

**SIRIUS ENERGY STORAGE MODULE  
TECHNICAL DATA SHEET**

Part Number: 1860-48-B-1C-M-SD-A-X-X-G Version Date: April 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	1860 Wh
	Maximum Charge Rate	40 A
	Maximum Discharge Rate	40 A
<b>ENVIRONMENTAL SPECIFICATIONS</b>	Cell Operating Temperature <sup>3</sup>	-30 °C to 80 °C
	Operating Humidity	Non-Condensing
<b>MECHANICAL SPECIFICATIONS</b>	Dimensions (w × d × h)	419 mm x 474 mm x 200 mm
	Weight	41 kg
	Module Casing Material	GI
	Terminal Type	F08
<b>SMART FEATURES</b>	Monitoring Data	Temperature, Total Cell Voltage, Individual Cell Monitoring, Current and Energy
	Remote control (optional)	Via Sirius Remote Control
	Communication and Connectivity	USB Port
	Alarm	Audible alarm in the event of Over/under-Voltage, Over-Current, Over Temperature
<b>SIRIUSVIEW SOFTWARE</b>	Module Monitoring	Current, Voltage, Temperatures, Total Charge and Discharge Time, Total Energy delivered, Graphs

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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	System Monitoring	Modules Monitoring (connected in parallel or series)
<b>MODULE SERVICE LIFE</b>	Projected Cycle Life <sup>4,5</sup>	1 million cycles
	Projected Calendar Life <sup>5,6</sup>	45 years
	Shelf Life <sup>7</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	100 A DC Circuit Breaker+ 100 A Bypass Breaker + SSR protection
<b>COMPLIANCE<sup>8</sup> INFORMATION</b>	EN55032:2015, EN55024:2010, EN61000-4-2:2009, EN61000 EN61000:2008+A2:2010	
<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/Discharge Current	Under no circumstances must the charge/discharge current exceed 40 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 40 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.

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	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>Self-discharge is the natural decay of the Module total voltage over time. Module self-discharge is 2% in Sleep Mode (switched off) and 9.6% in Switched-On Mode.

<sup>2</sup>The Module C-Rate refers to the rate at which a battery is charged or discharged. A 1C rate means that the current will charge or discharge the entire battery in 1 hour.

<sup>3</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>4</sup>Projected life of supercapacitor cells. Cycle life will vary if cycled more than 4 times a day.

<sup>5</sup>Additional terms and conditions, including a limited warranty, will apply at the time of purchase.

<sup>6</sup>Projected Calendar life of supercapacitor cells from the date of first operation.

<sup>7</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>8</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.