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Singfo Solar Energy Ltd

东莞市星火太阳能科技股份有限公司

Energy Storage Project Specification
储能项目规格书



SF-241FHYB2



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Specification For Approval

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1、Scope of application documents/文件适用范围

This product specification only applies to the protection parameters of rechargeable lithium-ion battery products and batteries designed by Dong guan Singfo Solar Energy Ltd

本产品规格书仅适用由东莞市星火太阳能科技股份有限公司设计的可充电锂离子电池产品和电池组的保护参数。

2、The Specification Amendment/ 规格书修订

If the raw materials, production processing, production system or battery usage environments & other conditions need to be changed, the amendment side needs provide the written advice to the other side, only the both sides come to agreement, the amendment will be effective.

如因原材料、生产制程、生产系统或电池使用环境或其他条件发生改变，修订方需将改变的信息以书面形式通知对方取得供需双方同意后再行修订。

3、Product or Cell testing conditions/ 设备产品或电芯的测试条件

It is recommended to use newly produced battery packs and new cells for related tests. Unless specified, testing and measurement shall be done under temperature of $20 \pm 5^{\circ}\text{C}$ and relative humidity of 45~75%.

建议采用新生产的电池组和新的电芯作相关的测试。除非有特别要求，否则测试需要在温度 $20 \pm 5^{\circ}\text{C}$ ，相对湿度45~75%的条件下进行。

4、Standard / 标准

4.1 Reference Standard/参考标准

参考 GB 31241-2014 便携式电子产品用锂离子电池和电池组安全要求

参考 UL1642 安全标准-(锂电池)

参考 GB/T 31486-2015 电动汽车用动力蓄电池电性能要求及试验方法

参考 GB/T 31485-2015 电动汽车用动力蓄电池安全要求及试验方法

参考 GB/T 31484-2015 电动汽车用动力蓄电池循环寿命要求及试验方法

参考 VDE-AR-N 4110 储能电源系统德国并网标准要求

4.2 Measuring Instrument and Apparatus/ 测量器具及设备

4.2.1 Dimension Measuring Instrument/ 尺寸测量器具

The dimension measurement shall be implemented by instruments with equal or more precision scale of 0.02mm.

尺寸测量器具的精度等级应不小于0.02 mm。

4.2.2 Voltmeter (伏特计)

Standard class specified in the national standard or more sensitive class having inner impedance more than $10\text{k}\Omega/\text{V}$ 按照国家标准指定规格等级或采用灵敏度更高的，测量电压时内阻不应小于 $10\text{k}\Omega/\text{V}$ 。

4.2.3 Ammeter (安培计)

Standard class specified in the national standard or more sensitive class. Total external resistance including ammeter and wire is less than 0.01Ω .

按照国家标准指定规格等级或采用灵敏度更高的，包括电流表及电线在内的总外阻应小于 0.01Ω 。

4.2.4 Impedance Meter (电阻计)

Impedance shall be measured by a sinusoidal alternating current method (1kHz LCR meter). 内阻测试仪测量原理应为交流阻抗法 (1kHz LCR)。

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4.3 Testing Conditions (Unless Specially Requirements) 测试条件 (除非特别规定)

Atmosphere Pressure : 86~106kPa 大气压力: 86~106kPa

Temperature: 20°C±5°C 环境温度: 20°C±5°C

Relative Humidity: ≤75% 环境湿度: ≤75%

5、Model Description 型号说明

Our company's product model definition rules are as follows:

我司产品型号定义规则如下:

Number 序号	Code Name 代码名称	Code Description 代码说明	
1	Enterprise code 企业代号	SF 星火太阳能缩写 SINGFO SOLAR	
2	Product code 产品代号	eBank: energy Bank 能量银行	
3	Energy code 能量代号	“xxx” represents the rated energy of xxxkWh “xxx” 表示额定能量 xxxkWh	
4	Cooling method code 冷却方式代号	F: Indicating air cooling 表示风冷 L: Indicating liquid cooling 表示液冷	
5	Inverter configuration code 逆变器配置代号	Empty: grid connected S: grid connected with PV PGF: Grid connected and off grid PGFS: Grid connected and off grid with PV HYB: Grid connected and off grid with PV with Gen	空: 并网 S: 并网带光伏 PGF: 并离网 PGFS: 并离网带光伏 HYB: 并离网带光伏带柴 发
6	Code for backup power duration 备电时长代号	“2” indicates that the energy storage backup time is 2 hours “2” 表示储能备电时长为 2h	

6、Main specifications 主要技术参数

6.1 System Parameter 系统参数

No	Item (项目)	General Parameter	Remark (备注)
1	system energy 系统能量	241.152KWh	314Ah-1P240S
2	MPPT power MPPT 功率	120KW	
3	PCS power PCS 功率	100KW	
4	STS power STS 功率	200KW	
5	ATS	have 有	
6	Transformer 变压器	not have 无	
7	Communication access method 交流接入方式	3P4W	
8	rated output voltage 额定输出电压	380/400V	
9	Rated output power 额定输出功率	100KW	
10	Cooling method 冷却方式	air-cooled air conditioning 空调风冷	
11	Placement environment 放置环境	Outdoor 室外	Suggest a cool and ventilated place 建议阴凉通风处
12	Fire Protection System 消防系统	Have 有	Pack level and cabinet level pack 级及柜级
13	Size 尺寸	W1950*D1350*H2050mm	
14	Weight 重量	2.8T	
15	protection grade 防护等级	IP54	
16	Operating temperature (°C) 工作温度 (°C)	charge:0~55°C/discharge: -20~50°C 充电: 0~55°C/放电: -20~ 50°C	
17	Relative humidity 相对湿度	0 ~95% (non-condensing) 0 ~95% (非冷凝)	
18	Operating altitude 工作高度	3000m	

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6.2 Cell Battery specifications (电芯技术参数)

No	Item (项目)	General Parameter 常规参数	Remark (备注)
1	Rated Capacity 额定容量	314Ah	Standard discharge after Standard charge, we recommend 0.2C charge and 0.5C discharge 标准充电后标准放电, 推荐 0.2C 充 0.5C 放。
2	Nominal Voltage 平台电压	3.2V	Mean Operation Voltage 平台电压
3	Internal Impedance 内阻	$\leq 0.18m\Omega$	Under $20 \pm 5^\circ\text{C}$ Environment Temperature , the Usage Frequency of Fully Charge(1KHz) , Use AC Internal Impedance test machine to test $20 \pm 5^\circ\text{C}$ 环境温度下, 完全充电后使用频率为 (1kHz) 的交流内阻测试仪测量。
4	Standard charge 标准充电	157A	Constant Current 0.5C ₅ A, Constant Voltage 3.6V, 0.02C ₅ A cut-off 恒流 0.5C ₅ A, 恒压 3.6V, 截止 0.02C ₅ A
5	Rapid Charge 快速充电	157A	Constant Current 1C ₅ A, Constant Voltage 3.6V, 0.02C ₅ A cut-off 恒流 1C ₅ A, 恒压 3.6V, 0.02C ₅ A 截止
6	Standard Charge Cut-off Voltage 标准充电截止电压	3.65V	Voltage of the battery when the Charge is stopped 按电芯充电达到满电时停止的电压值
7	Standard Discharge Cut-off Voltage 标准放电截止电压	2.5V	Voltage of the battery when the discharge is stopped 按电芯平台放电达到放电截止的电压值
8	Standard discharge 标准放电	157A	Constant current 0.5C end voltage 2.5 V 恒流 0.5C 端电压 2.5V
9	Maximum discharge current 最大放电持续电流	157A	Constant current: 1C ₅ A end voltage: 2.5 V 恒流: 1C ₅ A 端电压: 2.5V
10	Dimension 尺寸	Thickness/厚度: $71.7 \pm 0.5\text{mm}$	
		Width/宽度: $173.7 \pm 0.5\text{mm}$	
		Height/高度: $207.2 \pm 0.6\text{mm}$	
11	Weight 重量	5.6 \pm 0.3kg	
12	Operating Temperature Range 工作温度范围	Temperature: $-30 \sim 55^\circ\text{C}$, Humidity: $\leq 60 \pm 25\%RH$	
13	Storage Temperature Range 储存温度范围	$-30^\circ\text{C} \sim 60^\circ\text{C}$	

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6.3 Technical parameters of battery cluster (电池簇技术参数)

No	Item (项目)	General Parameter 常规参数	Remark (备注)
1	Combination method 组合方式	240S1P	
2	Rated Capacity 额定容量	314Ah	Standard discharge after Standard charge (package) 标准充电后标准放电得到的容量
3	Factory Voltage 出货电压	768V-792V	
4	Recommended Voltage at end of Discharge 推荐放电终止电压	≤648V	Discharge Cut-off Voltage 放电截止电压
5	Recommended charging voltage 推荐充电电压	840V	V=串数*3.5V
6	Internal Impedance 内阻	≤130m Ω	Under 20±5°C Environment Temperature , the Usage Frequency of Fully Charge(1KHz) , Use AC Internal Impedance test machine to test 20±5°C 环境温度下, 完全充电后使用频率为(1kHz)的交流内阻测试仪测量。
7	Max Charging Current(Icm) 允许最大持续充电电流	140A	Ampere-meter , Maximum allowable charging current of the battery pack 电流表测量, 电池组最大充电电流
8	Limited Charging Voltage(Uc1) 充电限制电压	876V	Volta-meter (Serial*3.53V) , Battery pack safe charging voltage 电压表测量(串数*3.65V(电芯的最大安全充电电压)), 电池组安全充电电压
9	Max Discharging current 最大持续放电电流	200A	Maximum discharge current allowed by the battery pack 允许用最大放电电流进行放电。
10	Discharge Cut-off voltage(Udo) 放电截止电压	600V	Voltage of the battery when the discharge is stopped 为电池组中止放电的负载电压(按电芯平台放电达到放电截止的电压值)
11	Operation Temperature Range 工作温度范围	Charge:0~55°C/Discharge: -20~55°C	
12	Storage Temperature Range 储存温度范围	-20°C~50°C	
13	Single pack Size/weight 单个电池包尺寸/重量	W519*D940*H230 150kg Quantity: 12pcs	
14	Recommended operating temperature 推荐工作温度	21±3° C, average21°C	
15	IP code IP 等级	IP20	

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6.4 MPPT parameters MPPT 参数

	Model	MPPT 120KW
DC low voltage side 直流低压侧	Rated power 额定功率	120kW
	Rated current 额定电流	360A
	Rated voltage 额定电压	350V
	Maximum voltage 最大电压	1000V
	Voltage range 电压范围	150~1000V
	Minimum voltage at full power 满功率最小电压	340V
	Voltage requirements for low voltage side in step-down mode 降压模式低压侧电压要求	150V ≤ low voltage terminal voltage ≤ high voltage terminal voltage, up to 1000V 150V ≤ 低压端电压 ≤ 高压端电压, 最高 1000V
	Low voltage side starting voltage 低压侧启动电压	150V
DC high voltage side 直流高压侧	Rated power 额定功率	120kW
	Rated current 额定电流	200A
	Rated voltage 额定电压	600V
	Maximum voltage 最大电压	1000V
	Voltage range 电压范围	350~1000V
	Full power voltage range 满功率电压范围	600~950V
	Voltage requirements for high voltage side in boost mode 升压模式高压侧电压要求	1000V ≥ high voltage terminal voltage ≥ low voltage terminal voltage, minimum 350V 1000V ≥ 高压端电压 ≥ 低压端电压, 最低 350V
	High voltage side starting voltage 高压侧启动电压	350V
system parameter 系统参数	Protection and functionality 保护及功能	Reverse connection protection, fuse protection, overcurrent protection, overvoltage/undervoltage protection, overheating protection, low voltage side short circuit protection, insulation impedance detection 反接保护、熔断器保护、过流保护、过/欠压保护、过热保护、低压侧短路保护、绝缘阻抗检测
	Overvoltage level	Type II

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过电压等级	
Basic working mode 基本工作模式	Bidirectional constant power, bidirectional constant current, bidirectional constant voltage 双向恒功率、双向恒流、双向恒压
Circuit operation mode 电路运行模式	8路并联运行、8路90°交错并联
Bidirectional bypass working mode 双向旁路工作模式	8-channel parallel operation, 8-channel 90 ° staggered parallel Satisfy bidirectional direct energy flow between low and high 满足低压和高压之间双向直通能量流动(消除高低电压差)
Switching time between forward and reverse directions 正反向切换时间	Full load switching time 30ms 满载切换时间 30ms
topological structure 拓扑结构	Non isolated 非隔离
IP protection level IP 防护等级	IP20
Working temperature range 工作温度范围	-30~+60 °C (>45 °C derating operation) -30~+60°C (>45°C降额运行)
relative humidity 相对湿度	< 95%无凝露
Maximum working altitude 最大工作海拔	4000m (>3000m derating operation) 4000m (> 3000m 降额运行)
Maximum efficiency 最大效率	> 99%
Cooling method 冷却方式	Intelligent forced air cooling 智能强制风冷
Communication method 通讯方式	RS485/CAN/Ethernet
Display 显示	LED
Maximum parallel operation quantity 最大并联运行数量	8
weight 重量	25kg *2pcs
Dimensions 尺寸	W444mm * H130mm * D550mm *2pcs (excluding terminals 不含端子)

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6.5 PCS parameters PCS 参数

	Model	PCS 100KW
DC side parameters 直流侧参数	Maximum DC voltage 最大直流电压	1000V
	Minimum DC voltage 最小直流电压	580V
	DC voltage operating range 直流电压工作范围	580V~1000V
	Maximum current on the DC side 直流侧最大电流	173A
Communication side parameters (grid connected) 交流侧参数 (并网)	Rated charging and discharging power 额定充放电功率	100kW
	Maximum charging and discharging power 最大充放电功率	120kW
	Rated charging and discharging current 额定充放电电流	145A
	Maximum charging and discharging current 最大充放电电流	174A
	Rated grid voltage 额定电网电压	400V
	Allow the voltage range of the power grid 允许电网电压范围	300~460V
	Rated grid frequency 额定电网频率	50Hz/60Hz
	Total harmonic distortion rate of current 电流总谐波畸变率	<3% (at rated power) <3%(额定功率下)
	power factor 功率因数	>0.99
	Power factor range 功率因数范围	-1~1
Overload capacity 过载能力	1.2Pn, lasting for 1 minute 1.2Pn,持续 1 分钟	
Communication side parameters (off grid) 交流侧参数 (离网)	Rated output voltage 额定输出电压	400V
	Voltage deviation 电压偏差	±2%
	Voltage total harmonic distortion rate 电压总谐波畸变率	<3% (linear load) <3%(线性负载)
system parameter 系统参数	Maximum efficiency 最大效率	98.9%
	Protection and functionality 保护及功能	DC reverse protection, AC short circuit protection, AC output overcurrent protection,

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		insulation impedance monitoring, temperature protection 直流反接保护、交流短路保护、交流输出过电流保护、绝缘阻抗监测、温度保护
Surge protection 浪涌保护		level 2 二级
Dimensions 尺寸		H220*W444**D720mm (Excluding terminals 不含端子)
Weight 重量		≤58kg
Topology 拓扑		Transformerless 无变压器
Working environment temperature 工作环境温度		-40~+60°C
Protection level 防护等级		IP20
work environment 工作环境		Sinusoidal steady-state vibration: $2\text{Hz} \leq f < 9\text{Hz}$, displacement 1.5mm; $9\text{Hz} \leq f < 200\text{Hz}$, acceleration 5m/s^2 . 正弦稳态振动: $2\text{Hz} \leq f < 9\text{Hz}$, 位移 1.5mm; $9\text{Hz} \leq f < 200\text{Hz}$, 加速度 5m/s^2 . GB/T 4798.3-2007 3M2
Cooling method 冷却方式		Intelligent air cooling 智能风冷
Maximum working altitude 最高工作海拔		4000m (over 3000m, reduced operation) 4000m (超 3000m, 降额运行)
standby power 待机功耗		<12W
Display 显示		LED
Communication method 通讯方式		Ethernet、RS485、CAN

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6.6 STS parameters STS 参数

	Model	STS 200KW
Electrical specifications 电气规格	Rated grid side power 额定电网侧功率	200kW
	Rated grid side current 额定电网侧电流	304A
	PCS side power PCS 侧功率	100kW
	Load power 负载功率	100kW
	Rated grid voltage 额定电网电压	380V/400V
	Voltage range of power grid 电网电压范围	±15%
	Rated grid frequency 额定电网频率	50Hz/60Hz
	Grid frequency range 电网频率范围	±5Hz
	Long term overload capacity 长期过载能力	110% (ambient temperature below 40 °C) 110% (环境温度低于 40°C)
	Time of grid connection to off grid 并网转离网时间	<10ms
	Wiring method 接线方式	Three phase five wire 三相五线
	Maximum efficiency 最高效率	99.5%
system parameter 系统参数	topological structure 拓扑结构	Non isolated 非隔离
	Protection level 防护等级	IP20
	Working temperature range 工作温度范围	-40-60 °C (>45 °C derating operation) -40~60°C (>45°C降额运行)
	Storage temperature range 存储温度范围	-40~70°C
	relative humidity 相对湿度	0~95%, no condensation 0~95%, 无凝露
	Maximum working altitude 最大工作海拔	4000m (>3000m derating operation) 4000m (>3000m 降额运行)
	Cooling method 冷却方式	Intelligent air cooling 智能风冷
	Noise (typical value) 噪音 (典型值)	<70dB
	human-computer interaction 人机交互	LED
	Communication method 通讯方式	RS485/CAN/EtherNet/DIO
Weight	27kg	

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	重量	
	Size 尺寸	440mm*175mm*550mm
	Installation method 安装方式	Modular rack installation 模块式机架安装

6.7 Specification for Single Cluster Battery Management System 单簇电池管理系统规范

6.7.1 BMS function introduction, BMS功能介绍

- 1) :BMS is designed for high-voltage energy storage series lithium batteries
BMS 是为高压储能系列锂电池设计的
- 2) : The BMS have all functions which are :
该 BMS 系统具有以下一些功能
 - .1 overcharge detection function
过充电保护功能
 - .2 over discharge detection function
过放电保护功能
 - .3 over current detection function
过电流保护功能
 - .4 short detection function
短路保护功能
 - .5 Temperature detection function
温度保护功能
 - .6 balance function
均衡功能
 - .7 communicate function
通讯功能
 - .8 Alarm function
告警功能
 - .9 Total capacity function
总容量功能
 - .10 Storage history function
存储历史记录功能

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6.7.2 BMS Protect parameter 电池管理系统保护参数

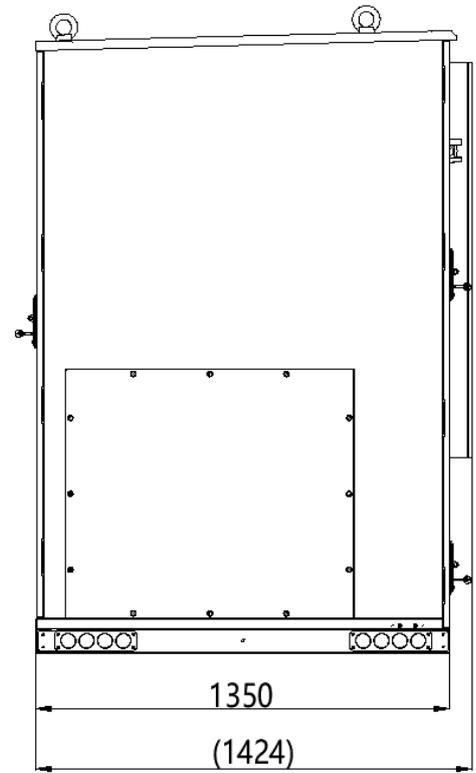
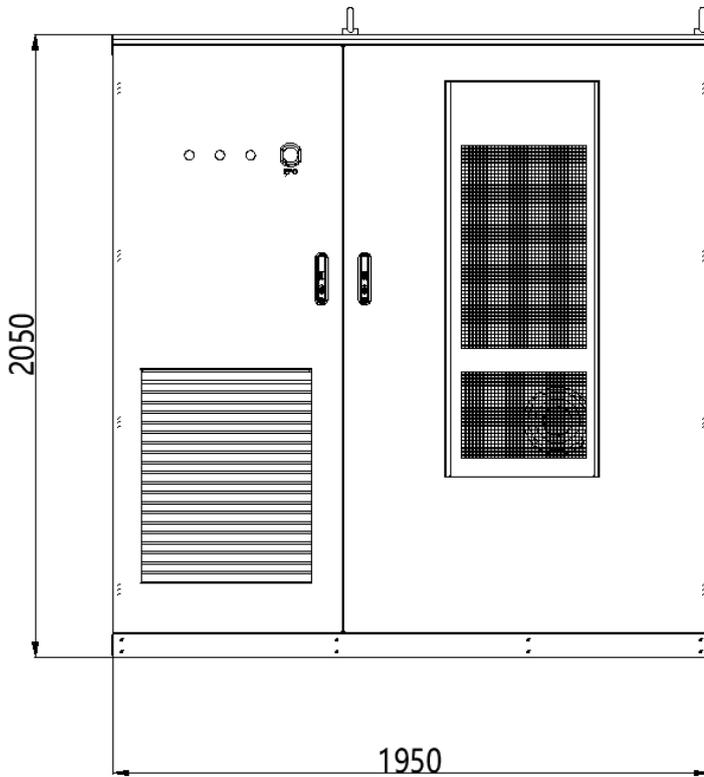
Items 项目	Details 标准	General Parameter 常规参数
Cell overcharge Protection 电池过度充电保护	Overcharge detection voltage 过充电检测电压	$3.65 \pm 0.025V$
	Overcharge detection delay time 过充电检测延迟时间	Typical:1.0s
	Overcharge release voltage 过充电释放电压	$3.4 \pm 0.05V$
Cell over-discharge protection 电池过放电保护	Over-discharge detection voltage 过放电检测电压	$2.7 \pm 0.5V$
	Over-discharge detection delay time 过放电检测延迟时间	Typical:1.0s
	Over-discharge release voltage 过放电释放电压	$3.1 \pm 0.1V$ or charge release
Over-current Protection 过电流保护	discharge Over-current protection current1 放电过电流保护电流 1	162A
	discharge Over-current detection delay time 1 放电过电流检测延迟时间 1	1S
	discharge Over-current protection current 2 放电过电流保护电流 2	167A
	discharge Over-current detection delay time 2 放电过电流检测延迟时间 2	$\leq 200m \pm 50ms$
	Charge Over-current protection current 充电过电流保护电流	162A
	Protection condition 保护条件	Load short 负载短路
	Detection delay time 检测延迟时间	$\leq 30ms$
	Protection release condition 保护释放条件	Charging release 充电释放
Temperature (T) protection 温度 (T) 保护	Charge high T protection 充电高 T 保护	$55 \pm 3^{\circ}C$
	Charge high T recover 充电高 T 恢复	$47 \pm 4^{\circ}C$
	Discharge high T protection 放电高 T 保护	$60 \pm 3^{\circ}C$
	Discharge high T recover 放电高 T 恢复	$50 \pm 4^{\circ}C$

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	Charge low T protection 充电低 T 保护	$0 \pm 3^{\circ}\text{C}$
	Charge low T recover 充电低 T 恢复	$5 \pm 4^{\circ}\text{C}$
	Discharge low T protection 放电低 T 保护	$-20 \pm 3^{\circ}\text{C}$
	Discharge low T recover 放电低 T 恢复	$-10 \pm 4^{\circ}\text{C}$
Balance 平衡	Balance threshold voltage 平衡阈值电压	3.4V
Communication 通信	<p>It has CAN and RS485 ,RS232 standard communication interface, it real-time monitoring the capacity of battery bank, the voltage, current, environment temperature, and charging/discharging current,</p> <p>RS485,RS232,Baud rate:9600Kb/S,CAN common Baud rate:500K/S,</p> <p>它具有 CAN 和 RS485、RS232 标准通信接口，实时监测电池组的容量、电压、电流、环境温度和充放电电流，</p> <p>RS485、RS232，波特率：9600Kb/S，CAN 普通波特率：500K/S，</p>	
Alarm 警报	<p>It has over-temperature, over charge, under-voltage, over-current, short circuit alarm Function.</p> <p>具有超温、过充、欠压、过流、短路报警功能。</p>	

7、Appearance and structural dimensions 外观结构尺寸

The surface of the battery pack should have no obvious scratches, burrs and mechanical scratches, and the exposed metal terminals should be free of oxidation and rust. 电池组的表面应无明显的划痕毛刺和机械划伤，外露的金属端子应无氧化生锈。



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8、Storage and Others 贮存及其它事项

Long Time Storage 长期贮存

If stored for a long time (don't used, exceed three months), the cell and pack should be stored in drying and cooling place. The PACK is to be stored in a condition that the temperature of $23\pm 2^{\circ}\text{C}$ and the humidity of 45%– 75%. Long-term use of unused batteries to recharge every 3 months. Ensure that the battery voltage is within the above range.

长期贮存的电池（未使用, 超过 3 个月）须置于干燥、凉爽处。PACK 应储存在温度 $23\pm 2^{\circ}\text{C}$ ，湿度 45%– 75% 的条件下。长期搁置未使用电池每 3 个月补电一次，确保电池电压在上述范围内。

Appendix (附录)

Li-ion battery operation instructions and precautions 锂离子电池操作指引及注意事项

Preface 前言

This document of 'Handling Precautions and Guideline Li-ion Rechargeable Batteries' shall be applied to the battery cells manufactured by Singfo Solar Energy Ltd.

本檔“锂离子充电电池操作指示及注意事项”仅适用于东莞市星火太阳能科技股份有限公司生产电池。**Note (1) : 声明一**

The customer is requested to contact Singfo Solar Energy Ltd. in advance, if and when the customer needs other applications or operating conditions than those described in this document. Additional experimentation may be required to verify performance and safety under such conditions.

客户若需要将电池用于超出本规格书规定以外的设备，或在本规格书规定以外的使用条件下使用电池，应事先联系东莞市星火太阳能科技股份有限公司，因为需要进行特定的实验测试以核实电池在该使用条件下的性能及安全性。

Note (2) : 声明二

Singfo Solar Energy Ltd. will take no responsibility for any accident when the cell is used under other conditions than those described in this Document.

对于在超出本规格书规定以外的条件下使用电池而造成的任何意外事故，东莞市星火太阳能科技股份有限公司概不负责。

Note (3) : 声明三

Singfo Solar Energy Ltd. will inform, in a written form, the customer of improvement (s) regarding proper use and handling of the cell, if it is deemed necessary.

如有必要，东莞市星火太阳能科技股份有限公司会以书面形式告知客户有关正确操作使用电池的改进措施。

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Caution!注意!

Do not use or store the battery where is exposed to extremely hot, such as under window of a car in direct sunlight in a hot day. Otherwise, the battery may be overheated. This can also reduce battery performance and/or shorten service life, Cause personal injury .

不要使用处于极热环境中的电池，如阳光直射或热天的车内。否则，电池会过热，可能着火（点燃），这样就会影响电池的性能、缩短电池的使用寿命，产生人身伤害

If the electrolyte enters the eyes after the battery leaks, do not wipe it, rinse with clean water, and seek medical help immediately. 如果电池漏液后电解液进入眼睛，不要擦，应用清水冲洗，并立即寻求医疗救助。

Danger!

- Do not immerse the battery in water or allow it to get wet.
- 勿将电池投入水中或将其弄湿!
- Do not use or store the battery near sources of heat such as a fire or heater.
- 禁止在火源或极热条件下给电池充电! 勿在热源（如火或加热器）附近使用或贮存电池! 如果电池泄漏或发出异味，应立即将其从接近明火处移开;
- Do not use any chargers other than those recommended by TGPRO.
- 请使用专用充电器!
- Do not reverse the positive(+) and negative(-) terminals.
- 勿将正负极接反!
- Do not connect the battery directly to wall outlets or car cigarette-lighter sockets.
- 勿将电池直接连接到墙上插座或车载点烟式插座上!
- Do not put the battery into a fire or apply direct heat to it.
- 勿将电池投入火中或给电池加热!
- Do not short-circuit the battery by connecting wires or other metal objects to the positive(+) and negative(-) terminals.
- 禁止用导线或其它金属物体将电池正负极短路，禁止将电池与项链、发夹或其它金属物体一起运输或贮存!
- Do not pierce the battery casing with a nail or other sharp object, break it open with a hammer, or step on it.
- 禁止用钉子或其它尖锐物体刺穿电池壳体，禁止锤击或脚踏电池!
- Do not strike, throw or subject the battery to sever physical shock.
- 禁止撞击、投掷或者使电池受到机械震动
- Do not directly solder the battery terminals.
- 禁止直接焊接电池端子!
- Do not attempt to disassemble or modify the battery in any way.
- 禁止以任何方式分解电池!
- Do not place the battery in a microwave oven or pressurized container.
- 禁止将电池置入微波炉或压力容器中!
- Do not use the battery in combination with primary batteries(such as dry-cell batteries) or batteries of different capacity, type or brand.
- 禁止与一次电池（如干电池）或不同容量、型号、品种电池组合使用!
- Do not use the battery if it gives off an odor, generates heat, becomes discolored or deformed, or appears abnormal in any way. If the battery is in use or being recharged, remove it from the device or charger immediately and discontinue use.
- 如果电池发出异味、发热、变形、变色或出现其它任何异常现象时不得使用; 如果电池正在使用或充电，应立即从用电器中或充电器上取出并停止使用!

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9、其他/Others

(1) 任何一方均不得将本技术协议的内容向第三方泄漏，否则守约方有权追究违约方的违约责任。

Neither party shall disclose the contents of this technical Agreement to any third party, otherwise the non-breaching party shall have the right to hold the breaching party liable for breach of contract.

(2) 因履行本协议所发生的争议，双方应协商解决，协商不成的，应向协议签订地有管辖权的人民法院提起诉讼。

Any dispute arising from the performance of this Agreement shall be settled by both parties through negotiation. If no agreement can be reached through negotiation, the parties shall file a lawsuit with the people's court with jurisdiction at the place where this Agreement is signed.

(3) 本协议及附件未尽事宜，双方另行协商。

Matters not covered in this Agreement and the Annex shall be negotiated by both parties separately.

(4) 本协议(包含附件)一式两份，甲乙双方各执一份，自双方签字盖章后生效。

This Agreement (including the attachments) is made in duplicate, with each party holding one copy. The Agreement shall come into force after being signed and sealed by both parties.

甲方 (Supplier) :

乙方 (Customer) :

签字 (Sign) :

签字 (Sign) :

日期 (Date) :

日期 (Date) :