

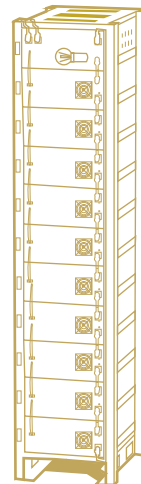


SYL BATTERY
SYSTEM
SOLUTIONS

SYL Battery System Solutions

System Composition: Cell, Module, Rack,
BSPU(Battery Switch Protection Unit)

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Zhejiang Province,
China



SYL BATTERY CELL

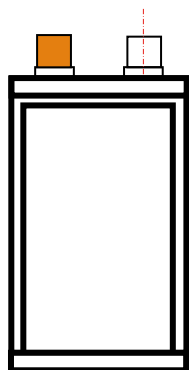


Cell



Item	Spec	Remark
Model	SC50-HEL	
Electrical		
Nominal Capacity	50AH	1C Discharge
Nominal Voltage	3.65V	/
Charge	Nominal Charge	Constant Current: 50A (1C) Constant Voltage: 4.2V End Condition (Cut off): 2.5A
	Max. Continuous Charge Power	182.5W (1CP)
Discharge	Nominal Discharge	Constant Current: 50A End Voltage (Cut off): 3.0V
	Max. Continuous Discharge Power	182.5W (1CP)
Operating Voltage Range	3.0~4.2V	
Operating Temperature	Charge: 0~45 C Discharge: -20 C~50 C	
Environmental		
Storage Temperature	≤1Months	-10~45 C
	≤3Months	-5~35 C
Storage Humidity	≤85% RH	Long-term Storage Temperature (>3Months) Recommend: 23±5 C
Mechanical		
Weight	950±50g	
Dimension (W*H*D)	278.5*172*11mm	

Mechanical



Front View



Side View

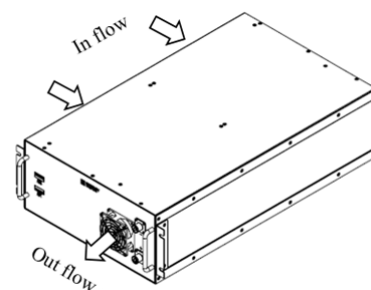
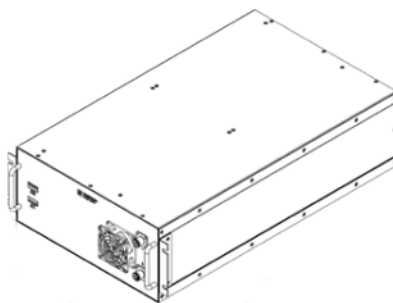
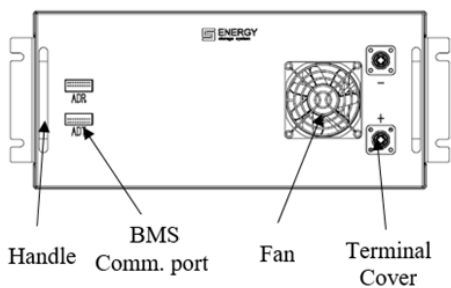
SYL BATTERY MODULE +

Module



Item	Spec	Remark
Model	SBH8.8K1	
Electrical		
Cell	SC50-HEL	
Configuration	24S2P	
Nominal Capacity	100Ah	Under Standard Conditions
Nominal Energy	8.76kWh	Under Standard Conditions
Voltage Range	79.2-98.4 Vdc (Nominal Voltage 87.6Vdc)	
Standard Charge Condition	CC-CV, Charge Power: 8.76kW (1C) End Voltage: 98.4V	
Standard Discharge Condition	CC-CV, Discharge Power: 8.76kW (1C) End Voltage: 79.2V	
Max Charge Power	8.76kW (1C)	
Max Discharge Power	8.76kW (1C)	
Environmental		
Storage Temperature	-5~35°C, Recommendation temperature range is 23 ± 5°C	
Mechanical		
Dimension (W*D*H)	410*683*186mm	
Weight	70kg	

Mechanical +



SYL BATTERY RACK

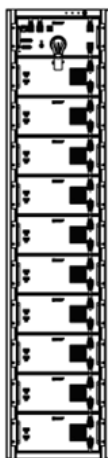


Rack

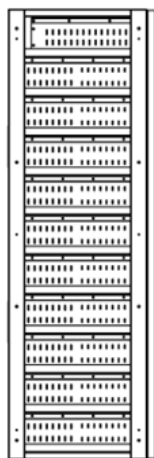


Item		Spec	Remark
Nominal Energy		87.6kWh	Under Standard Conditions
Voltage Range		792 ~ 984Vdc (Nominal 876Vdc)	
Standard Charge Condition		Charge: 87.6kW (1C), End Voltage: 984Vdc	
Standard Discharge Condition		Discharge: 87.6kW (1C), End Voltage: 792Vdc	
Nameplate Power	Charging	43.8kW	
	Discharging	43.8kW	
Maximum Power	Charging	87.6kW	
	Discharging	87.6kW	
Number of Battery Modules per Rack		10ea (Series)	
Power Consumption		123W / (1SBMS + 1Rack) (120W / Rack itself + SBMS 3W) (Including Module Cooling Fan Power Consumption)	
Allowable Operation Temperature Range (Recommended)		0~45°C (23 ± 5°C)	
Humidity		5~85% RH, Non-Condensing	
Type of Installation		Indoor	
Scope of Supply		<ul style="list-style-type: none"> ■ Module ■ Rack ■ SBMS ■ BSPU ■ DC Power Cables in a Rack ■ Communication cable between battery racks 	
Communication Protocol of SBMS		TCP/IP	
Cable I/O		Inside BSPU	DC power & com. cables
Dimension (W*D*H)		510*730*2185mm	

Mechanical



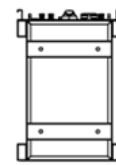
Front View



Side View



Rear View



Bottom View

SYL BATTERY RACK

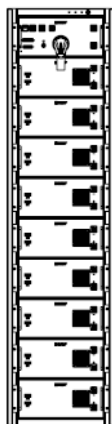


Rack

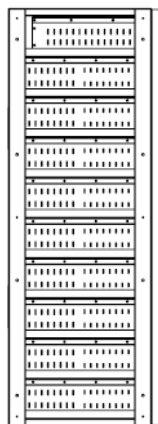


Item	Spec	Remark
Nominal Energy	78.84kWh	Under Standard Conditions
Voltage Range	712.8 ~ 885.6Vdc (Nominal 788.4Vdc)	
Standard Charge Condition	Charge: 78.84kW (1C), End Voltage: 885.6Vdc	
Standard Discharge Condition	Discharge: 78.84kW (1C), End Voltage: 712.8Vdc	
Nameplate Power	Charging	39.42kW
	Discharging	39.42kW
Maximum Power	Charging	78.84kW
	Discharging	78.84kW
Number of Battery Modules per Rack	9ea (Series)	
Power Consumption	111W / (1SBMS + 1Rack) (108W / Rack itself + SBMS 3W) (Including Module Cooling Fan Power Consumption)	
Allowable Operation Temperature Range (Recommended)	0~45°C (23 ± 5°C)	
Humidity	5~85% RH, Non-Condensing	
Type of Installation	Indoor	
Scope of Supply	<ul style="list-style-type: none"> ■ Module ■ Rack ■ SBMS ■ BSPU ■ DC Power Cables in a Rack ■ Communication cable between battery racks 	
Communication Protocol of SBMS	TCP/IP	
Cable I/O	Inside BSPU	DC power & com. cables
Dimension (W*D*H)	510*730*1993mm	

Mechanical



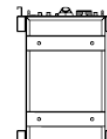
Front View



Side View



Rear View

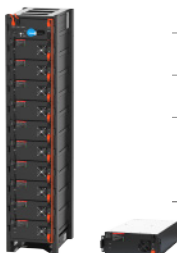


Bottom View

SYL BATTERY RACK

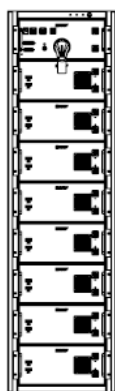


Rack

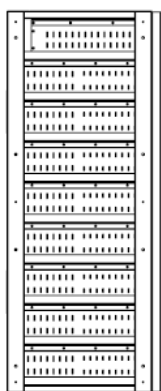


Item	Spec	Remark
Nominal Energy	70.08kWh	Under Standard Conditions
Voltage Range	633.6 ~ 787.2Vdc (Nominal 700.8Vdc)	
Standard Charge Condition	Charge: 70.08kW (1C), End Voltage: 787.2Vdc	
Standard Discharge Condition	Discharge: 70.08kW (1C), End Voltage: 633.6Vdc	
Nameplate Power	Charging	35.04kW
	Discharging	35.04kW
Maximum Power	Charging	70.08kW
	Discharging	70.08kW
Number of Battery Modules per Rack	8ea (Series)	
Power Consumption	99W / (1SBMS + 1Rack) (96W / Rack itself + SBMS 3W) (Including Module Cooling Fan Power Consumption)	
Allowable Operation Temperature Range (Recommended)	0~45°C (23 ± 5°C)	
Humidity	5~85% RH, Non-Condensing	
Type of Installation	Indoor	
Scope of Supply	<ul style="list-style-type: none"> ■ Module ■ Rack ■ SBMS ■ BSPU ■ DC Power Cables in a Rack ■ Communication cable between battery racks 	
Communication Protocol of SBMS	TCP/IP	
Cable I/O	Inside BSPU	DC power & com. cables
Dimension (W*D*H)	510*730*1801mm	

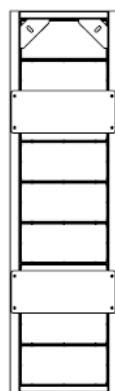
Mechanical



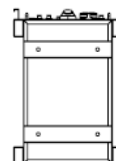
Front View



Side View



Rear View



Bottom View

SYL BATTERY BSPU (Battery Switch Protection Unit) +

BSPU



Electrical

Voltage	Max. 1,000Vdc
Current (Rated)	100A
Aux Power	220Vac

Mechanical

Dimension (W*D*H)	408*570*186mm
Weight	23kg

Environmental

Storage Temperature	-25~70°C
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SYL BATTERY BMS (Battery Management System) +

Interface

DC Power Supply	<ul style="list-style-type: none"> - Power Supply for Rack BMS (24Vdc Power line per Rack at BPU) - Power Supply for SBMS (24Vdc Power line at SBMS box)
Communication Line	<ul style="list-style-type: none"> (1) Master Controller(EMS) ↔ SBMS (External) - TCP/IP (2) SBMS ↔ Rack BMS ↔ Module BMS (Internal) - CAN 2.0

Safety and Protection

System Warning/Fault	<ul style="list-style-type: none"> Over/Under Cell Voltage, Cell Voltage difference, Over/Under Temperature, Temperature difference, Charge/Discharge Current, SOC, Loss of Communications
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Control

Communications For External Control	TCP/IP
Set Points	Charge/Discharge Current Limit(A)
Firmware Update Capability	Ability to Update RBMS and the SBMS
**One SBMS can control up to 14 RBMSs	

Status Information

Monitoring Operational Status	<ul style="list-style-type: none"> SOC, Charge/Discharge Current Limit, Rack Current, Rack Voltage, System Current, Cell Min/Max/Ave voltage, Module Min/Max/Ave Temperature
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