

Technical data of European standard 20KW DC charging pile

1.1 Technical parameters

Item time s	project	technical parameter	remarks
1	Number of charging interfaces	1	
2	rated voltage	380V/400V	
3	rated frequency	50Hz/60Hz	
4	input voltage	380V/400V AC±15%, 50Hz/60Hz	
5	output voltage	200V-1000V	
6	rated output current	20A	
7	Output maximum power	20KW	
8	CI	4G wireless networking, wired networking	apolegamy
9	communicating protocol	Cloud fast charge V1.5/OCCP1.6	apolegamy
10	input mode	touch	
11	starting mode	Credit card startup / POS machine payment / scanning code payment on cloud platform	Optional POS machine payment, cloud platform scanning code payment
12	display screen	7inch color industrial-grade display screen	
13	Monitoring platform	Integrated card issuing, operation, monitoring and maintenance in one	
14	dielectric strength	≥2000V	
15	leakage current	≤3.5mA	

16	levels of protection	IP54	
17	work environment	-20~50°C	
18	Working humidity	5%-95%	
19	Interface type	European standard CCS2	
20	Measurement function	Electricity meter measurement	
21	protocol standard	ISO15118/DIN70121	
21	cooling-down method	air blast cooling	
22	defensive function	Overvoltage short circuit protection, overload protection, leakage protection, surge protection reverse connection protection, over temperature protection, output over undervoltage protection, etc.	
23	way to install	column	
24	power factor	0.99	
25	overall efficiency	94%	
26	size	540*260*1350mm	

1.2 Technical features and overview

Our independent research and development of charging equipment follow the international practice using the design concept of intelligent, modular, a complete set of charging control system, charging control unit, human-computer interaction unit, charging module unit, dc distribution unit, etc, system configuration RS485 \ CAN interface \ Ethernet \ PLC, select European regional CCS 2 standard charging connector.

This product has the following characteristics:

(1) Adopt the world's advanced constant power charging module, constant power range of 300-1000V, low voltage section can maintain a large charging power, bring you a rapid charging speed;

(2) Adopt module structured design, multiple modules work in parallel, and module faults automatically exit to improve customer experience;

(3) The monitoring unit adopts the distributed control mode to control risks to the greatest

extent and improve the reliability and safety of the charging equipment. The man-machine interface is friendly (both Chinese and English interfaces can be provided). Click the touch screen for charging order query and system parameter setting, and the operation is simple and convenient.

(4) Our company has developed advanced flexible intelligent control technology, intelligently distributes dual-port charging power, comprehensively control the charging process according to pile, car, environment, people and other factors, to ensure that the battery works in the best state, extend the service life of the battery pack of the vehicle and machine, and meet the needs of customers for short time and quick charging.

(5) Strong Internet service capability enables the product to access the Internet through GPRS / 4G module, realize interconnection with background management system platform, interactive real-time data, remote start-stop and payment processing; support OCPP 1.6 protocol to help you take the lead in business operation;

(6) It can be configured with global POS machines, and support multiple global credit card payment channels, such as UnionPay and VISA, to solve the operation and payment problems of foreign commercial charging stations.

1.3 Function introduction

(1) Charging mode: During the charging process, the integrated charger dynamically adjusts the charging parameters and performs the corresponding actions according to the data provided by the ev battery management system, the charger self-check parameters and the instructions issued by the server, and automatically stops the charging process.

(2) Metering function: a smart electricity meter is installed inside the pile body to measure the output electric energy of the DC charger. The electricity meter is installed on the outlet side of the charger. It can also be adjusted to the incoming line side according to the owner's requirements.

(3) Charging function: It supports charging according to charging power, and supports configuration of parameters including rate time, charging unit electricity, charging rate and so on. The accounting management module reads the electricity data of the electricity meter in real time, and sets the electricity price of the electricity meter. Single unit can support self-built contactless IC card loaded with user information and amount information, and optional POS machine to support credit card payment.

(4) Human-computer interaction function: The man-machine interface adopts color LCD touch screen, the operation interface displays complete and rich information, convenient operation, friendly interface, equipped with card swiping, emergency stop button and other operation interfaces. At the same time, the man-machine interface can record and display the charging current, charging voltage, charging time, charging power and error information during the charging process; Users can query personal information and pile information at the pile end, or set personal information such as password modification.

(5) Display function: mainly display power supply, charging, fault state indication, charging voltage, charging current, charged amount, highest and minimum voltage of vehicle battery, vehicle SOC, estimated remaining charging time, fault and alarm information; under the administrator authority, set pile IP address, coding, highest / minimum output voltage, maximum output current and other information, or query the factory setting information; clear and complete, which can be identified without ambient light source.

(6) Communication function: The PLC interface communicates with the ev battery management system to obtain the charging parameters and real-time charging data of the ev battery system. It has the function of communication with the superior monitoring system, supports GPRS wireless communication, Ethernet and other communication modes, and meets the relevant encryption requirements.

(7) Emergency stop function: with emergency stop function, can emergency stop charging through manual switch or superior monitoring communication command.

(8) Charging monitoring function: with the functions of leakage current monitoring, insulation monitoring and alarm, the sound and light alarm can be conducted through the LED indicator light. The charger monitors the status of the battery, and automatically adjusts the charging curve, charging current, single battery capacity and charging voltage according to the temperature and voltage of the battery.

(9) Protection and alarm function: when the DC output is overcurrent, the charger will automatically cut off the DC output and issue an alarm signal. When the DC output is short circuit, the charger automatically enters the current limiting output state; when the AC / DC conversion power unit is over warm, the charger automatically cuts off the DC output and sends an alarm signal. The charger has the function of lightning protection and surge protection, and has the function of preventing battery current backflow.

(10) Record storage function: monitoring has alarm record and event storage function, and can store historical charging consumption information.

(11) Emergency power off treatment: When the emergency stop button, control and guidance fault, communication fault of the charging management system, the charging machine can disconnect the DC output contactor within 100ms, and the output voltage drops to less than 60V within 1s.

(12) Over-temperature protection: the charger monitors the temperature of the charging gun and the temperature of the pile in real time. If the temperature occurs, the power is reduced until the charging is stopped.

(12) Remote upgrade function: the charger can remotely upgrade the program through the background management platform.

(13) Others: fully consider the security of the equipment: configure the access control switch, open the cabinet door for automatic alarm, to avoid live operation;

1.4 Renderings



TDS 技术参数表	DESCRIPTION 分项	SPECIFICATIONS 明细
Input Characteristics 输入特性	Power Supply 电源	Three-Phase 三相
	Input Voltage 输入电压	380Vac±15%
	Rated Voltage 额定电压	380Vac
	AC Input Frequency 额定频率	50Hz/60Hz
	Power Factor 功率因素	0.99
	Safety Features 安全特性	Surge Protection 浪涌保护
Output Characteristics 输出特性	Output Voltage 输出电压	200Vdc-1000Vdc
	Maximum Output Current 最大输出电流	75A
	Rated Current 额定电流	30A
	Rated Power 额定功率	30kW
	Charging Mode 充电模式	DC Fast Charging 直流快速充电
	Charging Connector Type 充电连接器类型	CCS2 欧标,
	No. of Charging Connectors 接口数量	Single Connector 单充
	Charging Efficiency 充电效率	95%(full power output)
	Metering Method 计量方式	Energy Meter 电表
User Interface and Interaction 用户界面与交互	Display Type 显示类型	7-inch Industrial display Touch Screen 7英寸工业级触摸屏
	Status Indicators 状态指示灯	Power, Charging, Fault 电源, 充电, 故障
	User Interface Language 用户界面语言	Multi- language Support 支持多语种
	Emergency Stop 紧急停止	Available 有
Communication and Connectivity 通信与连接性	Network Connection 网络连接	4G/Standard RJ45 Interface
	Communication Protocol 通信协议	OCPP1.6J
	Authentication (Activation) 身份验证(启动)	QR Code, APP / RFID card reading 扫码, 应用 / RFID单机刷卡版
Environmental Characteristics 环境特性	Operating Temperature 工作温度	-20~50°C
	Humidity Range 湿度范围	5%-95%
	Working Altitude 工作海拔	< 2000m
Electrical Safety 电气安全	Dielectric Strength 介电强度	≥2000V
	Leakage Current 漏电流	≤3.5mA
Mechanical Characteristics 机械特性	Housing Material 外壳材料	Sheet Metal 钣金
	Protection Rating 防护等级	IP54
	Cooling Method 冷却方式	Air Cooling 风冷
	Installation Type 安装方式	Ground-Mounted 落地式
	Cable Length 线缆长度	5m
	Dimensions 尺寸	Product: 540*260*720mm Packing: 840*490*1690mm
	Weight 重量	<NW:98KGS <GW:118KGS
Certification and Compliance 认证与合规	International Standard 国际标准	IEC61851-1/2017
	CE Certification CE 认证	SGS
	ISO Standards ISO 标准	ISO9001:2015
Warranty and Service 保修与服务	Warranty Period 保修期	Typically 2 Years with remote support 常规2年远程质保
	Customer Support 客户支持	Online Chat support 线上支持

Technical Data Sheet - 30kW Pedestal CCS2 Single Connector

1.2 Technical Characteristics and Overview

Our self-developed charging equipment follows international practices and adopts an intelligent, modular design concept. The entire charging control system consists of an AC distribution unit, a charging control unit, a human-machine interaction unit, a charging module unit, and a DC distribution unit. The system is configured with RS485, CAN interface, Ethernet, and PLC, and it uses a CCS2 standard charging connector suitable for the European region.

This product has the following features:

Advanced Constant Power Charging Module: The module maintains constant power within the range of 300-1000V, allowing the charger to provide high charging power even at lower voltages, delivering fast and powerful charging speeds.

2. Modular Structure Design: Multiple modules work in parallel, and faulty modules automatically exit, enhancing the user experience.

3. Distributed Control Monitoring Unit: This design maximizes risk control and improves the reliability and safety of the charging equipment. The user-friendly human-machine interface (available in both Chinese and English) allows for easy querying of charging orders and system parameter settings via touchscreen.

4. Advanced Flexible Intelligent Control Technology: Our proprietary technology intelligently allocates dual-port charging power, dynamically adjusting the charging process based on factors such as the charger, vehicle, environment, and user. This ensures the battery operates in its optimal state, extending the lifespan of the vehicle's battery pack while meeting the demand for quick charging in a short time.

5. Robust Internet Service Capabilities: The product can connect to the internet via GPRS/4G modules, enabling real-time data exchange with a backend management system platform. It supports the OCPP1.6 protocol, giving you an advantage in commercial operations.

6. Global Payment Capabilities: The charger can be equipped with a universal POS machine, supporting various global credit card payment channels such as UnionPay and VISA, solving payment issues for commercial charging stations abroad.

Technical Data Sheet - 30kW Pedestal CCS2 Single Connector

1.3 Function Introduction

Charging Method: During the charging process, the integrated charger dynamically adjusts charging parameters and executes corresponding actions based on data from the vehicle's Battery Management System (BMS), the charger's self-check parameters, and commands from the server, completing the charging process and automatically stopping when fully charged.

2. Metering Function: The charger includes an intelligent energy meter that measures the energy output of the DC charger. The meter is installed on the output side of the charger but can be adjusted to the input side upon the owner's request.

3. Billing Function: The system supports billing based on the amount of electricity charged. It can be configured with parameters such as rate periods, billing units, and pricing. The billing management module reads the energy meter data in real-time and calculates charges based on the energy consumption and the set unit price. The system supports a self-built non-contact IC card that stores user and account information. Additionally, it can be equipped with a POS machine for credit card payments.

4. Human-Machine Interaction Function: The user interface features a color LCD touchscreen with complete and rich information display, easy operation, and a user-friendly interface. It includes card swipe and emergency stop buttons. The interface displays charging current, charging voltage, charging time, charged energy, and alarms for errors during charging. Users can query personal and charging information or set personal information, such as password changes, at the charger terminal.

5. Display Function: The charger displays key information such as power status, charging status, fault status, charging voltage, charging current, charged energy, the highest and lowest voltages of vehicle battery cells, vehicle SOC (State of Charge), estimated remaining charging time, and fault and alarm messages. Under admin privileges, settings such as charger IP address, coding, maximum/minimum output voltage, and maximum output current can be configured, and factory settings can be queried. The display characters are clear and complete, visible without relying on ambient light.

6. Communication Function: The charger has a PLC interface for communication with the vehicle's Battery Management System (BMS), obtaining real-time charging parameters and data from the vehicle's battery system. It also supports communication with a higher-level monitoring system via GPRS wireless communication, Ethernet, and meets relevant encryption requirements.

7. Emergency Stop Function: The charger has an emergency stop function, allowing it to stop charging immediately through a manual switch or upper-level monitoring command.

Technical Data Sheet - 30kW Pedestal CCS2 Single Connector

8. Charging Monitoring Function: The charger monitors leakage current, insulation, and provides alarms in case of faults, with visual and audible alerts via LED indicators. The charger adjusts charging current, voltage, and charge curves based on battery temperature, voltage, and individual cell capacities.
9. Protection and Alarm Function: When there is a DC output overcurrent, the charger automatically cuts off the DC output and triggers an alarm. In case of a DC output short circuit, the charger enters a current limiting state. If the AC/DC conversion power unit overheats, the charger cuts off the DC output and triggers an alarm. The charger is equipped with surge protection and prevents battery current backflow.
10. Record and Storage Function: The monitoring system records alarms and events, storing historical charging and consumption information.
11. Emergency Power Off Handling: In emergencies like activating the emergency stop button, control guidance failure, or communication failure with the charging management system, the charger disconnects the DC output contactor within 100ms, and the output voltage drops to below 60V within 1 second.
12. Over-temperature Protection: The charger continuously monitors the temperature of the charging gun and charger body. If overheating is detected, it reduces power operation until charging stops.
13. Remote Upgrade Function: The charger can be remotely upgraded via the backend management platform.
14. Other Safety Considerations: The charger is equipped with a door access switch that triggers an alarm when the cabinet door is opened, preventing operations under live conditions.



Technical Data Sheet - 40kW Ground- Mounted CCS2 Single Connector

TDS 技术参数表	DESCRIPTION 分项	SPECIFICATIONS 明细
Input Characteristics 输入特性	Power Supply 电源	Three-Phase 三相
	Input Voltage 输入电压	380Vac±15%
	Rated Voltage 额定电压	380Vac
	AC Input Frequency 额定频率	50Hz/60Hz
	Power Factor 功率因素	0.99
	Safety Features 安全特性	Surge Protection 浪涌保护
Output Characteristics 输出特性	Output Voltage 输出电压	200Vdc-1000Vdc
	Maximum Output Current 最大输出电流	100A
	Rated Current 额定电流	40A
	Rated Power 额定功率	40kW
	Charging Mode 充电模式	DC Fast Charging 直流快速充电
	Charging Connector Type 充电连接器类型	CCS2 欧标,
	No. of Charging Connectors 接口数量	Single Connector 单充
	Charging Efficiency 充电效率	95%(full power output)
	Metering Method 计量方式	Energy Meter 电表
	Safety Features 安全特性	Overvoltage/Under voltage, Overcurrent, Short circuits, or, Overheating Protection 过欠压保护, 过流保护, 短路保护, 过热保护
User Interface and Interaction 用户界面与交互	Display Type 显示类型	7-inch Industrial display Touch Screen 7英寸工业级触摸屏
	Status Indicators 状态指示灯	Power, Charging, Fault 电源, 充电, 故障
	User Interface Language 用户界面语言	Multi- language Support 支持多语种
	Emergency Stop 紧急停止	Available 有
Communication and Connectivity 通信与连接性	Network Connection 网络连接	4G/Standard RJ45 Interface
	Communication Protocol 通信协议	OCPP1.6J
	Authentication (Activation) 身份验证(启动)	QR Code, APP / RFID card reading 扫码, 应用 / RFID单机刷卡版
Environmental Characteristics 环境特性	Operating Temperature 工作温度	-20~50°C
	Humidity Range 湿度范围	5%-95%
	Working Altitude 工作海拔	< 2000m
Electrical Safety 电气安全	Dielectric Strength 介电强度	≥2000V
	Leakage Current 漏电流	≤3.5mA
Mechanical Characteristics 机械特性	Housing Material 外壳材料	Sheet Metal 钣金
	Protection Rating 防护等级	IP54
	Cooling Method 冷却方式	Air Cooling 风冷
	Installation Type 安装方式	Ground-Mounted 落地式
	Cable Length 线缆长度	5m
	Dimensions 尺寸	Product: 465*245*1400mm Packing: 850*450*1600mm
	Weight 重量	<NW:160KGS <GW:190KGS
Certification and Compliance 认证与合规	International Standard 国际标准	IEC61851-1/2017
	CE Certification CE 认证	SGS UKCA
	ISO Standards ISO 标准	ISO9001:2015
Warranty and Service 保修与服务	Warranty Period 保修期	Typically 2 Years with remote support 常规2年远程质保
	Customer Support 客户支持	Online Chat support 线上支持

Technical Data Sheet - 40kW Ground- Mounted CCS2 Single Connector

1.2 Technical Characteristics and Overview

Our self-developed charging equipment follows international practices and adopts an intelligent, modular design concept. The entire charging control system consists of an AC distribution unit, a charging control unit, a human-machine interaction unit, a charging module unit, and a DC distribution unit. The system is configured with RS485, CAN interface, Ethernet, and PLC, and it uses a CCS2 standard charging connector suitable for the European region.

This product has the following features:

Advanced Constant Power Charging Module: The module maintains constant power within the range of 300-1000V, allowing the charger to provide high charging power even at lower voltages, delivering fast and powerful charging speeds.

2. Modular Structure Design: Multiple modules work in parallel, and faulty modules automatically exit, enhancing the user experience.

3. Distributed Control Monitoring Unit: This design maximizes risk control and improves the reliability and safety of the charging equipment. The user-friendly human-machine interface (available in both Chinese and English) allows for easy querying of charging orders and system parameter settings via touchscreen.

4. Advanced Flexible Intelligent Control Technology: Our proprietary technology intelligently allocates dual-port charging power, dynamically adjusting the charging process based on factors such as the charger, vehicle, environment, and user. This ensures the battery operates in its optimal state, extending the lifespan of the vehicle's battery pack while meeting the demand for quick charging in a short time.

5. Robust Internet Service Capabilities: The product can connect to the internet via GPRS/4G modules, enabling real-time data exchange with a backend management system platform. It supports the OCPP1.6 protocol, giving you an advantage in commercial operations.

6. Global Payment Capabilities: The charger can be equipped with a universal POS machine, supporting various global credit card payment channels such as UnionPay and VISA, solving payment issues for commercial charging stations abroad.

Technical Data Sheet - 40kW Ground- Mounted CCS2 Single Connector

1.3 Function Introduction

Charging Method: During the charging process, the integrated charger dynamically adjusts charging parameters and executes corresponding actions based on data from the vehicle's Battery Management System (BMS), the charger's self-check parameters, and commands from the server, completing the charging process and automatically stopping when fully charged.

2. Metering Function: The charger includes an intelligent energy meter that measures the energy output of the DC charger. The meter is installed on the output side of the charger but can be adjusted to the input side upon the owner's request.

3. Billing Function: The system supports billing based on the amount of electricity charged. It can be configured with parameters such as rate periods, billing units, and pricing. The billing management module reads the energy meter data in real-time and calculates charges based on the energy consumption and the set unit price. The system supports a self-built non-contact IC card that stores user and account information. Additionally, it can be equipped with a POS machine for credit card payments.

4. Human-Machine Interaction Function: The user interface features a color LCD touchscreen with complete and rich information display, easy operation, and a user-friendly interface. It includes card swipe and emergency stop buttons. The interface displays charging current, charging voltage, charging time, charged energy, and alarms for errors during charging. Users can query personal and charging information or set personal information, such as password changes, at the charger terminal.

5. Display Function: The charger displays key information such as power status, charging status, fault status, charging voltage, charging current, charged energy, the highest and lowest voltages of vehicle battery cells, vehicle SOC (State of Charge), estimated remaining charging time, and fault and alarm messages. Under admin privileges, settings such as charger IP address, coding, maximum/minimum output voltage, and maximum output current can be configured, and factory settings can be queried. The display characters are clear and complete, visible without relying on ambient light.

6. Communication Function: The charger has a PLC interface for communication with the vehicle's Battery Management System (BMS), obtaining real-time charging parameters and data from the vehicle's battery system. It also supports communication with a higher-level monitoring system via GPRS wireless communication, Ethernet, and meets relevant encryption requirements.

7. Emergency Stop Function: The charger has an emergency stop function, allowing it to stop charging immediately through a manual switch or upper-level monitoring command.

Technical Data Sheet - 40kW Ground- Mounted CCS2 Single Connector

8. Charging Monitoring Function: The charger monitors leakage current, insulation, and provides alarms in case of faults, with visual and audible alerts via LED indicators. The charger adjusts charging current, voltage, and charge curves based on battery temperature, voltage, and individual cell capacities.

9. Protection and Alarm Function: When there is a DC output overcurrent, the charger automatically cuts off the DC output and triggers an alarm. In case of a DC output short circuit, the charger enters a current limiting state. If the AC/DC conversion power unit overheats, the charger cuts off the DC output and triggers an alarm. The charger is equipped with surge protection and prevents battery current backflow.

10. Record and Storage Function: The monitoring system records alarms and events, storing historical charging and consumption information.

11. Emergency Power Off Handling: In emergencies like activating the emergency stop button, control guidance failure, or communication failure with the charging management system, the charger disconnects the DC output contactor within 100ms, and the output voltage drops to below 60V within 1 second.

12. Over-temperature Protection: The charger continuously monitors the temperature of the charging gun and charger body. If overheating is detected, it reduces power operation until charging stops.

13. Remote Upgrade Function: The charger can be remotely upgraded via the backend management platform.

14. Other Safety Considerations: The charger is equipped with a door access switch that triggers an alarm when the cabinet door is opened, preventing operations under live conditions.



Technical Data Sheet - 60kW Ground-Mounted CCS2 Dual Connectors

TDS 技术参数表	DESCRIPTION 分项	SPECIFICATIONS 明细
Input Characteristics 输入特性	Power Supply 电源	Three-Phase 三相
	Input Voltage 输入电压	380Vac±15%
	Rated Voltage 额定电压	380Vac
	AC Input Frequency 额定频率	50Hz/60Hz
	Power Factor 功率因素	0.99
	Safety Features 安全特性	Surge Protection 浪涌保护
Output Characteristics 输出特性	Output Voltage 输出电压	200Vdc-1000Vdc
	Rated Current 额定电流	60A
	Rated Power 额定功率	60kW
	Charging Mode 充电模式	DC Fast Charging 直流快速充电
	Charging Connector Type 充电连接器类型	CCS2 欧标
	No. of Charging Ports 接口数量	Dual Connectors 双充
	Charging Efficiency 充电效率	95%(full power output)
	Metering Method 计量方式	Energy Meter 电表
	Safety Features 安全特性	Overvoltage/Under voltage, Overcurrent, Short circuits, or, Overheating Protection 过欠压保护, 过流保护, 短路保护, 过热保护
User Interface and Interaction 用户界面与交互	Display Type 显示类型	7-inch Industrial display Touch Screen 7英寸工业级触摸屏
	Status Indicators 状态指示灯	Power, Charging, Fault 电源, 充电, 故障
	User Interface Language 用户界面语言	Multi-language Support 支持多语种
	Emergency Stop 紧急停止	Available 有
Communication and Connectivity 通信与连接性	Network Connection 网络连接	4G/Standard RJ45 Interface
	Communication Protocol 通信协议	OCPP1.6j
	Authentication (Activation) 身份验证(启动)	QR Code, APP / RFID card reading 扫码, 应用 / RFID单卡刷卡版
Environmental Characteristics 环境特性	Operating Temperature 工作温度	-20~50°C
	Humidity Range 湿度范围	5%-95%
	Working Altitude 工作海拔	< 2000m
Electrical Safety 电气安全	Dielectric Strength 介电强度	≥2000V
	Leakage Current 漏电流	≤3.5mA
Mechanical Characteristics 机械特性	Housing Material 外壳材料	Sheet Metal 钣金
	Protection Rating 防护等级	IP54
	Cooling Method 冷却方式	Air Cooling 风冷
	Installation Type 安装方式	Ground-Mounted 落地式
	Cable Length 线缆长度	5m
	Dimensions 尺寸	Product: 800*630*1830mm Packing: 1140*940*2050mm
	Weight 重量	<NW:335KGS <GW:385KGS
Certification and Compliance 认证与合规	International Standard 国际标准	IEC61851-1/2017
	CE Certification CE 认证	SGS
	ISO Standards ISO 标准	ISO9001:2015
Warranty and Service 保修与服务	Warranty Period 保修期	Typically 2 Years with remote support 常规2年远程质保
	Customer Support 客户支持	Online Chat support 线上支持

Technical Data Sheet - 60kW Ground-Mounted CCS2 Dual Connectors

1.2 Technical Characteristics and Overview

Our self-developed charging equipment follows international practices and adopts an intelligent, modular design concept. The entire charging control system consists of an AC distribution unit, a charging control unit, a human-machine interaction unit, a charging module unit, and a DC distribution unit. The system is configured with RS485, CAN interface, Ethernet, and PLC, and it uses a CCS2 standard charging connector suitable for the European region.

This product has the following features:

Advanced Constant Power Charging Module: The module maintains constant power within the range of 300-1000V, allowing the charger to provide high charging power even at lower voltages, delivering fast and powerful charging speeds.

2. Modular Structure Design: Multiple modules work in parallel, and faulty modules automatically exit, enhancing the user experience.

3. Distributed Control Monitoring Unit: This design maximizes risk control and improves the reliability and safety of the charging equipment. The user-friendly human-machine interface (available in both Chinese and English) allows for easy querying of charging orders and system parameter settings via touchscreen.

4. Advanced Flexible Intelligent Control Technology: Our proprietary technology intelligently allocates dual-port charging power, dynamically adjusting the charging process based on factors such as the charger, vehicle, environment, and user. This ensures the battery operates in its optimal state, extending the lifespan of the vehicle's battery pack while meeting the demand for quick charging in a short time.

5. Robust Internet Service Capabilities: The product can connect to the internet via GPRS/4G modules, enabling real-time data exchange with a backend management system platform. It supports the OCPP1.6 protocol, giving you an advantage in commercial operations.

6. Global Payment Capabilities: The charger can be equipped with a universal POS machine, supporting various global credit card payment channels such as UnionPay and VISA, solving payment issues for commercial charging stations abroad.

Technical Data Sheet - 60kW Ground-Mounted CCS2 Dual Connectors

1.3 Function Introduction

Charging Method: During the charging process, the integrated charger dynamically adjusts charging parameters and executes corresponding actions based on data from the vehicle's Battery Management System (BMS), the charger's self-check parameters, and commands from the server, completing the charging process and automatically stopping when fully charged.

2. Metering Function: The charger includes an intelligent energy meter that measures the energy output of the DC charger. The meter is installed on the output side of the charger but can be adjusted to the input side upon the owner's request.

3. Billing Function: The system supports billing based on the amount of electricity charged. It can be configured with parameters such as rate periods, billing units, and pricing. The billing management module reads the energy meter data in real-time and calculates charges based on the energy consumption and the set unit price. The system supports a self-built non-contact IC card that stores user and account information. Additionally, it can be equipped with a POS machine for credit card payments.

4. Human-Machine Interaction Function: The user interface features a color LCD touchscreen with complete and rich information display, easy operation, and a user-friendly interface. It includes card swipe and emergency stop buttons. The interface displays charging current, charging voltage, charging time, charged energy, and alarms for errors during charging. Users can query personal and charging information or set personal information, such as password changes, at the charger terminal.

5. Display Function: The charger displays key information such as power status, charging status, fault status, charging voltage, charging current, charged energy, the highest and lowest voltages of vehicle battery cells, vehicle SOC (State of Charge), estimated remaining charging time, and fault and alarm messages. Under admin privileges, settings such as charger IP address, coding, maximum/minimum output voltage, and maximum output current can be configured, and factory settings can be queried. The display characters are clear and complete, visible without relying on ambient light.

6. Communication Function: The charger has a PLC interface for communication with the vehicle's Battery Management System (BMS), obtaining real-time charging parameters and data from the vehicle's battery system. It also supports communication with a higher-level monitoring system via GPRS wireless communication, Ethernet, and meets relevant encryption requirements.

7. Emergency Stop Function: The charger has an emergency stop function, allowing it to stop charging immediately through a manual switch or upper-level monitoring command.

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8. Charging Monitoring Function: The charger monitors leakage current, insulation, and provides alarms in case of faults, with visual and audible alerts via LED indicators. The charger adjusts charging current, voltage, and charge curves based on battery temperature, voltage, and individual cell capacities.
9. Protection and Alarm Function: When there is a DC output overcurrent, the charger automatically cuts off the DC output and triggers an alarm. In case of a DC output short circuit, the charger enters a current limiting state. If the AC/DC conversion power unit overheats, the charger cuts off the DC output and triggers an alarm. The charger is equipped with surge protection and prevents battery current backflow.
10. Record and Storage Function: The monitoring system records alarms and events, storing historical charging and consumption information.
11. Emergency Power Off Handling: In emergencies like activating the emergency stop button, control guidance failure, or communication failure with the charging management system, the charger disconnects the DC output contactor within 100ms, and the output voltage drops to below 60V within 1 second.
12. Over-temperature Protection: The charger continuously monitors the temperature of the charging gun and charger body. If overheating is detected, it reduces power operation until charging stops.
13. Remote Upgrade Function: The charger can be remotely upgraded via the backend management platform.
14. Other Safety Considerations: The charger is equipped with a door access switch that triggers an alarm when the cabinet door is opened, preventing operations under live conditions.



Thank you