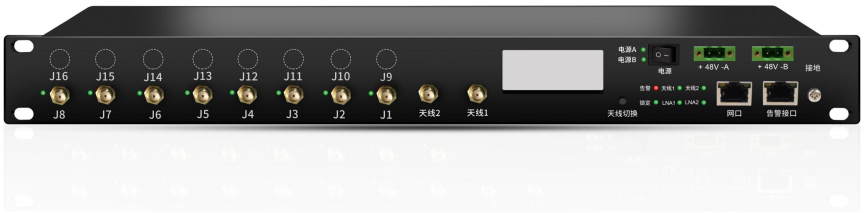
iRGS2xx

GPS Distributions System



Attribute:

- ✧ **Automatic or Manual Antennas Switching Capability;**
- ✧ **Gain : 30dB（0~30dB，can be specified）;**
- ✧ **Antenna status monitoring and warning;**
- ✧ **Dry node interface;**
- ✧ **Buzzer alarm;**
- ✧ **Dual 48V Isolated DC ;**
- ✧ **Software management，network management monitoring;**
- ✧ **High Isolations >30dB;**

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Description

The IRGS208/212/216/232 GPS distribution system is a 2 antennas input, 8/12/16/32 ports output GPS splitter device. The dual input ports connect two GPS receive antennas. The outputs ports grant up to GPS receives such as BBU or other GNSS receivers.

When entering the GNSS signal system management terminal to set the IP, the software can display the power of each port, the number of GPS visible satellites and the value of C / No, the number of Beidou visible satellites and the value of C / No.

IRGS2XX equally divides the signals received by the active GPS receiving antenna into 8/12/16/32 outputs and supplies the GPS receiving equipment with a gain of 0-30dB. The two antennas are optional to ensure the integrity of the system. In this scenario, IRGS2XX can be configured with its output port to be DC-connected to operate an active GPS antenna connected to the input ports. Other output ports will have a 200 Ohm DC load to simulate the DC loss of any receiver antenna connected to these ports.

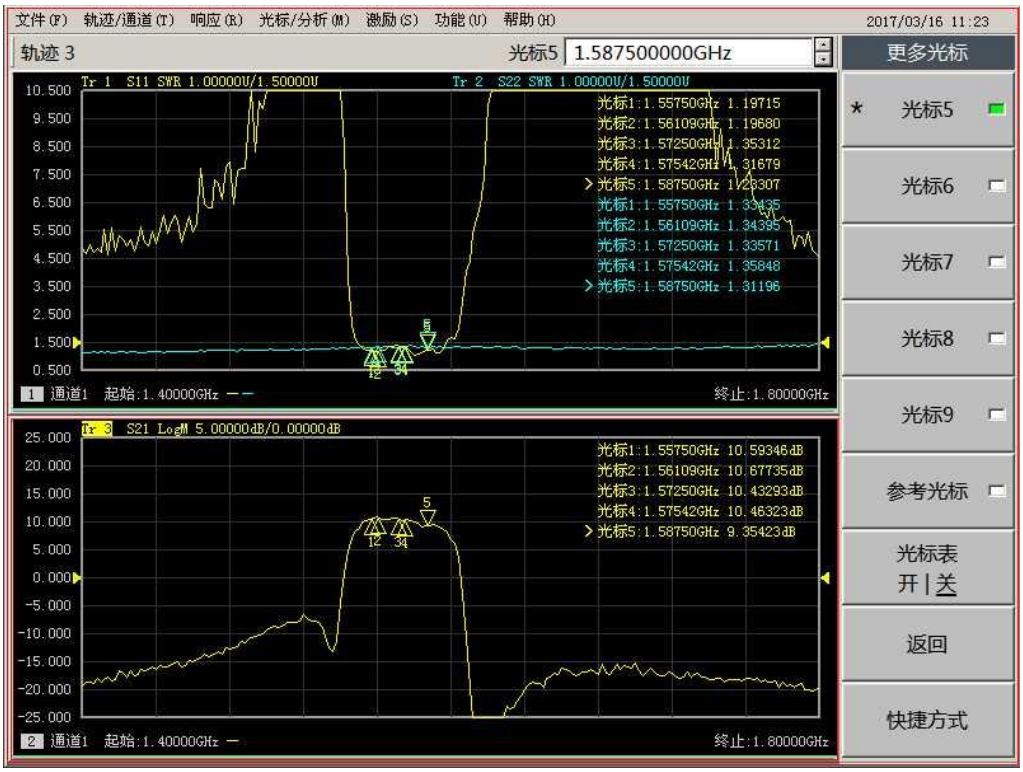
Specifications

Electrical Specifications, Operating Temperature -20 to 65℃; Storage Temperature -30 to 80℃.

Parameter		Conditions	Min	Typ	Max	Units
Freq. Range		L1 only std.	1557		1588	MHz
		L1 and L2 supported optional	1150		1650	MHz
In &Out Imped.		In, all output ports		50		Ω
Gain	30dB	In- Output ports, Unused Ports - 50Ω terminations	-29	30	31	dB
Output Power		In- Output ports, Unused Ports - 50Ω terminations	-30			dBm
Input SWR 1.150-1.650GHz		All Ports- 50Ω terminations			2.0:1	-
Input SWR 1.557-1.588GHz					1.5:1	-
Output SWR 1.150-1.650GHz		All Ports- 50Ω terminations			2.0:1	-
Output SWR 1.557-1.588GHz					1.5:1	-
Noise Figure(Amplified)		Ant- Any Port, Unused Ports-50Ω terminations			3	dB

Gain Flatness(Amplified)		|L1-L2|,Ant- Any Port, Unused Ports-50Ω terminations			3	dB
Group Delay Flatness					1	ns
Isolation	Amplified	Adjacent Ports: In - 50Ω terminations	30			dB
		Opposite Ports: In – 50Ω terminations	34			
DC IN		DC Block, All ports with a 200Ω Load			14	VDC
		Powered, （48V）	43	48	58	Optional
Device Current		208		100	500	mA
		212		120	500	mA
		216		120	500	mA
		232		140	500	mA
RF Power Output					-25	dBm

Performance Index

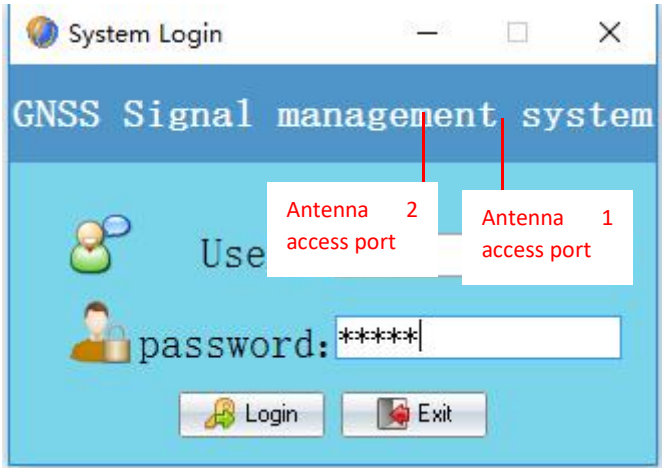


Operation instructions

Turn on the power to access ANT2, ANT1 port antenna, connect the network serial port to the PC port.

Install and open "GNSS signal system management terminal"software, login.

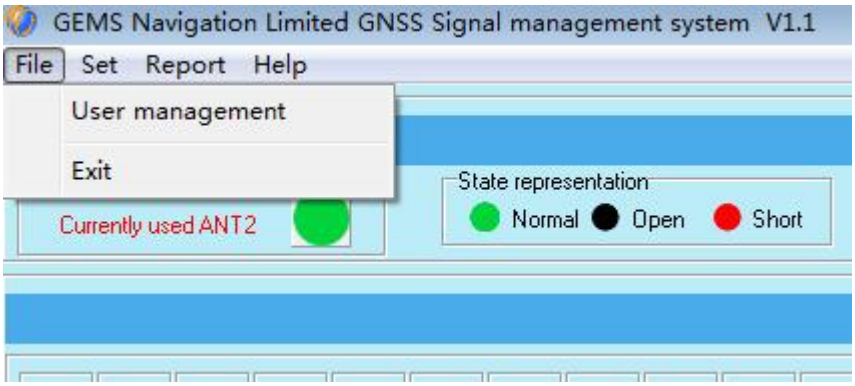
User: adminPassword: admin

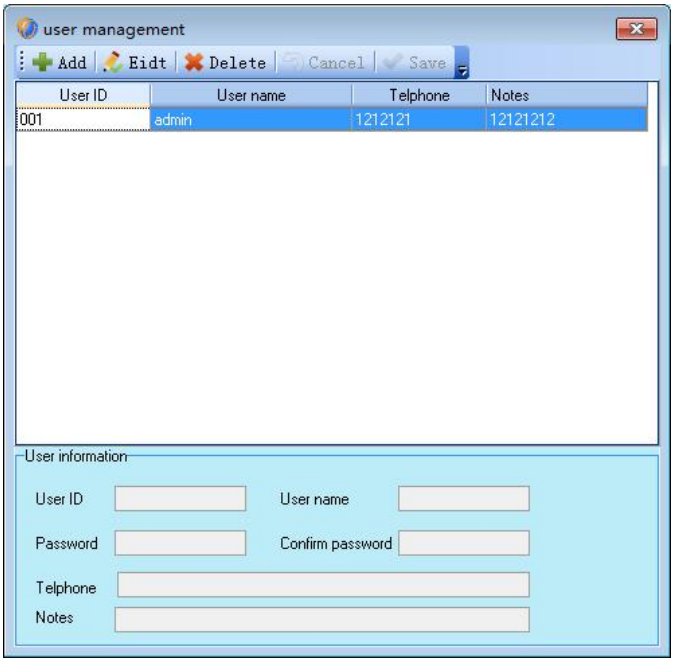


Click on the "Login" sign on; "Exit" exit.

1. User management

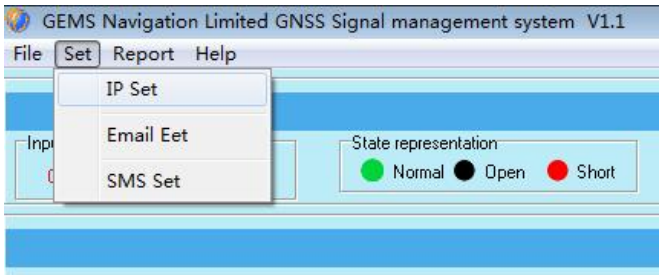
File—> User Management

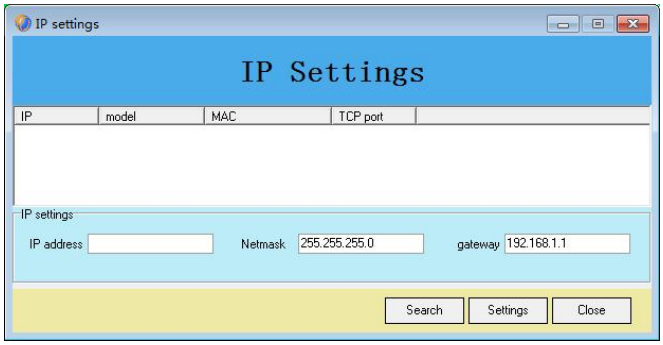




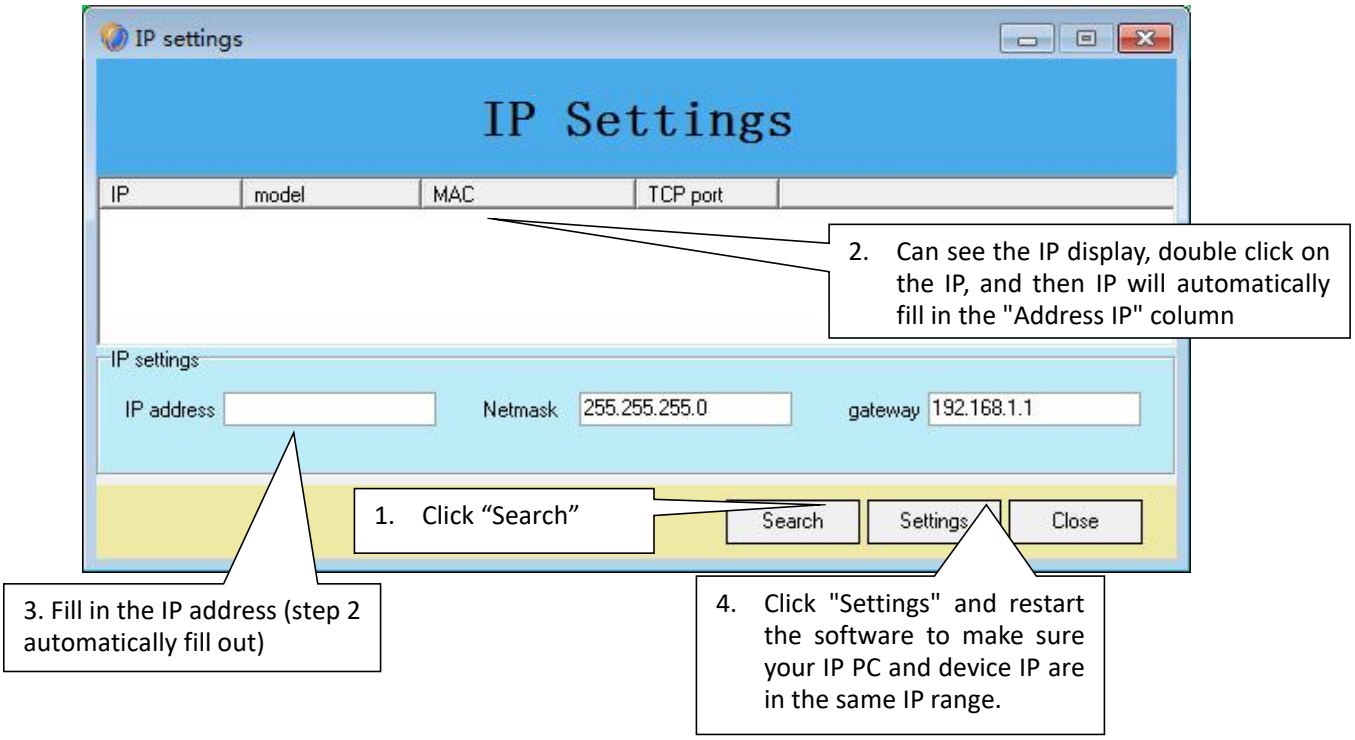
2. Set IP

Set—>IP Set





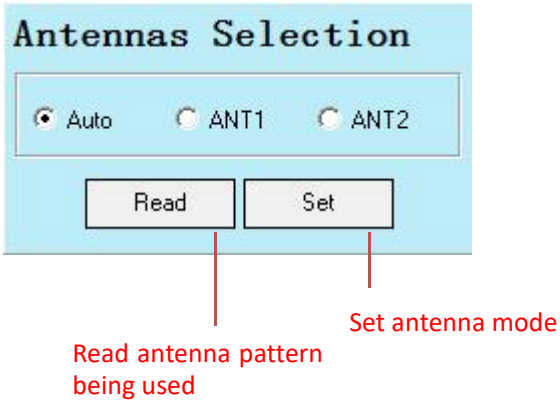
Setting steps



IP set successfully, the network serial port can be used normally.

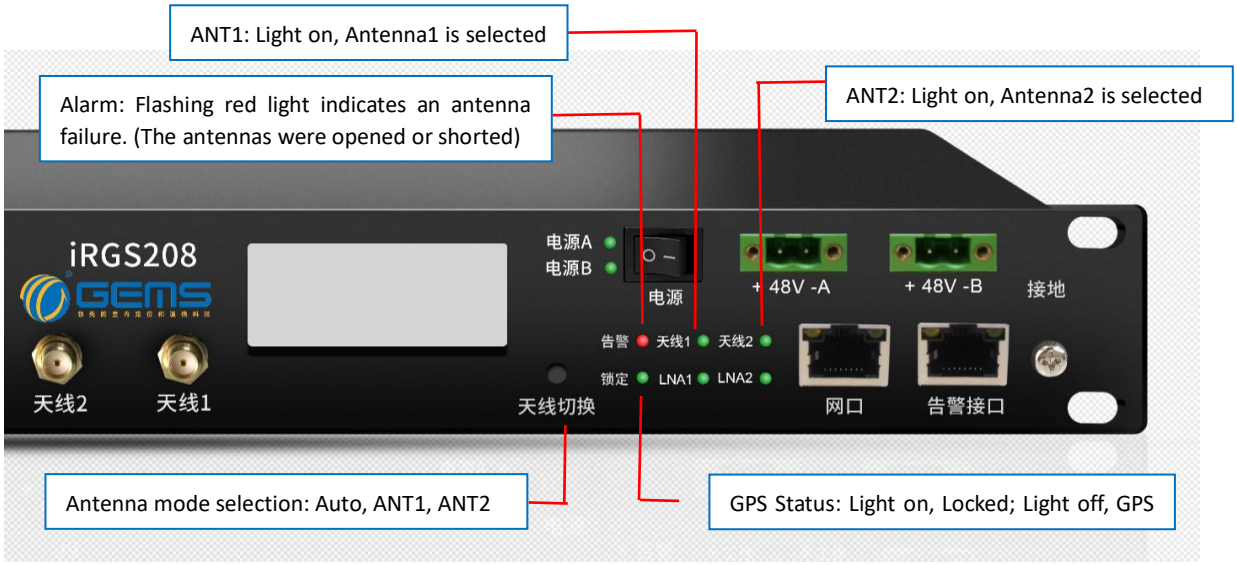
3. Antenna selection and status display

In the below and to the right of the antennas selection bar for active antenna selection and state, read the "auto" selected automatically signal the better antenna access, Ant1 is specified using the wire 1 access, ant2 "for the specified using antenna 2 access, click the" read "read antenna can be seen when using the antenna pattern.



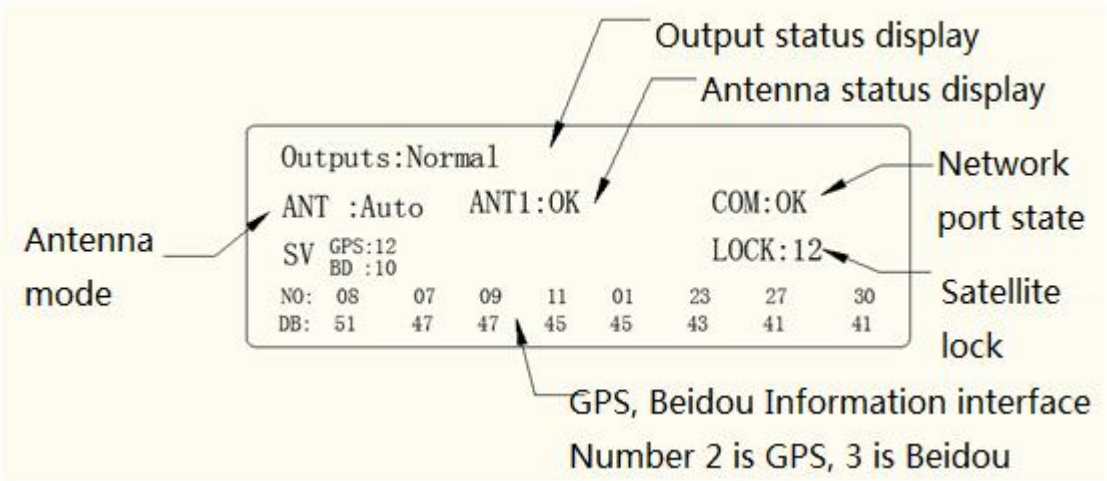
Active antenna mode select: Select "AUTO" or other antenna patterns Click "Set" prompt setup is successful, while the unit's front panel LCD displays the antenna pattern used in this case, if you select "AUTO" mode the unit's front panel "ANT1" bright blue light, select "ANT1" mode is "ANT1" lights up in blue, select "ANT2" mode "ANT2" lights up in blue, the active antenna selection mode can also be operated in the front panel

buttons, press the button "Ant Switch", can rotate choose from three antenna mode, synchronous display mode antenna device used in this case on the LCD screen.



"AUTO" mode: automatic selection mode for the antenna when switching to this mode will automatically turn access antennas 1 and 2 compare the signal strength and then select a better signal antenna access. In this mode the device automatically switches the antenna will be delayed.

If the antenna is open or shorted, the machine front panel "satellite lock" green light goes out, "alarm" flashing red light that alarm, PC side read antenna running state is short or open.
If the output port of the Outputs "Normal" is normal or not electrified port port; "Open" said open, did not pick up the equipment output; "short" for short circuit, output access equipment output short circuit, short circuit or open circuit alarm device.



Turn off the sound, the fault does not rule out the warning lights will not go out.

Power:

Dual power supply design, power supply 48V DC and 12V DC power supply support, to choose from, such as access to work when the 48V power supply, the 12V power supply is not access; while 48V and 12V power supply has reverse polarity protection, namely when the power is negative reversed, the device will not burn, it has a protective function.

Power Connecting:

- **-48V DC:**
  - **-48v connect to -;**
  - **GND connect to +;**
- **+48V DC:**
  - **+48V connect to +;**
  - **GND connect to -;**

4. Dry node alarm

The dry contact points are divided into two parts: power supply and port:

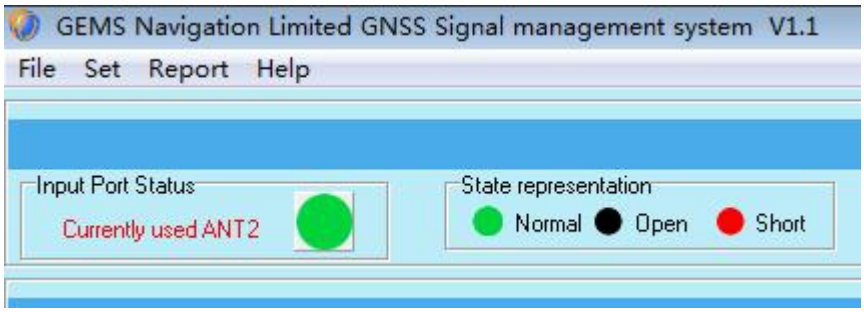
（1）.when the dual 48V power is properly connected, the device will not alarm, NC will disconnect, and NO will turn on. When the 48V power supply is disconnected or disconnected, the NC is turned on and the NO is disconnected

（2）.when two antennas are properly connected, the device will not alarm, NC will disconnect, and NO will turn on. When one or two of the antennas are not connected or short-circuited, the NC switches on, NO is disconnected, and the red light flashes.

Type(Depending on the placement of the internal power divider)	Port
Adjacent Port	J1、J3
	J5、J7
	J2、J4
	J6、J8
Opposite Port	Which is not adjacent to the port is the opposite port

5. Antenna operation status display

At the top left of the interface of the software, input port status bar for the antenna operating status, real-time displaying the access for which antenna and access antenna operation and state representation bar sketch for antenna operating status, Green said normally, red represents a short circuiting, Black said the road.



If the antenna open or short circuit, the front panel of the machine GPS Locked green light is off, Alarm red light flashes to indicate alarm, PC-side reading antenna operating state shorted or opened.

6. Output port status settings

Software on the "output port state" that the device output power, you can set the power of each port, IRGS2XX 8 output so to enable the 1-8 port, click on the "read" you can know the port at that time the connection status, green That is normal, red that short circuit, black that open, only in the case of power to show the port state.

Power settings:

The first row of ports is not checked , and then click the "port settings" set to the port power;

No power settings:

The first row of the port check and then click the "port settings" set to the port is not powered;

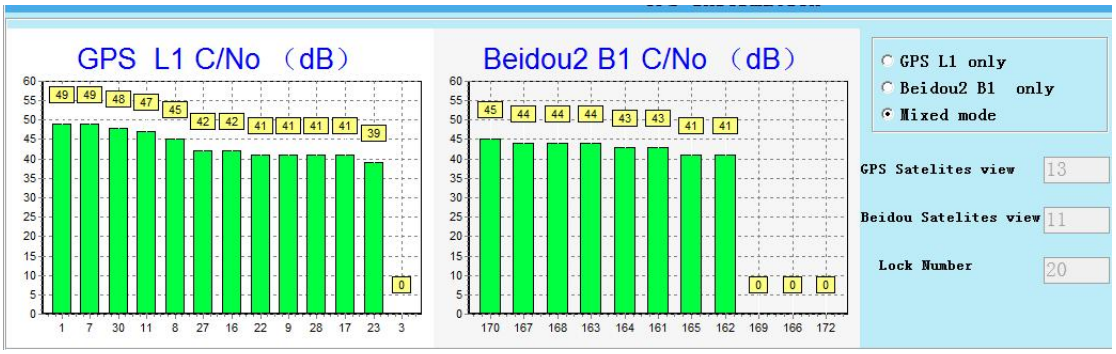
Note:

The first row of check that does not power, do not check that power.

The second row check indicates that it is not enabled, and unchecked to enable it.

7. GPS Information

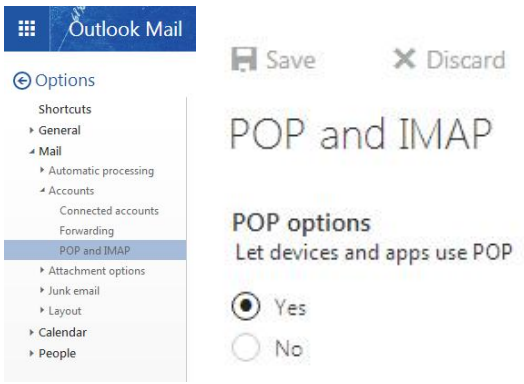
GPS information bar graph for the received satellite signal real-time display and the right edge of the chart three options "GPS L1 only" to show only the GPS L1 satellite signal chart, "Beidou2 B1 only" to show only the compass B1 satellite signal chart, "mixed mode" for the two charts show.



8. Send alarm mail

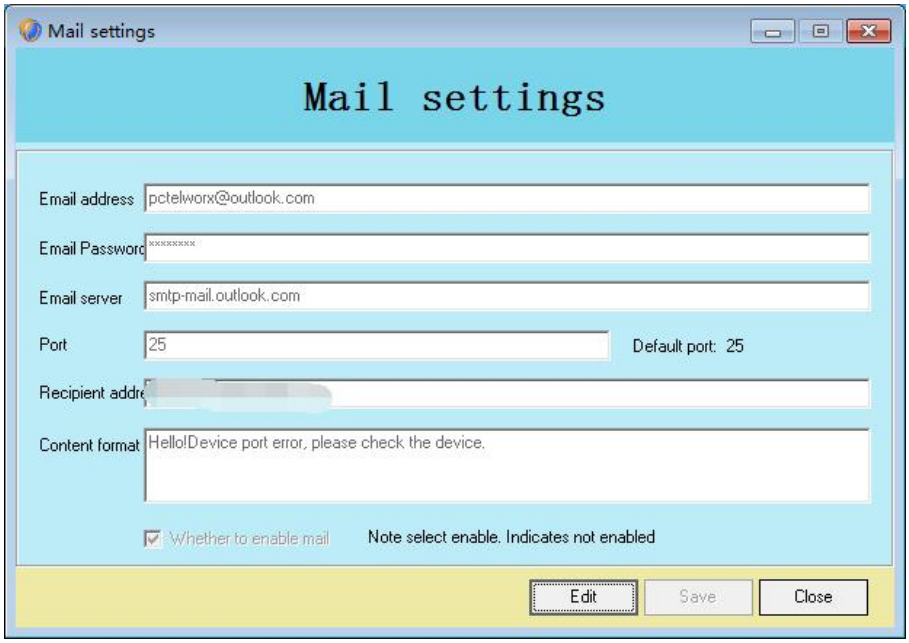
(1) E-mail settings

Use Outlook as a sending mailbox, you need to allow the device and application to use the "POP" function, set the mailbox "POP" function, check "yes" and save the settings.



(2) Client mail settings

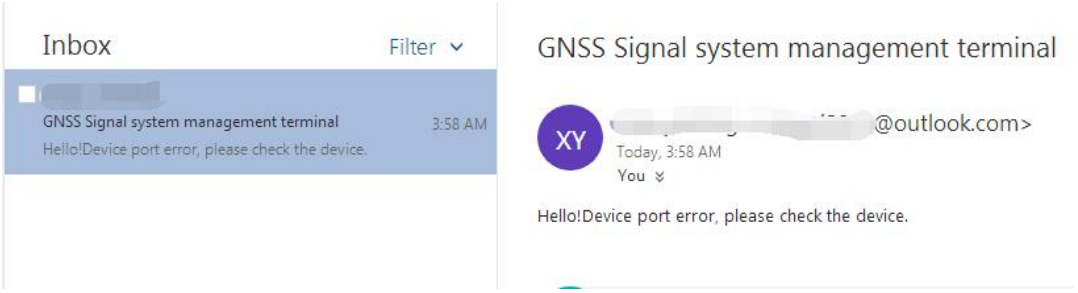
Go to "Mail Settings" Click "Edit".



E-mail address: Send the email address of the message;
Mailbox password: Mailbox login password;
Mail server: smtp-mail.outlook.com;
Port: 25;
Recipient address: The email address of the incoming mail;
Content format: Can edit the contents of the message;
Whether to enable mail click check, click "Save" mail settings are complete.

(3) Functional demonstration

After the setup is complete, the client will automatically send the mail to the receiving mailbox when the device port is faulty, such as when the current input antenna is open, shorted or output is powered on and shorted.



(4) Alarm mail sending mechanism

When the device port failure will immediately send a message to the specified mailbox, if the fault is not removed and failure will not send mail again until the troubleshooting, the system will run immediately after the failure will immediately send an e-mail to the designated e-mail; Mailbox sometimes intercepts short messages, please set up a collection of mailboxes white list, in the mailing mailbox to set the mail box to set the mailbox, to prevent the alarm message mistakenly blocked.

Ordering Informations

iRGS2XX – Axx- WB -P48

Power Options:
Blank (Standard)-With dual 48VDC
P48-With 220AC to 48V DC Power Adaptor

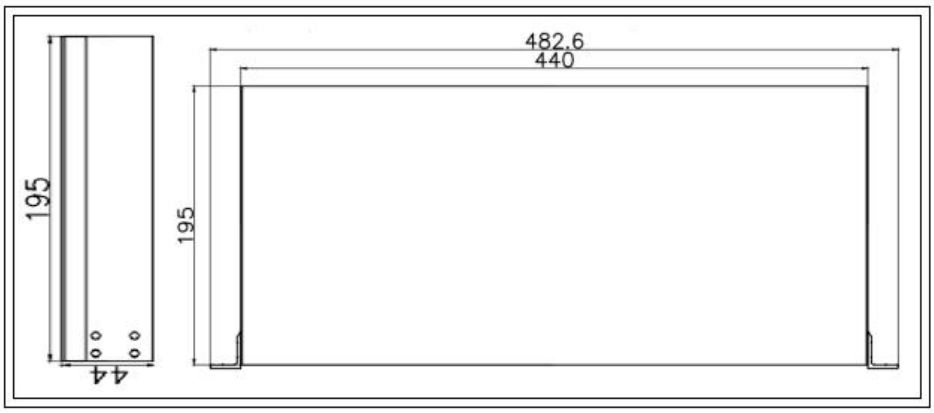
Frequency Range Options:
Blank (Standard) L1 only
WB: L1&L2 Supported

Gain Options:
Blank (Standard)-30dB
Axx-xx=01-30, Desired Gain Level

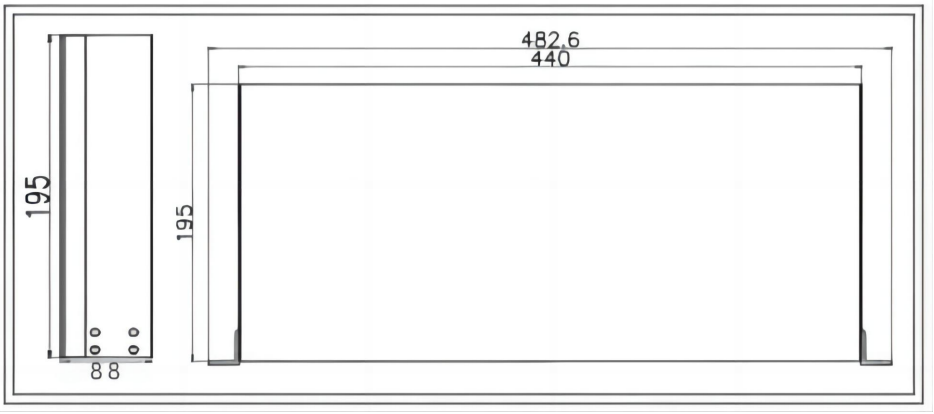
iRGS208
iRGS212
iRGS216
iRGS232

Mechanical

iRGS208/212/216 Dimensions: 482.6mm ×195mm × 44 mm (D * W * H)



iRGS232 Dimensions: 482.6mm ×195mm × 88 mm (D * W * H)



Frequency reference table

Gllobal/Compass Navigation Satellite Systems(GNSS/CNSS)	5						2						6/3				6				1							
Frequency (MHz)	1164	1176	1188	1192	1207	1215	1219	1227	1239	1245	1252	1259	1266	1268	1278	1290	1535	1540	1545	1550	1558	1558	1561	1563	1575	1587	1592	1602	1609	1616	2491
GPS(USA) L1,L2,L2C,L5	L5+/-12						L2/L2C+/-12												L6+/-5					L1+/-12						
Glonass(Russia) G1, G2											G2+/-7																		G1+/-7		
Galileo(Europian) L1,E1,E2,E5(E5a,E5b),E6	E5+/-15 E5a+/-12 E5b+/-12												E6+/-12						L6+/-5			E2		L1+/-17			E1			
Compass (Beidou 2,China)				B2+/-10									B3+/-10									B1+/-2								
Beidou 1 (China,Tx(LHCP)/Rx(RHCP)																														L	S
IRNSS (India)			L5+/-15																					L1+/-12						S+/-15
OmniStar																	O+/-14---->														