KILOWATT⚡LABS

SIRIUS ENERGY STORAGE MODULE
TECHNICAL DATA SHEET
Part Number: 7100-48-B-2C-M-SD-G
Version Date 08-16-18

Nominal Voltage	48VDC
Voltage Range	44VDC – 54VDC
Capacity	7100Wh
Maximum Charge Rate (0% -100% SOC)	296A
Maximum Discharge Rate (100% - 0% SOC)	296A
Maximum Charging Voltage	54VDC
Recovery jack	(5A, 52VDC) max
Internal Resistance	≤2mΩ
Supercap cell DC to DC Roundtrip efficiency (@296A)	99.1%
Supercap cell Operating Temperature[1]	-30⁰C to 85⁰C
Galvanic Isolation	1500V
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	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 module/packed (w x d x h)	600mm x 490mm x 330mm/680mm x 620mm x 410mm
Weight module/packed	126kg/130kg
Supercap Cell Self-discharge[6]	2% per month
CE Certification[7]	EN55032:2015, EN55024:2010, EN61000-4-2:2009, EN61000-4-3:2006+A1:2008+A2:2010
Precautions	
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 296A
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 296A
Series Connection	All modules must be at 100% SOC before connecting in series
Maximum number of modules that can be connected in series[8]	Eight with Module Combiner

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	Please consult with Kilowatt Labs or its Reseller when connecting the modules in series. Under no circumstances should more than three 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	
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

[1]Cycle life may vary if the module is to be operated continuously outside a temperature range of -10^{0}C to 55^{0}C, and/or at C-rates higher than the maximum charge/discharge rate specified in this spec sheet. Please consult Kilowatt Labs or its Reseller prior to deploying the module in such applications.
[2]Projected Cycle life of supercap cells.
[3]Additional terms and conditions, including a limited warranty, will apply at the time of purchase.
[4]Projected Calendar life of supercap cells from the date of first operation
[5]Shelf life is the life of the module (in years) from the date it is manufactured to the time it is first operated

[6]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.

[7]CE certification is completed for supercap cells
[8]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.

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