APPLICATION NOTE NUMBER 25B

UPDATING FIRMWARE ON MICROGENIUS® S2 CHARGERS

Introduction

This application note describes how to update firmware on the MicroGenius S2 battery charger using the SENS Setup Utility. Firmware updates can be done while the charger is on-line. Updates to the power modules very briefly interrupt output, but during this time the connected battery will supply power to loads. Updates to the alarm / display / keypad board can toggle alarms, so it's best to prepare for the possibility of temporary false alarms during the update.

Required Equipment

1. PC running Windows 7, 8, 8.1 or Windows 10
2. SENSbus Adapter Kit or TCP/IP option included on system
   - Contact SENS customer service to obtain the adapter at no charge
   - How to determine if your system has the TCP/IP option:
     - S2 system has TCP/IP option if X is 1 or 3: S2-xXx-xxxxxxxx
     - Example Model number: S2-A10-B0000000
3. Micro USB to USB cable for systems with TCP/IP option
4. SENS Setup Utility and drivers installed – see below for instructions (requires internet connection for download)

Downloading and installing the SENS Setup Utility

1. Visit our website to download the SENS Setup Utility (you will need to register to access the Download Center section of the website, http://sens-usa.com/support/download-center/).

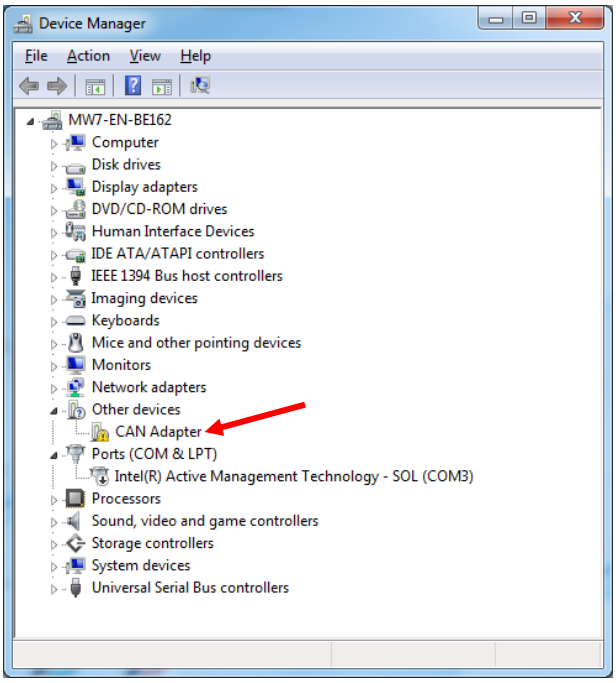
Product	Software	Size	Description	
IQ Family	IQ_Firmware_3.0.1_Upgrade	480 KB	Firmware and instructions for upgrading SENS EnerGenius IQ chargers to Release 3.0.1. The upgrade requires the use the black box data log memory card from the charger to be upgraded.	Download
IQ Family	SENS IQ & CommsGenius Setup Utility v 1.1.2	26.1 MB	SENS IQ & CommsGenius Setup Utility is a PC based package used to set-up SENS EnerGeniusIQ charger and communications parameters. It works with all IQ's equipped the CommsGenius digital communications option. Supported on Windows XP,7,8,8.1	Download
IQ Family	Insight V1.3.0	3.1MB	SENS Insight for Windows 7 and earlier PC's. Insight must be run in administrator mode with Windows 7. See help file for more details.	Download
Comms-Genius	CommsGenius Firmware Rev 2.02	61KB	Upgrade for the IQ CommsGenius option that improves communications between the SENS IQ & CommsGenius Setup Utility and the charger	Download
MicroGenius 150	MicroGenius Firmware Rev C to D upgrade	56KB	Firmware for upgrading SENS MicroGenius 150 chargers that improves factory calibration	Download
MicroGenius 2, S2/S4 and MicroCab	SENS Setup Utility Rev 2.4.0	36MB	SENS Setup Utility is a PC-based package used for advanced set-up of MicroGenius 2 rectifiers / battery chargers, S2/S4 battery chargers and MicroCab DC systems. Includes MicroGenius 2 Power Module Firmware Rev 2.3.0 and Display/Alarm/Keypad Module Firmware Rev 3.4.0. Supported on Windows 7, 8, 8.1 and 10. Requires .NET Framework 4.6 or later.	Download
MicroGenius 2, S2/S4 and MicroCab	MicroGenius 2 Power Module Firmware Rev 2.3.0	52KB	Upgrade firmware for MicroGenius 2 Power Module to add features. Load to MicroGenius 2 chargers, S2/S4 chargers and MicroCabs using SENS Setup Utility.	Download

2. The download will be in the form of a ZIP file. Extract contents of the ZIP file. Install the utility by double clicking the SENS Setup Utility installer file.

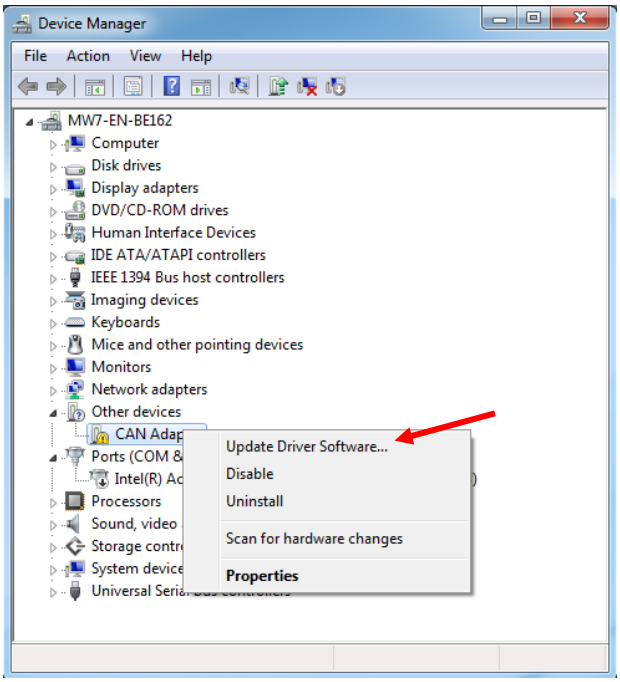
3. If you are running a Windows 7, 8 or 8.1 system you will need to manually install the driver for the adapter. Skip this section if running Windows 10.

   3.1. Connect the SENS Bus Adapter or TCP/IP USB port to the laptop with the USB cable

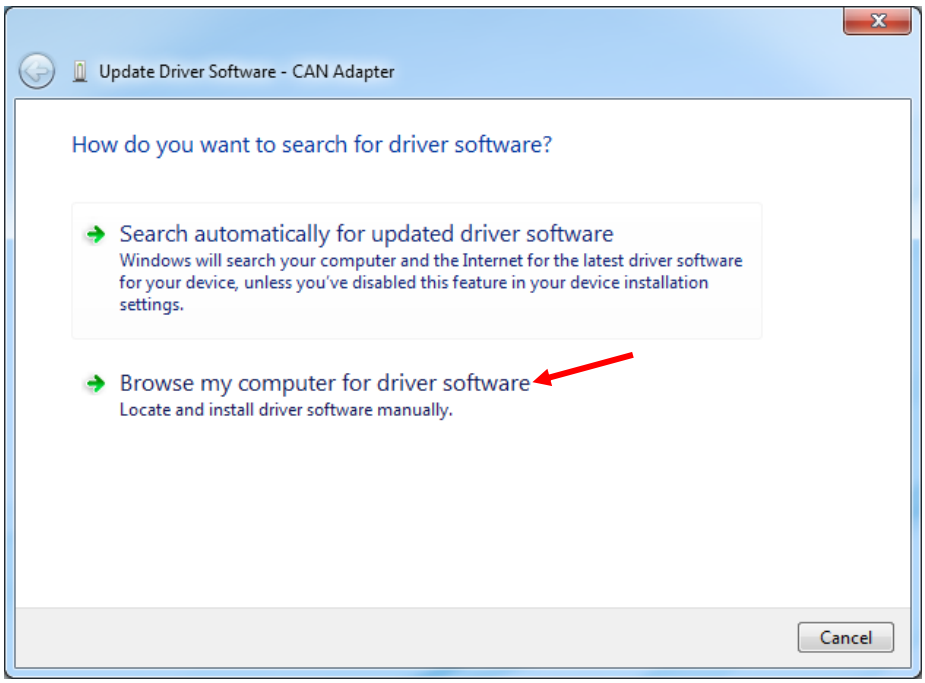
   3.2. Open computer Device Manager to view devices. Note the “CAN Adapter” device under “Other devices.”



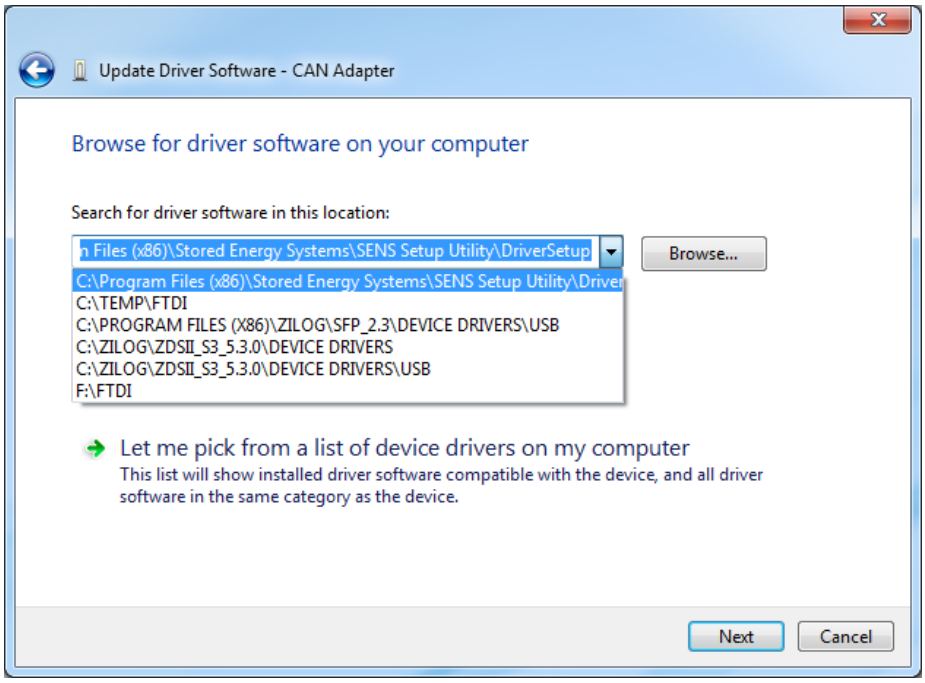
   3.3. Right-click on “CAN Adapter” and select to “Update Driver Software…”



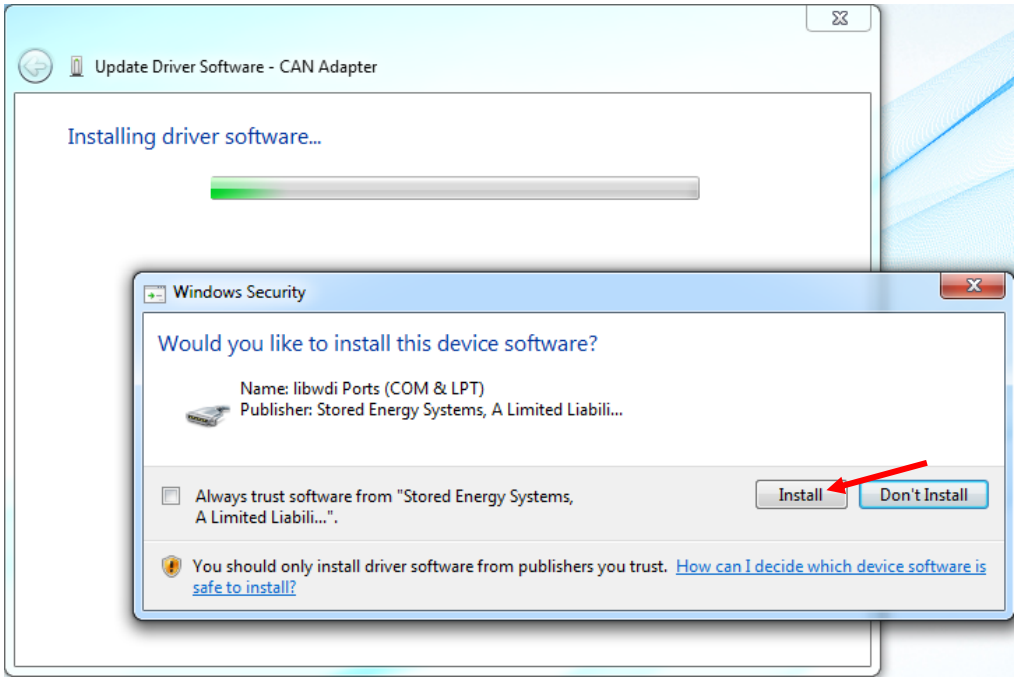
3.4. Select to browse for driver software.



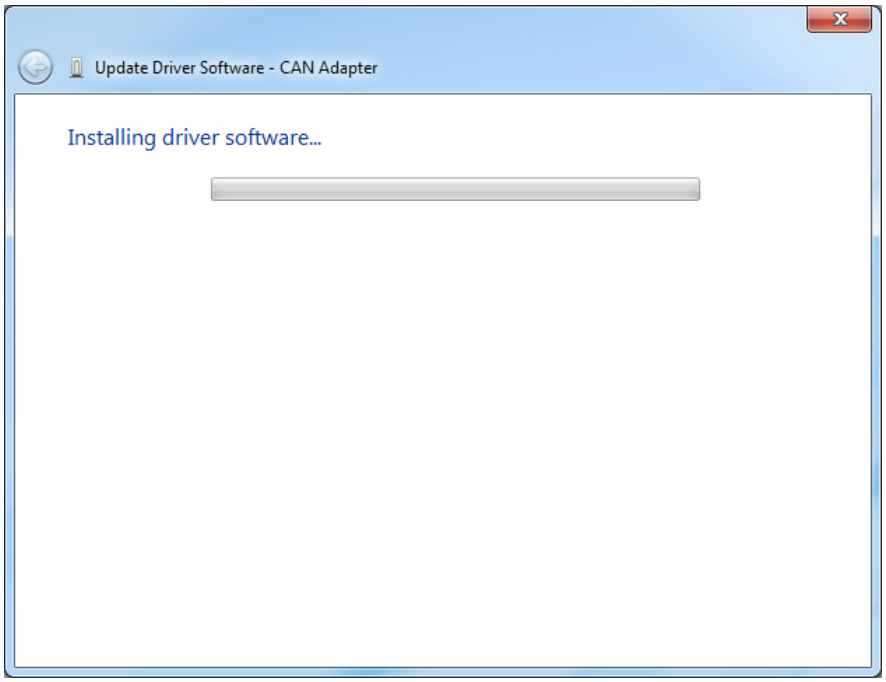
3.5. Select the "DriverSetup" folder at "C:\Program Files (x86)\Stored Energy Systems\SENS Setup Utility\DriverSetup."



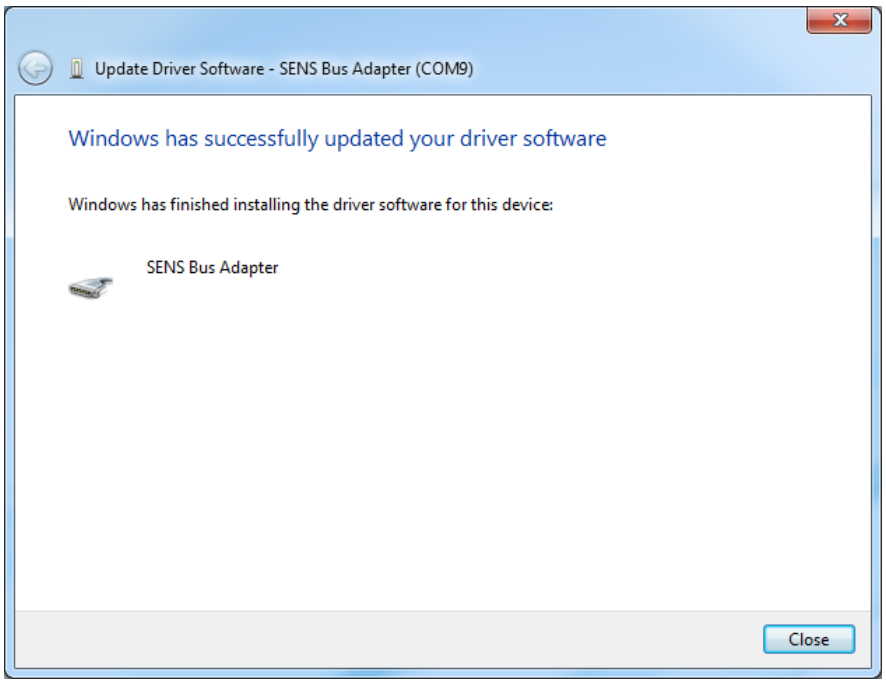
3.6. Select to install the device software.



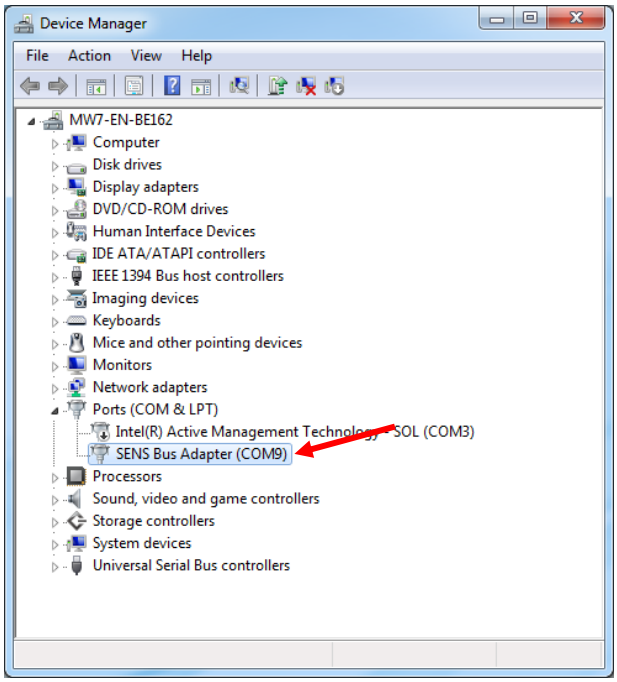
3.7. Wait for installation to complete.



3.8. Verify successful installation.



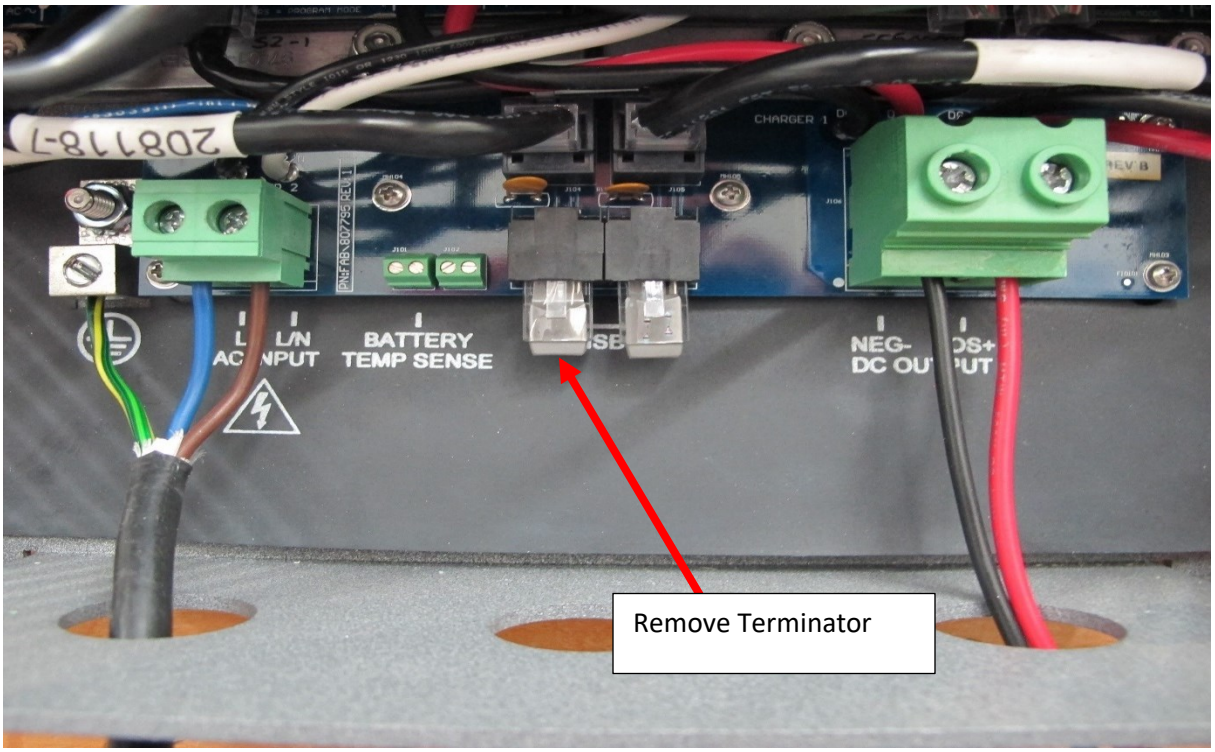
3.9. Note device successfully installed.

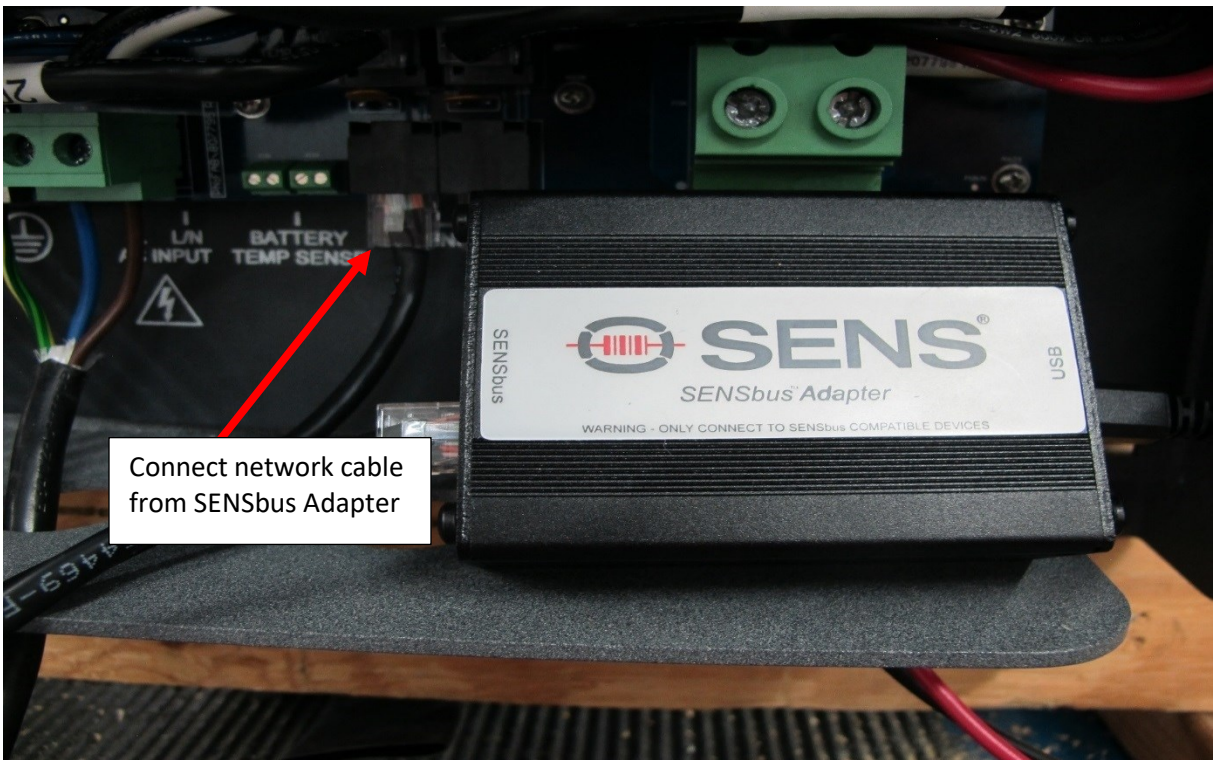


Connecting SENS Setup Utility to S2

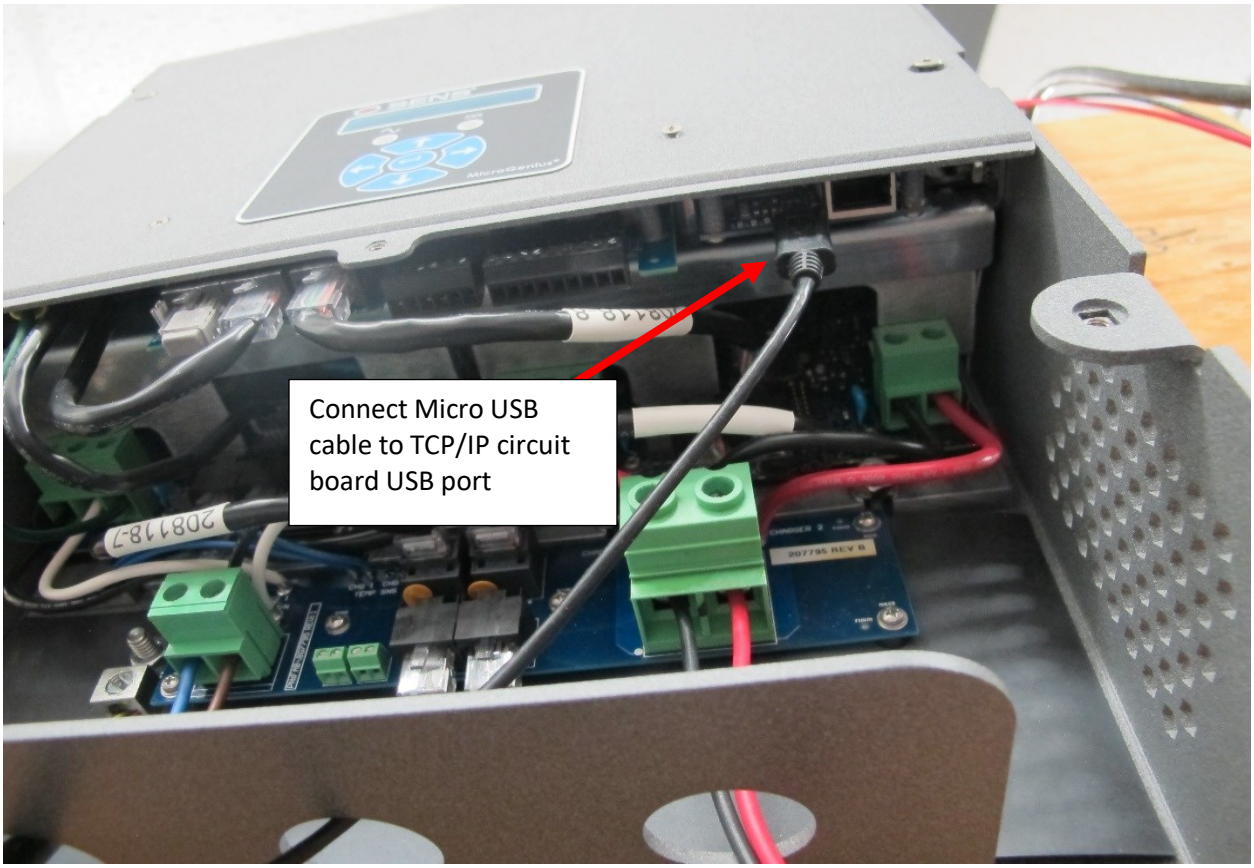
Connect the utility computer to the S2 using either the SENSbus Adapter or the optional TCP/IP circuit board if included.

1. Connect cable to S2
    - If connecting the SENSbus Adapter to the S2 charger, first remove the grey terminator plug and then connect the network cable from the adapter to the open RJ45 connector as shown below.

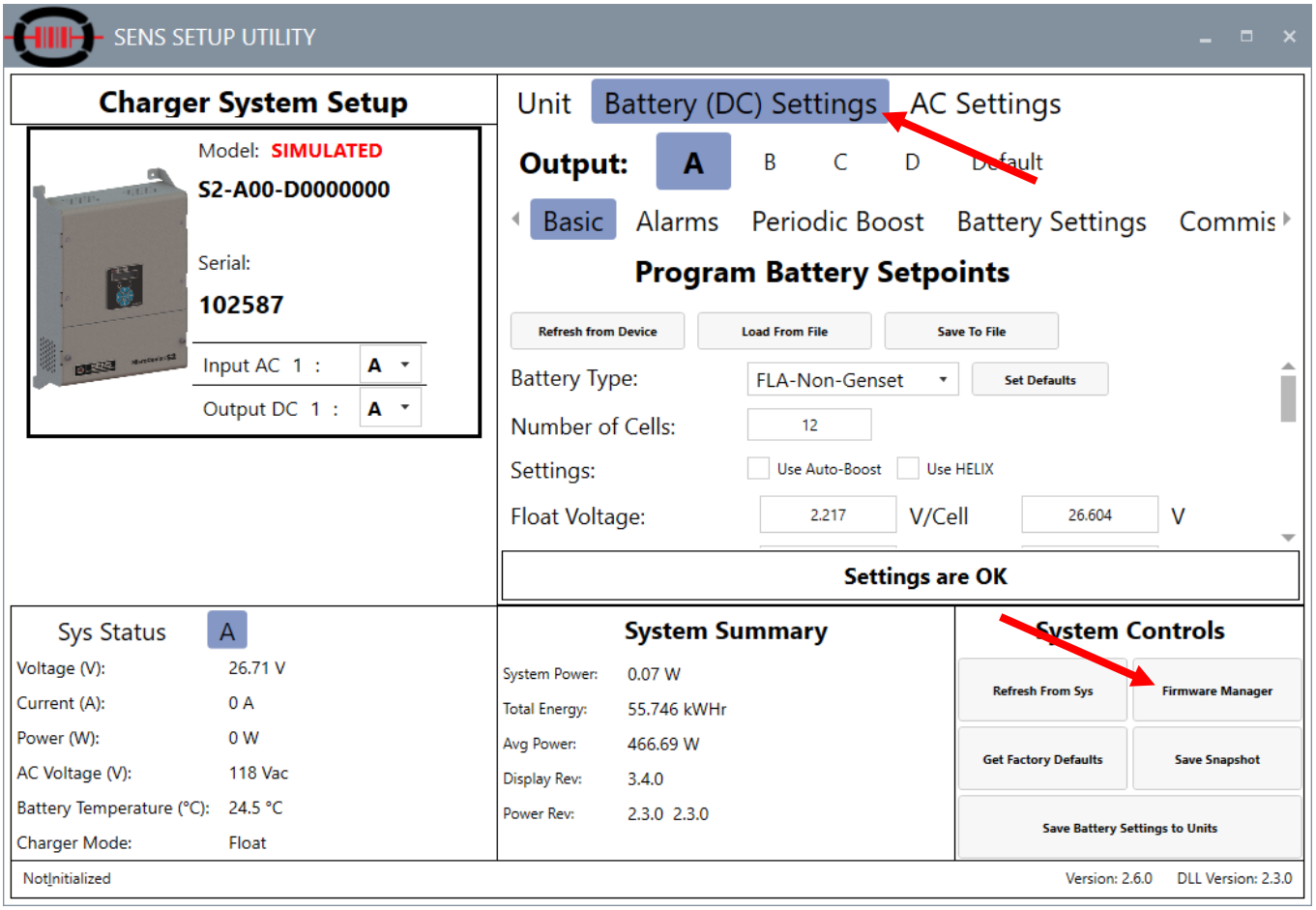


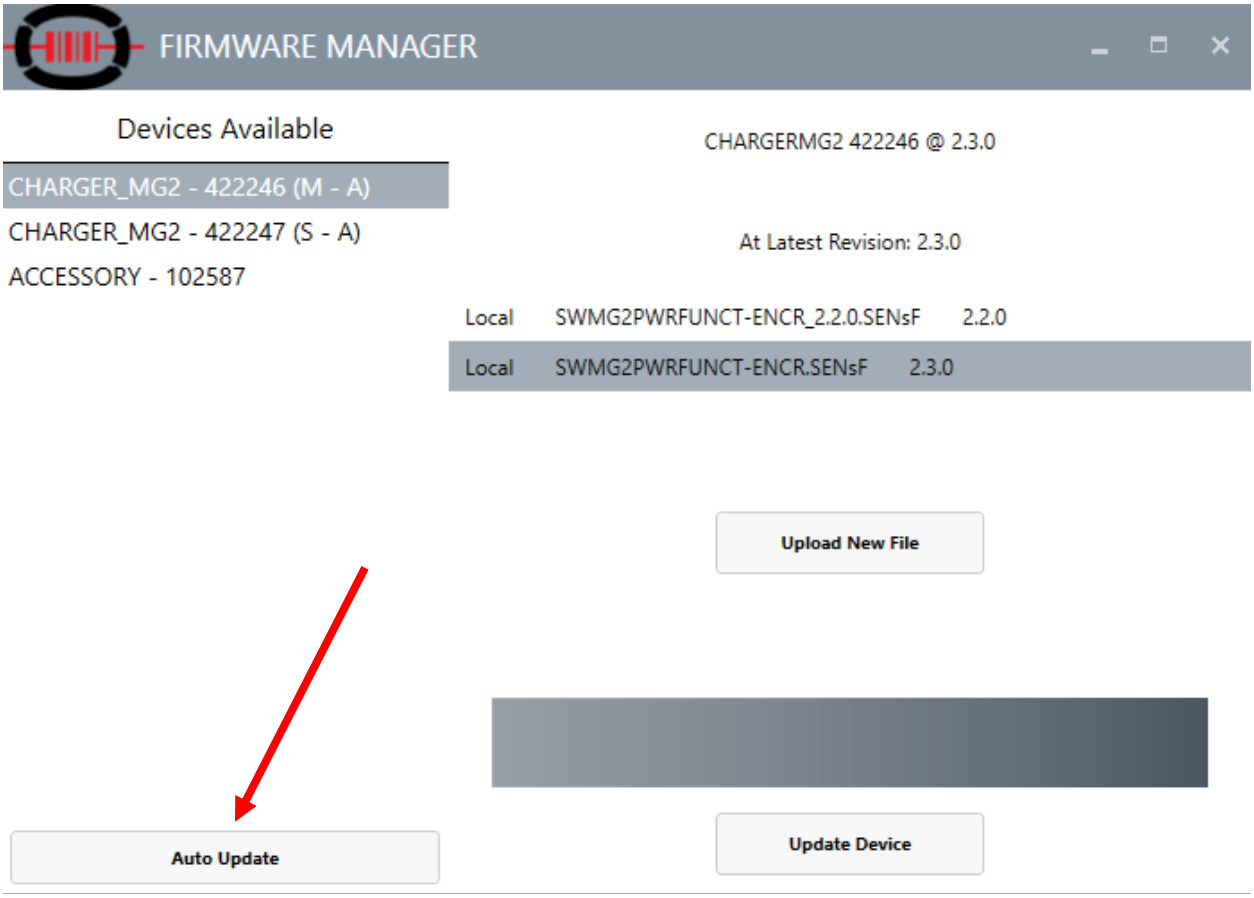


- If connecting to the TCP/IP circuit board (rather than using the SENSbus Adapter), connect the Micro USB cable to the USB port on the TCP/IP circuit board.



2. Connect the other end of the USB cable (from either the SENSbus Adapter or the TCP/IP circuit board) to the PC
3. Open the SENS Setup Utility
4. Once the utility is connected to the S2, navigate to the "Battery (DC) System" menu and update firmware by pressing the "Firmware Manager" button in the lower right-hand corner. Click "Auto Update." The firmware for both the display and power circuit boards is embedded in the latest version of the utility and will be updated automatically.


SENS SETUP UTILITY
Charger System Setup
Model: SIMULATED
S2-A00-D0000000
Serial:
102587
Input AC 1 : A
Output DC 1 : A
Unit
Battery (DC) Settings
AC Settings
Output: A B C D Default
Basic
Alarms
Periodic Boost
Battery Settings
Commis
Program Battery Setpoints
Refresh from Device
Load From File
Save To File
Battery Type: FLA-Non-Genset
Set Defaults
Number of Cells: 12
Settings: Use Auto-Boost Use HELIX
Float Voltage: 2.217 V/Cell 26.604 V
Settings are OK
Sys Status A
Voltage (V): 26.71 V
Current (A): 0 A
Power (W): 0 W
AC Voltage (V): 118 Vac
Battery Temperature (°C): 24.5 °C
Charger Mode: Float
System Summary
System Power: 0.07 W
Total Energy: 55.746 kWHr
Avg Power: 466.69 W
Display Rev: 3.4.0
Power Rev: 2.3.0 2.3.0
System Controls
Refresh From Sys
Firmware Manager
Get Factory Defaults
Save Snapshot
Save Battery Settings to Units
NotInitialized
Version: 2.6.0 DLL Version: 2.3.0



Please call SENS Customer Service at 303-678-7500, x137 with any questions