



## TECHNICAL INSTRUCTIONS

Manual measuring unit  
Bluetooth / Wi-Fi interface





## GENERAL INFORMATIONS

G301 is a Bluetooth interface data logger used for the acquisition of digital instrumentation on the RS485 network for geotechnical, environmental and structural applications.

The connection of the product to standard Wi-Fi networks allows the remote control of the data on the Cloud using the FTP protocol.

The Bluetooth module integrated into the device allows it to be managed without any connection by the operator.

The G301 APP, supplied, allows to use an Android device to view and store the acquired data. It also premises that they can be shared through Android features.

## TECHNICAL FEATURES

- System requirements: Android 4.4.2 API level19 KitKat or higher;
- Signal inputs: Digital (RS-485);
- Power supply: Internal battery from 5.5 V to 14 V typical 10.8 V; Battery voltage; Max 60 mA @ 12 V;
- Sensor power supply: Acq + FTP 33 mA
- Current absorption: Acq + B.T. 73 mA;
- Average absorption current at 12 V: 0.5 uA;
- Absorption in Standby at 12 V: Digital RS-485;
- Sensor connection: from -20 °C to + 70 °C;
- Operating temperature: IP 67;
- Degree of protection: 80 x 75 x 70 mm;
- Dimensions: 170 gr..
- Weight (Stand Alone)

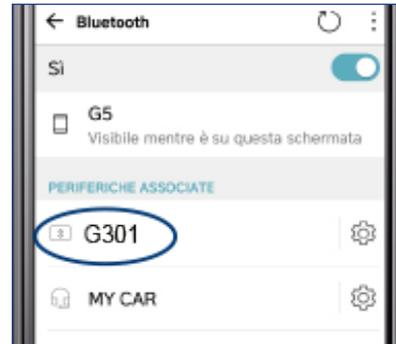
## INSTALL APP G301

To activate the Bluetooth of your smartphone or tablet, hereinafter referred to as "device", press on "**Ricerca dispositivo Bluetooth**", and wait a few seconds.

Once the device has recognised the module, press the G301 button and click on the "**Accoppiamento**" button.

The device may require a login PIN depending on the version of Android installed, in this case enter the PIN code: **1234**.

To prevent the device from repeating the same request, press the "**Aggiungi a Dispositivi Attendibili**" button.



The executable file of the APP must be installed on your device. If you click on the APP icon, a message will appear stating: "This APK file may contain unsafe content" ("Questo file APK potrebbe contenere un contenuto non sicuro"), press **OPEN**. A message will appear asking: "Do you want to install this application?" ("Vuoi installare questa applicazione?"). Press "Install". Activate the Bluetooth of the device. Click on the icon to start the APP. The APP blocks the rotation of the screen vertically.

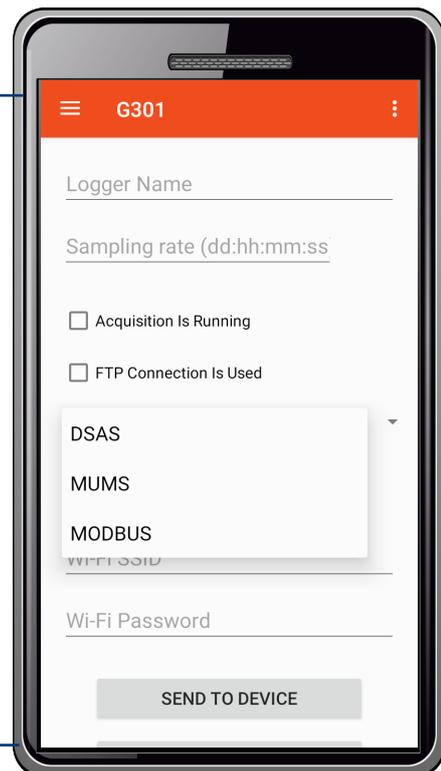
APP ICON:



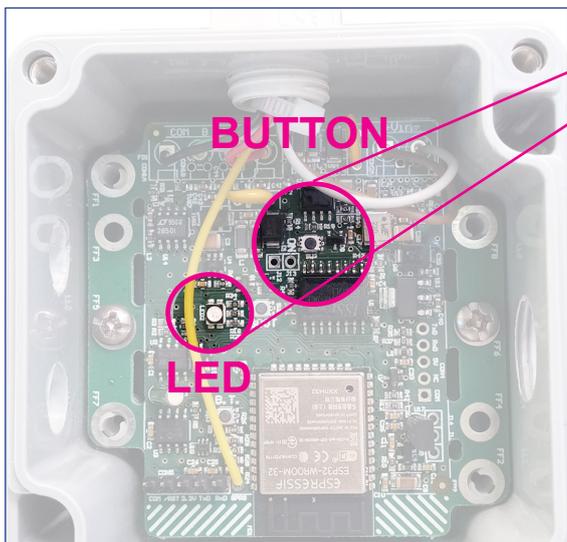
The first screen is shown here.



At the top of the screen are the two main menus, left and right. The red background indicates that the app is **NOT CONNECTED** to the data logger.



## SWITCH ON G301



To configure the device, open the box and press the indicated **BUTTON** for a few seconds, the indicated **LED** will light up.

### LED COLORS:

**RED:** device power on, not acquiring

**GREEN:** indicates data acquisition

**BLUE:** device connected to Wi-Fi

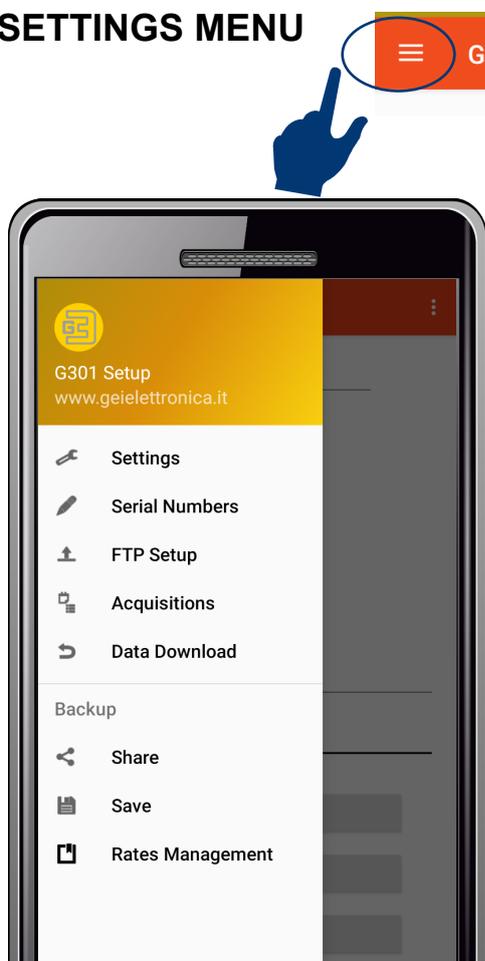
**PINK:** device that does **NOT** find Wi-Fi, not connected

### IMPORTANT

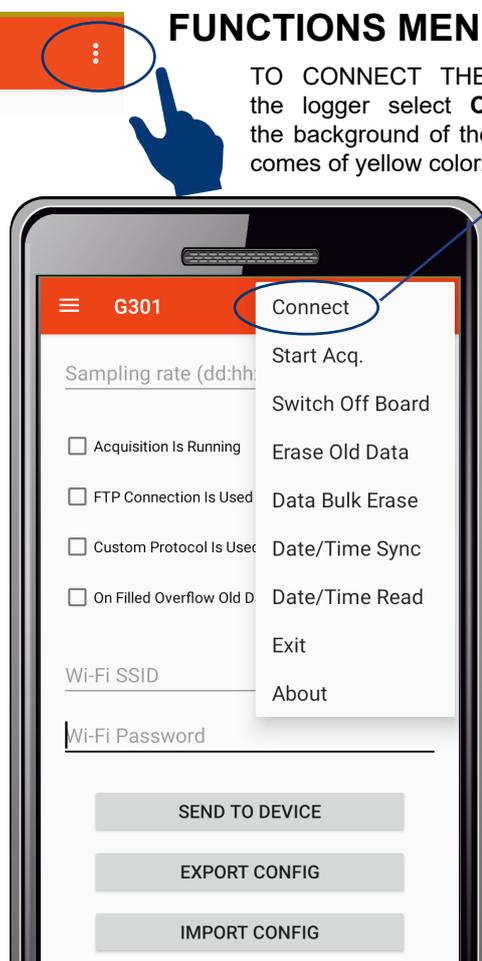
Every time you exit the **APP**, the **APP** disconnects from the logger.

## MENU

### SETTINGS MENU

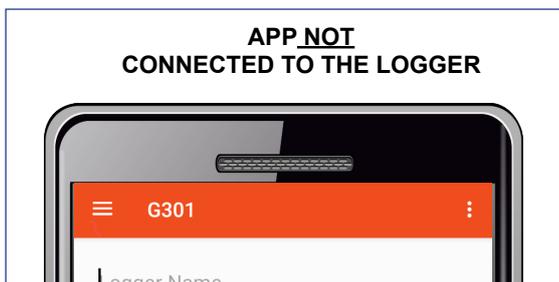


### FUNCTIONS MENU



TO CONNECT THE APP to the logger select **CONNECT**, the background of the APP becomes of yellow color.

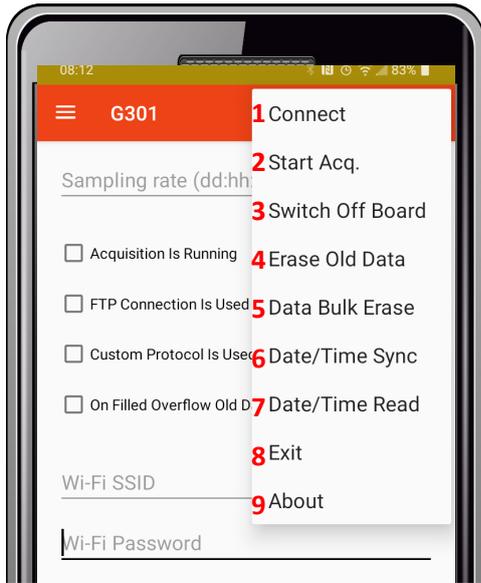
### APP NOT CONNECTED TO THE LOGGER



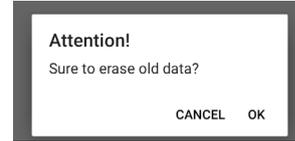
### APP CONNECTED TO THE LOGGER



FUNCTIONS MENU



- 1) **Connect:** Select to connect the APP to the logger.
- 2) **Start/STOP Acq.:** Select to activate (Start) and/or deactivate (STOP) the AUTOMATIC data acquisition mode.
- 3) **Switch Off Board:** Select to turn off the G301 logger. If the Start / STOP Acq. function is active, after a few seconds the logger switches on again to make the first reading.
- 4) **Erase Old Data:** Select if you want to erase old data. Press OK to cancel.



- 5) **Data Bulk Erase:** Select to fully format the logger memory. After pressing the button, the screen in point 4) is repeated. Press OK to cancel.
- 6) **Date/Time Sync:** Select to set DATE and TIME of the logger.
- 7) **Date/Time Read:** Press to view the logger date and time.
- 8) **Exit:** By selecting this function the APP and logger are turned off at the same time.
- 9) **About:** Select to get product information.



**IMPORTANT**  
Each time you exit the APP, it will be disconnected from the LOGGER.

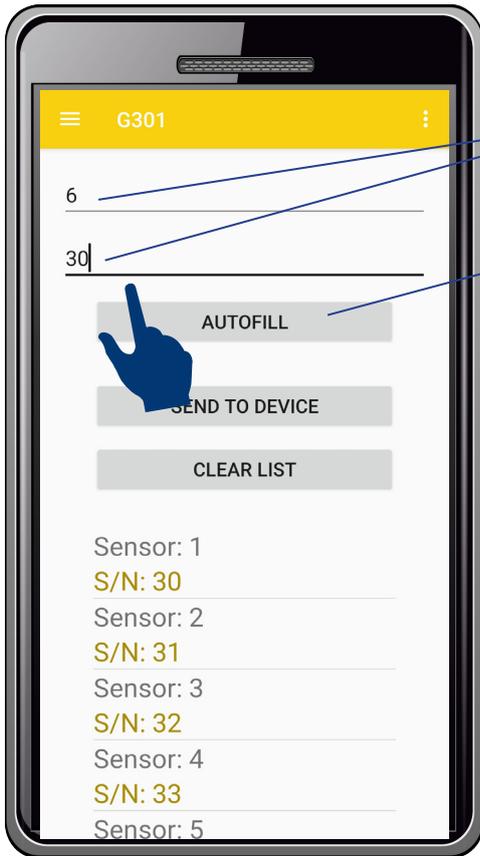
SETTINGS MENU



- 1) **NAME:** Enter a name for the logger.
- 2) **DATE / TIME:** Set the sampling period in days: hours: minutes: seconds.
- 3) **Acquisition is Running:** Select the option to start automatic acquisition.
- 4) **FTP connection is Used:** Select to set the FTP connection to download and archive the read data.
- 5) **Custom Protocol Is Used:** Enabling protocols. By pressing the right arrow it will be possible to select the desired protocol type.



- 6) **On Filled Overflow Old Data:** The APP stores data continuously until its memory is full. When the memory is full the logger automatically stops storing the data. By selecting this function, when the memory fills up, the logger starts saving data again, overwriting the oldest ones.
- 7) - 8) **Access ID and PASSWORD:** Indicate the name of the Wi-Fi network and the access password.
- 9) **SEND TO DEVICE:** Select to store all settings on the G301 logger.
- 10) **EXPORT CONFIG:** Exports the configuration data set. All the data of the individual menus are exported to a text file directly on the device (phone, tablet, etc.)
- 11) **IMPORT CONFIG:** Imports previously exported configurations and resets them in the APP.



The APP stores and identifies the sensors configured and connected to the logger, numbering them progressively starting from number 1.

Serial numbering can be entered manually or, for convenience, you can indicate in the first line the number of sensors that will be installed and in the second line the serial number from which to start numbering.

By pressing the **AUTOFILL** button, the APP performs the automatic filling function with progressive numbering as shown in the example in the figure.

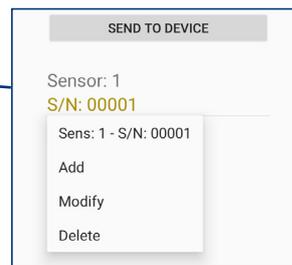
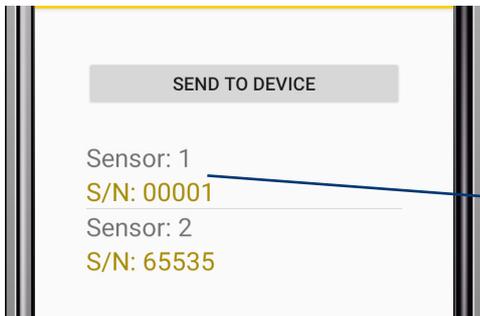
Then click, for example, on --> **Sensor: 1** a screen will appear in which the submenus are indicated:  
**- Sens: 1 - S/N--> Identification number** of the sensor created by the device;

- **Add**--> select to add a new sensor;

- **Modify**--> select to modify the data previously set for the sensor;

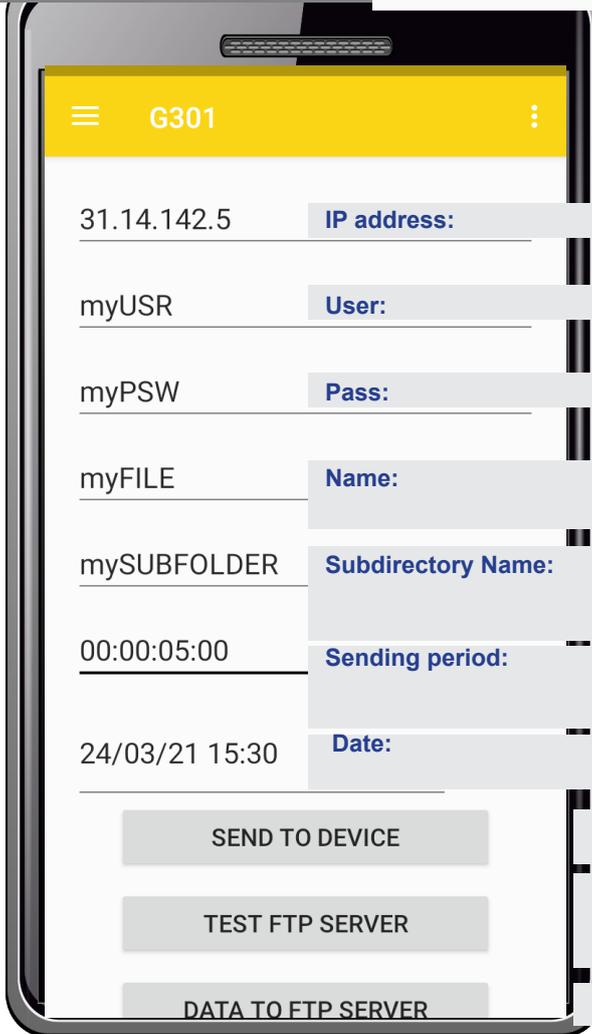
- **Delete**--> select to delete the sensor data.

By clicking **SEND TO DEVICE**, the APP sends the data to the logger.



- **Sensor number:** the number consists of three digits, for example: 001 - 002 - etc .;

- **Serial number:** the number consists of 5 digits, for example: 00001 - 00002 - etc ..



This menu sets the following data:

31.14.142.5	<b>IP address:</b>	Set the address of the server to which data is to be sent.
myUSR	<b>User:</b>	Set the server ID.
myPSW	<b>Pass:</b>	Set the access password.
myFILE	<b>Name:</b>	Set the name of the file containing the read data that will be sent from the device.
mySUBFOLDER	<b>Subdirectory Name:</b>	Name and create a subdirectory to be used on the FTP server to store the read data. In the subdirectory there will be a file called CONFIG.TXT which will contain the data set to be able to configure the control unit remotely.
00:00:05:00	<b>Sending period:</b>	The period of time in which the logger takes readings is set. Set the data sending period in DAYS: HOURS: MINUTES: SECONDS.
24/03/21 15:30	<b>Date:</b>	Set the date and time at which you wish to begin sending data to the FTP server.

SEND TO DEVICE

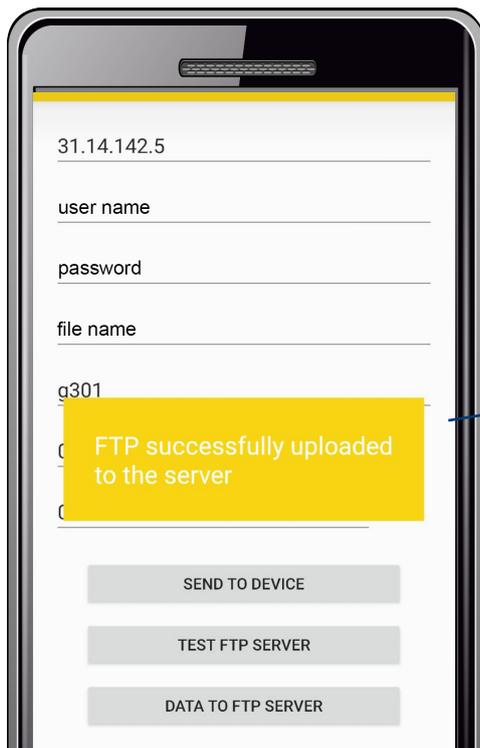
**SEND TO DEVICE:** Send settings to the logger.

TEST FTP SERVER

**TEST FTP SERVER:** Allows you to check that the transmission via FTP is working properly by sending a test file in text format.

DATA TO FTP SERVER

**DATA TO FTP SERVER:** Sends data to the FTP server, if any.



#### UPLOADING DATA

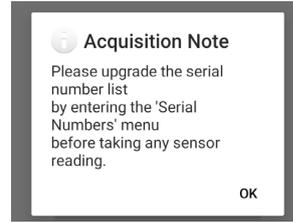
Once the data has been sent, the APP will display the message shown in the figure below to indicate that the data has been sent successfully to the FTP server.

## ACQUISITIONS MENU

Acquisitions



The Acquisitions menu allows you to take sensor readings. Before using it, make sure you have created a list of sensor serial numbers.



**ACQUIRE CHANNEL:** This menu allows you to take a reading of a single sensor. Select the text field and set the number of the sensor you wish to read. Select **Acquire Channel** to take the reading.

The logger will display:

- Set sensor number
- Logger battery voltage
- Logger internal temperature
- Sensor readings

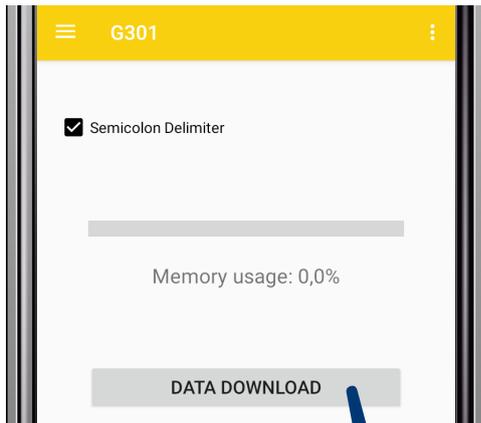
**ACQUIRE ARRAY:** this menu allows you to read the data of an entire sensor chain.

**Note:** the data read is saved in the internal memory of the logger.

**Note:** Read data is **NOT stored**, only displayed.

## DATA DOWNLOAD MENU

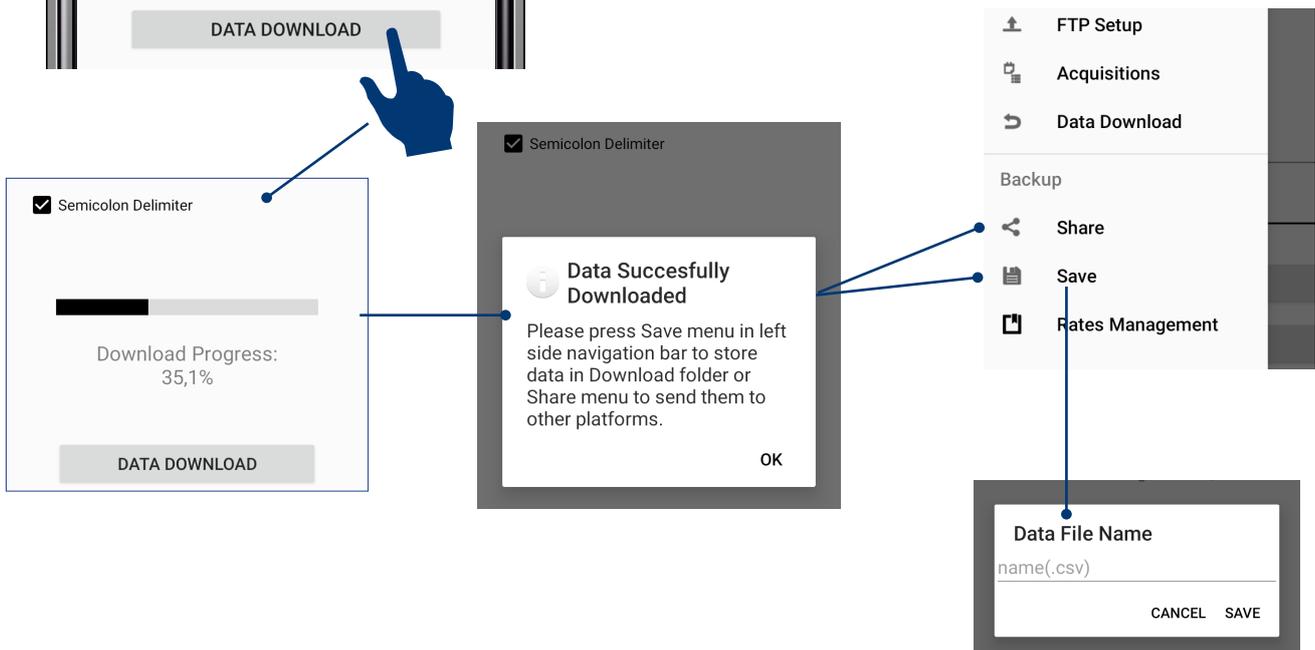
Data Download



The Download menu allows you to download the data read in a file in *name.csv* format. By selecting **Data Download** the data are downloaded and stored.

You can save the data by pressing **SAVE**, or share it on other platforms by pressing **Share** (e.g. Whatsapp, e-mail, etc.). Saving the data will prompt you to name and save the file in \*.csv format.

The **Semicolon Delimiter** button is used to set the semicolon instead of the simple comma as a separator.





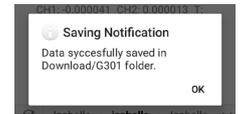
# BACKUP MENU

## SHARE:

Allows you to share the read data in text format via e-mail, Whatsapp, etc..

## SAVE:

Allows you to name the file that will be saved in \*.csv format. The APP saves the file automatically in a subdirectory called "DOWNLOAD".



## RATES MANAGEMENT:

First of all, create the folder "CONFIG" on the FTP server. The menu displays the FTP setting data again.

The first button, **UPGRADES FTP RATES** generates a file on the **FTP SERVER** called conf.txt in which the configuration settings are located.

The **DOWNLOAD FTP RATES** button, on the other hand, is used to download the stored data and, if necessary, modify the configuration settings for the sampling period and date.

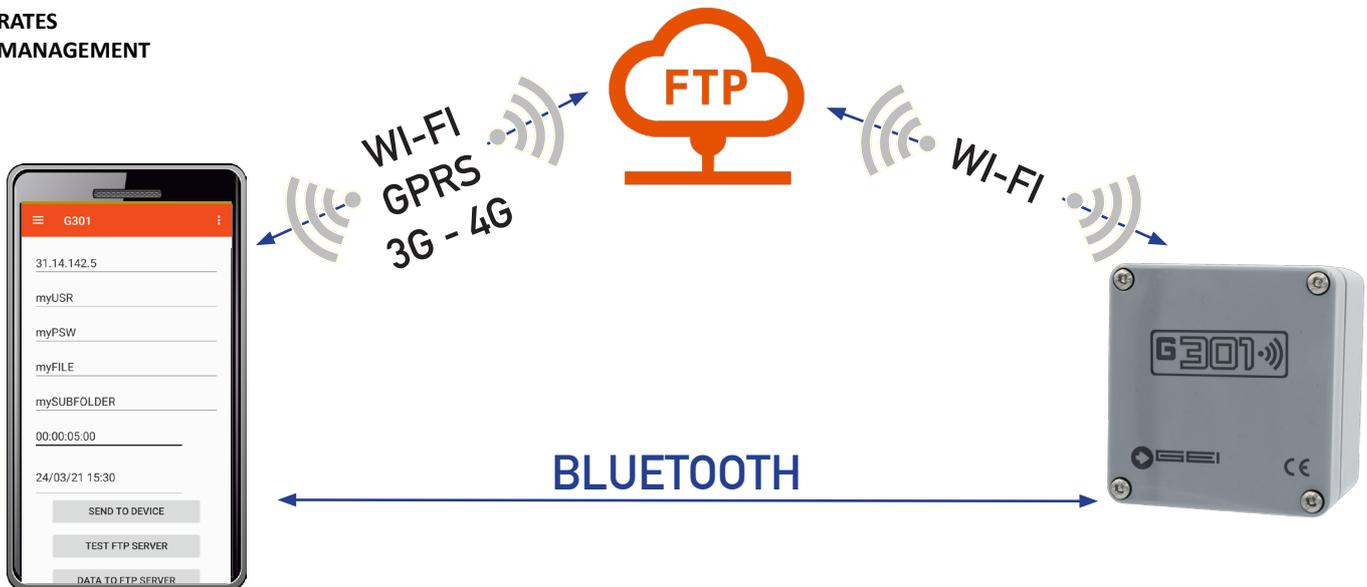
Menu to modify and/or update the sampling and sending periods, from **REMOTE**.

You can edit the configuration files directly on FTP using a simple writing program or notepad (from PC or APP).

When G301 sends data over FTP, it simultaneously checks that the configuration files have been modified.

In case of changes and/or updates, the logger stores the new data and uses the new **SAMPLE** and **SEND** settings from then on.

## RATES MANAGEMENT



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# Dichiarazione di Conformita'



## Declaration of Conformity

La società Gei S.r.l. (a S.U.), nella figura del Responsabile dell'Ufficio Tecnico, dopo aver verificato la corrispondenza alle disposizioni delle seguenti Direttive Comunitarie,

*Gei S.r.l. (a S.U.), as the Technical Officer, after having checked the correspondence to the provisions of the following Community Directives,*

2014/30/UE (Compatibilità Elettromagnetica - Electromagnetic Compatibility)

RED (ETSI EN 300 328 V2.1.1. (2016-11))

2011/65/CE (RoHS)

e delle norme armonizzate vigenti, con relative revisioni  
and of the current harmonized standards, with relative revisions

EN 61000-6-2, EN 61000-6-3

### Dichiara - States

che il prodotto modello G301 risulta conforme alle specifiche imposte dalle norme in materia di Direttiva Compatibilità Elettromagnetica, Direttiva RED e Direttiva RoHS.

*that the G301 model product complies with the specifications imposed by the regulations regarding the Electromagnetic Compatibility Directive, the Low Voltage Directive and the RoHS Directive.*

Parma, 15/10/2021

Il Responsabile Ufficio Tecnico

The Technical Officer

Ing. Corrado Carini

**GEI S.r.l. (a S.U.)**



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TCB

GRANT OF EQUIPMENT AUTHORIZATION

TCB

Certification
Issued Under the Authority of the
Federal Communications Commission
By:

Timco Engineering, Inc.
849 NW State Road 45 <BR>P.O. Box 370,
Newberry, FL 32669

Date of Grant: 12/21/2017
Application Dated: 12/21/2017

ESPRESSIF SYSTEMS (SHANGHAI) PTE LTD
456 Bibo Road Room A201
Shanghai, 201203
China

Attention: Minjie Cai

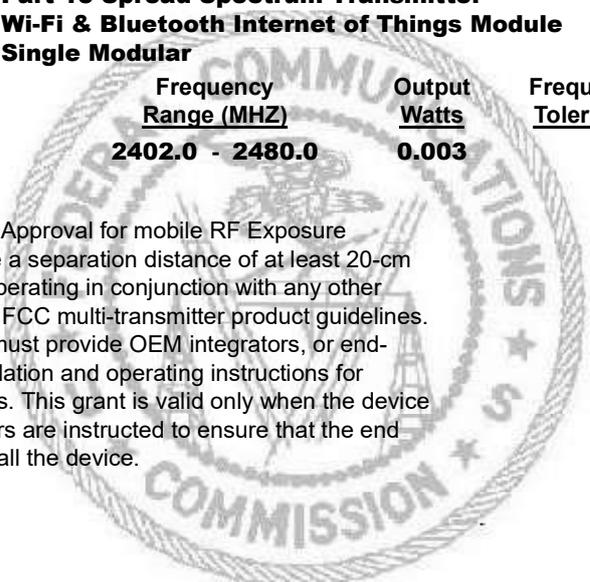
NOT TRANSFERABLE

EQUIPMENT AUTHORIZATION is hereby issued to the named GRANTEE, and is
VALID ONLY for the equipment identified hereon for use under the Commission's
Rules and Regulations listed below.

FCC IDENTIFIER: 2AC7Z-ESPWROOM32D
Name of Grantee: ESPRESSIF SYSTEMS (SHANGHAI) PTE LTD
Equipment Class: Part 15 Spread Spectrum Transmitter
Notes: Wi-Fi & Bluetooth Internet of Things Module
Modular Type: Single Modular

Table with 5 columns: Grant Notes, FCC Rule Parts, Frequency Range (MHZ), Output Watts, Frequency Tolerance, Emission Designator. Row 1: 15C, 2402.0 - 2480.0, 0.003

Output power listed is conducted. Single Modular Approval for mobile RF Exposure
condition. This device must be installed to provide a separation distance of at least 20-cm
from all persons, and must not be co-located or operating in conjunction with any other
antenna or transmitter, except in accordance with FCC multi-transmitter product guidelines.
Approved for OEM integration only. The grantee must provide OEM integrators, or end-
users if marketed directly to end-users, with installation and operating instructions for
satisfying FCC multi-transmitter product guidelines. This grant is valid only when the device
is sold to OEM integrators and the OEM integrators are instructed to ensure that the end
user has no manual instructions to remove or install the device.





**TCB**

**GRANT OF EQUIPMENT  
AUTHORIZATION**

**TCB**

**Certification  
Issued Under the Authority of the  
Federal Communications Commission  
By:**

**Timco Engineering, Inc.  
849 NW State Road 45 <BR>P.O. Box 370,  
Newberry, FL 32669**

**Date of Grant: 12/21/2017  
Application Dated: 12/21/2017**

**ESPRESSIF SYSTEMS (SHANGHAI) PTE LTD  
456 Bibo Road Room A201  
Shanghai, 201203  
China**

**Attention: Minjie Cai**

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**FCC IDENTIFIER:** 2AC7Z-ESPWROOM32D  
**Name of Grantee:** ESPRESSIF SYSTEMS (SHANGHAI) PTE LTD  
**Equipment Class:** Digital Transmission System  
**Notes:** Wi-Fi & Bluetooth Internet of Things Module  
**Modular Type:** Single Modular

<u>Grant Notes</u>	<u>FCC Rule Parts</u>	<u>Frequency Range (MHZ)</u>	<u>Output Watts</u>	<u>Frequency Tolerance</u>	<u>Emission Designator</u>
	15C	2412.0 - 2462.0	0.063		
	15C	2402.0 - 2480.0	0.001		

Output power listed is conducted. Single Modular Approval for mobile RF Exposure condition. This device must be installed to provide a separation distance of at least 20-cm from all persons, and must not be co-located or operating in conjunction with any other antenna or transmitter, except in accordance with FCC multi-transmitter product guidelines. Approved for OEM integration only. The grantee must provide OEM integrators, or end-users if marketed directly to end-users, with installation and operating instructions for satisfying FCC multi-transmitter product guidelines. This grant is valid only when the device is sold to OEM integrators and the OEM integrators are instructed to ensure that the end user has no manual instructions to remove or install the device. This device supports 20 and 40 MHz modes.

