![Discover Energy Systems logo](DISCOVER ENERGY SYSTEMS)

APPLICATION NOTE

CHARGING AES LiFePO$_4$ AND AES PROFESSIONAL BATTERIES WITH DELTA-Q IC SERIES

INTRODUCTION

This Application Note provides information about charging Discover Lithium batteries with Delta-Q Technologies IC Series chargers.

1.0 AUDIENCE, MESSAGES, WARNINGS, GENERAL SAFETY, PERSONAL PROTECTIVE EQUIPMENT

1.1 Audience

Configuration, installation, service, and operating tasks should only be performed by qualified personnel in consultation with local authorities having jurisdiction and authorized dealers. Qualified personnel should have training, knowledge, and experience in the:

• Installation of electrical equipment
• Application of applicable installation codes
• Analyzation and reduction of hazards involved in performing electrical work
• Installation and configuration of batteries
• Installation and configuration of systems activated by relays

1.2 Warning, Caution, Notice, and Note Messages

Messages in this manual are formatted according to this structure.

Additional information concerning important procedures and features of the product. Read all the instructions before installation, operation, and maintenance.

Important information regarding hazardous conditions.

⚠ 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 damage the equipment but not result in personal injury.

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

1.3 General Warnings

Do not crush, disassemble or dispose of the battery module in fire or the garbage.

This product is made of recyclable materials and must be recycled.

⚠ WARNING

ELECTRIC SHOCK AND FIRE HAZARD

- This equipment must only be installed as specified.
- Do not disassemble or modify the battery.
- If the battery case has been damaged, do not touch exposed contents.
- There are no user-serviceable parts inside.

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

⚠ WARNING

ELECTRIC SHOCK AND FIRE HAZARD

Do not lay tools or other metal parts on top of the battery or across the terminals.

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

⚠ CAUTION

ELECTRIC SHOCK HAZARD

- Do not touch the energized surfaces of any electrical component in the battery system.
- Before servicing the battery, follow all procedures to fully de-energize the battery system.
- Read the user manuals for both the battery and charger before installation or operation.
- Follow the "Safe Handling Procedures" below when working with the battery.

Failure to follow these instructions may result in injury.

1.4 Safe Handling Procedures

Before using the battery and any power electronics, read all instructions and cautionary markings on all components and appropriate sections of their manuals.

- Use personal protective equipment when working with batteries.
- Do not dispose of the battery in a fire.
- Promptly dispose of or recycle used batteries following local regulations.
- Do not disassemble, open, crush, bend, deform, puncture or shred.

- Do not modify, re-manufacture, or attempt to insert foreign objects into the battery, immerse or expose the battery to water or other liquids, fire, explosion, or other hazards.
- Only use the battery for the system for which it is specified.
- Do not lift or carry the battery while in operation.
- When lifting a heavy battery, follow the appropriate standards.
- Only lift, move, or mount following local regulations.
- Take care when handling battery terminals and cabling.
- Only use the battery with a charging system that meets specifications. Using a battery or charger that does not meet specifications may present a risk of fire, explosion, leakage, or other hazards.
- Do not short-circuit a battery or allow metallic conductive objects to contact battery terminals.
- Replace the battery only with another battery that has been qualified for the system. Using an unqualified battery may present a risk of fire, explosion, leakage, or other hazards.
- Do not drop the device or battery. If the device or battery is dropped, especially on a hard surface, and the user suspects damage, take it to a service center for inspection.

1.5 Personal Protective Equipment

When handling or working near a battery:

- Use Personal Protective Equipment, including clothing, glasses, insulated gloves, and boots.
- Do not wear rings, watches, bracelets, or necklaces.

2.0 DOCUMENTATION

This Application Note provides information about charging Discover Lithium batteries with Delta-Q Technologies IC / ICL / RQ Series chargers.

There are some notable differences when configuring the charging of Discover Lithium batteries versus conventional lead-acid batteries.

Before installation and configuration, consult the relevant product documentation, including Manuals, Application Notes, and Installation and Configuration Guides.

Delta-Q Technologies Documentation

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

Delta-Q Technologies
- IC Series User Guide
- ICL Series User Guide
- RQ Series User Guide

Visit **https://delta-q.com/support** for the most recent version of published documents.

Discover Energy Systems Documentation
- Discover Energy Systems Data Sheets
- (805-0001) Operating Manual for AES Industrial 12 and 14 Series
- (805-0022) Operating Manual for AES Industrial 14-3K Series
- (805-0027) AES Professional - Installation and Operation Manual

Visit **https://discoverlithium.com** for the most recent version of published documents, including Discover Lithium battery user manuals.

3.0 OVERVIEW

This manual provides general settings and is not a comprehensive guide to the programming and configuration of a specific installation. An installation may have unique conditions or use cases that require modification or adaptations of values. Installers must be capable of reviewing and adapting to the specifics of an installation and its specific use case and optimizing settings where needed.

The key steps required to install and configure the Delta-Q Technologies charger with compatible Discover Lithium batteries are as follows:

- Review and confirm equipment compatibility and correct sizing.
- Set up the charge algorithm for parameters of either a closed-loop or open-loop configuration on the power conversion equipment.
- For a closed-loop configuration, configure a communication cable to connect the CAN pins of the Discover battery to the CAN pins of the power conversion equipment.
- Terminate all networks correctly.

3.1 Compatible Batteries and Chargers

Instructions in this manual are compatible with the following Delta-Q Technologies chargers:

Delta-Q Technologies
- IC Series
  - IC650 COMM, IC650 BASE
  - IC900 COMM, IC900 BASE
  - IC1200 COMM, IC1200 BASE
- ICL Series
  - ICL1500
- RQ Series
  - RQ350 BASE

NOTE
• Both the BASE and COMM models of the Delta-Q IC 650 / 900 / 1200, and the RQ350 can use algorithm 261 for open-loop charging.
• Only the COMM models of the Delta-Q IC 650 / 900 / 1200, and the ICL1500 can use algorithm 311 for closed-loop charging, as these models support CANbus communication.

A Discover battery must have a compatible network port, such as a LYNK Port or AEbus Port, for communicating with the Delta-Q charger.

The configuration information provided is compatible with the following:

Discover Lithium Batteries

- AES LiFePO$_4$ Industrial: 14-24-2800, 12-36-6700, 12-48-6650, 14-36-3000, 14-48-3000
- AES PROFESSIONAL: DLP-GC2-12V, DLP-GC2-24V, DLP-GC2-36V, DLP-GC2-48V

3.2 Minimum Battery System Capacity

Battery charge and discharge rates are managed automatically by the Discover Lithium Battery and Delta-Q Technologies power conversion device. Using the charger with battery banks that are too small can exceed the operating limits of the battery to charge and possibly lead to the Battery Management Ssystem (BMS) triggering over-current protection. Either curtail the charging below the operational limit of installed batteries, or the battery capacity must accept the maximum charge current of the system. Derive this value by adding the charge capacities of all the chargers in the system. Additionally, battery peak capacity must support the surge requirements demanded by any of the loads attached. Match all peak power values with the sum of all battery peak current values.

12V Models	Max DC Output Current	DLP-GC2-12V Minimum per charger [1]
RQ350	15 A [2]	1

[1] Discover DLP-GC2-12V Battery, Max Charge Current (1 hour): 115 A, as published in AES PROFESSIONAL Installation and Operation Manual (805-0027 Rev H).

[2] Max output current as per Delta-Q Technologies RQ350 document 720-0036 R4 (18/10/2021).

24V Models	Max DC Output Current	14-24-2800 Minimum per charger [1]	DLP-GC2-24V Minimum per charger [2]
IC650	27.1 A [3]	1	1
IC900	37.5 A [4]	1	1
IC1200	50 A [5]	1	1
RQ350	13 A [6]	1	1

[1] Discover 14-24-2800 Battery, Max Continuous Charge Current: 110 Adc, as published in Operating Manual for Motive Power Applications (805-0001 Rev J).

[2] Discover DLP-GC2-24V Battery, Max Charge Current (1 hour): 58 A, as published in AES PROFESSIONAL Installation and Operation Manual (805-0027 Rev H).

[3] Max output current as per Delta-Q Technologies IC650 document 720-0011 R6 (18/07/2016).

[4] Max output current as per Delta-Q Technologies IC900 document 720-0015 R4 (25/08/2016).

(5) Max output current as per Delta-Q Technologies IC1200 document 720-0014 R3 (18/07/2016).

(6) Max output current as per Delta-Q Technologies RQ350 document 720-0036 R4 (18/10/2021).

36V Models	Max DC Output Current	12-36-6700 Minimum per charger [1]	14-36-3000 Minimum per charger [2]	DLP-GC2-36V Minimum per charger [3]
IC650	18.1 A [4]	1	1	1
IC900	25 A [5]	1	1	1
IC1200	33.3 A [6]	1	1	2
RQ350	10 A [7]	1	1	1

[1] Discover 12-36-6700 Battery, Max Continuous Charge Current: 150 Adc, as published in Operating Manual for Motive Power Applications (805-0001 Rev J).

[2] Discover 14-36-3000 Battery, Max Continuous Charge Current: 76 Adc, as published in Operating Manual (805-0001 Rev J).

[3] Discover DLP-GC2-36V Battery, Max Charge Current (1 hour): 29 A, as published in AES PROFESSIONAL Installation and Operation Manual (805-0027 Rev H).

[4] Max output current as per Delta-Q Technologies IC650 document 720-0011 R6 (18/07/2016).

[5] Max output current as per Delta-Q Technologies IC900 document 720-0015 R4 (25/08/2016).

[6] Max output current as per Delta-Q Technologies IC1200 document 720-0014 R3 (18/07/2016).

[7] Max output current as per Delta-Q Technologies RQ350 document 720-0036 R4 (18/10/2021).

48V Models	Max DC Output Current	12-48-6650 Minimum per charger [1]	14-48-3000 Minimum per charger [2]	DLP-GC2-48V Minimum per charger [3]
IC650	13.5 A [4]	1	1	1
IC900	20 A [5]	1	1	1
IC1200	25 A [6]	1	1	1
RQ350	7.5 A [7]	1	1	1

[1] Discover 12-48-6650 Battery, Max Continuous Charge Current: 130 Adc, as published in Operating Manual for Motive Power Applications (805-0001 Rev J).

[2] Discover 14-48-3000 Battery, Max Continuous Charge Current: 57 Adc, as published in Operating Manual (805-0001 Rev J).

[3] Discover DLP-GC2-48V Battery, Max Charge Current (1 hour): 29 A, as published in AES PROFESSIONAL Installation and Operation Manual (805-0027 Rev H).

[4] Max output current as per Delta-Q Technologies IC650 document 720-0011 R6 (18/07/2016).

[5] Max output current as per Delta-Q Technologies IC900 document 720-0015 R4 (25/08/2016).

[6] Max output current as per Delta-Q Technologies IC1200 document 720-0014 R3 (18/07/2016).

[7] Max output current as per Delta-Q Technologies RQ350 document 720-0036 R4 (18/10/2021).

ICL1500 Models	DC Voltage [1]	Max DC Output Current [1]	12-48-6650 Minimum per charger [2]	14-48-3000 Minimum per charger [3]	DLP-GC2-48V Minimum per charger [4]
58 V	36 to 58 V	33.3 A	1	1	2
85 V (>200 VAC)	55 to 85 V	25 A	1	1	1
85 V (<200 VAC)	55 to 85 V	20.8 A	1	1	1

[1] Voltage and max output current as per Delta-Q Technologies ICL1500 document 720-0031 R2 (11/05/2019).

[2] Discover 12-48-6650 Battery, Max Continuous Charge Current: 130 Adc, as published in Operating Manual for Motive Power Applications (805-0001 Rev J).

[3] Discover 14-48-3000 Battery, Max Continuous Charge Current: 57 Adc, as published in Operating Manual (805-0001 Rev J).

[4] Discover DLP-GC2-48V Battery, Max Charge Current (1 hour): 29 A, as published in AES PROFESSIONAL Installation and Operation Manual (805-0027 Rev H).

3.3 Communication

The Delta-Q IC Series chargers may be configured to charge Discover AES LiFePO$_4$ or AES PROFESSIONAL batteries in either an open-loop or closed-loop communication configuration.

The RQ350 chargers can only be configured in an open-loop configuration, and the ICL1500 chargers can only be configured in a closed-loop configuration, to charge Discover AES LiFePO$_4$ or AES PROFESSIONAL batteries.

An open-loop configuration does not use battery-to-charger communication and the manual programing of charging set points is necessary at the time of installation.

Closed-loop communication enables superior system and battery performance, and is highly recommended. A closed-loop communication configuration allows the battery to dynamically control the charger's voltage and current without any manual programming. If communication is interrupted between the BMS and Delta-Q charger, the Delta-Q charger uses the charge and discharge settings for an open-loop configuration as specified by the selected algorithm.

3.4 Battery and Charger Interface

LYNK and AEbus enabled devices communicate with each other over a CANbus network to share settings, activity, and other updates. If there is more than one battery connected on a LYNK or AEbus network, one of them is dynamically selected as the master node. The master node controls the charge configuration of attached chargers.

3.4.1 AES LiFePO$_4$ Industrial Battery Interface (14-24-2800, 12-36-6700, 12-48-6650)
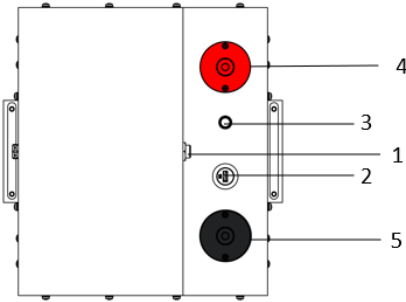

Figure 1. AES Stationary Battery (Top View)

1. Circular 12-pin Port - AEbus interface to connect to AEbus/LYNK enabled devices
2. USB - interface for PC connectivity (AES Dashboard)
3. On-Off Key and LED - When battery is enabled the blue power light is illuminated
4. Battery Positive (+) (red) - DC terminal connects to the positive DC bus
5. Battery Negative (-) (black) - DC terminal connects to the negative DC bus

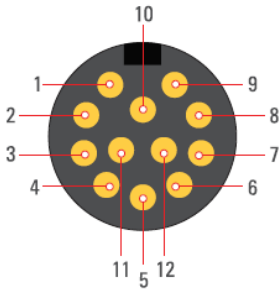AEbus Port - Circular 12-Pin Configuration

Figure 2. Circular 12-pin Port

Pin Number	Function
1 [1]	Reserved. Do not use.
2 [1]	Reserved. Do not use.
3	AEbus CAN Ground
4	AEbus CAN High
5	AEbus CAN Low
6 [1]	Reserved. Do not use.
7 [1]	Reserved. Do not use.
8 [1]	Reserved. Do not use.
9 [1]	Reserved. Do not use.
10 [1]	Reserved. Do not use.
11	AEbus CAN +5 V
12 [1]	Reserved. Do not use.

[1] Do not populate. Do not terminate to power. Do not terminate to ground. Do not terminate to CAN_L or CAN_H.

NOTICE

- Isolate unused pins. Crossing pin functions may cause system damage.
- Do not terminate unused wires to ground, power, or other functions.

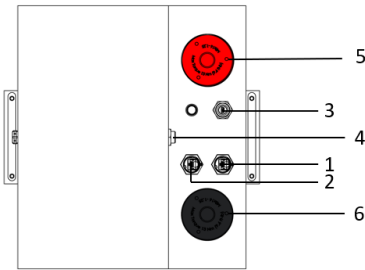### 3.4.2 AES LiFePO$_4$ Industrial Battery Interface (14-36-3000, 14-48-3000)

Figure 3. AES Motive Battery (Top View)

1. AEbus Port - RJ45 interface to connect AEbus/LYNK enabled devices.
2. AEbus Port - RJ45 interface to connect AEbus/LYNK enabled devices.
3. USB Port - interface for PC connectivity (AES Dashboard)
4. On-Off Key and LED - When battery is enabled the blue power light is illuminated
5. Battery Positive (+) (red) - DC terminal connects to the positive DC bus
6. Battery Negative (-) (black) - DC terminal connects to the negative DC bus
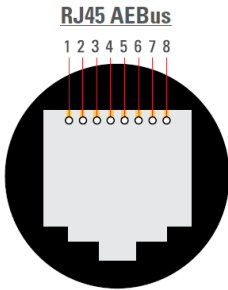
AEbus Port - RJ45 Pin Configuration

RJ45 AEBus

Figure 4. RJ45 Port

Pin Number	Function
1 (1)	Reserved. Do not use.
2 (1)	Reserved. Do not use.
3	AEbus CAN Ground
4	AEbus CAN High
5	AEbus CAN Low
6	AEbus +5 V
7 (1)	Reserved. Do not use.
8 (1)	Reserved. Do not use.

(1) Do not populate. Do not terminate to power. Do not terminate to ground. Do not terminate to CAN_L or CAN_H.

NOTICE
• Isolate unused pins. Crossing pin functions may cause system damage.
• Do not terminate unused wires to ground, power, or other functions.

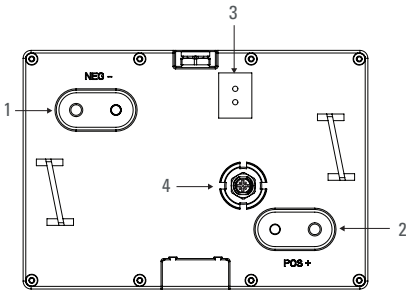### 3.4.3 AES PROFESSIONAL Battery Interface (DLP-GC2-24V DLP-GC2-36V, DLP-GC2-48V)

Figure 5. AES PROFESSIONAL Battery (Top View)

1. Battery Negative (-) dual terminal 5/16" stud, 5/16" insert connects to the negative DC bus

2. Battery Positive (+) dual terminal 5/16" stud, 5/16" insert connects to the positive DC bus

3. On-Off Key and LED - When battery is enabled the green power light is illuminated

4. Circular 5-pin Port - LYNK interface to connect LYNK/AEbus enabled devices

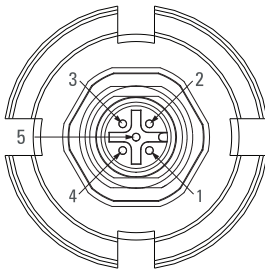LYNK Port - Circular 5-Pin Configuration

Figure 6. Circular 5-pin Port

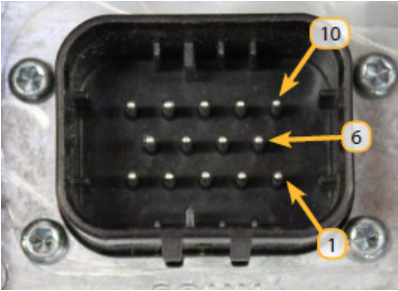| Pin Number	Function
1	ON/OFF Switch
2	LYNK Bus CAN Low
3	LYNK Bus CAN High
4	LYNK Bus 12 V+
5	LYNK Bus Ground

NOTICE
• Isolate unused pins. Crossing pin functions may cause system damage.
• Do not terminate unused wires to ground, power, or other functions.

3.4.4   Delta-Q Charger Communication Interface

IC Series

Connector type: TE Connectivity AmpSeal 776262-1
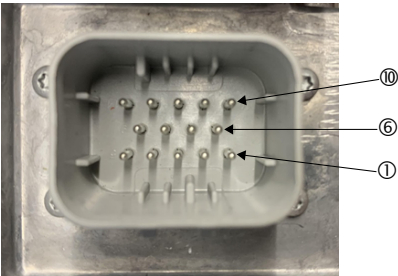Mating connector: TE Connectivity AmpSeal 776273-1

Pin Number	Function
1	CAN GND
6	CAN High
10	CAN Low

Figure 7.   IC Series Communication Interface

ICL1500

Connector type: TE Connectivity AmpSeal 776262-4
Mating connector: TE Connectivity AmpSeal 776273-4

Pin Number	Function
1	CAN Low
6	CAN GND
10	CAN High

Figure 8.   ICL1500 Communication Interface

4.0 DELTA-Q CHARGING ALGORITHMS

Delta-Q chargers can be programmed utilizing one of a number of battery charging profiles. The active profile is identified as the 'default algo'. The default algorithm can be selected from those stored on the charger and changed at any time by the user. Algorithms stored on a IC Series charger can be updated from a USB stick. Algorithms on RQ Series and ICL Series chargers require connecting to the charger through CAN. Contact your Delta-Q supplier, or visit delta-q.com, for instructions on how to obtain and load new algorithms.

Discover Lithium batteries can work with charge algorithms 261 (open loop) and 311 (closed loop).

4.1 Setting the Charge Algorithm

Before charging for the first time, press the charger button to verify the charge algorithm. The table below identifies the models that support open loop and the models that support closed loop.

Model	261 (Open loop)	311 (Closed loop)
IC 650 BASE	Supported	Not Supported
IC 900 BASE	Supported	Not Supported
IC 1200 BASE	Supported	Not Supported
IC 650 COMM	Supported	Supported
IC 900 COMM	Supported	Supported
IC 1200 COMM	Supported	Supported
ICL 1500	Not Supported	Supported
RQ 350	Supported	Not Supported

To confirm the charge algorithm:

1. Disconnect the battery from the charger, or set the battery OFF by pressing the ON/OFF button.

   Note: The AES LiFePO$_4$ battery's blue LED turns off when the AES battery is set OFF. The AES PROFESSIONAL battery's green LED turns off when the battery is set OFF.

2. Connect AC Input to the charger.

3. On the charger, by pressing the button with the wrench icon, confirm if the active charge profile is set to the correct charge algorithm (261 for open-loop charging or 311 for closed loop charging) for Discover Lithium batteries.

4. The charger displays "P" followed by a three-digit number.
   For example, P-2-6-1 for Discover's Lithium open-loop charge algorithm.

To set the charge algorithm on the IC Series:

1. Download the desired charge algorithm zip file from the Delta-Q website (delta-q.com) or from a Delta-Q representative.
2. Copy the "CHARGER" folder from the zip file to a blank USB flash drive.
3. Insert the USB flash drive into the USB port on the charger.
4. Wait until the triangular USB indicator LED turns solid green.
5. Remove the USB drive and press the wrench icon to confirm the upload was successful. The charger displays "P" followed by a three-digit number to identify the current charge algorithm.

NOTE
Uploading the charge algorithm on RQ and ICL chargers requires connecting to the charger through CAN. Contact your Delta-Q supplier, or visit delta-q.com, for instructions.

4.2 Fault and Error Codes

If you encounter issues with your charger, visit the Delta-Q Technologies support website at https://support.delta-q.com and search for fault and error codes to review recommended actions.

5.0 NETWORKING AES LiFePO$_4$ BATTERIES WITH DELTA-Q CHARGERS

Attach CAT5 or higher cables to the AEbus ports to network all the AES batteries together. To connect the Delta-Q charger to the AEbus network, use the *Parallel Harness Kit for DQT IC Charger (950-0008)*. Networking all the AES batteries with the Delta-Q charger is required for closed-loop communication.

The AEbus network requires termination at both ends of the network. Position the Delta-Q charger at one end to provide termination at one end of the network. Use an RJ45 Male Network Terminator supplied with AES LiFePO$_4$ batteries to terminate the other end of the network. Refer to the AES LiFePO$_4$ battery manual for detailed instructions.

NOTICE
• Turn OFF all devices before connecting cables.
• For closed-loop charging with multiple stacked chargers (connected in parallel) per battery bank, confirm that the AES Battery firmware is version 3.8.0.0 or later.
• To connect the Delta-Q charger to the AEbus network, use the *Parallel Harness Kit for DQT IC Charger (950-0008)*. Note the different pin configurations of the TE Connectivity AmpSeal between the Delta-Q IC Series and ICL1500 chargers (see 3.4.4 Charger Communication Interface.

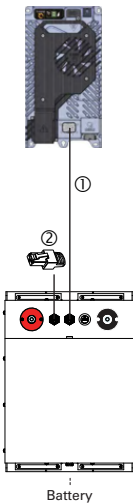## 5.1 Single AES LiFePO$_4$ Battery, Single Delta-Q Charger

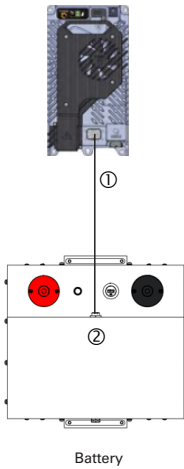| ⚠ CAUTION |
|---|
| **EQUIPMENT DAMAGE** |
| Wiring of harnesses should only be performed by qualified personnel. Qualified personnel should have training, knowledge, and experience in the installation of electrical equipment. |
| **Failure to follow these instructions may result in injury.** |

14-36-3000, 14-48-3000

Item	Description
1	Parallel Harness Kit for DQT IC Charger (950-0008)
2	RJ45 Male Network Terminator (960-0035)

Figure 9. Single AES Battery, Single Delta-Q Charger

Item	Description
1	Parallel Harness Kit for DQT IC Charger (950-0008)
2	AES 12-pin Communication Harness (790-0011)

Battery

Figure 10. Single AES Battery, Single Delta-Q Charger

5.2 Multiple AES LiFePO$_4$ Batteries, Single Delta-Q Charger

In a network with multiple batteries, one of the batteries is dynamically selected as the master node. The master node controls the charging parameters of the attached charger.

⚠ CAUTION

EQUIPMENT DAMAGE

Wiring of harnesses should only be performed by qualified personnel. Qualified personnel should have training, knowledge, and experience in the installation of electrical equipment.

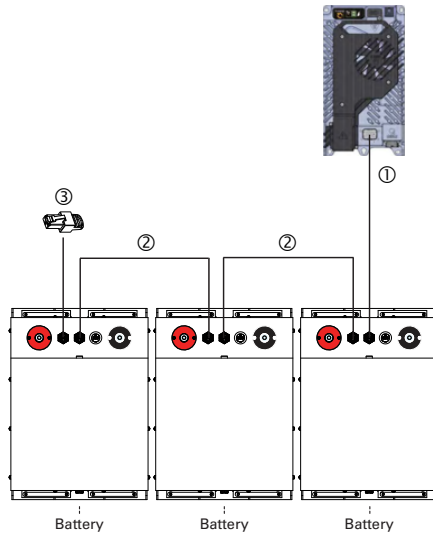**Failure to follow these instructions may result in injury.**

Figure 11. Multiple AES Batteries, Single Delta-Q Charger

Item	Description
1	Parallel Harness Kit for DQT IC Charger (950-0008)
2	CAT5 or higher cable
3	RJ45 Male Network Terminator (960-0035)

5.3 Multiple AES LiFePO₄ Batteries, Multiple Delta-Q Chargers

In a network with multiple batteries, one of the batteries is dynamically selected as the master node. The master node controls the charging parameters of attached chargers.

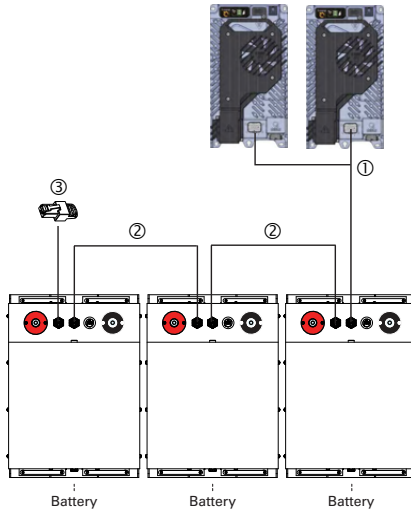| **NOTE** |
|---|
| To operate in parallel (stacked), the Delta-Q chargers require special firmware. Please contact Delta-Q for instructions. |

14-36-3000, 14-48-3000

Figure 12. Multiple AES Batteries, Multiple Delta-Q Chargers

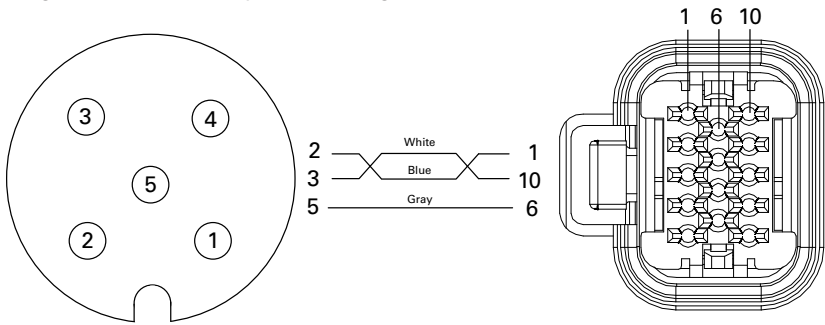| Item	Description
1	Parallel Harness Kit for DQT IC Charger (950-0008)
3	RJ45 Male Network Terminator (960-0035)
4	CAT5 or higher cable

6.0 NETWORKING AES PROFESSIONAL BATTERIES WITH DELTA-Q CHARGERS

Attach *DLP LYNK Network Cables* and *T connectors* to the batteries' LYNK ports to network the AES PROFESSIONAL batteries together, which connect to Delta-Q chargers with the *DLP LYNK Network DQT IC Cable (950-0046)*. Networking all the AES PROFESSIONAL batteries with the Delta-Q charger is required for closed-loop communication.

The LYNK network requires termination at both ends of the network. Termination is automatically configured on AES PROFESSIONAL batteries. Position the Delta-Q charger to provide termination at the other end of the LYNK network.


NOTICE

- Turn OFF all devices before connecting cables.

- To connect the Delta-Q IC charger to the LYNK network, use the *DLP LYNK Network DQT IC Cable (950-0046)*.

- To connect the Delta-Q ICL1500 charger, because the pin configuration of its TE Connectivity AmpSeal is not the same as the IC Series charger, some wiring changes to the *DLP LYNK Network DQT IC Cable (950-0046)* are required. See diagram below for the specified wiring.

- Termination is automatically configured on AES PROFESSIONAL batteries. No extra termination is required on the batteries.

6.1 Single AES PROFESSIONAL Battery, Single Delta-Q Charger
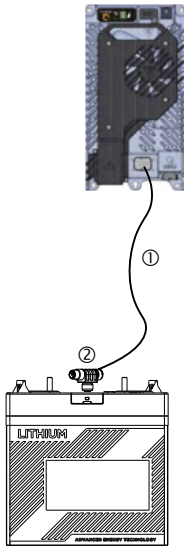
Item	Description
1	DLP LYNK Network DQT IC Cable (950-0046)
2	DLP LYNK Network T Connector (950-0041)

Figure 13. Single AES PROFESSIONAL Battery, Single Delta-Q Charger

6.2 Multiple AES PROFESSIONAL Batteries, Single Delta-Q Charger

In a network with multiple batteries, one of the batteries is dynamically selected as the master node. The master node controls the charging parameters of the attached charger.
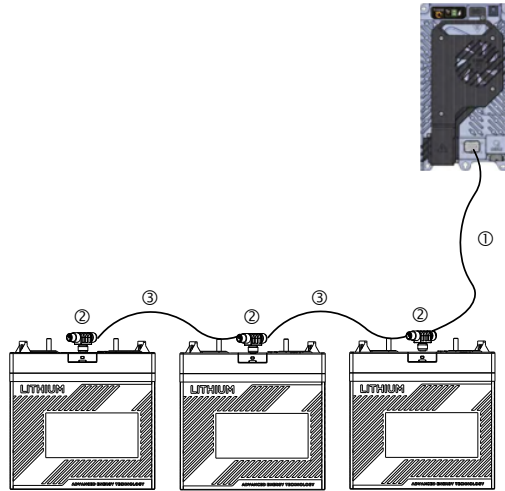

Figure 14. Multiple AES PROFESSIONAL Batteries, Single Delta-Q Charger

Item	Description
1	DLP LYNK Network DQT IC Cable (950-0046)
2	DLP LYNK Network T Connector (950-0041)
3	DLP LYNK Network Cable (950-0035 [0.4 m, 1.3 ft], 950-0036 [1.8 m, 5.9 ft], or 950-0037 [7.6 m, 24.93 ft])

6.3 Multiple AES PROFESSIONAL Batteries, Multiple Delta-Q Chargers

In a network with multiple batteries, one of the batteries is dynamically selected as the master node. The master node controls the charging parameters of attached chargers.

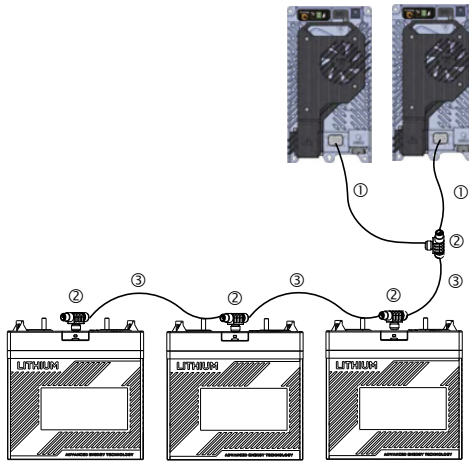| NOTE |
|------|
| To operate in parallel, the Delta-Q chargers require special firmware. Please contact Delta-Q for instructions. |

Figure 15. Multiple AES PROFESSIONAL Batteries, Multiple Delta-Q Chargers

Item	Description
1	DLP LYNK Network DQT IC Cable (950-0046)
2	DLP LYNK Network T Connector (950-0041)
3	DLP LYNK Network Cable (950-0035 [0.4 m, 1.3 ft], 950-0036 [1.8 m, 5.9 ft], or 950-0037 [7.6 m, 24.93 ft])