



T-GPS-300
GPS TIME SYNC SERVER

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 3µs for a period of 24 hrs.

Most modern device which has 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.

Supports HTTP/SSL/HTTPS Web Server interface, SHS, SCP, IPv4, IPv6, SNMP network management/configurability protocols.

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 accepts 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 Arrestor, 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.
- Equipped with high precision OCXO 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
- Highly customizable Output as per requirement and all ports are dedicated one.
- Has inbuilt EPROM to store configuration even after power reboot.
- Accuracy of 14 nano second with GPS Signal.
- Output Integrated to 3 decimals of frequency in Hz.
- Can be synchronized with GPS to drive any number of Slave Clock / Digital Clock.
- Provides time/ date stamping through RS232 serial port in SERTEL format.



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SERTEL INSTRUMENTS INC

Saskatoon, Saskatchewan Canada

GPS TIME SYNC SERVER

T-GPS-300

TECHNICAL SPECIFICATIONS

GPS ANTENNA		GPS RECEIVER	
Model	T-GPA-014-S15	Model	T-GPS-300
Receiving Frequency	L1- 1575.42 MHz L5- 1176 Mhz	Interface	TTL (Normal High)
Tracking code	'L' Band CA code	Input connector	BNC
Geodetic System	WGS – 84	Output Rate	Every second
No. of Channels	24 Channel / Parallel	Power Supply	90-260 V AC/DC A & B
Type	Helical	Display	4x40 LCD
Axial Ratio	<4 dB	Type	GPS: L1 C/A, L2C, GLO: L1OF, L2OF, GAL: E1B/C BDS: B1I, B2I 184 Channel Parallel-tracking receiver
Supply Voltage	+5V DC (Internal)	Frequency	L1 / L5 Band
Gain	Over 40 dB	Sensitivity (Acquisition)	-148 dBm
Noise Figure	Less than 0.5 dB	Sensitivity (Tracking)	-167 dBm
Operating Temp	-40 °C to +85 °C	Design	3U rack-mount bracket designed for 19 Inch Cabinets Fabricated Heatsinks IP40 (Ingress Protection Rating)
Connector	BNC	MECHANICAL SPECIFICATION	
Dimension	80(h)x55(d) x 82(w) mm	Dimensions	3U(H) x 485(W) x 335(D) mm
Mounting	Fixed (Roof mount) IP67 (Ingress Protection Rating)	Mounting	19" Rack
ENVIRONMENT		Weight	3.5 KG
Storage Temperature	-40 to +85 °C	Oscillator Options	
Operating Temperature	-10 to +55 °C	Disciplined Oscillator	TBC*
Humidity	0 – 95% RH, non-condensing	Rubidium	TBC*
Power Drain	45W *Depends on Output configuration	OCXO	TBC*
Power Supplies	1x or 2x Power Supplies High Voltage - AC/DC 120-240 VDC 100-240 VAC	VCTCXO	TBC*



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	Low Voltage - DC 40-110 VDC
Ingress Protection	IP40

Configuration Software	
Platform	HTTPS/SSL Browser-based configuration

INPUT	
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GNSS Antenna inputs	L1Band GNSS, BNC [F]
External IRIG-B	TTL/AM, BNC [F]

OUTPUT	
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1PPS	TTL, 50 Ω Impedance, BNC [F]
IRIG-B	AM [B125], BNC [F]

Configuration	Sertel Time Management Suite for complete accessibility and configurability of server. Keypad for local configuration L1Band GNSS, BNC [F] <small>*Feature Available only on Specific Requests and suitable price points</small>
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DCF77	TTL, 50 Ω Impedance, BNC [F]
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Input	IRIG-B Input (BNC)
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Pulse Outputs	1 PPM/PPS/PPD/PPH/ Configurable
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Alarm Relay	3-Pin Form-C NO/NC alarm relay
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Display Outputs	Differential Pulse/ Serial/ IRIGB
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CLOCK ACCURACY TO UTC

NTP Timestamp at Server Source	< 1 μs (At client End Depends on Network Architecture for more accuracy)
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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) Modbus RS485/TCPIP IEC60870-103/104
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1 PPS	< 100 ns
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Ethernet Connections	RJ45 1GbE/Fast Ethernet SFP 1GbE /Fast Ethernet <small>*Feature Available only on Specific Requests and suitable price points</small>
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PTP Time Stamp	< 100 ns
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Interface Connections	Interface to T-SC-300, T-SDA-300 T-FSDA-300 T-SRU-300 T-CON-300 Backward Compatible to All versions
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AM IRIG-B	< 60 ns
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TTL/Fiber: < 100 ns

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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