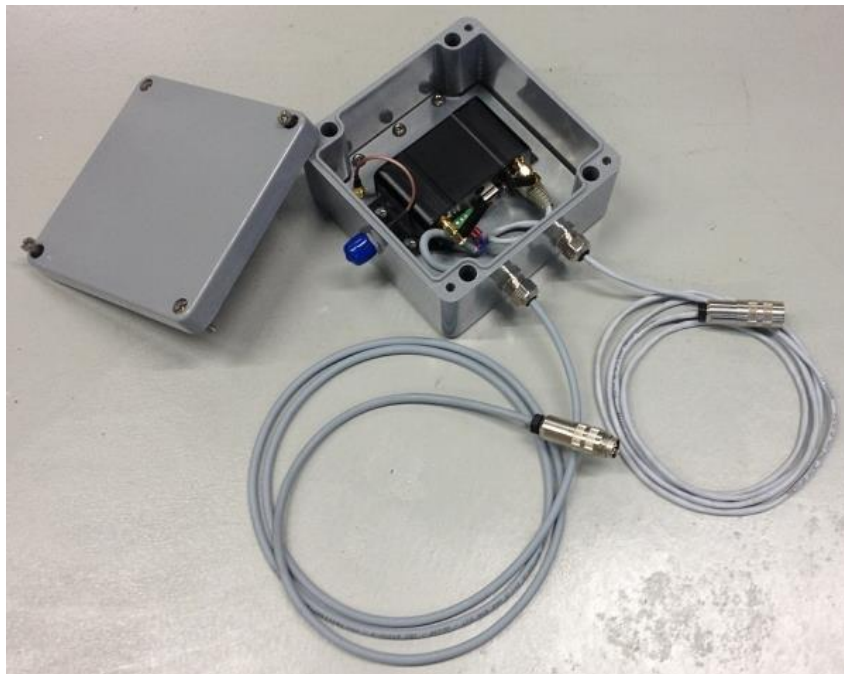




# **GXX-4GMx Series 4G Router User Manual**



## Document Revision

| Version | Date       | Modification            | Author |
|---------|------------|-------------------------|--------|
| 1       | 17.12.2014 | First issue             | JON    |
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| 4       | 07.01.2015 | Review                  | TAB    |

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## 1. Overview

The 4G router series GXX-4GM consists of GXX-4GM and GXX-4GMPC subtypes for use with GMSplus and a computer respectively. The GXX-4GM for use with GMSplus is conveniently installed in an IP66 protected housing and provides in addition to the internal antennas an option for installing an external antenna. GXX-4GM is supplied with all cables needed for installation with a GMSplus. GXX-4GMPC on the other hand is delivered without any housing, but with necessary cables and connectivity.

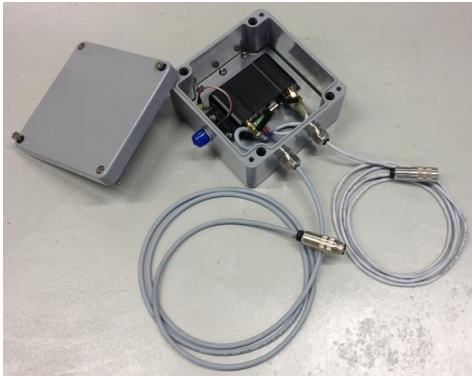


Figure 1. GXX-4GM



Figure 2. GXX-4GMPC

## 2. Installation of the SIM Card

- 👉 Before proceeding, please make sure that:
- SIM card is not locked by a PIN code.
  - the modem is NOT powered.

### 2.1. GXX-4GM

To access the SIM card slot on the GXX-4GM, remove the cover of the protective ABS housing of the router and loosen the four screws holding the black modem (see red circles in Figure 3) and carefully lift and tilt the modem until you see the SIM card slot.

Push in the SIM card completely to its full stop. There will be a small click sound.

- 👉 Due to the small slot in the housing, a tool like a screwdriver might be required to fully push the SIM card in.

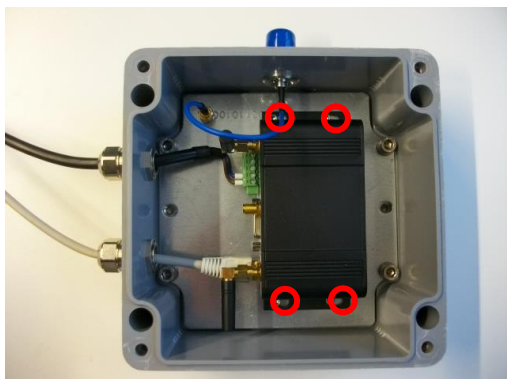


Figure 3. Loosen the screws of the modem.




Figure 4. Push in the SIM card.


## 2.2. GXX-4GMPC

The SIM card slot is easily accessible on the GXX-4GMPC.

Push in the SIM card completely to its full stop. There will be a small click sound.


 | *Due to the small slot in the housing, a tool like a screwdriver might be required to fully push the SIM card in.*


## 3. Router Configuration

 | *The router must be configured from a computer prior to use with the GMSplus*

Remove the cover of the protective ABS housing of the router and unplug the Ethernet cable. Plug in the supplied standard Ethernet cable and connect the other end to the computer.

Power the router by connecting the power cable to the SERIAL connector of the GMSplus.

 | *The GMSplus must already be configured to power the modem, as described in the GMSplus manual*

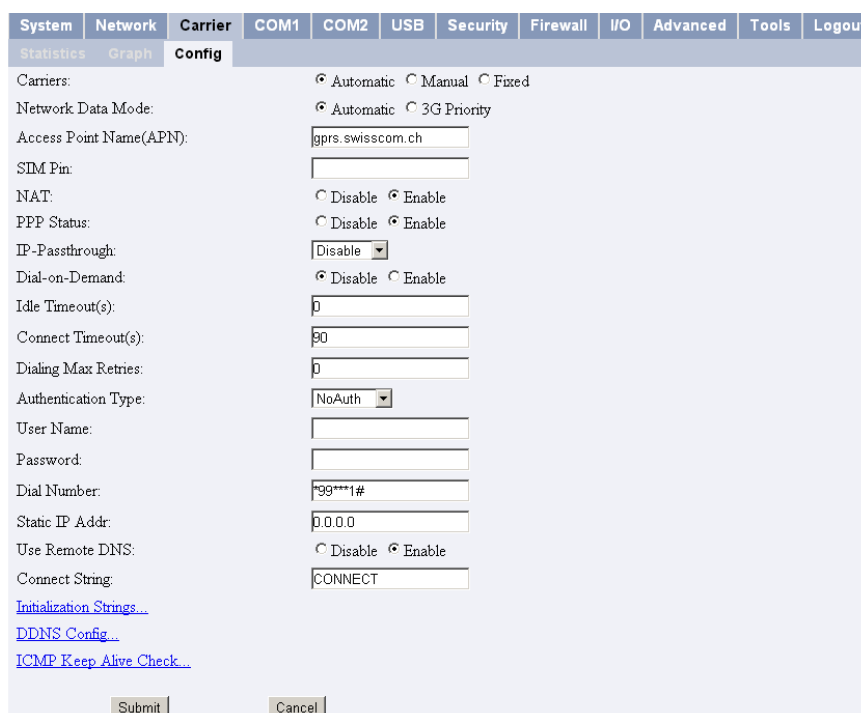
The GXX-4GM series router acts as a DHCP server and therefore no fixed IP must be set in the computer. As soon as the connection is established () , open a web browser and enter the IP **192.168.0.1** which is the default IP address of the GXX-4GM series.

Log in with the username “**admin**” and password “**admin**”.

Under the “**Carrier**” section (see Figure 5), enter the “**Access Point Name**”, “**User Name**” and “**Password**” provided by your GSM service provider. Make sure to configure any other parameters specifically given by your provider, otherwise leave everything at default values.

Click “**Submit**” when done and leave the web interface by clicking “**Logout**”.

After a short while, before connecting the router to the GMSplus, we recommend checking that it is possible to surf on the internet with the already connected computer. Therefore visit a couple of websites which are known to be online, using the web browser on the computer. Those websites should be reachable before the GMSplus can be connected to the router. In case of trouble check with your GSM service provider.



The screenshot shows the 'Carrier' configuration page of the GXX-4GM series router. The page has a navigation bar with tabs for System, Network, Carrier, COM1, COM2, USB, Security, Firewall, I/O, Advanced, Tools, and Logout. The 'Carrier' tab is active, and the 'Config' sub-tab is selected. The configuration options are as follows:

|                         |   |
|-------------------------|---|
| Carriers:               | <input checked="" type="radio"/> Automatic <input type="radio"/> Manual <input type="radio"/> Fixed |
| Network Data Mode:      | <input checked="" type="radio"/> Automatic <input type="radio"/> 3G Priority                        |
| Access Point Name(APN): | <input type="text" value="gprs.swisscom.ch"/>   |
| SIM Pin:                | <input type="text"/>  |
| NAT:                    | <input type="radio"/> Disable <input checked="" type="radio"/> Enable                               |
| PPP Status:             | <input type="radio"/> Disable <input checked="" type="radio"/> Enable                               |
| IP-Passthrough:         | <input type="text" value="Disable"/>  |
| Dial-on-Demand:         | <input checked="" type="radio"/> Disable <input type="radio"/> Enable                               |
| Idle Timeout(s):        | <input type="text" value="0"/>  |
| Connect Timeout(s):     | <input type="text" value="30"/>   |
| Dialing Max Retries:    | <input type="text" value="0"/>  |
| Authentication Type:    | <input type="text" value="NoAuth"/>   |
| User Name:              | <input type="text"/>  |
| Password:               | <input type="text"/>  |
| Dial Number:            | <input type="text" value="*99***1#"/>   |
| Static IP Addr:         | <input type="text" value="0.0.0.0"/>  |
| Use Remote DNS:         | <input type="radio"/> Disable <input checked="" type="radio"/> Enable                               |
| Connect String:         | <input type="text" value="CONNECT"/>  |

At the bottom of the page, there are links for [Initialization Strings...](#), [DDNS Config...](#), and [ICMP Keep Alive Check...](#), along with  and  buttons.

Figure 5. Browser based configuration of GXX-4GM series router

## 4. Hardware Configuration

### 4.1. Internal / External Antenna

The GXX-4GM router can be used with the internal antenna (default) or with an external cable/antenna in case the cellular reception on the measurement site is weak. To use the external antenna connector, first unscrew the SMA antenna which is labelled “ANTENNA” on the modem. The SMA connector for the external antenna connector can now be unscrewed from its place holder and connected to the modem. The SMA antenna can be mounted on the SMA place holder not to lose it.

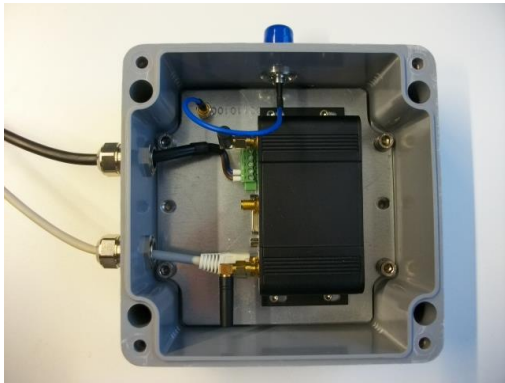


Figure 6. Internal antenna in use.

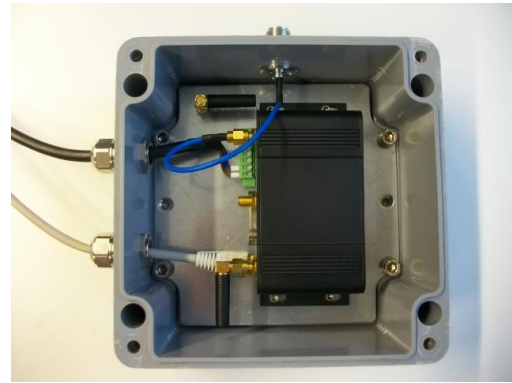


Figure 7. External antenna configured.

### 4.2. Preparation of the GMSplus

When used with the GXX-4GM series, the GMSplus requires no special hardware / jumper settings, but only a certain configuration of operational settings.

Configure the GMSplus according to the GMSplus manual making sure that the Ethernet gateway will be the GXX-4GM series and that the powering for the modem is done via GMSplus.

## 5. Electrical Connection

### 5.1. GXX-4GM

The GXX-4GM is supplied with all cables needed for use with GMSplus. Connect the two cables to the Ethernet connector and the Serial connector of the GMSplus. The router will be both powered and have communications with the GMSplus. Optionally an external antenna can be installed – see section 4.1.

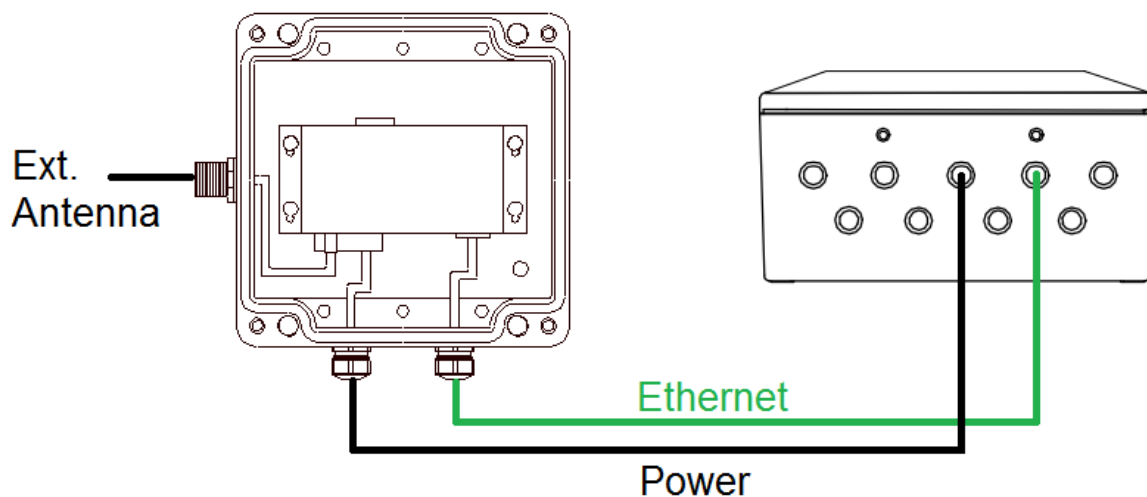


Figure 8. Connection diagram of GXX-4GME to GMSplus

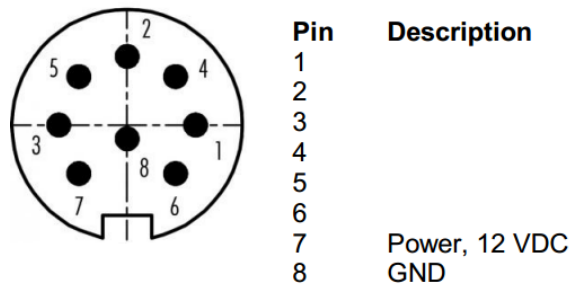


Figure 9. Pin-out for GXX-4GM power cable

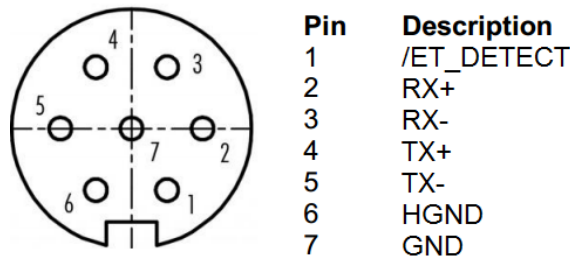


Figure 10. Pin-out for GXX-4GM Ethernet cable

## 5.2. GXX-4GMPC

The GXX-4GMPC router is delivered such that it can be connected directly to a computer using either an Ethernet cable or the supplied USB cable. The router must be powered separately with 7-30 VDC.

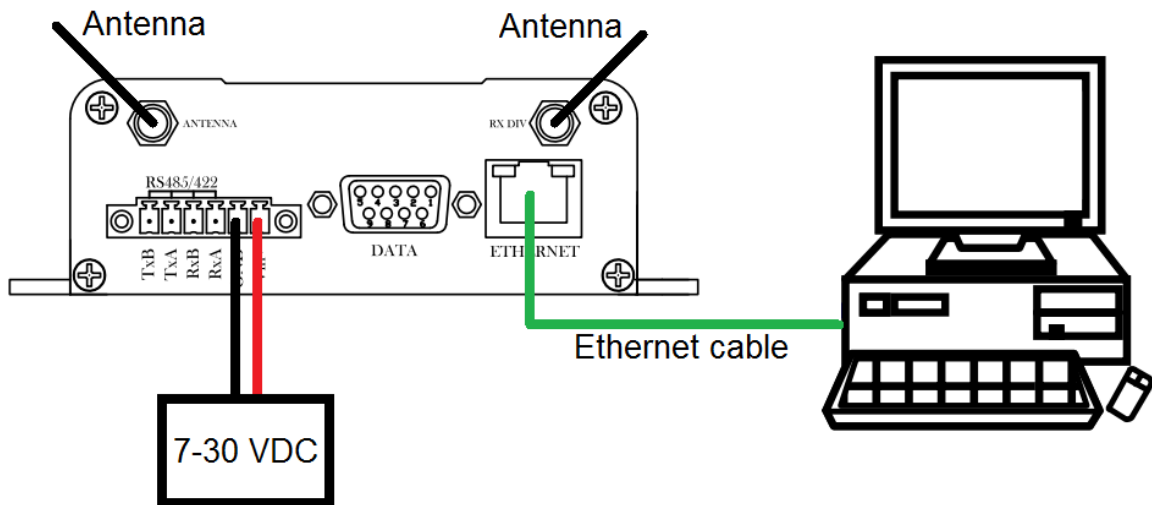


Figure 11. Connection diagram of GXX-4GM to a PC

## 6. Mounting

### 6.1. GXX-4GM

The GXX-4GM router for GMSplus can be mounted on horizontal or vertical surfaces using 4 bolts according to the below drawing

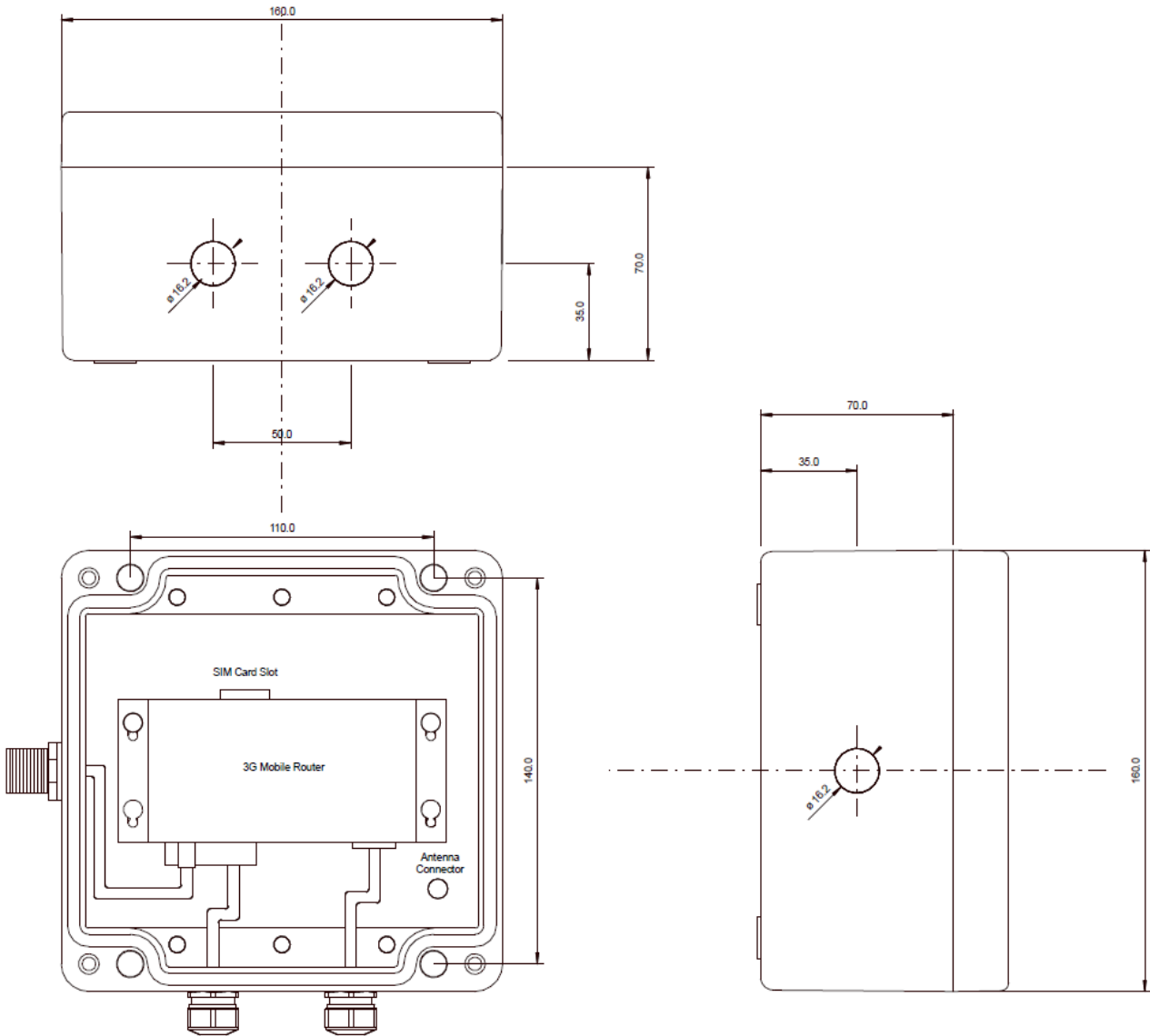


Figure 12. Drawing for mounting of GXX-4GM (units: mm)



## 6.2. GXX-4GMPC

The bare modem can be mounted on horizontal or vertical surfaces using 4 bolts according to the below drawing.

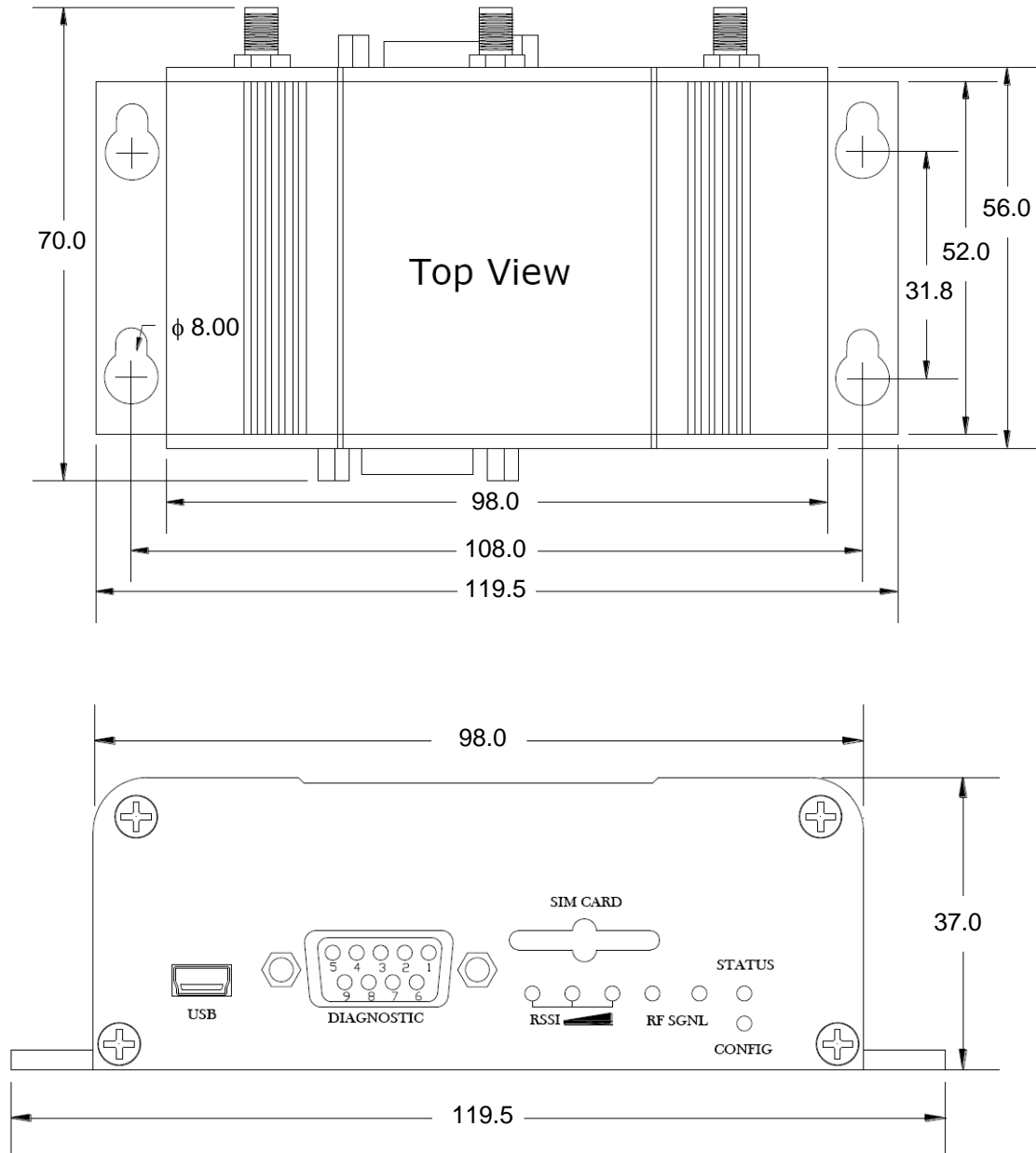


Figure 13. Drawing for mounting of GXX-4GMPC (units: mm)