TimeServer Module

Time Server module

Overview

Time Server module is specifically designed for SICOM3028GPT series which support PTP protocol. This module supports GPS (Global Positioning Service), BDS (Chinese Satellite System), and GLONASS (Russian Satellite System) as sky time sources and IEEE1588 PTP (Precision Timing Protocol), IRIG-B as ground time sources. It also supports IEEE1588 PTP (Precision Timing Protocol), NTP (network Time Protocol), IRIG-B time output based timing devices and synchronization systems. This module supports TMS features to report system status by IEC61850 MMS and GOOSE publisher and GOOSE subscriber to trigger and monitor time status. It also supports SNMP and WEB management. By expanding this module, SICOM3028GPT can work as a grandmaster clock and provide high precision clock when the satellite signal is temporarily lost.

Key Features

High Precision Reference Clock as Absolute Time Source (GPS, BDS, GLONASS)

Relative Reference Time and External Time Synchronization (PTP, IRIG-B)

High precision stable OCXO oscillator with excellent time keeping performance

Support PTP,NTP/SNTP,IRIG-B,PPS output

Report time status by IEC61850 MMS, IEC60870-5-104, DNP over TCP etc

Support Web, SNMP etc. management system

Designed for the SICOM3028GPT-L2GT, SICOM3028GPT-L2FT, SICOM3028GPT-L3GT, SICOM3028GPT-L3FT chassis

Support hot-swap for easy maintenance (only can replace the same type of module)

Product Specifications

>Functions
-Time Reference

Support GPS, BDS, GLONASS

Support PTP input

Support IRIG-B optical input

-Time Synchronization

Support PTPv2

Support PTP Grandmaster

Support PTP Slave

Support PTP BC

Support NTP Server

Support IRIG-B output (B000~B007, TTL, RS485 and Optical output)

-Time Management

GOOSE publisher by PPS, PPM as time trigger

GOOSE subscriber to do time measurement

Report time status by IEC61850 MMS, IEC60870-5-104, DNP over TCP etc.

-Device Management

Support SNMP v1/v2c/v3, (no trap)

Support WEB

>Product Specifications
-Technical specifications

Receiver: 72 channels satellite receiver, GPS/ BDS/GLONASS

Sensitivity:

Tracking Sensitivity:-167dBm

Acquisition Sensitivity:-160dBm

Oscillator:

OCXO, Accuracy:20us/24h (Constant Temp.)

20us/24h (Constant Temp.)

Aging per day≤5×10^-10

Freq vs Temp@25℃≤3×10^-9

Operation Temp:-20℃～+70℃(-4℉～158℉)

-Interface

Satellite input: 5V DC, BNC connector

Fiber input: Multi-mode, 850nm or 1310nm, ST connector

TTL output: BNC connector, IRIG-B or PPS software configurable

RS485 output: 3-Pin 3.81mm-spacing plug-in terminal block, IRIG-B or PPS software configurable

Fiber output: Multi-mode, 850nm or 1310nm, ST connector, IRIG-B or PPS software configurable

Ethernet port: 1000Base-X or 100Base-FX SFP port and 100/1000Base-T(X) RJ45 port

Console port: RS232, RJ45

-LED

LEDs on front panel:

Satellite positioning LED: FIX

System clock lock LED: LOCK

Antenna status LED: ANT

Signal output LED: OUT

-Power Requirements

Power input: 3.3V DC

Power terminal: A type interface (powered by backplane)

Power consumption: <10W

-Physical Characteristics

Housing: Metal

Cooling: Natural cooling, fanless

Dimensions(WxHxD): 122.6mm×41mm×106.6mm(4.83×1.61×4.20 in.)

Weight: 0.5Kg (1.10 pound)

-Environmental limits

Operating temperature: -20°C to +70°C (-4°F to 158°F)

Storage temperature : -30°Cto +80°C (-30°F to 180°F)

Ambient Relative Humidity: 5% to 95% (non-condensing)

-Quality assurance

Warranty: 5 years

-Approvals

CE, FCC

IEC 60950-1, EN 60950-1

>Precision Parameters

-PPS

Fiber≤60ns

TTL≤60ns

RS485≤0.5ns

-IRIG-B

Fiber≤60ns

TTL≤60ns

RS485≤0.5ns

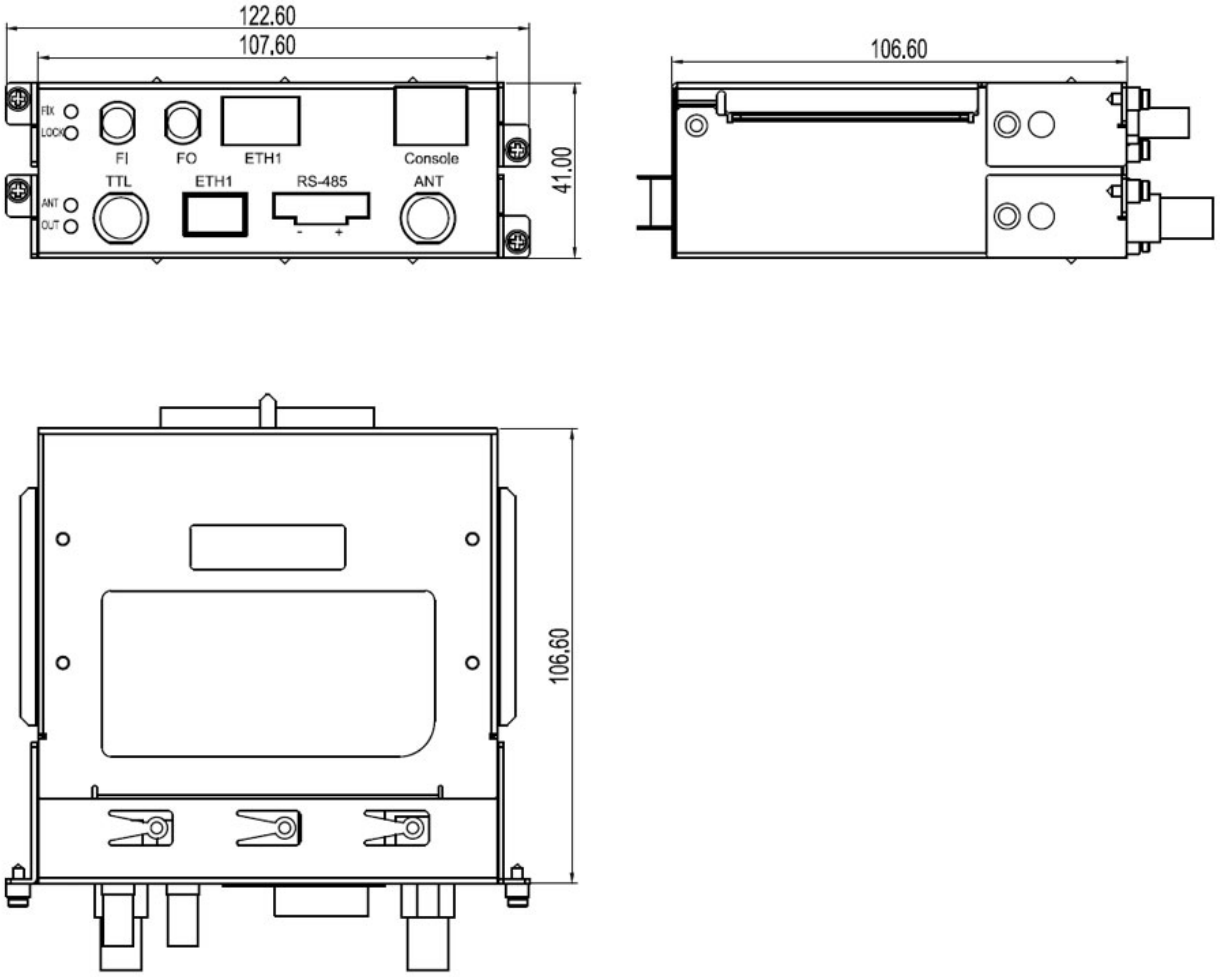
-NTP

≤50us

-PTP

≤50ns

Mechanical Drawing



Ordering Information

Model	SM6.6-TimeServer-FIO-1U-SW
Interface	1 BDS/GPS/Glonass input,BNC connector; 1 TTL output,BNC connector; 1 RS485 output,terminal block; 1 optical input; 1 optical output; 1 Gigabit combo port,SFP and RJ45; 1 console port,RJ45
Code definition	Code selection
FIO: optical interface type	ST850 = multi-mode,ST connector,850nm ST1310 = multi-mode,ST connector,1310nm
SW:software	S1=support Web, SNMP S2=support Web,DNP3.0,IEC60870-5-104 S3=support Web,IEC61850 MMS,IEC60870-5-104 S4=support Web,TMS,IEC61850 MMS,IEC60870-5-104 NA: support Web

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