Freedom Won E-Connect

User Manual

For technical and installation assistance, contact Freedom Won Distributor or Reseller Installer. A directory of authorised Distributors and Reseller Installers can be found on our website at www.freedomwon.co.za.

For advanced support, contact support@freedomwon.co.za.

Update Record

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1 Contents

List of Figures

2 Introduction

This is a guide to assist installers and technicians to access LiTE 2 batteries locally or remotely. The new LiTE 2 battery range has a state-of-the-art gateway which allows remote monitoring and fault finding. Connection to the battery now occurs through Wi-Fi or Ethernet port, depending on your model. All models have Ethernet.

Specially designed E Connect software must be used to make the connection to the battery possible. This software creates the connection link between your new battery and the Orion utility. The connection can be local or remote depending on the installation.

Once the E Connection has been setup the Orion utility will function as normal. Follow below steps to get Utility connected to battery through E Connect.

The E-Connect software supports connection with the following BMS models:

- Orion 2 BMS.
- Orion JNR 2 BMS.

Gateways have two versions:

- The CAN Gateway for Orion 2 BMS. (Ethernet Connection Only)
- The 232 Gateway for the Orion JNR 2 BMS. (Wi-Fi and Ethernet)

3 Preparation Steps

Note that the steps in 3.1 and 3.2 are for advanced installers and support teams only.

3.1 CAN Gateway (Orion 2 BMS) preparation steps

These are the steps that need to be followed before using E-Connect with the CAN Gateway.

3.1.1 Ensure correct firmware on the Orion 2 BMS

Ensure that the correct firmware is loaded on the BMS. At least **v3.7.2 RC-15** or later. E-Connect will not function correctly otherwise.

3.1.2 Ensure that the gateway is programmed

Go to the online portal and see if you can find the gateway & battery on the portal. If you cannot find the gateway online, then the gateway has not been programmed. E-Connect will also not function correctly.

3.1.3 Ensure correct profile settings on Orion 2 BMS

Gateways that are retrofitted need to ensure the settings are correct and that there are no messages on CAN1.

3.1.3.1 Can bus settings on the profile

Under "General Addon", ensure that logging is set to "Disabled" on can bus #1. See Figure 1 below.

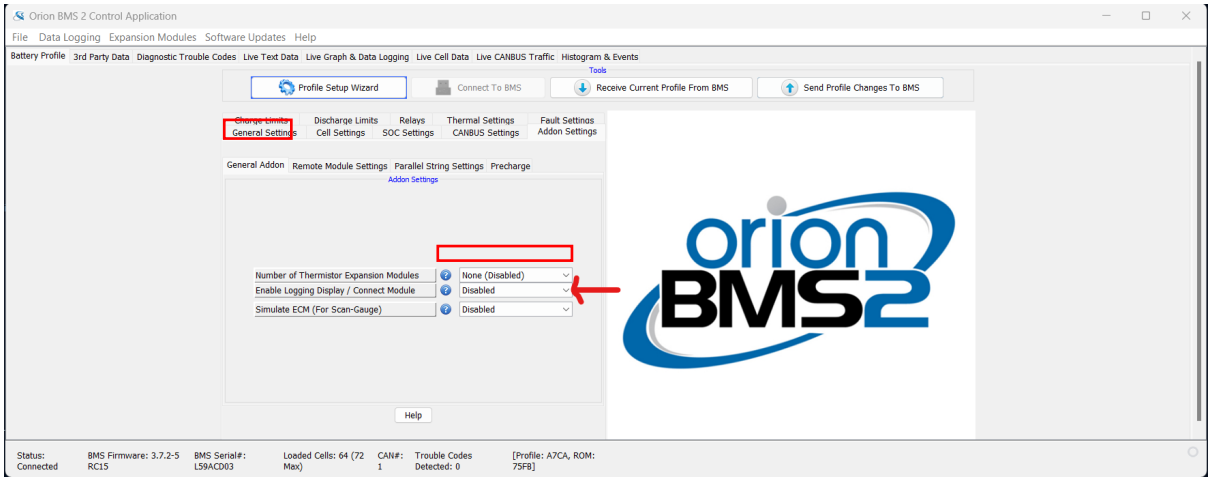

Figure 1: General Addon Settings

3.1.3.2 Edit CANBUS Messages

Under the "CANBUS Settings" tab, open the edit can bus message tab.
See Figure 2 below.

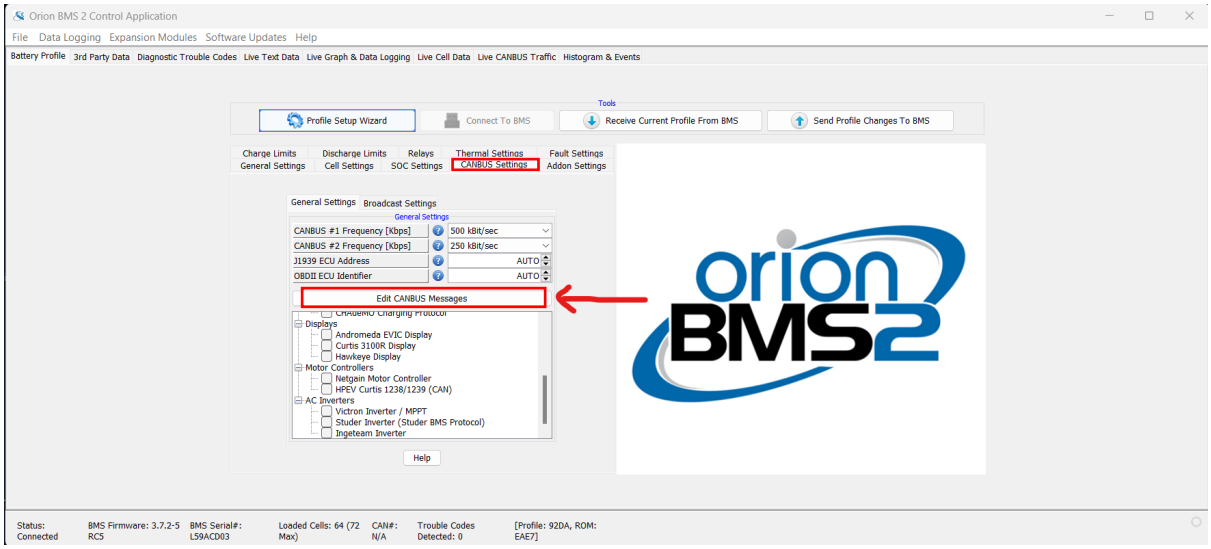

Figure 2: Edit CANBUS Messages

3.1.3.3 Set CANBUS interface to CAN2

Ensure that all the can bus messages are set to send only on CAN2. See Figure 3 below.

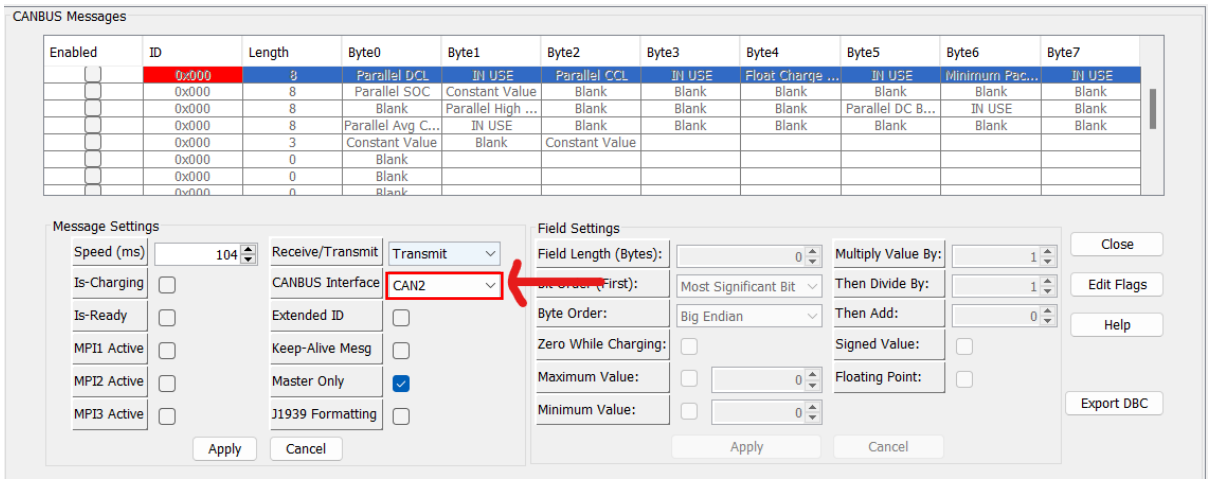

Figure 3: Set CAN2 CANBUS Interface

3.1.3.4 Disable Cell Broadcast

Ensure that the cell broadcast is disabled. See Figure 4 below.

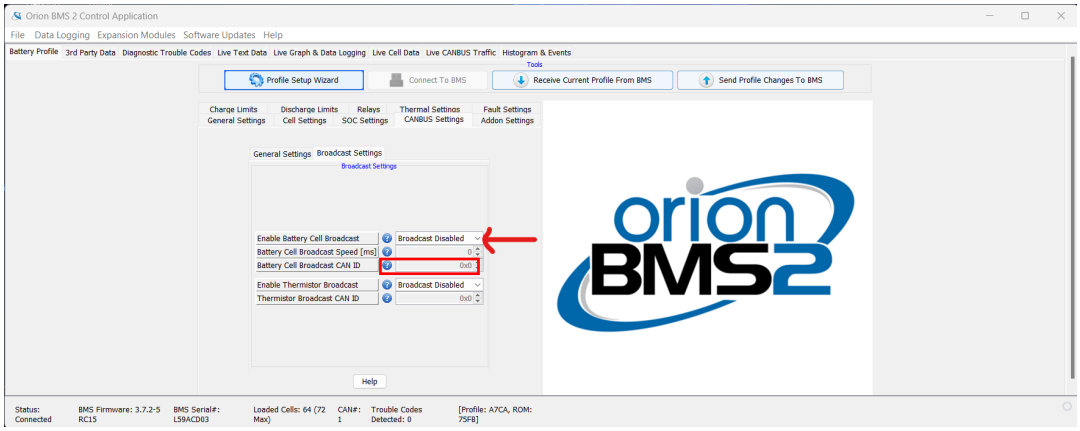

Figure 4: Cell Broadcast Disable

3.2 232 Gateway (Orion JNR2 BMS) Preparation steps

Below steps to needs to be taken before using E-Connect with a 232 Gateway

3.2.1 Ensure correct firmware on Orion JNR2 BMS.

Ensure that the correct firmware is loaded on the BMS. At least v3.7.2 RC-11 or later version. If not E-Connect will not function correctly.

3.2.2 Ensure that the gateway is programmed

Go to the online portal and see if you can find the gateway & battery on the portal. If you cannot find the gateway online, then the gateway has not been programmed. E Connect will also not function correctly.

3.2.3 Confirm profile settings JNR2

When connecting to an Orion JNR2 BMS using the gateway the profile settings must be setup correctly.

3.2.3.1 Can bus settings on the profile

Enable the Logging Display under the "Addon Settings".

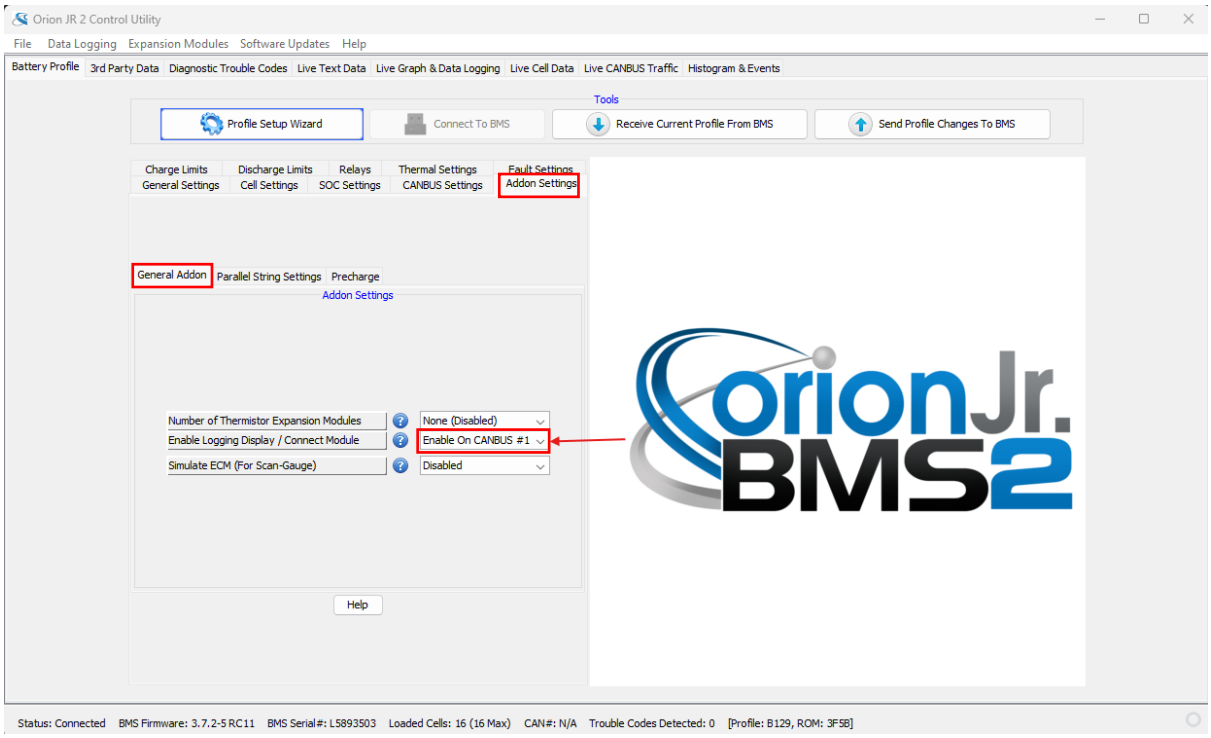

Figure 5: Enable Logging display on CANBUS #1

3.2.3.2 Enable Battery cell broadcast

Enable Battery Cell Broadcast under the Can bus Settings tab -> Broadcast Settings.

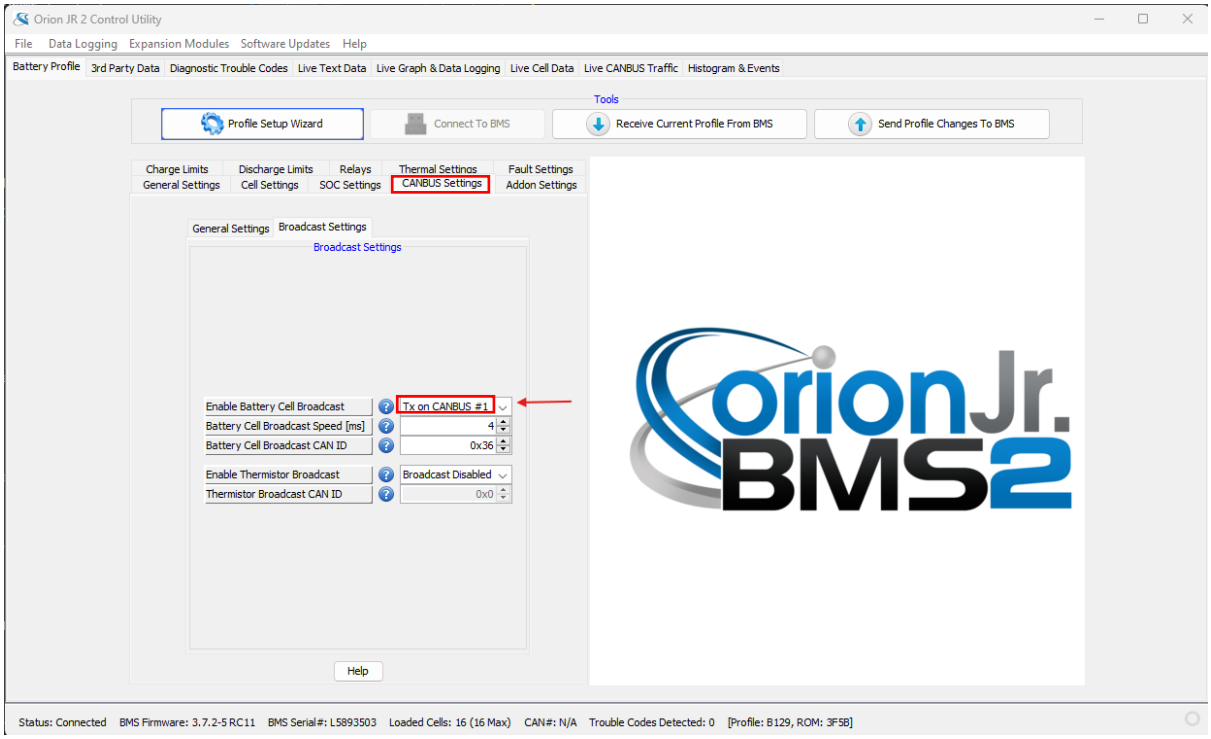

Figure 6: Enable Battery Cell Broadcast

3.2.3.3 Set basic display serial output

Ensure that the Multi-Purpose Output #2 is set to Basic Display Serial Output. Under the General Settings -> MPO#2.

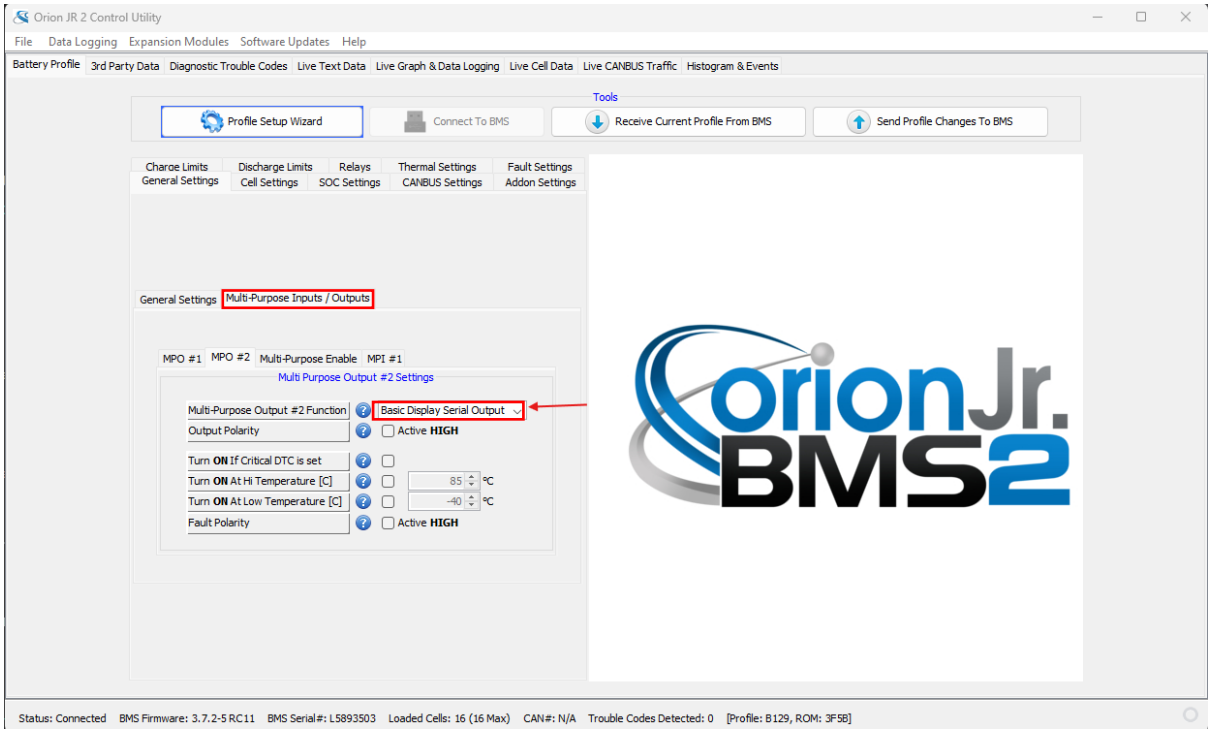

Figure 7: Basic Display Serial Output

4 Using E-Connect

E-Connect can be used in two different modes:

- **Remote** – If the connection to the battery happens over internet.
- **Locally** – When the connection to the battery is local through the Ethernet port.

Both these will be described in more detail in the below sections.

4.1 Connecting remotely to the battery

For the remote connection to work both the battery and the computer must be connected to the internet. E-Connect can now be opened taking you to the below page.

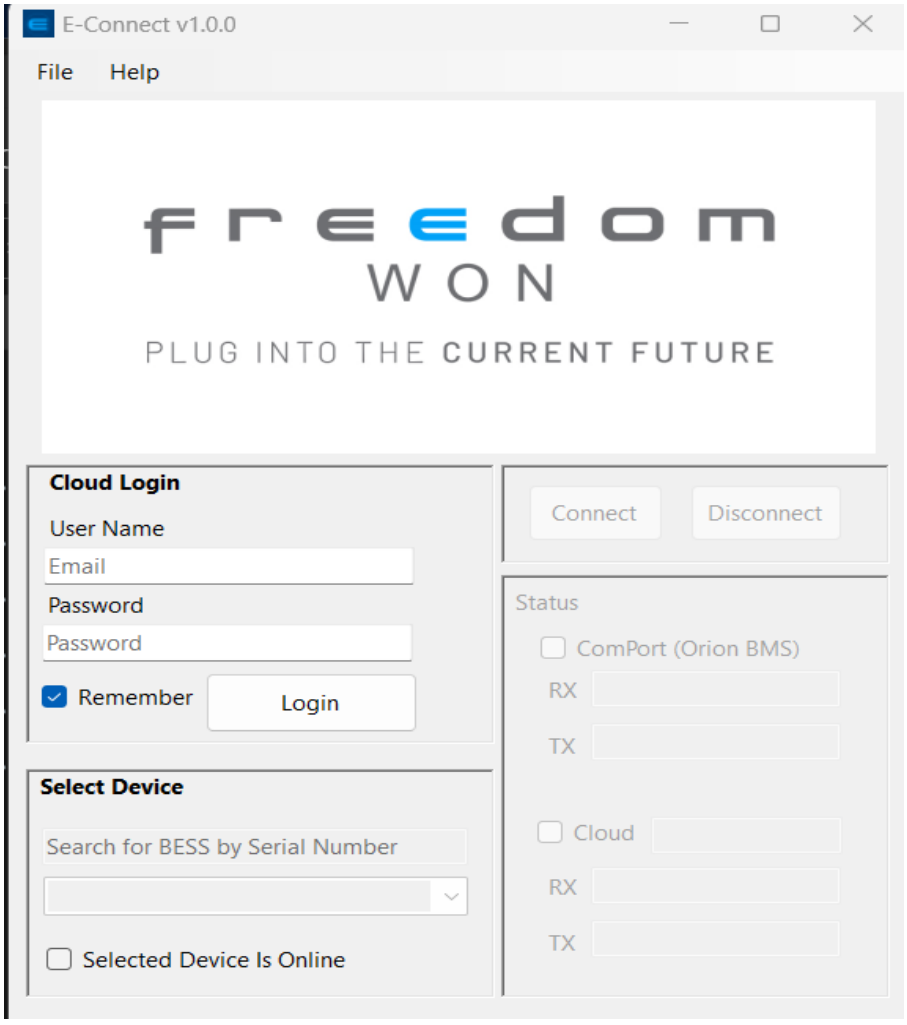

Figure 8: E-Connect Remote Connection Page

4.1.1 Login into E-connect

The user can login with their Freedom Won Portal credentials (Email address and Password). Once logged in the battery serial number must be used to find the correct battery. The connect button can then be clicked to establish a connection with the battery.

Once connection has been confirmed the Orion utility can be opened. The utility will now function as normal.

4.2 Connecting locally to the battery

When connecting to the battery locally no internet connection is required. Open E-Connect and navigate to the File tab as illustrated below. In the File tab navigate to local connection page.

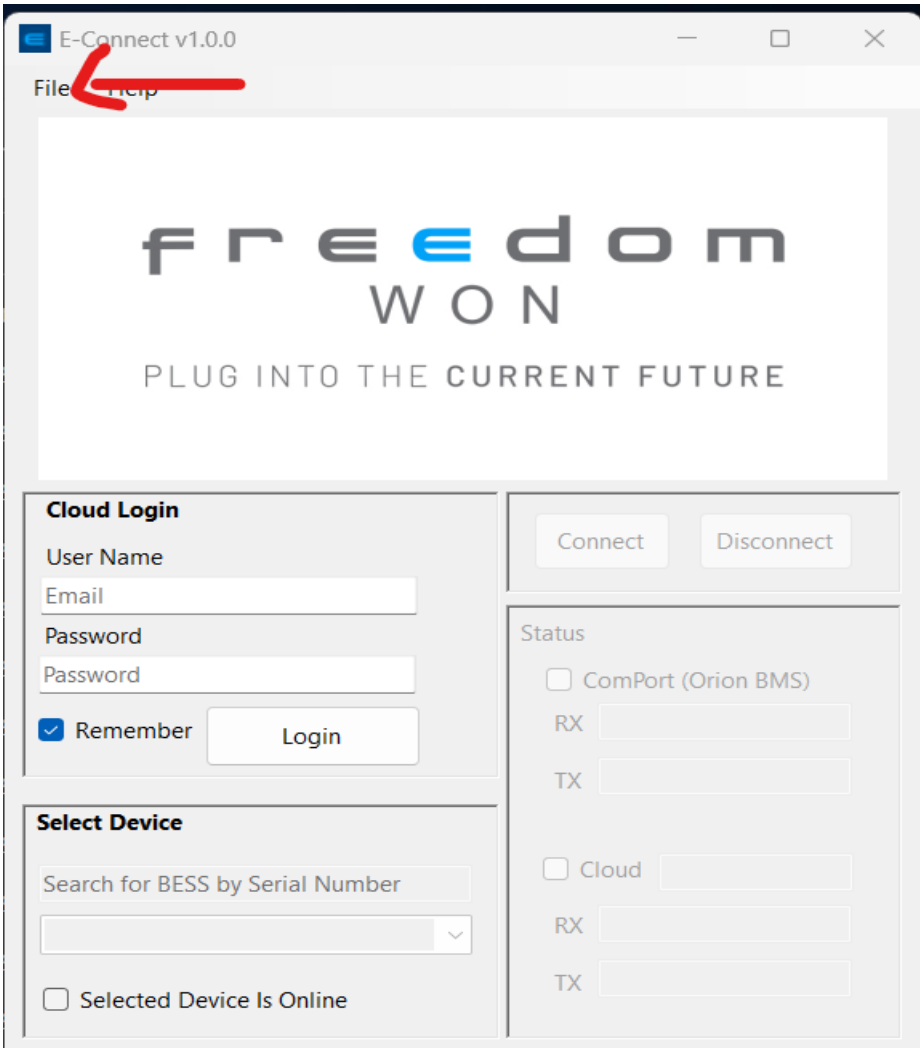

Figure 9: E-Connect Local Connection

4.2.1 Set gateway IP address in e-connect

For local connection the below fields will be displayed as illustrated in Figure 10.

The user can now fill in the appropriate details on the left by selecting the buttons.

NB: if the gateway has a static IP address, the IP address setting in the picture below will need to match that of the gateway's IP address.

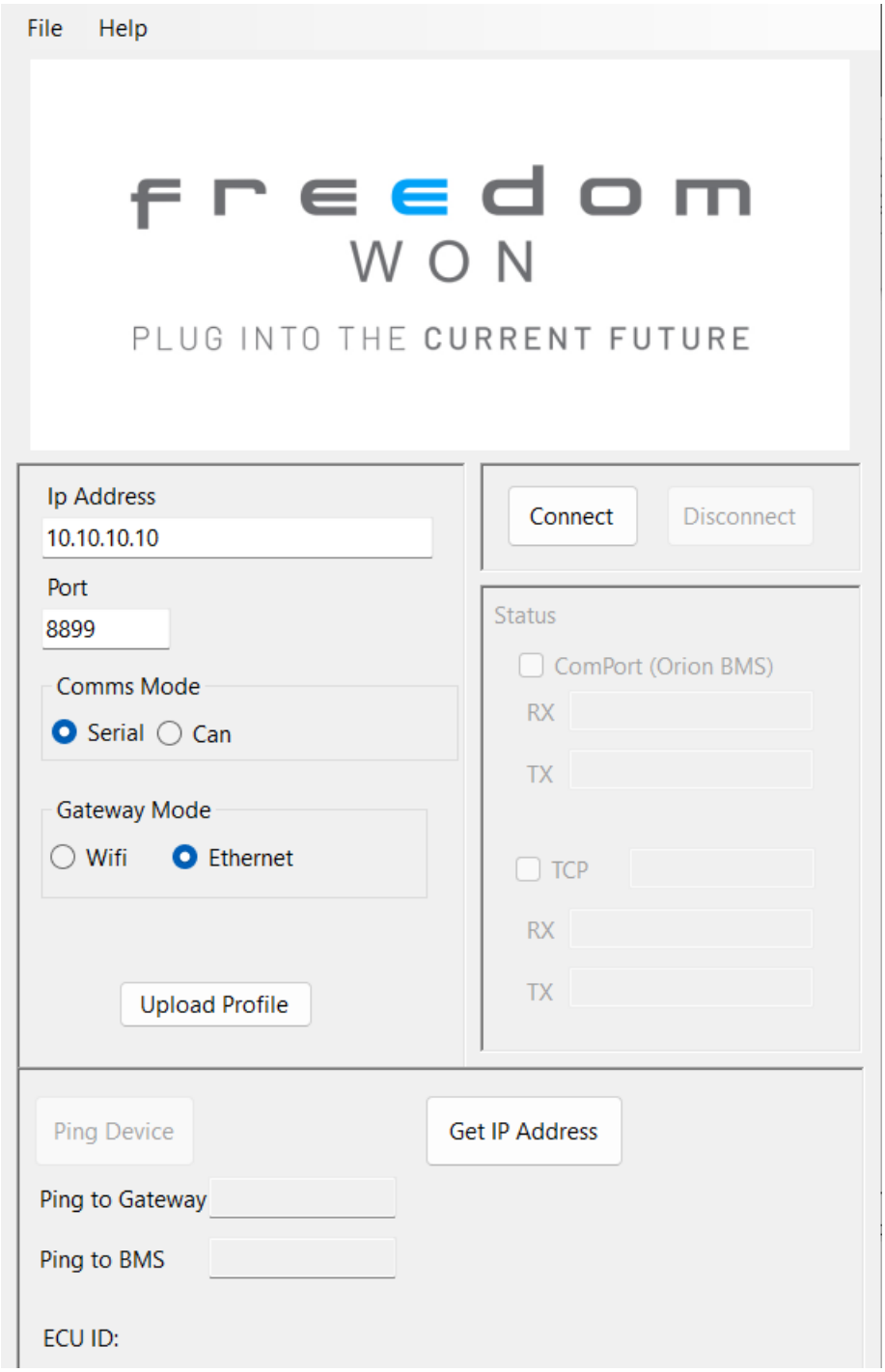

Figure 10: E-Connect Setting Static IP

4.2.2 Set Static IP Address on computer

To adjust the computers IP address, navigate to the Network and Internet section as illustrated below. The static IP address setting will depend on the setting used during the E-Connect setup.

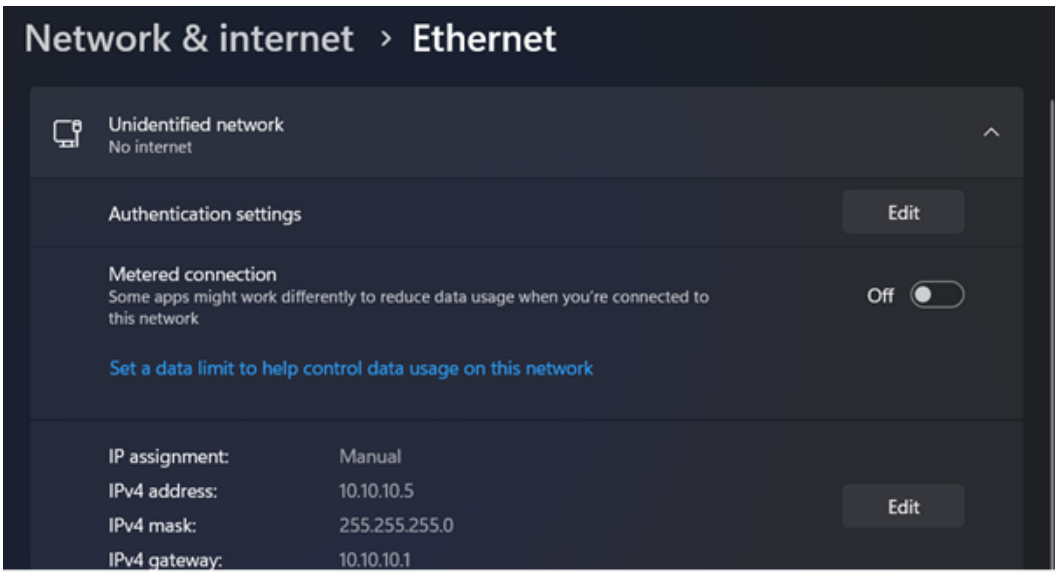

Figure 11: Computer IP Adjustment

After setting the static IP address on the laptop and configuration settings in E-Connect, the user can continue to connect to the battery.

1. Connect an ethernet cable from the laptop to the battery.
2. Click the connect button on the E-Connect interface.
3. Open the appropriate Orion utility

The BMS utility can now be used as normal.

4.2.3 Disconnecting from e-connect

Below steps to ensure correct disconnect process is followed,

1. Disconnect from the BMS utility.
2. Disconnect from E-Connect.

For any further support please contact Freedom Won for more information or assistance.