

**SIRIUS ENERGY STORAGE MODULE
TECHNICAL DATA SHEET**

Part Number: 3550-48-B-1.7C-TM-SD-A-G

Version Date 03-18-19

Nominal Voltage	48VDC
Voltage Range	44VDC – 54VDC
Capacity	3550Wh
Maximum Charge Rate (0% -100% SOC)	125A
Maximum Discharge Rate (100% - 0% SOC)	125A
Parasitic load	60mA max
Maximum Charging Voltage	55VDC
Internal Resistance	≤4mΩ
Supercap Cell Operating Temperature ¹	-30°C to 80°C, non-condensing
Galvanic Isolation	1000V
Projected Cycle Life ^{2,3}	1,000,000
Projected Calendar Life ^{3,4}	45 years
Shelf Life ⁵	10 years
Warehousing	Can be stored at any SOC without affecting cycle life
Communication Port	USB
Monitoring Data	Temperature, Total Cell Voltage, Current, Energy
Remote Control Input	Optional via Sirius remote connection
Safety	Shutdown on Over-Charge, Over-Discharge, Over-Current, Over-Temperature
Additional protection	SSR protection + DC circuit breaker
Terminal Type	2x Anderson connectors
Module Casing Material	Aluminum
Dimensions (w x d x h)	633mm x 510mm x 208mm
Weight	Approx. 68kg
Max Module Self-discharge ⁶	30% per month (module ON) 2% per month (module OFF)
Alarm	Audible alarm in the event of Over-voltage, Under-voltage, Over-Temperature, Over-Current
CE Certification ⁷	EN55032:2015, EN55024:2010, EN61000-4-2:2009, EN61000-4-3:2006+A1:2008+A2:2010
Precautions	
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 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 1000V
Charge / Discharge Current	Under no circumstances must the charge / discharge current exceed 125A

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Charging Voltage	Under no circumstances must the charging voltage exceed 55VDC for more than 60 seconds.
Charge Cycle	During charge cycle ensure never to exceed constant voltage of 54VDC and constant current of 125A
Series Connection	All modules must be at 100% SOC before connecting in series. Please note that for series connection, use the unprotected terminal
Maximum number of modules that can be connected in series ⁸	8 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
Sirius View – Monitoring Software	
Module	Monitoring of current, max. & min. voltage, temperature, SOC, total energy delivered over lifetime, graphs
System	Monitoring of all modules connected together
Salient Features	
<ul style="list-style-type: none"> • Low power consumption • High accuracy of SOC • Firmware updatable through USB and Sirius Application • Detection of circuit board errors • Built-in real time clock for accurate data logging every 10 sec and calculating self discharge • All cells, state of charge, instantaneous power can be read with built-in LCD • Toggle terminal on/off with built -in fault reset switch • Long life and controls current during charging • User can set status of SSR, power save mode on/off and change contrast of LCD of modules, • User can read internal memory of module, serial number and firmware version; • User can reset module through SiriusView 	

¹The temperature range indicates the range in which the supercap cells can operate. The performance of the cells may vary if they are continuously operated outside the 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. Please consult Kilowatt Labs or its Reseller prior to deploying the module in applications 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 this spec sheet.

²Projected Cycle life of supercap cells.

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

⁴Projected Calendar life of supercap cells from the date of first operation

⁵Shelf life is the life of the module (in years) from the date it is manufactured to the time it is first operated

⁶Self-discharge for the module is 2% per month in Sleep Mode (switched off).

⁷CE 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 Reseller.