TIME**N**ET™

MASTER NTP TIME SERVER

Master NTP reference clock for Ethernet networks

Accurate, low cost and extremely compact universal GPS-based atomic clock reference for network time synchronisation with POE capability

Supports all NTP compatible devices

Ideal for synchronising DVR, NVR and ACS servers

Ideal for closed or secure networks

Ideal for mobile or vehicle-based applications

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

Simple browser interface allows fast installation

Wide operating temperature range. GPS antenna included

veracity

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

TIMENET offers a solution to the problem of providing accurate, reference time signals for any Ethernet network, especially closed networks.

Time Synchronisation

Many network installations require a reference time signal for synchronising system clocks to ensure they are always set precisely to the correct time. For example, 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. 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 integrates the GPS receiver and master NTP clock server into a compact device for direct connection to the network.

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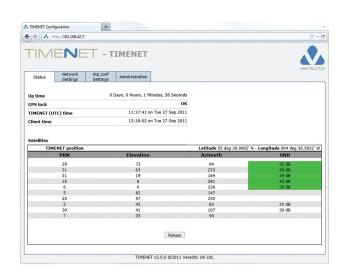
Browser Interface

TIMENET provides a 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, signal strength and highlights in green all those with a strong signal level.

Example 1. A simple browser interface shows the status of the system, with separate tabs for settings and administration.

What countries can I use TIMENET in ?

As TIMENET is GPS based, it can be used anywhere on the earth's surface.

Installer Friendly

Simply connect the antenna to the TIMENET and the TIMENET to your POE network switch. Configure the IP address via the easy-to-use browser interface and the TIMENET installation is complete.

The supplied antenna includes a 5 metre cable which can be further extended by optional 10 metre cables (VTN-EXTEND) and is provided with a self-adhesive surface which can be affixed to any window which has a view of the sky. The standard antenna is also rated for external use and so can be externally mounted on a roof, window sill or wall etc.

As an alternative to POE, TIMENET can be powered by an optional 12V DC supply (VPSU-12V-U) or a user's existing 24V AC supply.

TIMENET Applications

With its compact rugged enclosure, extended operating temperature range and flexible mounting options (including DIN rail mount), TIMENET is suitable for a wide range of applications and environments. Security related applications include time synchronisation of DVR and NVR servers, access control servers, operators workstations, and even IP cameras. More general applications include time-synchronisation of Windows, Mac & Linux PCs and servers. The availability of full GPS data to third party applications also makes TIMENET ideal for 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 is a universal solution which can be used anywhere in the world.

About Time Zones

UTC is effectively a GMT reference time and TIMENET 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 will continuously and automatically provide an accurate UTC clock reference.

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 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.
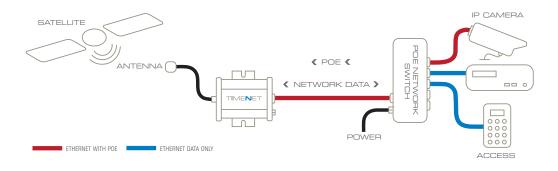

Diagram 1. TIMENET delivers an accurate network time signal with maximum reliability and minimal installation effort.

TIME SERVER

Time source	GPS Satellite
Protocol	NTP Stratum 1 Time Server
Accuracy	Ethernet NTP $\pm$ 1ms overall
	GPS source $\pm 0.1\mu S$

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	2.5W
POE type	Class 1
Alternative power input	10-40V DC (max current 250mA at12V) OR
	20-28V AC (max current 125mA at 24V)

ETHERNET INTERFACE

Connector type	RJ45
Rate	10/100Base-T full-duplex with auto-negotiation

LEDS

Status indicators	Green LED : long pulse: OK short pulse: no GPS lock
	Amber LED : network connectivity and traffic

PHYSICAL/ENVIRONMENTAL

Dimensions	L 92mm W 67mm H 33mm (W 86mm with wall mounting brackets)
Weight	175g (with mounting brackets) 150g (excluding mounting brackets)
Operating temperature	-15°C to 75°C [5°F to 125°F]
Relative humidity	95% non-condensing
Compliance	CE, FCC, RoHS

PRODUCT CODES

VTN-TN	TIMENET Device
VTN-EXTEND	Antenna Extension (10 metre)
VPSU-12V-U	Optional 12V Power Supply (not required if POE is used)

Americas & Asia Sales :
Veracity USA Inc.
65 Harristown Road
Glen Rock
NJ 07452
USA

Tel: 1-800-679-1590
Fax: 1-800-679-0714
www.veracityglobal.com
sales@veracityusa.com

EMEA Sales :
Veracity UK Ltd
Prestwick International Aerospace Park
4 Dow Road
Prestwick
KA9 2TU
UK
Tel +44 (0) 1292 264967
Fax +44 (0) 845 528 1081
www.veracityglobal.com
sales@veracityuk.com