



GPS NTP SERVER

SANDS GPS Time-Synchronizer Syntime is capable for the time synchronization requirements in various industries like power, process, IT, telecommunications etc. It generates wide range of time code and pulse signals via different output ports like 1PPS, IRIG-B TTL/AM, NTP, Serial (RS232/RS485), PTP, Fiber ports.

SANDS Syntime a GPS based time server has redundant and non-redundant options for Power supply and GPS receiver functionality. Syntime has a 16 x 2 LCD display for viewing of time parameters, status of GPS receiver parameters, discrete LEDs provide at-a-glance status and health information. The GPS receiver has built-in RT on board backed up with battery to maintain time during power loss and instant recovery on power resumption.

Network Time Protocol (NTP)

Syntime is a Stratum1 GPS based full featured NTP Server for synchronizing all types of NTP and SNTP clients in LAN. NTP v2/v3 and v4 with all modes (Unicast / Broadcast / Multicast) and NTP related all necessary MD5 authentication mechanisms are provided in this device

Networking Protocols

Syntime supports a full suite of networking protocols for its own administration and configuration management. These are IPv4, TCP, HTTP, SNMP, SSH, SCP, SYSLOG.

Security Features

SYNTIME provides secured access for configuration and management through HTTP. Full featured SNMP protocol with MD5 mechanisms. User can configure through Ethernet port with user name & pass word

User Friendly Setup and Administration

Syntime is simple to install and easy to manage. Front panel control allows network configuration and other set-up parameters.

FEATURES

- ♦ 22 Satellite parallel tracking
- ♦ GPS based time Server available in Redundant & Non-Redundant Options
- ♦ Ethernet Ports
- ♦ NTPv2/v3 and NTPv4 with MD5 authentication & symmetric and autokey management
- ♦ Secured Web server
- ♦ IPv4, SNMP, SSH, SCP, HTTP, SYSLOG,FTP, Networking protocols
- ♦ Remote Alarm notifications via SNMP, SYSLOG
- ♦ Universal Time-zone and DST Settings
- ♦ Supports synchronization of IEC61850 compliant devices via NTP/SNTP protocol
- ♦ Universal (AC/DC) Power Supply
- ♦ Highly accurate OCXO Type crystal
- ♦ Programmable Pulse Outputs
- ♦ Solid State relays for programmable events
- ♦ NTP Client Synchronization software
- ♦ Diagnostic Relay outputs

Supporting Time Protocols

- ♦ NMEA [GPRMC, GPZDA, GPGGA]
- ♦ IRIG-B Modulated
- ♦ IRIG-B TTL
- ♦ PFC
- ♦ PTPv2
- ♦ SNTP/NTP
- ♦ SNTP / NTP - FO
- ♦ Pulse-FO and IRIG-B TTL-FO
- ♦ RS485(IRIG-B PWM)
- ♦ 10MHz

Applications

- ♦ Event Loggers
- ♦ Disturbance Recorders
- ♦ Electronic tri-vector meters
- ♦ Distribution Automation System
- ♦ Numeric Relays
- ♦ Slave display clocks
- ♦ Servers of EMS and Switchyard
- ♦ Electronics Instruments
- ♦ Standalone computers
- ♦ DCS (SCADA) system



TECHNICAL SPECIFICATION

GPS Receiver

Timing Accuracy	< 15 ns with GPS Receiver
Positioning Accuracy	< 10m
Input Frequency	1176.45MHz / 1575.42 / 1602MHz / L1 / L5 C/A code
Tracking	22 parallel channels(NAVIC / GPS / GLONASS) Hot Start < 5 sec
Acquisition time	Warm Start < 35 sec Cold Start < 35 sec

Antenna

Type	Active L1/L5 (NAVIC / GPS / GLONASS), 28 dB gain
Antenna Cable type	RG 6 / RG 11
Operating Temperature	-40 to +85°C
Coverage	360 Degree
Ingress Protection	IP67
Weight	150 g

Interface and Configuration

Display	2 x 16 Character backlit LCD Display Local / UTC Time and Date Julian days Position latitude, longitude
Displayed data	Status of the GPS receiver
Status LEDs	GPS, 1PPS, NTP & Power
Configuration Methods	Web server HTTP
Network Protocols	IPv4, TCP NTP v2[RFC 1119], v3[RFC 1305] and v4[RFC 5905] with Unicast, Broadcast / Multicast Modes SNMP v1[RFC 1157], v2[RFC 1901-1908] and v3[RFC 3411-3418] with Enterprise MIB file SNMP v1, v2 and v3 compatible Traps with two configurable SNMP Trap Managers SYSLOG for internal and remote Alarm logging SSH v1, v2, Telnet for remote configuration PTPv2 - IEEE 1588 Grandmaster Clock (Multi-Profile support, Incl. IEEE 1588-2008, IEEE C37.238-2011, C37.238-2017, IEC 61850-9-3) Webserver through HTTP, Browser based Configuration & monitoring
Network Security Features	Configurable MD5 based encrypted password user access to SSH, Telnet and Webserver access NTP v3,v4 MD5 Authentication with Symmetric and Autokey Management SNMP v3 - SHA/MD5 Authentication SNMP v3 with no-auth / auth / priv security feature



TECHNICAL SPECIFICATION

Description	
ETH -CONF	IPv4, NTP. Network Interface : RJ45, Auto-negotiation
Time Signal Output	
Output	Description
PPS output	1 Pulse per second TTL into 250 Ω 500 ms Pulse Width
Frquency output	10MHz
IRIG-B Modulated	IRIG-B * IRIG B122 (Local time output) * IEEE 1344 (Local time output) * AFNOR NFS (Local time output) * IEEE C37.118 (UTC time output) 1 KHz AM Signal Modulation Ratio : 3:1 5.5 Vp-p, into 100 Ω $\pm$ 10%
IRIG-B TTL	IRIG-B * IRIG B002 (Local time output) * IEEE 1344 (Local time output) * AFNOR NFS (Local time output) * IEEE C37.118 (UTC time output) 5.5 Vp-p, into 100 Ω $\pm$ 10% TTL into 50 Ω 100Hz PWM Signal
NTP (LAN Interface)	Protocol Support : NTP V3, SNTP Network Protocol : TCP, UDP, IPv4 Mode : Server Interface 1 x 10/100/1000 Mbps
Serial	Configurable Serial Frames (NMEA) NMEA frames – GPRMC/GPZDA/GPGGA Output Status LED RS232 & RS485 Fix configuration : 9600-8-N-1

PTP	Profile Supported: IEEE 1588-2008, IEEE C37.238-2011, C37.238-2017, IEC 61850-9-3 Delay Mechanism - E2E / P2P PTP Modes 1 Step/2 Step mode Interface 1X 10/100 Mbps
PRP	PRP will support NTP, SNTP and PTP
Optical Ports For TTL Signals	Signal Type: IRIG-B TTL Transmission : Simplex Fiber Size : 62.5/125 μ m Wavelength : 820 nm Distance : 1500 meters
Optical Ports For Ethernet	Ethernet(NTP/PTP) Transmission : Simplex Fiber Size : 62.5/125 μ m Wavelength : 1310/1550 meters Range : 2km for Multimode and 20-120km for Singlemode
Pulse outputs	4 x PFC(250 V/0.2 A) (PPS, PP5S, PPM, PPQH, PPHH, PPH, PPD)
Power Supply	
Standard	90 - 260 V AC / 90- 370 V DC, 35W
Option-1	18 - 36 V DC, 30W
Option-2	36 - 75 V DC, 30W
Mechanical	
Mounting	1U, 19" Rack Mount
Dimensions(mm)	44.5(H) x 484(W) x 220(D)
Ingress protection	IP20 enclosure
Environmental	
Operating temperature	0 to +55°C
Storage temperature	-20 to +80°C
Humidity	20-95 % RH Non Condensing



TECHNICAL SPECIFICATION

MODULAR ARCHITECTURE	
User Selectable Modules for Slot-1 to Slot -3	
M1	10/100 Mbps, NTP, RJ45 X 2
M2A	10/100 Mbps, NTP, RJ45 X 1 + FO X 1 (Single Mode-ST)
M2B	10/100 Mbps, NTP, RJ45 X 1 + FO X 1 (Multi Mode-ST)
M3A	10/100 Mbps, NTP with SNMP, RJ45 X 2
M3B	10/100 Mbps, NTP with SNMP + PRP, RJ45 X 1
M3C	10/100 Mbps, PTP with SNMP, RJ45 X 2
M3D	10/100 Mbps, PTP with SNMP + PRP, RJ45 X 1
M4A	10/100 Mbps, NTP with SNMP, RJ45 X 1, FO X 1, (Single Mode-ST)
M4B	10/100 Mbps, NTP with SNMP, RJ45 X 1, FO X 1, (Multi Mode-ST)
M5A	10/100 Mbps, PTP with SNMP, RJ45 X 1, FO X 1, (Single Mode-ST)
M5B	10/100 Mbps, PTP with SNMP, RJ45 X 1, FO X 1, (Multi Mode-ST)
M6A	IRIG-B, AM X 2
M6B	IRIG-B, AM X 1 + PWM X 1
M6C	IRIG-B, PWM X 2
M7A	Pulse FO, Multi-mode IRIG-B PWM X 2
M7B	Pulse FO, Multi-mode IRIG-B PWM X 1 + PPS X 1
M7C	Pulse FO, Multi-mode IRIG-B PPS X 2
M8A	Pulse FO, Single mode IRIG-B PWM X 1
M8B	Pulse FO, Single mode IRIG-B PPS X 1
M9	RS485(IRIG-B PWM) X2
M10	10/100 Mbps NTP, RJ45 X 1, 10/100/1000 Mbps, NTP, RJ45 X 1

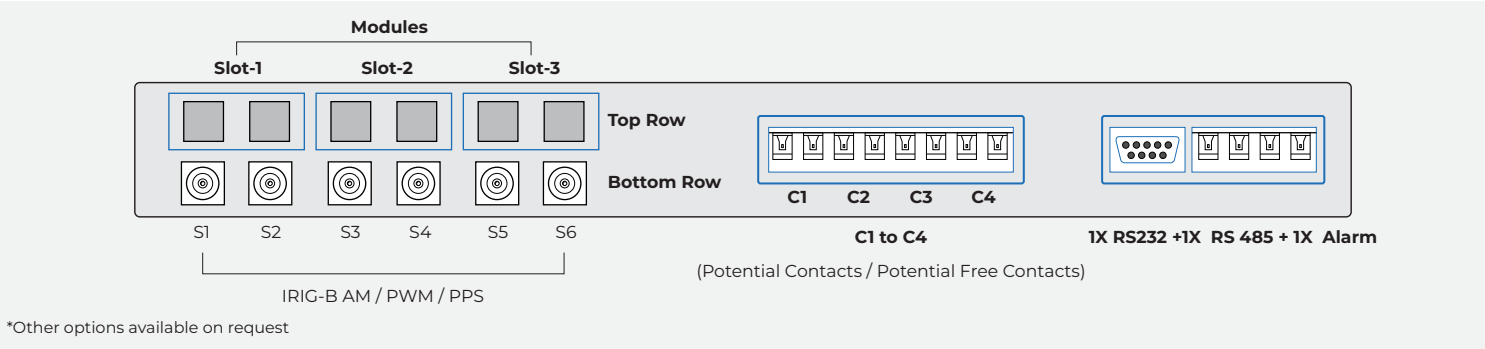
Type test	
Accuracy test	From NPL
Vibration test	IEC 60068-26
Shock test	IEC 60255-2-21
Dry Heat test	IEC 60068-2-2
Cold test	IEC 60068-2-1
Damp heat Cyclic test	IEC 60068-2-30
Bump test	IEC 60255-21-2
Radiated Emission test	CISPR 22, CLASSA
Electrostatic discharge immunity test	IEC 61000-4-2
Electrical fast transient / Burst Immunity test	IEC 61000-4-4
High frequency Surge test	IEC 61000-4-5
Radiated Susceptibility test	IEC 61000-4-3
Conducted RF immunity test	IEC 61000-4-6
Damped Sinusoidal test	IEC 61000-4-18
Voltage dips, Short interruptions immunity test	IEC 61000-4-11
Dielectric strength	IEC 60255-27
Power frequency magnetic field immunity test	IEC 61000-4-8
Radiated RF power Disturbance test	CISPR 14-1
IP 20	IEC 60529
Power Supply Immunity	IEC 61000-4-9
Surge Withstand Capability Immunity	IEC 61000-4-12
Seismic test	IEC 60255-21-3

Standard GPS Antenna cable length
20 meters - RG6
50 meters - RG6
100 meters - RG11



SELECT CONFIGURATION & REQUEST QUOTE

<https://www.sandsindia.com/gps-time-server-get-quote/>



Prices are subject to actual requirements, contact sales for pricing

Product development is continuous process - Specification subject to change
GPS TIME SYNCHRONIZATION EQUIPMENT. 19/08/2024

SIGNALS & SYSTEMS (INDIA) PRIVATE LIMITED

Toll-Free: 18005729705 | **+91** 8056020558 | **Email:** sales@sandsindia.com | **Web:** www.sandsindia.com