

GPS Over Fiber

For Timing and GPS Indoor Systems



Remote Unit



Local Unit



Reapter Unit

GEMS NAVIGATION ELECTRONICS

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Description

The GOF is powered by 12V DC power supply to guarantee the stable operation of the system. The antenna interface connects to outdoor GPS antenna. The satellite signals received by Remote unit, the remote unit converts GPS signals into optical signals, Transmission through optical fibers, the local unit converts optical signal into GPS(RF) signals, and offer GPS signals to the RF output ports, the output ports connect to GPS receivers(BBU) or repeater antenna(for re-radiation). The gain is up to 40dB .

Optical fiber interface (round FC-APC interface) is used as the interface of transmitting signal remotely between remote unit and local unit via optical fibers.

This product can achieve outdoor waterproof grade: IP65;And can be equipped with a temperature control module, when the temperature is lower than or higher than

the working temperature, the temperature control device will start, the equipment temperature control within the normal operating temperature range.

Basic properties

- ✧ Designed for 5G Timing and indoor signal forwarding applications;
- ✧ Frequency range:1164~1616;
- ✧ Gain:Fixed gain of 40dB;
- ✧ Optical fiber long-distance signal transmission;
- ✧ Operation Environment: meet IP65
- ✧ Temperature control module inside (Optional)
- ✧ 12V DC power supply

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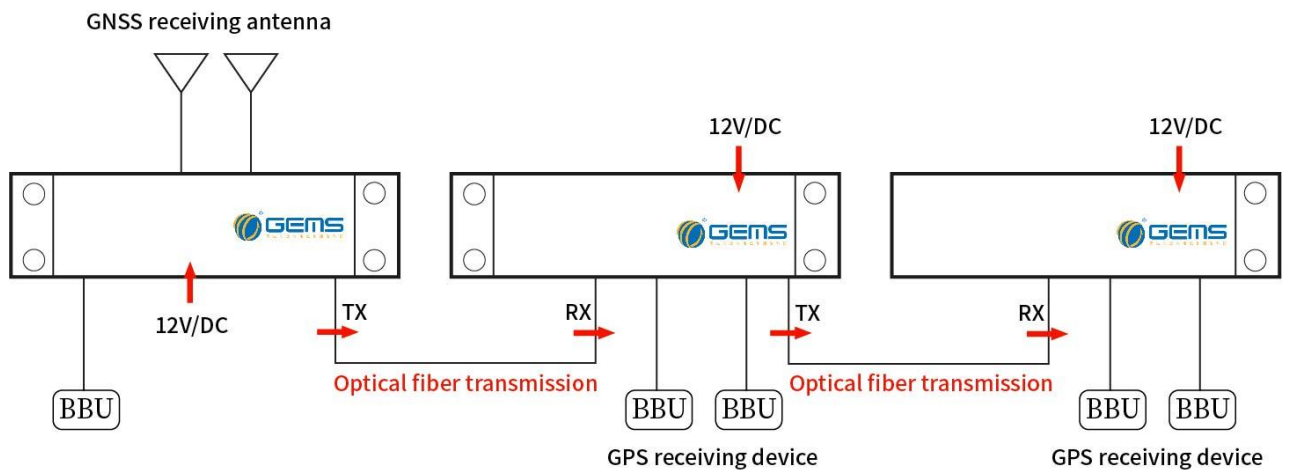
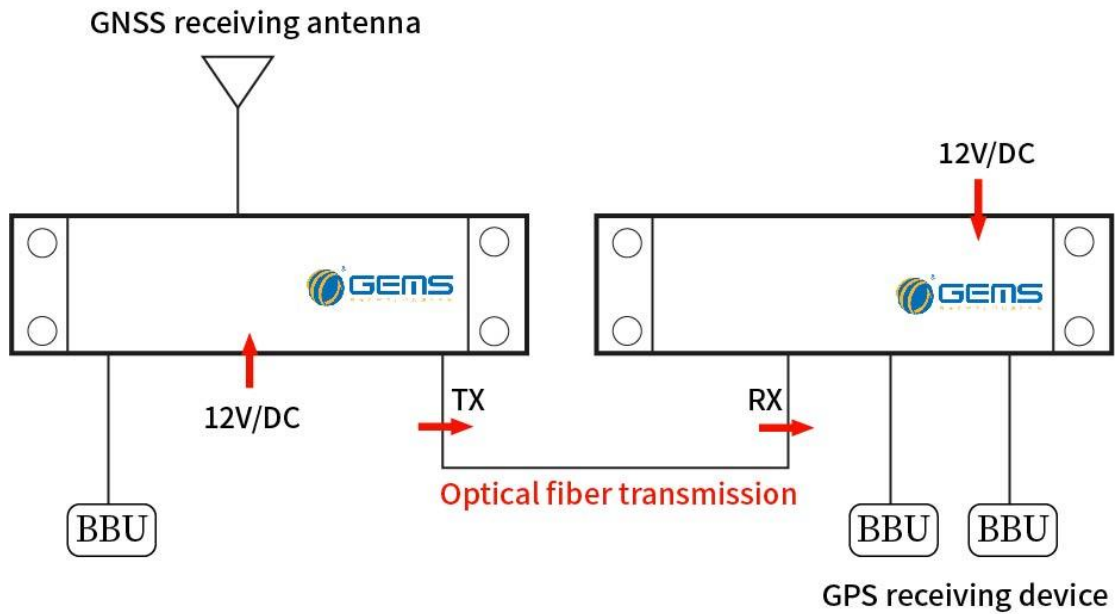
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Electrical parameters

Parameter		Specification	Min.	Nominal	Max.	Unit
Frequency range		Remote unit antenna	1164		1616	MHz
I/O impedance		Input, all output ports		50		Ω
Gain	40dB		38		41	dB
Input voltage standing wave ratio					2.0:1	-
Output voltage standing wave ratio					1.5:1	-
Noise factor					4	dB
Pass band ripple		Antenna - unused port - 50 Ω load			3	dB
Maximum output power		Antenna - unused port - 50 Ω load	-30			dBm
DC input		DC 12V		12		VDC
Current		12V			30	mA
Optical wavelength		Sending (Remote unit)		1310		nm
Optical wavelength		Receiving (Local unit)		1310		nm
Optical output power		25 $^{\circ}$ C Sending (Remote unit)		8		dBm
Optical receive power		25 $^{\circ}$ C Receiving (Local unit)	-30			dBm
Light delay				5		ns
Optical fiber transmission distance		Sending (Remote unit)	60			Km
Operation Environment				IP65		
Working temperature		Normal	-20	25	65	$^{\circ}$ C
Working temperature		temperature control inside	-45	25	65	$^{\circ}$ C
Storage temperature			-30	25	80	$^{\circ}$ C

System connection



GPS-over-Fiber Timing Distribution System

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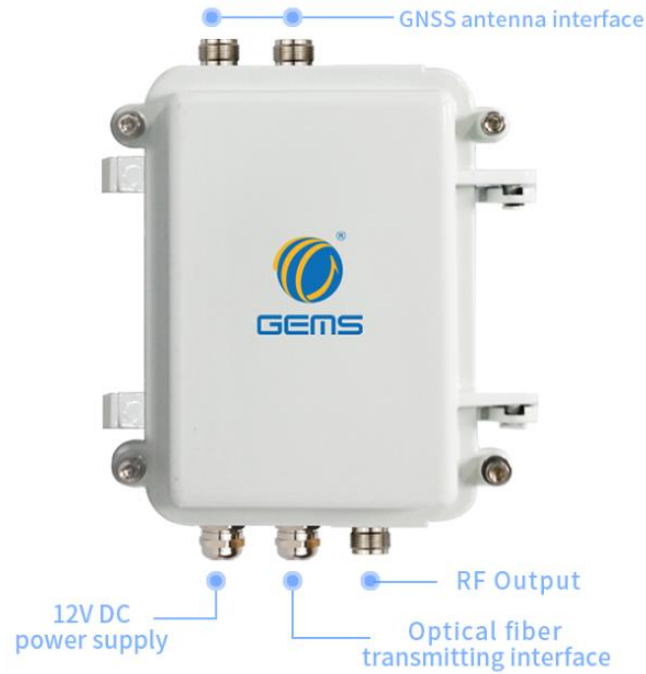
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Remote unit



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Reapter unit

Operating Instructions

This system supports 12V DC power supply. Input ports of Remote unit are connected to GPS antennas (N-type interface). When internal optical fiber module works normally, optical fiber is connected to the local unit through optical fiber interface (optical fiber interface is round FC-APC interface); local unit host output port connects to slave (GPS power divider and other distribution systems) or directly connects to BBU and other GPS Beidou receivers.

Optical fiber interface (round FC-APC interface) is used as the interface of transmitting signal remotely between Remote unit and local unit via optical fibers.



Optical fiber interface: Round
FC-APC interface connector



RF interface: SMA Female



Installation instructions



Install the fixture

Fixed with the holding lever tool



The card may be fixed to the device fixation as shown in, and the card may then be fixed to the rod.

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12V DC Power adapter

1、 INPUT CHARACTERISTICS

1、 1 Input Voltage

Rated Voltage: 220V/AC

Variation Range: 100~240V/AC

1.2 Input Frequency

Rated Frequency: 50/60Hz

Variation Frequency:47-63Hz

1.3 Input Current

The input current should be less than 0.6A, under minimum AC input and full load.

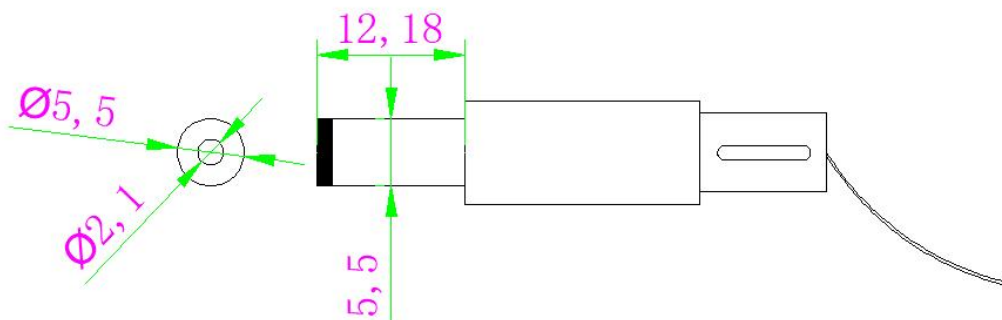
2、 OUTPUT CHARACTERISTICS

2.1 Power Output

Voltage	Min.Load	Rated. Load	Peak	Output power
12VDC	0A	1A	1.3A	12W

2.2 Combined Load/Line Regulation:

Floating Voltage	Min.Load	Rated. Load	Line Regulation	Load Regulation
12.0V $\pm 5\%$ DC	0A	1A	$\pm 7\%$	$\pm 5\%$



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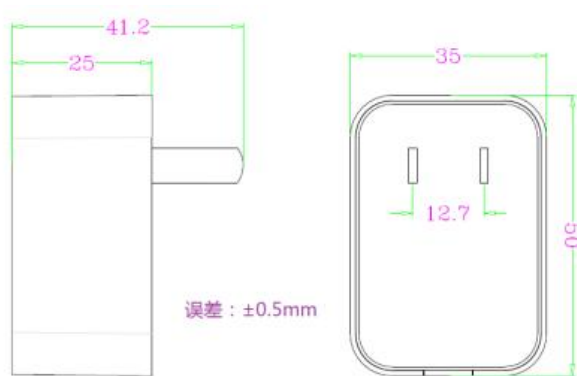
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Product Dimensions

160mm*110mm*60mm (D*W*H)



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Ordering Informations

GOF101R-WP-TC

Blank: Standard;
TC: Temperature control module inside;

Blank: Standard;
WP: Waterproof;

R: Remote unit;
L: local unit
RL: Repeater unit,

101: One antenna port; One optical ports;
201: Two antenna/ RF ports; One optical ports;
202: Two RF ports; Two optical ports(Repeater option only)