

# LYNK LITE

(950-0040)

## INSTALLATION AND OPERATION MANUAL

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# 1.0. AUDIENCE, SAFETY, MESSAGES AND WARNINGS

## 1.1 Audience

Qualified personnel should perform configuration, installations, service, and operating tasks in consultation with local utilities and 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

## 1.2 Safety, Messages and Warnings

### **WARNING**

Important information regarding hazardous conditions that may result in personal injury or death.

### **CAUTION**

Important information regarding hazardous conditions that may result in personal injury.

### **NOTICE**

Important information regarding conditions that may result in damage to the equipment but not personal injury.

### **NOTE**

Ad hoc information concerning important procedures and features not related to personal injury or equipment damage.

## 2.0 About LYNK LITE

### 2.1 Overview

LYNK LITE Communication Gateway unlocks the full potential of a Discover lithium battery by enabling the internal Battery Management System (BMS) to communicate closed-loop and in real-time State-of-Charge, voltage, temperature and status to compatible devices, such as solar or mobile inverter-chargers, on and off-board industrial chargers, displays, load centers, motor controls, PLCs and telematics. CANOpen Interface and Discover Generic Serial CAN Guides are also available for developers.

### 2.2 Compatible Batteries and Devices

A battery or device must have a compatible port such as a LYNK Port to communicate with a LYNK LITE device.

#### LYNK Port

- AES PROFESSIONAL batteries: DLP-GC2-12V, DLP-GC2-24V, DLP-GC2-36V, DLP-GC2-48V

### 2.3 Compatible Communication Protocols

LYNK ACCESS software for 64-bit Windows 10 is required to configure LYNK LITE devices for communication with compatible external devices such as inverters, chargers and motor controllers. Download the current version of LYNK ACCESS software from the Discover Energy Systems website to obtain the most up-to-date suite of available device configurations. Interface guides for CAN open and Discover Generic Serial CAN are available from the Discover Energy Systems website.

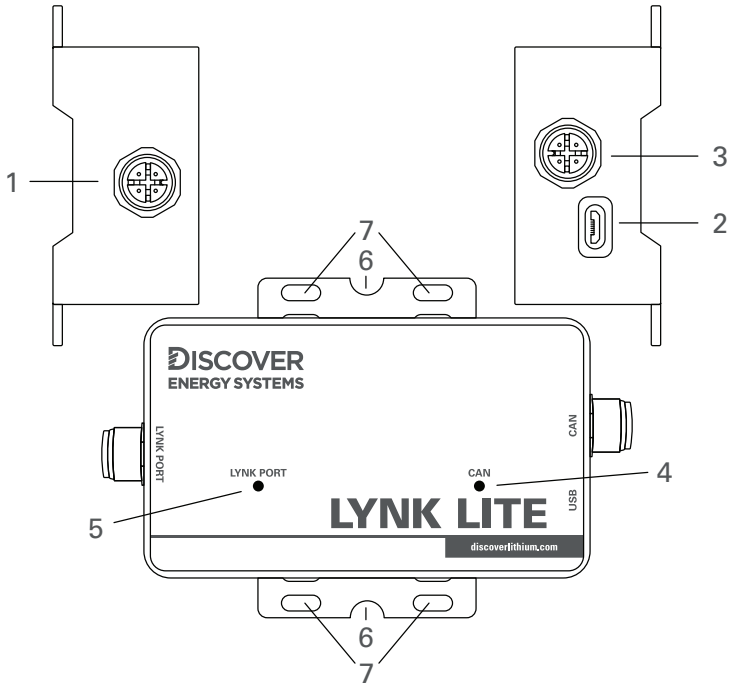
### 2.4 Firmware Revision

This User Manual is valid for LYNK firmware version 1.4.0 and above. Use LYNK ACCESS software to view the firmware version of your LYNK LITE device.

## 3.0 Items Shipped in the Box

1	Discover LYNK LITE device
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## 4.0 Design and Features



**Figure 1: Ports, Buttons, LEDs, and Mounting Hold Downs**

<b>1</b>	LYNK Port	IEC M12 PIN connector used for network communications. Termination Configurable. (Terminated by Default)
<b>2</b>	USB Type-B Micro	USB device port used to connect with LYNK ACCESS software on Windows 10 devices.
<b>3</b>	CAN Out	RJ45 connection used for CAN communications. Termination Configurable
<b>4</b>	CAN Out LED	Indicates communication activity.
<b>5</b>	LYNK Port LED	LYNK Port LED indicates LYNK Port activity.
<b>6</b>	Hold Down Points	Hold down points for mounting the device with straps.
<b>7</b>	Mounting Slot	Slots for mounting the device with screws or bolts.

## 4.1 Reset Operation

To reset LYNK LITE, remove and reconnect power to the device.

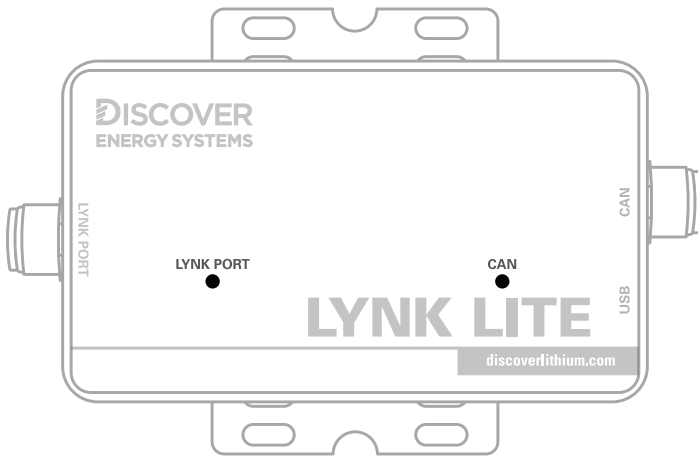
### NOTICE

#### HAZARD OF EQUIPMENT DAMAGE

Cycling power to LYNK II will cause communications with other devices to be interrupted. Cycling power will not alter previous settings.

**Failure to follow these instructions may cause damage to the equipment.**

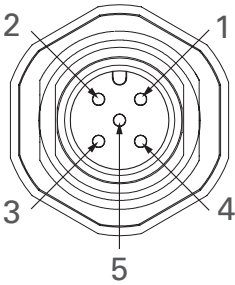
## 4.2 LED Indicators



*Figure 2: LYNK LITE LED Indicators*

Data LEDs	Indication
LYNK Port LED	Flashes when a new battery is detected on the LYNK Port. Solid when there is active communication on the LYNK Port.
CAN Out LED	This indicates that a CAN heartbeat message has been received in the proper protocol within the past 5 seconds.

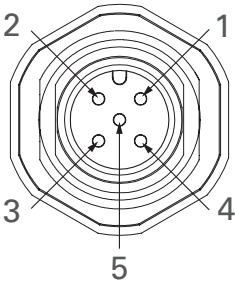
### 4.3 LYNK Port Pin Assignment



**Figure 3. PIN Map for M12 A-Code Circular Metric Connector.**

PIN	Description
1	Do not populate. Do not terminate to ground. Do not terminate to power. Do not terminate to CAN L or CAN H.
2	AEbus CAN L
3	AEbus CAN H
4	AEbus +12V
5	AEbus GND

### 4.4 CAN Out Port Pin Assignment



**Figure 4. PIN Map for M12 A-Code Circular Metric Connector.**

PIN	Description
1	Do not populate. Do not terminate to ground. Do not terminate to power. Do not terminate to CAN L or CAN H.
2	CAN L
3	CAN H
4	Inactive
5	GND

## 4.5 Power Sources for LYNK LITE

LYNK LITE can utilize two power sources. Both power sources can be used alone or simultaneously. LYNK LITE will automatically use the highest priority source.

Priority	Source
1	LYNK Port of enabled batteries
2	USB device

### NOTE

LITHIUM PROFESSIONAL batteries must be set to ON to supply power and communicate data with LYNK LITE devices.

### LITHIUM PROFESSIONAL Batteries

LITHIUM PROFESSIONAL batteries will supply power to LYNK LITE using the network cable connected to the LYNK Port.

## 5.0 Installation

Choose a clean, dry, easily accessible indoor location. All the communication ports on the LYNK LITE are accessible when mounted. Clearance of at least 100 mm (4 inches) from the connection points on the device is needed to allow for the bend radius of connected cables.

### 5.1 Mounting LYNK LITE

Screws or bolts can be threaded through the integrated Mounting Slots to affix LYNK LITE to a flat surface. Mounting screws, bolts and nuts are not included. Threading straps through the integrated Hold Down Points can be used to secure LYNK LITE to an object. Secure all cables to prevent them from working loose or becoming damaged.

### 5.2 Installing the External Power Source

LYNK LITE can utilize two power sources. Both power sources can be used alone or simultaneously. LYNK will automatically use the highest priority source.



Connect LYNK LITE to one or more of the following:

- The LYNK Port of a Discover LITHIUM PROFESSIONAL battery.
- A USB device

### 5.3 LYNK Network Communication Cables

#### **⚠ CAUTION**

##### **HAZARD OF EQUIPMENT DAMAGE**

- Turn OFF all devices before connecting cables.
- Mixing the LYNK Network with other networks may result in equipment malfunction and damage.

**Failure to follow these instructions can damage equipment.**

#### **Networking Guidelines:**

- Separate data and power cables and allow for separation between data and power cables. Avoid interference and data corruption caused by running network cables bundled with power cables.
- Allow for LYNK Network cable slack. Ensure that LYNK Network cables are slack and not in tension.
- Isolate the LYNK Network. Do not mix other networks with the LYNK Network.

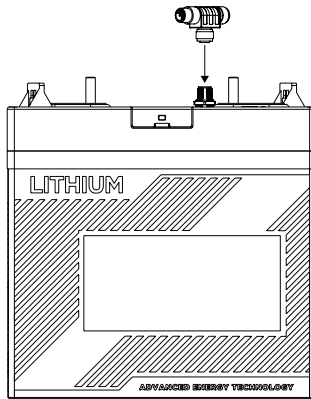
#### **NOTE**

The LYNK LITE Communication Gateway is internally terminated. A termination resistor is not required.

#### **LYNK Network Installation and Layout for LITHIUM PROFESSIONAL batteries:**

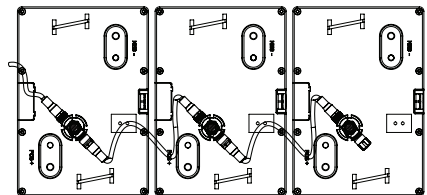
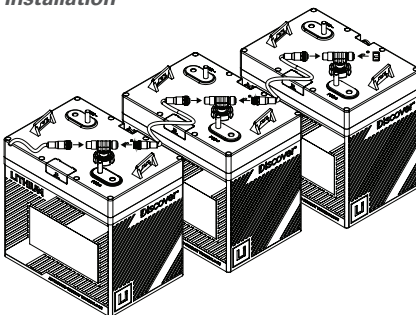
1. Mount the devices according to their installation instructions before beginning network installations.
2. Attach the **950-0038 DLPT Connector** to the LYNK Port on each battery (Figure 5). Ensure that the mating connectors are securely fastened.
3. Insert the male end of the cable into the female end of the **950-0038 DLPT Connector** and vice versa.
4. Repeat until all batteries have been attached in a series network (Figure 6).
5. Attach one end of the series network to the LYNK Port on LYNK LITE. Termination of the other end is not required.

LYNK Network Cables Available for LITHIUM PROFESSIONAL Batteries	Part Number
DLP B2B-400 (COMM Cable 0.4 m)	950-0035
DLPTOL-7600 (COMM Cable 7.6 m)	950-0037
DLPTOL-1800 (COMM Cable 1.8 m)	950-0036
DLPT Connector (COMMT Connector) with DLP B2B-400 (COMM Cable 0.4 m)	950-0038
DLPT Connector (COMMT Connector)	950-0041



*Figure 5. PIN Map for M12 A-Code Circular Metric Connector*

*Figure 6. Network Installation*



*Figure 7. Complete Network Installation*

## 5.4 Verification of the LYNK Network

Verify the LYNK Network is complete using LYNK LITE.

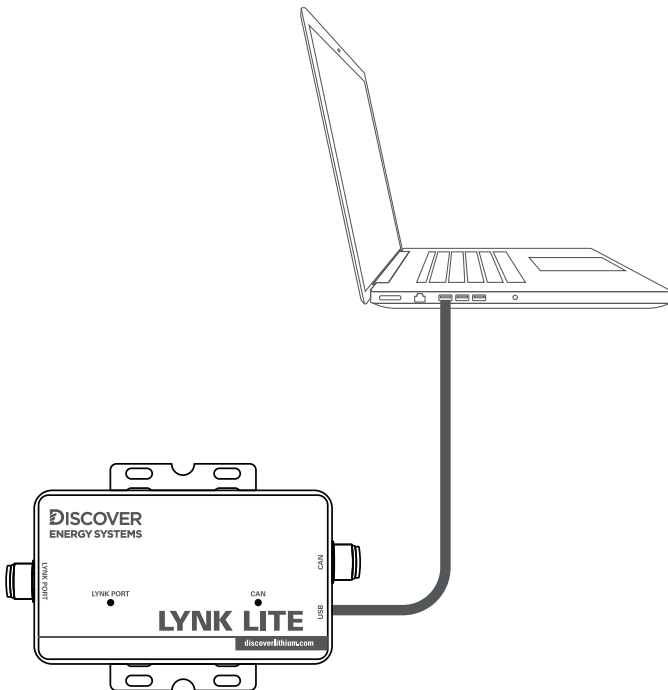
- An illuminated LYNK Port LED confirms that communications are active for the LYNK Network.
- LYNK ACCESS software can be used via a computer to confirm the number of batteries in the LYNK Network

## 6.0 Connecting to LYNK ACCESS

LYNK ACCESS software for 64-bit Windows 10 is required to configure LYNK devices for CAN communication with compatible external devices such as inverters, chargers and motor controllers.

Download the current version of LYNK ACCESS software from the Discover Energy Systems website to obtain the most up-to-date suite of available device configurations.

Using a USB cable with a Type-B micro plug, connect the Windows 10 device running LYNK ACCESS software to the USB port on LYNK LITE.

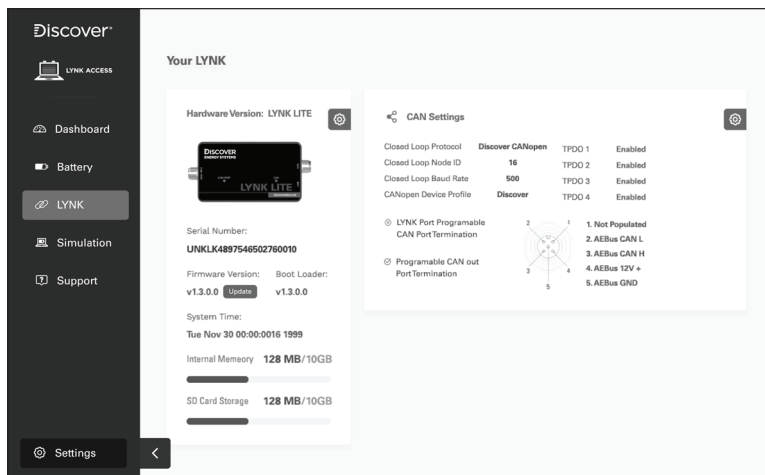


*Figure 8. LYNK LITE and LYNK ACCESS USB connection.*

## NOTE

A powered USB hub may be required.

Open LYNK ACCESS. LYNK LITE configurations and settings can be found by selecting the LYNK tab.



## 7.0 Configuring the CAN Communication with LYNK ACCESS

Connect the LYNK and open LYNK ACCESS. Ensure that you only have one LYNK device connected to the Computer.

Open LYNK ACCESS and select the LYNK tab. Select the blue gear icon in the upper right area of the CAN Settings tile.

Select one of the pre-configured Closed-Loop Protocols. To complete the configuration enable or disable termination for the CAN Out port as required. Click SAVE to confirm the configuration.

Refer to the appropriate application note for instructions on setting the external device to communicate correctly with LYNK LITE. Up-to-date application notes for various external devices are available from the Discover Energy Systems website.

## NOTICE

### HAZARD OF EQUIPMENT DAMAGE

Saving configuration changes using LYNK ACCESS will automatically restart LYNK II and cause communications with other devices to be interrupted.

**Failure to follow these instructions may cause damage to the equipment.**

## 8.0 Updating LYNK LITE Firmware with LYNK ACCESS

Open LYNK ACCESS and select the LYNK Tab. Select the Firmware Version update button and follow the on-screen prompts to complete the update process. Click SAVE to confirm the configuration.

## 9.0 Specifications

Device	LYNK LITE COMMUNICATION GATEWAY
Part Number	950-0040
L x W x H	95 x 56 x 30 mm / 4.7 x 2.2 x 1.2 in
Weight	0.1 kg / 0.2 lb
IP Rating	IP65
Temperature Operating	-20°C to 50°C (-4°F to 122°F)
Temperature Storage	-40°C to 85°C (-40°F to 185°F)
Humidity Operating	< 95%, Non-condensing
Humidity Storage	< 95%, Non-condensing
Mounting	Built-in Surface Mount Bracket
Marking	CE

