

# PTS Time Server



## High-precision Time Servers

- GPS, BDS, GLONASS, IRIG-B, PTP etc., can be used as time source
- TCXO, OCXO or Rubidium features
- Safety and reliable multiple source selection algorithm
- 1PPS/1PPM/1PPH output
- IRIG-B-DC/AC output
- Idle Contact time output
- 1PPS+TOD time output
- RS-232/485 serial port output
- NTP/SNTP output
- PTP V2 output
- Screen display(3U-Touch Screen/1U-LCD Screen)
- Monitoring(IEC61850/IEC60870/DNP/SNMP)
- Alarm contact output
- Dual power supplies



## » Overview

Time server supports high precision reference clock, which can be synchronized to absolute time such as GPS or BDS (Beidou Satellite System), GLONASS. It also supports OCXO or Rubidium. Time server offers more time signals and interfaces for the system or device which need time scale. At the same time, time server supports time status monitor and time management by IEC 61850, IEC60870, DNP and SNMP.

## » Software Functions

### High Precision Time Accuracy

- Multiple time sources automatic selection
- Time coding format consistency
- No time output signals at initial status
- Time adjustment step up to 200ns/s
- Leap second indicator and adjustment
- Time source bump detection
- Monitoring by IEC 61850,104, SNMP
- Ethernet port isolation feature
- Ethernet port broadcast and multicast storm pressure feature
- All kinds of time signals output feature
- Long time stability feature
- Hold performance feature
- Channel delay compensation feature
- Industrial grade design for harsh environment

### Specifications

Signal, Interface & Accuracy  
 1PPS: Fiber <=60ns, TTL <=60ns, Differential <=0.5us, Contact <=3us  
 IRIG-B: Fiber <=60ns, TTL <=60ns, AC(3-12V,3:1-6:1) <=3us, Differential <=0.5us  
 Serial Signal: RS 232 <=10us, RS 485 <=10us  
 NTP: Ethernet <=50us

PTP: Ethernet <=50ns

### Hardware Features

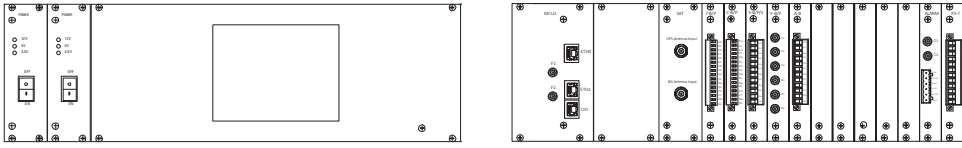
EMC Level 4  
 Operating Temperature: -20°C to 75°C (-4 to 158°F)  
 Storage Temperature: - 40°C to 85°C (-40 to 185°F)  
 Humidity: 5%-95%, non-condensing  
 MTBF: 50000hrs  
 Power Supply: 85-256VAC/DC, dual redundant power supplies

### Installation

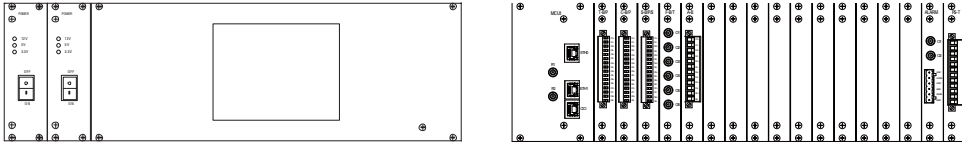
- PTS-30
- ▼ WxHxD: 483 x 135 x 280mm (19 x 5.31 x 11.02inch)
  - ▼ Weight: 8kg
  - ▼ Installation: 3U 19" rack mount
- PTS-10
- ▼ WxHxD: 483 x 45 x 280mm (19 x 1.77 x 11.02inch)
  - ▼ Weight: 4.5kg
  - ▼ Installation: 1U 19" rack-mount
- PTS-10A
- ▼ W\*H\*D: 483mm x 45mm x 280mm
  - ▼ Weight: 4.5kg
  - ▼ Installation: standard 1U, 19"

## Panel View

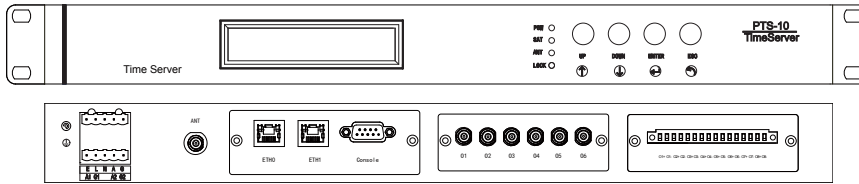
PTS-30M



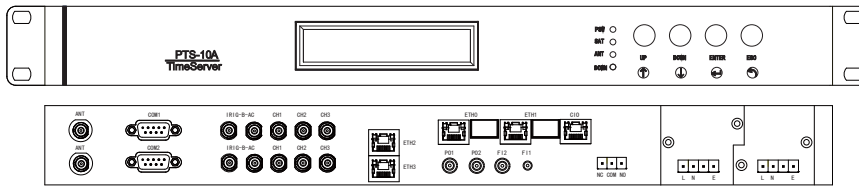
PTS-30E



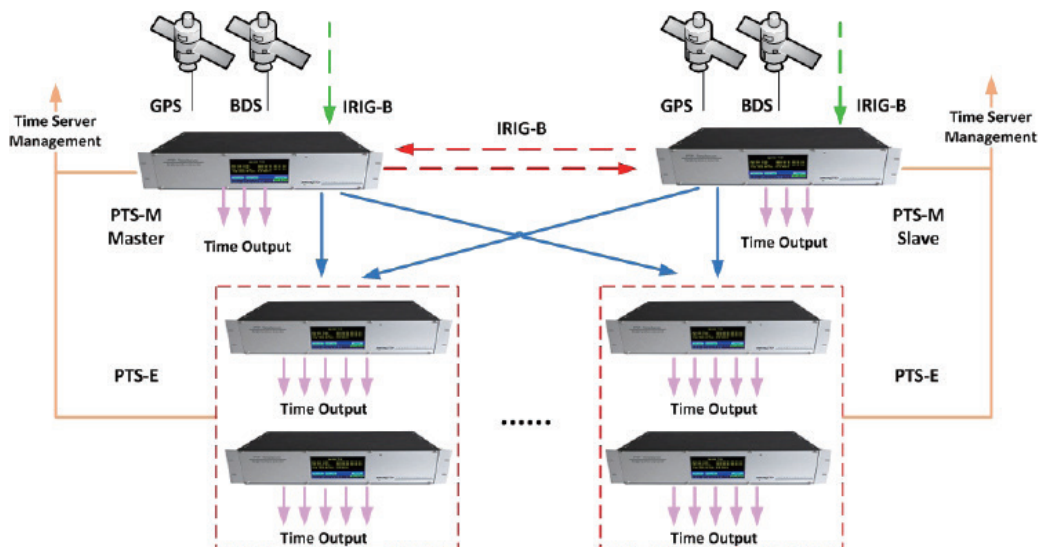
PTS-10



PTS-10A



## Typical Application



➤ Ordering Information

PTS-30

Time Server(3U)

P T S - 3 0 M - -

X -

POWER									
85~264V AC/DC Single									1
85~264V AC/DC Double									2
48V DC Single									3
48V DC Double									4
OSCILLATOR									
TCXO(<55us/1h)									1
OCXO(<12us/12h)									2
OCXO(<6us/24h)									3
RB.31									4
RB.33									5
ETHERNET									
2*100M C									1
4*100M C									2
2*100/1000 C/F(LC) (without SFP Module)									6
2*100/1000 C/F(LC) (without SFP Module) + 2*100M C									7
SATELLITE									
GPS									1
GPS/BDS(Dual-mode )									2
GPS/GLONASS (Dual-mode )									3
GPS+GPS									4
GPS+BDS									5
GPS+GLONASS									6
PTP									
N/A									0
PTP v2									1
FI									
N/A									0
FI1+FI2(ST 850nm MM)									1
ALARM & FREQ									
2 * Alarms Contact								0	0
2 * Alarms Contact + 50Hz Frequency measurement								0	5
2 * Alarms Contact + 60Hz Frequency measurement								0	6
2 * Alarms Contact + 2xFO(850nm,ST MM)								1	0
OUTPUT (8 SLOTS)									
PPS TTL-TB(eight-channel per module)									
IRIG-B TTL-TB(eight-channel per module)									
PPS TTL-BNC(five-channel per module)									
IRIG-B TTL-BNC(five-channel per module)									
PPS FO(six-channel,per module,ST 850nm MM)									
IRIG-B FO(six-channel,per module,ST 850nm MM)									
IRIG-B AC-TB(six-channel per module)									
SERIAL_TB(eight-channel,RS485 per module)									
SERIAL_TB(six-channel,RS232 or RS485 per module)									
CONTACT_TB(eight-channel, per module)									
FIRMWARE									
WEB									1 0
WEB+SNMP									1 1
WEB+IEC60870-104+DNP TCP									1 2
WEB+IEC60870-104+IEC61850 MMS									1 3
WEB+TMS GOOSE Trigger+IEC61850 MMS									1 4



PTS-10 Time Server(1U)

P T S - 1 0 X - - X

POWER	
85~264V AC/DC Single	1
48V DC Single	3
OSCILLATOR	
TCXO(<55us/1h)	1
OCXO(<12us/12h)	2
OCXO(<6us/24h)	3
ETHERNET	
2*100M C	1
2*100/1000 C/F(LC) (without SFP Module)	6
SATELLITE	
GPS	1
GPS/BDS(Dual-mode )	2
GPS/GLONASS (Dual-mode )	3
GPS+GPS	4
GPS+BDS	5
GPS+GLONASS	6
PTP	
N/A	0
2xPTPv2.0	1
FI	
N/A	0
FI1+FI2(ST 850nm MM)	1
OUTPUT (2 SLOTS)	
PPS TTL-TB(eight-channel per module)	
IRIG-B TTL-TB(eight-channel per module)	
PPS TTL-BNC(five-channel per module)	
IRIG-B TTL-BNC(five-channel per module)	
PPS FO(six-channel,per module,ST 850nm MM)	
IRIG-B FO(six-channel,per module,ST 850nm MM)	
IRIG-B AC-TB(six-channel per module)	
SERIAL_TB(eight-channel,RS485 per module)	
SERIAL_TB(six-channel,RS232 or RS485 per module)	
CONTACT_TB(eight-channel, per module)	
COMBO1(one-BNC IRIG AC, two-BNC IRIG/PPx TTL, one-DB9 RS232)	
COMBO2(two-BNC IRIG AC, two-BNC IRIG/PPx TTL, one-FO ST 850nm MM)	
FIRMWARE	
WEB	1 0
WEB+SNMP	1 1
WEB+IEC60870-104+DNP TCP	1 2
WEB+IEC60870-104+IEC61850 MMS	1 3
WEB+TMS GOOSE Trigger+IEC61850 MMS	1 4

PTS-10A Time Server(1U)

P T S - 1 0 A - - X X X X X X X X X X X X -

<b>POWER</b>	
85~264V AC/DC Single	1
85~264V AC/DC Double	2
48V DC Single	3
48V DC Double	4
<b>OSCILLATOR</b>	
TCXO(<55us/1h)	1
OCXO(<12us/12h)	2
OCXO(<6us/24h)	3
<b>ETHERNET</b>	
2*100/1000 C/F(LC) (without SFP Module)	6
2*100/1000 C/F(LC) (without SFP Module) + 2*100M C	7
<b>SATELLITE</b>	
GPS	1
GPS/BDS(Dual-mode )	2
GPS/GLONASS (Dual-mode )	3
GPS+GPS	4
GPS+BDS	5
GPS+GLONASS	6
<b>PTP</b>	
N/A	0
2xPTPv2.0	1
<b>FIO</b>	
N/A	0
FI1(ST 850nm MM)+FI2(SMA) + FO1/FO2(ST 850nm MM)	1
<b>FIRMWARE</b>	
WEB	1 0
WEB+SNMP	1 1
WEB+IEC60870-104+DNP TCP	1 2
WEB+IEC60870-104+IEC61850 MMS	1 3
WEB+TMS GOOSE Trigger+IEC61850 MMS	1 4
<b>POWER</b>	
85~264V AC/DC Single	1
85~264V AC/DC Double	2
48V DC Single	3
48V DC Double	4
<b>OSCILLATOR</b>	
TCXO(<55us/1h)	1
OCXO(<12us/12h)	2
OCXO(<6us/24h)	3
<b>ETHERNET</b>	
2*100/1000 C/F(LC) (without SFP Module)	6
2*100/1000 C/F(LC) (without SFP Module) + 2*100M C	7

Accessory All Time Server (Except PTS-10N)

P T S - A C C - X - X X X - 0 0

<b>ANTENNA</b>	
Coaxial Cable (15 meters)	
Coaxial Cable (30 meters)	
Coaxial Cable (50 meters)	
Coaxial Cable (80 meters)	
Coaxial Cable (100 meters)	
HT-GB032CC_T Antenna(GPS/BDS, TNC female conector)	
HT-GB032CC_N Antenna (GPS/BDS, N female conector)	
HT-GG032MC_T Antenna(GPS/BDS/GLONASS, TNC female conector)	
HT-GG032MC_N Antenna (GPS/BDS/GLOANSS, N female conector)	
Antenna Amplifier	
AR25B Antenna Lighting Protection ( BNC female to male connector)	
<b>SFP</b>	
100M Multi-mode GTLS-1303-02MIL	
1000M Multi-mode GTLS-8512-02I	
100M Single-mode GTLS-1303-10I	
1000M Single-mode GTLS-1312-10I	
<b>FIRMWARE</b>	
N/A	0 0