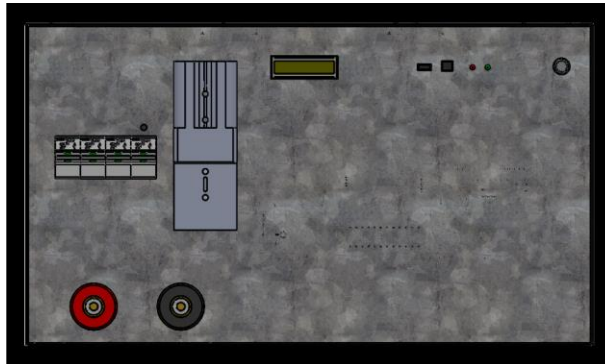


**SIRIUS ENERGY STORAGE MODULE  
TECHNICAL DATA SHEET**

Part Number: 7100-48-B-3.2C-M-SD-A-FL Version Date: MARCH 2020



|   |  |  |
|---|--|--|
| <b>PERFORMANCE SPECIFICATIONS</b>         | Voltage (Nominal)  | 48 V <sub>dc</sub>   |
|   | Maximum Charge Voltage   | 54 V <sub>dc</sub>   |
|   | Discharge Cut-Off Voltage  | 44 V <sub>dc</sub>   |
|   | Total Energy   | 7100 Wh  |
|   | Maximum Charge Rate  | 500 A  |
|   | Maximum Discharge Rate   | 500 A  |
| <b>ENVIRONMENTAL SPECIFICATIONS</b>       | Cell Operating Temperature <sup>1</sup>                                    | -30 °C to 80 °C  |
|   | Operating Humidity   | Non-Condensing   |
| <b>MECHANICAL SPECIFICATIONS</b>          | Dimensions (w × d × h)   | 609mm x 530mm x 345.5mm  |
|   | Weight   | 136 kg Approx.   |
|   | Module Casing Material   | GI   |
|   | Terminal Type  | 2× Anderson Connector  |
| <b>SMART FEATURES</b>                     | Monitoring Data  | Total Cell Voltage, Individual Cell Voltages, Current, Temperatures, SOC and Energy          |
|   | Remote control (optional)  | Via Sirius Remote Control  |
|   | Communication and Connectivity   | USB  |
|   | Alarm  | Audible alarm in the event of Over/under-Voltage, Over-Current, Over Temperature             |
| <b>SIRIUSVIEW SOFTWARE</b>                | Module Monitoring  | Current, Voltage, Individual Cell Voltage, Temperatures, Total Energy delivered, SOC, Graphs |
|   | System Monitoring  | Modules Monitoring (connected in parallel or series)   |
| <b>MODULE SERVICE LIFE</b>                | Projected Cycle Life <sup>2,3</sup>  | 1 million cycles   |
|   | Projected Calendar Life <sup>3,4</sup>                                     | 45 years   |
|   | Shelf Life <sup>5</sup>  | 10 years   |
|   | Warehousing  | Can be stored at any SOC without affecting cycle life  |
| <b>SAFETY PERFORMANCE</b>                 | Over/under voltage   | Hardware protection, Module shut down  |
|   | Over Current   | Hardware protection, Module shut down  |
|   | Over temperature   | Hardware protection, Module shut down  |
|   | Additional Safety  | 2× DC Circuit Breaker + DC Contactor   |
| <b>COMPLIANCE<sup>6</sup> INFORMATION</b> | EN55032:2015, EN55024:2010, EN61000-4-2:2009, EN61000 EN61000:2008+A2:2010 |  |

This technical data sheet may change without notice and at the sole discretion of Kilowatt Labs, Inc.

Solutions for: Microgrids | C&I and Residential Solar | Electric Vehicles | Utility Grade Storage

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|                            |  |   |
|----------------------------|--|---|
| <b>PRECAUTIONS</b>         | Alarm  | In case of alarm, immediately rectify/attend to the cause of the alarm.   |
|                            | Physical Damage  | 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.  |
|                            | Short Circuit  | Ensure precautions to prevent short-circuit under all circumstances.  |
|                            | Galvanic isolation   | When connecting to external devices ensure that galvanic isolation does not exceed 1000V.   |
|                            | Charge Current   | Under no circumstances must the charge current exceed 500 A.  |
|                            | Discharge Current  | Under no circumstances must the discharge current exceed 500 A.   |
|                            | Charging Voltage   | Under no circumstances must the charging voltage exceed 54 V <sub>dc</sub> for more than 60 seconds.  |
|                            | Charge Cycle   | During charge cycle ensure never to exceed constant voltage of 54 V <sub>dc</sub> and constant current of 500 A.  |
|                            | Series Connection  | <ul style="list-style-type: none"> <li>• All Modules must be at 100% SOC before connecting in series.</li> <li>• A maximum of 8 Modules with Module Combiner can be connected in series.</li> </ul> Please consult your Reseller when connecting the Modules in series. Under no circumstances should more than 8 modules be connected in series without the Module Combiner. |
|                            | Parallel Connection  | There is no limit on the number of Modules that can be connected in parallel.   |
| Series-Parallel Connection | Modules cannot be connected in Series-Parallel combination under any circumstance. |   |

<sup>1</sup>The temperature range indicates the range in which the supercapacitor cells can operate. The performance of the cells may vary if they are continuously operated outside a temperature range of -10°C to 55°C, and/or at C-rates higher than the maximum charge/discharge rate specified in this spec sheet. The operating temperature range of the module varies based on the application. If the module is to be operated continuously outside a temperature range of -10°C to 55°C, and/or at C-rates higher than the maximum charge/discharge rate specified in the spec sheet, please consult Kilowatt Labs or its Reseller prior to deploying.

<sup>2</sup>Projected life of supercapacitor cells. Cycle life will vary if cycled more than 4 times a day.

<sup>3</sup>Additional terms and conditions, including a limited warranty, will apply at the time of purchase.

<sup>4</sup>Projected Calendar life of supercapacitor 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

<sup>6</sup>CE certification is completed for supercapacitor cells.

Product dimensions are for reference only unless otherwise identified and may change without notice.

For critical applications, please contact your Reseller.