

**SIRIUS ENERGY STORAGE MODULE  
TECHNICAL DATA SHEET**

Part Number: 7100-48-A-1.35C-M-SD-G

Version Date 11-29-17

Nominal Voltage	48VDC	
Voltage Range	44VDC – 54VDC	
Capacity	7100Wh	
Maximum Charge Rate (0% -100% SOC)	200A	
Maximum Discharge Rate (100% - 0% SOC)	200A	
Maximum Charging Voltage	54VDC	
Internal Resistance	≤3mΩ	
DC to DC Roundtrip efficiency (@100A)	99.1%	
Operating Temperature	-30°C to 85°C	
Galvanic Isolation	1500V	
Projected Cycle Life <sup>3</sup>	1,000,000	
Projected Calendar Life <sup>1,3</sup>	Supercap cell	45 years
	Module Control Electronics	10 - 15 years
Shelf Life <sup>2</sup>	10 years	
Warehousing	Can be stored at any SOC without affecting cycle life	
Communication Port	TCP/IP RJ45 Ethernet	
Monitoring Data	Temperature, Voltage, Current, Energy, Supercap Balancing	
Remote Control Input	Battery Self-Check	
Safety	Shutdown on - Over-Charge, Over-Discharge, Over-Current, Over-Temperature, Reverse Polarity, Cell Imbalance	
Terminal Type	F12	
Module Casing Material	Aluminium	
Dimensions (w x d x h)	600mm x 490mm x 330mm	
Weight	Approx.127kg	
Self-discharge <sup>4</sup>	5% after 25 days	
CE Certification <sup>5</sup>	EN55022:2010/AC:2011,EN61000-3-2:2006+A2:2009, EN61000-3-3:2008, EN55024:2010	
<b>Precautions</b>		
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 an authorized technician	
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 1500V	
Charge / Discharge Current	Under no circumstances must the charge / discharge current exceed 200A	
Charging Voltage	Under no circumstances must the charging voltage exceed 54VDC for more than 60 seconds.	
Charge Cycle	During charge cycle ensure never to exceed constant voltage of 54VDC and constant current of 200A	
Series Connection	To connect modules in series, ensure all modules are at 100% SOC before connecting. Do not connect otherwise	
Maximum number of modules that can be connected in series	18	

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Maximum number of modules that can be connected in parallel	No limit
Series – Parallel Connection	Modules cannot be connected in a series – parallel combination under any circumstances
<b>SiriusX – Monitoring Software</b>	
Individual Cell	Monitoring of voltage
Module	Monitoring of current, max. & min. voltage, temperature, DOD, SOC, rate of charge, rate of discharge, time to discharge, balance energy, total energy delivered over lifetime, graphs
System	Monitoring of all modules connected together

<sup>1</sup> Projected Calendar Life is the projected life of the module (in years) from the date it is first operated.

<sup>2</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>3</sup> Additional terms and conditions, including a limited warranty, will apply at the time of purchase.

<sup>4</sup> Self-discharge: (1) 30% after 30 days; (2) 80% after 60 days; Self-discharge only when not charging or discharging; No memory effect; .Module can be recharged to 100% at any time.

<sup>5</sup> CE certification is completed for supercap cells

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

For critical applications, please contact Kilowatt Labs, Inc., or its authorized representative.