

	PRODUCT SPECIFICATION CONFIRMATION		Form No.: xxxxxx
	Author/Dept.: Li XiaoWei/EVC	Document #: CTPS-6LH3L8-01	Rev: 1.0
	Model: Product Specification for 271Ah Battery Cell		
	Confidential: () Level 3 Privacy () Level 2 High Confidentiality (V) Level 1 Low Confidentiality		

Specification

Product Design Preparation	Product Design Approval	Sales Approval	Project engineering approval	Quality Assurance Approval	Product Manager Approval
Li XiaoWei	Teng GuoPeng	Wang Hui	Zhang YuBao	Liu Jie	Chan LiBing

Customer Confirmation	Sign one's name	Date
	Customer code :	
	Corporate seal :	

Customer Requirements

Model: 6LH3L8

Version: 1.0

Customers are required to document their requirements and communicate them with CATL in advance. If customers have specific applications or operational conditions differing from those described in this document, CATL can customize product design and production according to their particular requirements.

	Special requirements	Standard
1		
2		
3		
4		
5		

customer code : _____ sign : _____ date : ____

Amendant Record

Edition	ECN number	Availability date	Author	Revise description/acknowledgment status
1.0			Li XiaoWei/EVC	New release

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Terminology

Term	Definition
Product	The term 'product' in this specification refers to the 271Ah 3.22V rechargeable lithium iron phosphate power battery manufactured by CATL.
Client	Refers to the buyer in the CATL EV Product Sales Contract.
CATL	Refers to the seller in the CATL EV Product Sales Contract.
PN	To differentiate batteries for various application scenarios or conditions, CATL assigns a material code to its 271Ah 3.22V rechargeable lithium battery.
Ambient temperature	The ambient temperature of the battery.
Battery Management System (BMS)	An effective tracking and control system for customers to monitor and record the operational parameters of products throughout their service life. The tracked parameters include, but are not limited to, voltage, current, temperature, etc., to regulate product operation and ensure that the operating environment and conditions comply with the specifications outlined in this manual.
Cell temperature	The cell temperature is measured by a temperature sensor connected to the battery, with the selection of the sensor and measurement circuit jointly determined by CATL and the customer.
New battery status	It refers to the battery's condition within 7 days from the manufacturing date.
C-Rate charging rate	The charging current is defined as the ratio of the charging current to the battery capacity value measured multiple times by the battery management system. For example: When the battery capacity is 271Ah and the charging current is 54.2A, the charging rate is 0.2C; when the battery capacity drops to 250Ah and the charging current is 50A, the charging rate remains 0.2C.
Cycle recurrence	A battery cycle is defined as a complete charge-discharge process according to the specified standards. A cycle includes a combination of short-term normal charging or regenerative charging and discharging processes. During charging, there may be instances where only normal charging occurs without regenerative charging. Discharge can be formed by the combination of partial discharges.
Date of manufacture	The manufacturing date of a battery is the date code clearly marked on the top sticker of each relevant battery.
Open Circuit Voltage (OCV)	The voltage of the battery is measured when no load or circuit is connected.
Product Supply Agreement	The transaction terms for the products specified in this specification, jointly agreed upon by CATL and its customers.
Standard charging	The charging mode specified in Section 2.2.4 of this specification.
Standard discharge	The discharge current of 135.5A as specified in Clause 2.3.1 of this specification, and the discharge mode with a minimum voltage of 2.5V as specified in Clause 2.3.5 of this specification.
State of Charge (SOC)	Under no-load conditions, all linear relationships of battery charging capacity state measured in ampere-hours or watt-hours. For example: If a capacity of 271Ah is considered as 100% SOC, then when the capacity is 0Ah, the SOC is 0%.
Temperature rise	Under the conditions specified in this specification, such as temperature rise of the cell during charging or discharging processes.
Measurement unit	"V" (Volt), a unit of voltage A" (Ampere) A, unit of electric current "Ah" (Ampere-Hour) is a unit of load. Wh (Watt-Hour) is a unit of energy. Ω (ohm), unit of resistance "mΩ" (MilliOhm) is a unit of resistance.

	$^{\circ}\text{C}$ (degree Celsius), a temperature unit "mm" (millimeter), a unit of length "s" (second), time unit Hz (Hertz), a unit of frequency
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1 Scope of Application

This specification document provides a detailed description of the product performance parameters, usage conditions, and risk warnings for CATL's 3.22V 271Ah rechargeable lithium iron phosphate power battery.

2 Product Electrical Performance Specifications

2.1 Essentials

No.	Parameter	Size of product	Condition
2.1.1	Standard capacity	271 Ah	$25\pm 2^{\circ}\text{C}$, 1C, new battery state
2.1.2	Minimum capacity	271 Ah	$25\pm 2^{\circ}\text{C}$, 1C, new battery state
2.1.3	Working voltage	2.5~3.65V 2.0~3.65V	Temperature $T > 0^{\circ}\text{C}$ Temperature $T \leq 0^{\circ}\text{C}$
2.1.4	Battery internal resistance (1KHz)	$0.14\pm 0.05\text{m}\Omega$	New battery state (30~40% SOC)
2.1.5	Ship capacity	$108.4\pm 1\text{Ah}$	N.A.
2.1.6	Self discharge	$\leq 3.5\%$	25°C , 50% SOC, new battery after 3 months
2.1.7	Working temperature (charging)	$0\sim 60^{\circ}\text{C}$	Refer to Section 2.2
2.1.8	Working temperature (discharge)	$-30\sim 60^{\circ}\text{C}$	Refer to Section 2.3
2.1.9	Battery weight	$\leq 5.47\text{Kg}$	N.A.
2.1.10	Battery size	Refer to Section 8 of this specification	At a pressure of 300 Kgf

2.2 Charging Mode/parameters

No.	Parameter	Size of product	Condition
2.2.1	Standard charging current	0.5C	$25\pm 2^{\circ}\text{C}$
2.2.2	Maximum chargeable sustained current	1C	$25\pm 2^{\circ}\text{C}$
2.2.3	Standard charging voltage	The maximum voltage of a single cell is 3.65V.	/
2.2.4	Standard charging mode	Charge at a constant current of 0.5C until the individual battery reaches a maximum voltage of 3.65V, then continue charging at a constant voltage of 3.65V under normal pressure until the current drops to the lower limit of 0.05C.	
2.2.5	Standard charging temperature	$25\pm 2^{\circ}\text{C}$	Cell temperature
2.2.6	Absolute charging temperature (cell temperature)	$0\sim 60^{\circ}\text{C}$	Regardless of the battery cell's charging mode, charging will stop immediately if its temperature exceeds the absolute charging temperature range.
2.2.7	Absolute charging voltage	Maximum 3.65V	Regardless of the battery cell's charging mode, charging will stop immediately if its voltage exceeds the absolute charging voltage range.

2.2.8 Other charging conditions (modes) Unit: C-Rate