

# TECHNICAL DATA SHEET

# MICRO OPTI

BEYOND BATTERIES

7.1KWH 48V Module



EN-7.1k-48-1C-2PA-X-X-PIB\_1V0\_GEN1

## 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

## Performance Specifications

|                             |                    |
|-----------------------------|--------------------|
| <b>DC Energy</b>            | 7.1kWh             |
| <b>Voltage Range</b>        | 43.2Vdc to 60.8Vdc |
| <b>DC Voltage (Nominal)</b> | 48Vdc              |
| <b>Internal Resistance</b>  | <4 mΩ              |

## Cell Specifications

|                             |  |
|-----------------------------|--|
| <b>Technology</b>           | Encapsulated Cell                                      |
| <b>Nominal Cell Voltage</b> | 6.4 ~6.6Vdc / Cell (Encapsulated) 1/2 + 0.12V Envelope |

## Charge Characteristics

|  |            |
|--|------------|
| <b>Maximum Continuous Charge Current</b> | 150A (~1C) |
| <b>Charging Method</b>                   | CC/CP/VP   |

## Discharge Specifications

|   |            |
|---|------------|
| <b>Maximum Continuous Discharge Current</b> | 150A (~1C) |
| <b>Discharging Method</b>                   | CC/CP/VP   |

## Module Environmental Specifications

|                                    |                |
|------------------------------------|----------------|
| <b>Operating Temperature Range</b> | -30°C ~ +70°C  |
| <b>Operating Humidity</b>          | Non-Condensing |

## Safety Performance

|                                 |                             |
|---------------------------------|-----------------------------|
| <b>Short Circuit Protection</b> | Through MCB and Encontactor |
| <b>Over/Under Voltage</b>       | Through Encontactor         |
| <b>Over Current</b>             | Through MCB and Encontactor |
| <b>Over Temperature</b>         | Through Encontactor         |

## Smart Features

|  |   |
|--|---|
| <b>Alarm<sup>2</sup></b>                         | Buzzer alarm in the event of Over/under-Voltage, Over-Current, Over Temperature |
| <b>OLED Display (With Encontrol)<sup>2</sup></b> | Monitor Module  |
| <b>Communication</b>                             | CANBUS , RS232, RS485   |

**Dry Contacts Output** Programmable Dry Contacts

**Circuit Breaker Protection** 2P 125A Breaker

## Service Life

**Cells Projected Cycle Life<sup>3</sup>** 500,000 Cycles

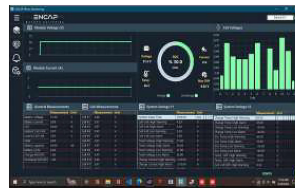
**Cells Projected Calendar Life<sup>4</sup>** 25 Years

**Module Projected Shelf Life<sup>5</sup>** 10 Years

**Warehousing** Can be stored at any SOC without affecting cycle life

## EN-Connect Software<sup>2</sup>

**Module Monitoring<sup>2</sup>** Total Voltage, Individual Cell Voltages, Current, Temperatures, SOC and Energy Consumed.



Isometric View

ENCONTROL<sup>2</sup>

Front View

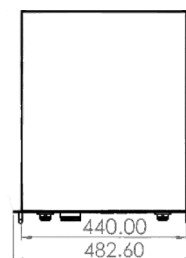
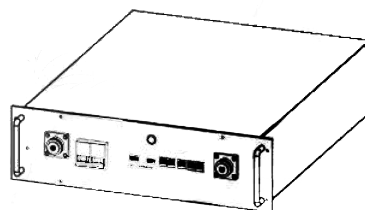
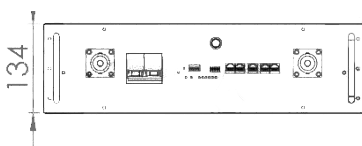
## Mechanical Specifications

**Dimensions<sup>1</sup> (W x H x D) mm** 482 x 134 x 568

**Weight (kg)** 43

**Module Casing Material** GI Powdered

**Terminal Type** 300A Terminal Post



Front View

Isometric View

Top View

Side View

## Precautions

|                                   |   |
|-----------------------------------|---|
| <b>Alarm</b>                      | In case of alarm, immediately rectify/attend to the cause of the alarm.   |
| <b>Physical Damage</b>            | In case the Module is physically damaged due to any event, do not install and energize the Module under any circumstances and contact your Reseller or After Sales Support.   |
| <b>Short Circuit</b>              | Ensure precautions to prevent short-circuit under all circumstances.  |
| <b>Galvanic Isolation</b>         | When connecting to external devices ensure that galvanic isolation of the external device(s) does not exceed 1000V.   |
| <b>Series Connection</b>          | All Modules must be at 100% SOC before connecting in series. Maximum of eight (8) Modules can be connected in series. Modules can only be connected in series through Encontactor and en controller refer to ENRack for better performance. |
| <b>Parallel Connection</b>        | All Modules must be at 100% SOC before connecting in parallel. There is no limit on the number of Modules that can be connected in parallel.  |
| <b>Series-Parallel Connection</b> | Series-Parallel Connection Modules can be connected in series-parallel combination through Encontactor and encontroller refer to ENRack for better performance.   |

<sup>1</sup>Product Dimensions are for reference only and may change without notice.

<sup>2</sup>The ENCONTROL tool is an OLED display designed for Module monitoring. Please note SMART FEATURES are not part of the standard Module and require separate purchase of ENCONTROL tool

<sup>3</sup>Projected Life of encapsulated cells.

<sup>4</sup>Projected Calendar Life of encapsulated cells from the date of first operation.

<sup>5</sup>Shelf Life is the Life of the Module (in years) from the date it is manufactured to the time it is first operated.

- Additional terms and conditions, including a limited warranty, will apply at the time of purchase.
- For critical applications, please contact your Reseller or After Sales Support.