



GREEN CUBES
THE POWER TO PERFORM

Service Bulletin

Unable to exit SLEEP MODE

**Software Patch Download
V1.0.5.2**

August 2022

This Document deals with the procedure for downloading a “service patch” to correct the “**Unable to exit Sleep Mode**” condition. The patch will be designated: **V1.0.5.2**

This condition is problematic for batteries with voltages 60 and above using the INDUSTRIAL BMS that have firmware V 1.0.4.0 thru V 1.0.5.0 that exhibit the “**Unable to exit Sleep Mode**”

During normal operation, if the battery is not used (inactive) for a period of approximately 3 days (~72 hours) WITH the key switch/operating switch in the ON position, the BMS enters the “sleep mode.”

Since during normal operation the BMS uses a small amount of battery power to function, an internal control algorithm turns the BMS off after 3 days of inactivity in an effort to conserve battery power.

A software upgrade to enhance some other BMS features has inadvertently caused the BMS to get stuck in sleep mode. In order to correct the issue, new- corrective firmware needs to be downloaded into the BMS. *Figure 1*



FIGURE 1: BMS

In order to proceed with downloading the patch- you must first install the BMS tool onto your PC, unless you have already have V1.0.4 through V1.0.5. A step-by-step procedure follows.

Please observe several cautions as you proceed with this fix.

CAUTION:

It is possible to enter into a ground loop condition that will permanently damage your PC during the download operation. It is imperative that you use an isolation device. You can purchase a download device like this one: USB Gear- Part number: USBG-ISO-M to protect your computer as well as the BMS.

As an additional precaution, we recommend that you do not lay your PC or laptop on the steel

outer shell of the battery.

CAUTION:

Although it is not necessary for the download procedure, at some time you may be using hand tools to facilitate partial disassembly of the battery pack during this operation. If tools are used make certain to use only fully insulated tools

The Procedure:

Load BMS Tool onto your PC

Step 1:

Turn on your computer and go to this Green Cubes website:

www.greencubes.com/resources/fsb

Open the website to view the files available.

Step 2:

Download the BMS tool. (V 1.0.4)

Once the download finishes- select "Open file"

The BMS tool should now be on your desktop or laptop PC.

Step 3:

At this point you want to download the DFU files for the BMS TOOL. This allows you to get the BMS Tool loaded into your PC.

Step 4:

Save the DFU (Device Firmware Upgrade) files to your PC so you can easily access them in the future.

Using the BMS tool you just loaded-

LOAD the "Sleep Mode" FIX into your battery pack BMS:

Step 1:

Open the BMS Tool.

Using a USB A to USB B cable, (Figure 2) connect your PC to the port on the battery pack. Then select "CONNECT"



Figure 2: USB "A" to USB "B" cable

Once connected, you should see product information on your screen as well as the word “connected” in the bottom left corner of your screen once the unit has connected. (Figure 3)

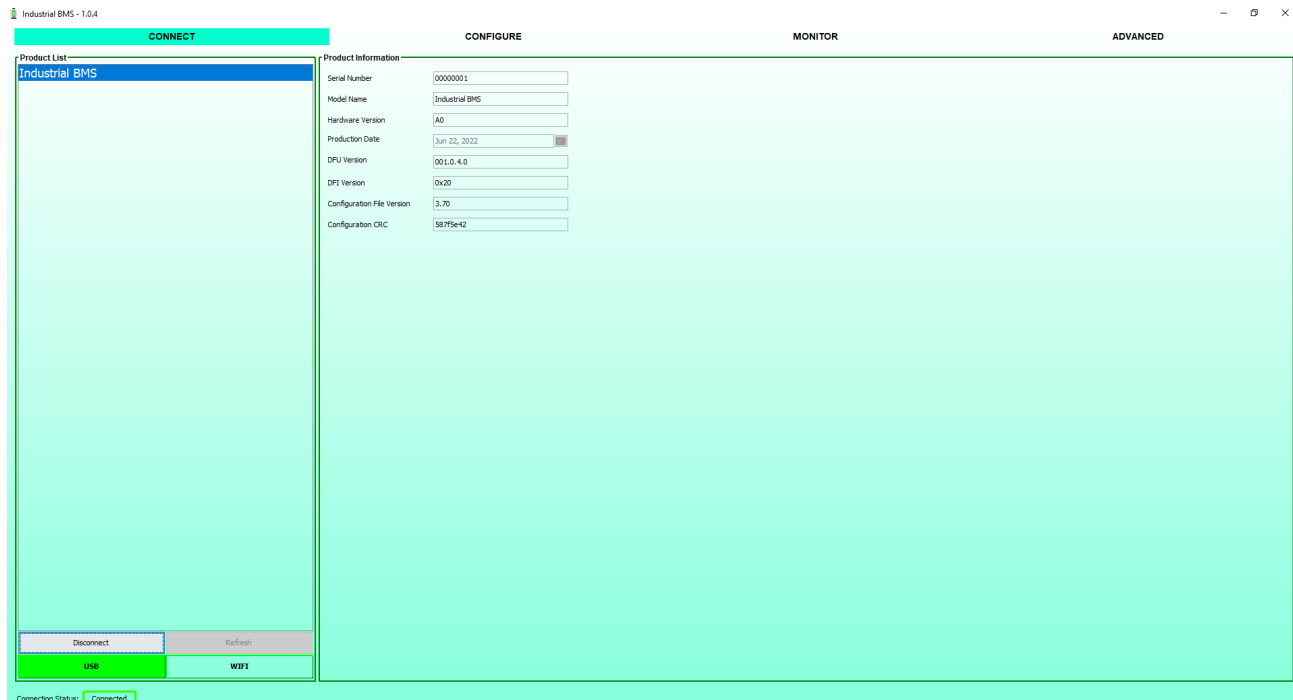


Figure 3: Unit “connected” screen shot

Step 2:

To place the BMS in the DFU mode:

- Select “Advanced”
- “Firmware upgrade”
- Now enter password: **“AA55”**
- You should now see the PRIMARY BMS under the devices in the DFU mode (Figure 4)
- Select “connect”

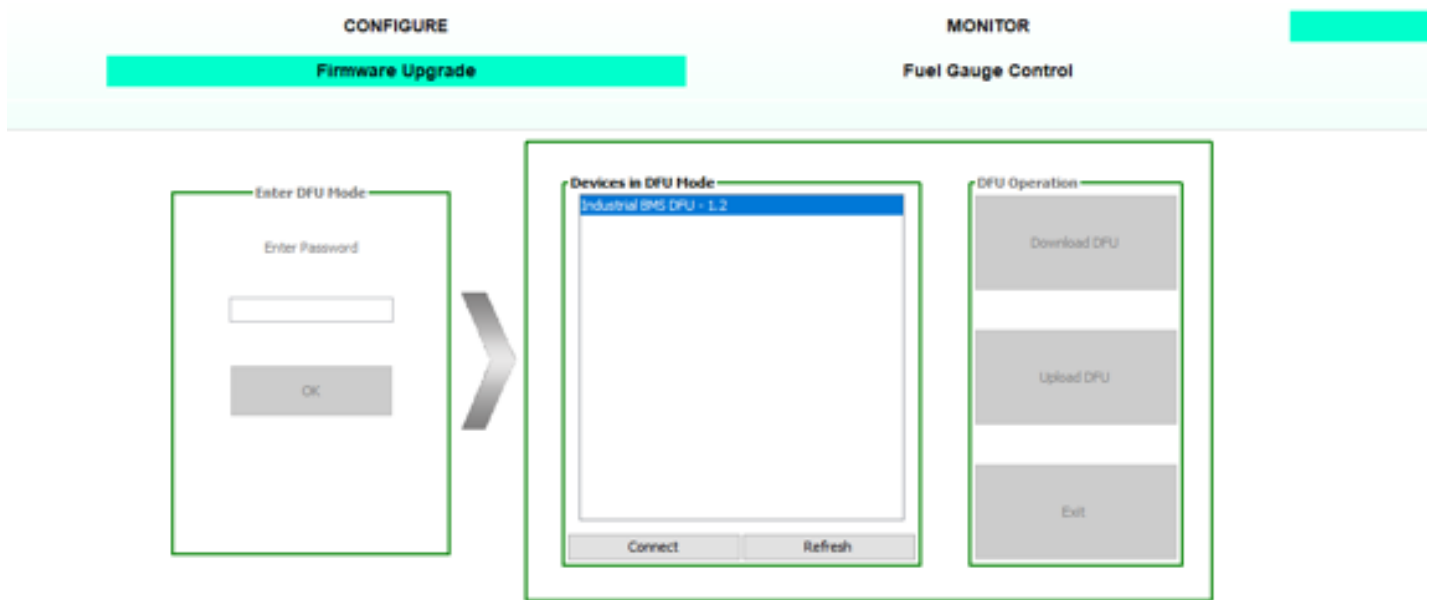


Figure 4: “DFU” Mode

Step 3:

First, we will select “Download DFU” (Figure 5) Select the DFU from the folder you saved it to previously

- Allow the download to finish
- Your BMS will then automatically disconnect
- Go back to “Connect” and select it
- Select “connect” and confirm you are connected.
- Verify DFU firmware number matches the firmware number you downloaded.

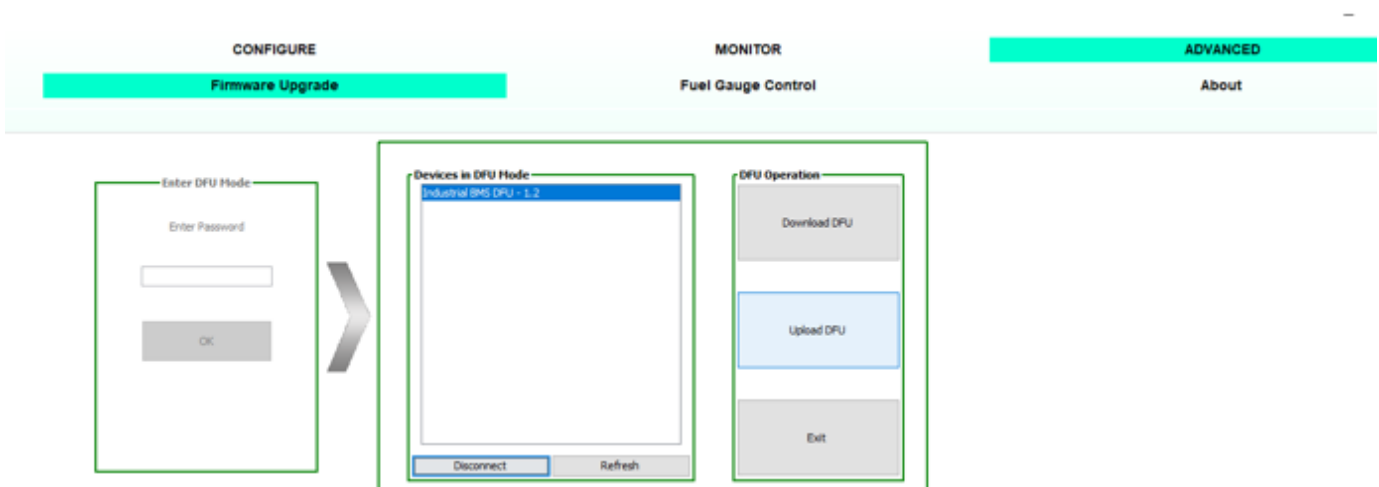


Figure 5 “DFU” Download