



## Power Lite (L051100-A1) Product Specification

Ver 1.2



**Revision History:**

Date	Revision	Description	Owner
2021-12-10	V1.0	Initial Release	TangXX
2022-02-16	V1.1	SOC Transportation Range update to 50%	TangXX
2023-06-9	V1.2	1. CAN Communication 1H5L update to 1H4H5L; 2. Updated Cycle Life; 3. Updated Max. Parallel Quantity	TangXX



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## 1. Scope

This document is a specification, as an input file for the design and development of the PACK, and as a standard for acceptance of battery system products.

## 2. Terminology and Basis for Writing

### 2.1 Definition of Terms

Battery Cell	The smallest energy storage unit, a basic electrochemical energy storage device, consisting of a positive electrode, a negative electrode, an electrolyte, a separator, and a casing, also called a cell.
Battery Module	Intermediate energy storage unit, a combination of several single-unit and circuit devices (monitoring and protection circuits, electrical and communication interfaces), also called modules, placed in a mechanical electrical unit.
Battery Pack	A power supply system consisting of a number of battery modules, circuit equipment (protection circuits, cell management systems, electrical and communication interfaces), and thermal management devices for powering electrical devices.
Nominal Voltage	Indicates or identifies an appropriate voltage approximation for the cell.
Capacity	The amount of electricity that can be supplied by a fully charged battery under specified conditions. Usually expressed in Ah.
Energy Capacity	The energy that can be supplied by a fully charged cell under specified conditions. Usually expressed in Wh or kWh.
Nominal Capacity	At the beginning of life (BOL), the minimum capacity that can be provided by a fully charged cell at a rate of 1 C (C-rate).
Unit	"V" (Volt) Volt (V), voltage unit "A" (Ampere) Ampere (A), current unit "Ah" (Ampere-Hour) Ampere-hour (Ah), charge unit "Wh" (Watt-Hour) Watt-hour (Wh), unit of electrical energy "Ω" (Ohm) ohm (Ω), resistance unit °C (degree Celsius) Celsius (°C), temperature unit "mm" (millimeter) mm (mm), length unit "s" (second) seconds (s), time unit "kg" (kilogram) kilograms (kg), weight unit "Hz" (Hertz) Hertz (Hz), frequency unit



## 2.2 Abbreviations

UZ	SHENZHEN UZ Energy Limited.
BMS	Battery Management System
BMU	Battery Management Unit
BOL	Begin of Life
Bus-bar	Battery pole connecting rod
CAN	Controller Area Network
C-CAN	BMU and CMC communication CAN
CMC	Cell Manager Circuit
EOL	End of Life
HV	High Voltage
LV	Low Voltage
OCV	Open Circuit Voltage
SOC	State of Charge

## 3. Technical Parameters

The key parameters of the battery system are as follows:

NO.	Key Item	Specification	Remarks
3.1	Battery Model	LFP 100Ah	Cathode: Lithium iron Phosphate; Anode: Graphite.
3.2	Module Model	M026100-A 1P8S Module	2 Module In series
3.3	Nominal Capacity	100Ah	
3.4	Nominal Voltage	51.2V	Single cell voltage 3.2V
3.5	Operating Voltage Range	44.8V~57.6V	
3.6	Rated Energy	5.12kWh	
3.7	Usable Battery Capacity	100Ah	
3.8	Usable Battery Energy	5.12kWh	
3.9	Battery Depth of Discharge	100%	
3.10	Battery Max Charge/Discharge Power	2.56kw/5.12kw	
3.11	Max. Parallel Quantity	Max. 32 sets in parallel ,163.84kWh	Max. Parallel Quantity
3.12	The short circuit current	210A	
3.13	Available SOC	0% ~ 100%	



	Range		
3.14	SOC Transportation Range	50%	
3.15	Operating Temperature	Charging Temperature: 0°C~55°C; DisCharge Temperature: -20°C~55°C	Detailed use conditions need to refer to the charge and discharge window
3.16	Storage Temperature	-20°C ~ 50 °C	Longer than three months 25 ° C storage
3.17	Working Humidity	5~95%RH	non-condensing
3.18	Altitude	≤3000m (Sea Level)	
3.19	Standard Charging Current	0.5C (50A)	
3.20	Maximum Charging Continuous Current	0.5C (50A)	
3.21	Standard Discharge Current	0.5C (50A)	
3.22	Max Discharge Continuous Current	0.5C (50A)	(0.5C, 25°C±2°C)
3.23	Rated DC Power	2.56kw	
3.24	ΔVoltage	≤20mV	60 min after standing and stopped after charging and discharging
3.25	IP Rating	IP20	
3.26	Recommended Indoor/Outdoor Usage	Indoor	
3.27	Weight	~45Kg	Actual weight requires weighing confirmation
3.28	Dimensions	Length: 440 (±5) mm Width: 530 (±5) mm Height: 132 (±5) mm	
3.29	Communication	CAN/RS485/Dry Contact	
3.30	Certificate (Battery, Power Lite Inside)	TUV/ IEC 62619/ IEC 62040/ IEC 61000/ UN 38.3	
3.31	Calendar Life <sup>2</sup>	10 Years	
3.32	Designed Cycle Life	6000	0.5C/80%DOD/80%SOH /1 cycle per day

## 4. Battery System Structure

### 4.1 Dimensions and External Surface Requirements

The appearance of the power Lite battery system is shown below. The battery system consists of 16pcs of LFP cells connected in serial.



Figure 1、Schematic Diagram of the Power Lite Battery System

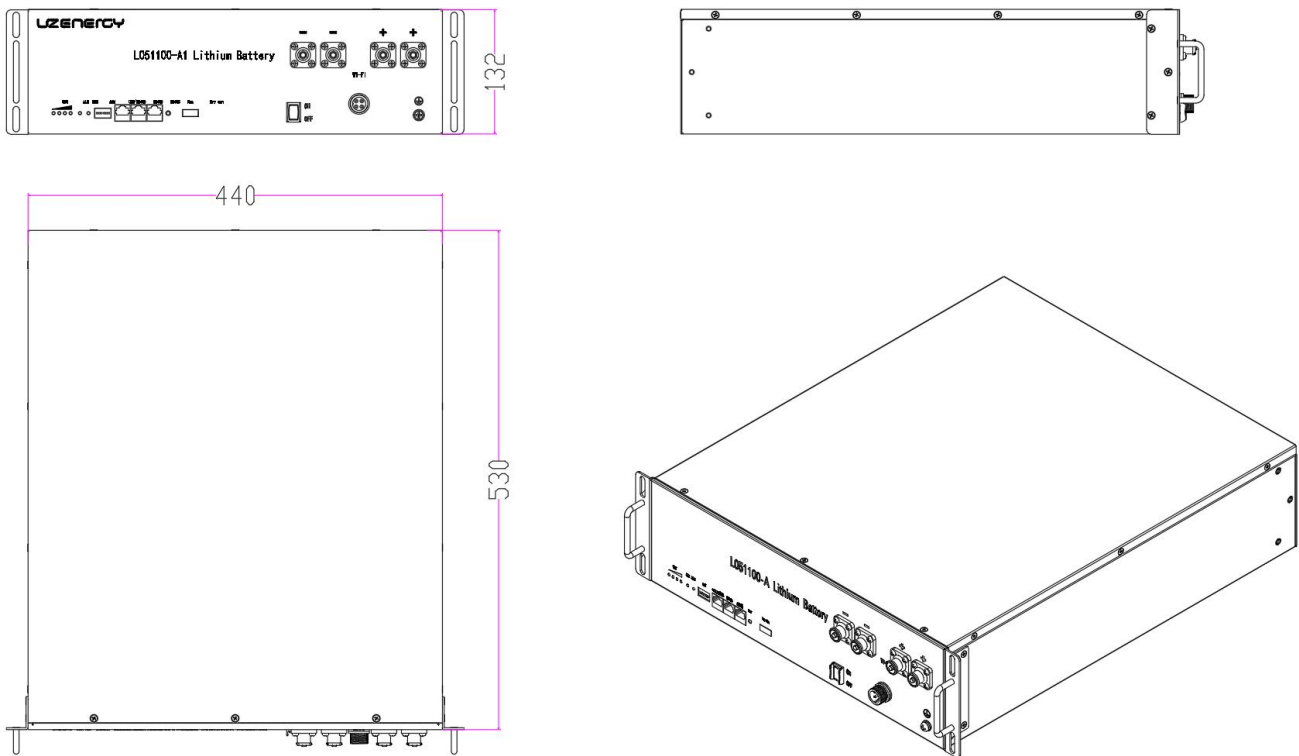


Figure 2、Power Lite Battery System Size Chart

Appearance requirements: The appearance of the assembly has no obvious processing or bumping flaws, no crack on the surface, and no burrs on the weld.

### 4.2 Electrical Schematic

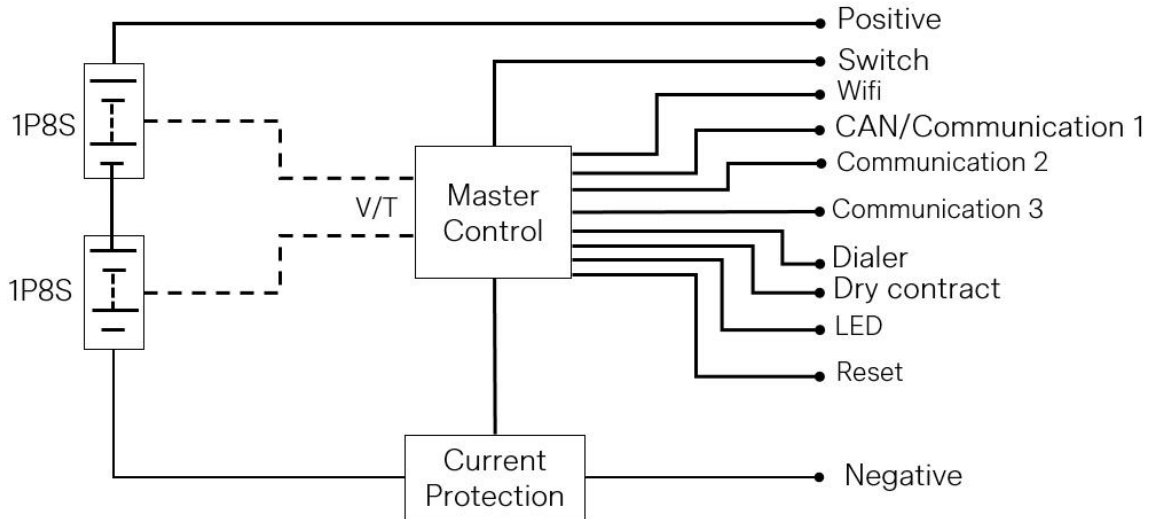


Figure 3, Electrical Schematic

(For reference only, this module does not contain sampling wiring harness)

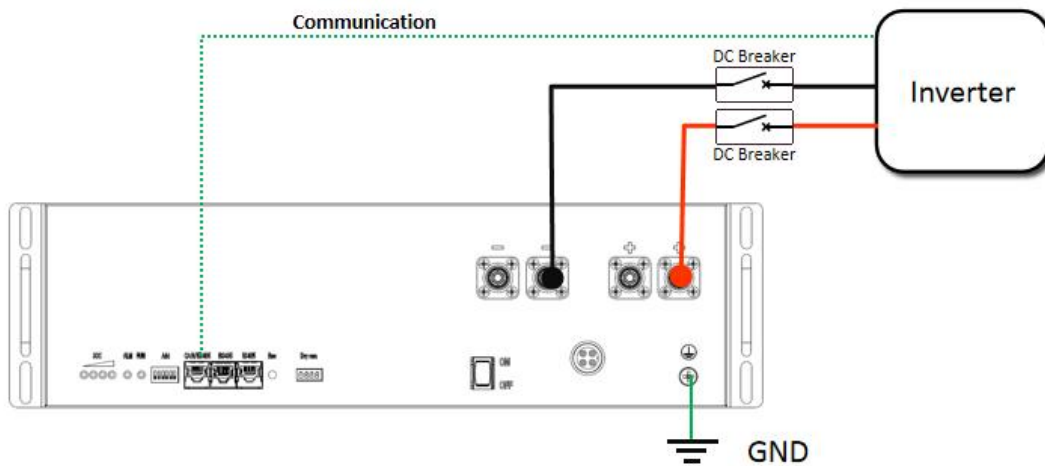


Figure 4, System wiring Schematic

(DC Breaker Technical Parameters: 125A/2P/DC125V )

### 4.3 Battery System Panel Connector

Connector	Connector socket model	Connector type	plug	Definition	Remark
Positive 1	PSR6XBB	PSRP6XB25	Orange 5.7mm		4AWG or 25mm <sup>2</sup> , IP67





Positive 2	PSR6XBB	PSRP6XB25	Orange 5.7mm	4AWG or 25mm <sup>2</sup> , IP67
Negative 1	PSR6XAB	PSRP6XA25	Orange 5.7mm	4AWG or 25mm <sup>2</sup> , IP67
Negative 2	PSR6XAB	PSRP6XA25	Orange 5.7mm	4AWG or 25mm <sup>2</sup> , IP67
Communication Port x1	RJ45 	Pin 1: CAN-H Pin 2: RS485-A Pin 3: RS485-B Pin 4: CAN-H Pin 5: CAN-L Pin 6: RS485-B Pin 7: RS485-A Pin 8: GND	CAN/RS485	
Communication Port x2	RJ45 	Pin 1: NC Pin 2: RS485-A Pin 3: RS485-B Pin 4: NC Pin 5: NC Pin 6: RS485-B Pin 7: RS485-A Pin 8: GND	RS485	Internal connection, communicate to BMS upper computer
Wifi Socket	Magpie wifi Stick V190603-R			Function(Optional)

