

## SIRIUS ENERGY STORAGE MODULE TECHNICAL DATA SHEET

Part Number: 3550-48-B-1.5C-M-SD-300RCB

Version Date: 05-10-18

Nominal Voltage	48VDC	
Voltage Range	44VDC – 54VDC	
Capacity	3550Wh	
Maximum Charge / Discharge Rate	≤290A	max. 5sec
	≤190A	max. 30sec
	≤140A	max. 1min
	≤120A	max. 10min
	≤110A	Continuous
Overload Protection and Isolation	300A circuit breaker, local/remote control available for on/off operation	
Maximum Charging Voltage	54VDC	
Recovery jack	(5A, 52VDC) max	
Internal Resistance	≤4mΩ	
Supercap Cell DC to DC Roundtrip Efficiency (@110A)	99.1%	
Supercap Cell Operating Temperature <sup>1</sup>	-30°C to 85°C	
Galvanic Isolation	1500V	
Projected Cycle Life <sup>2,3</sup>	1,000,000	
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	
Communication Port	TCP/IP RJ45 Ethernet	
Monitoring Data	Temperature, Voltage, Current, Energy, Supercap Balancing	
Remote Control Input	Battery Self-Check	
Terminal Type	F12	
Module Casing Material	Aluminium	
Dimensions module/packed(w x d x h)	600mm x 534mm x 200mm/680mm x 615mm x 280mm	
Weight module/packed	69kg/73kg	
Supercap Cell Self-discharge <sup>6</sup>	2% per month	
CE Certification <sup>7</sup>	EN55032:2015, EN55024:2010, EN61000-4-2:2009, EN61000-4-3:2006+A1:2008+A2:2010	
<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 110A for continuous operation and 290A for instantaneous operation	
Charging Voltage	Under no circumstances must the charging voltage exceed 54VDC for more than 60 seconds.	

**SIRIUS ENERGY STORAGE MODULE  
TECHNICAL DATA SHEET**

Part Number: 3550-48-B-1.5C-M-SD-300RCB

Version Date: 05-10-18

Charge Cycle	During charge cycle ensure never to exceed constant voltage of 54VDC and constant current of 110A for continuous operation and 290A for instantaneous operation.
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 <sup>8</sup>	8 – must be connected with Module Combiner Please consult with Kilowatt Labs or its reseller when connecting the modules in series. Under no circumstances should more than 3 modules be connected in series without the Module Combiner.
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>Sirius View – 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>Cycle life may vary 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 continuous charge/discharge rate specified in this spec sheet. Please consult Kilowatt Labs or its Reseller prior to deploying the module in such applications.

<sup>2</sup>Projected Cycle life of supercap cells.

<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 supercap 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>Self-discharge for the module is 2% per month if idle (not charging or discharging) AND in Sleep Mode (switched off). If the module is not in sleep mode, then self-discharge may vary depending on ambient temperature.

<sup>7</sup>CE certification is completed for supercap cells

<sup>8</sup>Consult Kilowatt labs or its Reseller for information on connecting modules in series.

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

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