

NAYAR **GSR Lite**

1 — Last update: Jul 18, 2022

Nayar Systems

Table of Contents

1. Manufacturer note	1
2. Device description.....	2
2.1. Front connections.....	4
2.2. Top side LEDs	5
2.3. Rear connections	7
2.4. Side connections.....	8
3. Installation and start-up	9
4. SMS configuration.....	11
5. Technical support.....	15

1. Manufacturer note



This manual describes **good practices** recommended by Nayar Systems in order to ensure an optimal performance in safe conditions. Any improper manipulation, damage caused during the installation of the device and, in general, an incorrect use not explained in this document may void the warranty.

The device must be manipulated only by **qualified and skilled professionals** with specific technical knowledge to avoid a failure of the device due to an inappropriate manipulation.

The **optimal performance** of the device can be ensured in good working conditions. This does not include interferences, network signal attenuation due to placing the antennas in an improper location like for example surrounded by metallic surfaces, etc.

Nayar Systems is not responsible for damage as a result of ignoring the indications and recommendations included in this manual.

The device must not be wet nor installed in **humid places**.

Operating Humidity 10% – 90%



Optimal working **temperatures** are between 0°C and 40°C.

2. Device description

GSR · GSM Smart Router® Lite is a device specially designed for **elevators and IoT networks**. It integrates **4G technology**, **WiFi** and additional connections with the purpose of turning the elevator into an internet device.

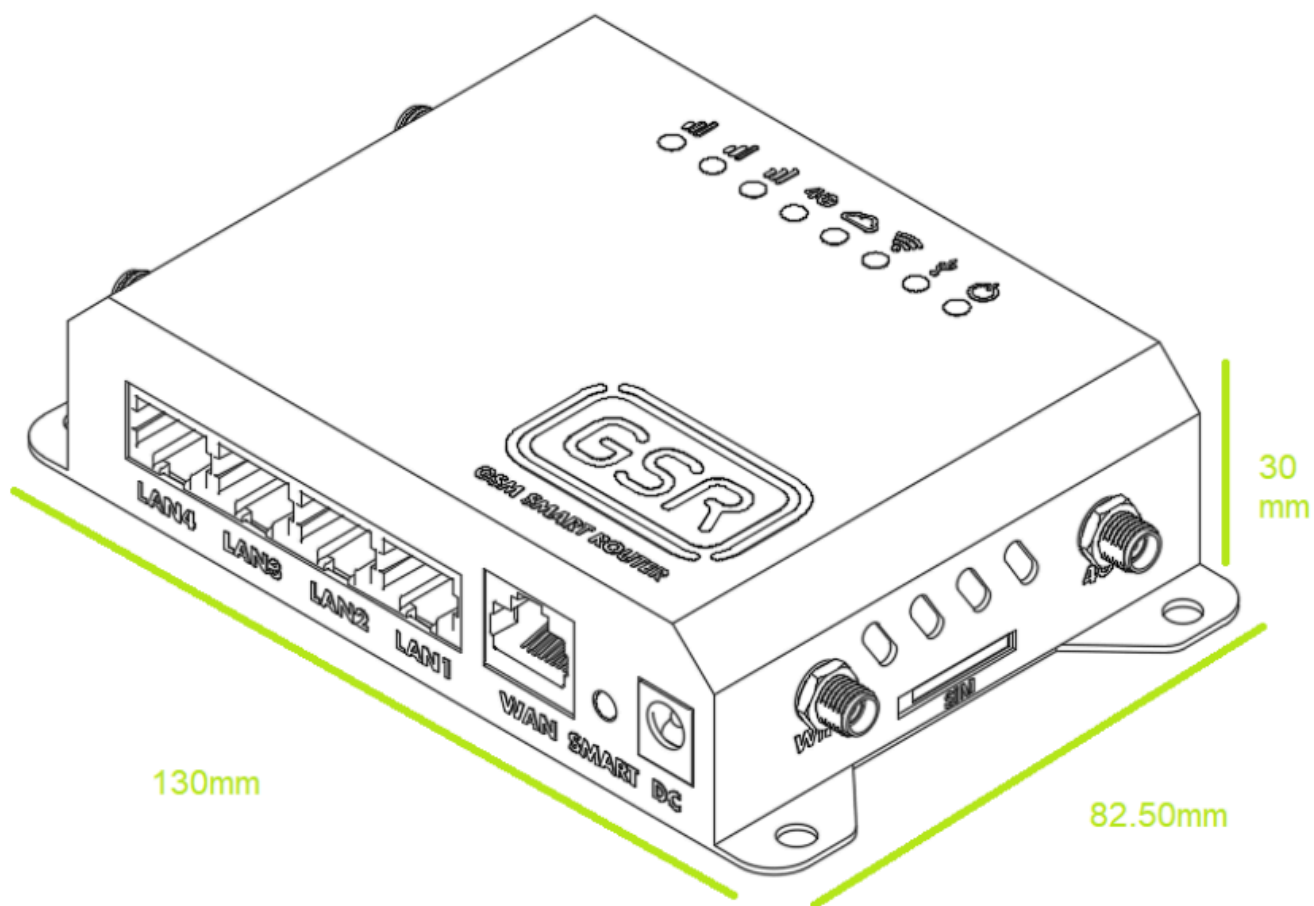
Inside the box

- GSR · GSM Smart Router® Lite
- Power supply
- Wifi antennas x2
- 4G antennas x2

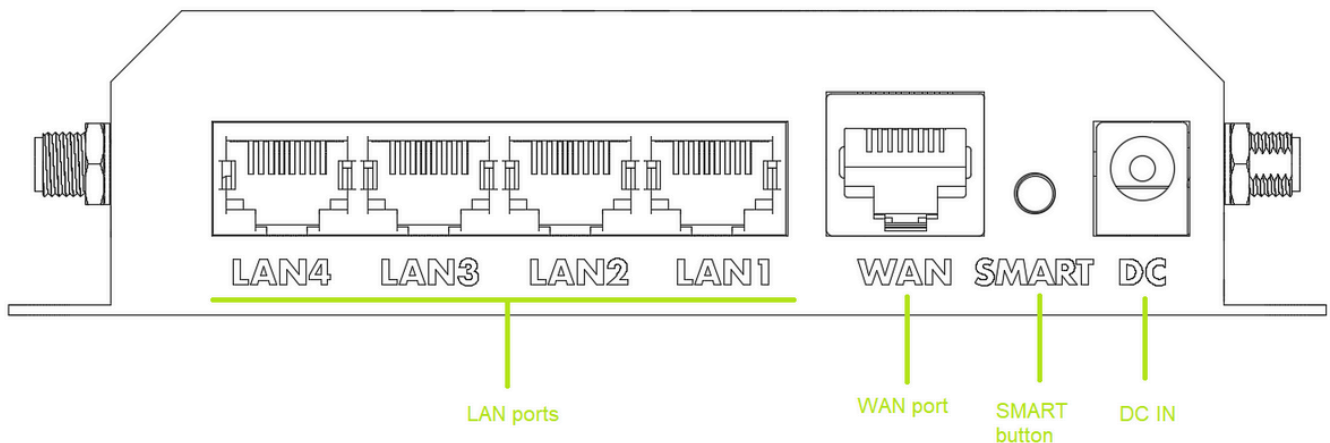
Technical specifications and connections

- CPU architecture: RAMIPS
- RAM: 128 MB
- Flash: 16 MB
- Wifi: 150M 2.4Ghz wifi, 802.11 b/g/n support
- SIM slot
- Mini PCI Express 4G modem
- RJ45 Ethernet 10/100Mbps (5 ports)
- USB Host (0.5A)
- SMA F connector for 3G/4G antenna (2 connectors)
- RP-SMA F connector for WiFi antenna (2 connectors)

Dimensions

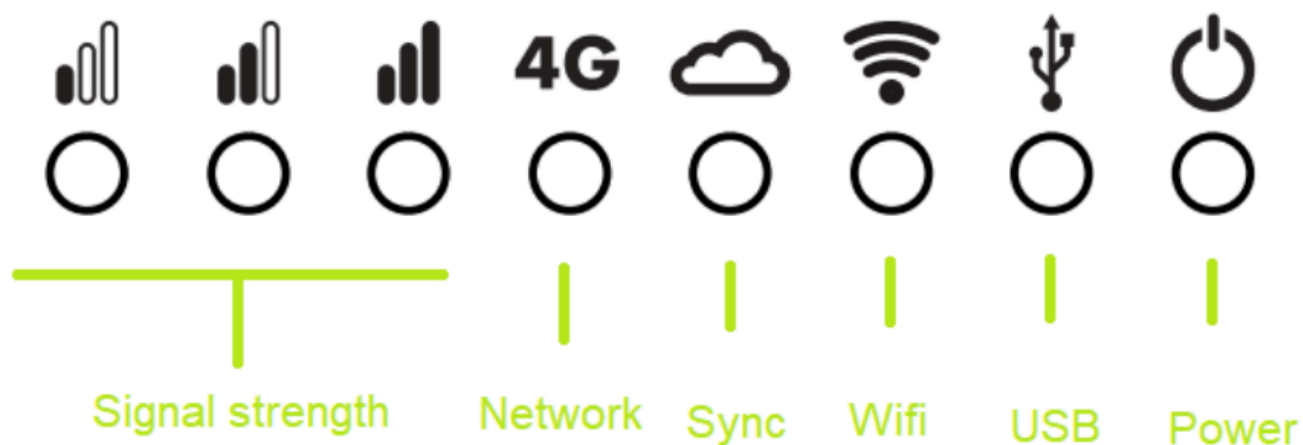


2.1. Front connections



- **LAN ports:** 4× 10/100/100M – provides connectivity to other devices
- **WAN port:** 1× 10/100/100M – can receive connectivity from another device
- **SMART button:**
 - Offline Wifi – short press between 0.5 and 2 seconds. GSR will generate a new wifi hotspot visible as “GSR_F85E3C...” displaying the complete ID for that particular device. Connect with your smartphone and Nayar Systems APP for local configuration. This network won't provide access to the internet. The password for this network is **12345678**.
 - Factory reset – hold pressed between 15 and 60 seconds. All LEDs will turn on and off after the device is reset to factory settings.
- **DC IN:** Input for the power supply. When possible, the device must be always powered with the original power supply. In case the original power supply can not be used, it is recommended to use a 12V and 2A power unit.

2.2. Top side LEDs




Signal LEDs

	Very low signal strength / error
	Low signal strength CSQ 10-14/31
	Average signal strength CSQ 15-20/31
	High signal strength CSQ 21-31/31



Network LED

4G 	Device not registered in any network
4G 	Device registered in a 2G network (slow blinking)
4G 	Device registered in a 3G network (fast blinking)
4G 	Device registered in a 4G network




Sync LED

	Configuration changed via platform or SMS / PIN error (blinking)
---	--



Wifi LED

	No active wireless network
	Active wireless network, by default visible as "GSR"
	Data transmission in progress (blinking)

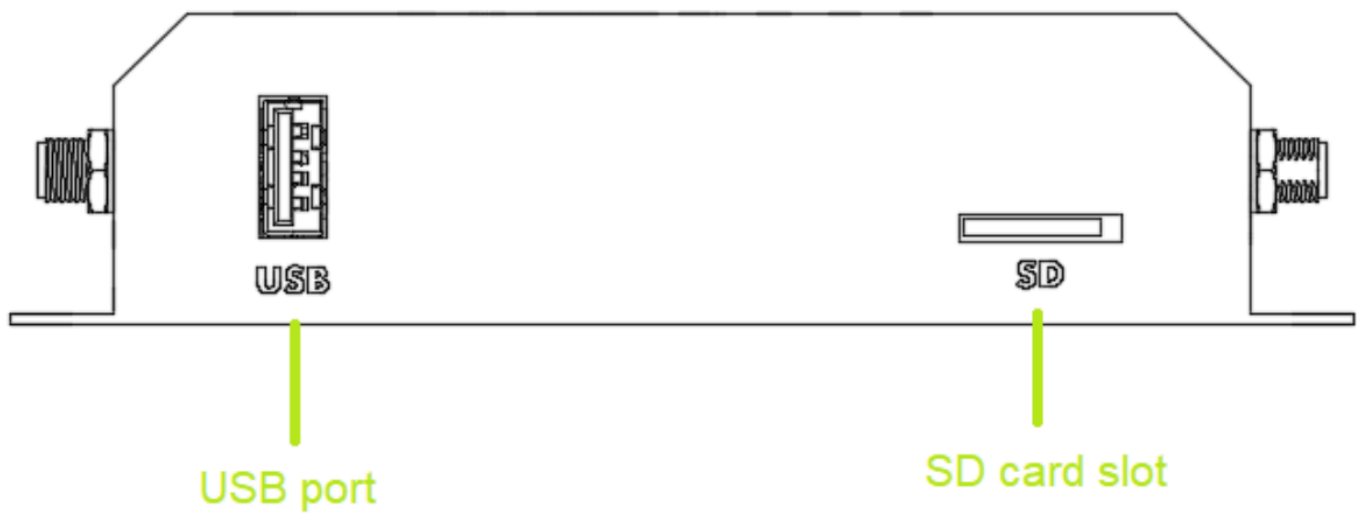
USB LED

	No SIM card detected / no mobile network detected
	Mobile network detected, no registration (slow blinking)
	Mobile network detected, registration successful (fast blinking)

Power LED

	Device not powered
	Device powered ON

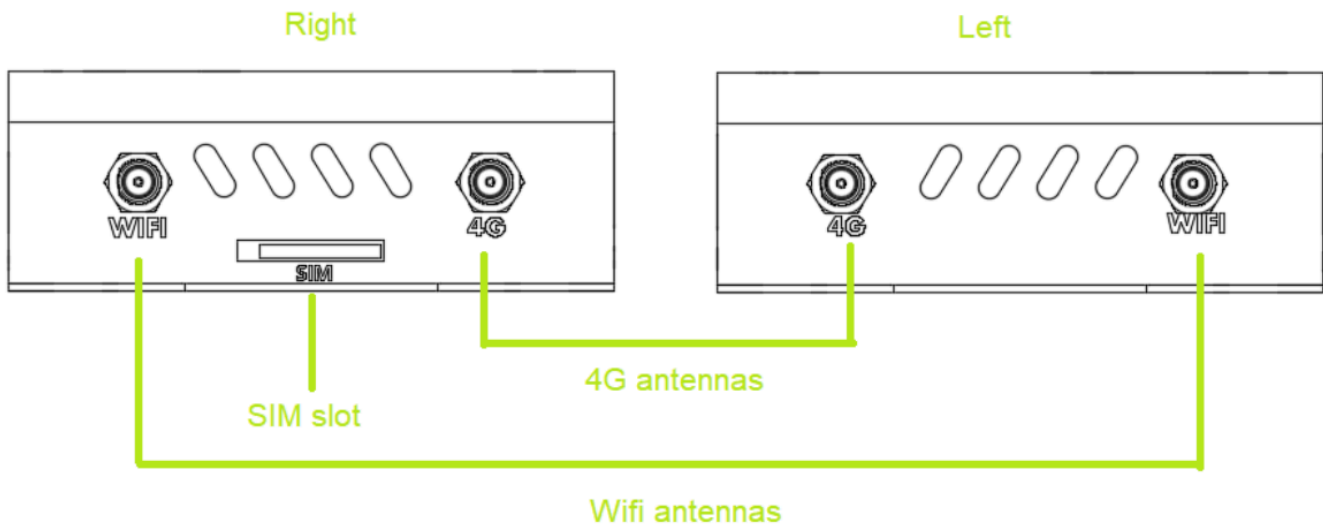
2.3. Rear connections



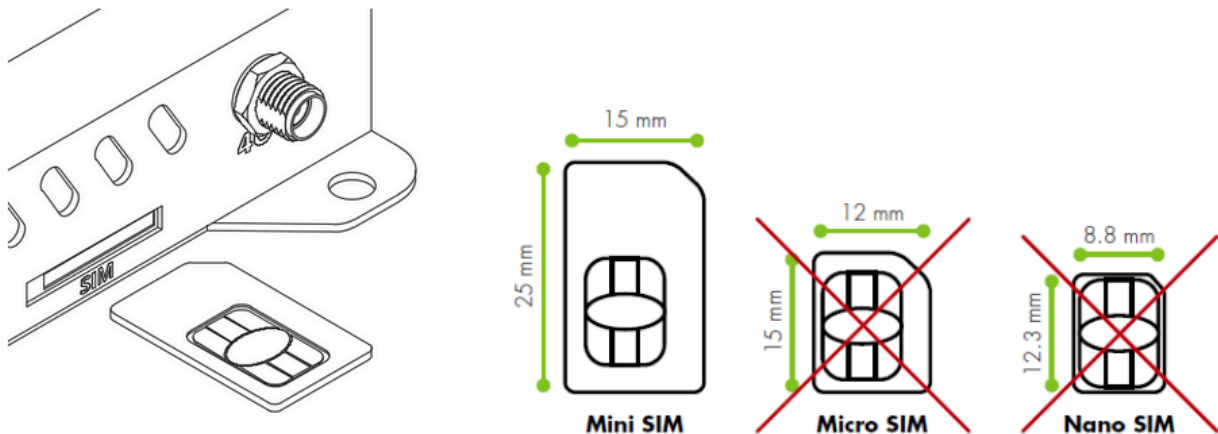
- **USB port:** compatible with USB 2.0 (0.5A) devices like USB-serial converters, USB HUB, binary acquisition card, etc. Nayar Systems recommends using only USB devices provided by the company given in order to ensure that GSR® Lite and the platform operate correctly.
- **SD card slot:** GSR® Lite does not use this expansion given that all data is processed and sent to the cloud to ensure the highest level of security.

2.4. Side connections

Side connections



- **Wifi connectivity:** the antennas provided with the device must be connected to the indicated connectors in order to use WiFi capabilities. Always use both antennas labeled as **2.4G**.
- **Mobile network connectivity:** the antennas provided with the device must be connected to the indicated connectors in order to use WiFi capabilities. Always use both antennas labeled as **4G**.
- **SIM slot:** place for a 2FF size Mini SIM card. It does not work with microSIM (3FF) nor nanoSIM (4FF) cards. It must be inserted as described in the following image

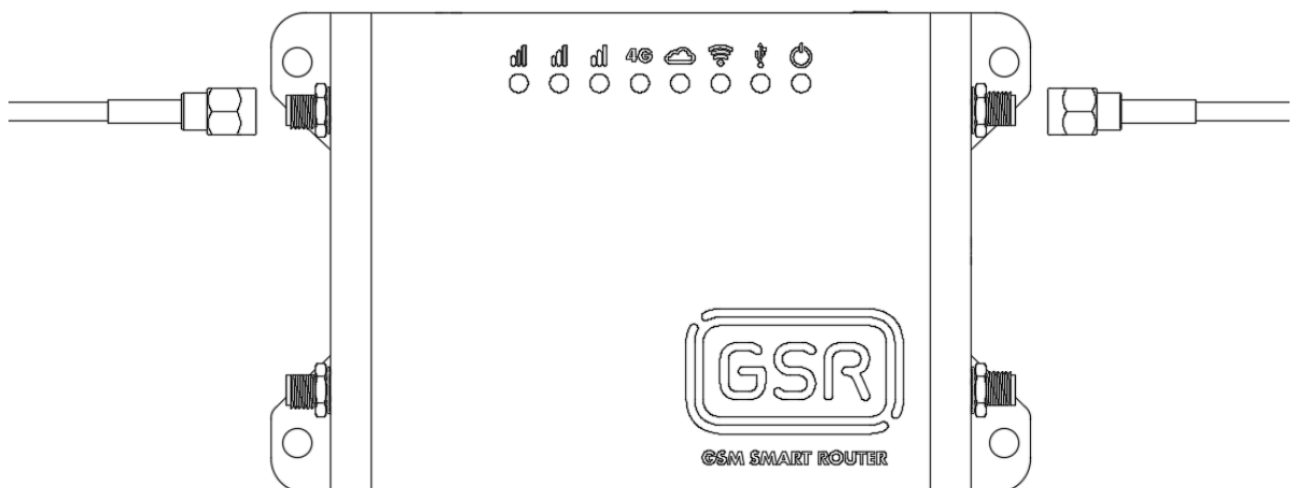


3. Installation and start-up

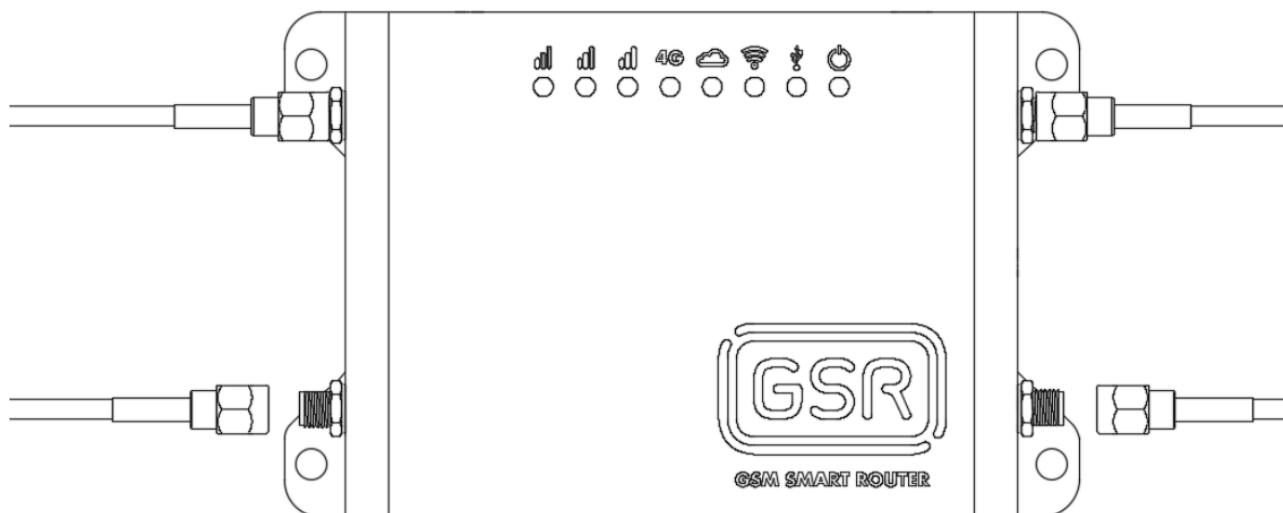
1. Put the device in a comfortable place for manipulation.
2. Insert a SIM card as indicated.



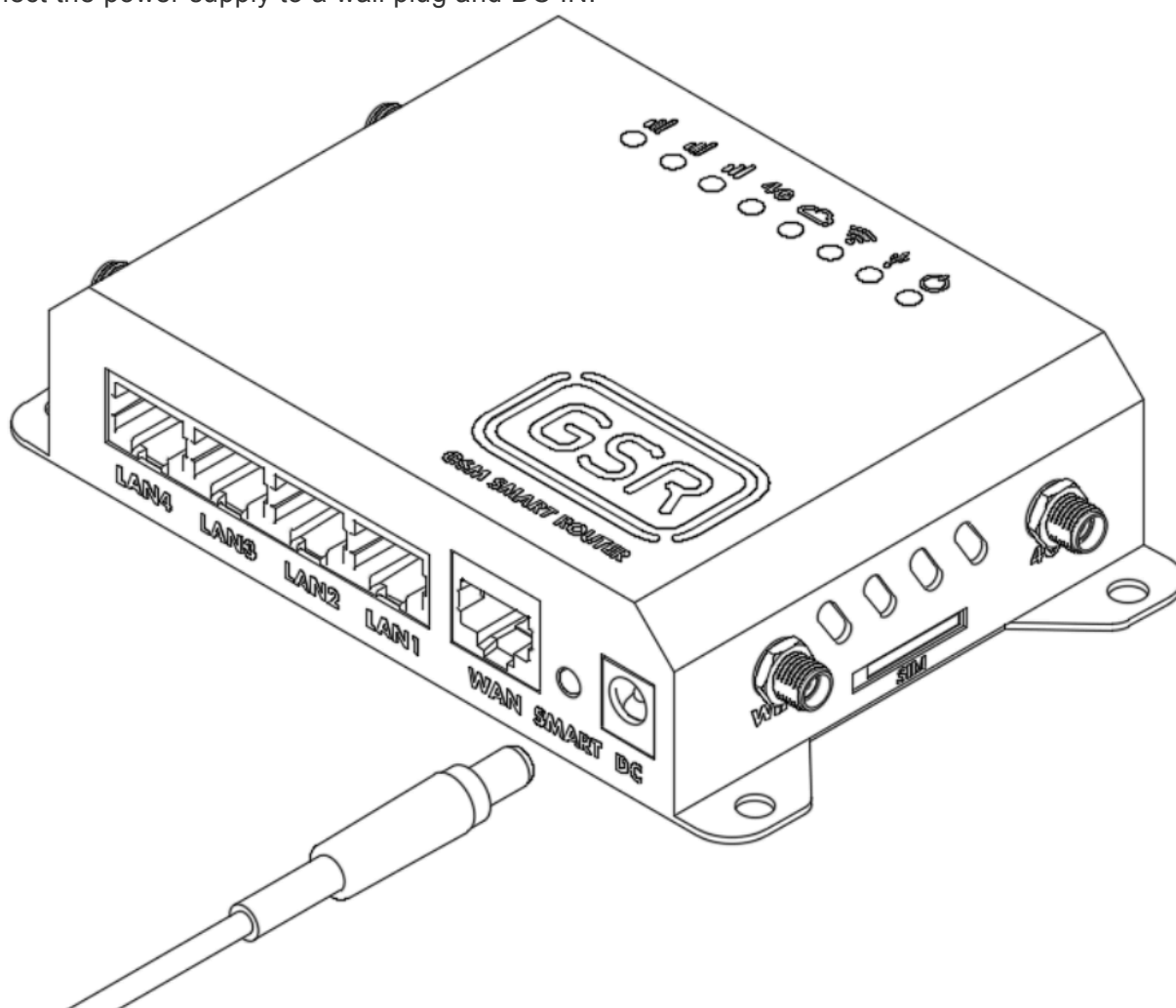
3. Connect the 4G antennas. They must always be connected to the device.






4. Connect the WiFi antennas when connectivity for other devices is needed.



5. Connect the power supply to a wall plug and DC IN.



6. Wait until the network LED is ON  / blinking  to confirm the device has internet access.
7. In case the device has a pending configuration or update you may see the Sync LED blinking  and the device could reboot. Wait until this procedure is complete and after that moment the device will be fully operational.

4. SMS configuration

GSR's configuration parameters can be programmed sending SMS messages to the device. The accepted format is as follows:

```
password,command,command, ... ,command
```

A sequence is created starting with the password and continuing with a list of commands separated by commas (,). The default password is **12345**.

The commands used for the SMS configuration are:

- **S** is used for configuration. The structure begins with (S), followed by colon (:), the parameter to set, colon again (:) and the value assigned to that parameter.
- **C** is used for running commands. The structure begins with (C), followed by colon (:) and the command to run. Certain commands also use values, in these cases add colon again (:) and set the value.
- Add **W** at the end of an SMS to save the changes introduced with that particular message. In case this command is not added, the changes will be lost after rebooting the device.
- **G** is used for consulting a parameter. The structure begins with (G) followed by colon (:) and the parameter to consult. A message will be received with its current value.

Here follows an example:

```
12345,S:$apn:"apnaddress.com"
```

Password – 12345

Command – S

Parameter – \$apn

Value – "apnaddress.com"

With these commands can be performed the following actions:

Consulting a parameter

G command is used for consulting (to consult) parameters like (as shown) in the following example:

```
12345,G:$apn
```

Answer:

```
["apnaddress.com"]
```

APN configuration

The APN the device uses can be configured with the following parameters:

- \$apn to set up APN address
- \$apnu to set up user

- \$apnp to set up **password**

The following SMS is an example of how to configure correctly APN settings:

```
12345,S:$apn:"apnaddress.com",S:$apnu:"user",S:$apnp:"password"
```

Response:

```
["OK","OK","OK"]
```

This example sets the APN apnaddress.com (\$apn) with the user user (\$apnu) and the password password (\$apnp). These values must be inside quotation marks (" ") when setting up APN configuration.

WiFi connectivity

GSR is programmed to provide wireless internet connectivity only to Advertisim devices. As soon as an Advertisim device detects a **GSR** wireless network it will connect automatically. There is no need to perform any previous or additional settings to Advertisim nor GSR given that the connection is established automatically. GSR allows to enable or disable its WiFi network with the following SMS:

```
12345,C:wifi:1 enable WiFi
```

```
12345,C:wifi:0 disable WiFi
```

The response in both cases is:

```
["OK"]
```

Status report

The device features a SMS report. It shows:

- Device ID
- Signal strength (CSQ: 0 – 31)
- ICC
- IMEI
- VPN connection status

The report can be requested with the following SMS:

```
12345,C:rp
```

Example response:

```
[{"id":"gsr.a8404118569f","modem.csq":17,"modem.icc":"8934075100252","modem.imei":"863786532","n4m.online":true}]
```

Where:

- "id": device identification – MAC
- "modem.csq": mobile networks signal strength. Values oscillate (eliminar) between 0 and 31. If it shows (The value) 99 it means that there is (indicates) an error in the network.
- "modem.icc": SIM card ICC identifier.
- "modem.imei": modem IMEI identifier.
- "n4m.online": connection status to net4machines VPN. Its values can be true or false.

Device reboot

The device can be rebooted with the following SMS:

```
12345,C:rbt
```

Answer:

```
[ "OK" ]
```

All LEDs will blink and the device will reboot.

Software reboot

In order to reboot only the internal software, the following SMS must be used:

```
12345,C:rst
```

Answer:

```
[ "OK" ]
```

All LEDs will turn on for a few seconds and then off until the software is running again.

Factory reset

The device can be set to its factory settings with the following SMS:

```
12345,C:factory
```

Answer:

```
[ "OK" ]
```

After the command is executed, the device will be automatically reflashed, rebooted and set to its factory configuration.



NOTE: in case the configuration had custom settings programmed via SMS or the platform, all changes will be lost. This includes custom APNs and internet access cannot








be assured. In case this is your situation, consider reconfiguring your custom APN.


5. Technical support

In case of any incidence with your GSR device or service when needed technical support, please contact Nayar Systems technical support team:

support@nayarsystems.com

Troubleshooting

Issue	Cause	Solution
All LEDs are off after the power cable is plugged	The power supply is damaged	Try to power the device with a different power supply
	The power input is not adequate	Make sure the voltage provided is 12V and 2A
Mobile network signal LED does not light ON	SIM card is not registered correctly	Take out and put in again the SIM card
	Antennas not connected correctly / mobile network signal is not strong enough	Make sure the network antennas are connected as described in the manual / change the position of the network signal antennas
	The SIM card is not activated	Verify the state of the SIM card and its services
	The SIM card has a PIN code	Take out the SIM card, insert it into a mobile phone and deactivate the PIN code
	The SIM card is not inserted correctly	Insert the SIM card following the indications of the manual
	The SIM card is damaged	Insert the SIM card in a mobile phone to check if the card is working
Mobile network LEDs show low signal	Antennas not connected correctly / mobile network signal is not strong enough	Make sure the network antennas are connected as described in the manual / change the position of the network signal antennas
USB device not working	Not compatible USB device	Make sure you're using original USB devices provided by Nayar Systems
	Device not configured correctly in the platform	Unlink and link again the element following the connection wizard in the platform
Ethernet device has no connectivity	GSR® Lite has no internet access	Make sure you're using a SIM card with data plan and that it's activated

	There is a network security restriction	Contact support@nayarsystems.com in order to solve any particular case
---	---	--