for full antenna installation instructions), the receiver module will search for satellites and perform a self-survey.

It can take as long as 15 minutes to obtain a satellite lock, a further 30 minutes to perform a self-survey and then another 10 minutes to synchronise NTP.



INFORMATION:

After power up, it can take as long as 15 minutes for the receiver to obtain a satellite lock, longer if the antenna has an obscured view of the sky.