MASTER NTP TIME SERVER

# TIME**NET**™
## PRO

16:42:27

ACCURATE CONTACT

Accurate, low cost, extremely compact universal atomic clock reference for network time synchronisation

| TIMENET Pro supports all NTP compatible devices

| Ideal for synchronising VMS + ACS servers & clients

| Ideal for closed or secure networks

| Ideal for mobile or vehicle-based applications

| Class 1 POE compatible (or 12V DC input)

| Simple browser interface allows fast installation

| Wide operating temperature range.

TIMENET Pro is a Master NTP reference clock for Ethernet networks with POE capability

**veracity**

# TIMENET Pro is a low-cost solution for accurately synchronising computer system clocks

TIMENET Pro offers a universal solution by providing accurate, reference time signals for any Ethernet network, especially in closed networks.

## Time Synchronisation

Most network installations require a reference time signal for synchronising system clocks to ensure they are always set precisely to the correct time. It is crucial that all CCTV recordings are accurately time-stamped, especially for evidential purposes.

Most Digital Video Recorder (DVR) products - especially those which are PC-based - have inaccurate internal clocks which can drift by many seconds per week. Considering that DVR and NVR systems should run unattended for months or years, the time settings can end up being in error by many minutes, or even hours.

Further, multiple recorders and devices will drift apart time-wise, reducing the veracity of evidential data.

## Compact Solution

Whilst traditional solutions involve atomic clock radio receivers or GPS sensors linked to an expensive rack-mounted master clock server, TIMENET Pro integrates the GPS receiver and NTP clock server into a compact device for direct connection to the network.

TIMENET Pro can be wall-mounted, uses very little power and is less than half the cost of competing solutions. TIMENET Pro can be powered over the network by POE, or locally by a low voltage power supply.

## Browser Interface

TIMENET Pro provides a clean and simple browser interface for setting up the IP address and configuration password. The status tab displays information such as system up-time, GPS lock, UTC and local time, plus an extremely useful satellite signal meter. This meter shows satellites in view, and their signal strength.

## Installer Friendly

Simply connect the antenna to the TIMENET Pro and the TIMENET Pro to your POE network switch. Configure the IP address via the easy-to-use browser interface and the TIMENET Pro installation is complete. The antenna that is supplied with the unit includes a 5 metre long cable. This can be further extended by adding an optional 10 metre cable (VTN-EXTEND).

The antenna has a self-adhesive surface which can be fixed to any window which has a view of the sky. The standard antenna is also rated for external use and so can be externally

**Web Interface**
*A simple browser interface shows the status of the system, with separate tabs for settings and administration.*

CONFIGURATION TOOL

MASTER NTP TIME SERVER
TIMENET PRO

STATUS | ADMINISTRATION | TIMENET SETTINGS

| | |
|---|---|
| UP TIME | 12 days, 16 hours, 50 minutes |
| TIMENET TIME | 09:36:20 on Wed 07 Sep 2016 (UTC) |
| CLIENT TIME | 10:36:20 on Wed 07 Sep 2016 (UTC+01:00) |
| TIME SERVER STATUS | Running |
| TIME SYNC | GPS+PPS |
| TIME OFFSET | -0.006 ms |
| STRATUM SERVED | 1 |

SATELLITES

| 26 | 21 | 16 | 27 | 20 | 29 | 31 | 05 | 18 | 09 | 23 | 57 |

ADVANCED ▼

# TIMENET Pro is GPS based, so it can be used anywhere on the earth's surface

GPS is a global satellite system used primarily for position location, using accurate atomic clock references.

mounted on a roof, window or wall etc. As an alternative to POE, TIMENET Pro can be powered by an optional 12V DC supply (VPSU-12V-U).

## TIMENET Pro Applications

With its compact rugged enclosure, extended operating temperature range TIMENET Pro is suitable for a wide range of applications and environments.

Security related applications include time synchronisation of DVR and NVR servers, access control servers, operator workstations, and even IP cameras. More general applications include time-synchronisation of Windows, Mac and Linux PCs and servers. The availability of full GPS position data to third party applications also makes TIMENET Pro ideal for use in mobile or vehicle based systems.

## About GPS

GPS is a global satellite system used primarily for position location, using very accurate atomic clock references. GPS signals are far less prone to interference than traditional national radio clock signals. Thus TIMENET Pro is a universal solution which can be used anywhere in the world.

## About Time Zones

UTC is effectively a GMT reference time and TIMENET Pro provides this via NTP as a universal reference. It is the task of the network client (i.e. DVR or other client device) to look after the local time zone setting for the country or zone location, including any local or national variations to daylight savings time or equivalent.

## About UTC Time

Universal co-ordinated time is an official world-wide atomic clock reference for time, agreed by national standards around the world. UTC time copes with variations in the earth's rotation by the introduction of leap seconds at pre defined intervals. GPS time references incorporate this automatically. Therefore TIMENET Pro will continuously and automatically provide an accurate UTC clock reference over many years.

## About NTP

NTP stands for Network Time Protocol and is a universal standard for time synchronisation of computers or other devices on a network. TIMENET Pro is NTP compatible and acts as a time server for any NTP-enabled client. All Windows, Linux and Mac OS operating systems are NTP compatible.
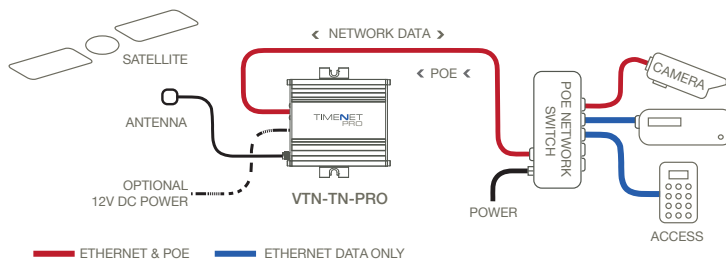


*Diagram 1. TIMENET Pro delivers an accurate network time signal with maximum reliability and minimal installation effort.*

*TIMENET Pro comes with antenna and 5 metre cable included*

TECHNICAL **SPECIFICATION**

TIMENET™ PRO

**TIME SERVER**

| | |
|---|---|
| Time source | GPS Satellite |
| Protocol | NTP Stratum 1 Time Server |
| Accuracy | Ethernet NTP ± 1ms overall |
| | GPS source ±0.1µS |

**ANTENNA**

| | |
|---|---|
| Connector | SMA Male |
| Cable | 5 metre cable, ( optional 10 metre extension ) |
| Antenna head | GPS sensor, in externally rated magnetic housing ( + adhesive pad/window fixing ) |

**POWER**

| | |
|---|---|
| Unit power | 1.5W |
| POE type | Class 1 |
| Alternative power input | 10-40V DC (max current 150mA at 12V) |

**ETHERNET INTERFACE**

| | |
|---|---|
| Connector type | RJ45 |
| Rate | 10/100Base-T full-duplex with auto-negotiation |
| Data security | Shared Keys system ( server authentication ) |

**LEDS**

| | |
|---|---|
| Status indicators | Green LED : long pulse: OK      short pulse: no GPS lock |
| | Amber LED : heartbeat pulse |

**PHYSICAL/ENVIRONMENTAL**

| | |
|---|---|
| Dimensions | L 87mm  W 75mm  H 22mm ( W 97mm with wall mounting brackets ) |
| | L 3.42 inches  W 2.95 in  H 0.86 in  ( W 3.8 in with wall mounting brackets ) |
| Weight | 123g [ 4.3oz ] ( with mounting brackets ) 121g [ 4.2oz ] ( without brackets ) |
| Operating temperature | TIMENET Pro -15ºC to 75ºC [ 5ºF to 125ºF ] |
| | Antenna -40ºC to 85ºC [ -40ºF to 185ºF ] |
| Relative humidity | 95% non-condensing |
| Compliance | CE, FCC, RoHS |

**PRODUCT CODES**

| | |
|---|---|
| VTN-TN-PRO | TIMENET Pro Device |
| VTN-EXTEND | Antenna Extension ( 10 metre ) [ 32.8 feet ] |
| VPSU-12V-U | Optional 12V Power Supply ( not required if POE is used ) |

TIMENET Pro Antenna
Extension Cable
10 metres

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