



2021-2022 PHIHONG EV CHARGERS

World Class Quality, International Standards





Phihong Technology

Phihong is a leading global power products manufacturer with over 50 years of industry experience. As a supplier to many of the world's leading brands, Phihong continues to design innovative products with an emphasis on environmental protection and carbon reduction.

Phihong offers a complete product line of EV charging solutions supporting both commercial and passenger electric vehicles. This includes Level 3 DC chargers ranging from 30kW to 360kW and Level 2 AC EVSE ranging from 16 to 48 amps. In addition, Phihong offers DC charging modules, auxiliary power, control & supervisor units (CSU), discrete type DC chargers, integrated type DC chargers, moveable DC chargers, and portable DC chargers.

Phihongs EV charging software solutions include a frontend mobile APP and user interface (HMI) and a cloud-based management, payment, and monitoring platform. Through the front-end mobile APP, people can search for nearby chargers, schedule charging appointments, and monitor charging status. System operators can monitor the status of individual EV chargers and remotely update them, enabling long-term maintenance and management. With strong R&D design capabilities and solid manufacturing experience, Phihong Technology delivers high-quality and cost-effective hardware/software products based on specific customer needs.

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- OEM/ODM/White Label business
- System operators
- EV charger manufacturers
- Electric vehicle manufacturers



OEM/ODM - AC Chargers



OEM/ODM - DC Chargers



Modules



Human Interface (HMI) & Mobile APP



OEM/ODM -Hardware/Software Solutions

Production Base



In 1996, Phihong established the first overseas production base in Dongguan City, the third-largest computer production area in the world. Dongguan Phitek Electronics Co., Ltd and Chin Sheng Hong (Jiangxi) Electronics Co., Ltd. were established in succession. The plant areas cover 40,911 square meters and employ more than 4,000 people. All Phihong production plants in China passed ISO9001 quality system certification, ISO14001 environmental certification, and ISO 45001 occupational safety and health systems certification.

In response to the Sino-American trade war in late 2018, the company launched the New Southbound Plan. The plan included constructing factories in Vietnam to avoid the risk of concentrating production in China and to increase shipment flexibility. Located in the second largest seaport in Vietnam, shipment by vessels to China, Japan, Korea, Europe, and North America can be shipped weekly. The plant area covers 22,418 square meters and employs approximately 1,500 people from the local area. Mass production began in Q1 of 2020.



Phihong (DongGuan)



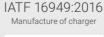
Dong Guan Phitek



Chin Sheng Hong (JiangXi)

Certificate

With ISO 9001 and ISO 13485 quality management systems for industrial and medical products, Phihong offers comprehensive power solutions for customers. Moreover, our EV chargers and other car electronics are IATF 16949:2016 certified, providing assurance that Phihong delivers high-quality products in addition to exceptional after-sales service.





OCPP 1.6

Open Charge Point Protocol



Integrated Product Service

Phihong Technology has established a comprehensive operation model that integrates diverse products and services with research and design, manufacturing, marketing, and services. Be it in public construction projects or implementing Taiwan's island-wide charging station project, Phihong's corporate social responsibility covers green energy and environmental protection.



Development & Design

- Power modules design 30kW~60kW
- 7kW~360kW moveable/wall-mounted/free standing charger design
- Planning of EV & E motor charging stations
- Integration of energy storage and safety management
- CE ETL, cTUVus(Complies with UL), CNS, GB certification
- IEC62196-2 Type 1 & 2, CCS, CHAdeMO, SAE J1772, GB/T charging interface

Production & Manufacturing

- Taiwan / Dongguan China / Vietnam
- IATF16949 / ISO 45001
- ISO 9001 / ISO 13485 / ISO 14001

Survey & Construction

- · Charging station planning
- Electrical power evaluation
- · License application
- Operator management
- · Professional installation

Back-end Cluster Management

- Back end/cloud platform development & management
- · Real-time monitoring and management of chargers
- Mobile APP
- Account authorization management
- Supports operators with payment methods, such as credit cards, easy cards, iPass, 3rd party payment options
- · Big data analysis

Post-Sale Services

(Service available in select regions. Please consult with local Phihong sales staff.)

- Comprehensive training
- 24/7 service
- Firmware upgrade
- · Safe storage of factory repair parts
- · Professional repair team

Production and Testing

Production and System Testing







Semi-finished Product Testing: Wave-Soldering Assembly







Semi-finished Products: Testing & Assembly

Charger - Assembly







AC Chargers: Assembly



Charger - Burn In



DC Charger Burn-in System



AC Charger Burn-in System



Power Module Burn-in System

Future Trend Outlook



 Phihong Technology installed "Audi Fast Charging Stations" at locations throughout Taiwan. (Picture from Audi)

Global urban populations are expanding. It is estimated that by 2050, 66% of the worldwide population will be living in cities. To reduce increasing traffic congestion and the carbon footprint governments of various nations are working with car manufacturers to implement smart services and ridesharing by encouraging the use of electric vehicles. The global trend of reducing carbon emissions has also propelled the sales of EV's internationally, and in 2019, over 5 million EV's were sold globally. The global market share for EV's is projected to be 10% of all vehicles by 2030.

In 2013, Phihong began designing electric vehicle systems and charging solutions. As a result, Phihong now offers a complete line of both Level 2 and Level 3 charging products. Today, Phihong is the leading charger supplier for Canada's electric buses, and is a recognized supplier of EV charging systems by car manufacturers and operators throughout China, Japan, the USA, and Europe.

To establish a more convenient charging environment, Phihong has entered into strategic partnerships with clients to leverage the company's years of experience in the EV industry. In 2020, Phihong and Audi partnered to deliver a smart charging experience for EV owners throughout Taiwan. This, along with a collaboration with Noodoe, resulted in Phihong constructing multiple "Audi Fast Charging Stations" to support Audi's e-tron electric vehicle. Chargers were deployed in Taipei City, New Taipei City, Hsinchu City, Taichung City, and Kaohsiung City to provide a more comprehensive and dependable charging network for electric vehicle owners in Taiwan. Phihong remains committed to enabling convenient EV charging networks and offers a full range of commercial, residential, and portable charging solutions.



Sales Performance

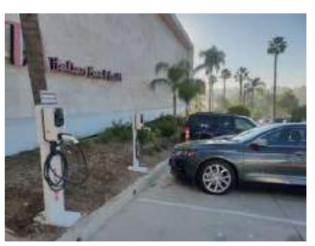






International luxury hotels, California





International luxury hotels, California



AC Chargers



16A Portable EV AC Charger

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✓w/Wi-Fi ✓w/o Wi-Fi ✓RFID32AEV AC Charger

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☑RFID 32A Wall Mount EV AC Charger

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✓w/Wi-Fi ✓w/o Wi-Fi ✓RFID 48A-11kW Single Phase 32A-22kW Three Phase EV AC Charger

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IDC Chargers



☑RFID 32A/63A Pedestal EV AC Charger

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30kW Wall Mount DC Fast Charger

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30kW Moveable DC Fast Charger

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60kW Free Standing DC Fast Charger

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90kW/120kW/ 150kW/180kW Free Standing DC Fast Charger

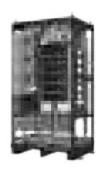
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360kW - Fan Cooling System DC Charger

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DC Modules



180kW Power Rack DC Fast Charger

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30kW EV DC Charging Module

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Accessories



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Software Solution



Front End System Back End System

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AC series

Portable EV AC Charger

- Model 2-chargers can use a circuit ranging from 8Amp to 16Amp with a local standard AC input plug installed for operation
- Provides overcurrent, over voltage and short circuit protection
- Protected against strong jets of water from all directions
- Continuously monitors/supervises the ground connection between the AC supply and EV to ensure safe and reliable charging

Applications

For indoor parking garage or outdoor use



Model Nam	ie	EA35:	2
Power Spec	cification		
	Input Rating	Single phase:20	00~240VAC
AC Input	AC Input Connection	NEMA 6-20 (L1	I/L2/GND)
AC Input	Input Current	16A	
	Frequency	50Hz/60	OHz
AC Output	Output Current	8A-16	A
Environme	ntal		
Operating T	emperature	-20°C~+5	50°C
Humidity		Max. 95% RH	
Altitude(m)		≦ 2000m	
IP Level		IP66	
Cooling Met	thod	Natural cooling	
Mechanica	I		
Dimension(WxDxH)	100x80x200mm	
Weight		≦ 3.5Kg	
Cable Lengt	th	6m	
Protection			
RCD		RCD Type A	
Input Side		UVP, OVP, Surge protection, Ground fault	
Output Side		OCP, Control pilot fault, Residual current protection	
Regulation			
Charging In	terface	IEC 62196-2 Type 2	SAE J1772 Type 1

AW series

32A EV AC Charger













- Ideal for residential and commercial EV charging
- Optional wired/wireless connection for Central Management System
- · Optional support for RFID card and QR code for user authentication and management
- Input: 200Vac~240Vac
- Modern, ergonomic and customizable design
- IP55 rated for indoor/outdoor applications
- Firmware updates through remote connection
- Charging interface: SAE J1772 (Type 1) or IEC 62196 (Type 2)
- OCPP 1.6 JSON

Applications

- Parking garage
- Commercial fleet operators
- EV infrastructure operators and service providers
- EV dealer workshops

Model List

	Type 1	Type 2	Type 3	Type 4
Function	Non- Networking	Networking	Wi-Fi	4G
RFID	Χ			
LAN	Χ	•	•	•
Wi-Fi	Χ	Χ		Χ
4G	Χ	Χ	Χ	•
OCPP	Χ	•	•	•





For information on the optional charging pedestal, please refer to the accessory section on page 37.

Mod	lel Name	AWSE770	AWLU770	AW8U770	AWSC770	AWSG770	AWSJ600001	
		CE/CB	111	/Cul	CNS	CQC	JARI	
	Safety	(Europe)		America)	(Taiwan)	(China)	(Japan)	
Р	icture							
Power Spe	cification	I	I					
	Input Rating			200~240	 Vac/Single phas	e		
AC Input	AC Input Connection	L/N/PE	L1/L2/GND	NEMA 14-50 NEMA 6-50	L/L1, N/L2, PE	L/N/PE	L/N/PE	
	Input Current			32A			30A	
	Frequency			5	i0Hz/60Hz			
AC Output	Output Current			32A			30A	
User Interf	ace & Control							
User Auther	ntication		RFID (IS	O/IEC 14443A/	B, ISO/IEC 15693	, FeliCa™, Mifare)		
Communic	ation							
External		LAN (optional) + 4G (optional) or Wi-Fi (optional)						
Internal		OCPP 1.6 JSON						
Environme	ntal							
Operating T	emperature		-30°C~50°C					
Humidity		Max. 95% RH						
Altitude					≦ 2000m			
IP Level		IP55	NEMA	TYPE 3R	IP55	IP55	IP55	
Cooling Me	thod			Na	tural Cooling			
Mechanica	al						,	
Dimension(WxDxH)			260 x	100 x 280mm			
Weight				≤ 4k	Kg (With Plug)			
Cable Leng	th				5m			
Protection								
RCD/CCID		RCD Type B	CC	ID 20	RCD Type A	RCD Type A	RCD Type A	
Input Side		UVP, OVP, Surge protection, Ground fault						
Output Side		OCP, Control pilot fault, Residual current protection						
Internal		OTP, Relay welding detection, CCID self-test, MCU function fault detection						
Regulation								
Certificate		IEC 61851-1, IEC 61851-21-2		2594, 31-1/-2	CNS 15511-2, CNS 15511-3,	GB/T 18487.1/.2, GB/T 20234.1/.2, GB/T 33594, GB/T 34657.1	JARI A 0001:201 JARI A 0101:201 JARI A 0201:201 JARI A 0301:201 JARI A 0401:201	
Wireless Ce	ertificate	RED	FC	C/IC	NCC	-	-	
Charging In	terface	IEC 62196-2 Type 2 Plug	_	J1772 1 Plug	SAEJ1772 Type 1 Plug	GB / T 20234.2	PSE Type 1 Plug	



32A Wall Mount EV AC Charger

- Ideal choice for residential and commercial EV charging
- Input: 200Vac~240Vac
- 5 inch LCD display
- Modern, ergonomic and customizable design
- IP55 rated for indoor/outdoor applications
- Firmware updates through remote connection
- Optional wired/wireless connection for Central Management System
- Optional support for RFID card and QR code for user identification and management
- Charging interface: SAE J1772 (Type 1)/IEC 62196-2 (Type 2)
- OCPP 1.6 JSON

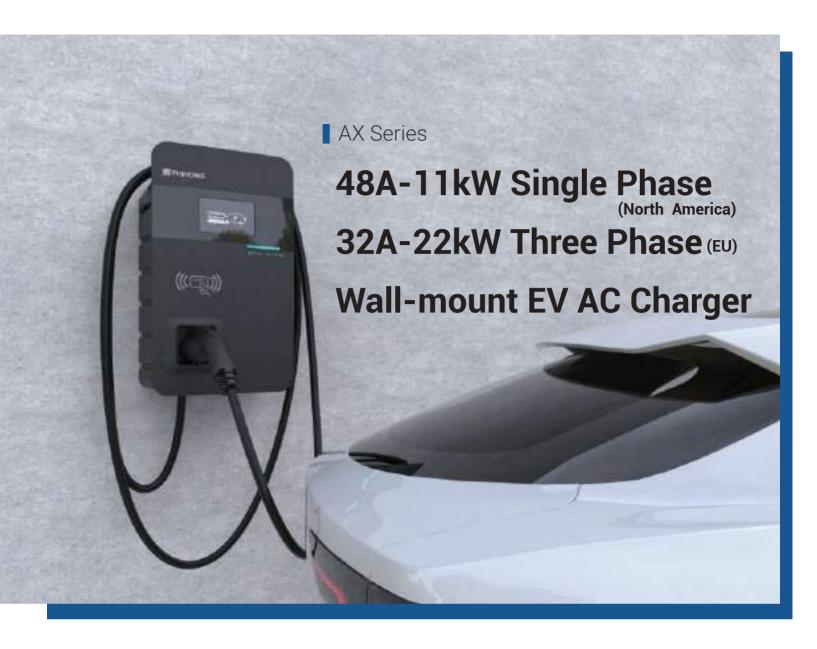
Applications

- Parking garage
- Commercial fleet operators
- EV infrastructure operators and service providers
- EV dealer workshops



For information on the optional charging pedestal, please refer to the accessory section on page 37.

١	Model Name	EA702C0E	EA702C1E	EA702C1U	EA702C1	
Safety Picture		CE (Europe)	CE (Europe)	UL/Cul (North America)	CNS (Taiwan)	
Power Spec	eification					
	Input Rating		200~240Va	nc/Single phase		
401	AC Input Connection	L/N/PE	L/N/PE	L1/L2/GND	L/L1,N/L2,PE	
AC Input	Input Current	'		32A	,	
	Frequency		50H	Iz/60Hz		
AC Output	Output Current			32A		
User Interfa	ace & Control					
Display		5-inch LCD				
User Auther	ntication	RFID (ISO/IEC 14443A/B, ISO/IEC 15693, FeliCa™, Mifare)				
Communica	ation					
External		LAN(standard)/Wi-Fi(optional)				
Internal		OCPP 1.6 JSON				
Environmer	ntal					
Operating To	emperature		-30°	C~50°C		
Humidity		Max. 90% RH				
Altitude		≦ 2000m				
IP Level		IP55	IP55	NEMA TYPE 3R	IP55	
Cooling Met	thod	Natural Cooling				
Mechanical						
Dimension(WxDxH)		290 x 12	20 x 410mm		
Weight		5.5Kg (With Socket)		≦8Kg (With Plug)		
Cable Lengt	:h			5m		
Protection						
RCD/CCID		RCD Type B	RCD Type B	CCID 20	RCD Type A 30 mA	
Input Side		'	UVP, OVP, Surge p	rotection, Ground fault		
Output Side		OC	P, Control pilot fault,	Residual current protect	tion	
Internal		OTP, Relay wel	ding detection, CCID	self-test, MCU function	fault detection	
Regulation						
Certificate		IEC 61851-1, IEC61851-22	IEC 61851-1, IEC61851-22	UL2594, UL2231-1/-2	CNS 15511-1, CNS 15511-2 CNS 15511-3, CNS 15511-22	
		IEC 62196-2	IEC 62196-2	SAEJ1772	SAEJ1772	



- Ideal for residential and commercial EV charging
- Optional wired/wireless connection for Central Management System
- Supports RFID card & QR code for user authentication and management
- Input: 200Vac~240Vac
- Modern, ergonomic and customizable design
- Optional 5 inch LCD display
- IP protection class for outdoors: IP56/NEMA4
- Supports Over the Air Technology
- Charging interface: SAE J1772 (Type 1)/IEC 62196-2 (Type 2)
- Supports OCPP 1.6 Json (Upgradeable to 2.0)
- Supports RS232/485 external communication interface (Optional)
- Supports ISO 15118 protocol
- Supports dynamic output load distribution, making the field power configuration planning of charging stations more flexible

- Parking garage
- Commercial fleet operators
- EV infrastructure operators and service providers
- EV dealer workshops



For information on the optional charging pedestal, please refer to the accessory section on page 37.

Model Name Safety		AX32 Cable	AX32 Socket	AXLU111	
		CE/CE	3 (Europe)	UL/Cul (North America)	
	Picture				
Power Spe	cification				
	Input Rating	Three-phase: 3P+	N+PE ; 380~415Vac	Single-phase: 200~240Vac	
401	AC Input Connection	L1/L2/	L3/N/PE	L1/L2/GND or L/N/PE	
AC Input	Input Current	3	32A	48A	
	Frequency		50Hz/60Hz	ı	
400	Output Current	32A / 16A Type-I	E Socket (Optional)	48A	
AC Output	Output Power	22kW (adju	stable 11kW)	11kW	
User Interf	ace & Control				
Display		LED pilo	t lamp (standard), 5-inch LCD	(Optional)	
User Authe	ntication	RFID (ISO/IEC 144	143A/B, ISO/IEC 15693, FeliCa [†]	[™] , Mifare), ISO 15118	
Meter		Meter IC (1% Accuracy) MID Meter (Optional)	Meter IC (1% Accuracy) MID Meter (Optional)	Meter IC(1% Accuracy)	
Communic	ation				
External		LAN+Wi	Fi (standard) or LAN+4G+WiFi	(Optional)	
Internal		OCPP 1.6 JSON (Upgradeable to 2.0) EEBUS (support in 2022)			
Environme	ntal				
Operating T	Temperature	-30 °C to +50 °C (s1	tandard) or -20 °C to +50 °C (w	ith payment system)	
Humidity		< 85% (RH) @50 °C			
Altitude			≤ 2000m		
Enclosure F	Protection (IK/IP Level)	IP56 (TYPE E Socket Model is IP55) & IK08		NEMA TYPE 4	
Cooling Me	thod		Natural Cooling		
Mechanica	ıl				
Dimension((WxDxH)	Approx. 295 x 158 x 505mm	Approx. 295 x 180 x 505mm	Approx. 295 x 158 x 505mm	
Weight		<7	7kg (with socket); <10kg (with p	lug)	
Cable Leng	th	5m / 7.5m (Option and need to use cable r	nanagement)	
Protection					
RCD/CCID		RCD type A + DC 6mA		CCID 20	
Input Side		UVP, OVP, Surge protection, Ground fault			
Output Side		OCP, Con	trol pilot fault, Residual current	protection	
Protocol		OTP, Relay welding d	letection, CCID self-test, MCU f	unction fault detection	
Regulation	1				
Certificate		IEC 61851-1, IEC 61851-21-2		UL2594, UL2231-1/-2 CTEP Energy Star	
Wireless Ce	ertificate	R	ED	FCC/IC	
Charging Interface		IEC 62196-2 Type 2 Plug	IEC 62196-2 Type 2 Shuttered Socket	SAEJ1772 Type 1 Plug	

AP series (Not available in North America)

32A / 63A Pedestal EV AC Charger

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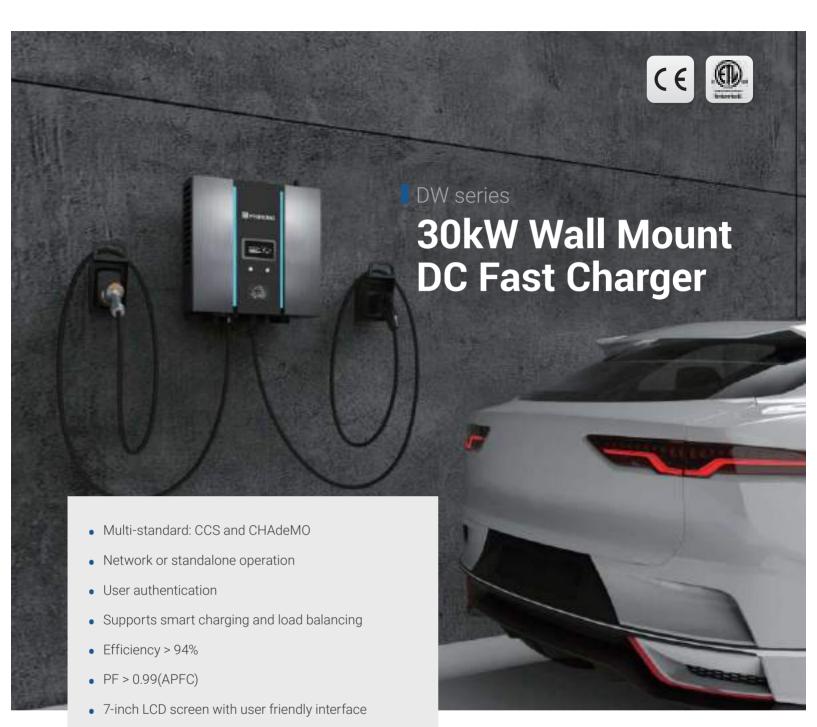
Feature

- Ideal for residential and commercial EV charging
- · Modern, ergonomic and customizable design
- 5 inch LCD display
- IP54 rated for indoor/outdoor applications
- Firmware updates through remote connection
- Optional wired/wireless connection for back-office management
- Optional RFID card reader for user identification and management
- Charging interface: IEC 62196-2 (Type 2)
- OCPP 1.6JSON

- Parking garage
- Commercial fleet operators
- EV infrastructure operators and service providers
- EV dealer workshops



N	Model Name	EA443E3E	EA443E2E	EA873E3E			
Safety Picture			CE/CB (Europe)				
				8			
Power Spec	cification						
	Input Rating	Th	ree-phase:3P+N+PE; 380~415	Vac			
AC Input	Input Current	64A	64A	126A			
	Frequency		50Hz/60Hz				
AC Output	Output Current	32Ax2	32Ax2	63Ax2			
User Interfa	ace & Control						
Display		5-inch LCD					
User Auther	ntication	RFID (ISO/IEC 14443A/B, ISO/IEC 15693, FeliCa™, Mifare)					
Energy Mete	ering	Class 1.0 accuracy (MID Certified Meter)					
Communic	ation						
External			LAN(standard)/4G(optional)				
Internal			OCPP 1.6 JSON				
Environme	ntal						
Operating T	emperature		-30°C~50°C				
Humidity			Max. 95% RH				
Altitude			≦ 2000m				
IP Level		IP54					
Cooling Met	thod	Natural cooling					
Mechanica	<u> </u>						
Dimension(WxDxH)		420 x 305 x 1350mm				
Weight		32A Plug ≤ 57Kg	32A Socket ≤ 51Kg	63A Plug ≤ 70Kg			
Cable Lengt	h	5m	-	5m			
Protection		·					
RCD			RCD Type B				
Input Side		UVF	, OVP, Surge protection, Ground	fault			
Output Side		OCP & Coi	ntrol pilot fault, Residual current	t protection			
Internal		OTP, Relay we	elding detection, MCU function	fault detection			
Regulation							
Certificate			IEC 61851-1, IEC61851-21-2				
Charging In	terface	IEC 62196-2 Type 2 Plug	IEC 62196-2 Type 2 Socket	IEC 62196-2 Type 2 Plug			



- OCPP 1.6 JSON
- IK10/NEMA 3R(Not including screen and RFID module), IP55
- Customization available

- Parking garage
- Commercial fleet operators
- EV infrastructure operators and service providers
- EV dealer workshops



For information on the optional charging pedestal, please refer to the accessory section on page 37.

1	Model Name	CE, DW 30 Series	UL, DW 30 Series	
Safety (Not including GB)		CE/CB (Europe)	NRTL - cETLus (USA/Canada)	
	Picture			
Power Speci	ification			
	Input Rating	3Ф_380~415Vac (±15%)	3Ф_480Vac (+10%, -15%)	
	AC Input Connection	3P+N+PE (Wye configuration), TN/TT/IT	3P+N+PE (Wye configuration), TN/TT	
AC Input	Max. Input Current	3Ф47А	3Ф40А	
AC IIIput	Frequency	50Hz,	/60Hz	
	Power Factor	>0	.99	
	Efficiency	>94%,at optir	mize V/I point	
	Output Voltage Range	• CHAdeM0:150~500Vdc • CCS:150~950Vdc		
	Max. Output Current	CHAdeMO/CCS:60A@500Vdc		
DC Output	Max. Output Power	DC 30kW		
	Voltage Accuracy	±2%		
	Current Accuracy	±2%		
User Interfa	ce & Control			
Display		7" L	_CD	
Push Buttor	ns	Operation buttons / Emergency stop button		
User Auther	ntication	RFID: support ISO 14443A/B, ISO 15693, FeliCa Lite-S (RCS966) OCPP, 2D barcode, APP, Mobile payment		
Communica	tion			
External		Ethernet,Wi-Fi,and 4G		
Internal		CAN bus/RS485		
Environmen	tal			
Operating To	emperature	-30° C~50° C, will deratin	ng from 50° C and above	
Humidity		5%~95% RH, n	on-condensing	
Altitude		≦ 20	00m	
IP/IK Level		IP55/IK10 (not including screen and RFID module)	NEMA 3R IK10 (not including screen and RFID module)	
Cooling Met	hod	Fan c	ooling	
Mechanical				
Cabinet Dim	nension(W x D x H)	610 x 230 x	690mm±1%	
Weight		Single plug: ≤ 80kg ±1%/Dual plugs: ≤ 88kg ±1%		
Cable Length		4	m	
Protection				
Input Protection		OVP, OPP, OTP, UVP, SPD		
Output Prote	ection	SCP, OCP, OVP	, LVP, OTP, IMD	
Regulation				
Certificate		IEC 61851-1, IEC 61851-23, IEC 61851-21-2	UL 2202, UL2231	
Charging Int	terface	CHAdeMO V1.2, DI	N 70121, IS015118	



DM series

30kW Moveable DC Fast Charger

Feature

- Multi-standard: CCS, CHAdeMO and GB/T
- Network or standalone operation
- User authentication
- Supports smart charging and load balancing
- Efficiency > 94%
- PF > 0.99(APFC)
- 7-inch LCD screen with user friendly interface
- OCPP 1.6 JSON
- IK10/NEMA 3R(Not including screen and RFID module), IP55
- Customization available





Applications

- Parking garage
- Commercial fleet operators
- EV dealer workshops

Wheel





For EU

For US

N	Model Name	CE, DM 30 Series	UL, DM 30 Series	
Safety	(Not including GB)	CE/CB (Europe)	NRTL - cETLus (USA/Canada)	
Picture				
Power Speci	fication			
	Input Rating	3Φ_380~415Vac (±15%)	3Ф_480Vac (+10%, -15%)	
	AC Input Connection	3P+N+PE (Wye configuration),TN/TT/IT	3P+N+PE (Wye configuration),TN/TT	
	Max. Input Current	3Ф47А	3Ф40А	
AC Input	Frequency	50Hz/0	60Hz	
	Power Factor	> 0.1	99	
	Efficiency	>94%,at optim	nize V/I point	
	Output Voltage Range	• CHAdeMO:150~500Vd	dc • CCS:150~950Vdc	
	Max. Output Current	CHAdeMO/CCS	:60A@500Vdc	
DC Output	Max. Output Power	DC 30	DkW	
	Voltage Accuracy	±2% ±2%		
	Current Accuracy			
User Interfac	-			
Display		7" LCD		
Push Button	IS	Operation buttons /Emergency stop button		
User Authen	tication	RFID: support ISO 14443A/B, ISO 15693, FeliCa Lite-S (RCS966) OCPP, 2D barcode, APP, Mobile payment		
Communicat	tion			
External		Ethernet,Wi	-Fi,and 4G	
Internal		CAN bus/RS485		
Environment	tal			
Operating Te	emperature	-30°C~50°C, will derating	g from 50°C and above	
Humidity	. · ·	5%~95% RH, nc	on-condensing	
Altitude		≦ 200	00m	
IP/IK Level		IP55 IK10 (not including screen and RFID module)	• NEMA 3R • IK10 (not including screen and RFID module)	
Cooling Met	hod	Fan co	oling	
Mechanical				
Cabinet Dimension(W x D x H)		W589XD620XH1020mm(cable holder 155)	W589XD620XH988mm (cable holder 155)	
Weight		≤ 80kg ±1%		
Cable Length		4n	า	
Protection				
Input Protection				
	tion	OVP, OCP, OPP, OTP, UVP, RCD, SPD	OVP, OCP, OPP, OTP, UVP, SPD	
		OVP, OCP, OPP, OTP, UVP, RCD, SPD OCP, SCP, OVP,		
Input Protec				
Input Protection				

60kW Free Standing **DC Fast Charger**









- Simultaneous 2 DC Charging
- Multi-standard: CCS, CHAdeMO and GB/T
- Network or standalone operation
- User authentication
- Optional cable management accessories
- Supports smart charging and load balancing
- Efficiency > 94%;PF > 0.99(APFC)
- 7-inch LCD screen with user friendly interface
- OCPP 1.6 JSON
- IK10/NEMA 3R(Not including screen and RFID module), IP55
- Customization available
- Eichrecht compliant: Q3/ 2021 using LEM mater, Eichrecht certification TBD starting Q4/ 2021



		1			
<u> </u>	Model Name	CE, DS 60 Series	UL, DS 60 Series		
Safety		CE/CB (Europe)	NRTL - cETLus (USA/Canada)		
	Picture				
Power Spec	ification				
	Input Rating	3Φ_380~415Vac (±15%)	3Ф_480Vac (+10%, -15%)		
	AC Input Connection	3P+N+PE (Wye configuration), TN/TT/IT	3P+N+PE (Wye configuration), TN/TT		
AC Input	Max. Input Current	• DC System:3 Φ 118A	• DC System:3Ф100A		
	Frequency	50Hz/6	0Hz		
	Power Factor	>0.9'	9		
	Efficiency	>94%,at optimi	ze V/I point		
	Output Voltage Range	CCS2:150~950Vdc CHAdeM0:150~500Vdc GBT:150~750Vdc	• CCS1:150~950Vdc • CHAdeM0:150~500Vdc		
DC Output	Max. Output Current	CHAdeMO/CCS2/GBT:120A@500Vdc	• CHAdeMO/CCS1:120A@500Vdc		
	Max. Output Power	• DC System:60kW	• DC System:60kW		
	Voltage Accuracy	±2%			
	Current Accuracy	±2%			
User Interfa	ce & Control				
Display		7" LC	D		
Push Buttor	ns	Operation buttons/ Em	ergency stop button		
User Auther	ntication	RFID: support ISO 14443A/B, ISO 15693, FeliCa Lite-S (RCS966) OCPP, 2D barcode, APP, Mobile payment			
Meter		AC MID Meter (with CE), DC PTB Meter (2021Q4)	AC/DC Meter (2022)		
Communica	tion				
External		Ethernet,Wi-l	Fi,and 4G		
Internal		CAN bus/RS485			
Environmen	tal				
Operating To	emperature	-30°C~50°C, will derating	from 50°C and above		
Humidity		5%~95% RH, nor	n-condensing		
Altitude		≦ 2000	Om		
IP/IK Level		IP55 IK10 (not including screen and RFID module)	NEMA 3R IK10 (not including screen and RFID module)		
Cooling Method		Fan coo	oling		
Mechanical					
Cabinet Dimension(W x D x H)		700 x 331 x 18	00 mm±1%		
Weight		≦ 235kg	±1%		
Cable Length		4m	4m		
Protection		1			
Input Protec		OVP, OCP, OPP, OTP, UVP, RCD, SPD	OVP, OCP, OPP, OTP, UVP, SPD		
Output Prot	ection	OCP, SCP, OVP, L	VP, OTP, IMD		
Regulation		T			
Certificate		IEC 61851-1, IEC 61851-23, IEC 61851-21-2	UL 2202, UL2231		
Charging Int	terface	CHAdeMO V1.2, DIN 70121	, ISO15118, GB/T 27930		





90kW / 120kW / 150kW / 180kW Free Standing DC Fast Charger

- Optional non-Liquid-cooled 500A charging connector*
- Simultaneous 2 DC charging
- Multi-standard: CCS, CHAdeMO and GB/T
- Network or standalone operation
- User authentication
- · Optional cable management accessories
- Supports smart charging and load balancing
- Efficiency > 94%;PF > 0.99(APFC)
- 7-inch LCD screen with user friendly interface
- OCPP 1.6 JSON
- IK10/NEMA 3R(Not including screen and RFID module), IP55
- Customization available
- Eichrecht compliant: Q3/ 2021 using LEM mater, Eichrecht certification TBD starting Q4/ 2021
- * 300A to 500A duty cycle is following charging connector's instruction

- Parking garage
- Commercial fleet operators
- EV infrastructure operators and service providers
- EV dealer workshops
- Gas/Service stations





Cable Management

Please refer to page 37 for accessory information.



Model Name		CE, DS 90 Series	UL, DS 90 Series	
Safety		CE/CB (Europe)	NRTL - cETLus (USA/Canada)	
Picture		7		
Power Spec	ification			
	Input Rating	3Ф_380~415Vac (±15%)	3Ф_480Vac (+10%, -15%)	
	AC Input Connection	3P+N+PE (Wye configuration), TN/TT/IT	3P+N+PE (Wye configuration), TN/TT	
	Max. Input Current	• DC System:3Φ175A	• DC System:3Ф139A	
AC Input	Frequency	501	Hz/60Hz	
	Power Factor		>0.99	
	Efficiency	>94%,at op	otimize V/I point	
	Output Voltage Range	• CCS2:150~950Vdc • CHAdeM0:150~500Vdc • GBT: 150~750Vdc	• CCS1:150~950Vdc • CHAdeM0:150~500Vdc	
DC Output	Max. Output Current	CHAdeM0:120A@500V CCS2:200A@450V GBT:250A@360V	• CHAdeM0:120A@500V • CCS1:200A@450V	
	Max. Output Power	• DC System:90kW	• DC System:90kW	
	Voltage Accuracy		±2%	
	Current Accuracy	±2%		
User Interfa	ce & Control			
Display		7" -	TFT-LCD	
Push Butto	ons	Operation button/Emergency stop button		
User Autho	entication	RFID: support ISO 14443A/B, ISO 15693, FeliCa Lite-S (RCS966) OCPP, 2D barcode, APP, Mobile payment		
Communica	ntion			
External		Ethernet,Wi-Fi,and 4G		
Internal		CANI	bus/RS485	
Environmen	tal			
Operating T	emperature	-30°C~50°C, will dera	ating from 50°C and above	
Humidity			l, non-condensing	
Altitude			2000m	
IP/IK Level		IP55 IK10 (not including screen and RFID module)	NEMA 3R IK10 (not including screen and RFID module)	
Cooling Method		Fan cooling		
Mechanical				
	nension(W x D x H)		x 1900mm ±1%	
Weight			90kg ±1%	
Cable Length		4m	4m	
Protection				
Input Protect		OVP, OCP, OPP, OTP, UVP, RCD, SPD	OVP, OCP, OPP, OTP, UVP, SPD	
Output Prot	rection	OCP,SCP,0\	VP, LVP, OTP, IMD	
Regulation				
Certificate		IEC 61851-1, IEC 61851-23, IEC 61851-21-2	UL 2202, UL2231	
Charging In	terface	CHAdeMO V1.2, DIN 70	0121, ISO15118, GB/T 27930	

CE, DS 120 Series	UL, DS 120 Series
CE/CB (Europe)	NRTL - cETLus (USA/Canada)



3Φ_380~415Vac (±15%)	3Ф_480Vac (+10%, -15%)
3P+N+PE (Wye configuration), TN/TT/IT	3P+N+PE (Wye configuration), TN/TT
• DC System:3 Ф 230A	• DC System:3Ф170A
51	0Hz/60Hz
	>0.99
>94%,at o	optimize V/I point
CCS2:150~950VdcCHAdeM0:150~500VdcGBT: 150~750Vdc	• CCS1:150~950Vdc • CHAdeM0:150~500Vdc
CHAdeM0:120A@500VCCS2@200A@600V, optional 300AGBT:250A@480V	CHAdeM0:120A@500V CCS1:200A@600V, optional 300A
• DC System:120kW	• DC System:120kW
	±2%
	±2%
7'	"TFT-LCD
Operation buttor	n/Emergency stop button
	B, ISO 15693, FeliCa Lite-S (RCS966) de, APP, Mobile payment
Ethorn	net,Wi-Fi,and 4G
	N bus/RS485
CAN	V DUS/ N.3403
-30°C~50°C will de	erating from 50°C and above
	RH, non-condensing
	≤ 2000m
• IP55	• NEMA 3R/IK10
 IK10 (not including screen and RFID module) 	• (not including screen and RFID module)
Fa	an cooling
	50 x 1900mm ±1%
	420kg ±1%
4m	4m
OVP, OCP, OPP, OTP, UVP, RCD, SPD	OVP, OCP, OPP, OTP, UVP, SPD
OCP, SCP, o	OVP, LVP, OTP, IMD
IEC 61851-1, IEC 61851-23, IEC 61851-21-2	UL 2202, UL2231
CHAdeMO V1.2, DIN	70121, ISO15118, GB/T 27930

Model Name		CE, DS 150 Series	UL, DS 150 Series	
Safety		CE/CB (Europe)	NRTL - cETLus (USA/Canada)	
	Picture			
Power Spec	ification			
	Input Rating	3Ф_380~415Vac (±15%)	3Φ_480Vac (+10%, -15%)	
	AC Input Connection	3P+N+PE (Wye configuration), TN/TT/IT	3P+N+PE (Wye configuration), TN/TT	
AC Input	Max. Input Current	• DC System:3Ф288A	• DC System:3Φ215A	
AC IIIput	Frequency	50	Hz/60Hz	
	Power Factor		>0.99	
	Efficiency	>94%,at o	ptimize V/I point	
DC Output	Output Voltage Range	• CCS2:150~950Vdc • CHAdeM0:150~500Vdc • GBT:150~750Vdc	• CCS1:150~950Vdc • CHAdeMO:150~500Vdc	
	Max. Output Current	CHAdeM0:120A@500V CCS2:200A@750V, optional 300A GBT:250A@600V	CHAdeM0:120A@500V CCS1:200A@750V, optional 300A	
	Max. Output Power	• DC System:150kW	• DC System:150kW	
	Voltage Accuracy	±2%		
Current Accuracy			±2%	
Jser Interfa	ce & Control			
Display		7"	TFT-LCD	
Push Butto	ons	Operation button/	Emergency stop button	
User Authe	entication	RFID: support ISO 14443A/B, ISO 15693, FeliCa Lite-S (RCS966) OCPP, 2D barcode, APP, Mobile payment		
Communica	tion			
External		Ethernet,Wi-Fi,and 4G		
Internal		CAN bus/RS485		
nvironmen				
	emperature	-30°C~50°C, will derating from 50°C and above		
Humidity		5%~95% RH, non-condensing		
Altitude IP/IK Level		≤ 2000m • IP55 • NEMA 3R		
Cooling Me	thod	• IK10 (not including screen and RFID module) • IK10 (not including screen and RFID module) Fan cooling		
Mechanical	anou	l I a	- Cooming	
	nension(W x D x H)	800 x 650	x 1900mm ±1%	
Cabinet Dimension(W x D x H) Weight		≤ 460kg ±1%		
Cable Length		\$ 400kg ±1% 4m 4m		
Protection	-		****	
Input Protect	etion	OVP, OCP, OPP, OTP, UVP, RCD, SPD	OVP, OCP, OPP, OTP, UVP, SPD	
Output Prot		OCP, SCP, OVP, LVP, OTP, IMD		
Regulation				
Certificate		IEC 61851-1, IEC 61851-23, IEC 61851-21-2	UL 2202, UL2231	
Charging In	terface	CHAdeMO V1.2, DIN 70121, ISO15118, GB/T 27930		

CE, DS 180 Series	UL, DS 180 Series
CE/CB (Europe)	NRTL – cETLus (USA/Canada)



2 . 200. 415\/ ₂₀ / 115\/ ₁	20 400\/00 (1109 159/)
3Φ_380~415Vac (±15%)	3Φ_480Vac (+10%, -15%)
3P+N+PE (Wye configuration), TN/TT/IT	3P+N+PE (Wye configuration), TN/TT
• DC System:3Φ350A	• DC System:3Φ260A
5(0Hz/60Hz
	>0.99
>94%,at c	optimize V/I point
CCS2:150~950VdcCHAdeM0:150~500VdcGBT: 150~750Vdc	• CCS1:150~950Vdc • CHAdeMO:150~500Vdc
CHAdeM0:120A@500VCCS2:200A@900V, optional 300AGBT:250A@720V	CHAdeM0:120A@500V CCS1:200A@900V, optional 300A
• DC System:180kW	• DC System:180kW
	±2%
	±2%
7'	'TFT-LCD
Operation button	n/Emergency stop button
· · · · · · · · · · · · · · · · · · ·	B, ISO 15693, FeliCa Lite-S (RCS966)
OCPP, 2D barcoo	de, APP, Mobile payment
Etherne	et,Wi-Fi,and 4G
CAN	l bus/RS485
-30°C~50°C, will de	rating from 50°C and above
5%~95% R	H, non-condensing
=	≦ 2000m
• IP55	NEMA 3R W10 (not including a paragraph and BEID good (de))
IK10 (not including screen and RFID module)	IK10 (not including screen and RFID module)
	an cooling
900 v 451	0 x 1900mm ±1%
800 X 030	
✓ E	500kg ±1%
	Am
<u>≤</u> 5 4m	4m
4m	
4m OVP, OCP, OPP, OTP, UVP, RCD, SPD	OVP, OCP, OPP, OTP, UVP, SPD
4m OVP, OCP, OPP, OTP, UVP, RCD, SPD	
4m OVP, OCP, OPP, OTP, UVP, RCD, SPD	OVP, OCP, OPP, OTP, UVP, SPD

DO series

360kW - Fan Cooling System DC Charger

Features

- Simultaneous 4 DC charging, up to 360KW per output with liquid-cooled connector
- Up to 500A per output
- Power cabinet supports Pantograph Charging
- Multi-standard: CCS, CHAdeMO and GB/T
- Network or standalone operation
- User authentication
- · Supports smart charging and load balancing
- Customization available
- Cabinet: Hair line brush(Optional)

- EV bus station
- Parking garage
- EV dealer workshops
- Commercial fleet operators
- EV infrastructure operators/ service providers
- Gas/Service stations



Model Name		CE, DO 360 Series UL, DO 360 Series			
Safety		TBD			
	Picture				
Power Speci	ification				
	Input Rating	3Ф_380~415Vac (±15%)	3Ф_480Vac (+10%, -15%)		
	AC Input Connection	3P+N+PE (Wye configuration), TN/TT/IT	3P+N+PE (Wye configuration), TN/T7		
401	Max. Input Current	670A(CE)	538A(UL)		
AC Input	Frequency	50Hz/	60Hz		
	Power Factor	>0.0<	99		
	Efficiency	>94	1%		
	Output Voltage Range	• CCS:150~950Vdc • GBT: 150~7	50Vdc • CHAdeMO: 150~500Vdc		
DC Output	Max. Output Current	CCS Liquid cooling plug: 500A@720V, CCS Nature Colling plug: 250A@950V, CHAdeMO: 200A@500V			
DC Output	Max. Output Power	DC 360kW			
	Voltage Accuracy	±2%			
	Current Accuracy	±2%			
User Interfa	ce & Control				
Display		7" TF T	-LCD		
Push Buttor	าร	Operation buttons/Em	nergency stop button		
User Auther	ntication	RFID: support ISO 14443A/B, ISO 15693, FeliCa Lite-S (RCS966) OCPP, 2D barcode, APP, Mobile payment			
Communica	tion				
External		Ethernet, Wi-Fi and 3G/4G			
Internal		CAN bus/RS485			
Environmen	tal				
Operating T	emperature	-30°C~50°C, power derating from 50 and above			
Humidity		5%~95% RH, non-condensing			
Altitude		≦ 2000m			
IP/IK Level		IF55 IK10 (not including screen and RFID module)			
Cooling Met	thod	Fan cooling			
Mechanical					
Cabinet Dim	nension(W x D x H)	1400 x 800 x 1900mm ±1% (main cabinet)	, 700 x 550 x 1800mm ±1% (sub cabinet		
Weight		≤ 1200 kg ±3% (main cabinet), ≤ 300kg ±3% (sub cabinet)			
Cable Length		4m			
Protection					
Input Protect	etion	OVP, OCP, OPP, OTP, UVP, RCD, SPD	OVP, OCP, OPP, OTP, UVP, SPD		
Output Prot	ection	OCP, SCP, OVP,	LVP, OTP, IMD		
Regulation					
Compliance		IEC 61851-1, IEC 61851-23, IEC 61851-21-2	UL 2202, UL 2331		
Charging Interface		CHAdeMO V1.2, DIN 70121, ISO15118, GB/T 27930			



DR series

180kW Power Rack DC Fast Charger

Features

- Simultaneous 2 DC Charging
- Up to 500A per output
- Multi-standard: CCS, CHAdeMO and GB/T
- Network or standalone operation
- Supports smart charging and load balancing
- Efficiency > 94%; PF > 0.99(APFC)
- OCPP 1.6 JSON
- Customization available

- Parking garage
- Commercial fleet operators
- EV infrastructure operators and service providers
- EV dealer workshops

Model Name Safety		CE, DR 180 Power Rack	UL, DR 180 Power Rack Evaluated at end application		
		Evaluated at end application			
	Picture				
Power Spec	ification				
	Input Rating	3Ф_380~415Vac (±15%)	3Ф_480Vac (+10%, -15%)		
	AC Input Connection	3P+N+PE (Wye configuration), TN/TT/IT	3P+N+PE (Wye configuration), TN/T1		
	Max. Input Current	360A	285A		
AC Input	Frequency	50Hz/	60Hz		
	Power Factor	>0.99			
	Efficiency	>94% at optim	nize V/I point		
	Output Voltage Range	• CCS:150~950Vdc • GBT: 150~750Vdc • CHAdeMO:150~500Vdc			
DC Output	Max. Output Current	500A			
Do Gatpat	Max. Output Power	DC 180kW			
	Voltage Accuracy	±2%			
	Current Accuracy	±2%			
Communica	ation				
External		Ethernet,Wi-Fi,and 4G			
Internal		CAN bus	/RS485		
nvironmen	ital				
Operating T	emperature	-30°C~50°C, will derating from 50°C and above			
Humidity		5%~95% RH, non-condensing			
Altitude		≦ 2000m			
Cooling Me	thod	Fan cooling			
Mechanical					
Cabinet Dimension(W x D x H)		960 x 780 x 1865 mm ±1%			
Weight		≤ 430kg ±3%			
Protection					
Input Prote	ction	OVP, OCP, OPP, OTP, UVP, RCD, SPD OVP, OCP, OPP, OTP, UV			
Output Protection		OCP, SCP, OVP, LVP, OTP, IMD			
Regulation					
Certificate (of Compliance	IEC 61851-1, IEC 61851-23, IEC 61851-21-2 UL 2202, UL 2			
Charging Interface		CHAdeMO V1.2, DIN 70121, ISO15118, GB/T 27930			



30kW EV DC Charging Module



- DC charging solution for electric vehicles
- Models with 150V~1000V charging voltage are available
- Digital controlled power
- Active PFC to achieve 0.99 power factor
- Complies with CCS and CHAdeMO, GB/T standards
- Soft start and pre-charging function
- Power input side: over/under voltage protection, surge protection
- DC output side: over/under voltage protection, over-current protection and short-circuit protection
- Modular and compact design for easy maintenance

Applications

Optional devices

• Ready for CCS, CHAdeMO, GB/T system integration.

Model Name		G-1K0100		
Safety		CE (Europe) NRTL – cTUVus (North America, complies with UL)		
	Picture	COUNTY BUILDING		
Power Spec	ification			
	Input Rating	260~530Vac		
	AC Input Connection	3L + PE		
	Max. Input Current	60A		
AC Input	Frequency	45~65Hz		
	Power Factor	> 0.99		
	Efficiency	≥ 95% @1000Vdc/50%~100% load current, max. point ≥ 95.5%		
	Standby Power	< 10W		
	Output Voltage Range	150~1000Vdc		
DC Output	Max. Output Current	0~100A		
	Max. Output Power	30kW		
Communica	tion			
Internal		CAN bus, Max. 48 Power modules in parallel		
Environmen	tal			
Operating T	emperature	-40°C \sim +75°C, derating from 55°C		
Humidity		≤95% RH, non-condensing		
Altitude		≦ 2000m		
IP Level		IP20		
Cooling Met	thod	Forced air		
Mechanical				
Dimension(W x D x H)	385 x 395 x 110 mm		
Weight		≤ 21Kg		
Protection				
Input Protec	etion	OVP, OCP, OPP, OTP, UVP, Surge protection		
Output Protection		SCP, OVP, OCP, OTP, UVP		
Electrical Insulation		Insulated DC output and AC input		
MTBF		MTBF > 300Khrs		
Dogulation				
Regulation				

Accessories

Accessories	US/SAE Cable Hook			Pedestal	
Photos		9			
Dimensions	72 x 55 x 172mm	98 x 62.5 x 274mm	308 x 271 x 1571mm	330 x 504 x 1425mm	
Compatibility	SAE J1772	IEC 62196-2	AH/AW Series	AH Series	

Accessories	Pedestal	Pedestal			
Photos					
Dimensions	330 x 210 x 1500mm	330 x 210 x 2250mm			
Compatibility	AW/AH Series	AW Series	AH Series	AX Series	

Accessories	Pedestal (Lite)	Cable Management	
Photos	1		
Dimensions	930 x 805 x 1665mm	1282X232X195	
Compatibility	DW30 Series	DS180 Series / DS150 Series DS120 Series / DS60 Series	

EV Charging Management Solution

Through the mobile app, users are able to search for charger locations, make charging reservations and monitor charging status. The Human Interface (HMI) provides interactive charging operations and supports various payment methods. The cloud- based backend system can monitor individual overall EV charger status. It also allows EV charger updates remotely which facilitate the long-term maintenance and management of the charger. The back-end system also supports data statistics and reports for administrators to conduct analyses.



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