



ADVANCED ENERGY

Lithium Ion Battery

LYNK Edge Card SPE Green Charger Series User Manual

PN: 950-0016-SPE

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1. Safety

1.1 Warnings, Cautions and Notes

▲ WARNING

Death or Injury

▲ CAUTION

Equipment Damage

▲ NOTE

Additional Information

1.2 General Warnings

▲ WARNING

HAZARD OF ELECTRICAL SHOCK AND FIRE

- Connect only to Safety Extra Low Voltage (SELV) circuits and power sources.
- All wiring must be completed by qualified personnel to ensure compliance with applicable installation codes and regulations.

Failure to follow these instructions will result in death or serious injury.

▲ CAUTION

HAZARD OF EQUIPMENT DAMAGE

- Do not install LYNK outdoors.
- Do not connect any port of the LYNK to a network with power over Ethernet (POE) or to a public telecommunication network.
- Do not run CAT5 cables or other cables connected to LYNK through conduit that could be exposed to lightning strikes.

Failure to follow these instructions can damage equipment.

2. Documentation

AES batteries must be set up to work with Power Conversion and Monitoring devices in either an Open Loop or Closed Loop configuration. The charge and discharge settings of the GREEN Series in a Open Loop configuration are set up manually through the SPE HFview program. In a Closed Loop configuration, charge and discharge settings are dynamically controlled by the BMS of the AES Battery over a connection with the Power Conversion device network.

This User Manual provides information about the integration of Discover AES Lithium batteries with SPE GREEN devices in a Closed Loop configuration.

In a Closed Loop configuration the AES LYNK Communication Gateway with installed AES LYNK Edge Card for SPE products will be connected directly to the SPE Charger.

SPE Reference Documents:

- SPE GREEN User Manual

Discover Reference Documents:

- Discover Energy 808-0002 14-24-2800 Data Sheet
- Discover Energy 808-0006 12-36-6700 Data Sheet
- Discover Energy 808-0003 12-48-6650 Data Sheet
- Discover Energy 805-0001 AES LiFePO₄ Battery 14-24-2800 12-36-6700 12-48-6650 Manual
- Discover Energy 805-0017 AES LYNK Communication Gateway User Manual

Visit discoverbattery.com and spechargers.com for the most recent version of published documents.

Certain configuration, installations, service, and operating tasks should only be performed by qualified personnel in consultation with local utilities and/or authorized dealers. Qualified personnel should have training, knowledge, and experience in:

- Installing electrical equipment
- Applying applicable installation codes
- Analyzing and reducing hazards involved in performing electrical work
- Installing and configuring batteries

No responsibility is assumed by Discover for any consequences arising out of the use of this material.

Read AES Battery Manual and Safety instructions before installing the battery.

Read SPE manuals for guidance on product features, functions, parameters and how to use the product safely.

3. Overview

The AES LYNK Communication Gateway unlocks the full potential of a Discover AES LiFePO₄ Battery by enabling the internal Battery Management System (BMS) to optimize the charge and discharge configurations of the world's best residential inverter chargers, solar charge controller systems, and industrial chargers.

To connect with the communication network of a specific brand of power electronics, the LYNK Communication Gateway requires an AES LYNK Edge Card with the appropriate communication port. There are some notable differences when configuring your Discover AES battery versus conventional lead acid batteries.

4. Installation

4.1 Installing the LYNK Edge Card

The LYNK Edge Card for SPE is a Slot 0 Type which only inserts into the left side slot on the bottom of the LYNK Communication Gateway.



Slot 0 T

▲ NOTE

- The LYNK Edge Card type to be used is determined by the brand of power conversion equipment.
- If LYNK Edge Card is in the wrong slot, it will not function.
- If LYNK Edge Card is not firmly seated, it will not function.

4.2 Connecting LYNK to the AES LiFePO₄ Battery

Connect the AES LYNK Communication Gateway to the AES LiFePO₄ Battery and power up as described in the LYNK Communication Gateway Users Manual.

▲ CAUTION

HAZARD OF EQUIPMENT DAMAGE

- Do not plug an AEbus RJ-45 cable terminator into the 10/100 Ethernet port of the LYNK.
 - Do not connect a CAT5 cable from the 10/100 Ethernet port of the LYNK to the WAN or MODEM port of a network router.
 - Turn OFF all devices before connecting cables or inserting an Edge Card.
- Failure to follow these instructions can damage equipment.

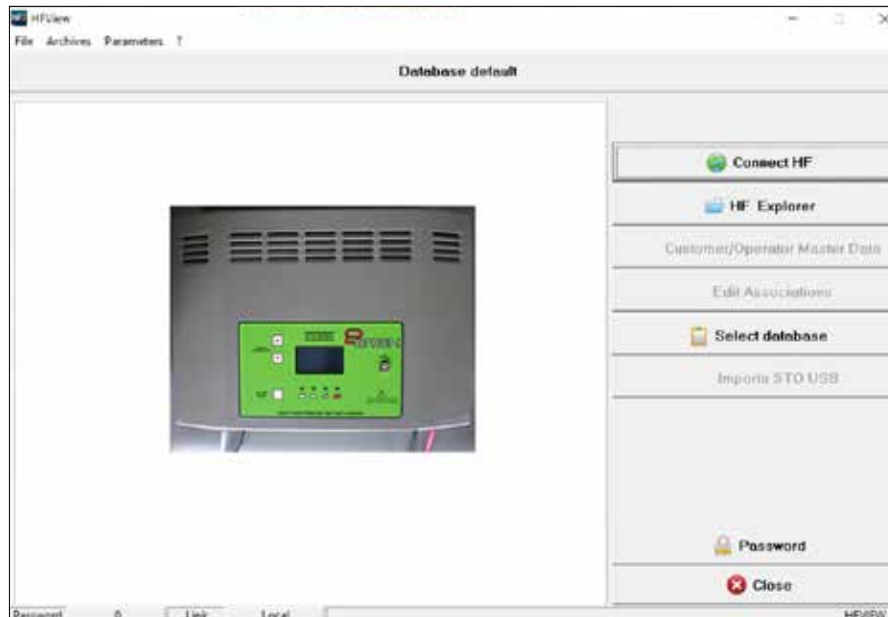
▲ NOTE

- Power electronics are not AEbus devices and should not be connected to AEbus.

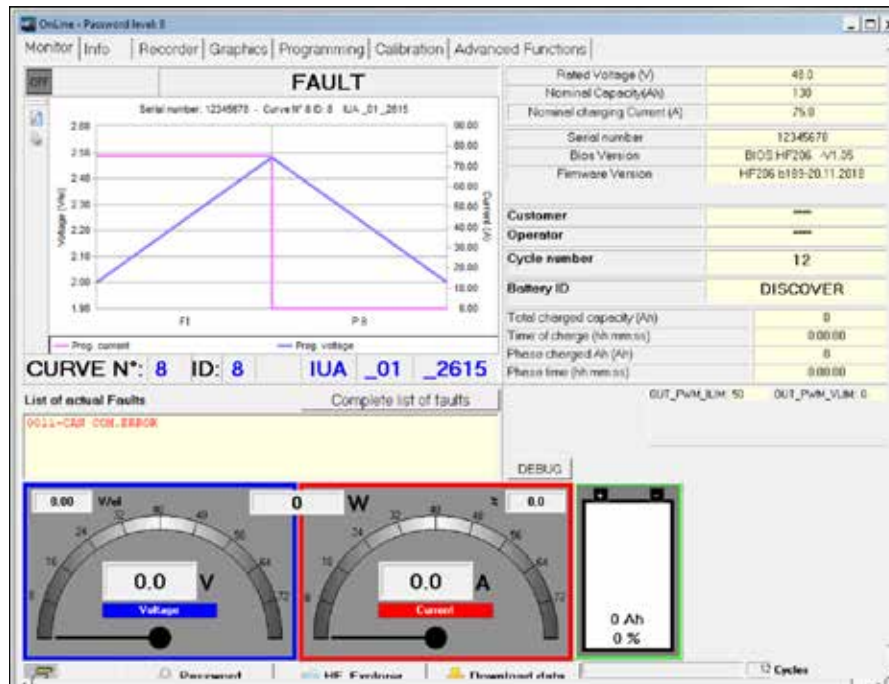
4.3 SPE GREEN Setup

Before installing the LYNK device, connect the SPE GREEN charger to your computer, power on the charger and computer, then open SPE's HFview.

Enter the factory provided password for configuration privileges. If you do not have the correct password contact your SPE distributor for assistance.



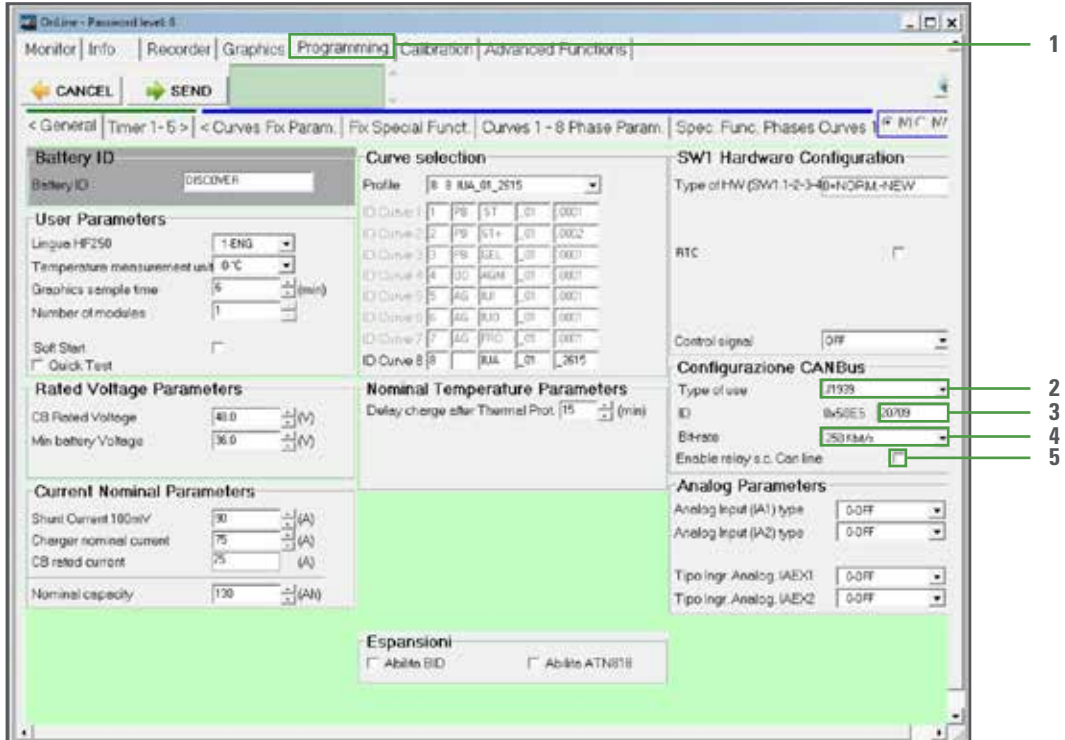
Once the password has been entered select "Connect HF"



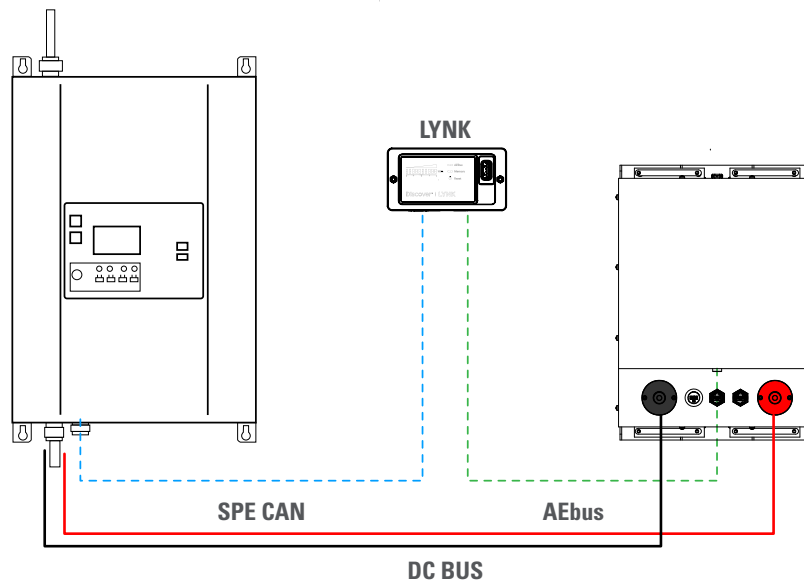
Select the Programming tab (1).

Under Configuration Can-bus, ensure that:

- Type of use: J1939 (2)
- ID: 20709 (3)
- Bit-Rate 250 Kbit/s (4)
- Enable relay s.c. Can line: Deselected (5)



4.4 Connecting LYNK to SPE GREEN Charger



5. Operation

Connect the DC terminals of the battery to the charger, connect the AEBus communications between the battery and the LYNK. Connect the CAN communications between the SPE GREEN charger and LYNK, charging should then begin.

6. Harnesses - Reference Designs

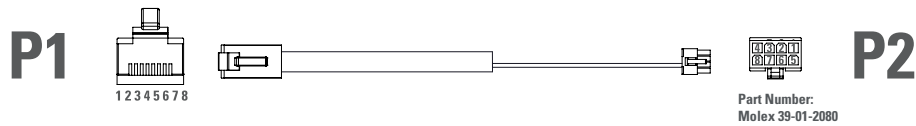
The GREEN Series chargers are wall mounted and require a harness that can be connected to the battery for charging and disconnected again for equipment operation. The following are harness reference designs.

6.1 Charger to LYNK CAN Harness - Reference

Between the GREEN Charger and the LYNK gateway the following pin assignments and parts can be used:

P1	Description	Mate
4	CAN Low	P2 - 8
5	CAN High	P2 - 1

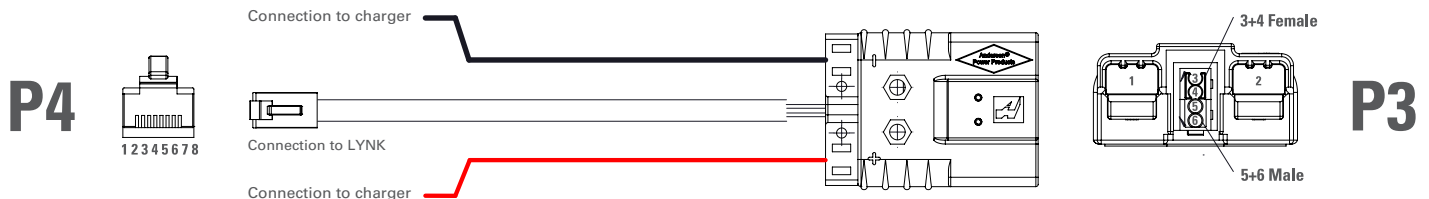
P2	Description	Mate
1	CAN High	P1 - 5
8	CAN Low	P1 - 4



6.2 Charger to Anderson Harness - Reference

P3	Description	Mate
1	Charger Positive	P4 - 1
2	Charger Negative	P4 - 2 P4 - 2
4	CAN Low	P4 - 5
5	CAN High	P4 - 4

P4	Description	Mate
4	CAN Low	P3 - 4
5	CAN High	P3 - 5



6.3 Battery to Andersen Harness - Reference

P5	Description	Mate
1	Battery Positive	P4 - 1
2	Battery Negative	P4 - 2
4	CAN High	P4 - 5
5	CAN Low	P4 - 4

P6	Description	Mate
4	CAN Low	P3 - 4
5	CAN High	P3 - 5



6.4 Bill of Materials for P4 and P6 Andersen Connectors

Part. No	Description	Qty
SBE80	Anderson SBE80 connector Grey	1
1339G4	Anderson Power Wire Contacts	2
441G2	1x4 Auxiliary Kit	1
PM16P1620S30	Pin Contacts for 1x4 Auxiliary Connector	2
PM16S1620S32	Socket Contacts for 1x4 Auxiliary Connector	1
110G9	Retaining Pins	2
SBE80HDLRED	Red Handle and Hardware Kit	1