

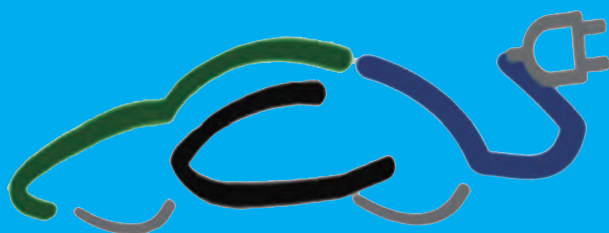


SCU E-MOBILITY

**Electric Vehicle  
Charging Infrastructure**

**Overall Solution**

**OVERALL  
SOLUTION**



## Contents

Company profile .....	1
EVMS DC Fast Charging Station.....	2
EVMS Satellite EV Charging Solution .....	6
EVMS DC Wallbox charger .....	8
EV Charging Module.....	10
Power Line Communication Modem.....	15
Renewable Energy Charging Station .....	16

Sicon Chat Union Electric Co., Ltd. (referred to as: Sicon Electric), is an industry leading electrical and power electronic product designer and manufacturer. Sicon Electric provide complete solutions for Electric Vehicle Charging Infrastructure, Energy Storage, UPS& Data Center.

EV Charging Infrastructure portfolio: 60kW CCS2 CHAdeMO AC type2 Fast Charging Station, 120/150kW CCS2 DC Charging Station, 360~500kW High Power Ultra Fast Charging Station, DC Charging Stack, Power Module for DC Charger, Power Line Communication Modem and Renewable Energy Charging Station.

The Chargers are designed to be durable, reliable, modular and easy to service. It supports the open communication protocol OCPP, and obtained the CE test certificate issued by the TUV SUD test laboratory establishing compliance with IEC-61851 and IEC-62196.

Since 2012, Sicon is leading the e-mobility revolution with charging infrastructure in China and many countries. We welcome worldwide distributors and partners to join us and write the future together.



# EVMS DC Fast Charging Station

Application: public operations such as highway rest stops, petrol stations, airport etc.. private operations such as EV dealers, EV fleets etc.

Compatible vehicles: BMW, Volkswagen, Porsche, Audi, Nissan, Mitsubishi, Peugeot, Citroen, Kia, Renault, Fiat, Tesla, Smart, Mercedes BYD, Mazda, HONDA, Skoda, etc..



## Overview

The EVMS DC Fast Charging Station is able to charge all current and next generation vehicles with CCS, CHAdeMO and AC Type 2.

The power covers 60KW ~ 150KW, and can be configurable single, dual or triple connectors to meet the changing charging needs of customers.














## Features

- Comply with multiple standards as CCS, CHAdeMO, AC Type 2
- Multiple outputs: DC power covers 60kW ~ 150kW, AC power up to 43kVA
- Supports CCS, CHAdeMO and AC Type 2 charging outputs simultaneously
- Reliable, robust, modular system hardware
- Simple, quick and easy installation
- Daylight readable touch screen display
- Supports the open communication protocol OCPP
- RFID authorization
- Low operational noise
- Customizable
- multilingual



## 60kW Possible configurations

Product type		750Vdc	750Vdc + 400Vac
CCS2 60 kW DC/CHAdemo 60 kW DC/AC 43 kW	  AC ~		default
CCS2 60 kW DC/CHAdemo 60 kW DC/AC 22.1 kW	  AC ~	optional	
CCS2 60 kW DC/CHAdemo 60 kW DC	 		
CCS2 60 kW DC/CCS2 60 kW DC	 		
CCS2 60 kW DC			
CCS2 60 kW DC/AC 43 kW	 AC ~		
CCS2 60 kW DC/AC 22.1 kW	 AC ~		
CHAdemo 60 kW DC			
CHAdemo 60 kW DC/AC 43 kW	 AC ~		
CHAdemo 60 kW DC/AC 22.1 kW	 AC ~		

## 120kW Possible configurations

Product type		750Vdc	1000Vdc
120kW, CCS2 single connector		default	optional
120kW, CCS2 dual connectors	 	default	optional
120kW, CHAdemo and CCS2 connector	 	default	optional

## 150kW Possible configurations

Product type		750Vdc	1000Vdc
150kW, CCS2 single connector		default	optional
150kW, CCS2 dual connectors	 	default	optional
150kW, CHAdemo and CCS2 connector	 	default	optional

## Specification

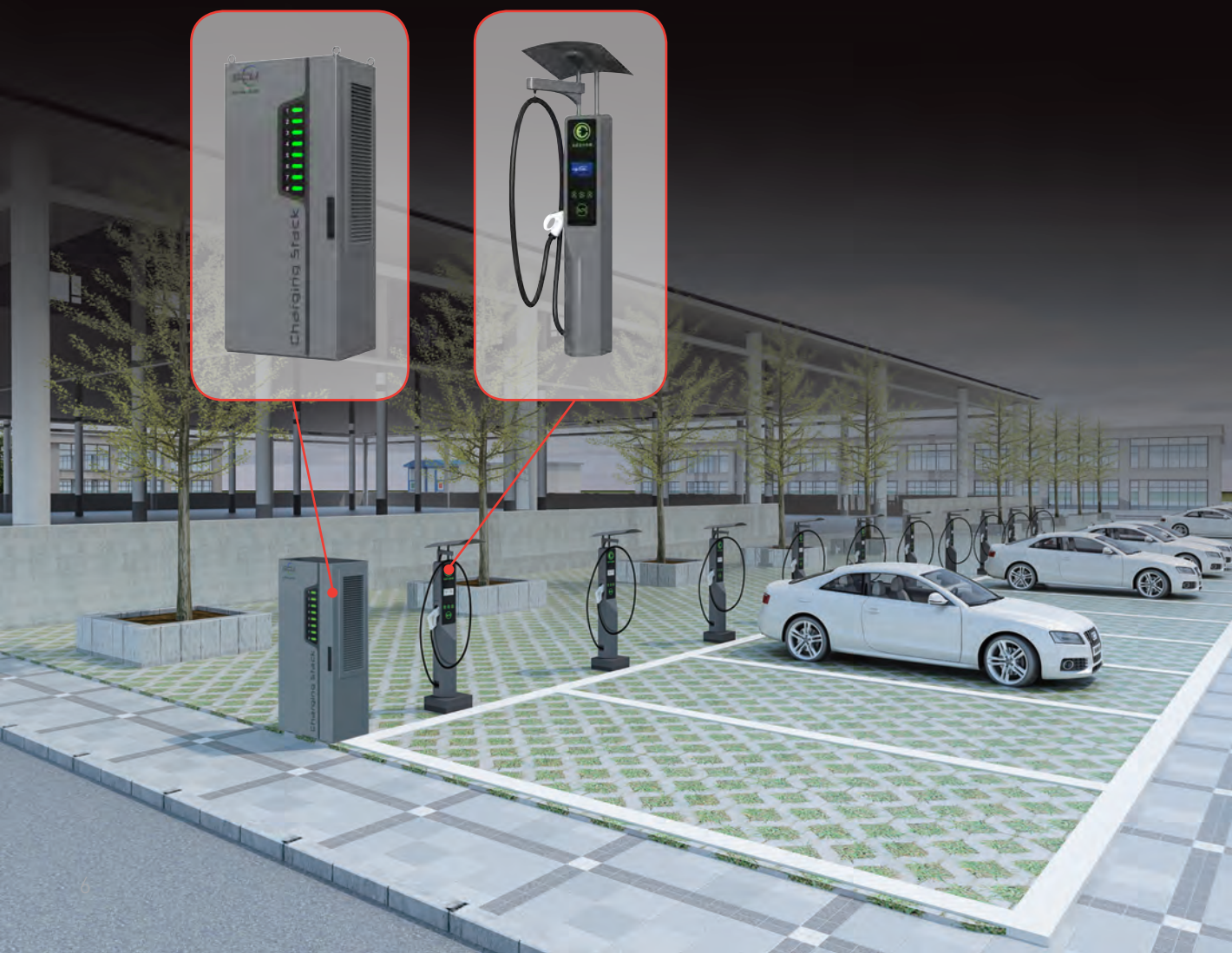
Model	EVMS-60		EVMS-150	
AC Input for the DC Output				
Power connection	3P + N + PE			
Voltage range	400 Vac ± 20 %			
Frequency	50 Hz or 60 Hz			
Nominal input current & power	87 A, 60KW		217A, 150KW	
Power factor	> 0.99			
Overall efficiency	95%			
DC Output				
Voltage	50Vdc-1000Vdc			
Max Current	200A		250A(200A optional)	
Nominal Power	0-60kW		60-150KW	
AC Output				
Voltage	400 Vac		-	
Current	63 A(default) / 32 A(optional)		-	
Nominal Power	43 kVA(default) / 22 kVA(optional)		-	
General Specifications				
Output mode	Multi-standard DC outputs (Mode-4), with AC (Mode-3)			
Connectors	CCS2, CHAdeMO,AC Type 2			
AC-Interface	Type 2 Plug 43kW(default) Type 2 Plug 22kW(optional) Type 2 Socket 22kW(optional)			
Display	10.4" TFT Touch screen			
RFID system	ISO/IEC14443A, Mifare;			
Network connection	4G (GSM or CDMA)   LAN   Wi-Fi			
Communication Protocols	OCPP1.6J (OCPP 2.0 upgradable)			
Environment	Indoor / outdoor			
Operating temperature	-35°C-60°C ( -20°C to -35°C, heating required)			
Storage Temperature	-40 °C to +70 °C			
Operating humidity	≤95% non-condensing			
Altitude	Up to 1000 m			
Protection	IP54 , IK10			
Acoustic noise	<55 dB			
Compliance and safety	CE, IEC EN 61851, EN 62196,DIN 70121, ISO 15118			

# EVMS Satellite EV Charging Solution (Power Stack+Charge Post)

Application: Parking lots and charging station where multiple DC charging service required.

## Overview

EVMS series EV charging stack is a split-type charging system meeting multiple standards CCS, CHAdeMO, GB/T. Adopting modular design concept and forefront power electronic technology, consists of power stack, control units and charge posts. Can be installed both outdoor and indoor.





## Feature

- Comply with CCS, CHAdeMO, GB/T.
- Flexible power distribution function, dynamically adjust output power according to the demand of electric vehicles.
- Multi outlets to charge multiple vehicles simultaneously, the output and power as follows:  
240KW type stack: configurable 2 ~ 8 outlets, each output 0~60KW or 0 ~ 120KW;  
360KW type stack: configurable 2 ~ 12 outlets, 30 ~ 180KW flexible output.
- 12.1 inch LCD/LED screen to display information in real time, easy operation and interactive user interface.
- Supports Web & mobile based payment methods.
- Insulation monitoring function, automatically turn off output to ensure safe charging.
- High adaptability of temperature range, isolated heat dissipation air ducts, power heat dissipation is separated from control circuit to ensure dust-free control unit.
- High efficiency, high reliability, ultra low radiation, fast maintenance, flexible capacity expansion, energy efficiency and environmental protection.

Model	EVMS-240	EVMS-360
Environment	Outdoor / Indoor	
System capacity	240KW	360KW
Maximum outlets	8	12
Output capacity of each route	0~60KW or 0~120kW	30~180kW
Input voltage	400VAC±20%	
Input voltage range	260V~530V (260V~304VAC, output power derating 50%)	
Current share precision	< 3%	
Power factor	> 0.99	
Working frequency	50/60HZ	
Output voltage	50VDC-1000VDC	
Current regulation accuracy	< 1%	
Voltage regulation accuracy	< 0.5%	
Current share precision	< 3%	
Overall efficiency	95%	
RFID system	ISO/IEC14443A, Mifare;	
Network connection	4G (GSM or CDMA)  LAN WI-FI	
Communication Protocols	OCPP1.6J (OCPP 2.0 upgradable)	
Operating temperature	-35°C-60°C(-20°C ~ -35°C, heating required)	
Storage Temperature	-40°C ~ +70°C	
Operating humidity	≤ 95%, non-condensing	
Altitude	Up to 1000meters	
Protection	IP54, IK10	
Acoustic noise	< 55dB	
Compliance and safety	CE, IEC EN61851, EN62196, DIN70121, ISO15118	
Dimension(W*D*H)	DC power stack	800*650*1850
	charge post	320*320*2300

# EVMS DC Wallbox charger

Application: Service station, Public corridor charging along the highways, Commercial fleet operators, EV Infrastructure operators, EV Garage and EVSE providers.

## Overview

The EVMS DC Wallbox charger is able to charge all current and next generation vehicles with CCS and CHAdeMO.

The 30kW charging station is a configurable single or dual outlet wall mounted DC fast charger, supporting the changing needs of each customer. With compact, space-saving and attractive design, it is ideal for a wide range of installations, both indoors and outdoors available.



## Feature

- DC power up to 30KW
- Supports a single CCS1/CCS2/ CHAdeMO connector
- Overall efficiency  $\geq 95\%$
- Simple installation, convenient operation
- Daylight readable touch screen display
- Built-in safety measures
- Robust design
- Supports the open communication protocol OCPP
- Low operational noise
- Support multi-language operation
- Customizable

Model	EVMS-30
System capacity	30kW
Input parameters	
Voltage	400Vac, 3P+N+PE
Voltage rage	304V~456Vac
Power factor	>0.99
Frequency	50/60Hz
Output parameters	
Connectors	Single output CCS1/CCS2/ CHAdeMO
Voltage	50-1000Vdc
Current	Maximum 100A, maximum 30kW
Power	30kW
Overall efficiency	95%
Other parameters	
Display	10.4" TFT Touch screen
RFID system	ISO/IEC14443A, Mifare;
Network connection	4G (GSM or CDMA)  LAN WI-FI
Communication Protocols	OCPP1.6J (OCPP 2.0 upgradable)
Operating temperature	-20°C~ 60°C
Storage Temperature	-40°C ~ +70°C
Working Humidity	5%~95%, non-condensing
Operating humidity	≤95%, non-condensing
Altitude	2000meters
Protection	IP54, IK10
Acoustic noise	< 55dB
Environment	outdoor/indoor
System protection	Leakage detection and protection ; Over-voltage and Under-voltage protection ; Self-checking recover ; Over-temperature protection ; Double Lightning protection; Emergency stop button protection ; Power failure data records.
Compliance and safety	CE, IEC EN61851, EN62196, DIN70121, ISO15118
Dimension(W*D*H)	460*345*735

# EV Charging Module

## Overview

With more than 20 years experience in power electronics industry, SICON is focused on the core components of new energy electric vehicle, develop a series of standard power modules such as 15kW/20kW/30kW for EV chargers applied for CCS, CHAdeMO, Combo, GB/T standards. The power module is based on the latest DC power supply techniques, which results in high efficiency, high reliability and long service life.

## Feature

- Wide range of input voltage, 260V~530V, input surge protection design.
- DSP control, achieves pure digital control from input to output; adopts interlaced series resonance soft switch technology to reduce the tolerance of power devices.
- Input THDI <3%, input PF is 0.99.
- Low output DC ripple wave, has no influence on battery's working cycle.
- Input over voltage protection, under voltage alarming, output over current and short circuit protection functions.
- Support multi modules parallel, hot-swappable, brings the charger great availability, reliability and maintainability.
- Battery current reverse protection circuit inside.
- Forced air cooling design to property handle temperature rise of components in module.
- Ultra wide temperature range, suitable for all kinds of harsh environment.

## Comparison Table

Model	15kW power module	20kW(Low-voltage)power module	20kW /30kW constant power module
Output capacity	15kW	20kW	20kW/30kW
Output voltage range	200V-500VDC, 200V-750VDC, 150V-1000VDC	40V-100VDC, 40V-135VDC	50V-750VDC, 50V-1000VDC
Constant power range	/	/ 100V-135VDC	300V-750VDC, 300V-1000VDC
Efficiency	95%	95%	96%
Compatible standard	CCS, CHAdeMO, Combo, GB/T		
Communication	CAN		
Cooling	Forced air cooling		

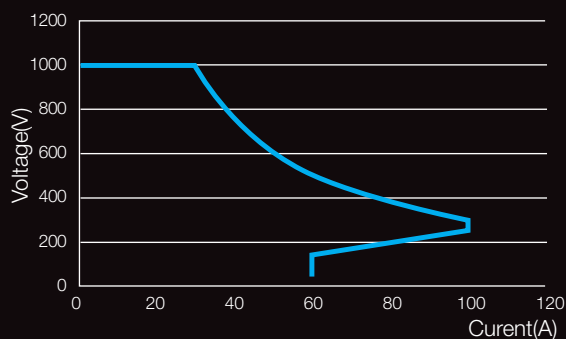
# 30kW Constant Power Module

## Overview

Vienna rectifier technology for PFC, LLC technology for DCDC, with three phase active PFC, integrated with functions of rectifier, contro, output, protect and remote-signal function. Modular design, high power density, high reliability, ultra wide temperature range, suitable for all kinds of harsh environment.

## Feature

- Output capacity: 30kW; Efficiency: 96%
- Output voltage range:50V-750VDC, 50V-1000VDC
- Constant power range: 300V-750VDC,300V-1000VDC
- Compatible standard: CCS, CHAdeMO, Combo, GB/T
- Cooling: forced air cooling



30kW Power Module

Model	DPM750/40		DPM1000/30
Output capacity	30kW		
Input voltage	380Vac three-phase three-wire		
Input voltage range	260V-530V(260-304V,output power derating 50%)		
Input frequency	50/60HZ		
Input power factor	> 0.99		
Input current harmonic	≤ 3%		
Efficiency	96%		
Output voltage range	50V-750VDC		50V-1000VDC
Voltage regulation accuracy	< 0.5%		
Current regulation accuracy	< 0.5%		
Peak-to-Peak noise voltage of DC output	< 1%		
Startup&Shutdown overshoot	< 1%		
Soft start time	≤ 5S		
Operating temperature	-20°C-+75°C,during 55°C-75°Cderating to 60%		
Ambient temperature	-40°C-+70°C		
Relative humidity	0-95%,40±2°C,non-condensing		
Altitude	2000 meters		
Dimension(W*D*H)	300*460*87mm(Horizontal)		315*463*87mm(Vertical)
Weight	15kg		15kg



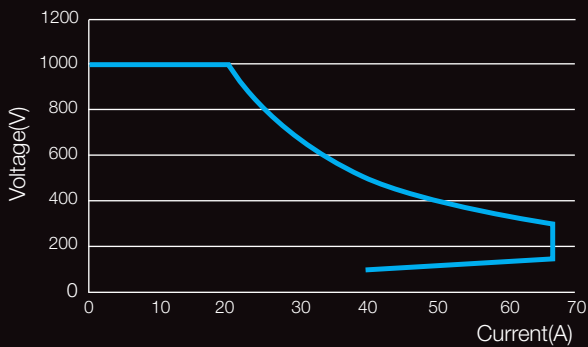
# 20kW Constant Power Module

## Overview

Vienna rectifier technology for PFC, LLC technology for DDC, with three phase active PFC, integrated with functions of rectifier, contro, output, protect and remote-signal function. Modular design, high power density, high reliability, ultra wide temperature range, suitable for all kinds of harsh environment.

## Feature

- Output capacity: 20kW; Efficiency: 96%
- Output voltage range:50V-750VDC, 50V-1000VDC
- Constant power range: 300V-750VDC,300V-1000VDC
- Compatible standard: CCS, CHAdEMO, Combo, GB/T
- Cooling: forced air cooling



20kW Power Module

Model	DPM750/26		DPM1000/20
Output capacity	20kW		
Input voltage	380Vac three-phase three-wire		
Input voltage range	260V-530V(260-304V,output power derating 50%)		
Input frequency	50/60HZ		
Input power factor	> 0.99		
Input current harmonic	≤ 3%		
Efficiency	96%		
Output voltage range	50V-750VDC		50V-1000VDC
Voltage regulation accuracy	< 0.5%		
Current regulation accuracy	< 0.5%		
Peak-to-Peak noise voltage of DC output	< 1%		
Startup&Shutdown overshoot	< 1%		
Soft start time	≤ 5S		
Operating temperature	-20°C-+60°C,during 50°C-60°Cderating to 60%		
Ambient temperature	-40°C-+70°C		
Relative humidity	0-95%,40±2°C,non-condensing		
Altitude	2000 meters		
Dimension(W*D*H)	218*463*87mm		218*463*87mm
Weight	12kg		12kg

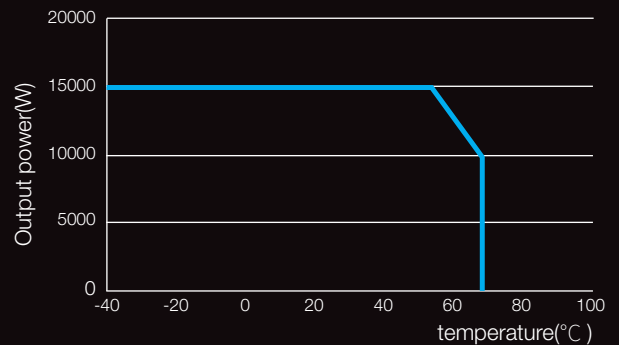
# 15kW Power Module

## Overview

Vienna rectifier technology for PFC, LLC technology for DCDC, with three phase active PFC, integrated with functions of rectifier, contro, output, protect and remote-signal function. Modular design, high power density, high reliability, ultra wide temperature range, suitable for all kinds of harsh environment.

## Feature

- Output capacity: 15kW; Efficiency: 95%
- Output voltage range:200V-500VDC,200V-750VDC,1 50V-1000VDC
- Compatible standard: CCS, CHAdeMO, Combo, GB/T
- Cooling: forced air cooling



Output power vs. temperature

Model	DPM500/30	DPM750/20	DPM1000/15
Output capacity	15kW		
Input voltage	380Vac three-phase three-wire		
Input voltage range	260V-530V(260-304V,output power derating 50%)		
Input frequency	50/60HZ		
Input power factor	>0.99		
Input current harmonic	≤3%		
Efficiency	95%		
Output voltage range	200V-500VDC	200V-750VDC	150V-1000VDC
Voltage regulation accuracy	<0.5%		
Current regulation accuracy	<0.5%		
Peak-to-Peak noise voltage of DC output	<1%		
Startup&Shutdown overshoot	<1%		
Soft start time	≤5S		
Operating temperature	-20°C~+60°C,during 50°C~60°C derating to 60%		
Ambient temperature	-40°C~+70°C		
Relative humidity	0-95%,40±2°C,non-condensing		
Altitude	2000 meters		
Dimension(W*D*H)	220*405*88mm	220*405*88mm	220*405*88mm
Weight	10kg	10kg	10kg

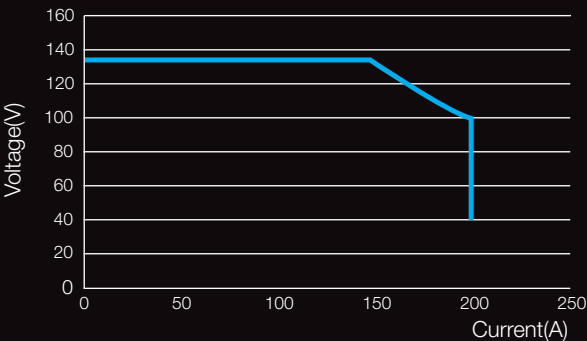
# 20kW Low-voltage power module

## Overview

Vienna rectifier technology for PFC, LLC technology for DDC, with three phase active PFC, integrated with functions of rectifier, contro, output, protect and remote-signal function. Modular design, high power density, high reliability, ultra wide temperature range, suitable for all kinds of harsh environment.

## Feature

- Output capacity: 20kW; Efficiency: 95%
- Output voltage range: 40V-100VDC,40V-135VDC
- Compatible standard: CCS, CHAdMO, Combo, GB/T
- Cooling: forced air cooling



20kW Power Module

Model	DPM100/200		DPM135/150	
Output capacity	20kW			
Input voltage	380Vac three-phase three-wire			
Input voltage range	260V-530V(260-304V,output power derating 50%)			
Input frequency	50/60HZ			
Input power factor	>0.99			
Input current harmonic	≤3%			
Efficiency	95%			
Output voltage range	40V-100VDC		40V-135VDC	
Constant power range	-		100V-135VDC	
Voltage regulation accuracy	<0.5%			
Current regulation accuracy	<0.5%			
Peak-to-Peak noise voltage of DC output	<1%			
Startup&Shutdown overshoot	<1%			
Soft start time	≤5S			
Operating temperature	-20°C-+60°C,during 50°C-60°Cderating to 60%			
Ambient temperature	-40°C-+70°C			
Relative humidity	0-95%,40±2°C,non-condensing			
Altitude	2000 meters			
Dimension(W*D*H)	222*470*132mm		222*470*132mm	
Weight	11kg		11kg	

# Power Line Communication Modem-PLC Modem

## Overview

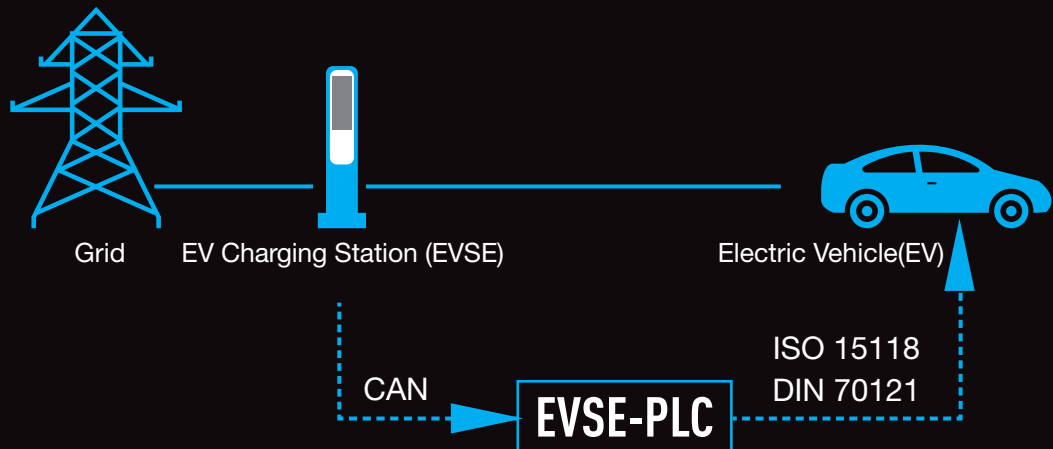
EVSE-PLC is a PLC(Power Line Communication) based modem for communication between EV and EVSE. It is suitable for DC charging, and supports conversion of CAN, RS232/485 communication protocol to ISO/IEC 15118 and DIN 70121 standards. It can be installed inside CCS2 DC chargers or new energy electric vehicles to realize intelligent interconnection between EV and EVSE.

- Processor: TI AM3352
- Operating system: Linux 4.1.16
- SECC interface: CAN, RS 232/485
- PLC interface: HomePlugGreenPHY
- Debug interface: Ethernet port
- Chip: QCA7000
- Operating voltage: 7VDC-30VDC
- Power consumption: maximum 4W, idle mode 2W



## Application

- Charging controller for electric vehicle supply equipment (EVSE)
- Charging controller for plug-in electric vehicles (PEV)
- PEV or EVSE testing Simulator



## Feature

- Robust, portable and easy to be embedded inside EVSE and EV;
- ISO/IEC 15118, DIN 70121 compliant communication;
- RS232, RS485, CAN and Ethernet interface to power electronics;
- It can be used with EVSE, or to be installed in EV to realize the interconnection and communication between EVSE and EVs of different communication protocols;
- Short development cycle, quick docking between different EVSE and EV;
- Parallel support for multiple vehicles;
- Instantly handling of abnormal charging process;
- OTA upgrade compatible
- TUV SUD certified.

# Renewable Energy Charging Station

New Energy Integrated Charging Station is combined with PV, energy storage battery, bidirectional converter and charging facilities, uses modular and standardized design concept, standard integrated charging overall solution, achieves rapid and flexible deployment.

The interior of container is divided into equipment area and user resting area, the exterior of container is charging parking space, user can charge with charging terminal inserted.

## Benefit:

- Convenient operation, high reliability, high security, high integration, low cost, low energy consumption.
- The system supports grid-connected and off-grid operation, can be used as backup power supply.
- The system can access the cloud platform to achieve unified monitoring management.

## Configuration:



PV  
43kW



PCS  
200kW



Li-ion Battery  
200kWH

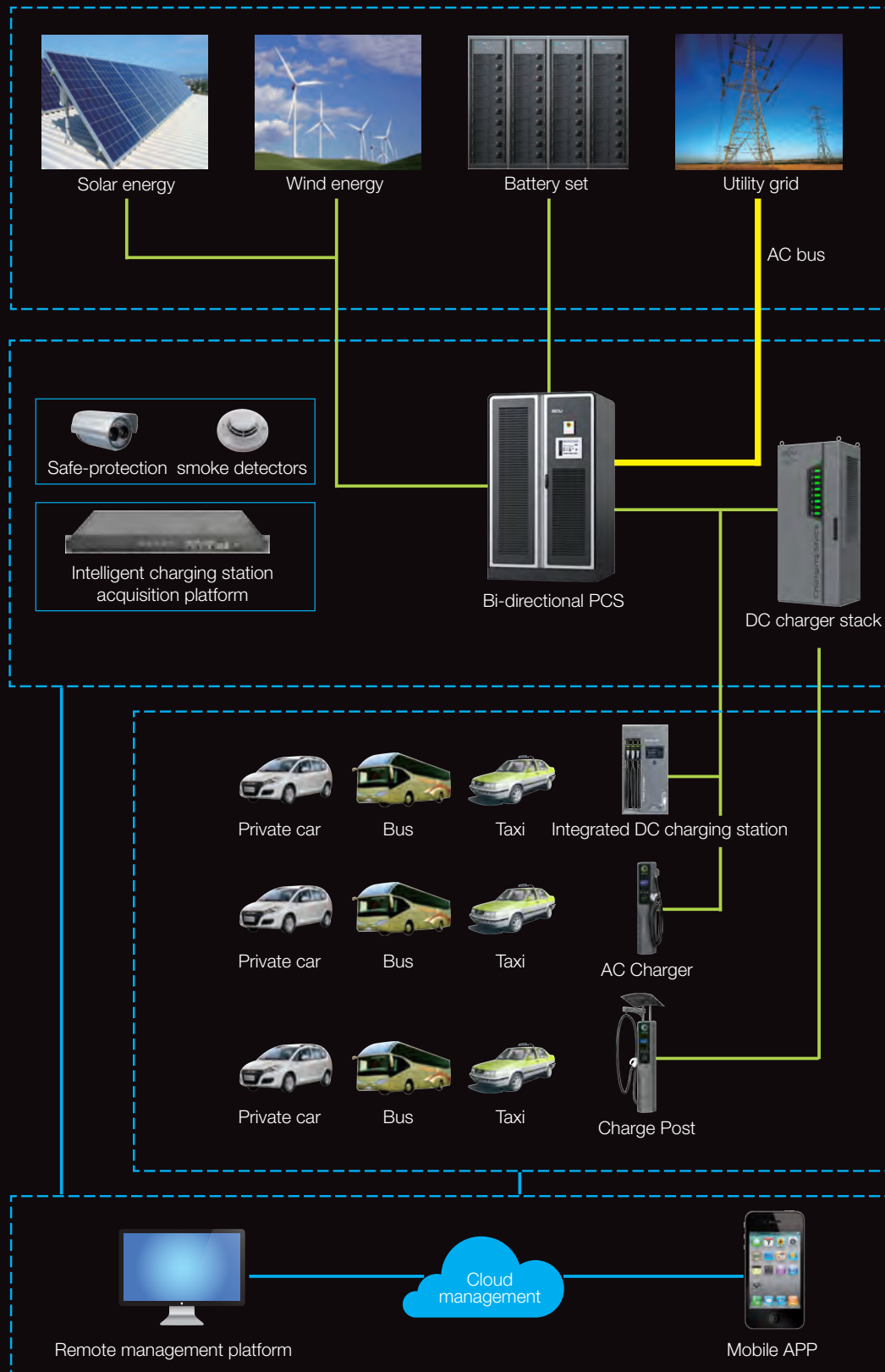


EV Charging Solution  
240kW Power Unit  
+8 Charge Post





## System Diagram





**Sicon Chat Union Electric Co., Ltd.**

Bldg.14&15 No. 319. Xiangjiang Street High-Tech Zone. Shijiazhuang 050035 China

Tel. +86 311 85903762

Fax. +86 311 85903718

[enquiry@scupower.com](mailto:enquiry@scupower.com)

[www.scupower.com](http://www.scupower.com)

