



SAPIR 2
Connection To Server
GUIDE



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Introduction:

To start the communication with the Sapir 2 controller, the installer needs to connect the Sapir 2 controller to the server. The Sapir 2 supports a cellular Modem (3G or 4G) or Wi-Fi Modem (2.4G). When the Sapir 2 is connected to the server, the user can communicate with the Sapir 2 controller anytime anywhere.

When the Sapir 2 is not connected to the server (No internet, No Modem, or no Sim card), the user can use Local Direct Wi-Fi communication. The Local Direct Wi-Fi is limited by distance. The user must be close to the Sapir 2 controller, press the Wake-up button and use the Spot or ToolBox app.

To read or edit the communication settings, the user can use the Talgil ToolBox smartphone app, SerialTool PC software, or by sending SMS commands to the Sapir 2 controller.

This document describes how to connect the Sapir 2 controller to the Server, the connection options, and the supported commands to send to the controller. Read on to learn how to connect the Sapir 2 to the server and follow the instructions.

1. Talgil ToolBox smartphone app

The Talgil ToolBox app is a dedicated smartphone application for the Sapir 2 controller. The ToolBox app connects to the Sapir 2 controller using the Direct Wi-Fi network and allows reading or editing of the Sapir 2 settings.

To download the ToolBox app, navigate to the Application Store, download the app and install it.

Android version: [Talgil Toolbox - Apps on Google Play](#)

iOS version fir iPhone: [Talgil Toolbox on the App Store \(apple.com\)](#)

Google Play Games Apps Kids

Talgil Toolbox

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Talgil Toolbox
Talgil
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iPhone Screenshots



2. SerialTool PC software

The SerialTool is a PC software used for serial communication with Talgil's devices. The SerialTool allows the user to send commands and read the settings. The user can write the command manually or use an existing command from the command's library.

In addition, the SerialTool is used for logging and reading the response from the device. The SerialTool displays the transmitted commands and the answers or results in the Logging window.

The user can create a command library, add or remove commands from the library and display the commands on the commands list.

Download the latest version of the SerialTool PC software [here](#):

https://drive.google.com/drive/folders/1LnYjFsgmcl4iGiqDCN0ufBPboZ_zRdXFb?usp=sharing

Download a quick user manual for the SerialTool PC software [here](#):

<https://drive.google.com/drive/folders/1DGDw8osrQ1H7gBkZzVhBAQINRKj0On5N?usp=sharing>

3. Sapir 2-Connection to Server.

To connect the Sapir 2 controller to the Server, select the Modem type, the Technology, and the network settings. The available Modems are the Telit 3G modem HE910, Telit 4G modem LE910C1, and Wi-Fi Modem.

Here is a table with the available Modems type and their function:

Modem type number	Modem type	Used to connect the Sapir 2 to the internet via:
1	Telit 3G modem HE910	3G cellular internet connection.
2	Telit 4G modem LE910C1	4G or 3G cellular internet connection.
3	Telit 4G modem LE910C1 for AT&T USA	4G cellular internet connection where the provider is AT&T USA.
4	Telit 4G modem LE910C1 for Verizon USA	4G cellular internet connection where the provider is Verizon USA.
5	Wi-Fi modem.	Local 2.4G Wi-Fi network connection.

The connection settings for the Cellular providers are Technology (Generation), Apn name, Apn user name, and Apn password.

The connection settings for the Wi-Fi network are the Wi-Fi network name and password.

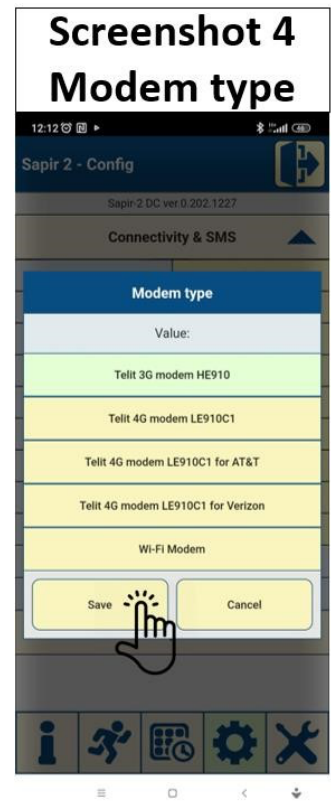
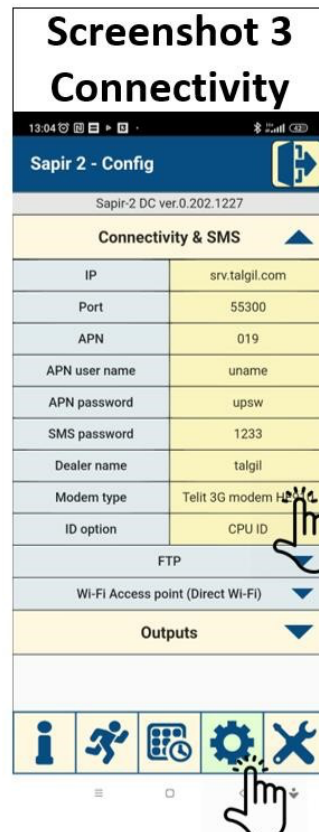
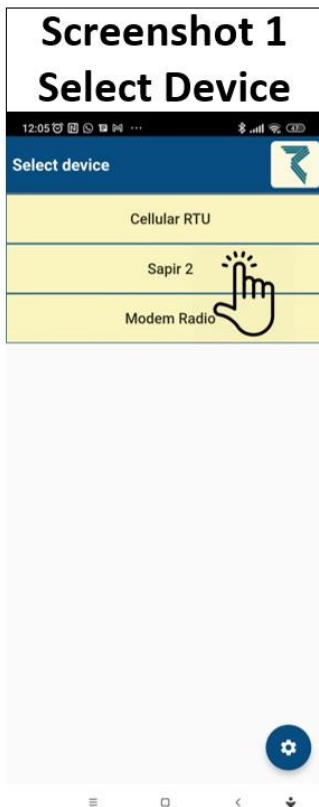
Read on to learn how to select the Modem type and the connection settings.

Using the ToolBox, SerialTool, or by SMS.

3.1 Sapir 2-Connection to Server via ToolBox app.

Press the Wake-Up button. The Wake-Up button is located outside the box in the lower right corner. It will start the Direct Wi-Fi Network.

1. Start the ToolBox app and select the device: Sapir 2 (Screenshot 1).
2. Select the Sapir 2 controller that you would like to connect to.
3. When you are connected to the Sapir 2 controller, the Navigation buttons will appear at the bottom of the screen. Tap the Gear to enter Configuration. Tap the Connectivity to display the Connectivity settings (Screenshot 3).
4. Select the Modem type (Screenshot 4).

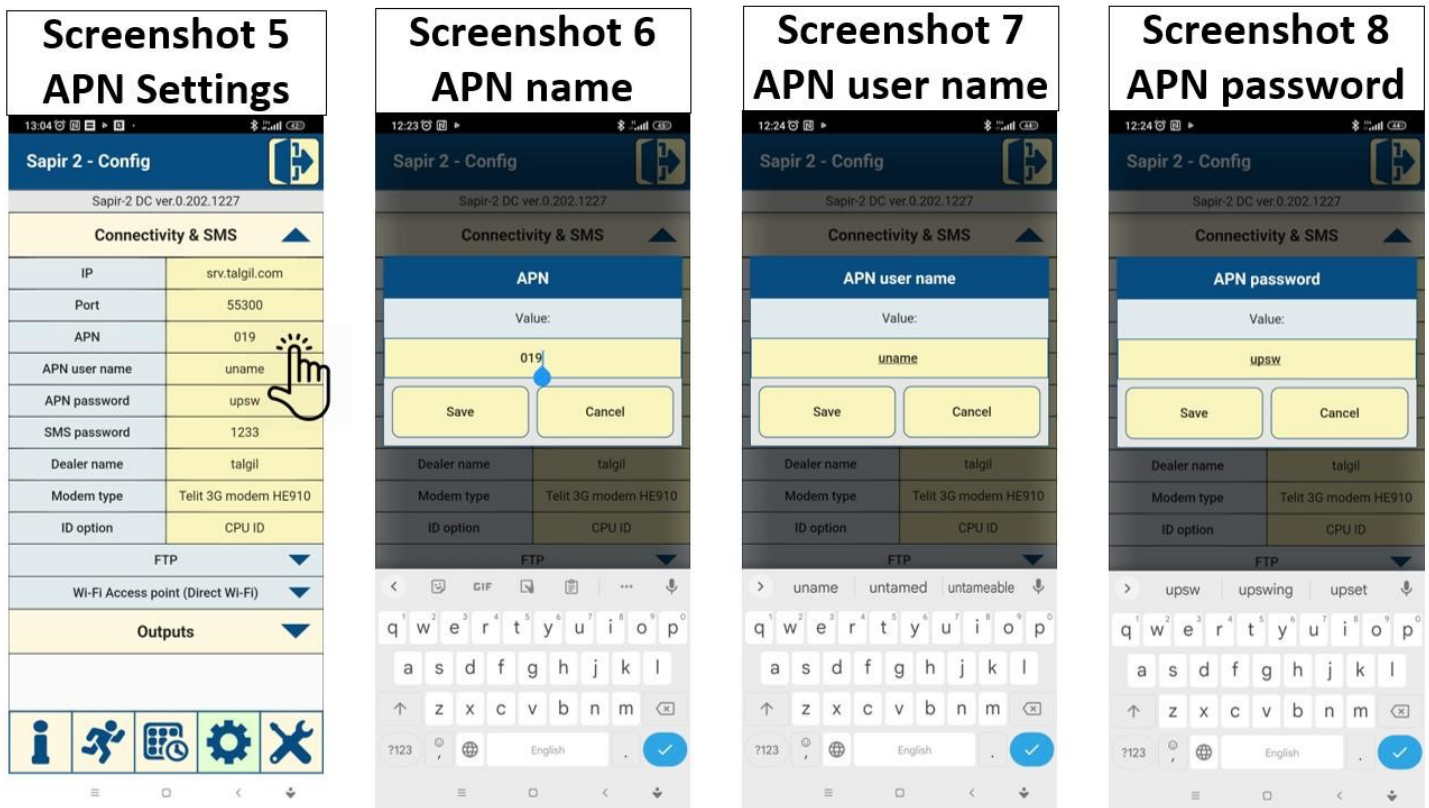


Cellular Modem-APN Settings

When using a Cellular Modem to connect to the Internet, Tap the APN, APN user name, and APN password and enter the provider APN settings.

To find out the APN settings, navigate to the <http://apn.how> site or contact your cellular provider.

[APN Settings - APN settings for any phone, any network.](#)



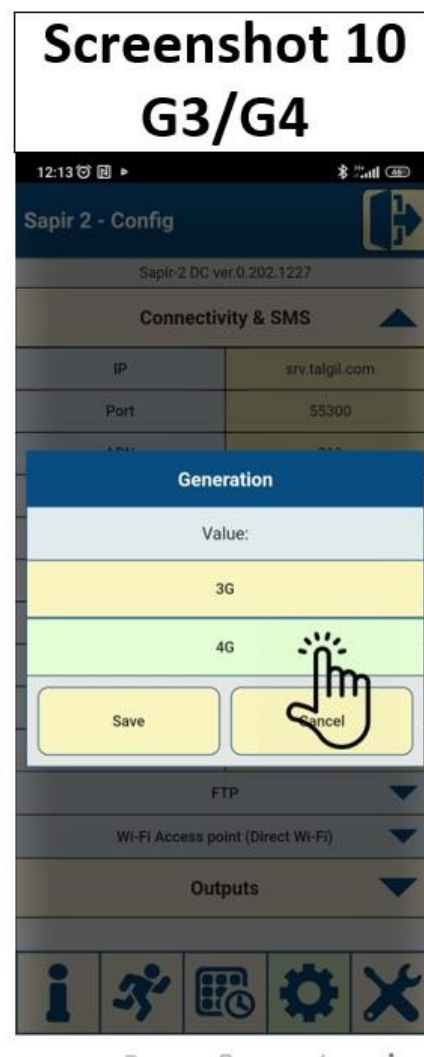
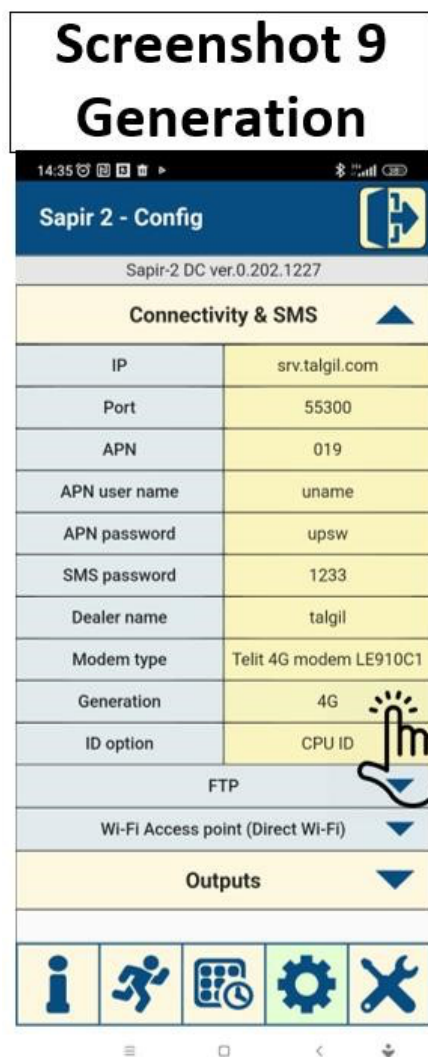
Cellular Modem-Technology

To select the Technology (3G/4G), Tap the Generation (Screenshot 9) and select 3G or 4G (Screenshot 10).

3G modem supports 3G Technology only.

4G modem supports 4G or 3G Technology.

By default, a 4G modem connects to 4G Technology.

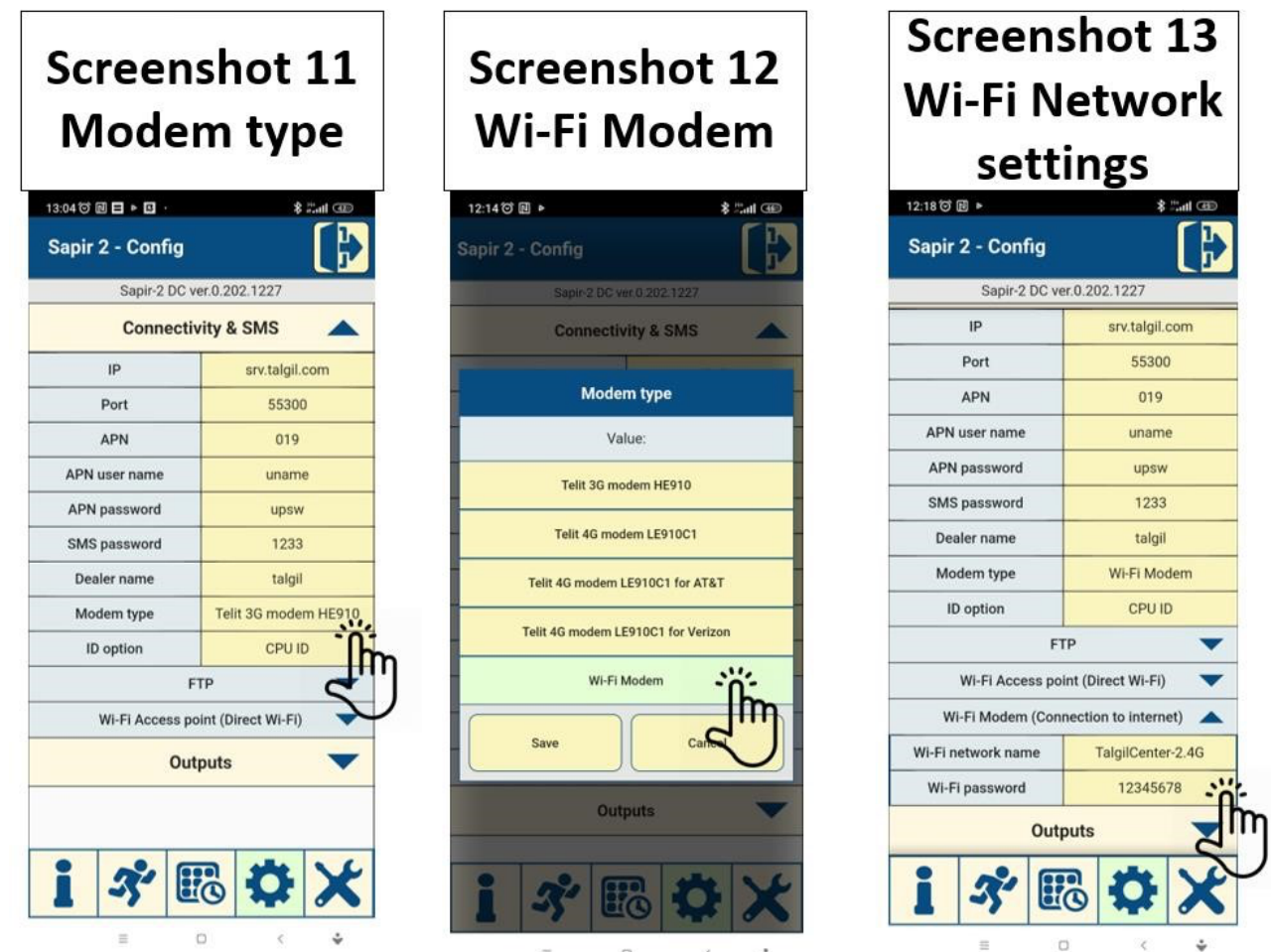


Wi-Fi Modem

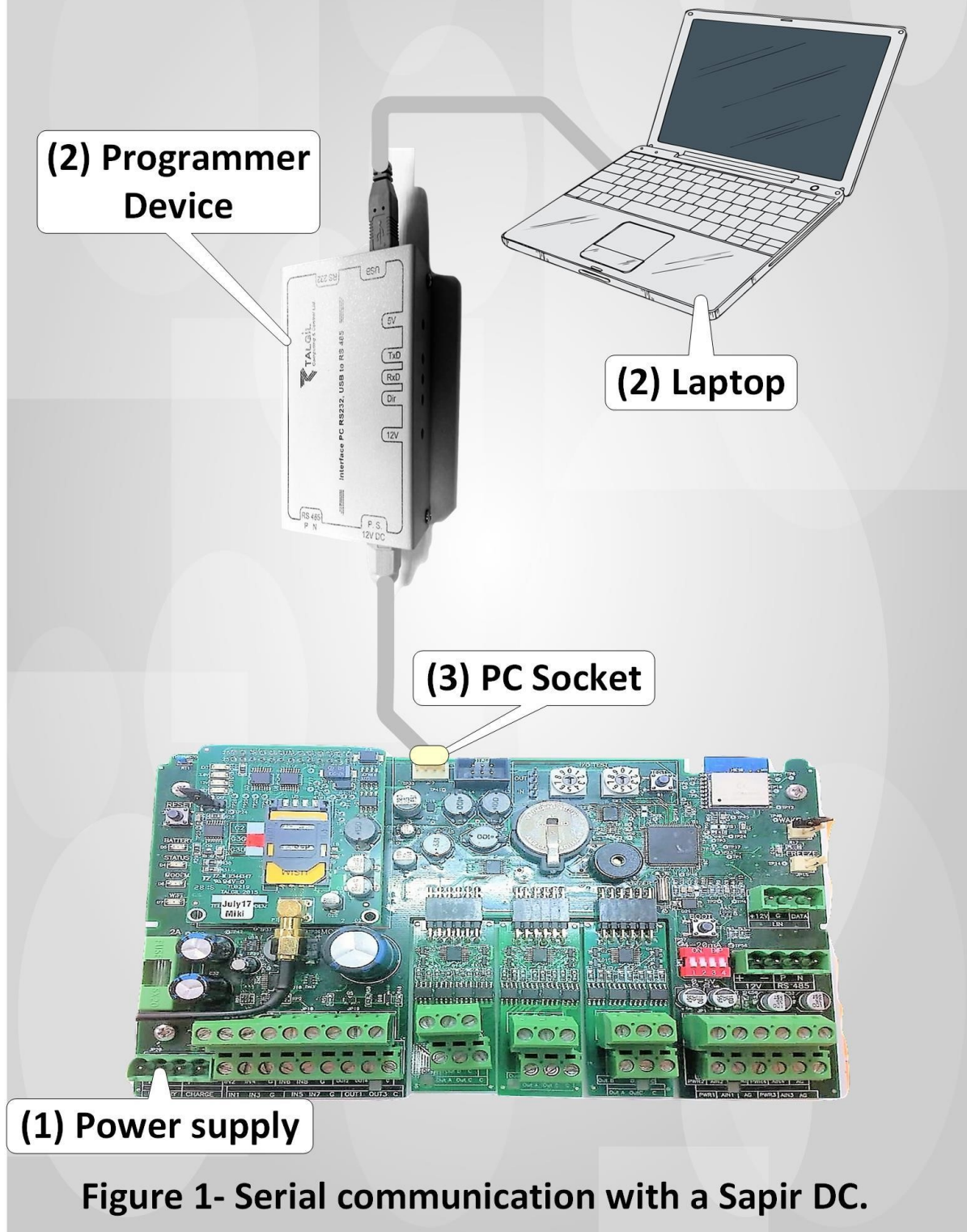
When using a Wi-Fi Modem to connect to the Internet, Tap the Modem type (Screenshot 11) and select Wi-Fi Modem (Screenshot 12).

To set up the Wi-Fi network name and password tap the Wi-Fi network name and Wi-Fi network password (Screenshot 13).

***The Modem type, Network name, and Password take effect after a reset.**



Serial communication using the SerialTool and Programmer Device



The SerialTool PC Software

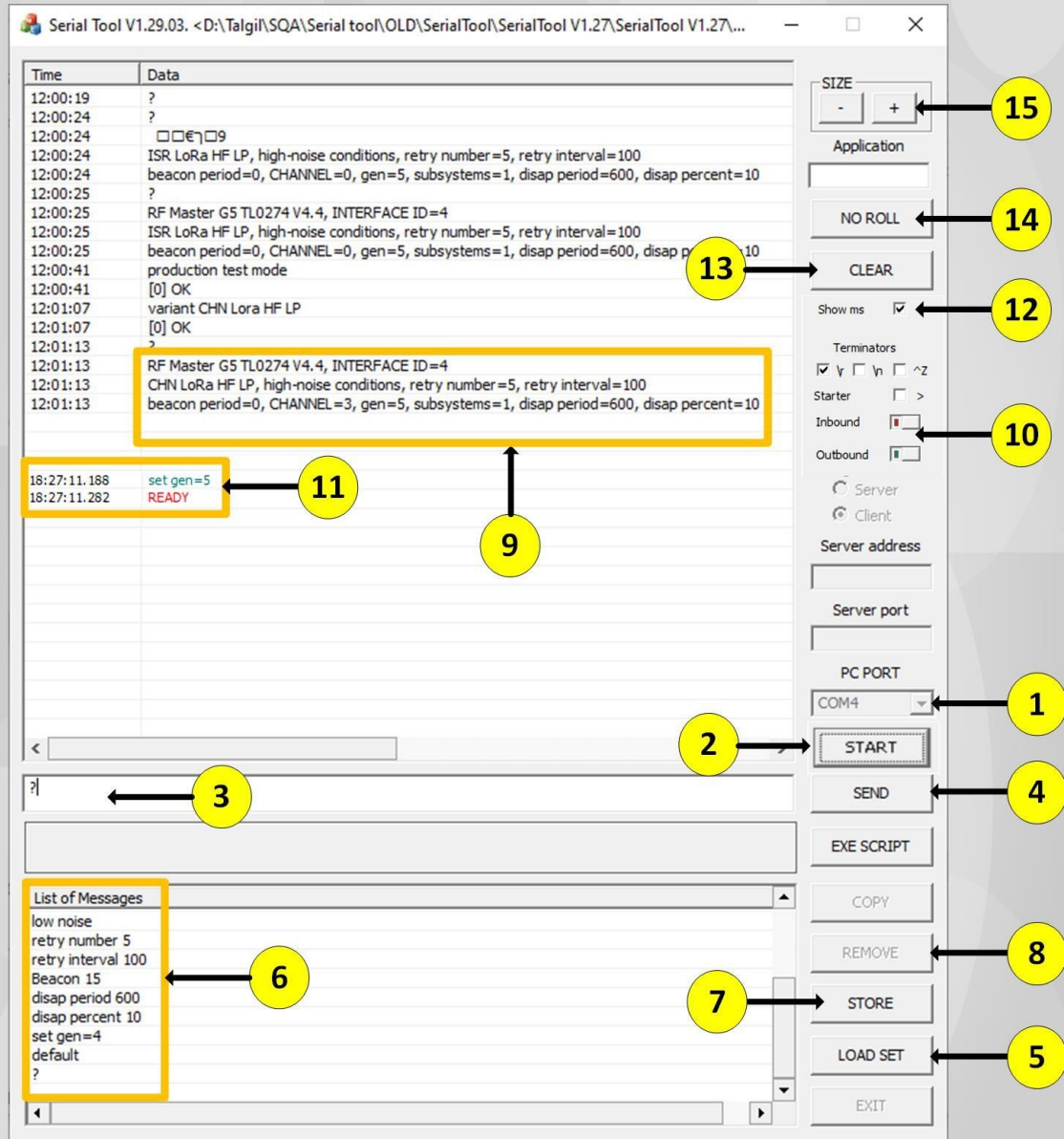


Figure 2- Description of the Serial Tool PC Software.

3.2 Sapir 2-Connection to Server via SerialTool PC software.

1. Connect a power supply (**Pointer 1 figure 1**) to the **Programable Device**.
2. Connect the **Programmer device (2)** to the **PC (3)** and the **Programmable Device (4)** as described in **figure 1**.
3. Open the **Serial tool** PC software. If you do not have it, download it [here](https://drive.google.com/drive/folders/1LnYjFsgmcl4iGiqDCN0ufBPboZzRdXFb?usp=sharing).
(<https://drive.google.com/drive/folders/1LnYjFsgmcl4iGiqDCN0ufBPboZzRdXFb?usp=sharing>).
4. Select the communication port on the **Com** combo box (**Pointer 1 figure 2**). To identify the **Com port**, go to **My PC/Properties/Device manager/Ports (Com & LPT)** and find the communication port used by the **Programmer device**. The Programmer device is called **USB Serial Port (com X)**.
5. Click the **START** button (**2**).
6. To write a command manually, write the new command to the **Command text box (3)** and click **Send (4)**. To use a library of existing commands, click **Load set (5)** and select the file with the commands library that you would like to use. The available commands will appear in the **Commands list (6)**.

Table 1- Sapir 2 supported commands.

Download the latest version [here: https://drive.google.com/drive/folders/1C8f6532QyTFbyprKhchtT4BcVi0rP6m8?usp=sharing](https://drive.google.com/drive/folders/1C8f6532QyTFbyprKhchtT4BcVi0rP6m8?usp=sharing)

ID	Command	Description
1	prompt on	Start listening to serial commands.
2	prompt off	Stop listening to serial commands.
3	status?	Returns the Sapir connection to server status.
4	password 1234	Set passwords for commands through SMS.
5	password?	Returns password for commands through SMS.
6	smsphone 0544763965	Returns user1 mobile phone number.
7	send sms 1	Sends SMS to user2 (The SMS includes the Unit ID and RSSI).
8	smsphone?	Returns user1 mobile phone number.
9	userphone 0544763966	Set the mobile phone number of user2.
10	send sms 2	Sends SMS to user2 (The SMS includes the Unit ID and RSSI).
11	userphone?	Returns user2 mobile phone number.
12	ip srv.talgil.com	Set the IP address to srv.talgil.com
13	ip?	Returns the IP address.
14	port 55300	Set the port number to 55300
15	port?	Returns the port number.
	Cellular Modem	
16	apn internet	Set the apn.
17	apn?	Returns the apn.
18	uname apn_user_name	Set the apn username.
19	uname?	Display the apn username.
20	upsw apn_password	Set the apn password.
21	upsw?	Returnstheapn password.
22	provider?	Returns the provider that the Sapir is connected to.
23	name Sapir 2	Set the Controller Name to Sapir 2.
24	name?	Returns the Controller Name.

25	tryreg 120	Scanning period in seconds to attach or searching for an operator to register to. After this time, the modem will reset.
26	dealer dealer_name	Set the Dealer name.
27	dealer?	Returns the Dealer name.
28	unit id?	Returns the Sapir modem + CPU ID.
29	version?	Returns the Sapir firmware version.
30	restmodem	Reset the Modem (Does not reset the Sapir).
31	reset	Reset the Sapir.
32	configinit	Set initial configuration (2 valves only).
33	time 27-4-20 16:00:00	Set manually the date and time to April 27, 20 , 16:00:00
35	time?	Returns the Sapir current time.
36	clearlog 1	Clears Row data.
37	clearlog 3	Clears accumulations.
38	version?	Returns the Sapir firmware version (like command 27).
39	idoption?	Returns id option parameter
40	idoption 0	Connect with MODEM ID
41	idoption 99	Connect with CPU ID 8 digits
42	idoption 100	Connect with CPU ID 10 digits
	Wi-Fi Direct	
43	netname name	Set Wi-Fi Direct network name.
44	netname?	Returns the Wi-Fi Direct network name
45	netpsw password	Change Wi-Fi Direct network password(8 characters).
46	netpsw?	Returns the Wi-Fi Direct network password (8 characters).
	Wi-Fi Modem	
47	wnetname name	Set the Wi-Fi network name (For Wi-Fi Modem).
48	wnetname?	Returns the Wi-Fi network name (For Wi-Fi Modem).
49	wnetpsw password	Change the Wi-Fi network password (For Wi-Fi Modem).
50	wnetpsw?	Returns the Wi-Fi network password (For Wi-Fi Modem).

51	fstart b	Upload beta version
52	boot	Enter into boot mode
53	modem 1	Set modem type to HE910 3G
54	modem 2	Set modem type to LE910 4G
55	modem 3	Set modem type to LE910 4G AT&T USA
56	modem 4	Set modem type to LE910 4G Verizon USA
57	modem 5	Set modem type to Wi-Fi modem
58	modem ?	Returns the modem type.
59	gen 3	Connect to 3G network.
60	gen 4	Connect to 4G network.
61	gen?	Returns the generation (Answers: 3 (3G) or 4 (4G)).
62	erlog?	Returns error log.
63	rssi?	Returns the RSSI level (Cellular modem).
64	outputs?	Returns the outputs state (+ is opened, - is closed, S is Shorted)
65	vbat?	Returns the Battery voltage.
	Sapir DC-Output signal settings	
66	solvolt?	Display the DC output voltage (default 160=16V)
67	solperiod?	Display the DC output period time (Default 90)
68	solvolt 160	Set the DC output voltage to 16V (4-20V)
69	solperiod 90	Set the DC output period time to 90 mSEC (0 to 250 mSec)
	Sapir AC-Short and overload alarms	
70	curshort 500	Set the parameter to detect short circuits on Sapir AC to 500
71	curovrl 500	Set the parameter to detect overload on Sapir AC to 500
72	curshort?	Display the parameter to detect short circuits on Sapir AC
73	curovrl?	Display the parameter of overload alarm detection
74	ac data?	Display Sapir ac parameters (average current and power supply)
75	outstate?	Display AC alarms (overload and shorted output).
76	clear shorted	Clears shorted alarm.
77	clear overload	Clears overload alarm.
78	expanded x	Expands digital input to read short pulse width (20 msec). Vector. In 3 is binary 4.
79	expanded?	Returns theExpanded digital input to read short pulse width (20msec).

3.3 Sapir 2-Connection to Server via SMS commands.

Before sending an SMS to the Sapir 2 controller, make sure that the SIM Card has an Internet and SMS Plan. If not, Ask your cellular provider to add an Internet and SMS plan to the SIM card that is installed in Sapir 2 controller.

To send an SMS command to the Sapir 2 controller, select the command to send from the supported commands is pages 13-15, add the password to the command and send the SMS to the Sapir cellular number. The default password is **.1234**. When the command arrives at the Sapir 2 controller, the Sapir 2 returns the **Executed** text to you.

After the password, write the command. For example, command number 3 returns the Sapir connection to server status.

|3|status?|Returns the Sapir connection to server status.|

To send this command, send: **.1234.status?**

The Sapir will return an SMS back to you. The response includes the connection status, RSSI, and Unit ID.

Read on to learn how to send the APN settings for the timbrasil provider.

For example, lets see how to send the APN settings for the next provider called **timbrasil**.

Data APN command:

Data Settings	Value
Data APN	timbrasil.br
Data APN Username	tim
Data APN Password	tim

The Data APN SMS command is **.1234.apn Apn_name**

To set the **timbrasil.br** apn name, send the next SMS: **.1234.apn timbrasil.br** (Pointer 1)

Data APN Username command:

The Data APN Username SMS command is **.1234.uname Apn_user_name** To set the **tim** Data apn username send the next SMS: **.1234.uname tim** (Pointer 2) **Data APN Password command:**

The Data APN Password SMS command is **.1234.upsw UPSW**

To set the **tim** Data apn Password, send the next SMS: **.1234.upsw tim** (Pointer 5)

Set the Server port SMS command:

To set the server port, send the SMS command: **.1234.port 55300** (Pointer 7)

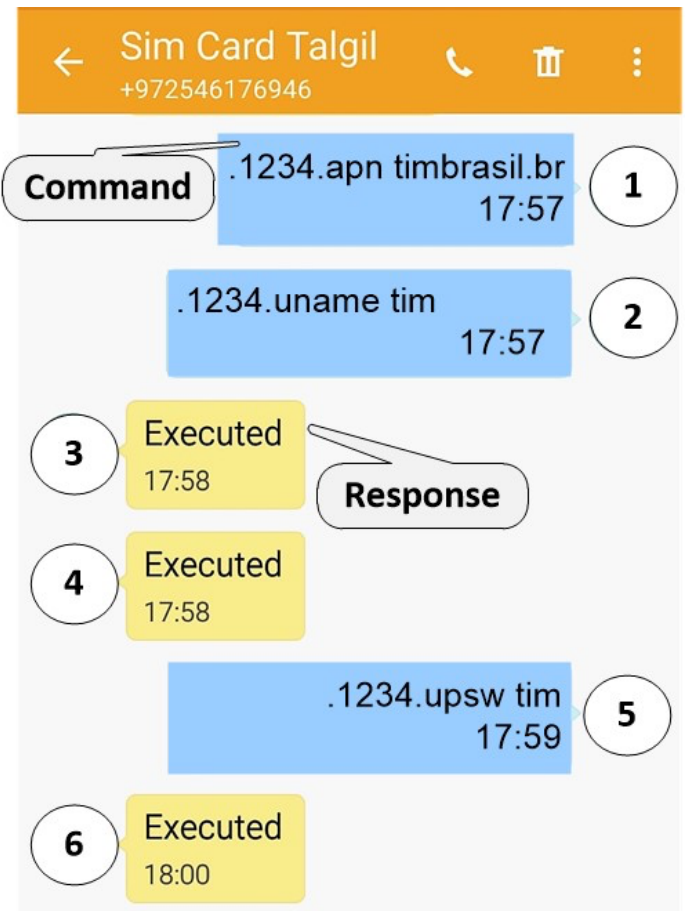
Set the Server IP SMS command:

To set the server IP, send the SMS command: **.1234.ip srv.talgil.com** (Pointer 9)

Set the dealer name SMS command:

To set the dealer name, send the SMS command: **.1234.dealer DEALER_NAME**

For example, to set the Dealer name to yaron, send the next SMS: **.1234.dealer yaron**



Sapir 2 response to commands:

Pointers 3, 4, and 5 are the Sapir 2 response for the Data APN, Username, and Password commands. **Executed** response means that the command has been accepted and executed.

Reset command:

To reset the Sapir, send the SMS command: **.1234.reset** (Pointer 11)

Controller connection to server status:

there is an option to ask the controller for the connection to the server status.
For example, to check the connection to the server status, send the next SMS:

.1234.status? (Pointer 13)

The controller will send an SMS back (Pointer 14) with the connection to the server status and the RSSI (Received signal strength indication) level.

For example, pointer 14 is the controller response which displays **Connected to Server** and **RSSI=20**.





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