ENCAP

BEYOND BATTERIES

USER MANUAL
1KWH-12V
ENL-1k-12-0.25C-X-X-X-X-1V0-GEN1

VERSION 1 | REVISION 0 | RELEASE DATE: 4 April 2024

SMART MANAGEMENT

- Feature-rich Online Monitoring via ENCONTROL Tool
- Automatic Firmware Updates
- Warning Alarms

EFFICIENT

- Highly Efficient: > 95% RTE (Round Trip Efficiency)
- 100% DOD (Depth of Discharge)
- 500,000 Cell Life Cycles

SAFE & RELIABLE

- Wide Operating Temperature Range
- Deployable in Various Environments including High Altitudes
- No Thermal Runaway Risk

ATTENTION

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Document HISTORY

Issue 01 (2024-4-4)

First release

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SAFETY INSTRUCTIONS

SAFETY GUIDELINES

1. PERSONAL SAFETY

- Always wear proper personal protective equipment (eyes protection, gloves, and safety shoes).

2. GENERAL GUIDELINE

- Do not subject the Module to strong impact.
- Do not crush or puncture the Module.
- Do not place the Module near a heat source, such as a fireplace.
- Do not disassemble the Module under any circumstances.
- Ensure precautions to prevent short-circuit under all circumstances.
- Do not touch the terminals with conductors while the Module is charging. Serious burns, shock, or material fusing may occur.
- Protect surrounding electrical components from incidental contact.
- Do not subject the Module to high pressure.
- Do not place any object on top of the Module.
- Do not drop the Module. Internal damage may occur that will not be visible.
- Do not stack Modules once they have been removed from the packaging. Instead the Modules should be placed on shelves.

- In case the Module is physically damaged for any reason, do not install and energize the Module under any circumstances and immediately contact your Reseller.

3. MODULE OPERATION

- Do not operate the Module above the specified voltage.
- Always make sure charger is set as recommended.
- When connecting to external devices ensure that galvanic isolation of the external device(s) does not exceed 1000V.
- Always make sure chargers are disconnected while working on Modules.
- Do not connect or disconnect terminals from the Module without first disconnecting the load.

4. MODULE OPERATING ENVIRONMENT

- Location: Indoor/Outdoor
- Operating Temperature Range: -30°C to 70°C (For continuous operations outside this range, please consult your Resellers or Enercap).
- Operating Humidity: Non-Condensing
- Do not charge the Module when the temperature is below -30°C.
- Do not charge the Module when temperature is above 70°C.

5. MODULE CLEANING

- Disconnect the power before cleaning.
- Use a soft cloth dampened in a solution of mild detergent and water.

6. STORAGE ENVIRONMENT

- Do not store the Module at temperature greater than 70°C.

7. DISPOSAL

- Do not dispose the Module in fire.
- Do not dispose this Module as unsorted municipal waste. Please use a separate collection facility or contact the supplier from whom this Module was purchased. Please make sure discarded electrical waste is properly recycled per applicable regulations to reduce environmental impact.

PRE-INSTALLATION

INSPECTION

Document (e.g., photo) any damage and report this to your Reseller and shipping agent immediately. Remove the Module from the shipping carton and retain the shipping materials until the unit has been inspected and is determined to be operational.

CONTENT CHECK

Check the contents of the package. The following are standard items shipped by us.

1kWh-12V

MC4 Connector

Figure 1: Module package contents

LOCATION REQUIREMENTS

1. AREA OF INSTALLATION

- Install the Module at an appropriate height for ease of viewing LCD and operating switches.

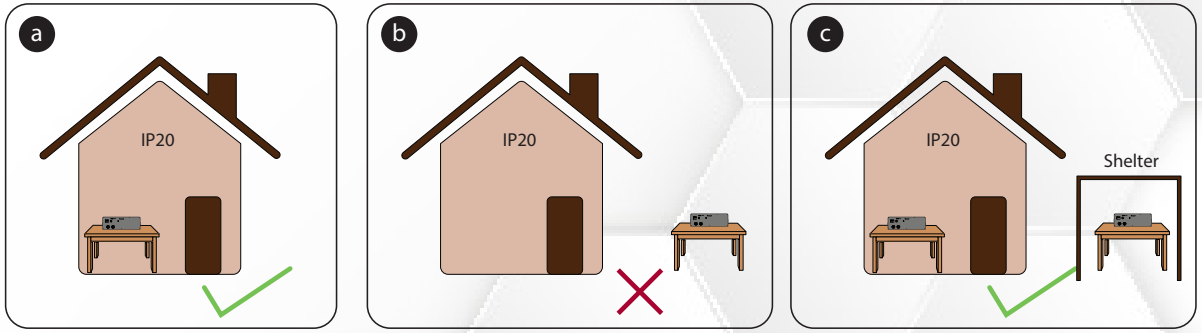


Figure 2: Installation restriction: a) Module can be stored inside b) Modules cannot be stored outside without shelter c) Modules can be installed indoors and outdoors with shelter

2. ENVIRONMENT REQUIREMENTS

- The ambient temperature and relative humidity must meet the following requirements.

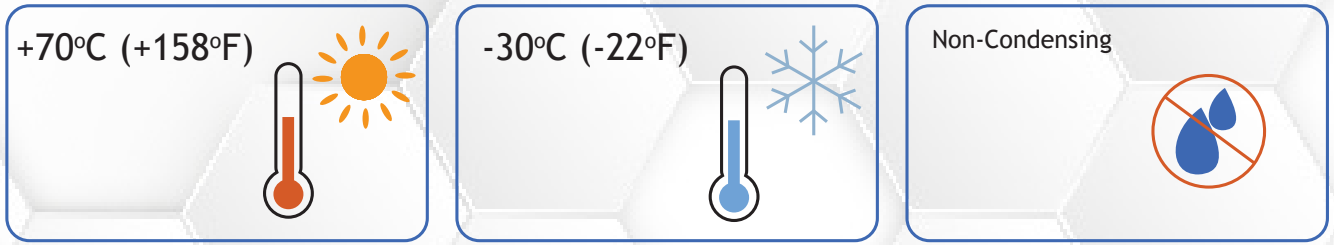


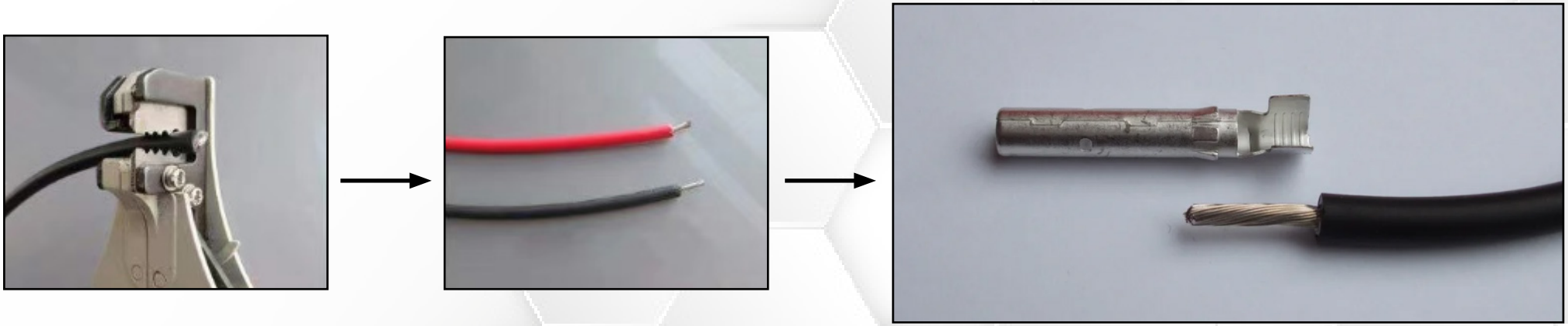
Figure 3: Operating temperatures and humidity of Module

ELECTRICAL INSTALLATION

ELECTRICAL CONNECTIONS

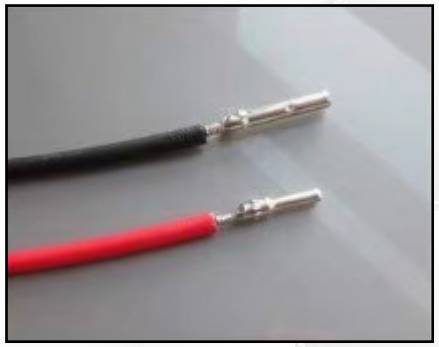
1. MC4 MALE CONNECTOR FITTING

1. Strip the wire shorter than the metal crimp connector. There is a mark on the metal that indicates how far the other connector will enter into this one.



If the cable extends past this mark in the connector, the MC4 connectors will not be able to join together.

2. Crimp the wire.



3. Pass the screw nut over the metal crimp.

ELECTRICAL SETUP

1. CONNECTING MODULE TO POWER SUPPLY/CHARGER

Connect positive and negative terminals of charger to the positive and negative terminals of the Module, respectively.

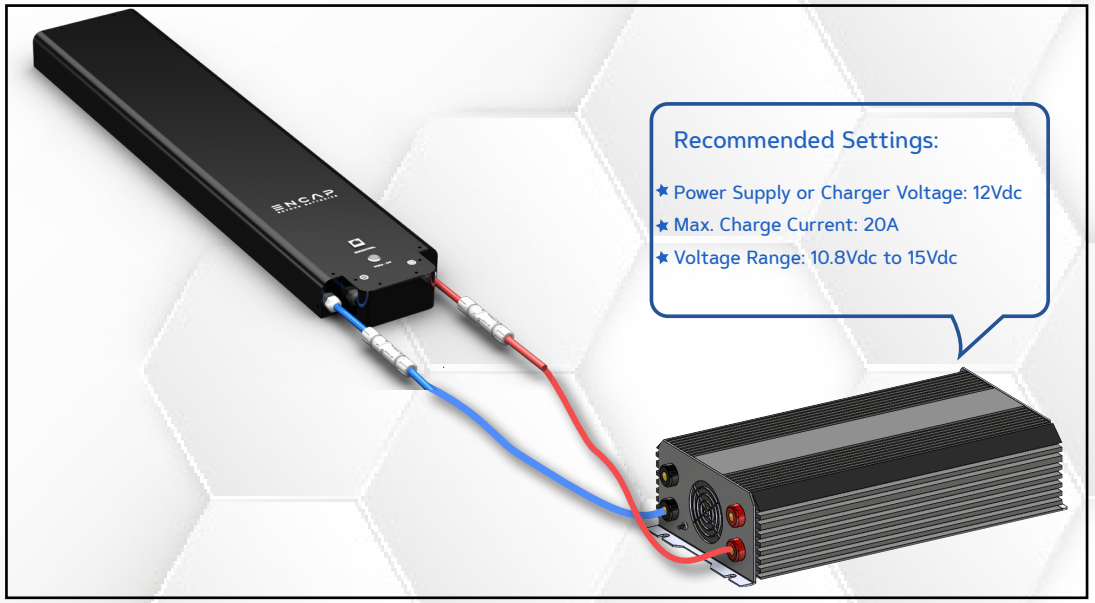


Figure 4: Charging Module with power supply

2. CONNECTING MODULE TO LOAD/DISCHARGER

Connect positive and negative terminals of discharger to the positive and negative terminals of the Module, respectively.

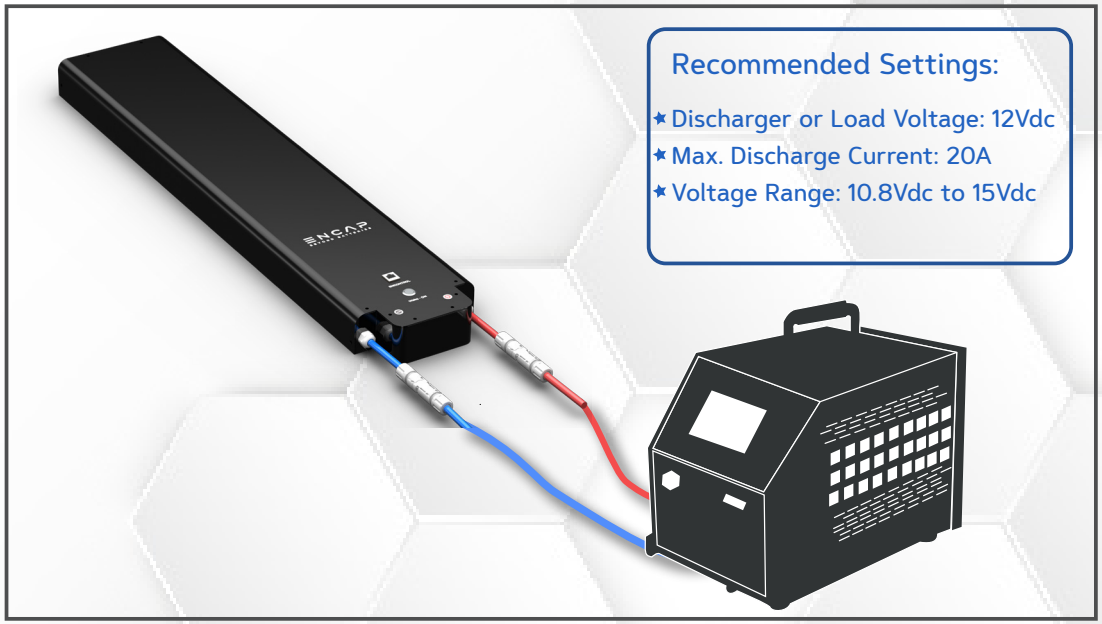


Figure 5: Discharging Module from discharger

3. PARALLEL CONNECTION SETUP:

Any number of Modules can be connected in parallel. All Modules must be at 100% SOC before connecting in parallel.

- Connect the positive (+) terminal of all Modules to the positive busbar.
- Connect the negative (-) terminal of all Modules to the negative busbar.
- Refer to the parallel combination of the Modules as shown below and make your connections accordingly.

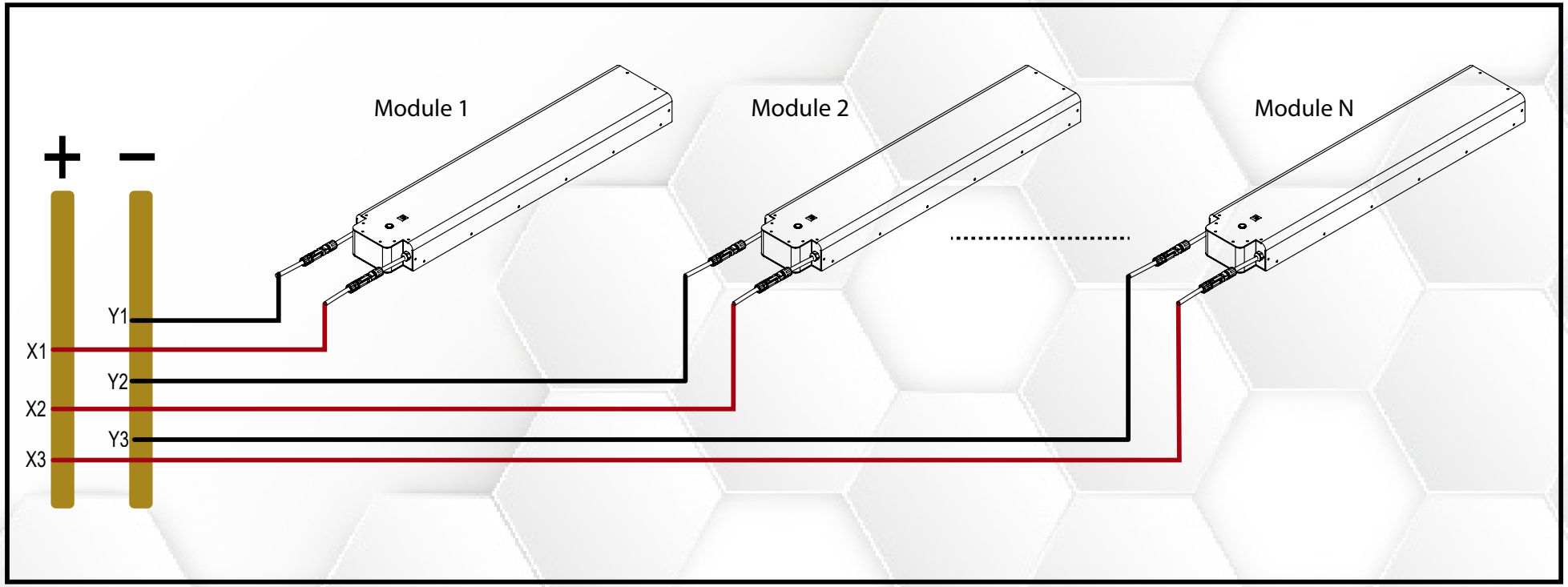


Figure 6: Modules connected in parallel