



OVERVIEW

Network of computers are omnipresent. Synchronization of these computers is highly recommended at all enterprises. This integrates various diversified systems to work in unison.

The demand for improving the effectiveness of any system in place is met with time synchronization system deployed in the field. Troubleshooting is simplified by the application of time syncing equipment's in the event of fault analysis.

Sertel NTP Time Server will act as a Stratum 1 server that generates precise time stamp signals to synchronizes various networks of devices, critical servers, electrical, communications devices such as SCADA, DCS, PLCs, LANs, Computer Buses, RTUs etc.

Equipped with internal high precision and high stability Oscillators, with hold over accuracy of better than 30µs for a period of 24 hrs.

Most modern device have provision to accept external IRIG-B [AM] input over BNC connector and NTP over RJ45 Connector

The time stamps in the signal could be transmitted over long distances maintaining synchronization in the whole network.

OPERATION

The signal from the satellite is collected by T-GPA-014-S15, an active antenna and transmits the signal to Multi Constellation GNSS NTP Time Server.

NTP Server will accept external 10Mhz frequency signal over BNC connector

Server are provided for continuous functioning of the system across 24x7 Operation. Supports Universal Power Source in the wide range of 90 to 260v AC and DC operation.

NTP Server will switch from internal /external sources automatically.

Precise Time stamps measurement data can be analysed by feeding external 1PPS Pulse Marker over TTL level.

LC display in the front panel shows the frequency, input, date, time and geographical location. These can be viewed with the help of keypad function. The status of the NTP Server is shown by LED indication.

Highly precise and stable Oscillators compensates for any interferences or loss of signal from the satellite/external input thus making the operation of the receiver reliable.

Includes Antenna Mounting kit with Antenna, GNSS Cable, Lightening Arrester, Wall Mounting Bracket

KEY FEATURES

- Accepts Wide Range of External Input Sources 1PPS, IRIG-B, 10Mhz, NTP, GNSS Multi constellation.
- Supports GPS, IRNSS, Glonass, BeiDou, Galileo – GNSS Receiver.
- 24 Channel GNSS Receiver and 12 Channel Continuous Tracking.
- Capable to handle 10000 requests per second
- Equipped with high precision Oscillator crystal maintaining better holdover and frequency level.
- 4x40 characters LC display with keypad to show the Time, Date, Latitude, Longitude, Time Zone.
- Automatic leap second correction and information over NTP and IRIG-B
- Supports HTTP/SSL/HTTPS Web Server interface, SHS, SCP, IPv4, IPv6, SNMP network management/configurability protocols.
- Supports NTPv4/v3/v2, SNTP, NTP Unicast/Broadcast/Multicast
- Highly customizable Output as per requirement and all ports are dedicated one.
- Configured to work as Stand Alone NTP Time server.
- Has inbuilt EPROM to store configuration even after power reboot.
- NTP Server will accept peer NTP server as reference
- Supports IPv4 and IPv6 Versions

GPS TIME SYNC SERVER
T-GPS-300-NTPS



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GPS TIME SYNC SERVER

T-GPS-300-NTPS

TECHNICAL SPECIFICATIONS

GPS ANTENNA

Model	T-GPA-014-S15
Receiving Frequency	L1- 1575.42 MHz L5- 1176 Mhz
Tracking code	'L' Band CA code
Geodetic System	WGS – 84
No. of Channels	24 Channel / Parallel
Type	Helical
Axial Ratio	<4 dB
Supply Voltage	+5V DC (Internal)
Gain	Over 40 dB
Noise Figure	Less than 1.5 dB
Operating Temp	-40 °C to +85 °C
Connector	BNC
Dimension	80(h)x55(d) x 82(w) mm
Mounting	Fixed (Roof mount) IP67 (Ingress Protection Rating)

ENVIRONMENT

Storage Temperature	-40 °C to +85 °C
Operating Temperature	-10 °C to +55 °C
Humidity	0 – 95% RH, non-condensing
Power Drain	60W *Depends on Output configuration

GPS RECEIVER

Model	T-GPS-300-NTPS
Interface	TTL (Normal High)
Input connector	BNC
Output Rate	Every second
Power Supply	90-260 V AC/DC A & B
Display	4x40 / 2x16 / 2x20 LCD
Type	GPS: L1 C/A, L2C, GLO: L1OF, L2OF, GAL: E1B/C BDS: B1I, B2I 184 Channel Parallel-tracking receivers
Frequency	L1 / L5 Band
Sensitivity (Acquisition)	-148 dBm
Sensitivity (Tracking)	-167 dBm
Design	1U/2U/3U rack-mount bracket designed for 19 Inch Cabinets Fabricated Heatsinks IP40 (Ingress Protection Rating)
Protocol	NMEA, Sertel Format, Serial String ASCII format.

MECHANICAL SPECIFICATION

Dimensions	1U(H) x 485(W) x 185(D) mm (Or) 2U(H) x 485(W) x 185(D) mm (Or) 3U(H) x 485(W) x 185(D) mm *Size Depends on number of outputs
Mounting	19" Rack
Weight	2.5 KG

Oscillator Options

*Feature Available only on Specific requests and suitable price points



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Power Supplies	1x or 2x Power Supplies High Voltage - AC/DC 90-370 VDC 80-260 VAC Low Voltage - DC 24-60 VDC *Feature Available only on Specific requests and suitable price points	Disciplined Oscillator	TBC*
Ingress Protection	IP40	Rubidium	TBC*
Configuration Software		VCTCXO	TBC*
Platform	HTTPS/SSL Browser-based configuration	OCXO	TBC*
INPUT*		OUTPUT *	
GNSS Antenna inputs	GNSS, BNC [F]	1PPS	TTL, 50 Ω Impedance, BNC [F]
External 1PPS	TTL, BNC [F]	IRIG-B	AM [B125], BNC [F]
External IRIG-B	TTL/AM, BNC [F]	10 MHz	10dBm, ±1dBm, BNC [F]
External 10Mhz	0 to 13dBm, BNC [F]	Impedance	50 Ω Sine Wave
Impedance	50 Ω Sine Wave	T1/E1/J1 Output	RJ48 T1/E1/J1 Output
External NTP	Lock to External Input, RJ45	Fiber Output	ST Fibre 62.5/125 μm, λ 820 nm
Configuration	Web server Interface and Sertel Time Management Suite for complete accessibility and configurability of server. SNMP for remote management Keypad for local configuration L1Band GNSS, BNC [F] *Feature Available only on Specific Requests and suitable price points	Programmable Output	TTL or Frequency Output (1.544, 2.048, 10MHz, Sine or Square) (BNC) TTL or AM IRIG-B Output (BNC) TTL Input/Output (BNC) ST Fiber (62.5/125 μm) multi-mode HV MOSFET 300V 1A (2-pin) *Feature Available only on Specific requests and suitable price points
Ethernet Connections	RJ45 1GbE/Fast Ethernet SFP 1GbE /Fast Ethernet *Feature Available only on Specific Requests and suitable price points	Ethernet Output	RJ45 - Time Protocols NTP, PTP
Input	DC IRIG-B Input (BNC)	Ethernet Connections	RJ45 1GbE/Fast Ethernet SFP 1GbE /Fast Ethernet *Feature Available only on Specific Requests and suitable price points
		Alarm Relay	3-Pin Form-C NO/NC alarm relay

NETWORK TIME SERVER OPTION

IEEE 1588v2 (PTP)	P2P/E2E delay 1-Step/2-Step delay C37.238:2011 Power Profile C37.238:2017 Power Profile ITU G.8265.1 Telecom Profile ITU G.8275.1 Telecom Profile IEEE 61850-9-3 Power Utility Profile	PRP	IEC 62439-3 (2016) Fast failover slave Supports up to two PRP pairs PTP (IEEE 1588v2) Default & Power Profiles
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CLOCK ACCURACY TO UTC

AM IRIG-B	< 100 ns	TTL/Fiber:	< 100 ns
1 PPS	< 100 ns	PTP Time Stamp	< 100 ns
NTP Timestamp at Server Source	< 1 μ s (At client End Depends on Network Architecture for more accuracy)		
NTP/SNTP	Stratum 1 NTP & SNTP Time server Multicast & Broadcast capability	Security	Local Authentication -- TACACS+/RADIUS/LDAP methods Encryption for NTP, SNMP using MD5/SHA algorithms.
SNMP	V1, V2C & V3 support can be independently enabled Configurable V1, V2C community names & security groups Fully configurable via Custom SERTEL MIB, SNMP;	Notifications	SNMP trap generation V1, V2C & V3 SNMPv3 traps can be authenticated Syslog (RFC-3164 & 5424 verities)
Protocols supported	ARP, UDP, ICMP, DHCP, SNMP, HTTPS, IPV4	*Feature Available only on Specific Requests and suitable price points	

TEST AND STANDARDS

Dry Heat Test	IEC 60068-2-2	Electrostatic Discharge Immunity Test	IEC 61000-4-2,2008
Cold Test	IEC 60068-2-1	Radiated Susceptibility Test	IEC 61000-4-3,2010
Damp Heat (Steady State) Test	IEC 60068-2-3	Electrical Fast Transient Immunity	IEC 61000-4-4,2012
Sinusoidal Vibration Test	IEC 60068-2-6	High Energy Surge Immunity Test	IEC 61000-4-5,2014
Dielectric Strength Test	IEC 60255-5-0	Conducted RF Immunity Test	IEC 61000-4-6,2013
Pulse Magnetic Field Test	IEC 61000-4-9,2016	Power Frequency Magnetic Field Test	IEC 61000-4-8,2009
Radiated RF Power Disturbance	CISPR 14-1,2009	Damped Oscillatory Sinusoidal Immunity Test	IEC 61000-4-18,2011
Voltage Fluctuation and Flicker Emission Test	IEC 61000-3-3,2013	Voltage Dips and Interruption Immunity Test	IEC 61000-4-11
Harmonics, Inter Harmonics and Low Frequency Immunity Test	IEC 61000-4-13,2002		

*Feature Available only on Specific requests and suitable price points
 *Output ports are customizable based on the requirements
 *Product development is continuous process, subject to change without prior notice



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