GPS Time Sync Server
T-GPS-300

Operation

The signal from the satellite is collected by an active antenna, and transmits the signal to GPS Receiver. Time base pulses as that in the UTC or the atomic clock in the GPS satellites are generated. Master Clock is provided for continuous functioning of the system.Pulses can be generated for every second, minute, ½ minute, hour, day etc. which are configurable.Status LED indication can also be seen displaying the operating conditions of the receiver.

Overview

Time synchronization creates a platform for an entire system comprising wide range of applications to operate in synchronous with time.

Equipped with high precision and high stability OCXO, it is capable of performing with greater accuracy during temporary signal loss. The time stamps in the signal could be transmitted over long distances maintaining synchronization in the whole network.

T-GPS-300-S09

GPS Receiver:

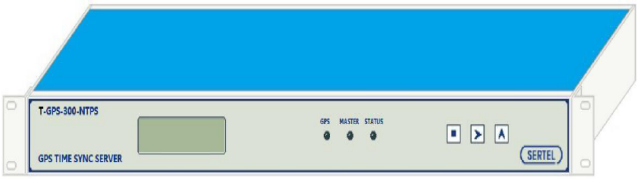
Model	:	T-GPS-300-S09
Input connector	:	TNC/BNC
Power Supply	:	90-260 V AC/DC
Interface	:	TTL (Normal High)
Output Rate	:	Every second

Signal Outputs:

- ❖ NTP outputs for NTP Client access (Default IP: 192.168.1.254) through RJ-45.
- ❖ IRIG-B AM & TTL outputs (customizable).
- ❖ RS232 serial port output (customizable) in SERTEL format through Phoenix connector.
- ❖ Pulse/PFC output through Phoenix connector.
- ❖ Customizable output / configurable as per requirement.

Features:

- Compact size.
- 12 Channel GPS Receiver and 8 Channel Continuous Tracking.
- Equipped with high precision OCXO crystal for frequency maintaining micro second level accuracy.
- LC Display : 2 x 16 characters
- Highly customizable Output configurable as per requirement.
- Configured to work as Stand Alone Time server.
- Universal Power Supply.
- Drives a number of Slave Clocks / Digital Clocks.
- Provides time/ date stamping through RS232 serial port in SERTEL format.
- Low cost maintenance with durable performance.
- Accuracy is better than 1 micro second



T-GPS-300-NTPS

GPS Receiver:

Model	:	T-GPS-300-NTPS
Input connector	:	TNC/BNC
Power Supply	:	90-260 V AC/DC
Interface	:	TTL (Normal High)
Output Rate	:	Every second

Signal Outputs:

- ❖ NTP outputs for NTP Client access (Default IP: 192.168.1.254) through RJ-45.
- ❖ Customizable output / configurable as per requirement.

Front Panel:

LC Display	:	2 rows x 16 characters
LED	:	GPS, Master, Status
Keys	:	Enter, Next, Increment for manual time setting

Environment:

Operating Temperature	:	-10 to 85˚C
Humidity	:	0-95% RH, Non-Condensing

Mechanical Specification:

Mounting	:	19" rack mountable

Product Ordering:

Operating Characteristics	Ordering Code
NTP-2/IRIG-B(AM)-1/IRIG-B(TTL)-1/PFC-1/RS 232-1	T-GPS-300-S09
NTP/SNTP - 2	T-GPS-300-NTPS
IRIG–B (TTL) – 1/ PPS (FO) - 4	T-GPS-300-S30

T-GPS-300-EU

GPS Receiver:

Model	:	T-GPS-300-EU
Interface	:	TTL (Normal High)
Input connector	:	TNC/BNC
Output Rate	:	Every second
Power Supply	:	90-260 V AC/DC A & B
Display	:	Two 2 x 16 LCD
Input	:	GPS Antenna input & External time Syncing inputs (optional).

Redundant Master Clock:

Type	: Micro Controller based
Time reference	: OCXO with stability of 1PPM For a Temp range of 0- 55℃
Input	: 1PPS and RS 232 signal from GPS receiver
Accuracy	: With GPS signal 1 micro second. Without GPS 1PPM Accuracy signal.
Output	: Time signal to comparator
Display	: LCD Display to display Frequency, Date, Time and Locations.
Time setting	: Through key Pad E, N, I

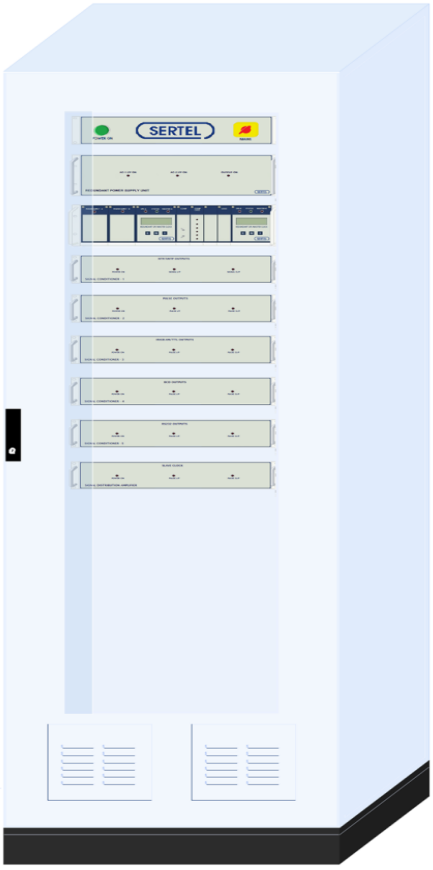
Power Supply and Diode O Ring:

Input	: 2 x230V ±10%, 50Hz through Phoenix Connector
Output	: Isolated 24V DC through Phoenix connector
Alarm	: Fail Indication
Indication	: 3 Indicator for AC input A & B, DC output

Redundant Comparator

Type	: Micro controller based
Time reference	: OCXO with stability of 1PPM for a
Input	: Time base data from Redundant Master clock A , B
Indication	: LED indicator for Master A & B input, data output and healthy signal status
Time Setting	: No External time setting,
Output	: IRIG-B(AM,TTL),RS 232, NTP/SNTP,Pulse

T-PAN-300



Environment

Ambient Temperature	:	-40 to +85 °C
Humidity	:	0-95% RH, non condensing

Mechanical Specification

Panel Dimensions	:	2415(H) x 800(W) x 800(D) mm (customizable)
Panel Colour	:	Customizable

Test and Standards

Dry Heat Test	:	IEC 60068-2-2
Damp Heat (Steady State) Test	:	IEC 60068-2-3
Sinusoidal Vibration Test	:	IEC 60068-2-6
Bump Test	:	IEC 60068-2-29
Dielectric Strength Test	:	IEC 60255-5-0
Shock Test	:	IEC 60255-21-2
Radiated Emission	:	CISPR 11 Class A,2006
Radiated RF Power Disturbance	:	CISPR 14-1,2005
Electrostatic Discharge Immunity Test	:	IEC 61000-4-2,2001
Radiated Susceptibility Test	:	IEC 61000-4-3,2006
Electrical Fast Transient Immunity	:	IEC 61000-4-4,2004
High Energy Surge Immunity Test	:	IEC 61000-4-5,2006
Conducted RF Immunity Test	:	IEC 61000-4-6,2004
Power Frequency Magnetic Field Test	:	IEC 61000-4-8,2001
Damped Oscillatory Wave Immunity	:	IEC 61000-4-12,2001
Dust/Water Protection	:	IP 5X / IP X5

T-GPS-300-S30

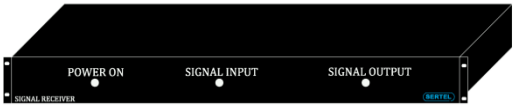
GPS Receiver:

Model	:	T-GPS-300-S30
Input connector	:	BNC
Power Supply	:	90-260 V AC/DC
Interface	:	TTL (Normal High)
Output Rate	:	Every second

Signal Outputs:

- NTP outputs for NTP Client access (Default IP: 192.168.1.254) through RJ-45.
- IRIG-B AM outputs
- IRIG-B (TTL) FO outputs
- Customizable output / configurable as per requirement.

T-SRU-300



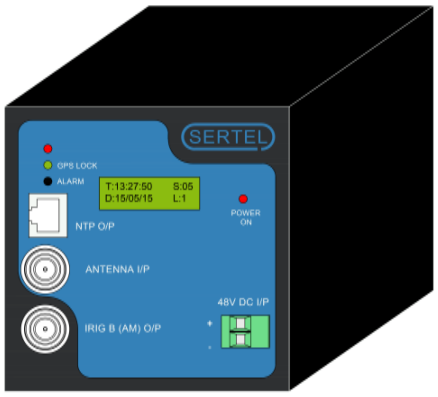
GPS Receiver:

Model	:	T-SRU-300
Input connector	:	BNC
Input Source	:	IRIG-B (AM)
Power Supply	:	90-260 V AC/DC
Interface	:	TTL (Normal High)
Output Rate	:	Every second

Signal Outputs:

- NTP outputs for NTP Client access (Default IP: 192.168.1.254) through RJ-45.
- IRIG-B AM & TTL outputs (customizable).
- RS232 serial port output (customizable)
- Pulse/PFC output through Phoenix connector.

T-GPS-300-S28



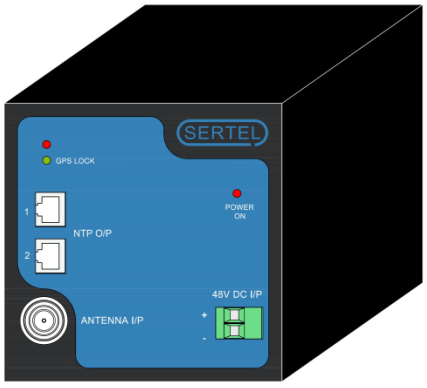
GPS Receiver:

Model	:	T-GPS-300-S28
Input connector	:	BNC
Power Supply	:	48 V DC
Interface	:	TTL (Normal High)
Output Rate	:	Every second
Mounting	:	DIN Standard

Signal Outputs:

- NTP outputs for NTP Client access (Default IP: 192.168.1.254) through RJ-45.
- IRIG-B AM outputs

T-GPS-300-S17



GPS Receiver:

Model	:	T-GPS-300-S17
Input connector	:	BNC
Power Supply	:	48 V DC
Interface	:	TTL (Normal High)
Output Rate	:	Every second
Mounting	:	DIN Standard

Signal Outputs:

- Dual NTP outputs for NTP Client access (Default IP: 192.168.1.254) through RJ-45.

Display Units

Overview

Time is an important factor in all organizations. Uniform time displayed at all places in a working environment produces effective results. Responding at the right instance of time to a critical operation saves machinery losses, finance and many other valuable assets. Timekeeping has become an essential feature to improve the quality of performance. Slave clocks are always in synchronous with the master clock thus shows the exact time as that running in the latter. Plenty of slave display units can be deployed with one common master clock unit.

T-SL-300-100-6D – Time/Date Display

PHYSICAL ASPECTS

Model	:	T-SL-300-100-6D
Character Size	:	100 mm (customizable)
Display Type	:	7-segment LED
Display Colour	:	Red
Pattern	:	HH:MM:SS, DD:MM:YY
Time Format	:	Numbers
Signal Update	:	Every second
Material	:	Diecast Aluminium
Colour	:	Black
Mounting	:	Wall/Panel/Table top

T-SL-300-100-2D – ABT Display

PHYSICAL ASPECTS

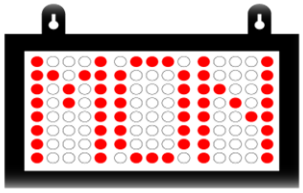
Model	:	T-SL-300-100-2D
Character Size	:	100 mm (customizable)
Display Type	:	7 Segment
Display Colour	:	Red
Pattern	:	XX
Format	:	Number
Signal Update	:	Every 15 Min
Mounting	:	Wall/Panel/Table top

T-FDU-300-100-4D – Frequency Display

PHYSICAL ASPECTS

Model	:	T-FDU-300-100-4D
Character Size	:	100 mm (Customizable)
Display Type	:	7-segment LED
Display Colour	:	RED
Pattern	:	XX.XX
Signal Update	:	Every second
Signal source	:	RS485 (or) Raw Power
Material	:	Diecast Aluminium
Colour	:	Black
Mounting	:	Wall/Panel/Table top

T-SL-300-100-3D – Day Display



PHYSICAL ASPECTS

Model	:	T-SL-300-100-3D
Character Size[1]	:	100 mm (customizable)
Display Type	:	Dot-matrix
Display Colour	:	Red
Pattern	:	XXX
Time Format	:	Alphabets
Signal Update	:	Every second
Material	:	Diecast Aluminium
Colour	:	Black
Mounting	:	Wall/Panel/Table top