

DTS201A

PTP&NTP Master Clock



Basic Information

- ✧ IEEE-1588 PTP Master Clock
- ✧ Support multiple PTP Profile (G. 8265.1, G. 8275.1, G. 8275.2, Telecom-2008 Profile, Enterprise Profile, Power Profile, Broadcast Profile SMPTE)
- ✧ Support multiple systems (GPS, GLONASS, Beidou, Galileo)
- ✧ Taking GNSS as a reference, the accuracy of time synchronization can reach 15ns (1-sigma)
- ✧ Maintain accuracy up to $\pm 1.5\mu\text{s}/4\text{hours}$ (Locking GPS Test at fixed temperature after 7 days)
- ✧ Input: GNSS, 1588-PTP and SyncE
- ✧ OUTPUT: 1588-PTP, NTP, SyncE, PPS and 10MHz

ShenZhen GEMS NAVIGATION ELECTRONICS CO.,LTD.

F2,building 6, RunDongSheng Industry Park, Baoan District, Shenzhen, China

Tel: +86-755-29644311 Fax: +86-755-29644383 Email: sales@gemsnav.com

Document Number 120301 Rev 002 2023-03-01 Page 1 / 5

Product description

DTS201A Master Clock

PTP master clock is designed for wireless networks that need phase synchronization. DTS201A provides continuously available UTC traceability time for phase synchronization, which is a prerequisite for LTE-Advanced networks and services.

DTS201A Adopt industry-leading GNSS solution and punctual technology.。

DTS201A can work in harsh environmental conditions, support indoor and outdoor deployment, and has a wide working temperature range.

Small cell Phase synchronization

While designing DTS201A for small stations, it also considers and meets the time synchronization requirements of Acer stations.

PTP DTS201A It can be used in small station networks that need phase synchronization. The most effective way to realize the phase synchronization of LTE and LTE-A services is to deploy the master clock near eNodeB to ensure the phase synchronization of 1.5 us.

By reducing the number of network hops between the time server and the LTE base station, the risk of the impact of network reconfiguration and load changes on IEEE-1588 signal quality can be reduced. DTS201A perfectly adapts to this strategy because of its small volume, low cost, high precision, excellent reliability and adaptability.

LTE-A Ideal for service

CoMP, eICIC, eMBMS and Carrier Aggregation service requires re authentication and redesign of synchronization network to support phase synchronization function. Failure to comply with the phase synchronization specification will lead to service degradation or failure of LTE-A equipment, and reduce the bandwidth, resulting in potential service interruption.

By designing the current network to support phase synchronization, the pause time of LTE-A service can be reduced. Adding DTS201A can easily add phase synchronization to those synchronization networks. In view of its low cost, it can join any network node that needs to support strict phase synchronization function, so as to bring the best performance for LTE-A service.

High reliability ensures that DTS201A can be deployed in boundary or aggregation

networks.

Specification Parameters

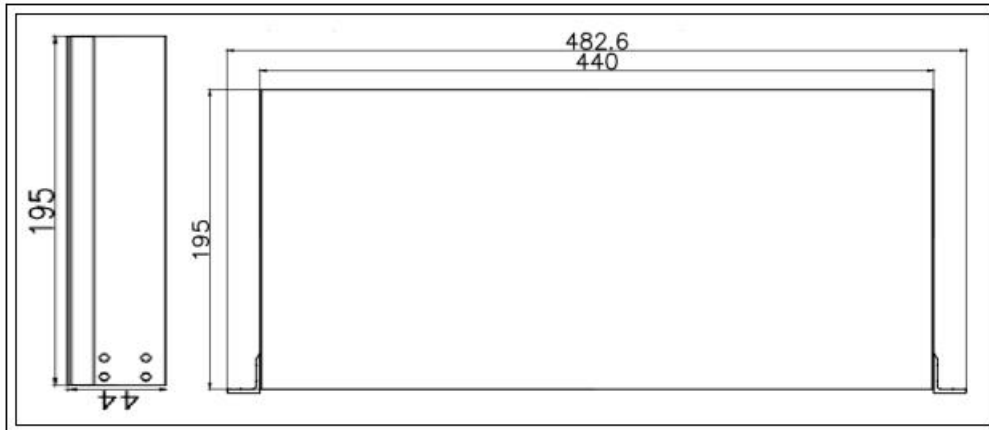
Functional interface	
Input	GNSS, 1588-PTP, SyncE
Output	PPS, 10MHz, NTP, PTP, SyncE
Network port	1x Mgmt RJ45 、 1x 1G SFP 、 1x 1G RJ45
GNSS Antenna interface	SMA
Support agreement	IEEE-1588 (PTP), NTPv4, SyncE, IPv4, IPv6, TELNET, SFTP, SSH, RADIUS,TACACS+, SNMP, DAYTIME, TIME
Network management	SNMPv2, HTTPS, CLI
CLI command line	Monitoring and management
Web user interface	Monitoring and management
Performance	
Time accuracy	15ns (1-sigma) reference GNSS
Timestamp accuracy	<10 ns rms
Frequency accuracy	1.16x10 ⁻¹² (24 hourly average)
Keep	<1x10 ⁻¹⁰ /24 hours
Track GPS	<15ns (After locking)
Punctual	±1.5μs/4 hours (7 days after locking)
Power waste	5W average, 10W maximum
Physical interface	
Overall dimension	482*195*44(L x W x H mm)
Weight	3kg
Dual DC power supply	-36VDC to -72VDC
Current consumption	330mA (Max)
Power-over-Ethernet (POE)	Optional
Environmental parameters	
Working temperature	-40°C to +85°C
Humidity	5%-95% RH No condensation(+60°C)
Storage temperature	-55°C to +105°C
Regulations and standards	
Time synchronization	ITU.....G.8265.x, G.8275.x (PRTC/T-GM)

IEEE.....PTP (IEEE 1588v2)

IETF.....NTPv4 (RFC5905)

Product size

Equipment size: 482mm × 195mm × 44 mm (D * W * H)



1 Serial Port (RS232)

1 Management Port Ethernet (eth2) 10/100/1000 Base-T (RJ-45)

1 NTP Time Server Port Ethernet (eth1) 10/100/1000 Base-T (RJ-45)

1 NTP Time Server Port SFP (Small Form-Factor Pluggable)

Either Serial port or Ethernet eth2 (RJ-45) is the dedicated management port to configure the DTS201A PTP Master clock

Alarm and status information is presented through the use of four LEDs. All LEDs have corresponding dry contact relay outputs at the back side of the DTS201A.

LED	Color	Indication	Meaning
Power	Green	ON	System is powered on
		OFF	System does not have power
ANT	Green	ON	Reference acquired & tracking
		Blinking, 1/2Hz	Reference being acquired, or no computing
		OFF	No reference active or antenna
Sync	Green	ON	Locked
		Blinking, 1/2Hz	Acquisition or Holdover
		OFF	Free-run or startup

Status	Red	OFF	No active alarms
		ON	Critical Alarm
		Blink, 1Hz	Minor alarm condition
		Blink, 1/2Hz	Major alarm condition

Ordering Information

DTS201A-AC

With 220V AC power

Standard with -48V isolated power.