KEMPOWER

Technical Datasheet

Kempower Station Charger C500

Kempower Station Charger is the all-in-one DC charging solution with dynamic power management.

Station Charger is a powerful all-in-one solution for electric vehicle fast charging sites. Utilizing Kempower's user-friendly cable system, Station Charger can have one or two DC charging outputs with CCS1, NACS and CHAdeMO as options.

By utilizing individual 25 kW power channels in the installed power modules, Station Charger's unique dynamic power management harnesses the full potential of on-demand power routing. This enables significant cost savings in the installed charging hardware and grid connection while optimizing the charging experience.

A double cabinet Station Charger can have up to eight 50 kW power modules, providing a maximum charging power of up to 400 kW.

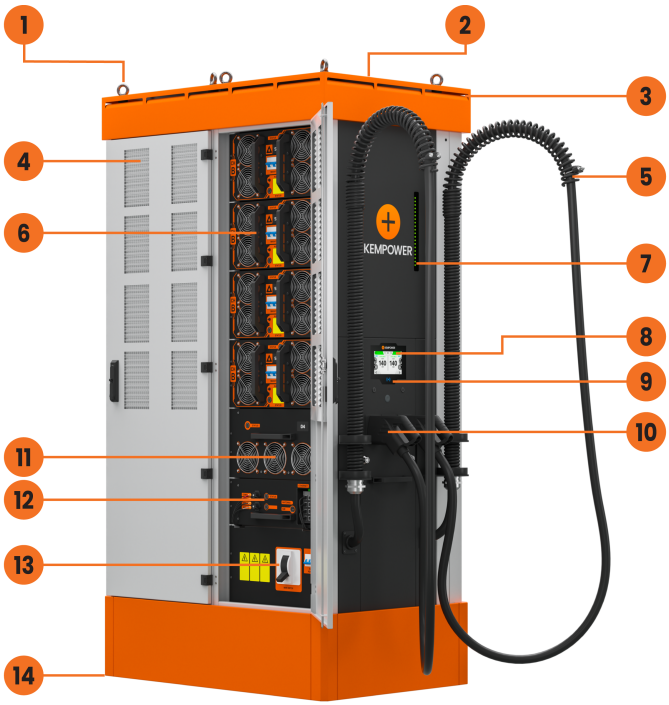
With dynamic power management, the available charging power of all power modules is automatically distributed to all connected charging outputs according to the requests of the electric vehicles.

Power range

Up to 400 kW

Adaptive voltage range

150–920 V



1. Lifting lugs
2. WiFi/cellular/GPS antenna
3. Air outlet
4. Air inlet
5. Charging cable support system
6. Power module (1–4 pcs/cabinet)
7. Charging status indication LEDs
8. 7” touch screen display
9. RFID reader
10. Vehicle connectors
11. Power distribution module
12. Control module
13. Main switch
14. AC supply cable entry

Advanced cable support system for premium user experience

Scalability with add-on Power Modules

Reduced installation cost with all-in-one charging solution

On-screen QR code for following the charging status on your mobile phone

Lockable door for safety and easy access

Advanced charging control and customization with Kempower ChargEye

Product code interpretation

C501•P160•UN•7•ED•P•D2•L•C0

Kempower Station Charger C500 single cabinet • 200 kW charging power • CCS1 & NACS vehicle connectors • charging cable length 23 ft./7 m • nominal charging cable current 300 A & 250 A • Payter P68 payment terminal • up to 2 adaptive dynamic outputs • North American version • unbranded

Item	Code	Description
Product type	C501	Kempower Station Charger C500 single cabinet
	C502	Kempower Station Charger C500 double cabinet
Charging power at nominal output voltage[A]	P160	200 kW (4 modules)
	P320	400 kW (8 modules)
	N	When in front of the vehicle connector type, indicates that there is only one connector
Vehicle connector type	U	CCS1
	UU	2 x CCS1
	UD	CCS1 & CHAdeMO
	UN	CCS1 & NACS
Charging cable length	5	16.4 ft./5 m
	7	23 ft./7 m
Nominal charging cable current	B	125 A (CHAdeMO)
	C	200 A (CCS1)
	D	250 A (NACS)[B]
	E	300 A (CCS1)
User interface and payment	S	Standard user interface
	O	Payter Apollo: Contactless payment with online PIN entry and verification[C]
	P	Payter P68 payment terminal with contactless, chip reader, and magnetic stripe (no PIN pad)[D]
Power distribution modules	D2	Up to 2 adaptive dynamic outputs 150–920 VDC
Certification	L	North American version (ETL-approved product meeting UL and CSA requirements)
Branding	C0	Unbranded: roof and base in black color, no stickers
	Cn	Branded: number (n) indicates branding, e.g. C8

[A] *Standard operation. See Power performance for details.*

[B] *Available as CCS1 300 A & NACS 250 A.*

[C] *When a credit card reader is needed in Washington State, use Payter P68 due to local regulations.*

[D] *Available in the US only.*

Product codes

Product code	Vehicle connector	Max. charging current	Max. DC charging power at 400 VDC[A]	Max. DC charging power at 800 VDC[A]
C501				
C501•UU•x•C•L	2 x CCS1	2 x 200 A	2 x 80 kW	2 x 160 kW
C501•UU•x•E•L	2 x CCS1	2 x 300 A	2 x 120 kW	2 x 200 kW
C501•UD•x•CB•L	CCS1 & CHAdeMO	200 A & 125 A	80 kW & 50 kW	160 kW & 100 kW
C501•UD•x•EB•L	CCS1 & CHAdeMO	300 A & 125 A	120 kW & 50 kW	200 kW & 100 kW
C501•UN•x•ED•L	CCS1 & NACS	300 A & 250 A	120 kW & 100 kW	200 kW & 200 kW
C502				
C502•UU•x•C•L	2 x CCS1	2 x 200 A	2 x 80 kW	2 x 160 kW
C502•UU•x•E•L	2 x CCS1	2 x 300 A	2 x 120 kW	2 x 240 kW
C502•UD•x•CB•L	CCS1 & CHAdeMO	200 A & 125 A	80 kW & 50 kW	160 kW & 100 kW
C502•UD•x•EB•L	CCS1 & CHAdeMO	300 A & 125 A	120 kW & 50 kW	240 kW & 100 kW
C502•UN•x•ED•L	CCS1 & NACS	300 A & 250 A	120 kW & 100 kW	240 kW & 200 kW

[A]*Depends on the number of installed Power Modules.*

Note: *Depending on the required cable length, replace* ***x*** *in the product code with* ***5*** *or* ***7****, e.g. C502•UD•****5****•CB•L for a 16.4 ft./5 m cable.*

General electrical specifications

Input voltage	480 VAC ±6%
Network type	TN-S, TN-C, TN-C-S
Input frequency	50/60 Hz
Overvoltage category	III (IEC 60664-1)
Main circuit breaker breaking capacity	65 kA
Power factor at full load	0.92
Output voltage	150...920 VDC
Efficiency at full load	94%
Idle power	20 VA
Standby power	C501: 50 W
	C502: 180 W

Environmental specifications

Operating temperature	-22…122 °F/-30…+50 °C
Current derating	Charging current decreases 1.5% for every 1.8 °F/1 °C rise in temperature above 104 °F/+40 °C
Maximum altitude without derating	6,562 ft./2000 m
Altitude derating	Charging current decreases 1.4% for every 328 ft./100 m rise above 6,562 ft./2000 m
Operational noise level	Wall side: < 57 dB at 3.3 ft./1 m distance
	Door side: < 62 dB at 3.3 ft./1 m distance
Storage temperature	-40…140 °F/-40…+60 °C
Ambient air humidity	< 95% relative humidity
Enclosure rating	Suitable for outdoor use

Connections and protocols

WiFi	2.4/5 GHz (802.11 b/g/n)
Cellular/GPS	LTE-FDD, LTE-TDD, WCDMA, GSM
Ethernet	RJ45, IEEE 802.3/802.3u
OCPP	1.6j/2.0.1
Connectivity	Kempower ChargEye solution
CCS1	SAE J1772/CCS, DIN 70121:2012, ISO 15118-1:2013, ISO 15118-2:2014
CHAdeMO	0.9/1.0
NACS	
Authentication methods	RFID: ISO 14443A, ISO 15693, ISO 14443B (STM SRI512)
	Customer backend via OCPP
	Payment terminal
	AutoCharge
	ISO 15118-2 Plug & Charge

Electrical protections

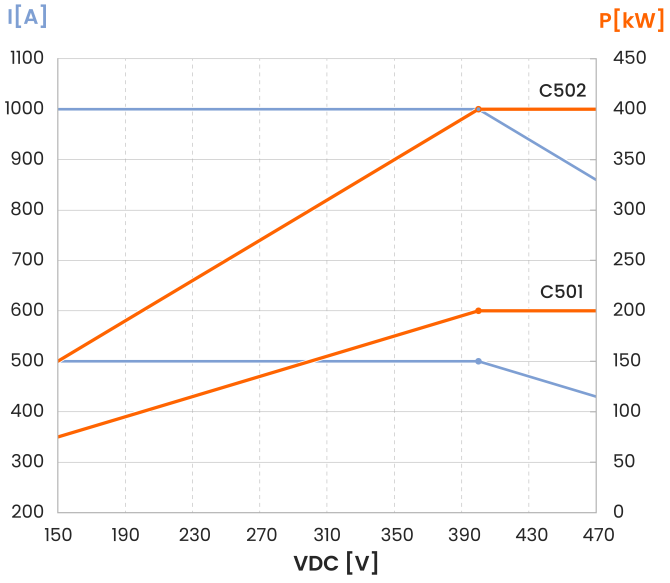
Over/undervoltage
Surge protection
Short circuit protection (output)
Overload protection
Earth leakage current monitoring
Device overtemperature

Power performance

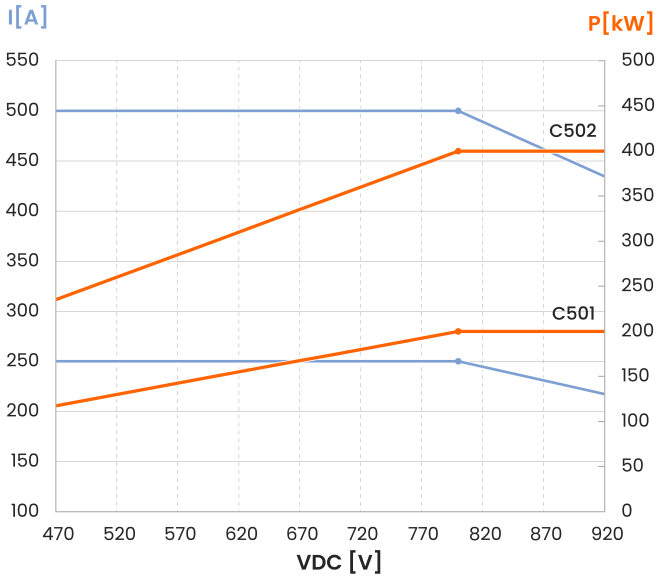
Product type	Number of Power Modules	Number of independent AC supply cables[A]	Charging power	Input current per supply cable at 400 V	Input current per supply cable at 480 V	Charging power	Input current per supply cable at 400 V	Input current per supply cable at 480 V
			Standard operation			**Continuous operation**		
C501	1	1	50 kW	91 A	76 A	40 kW	73 A	61 A
	2	1	100 kW	181 A	151 A	80 kW	145 A	121 A
	3	1	150 kW	272 A	227 A	120 kW	218 A	182 A
	4	1	200 kW	362 A	302 A	160 kW	290 A	242 A
C502	5	2	250 kW	91 A	76 A	200 kW	73 A	61 A
	6	2	300 kW	181 A	151 A	240 kW	145 A	121 A
	7	2	350 kW	272 A	227 A	280 kW	218 A	182 A
	8	2	400 kW	362 A	302 A	320 kW	290 A	242 A

[A]*Each cabinet has a dedicated supply cable.*

Figure 1. Power curve - standard operation

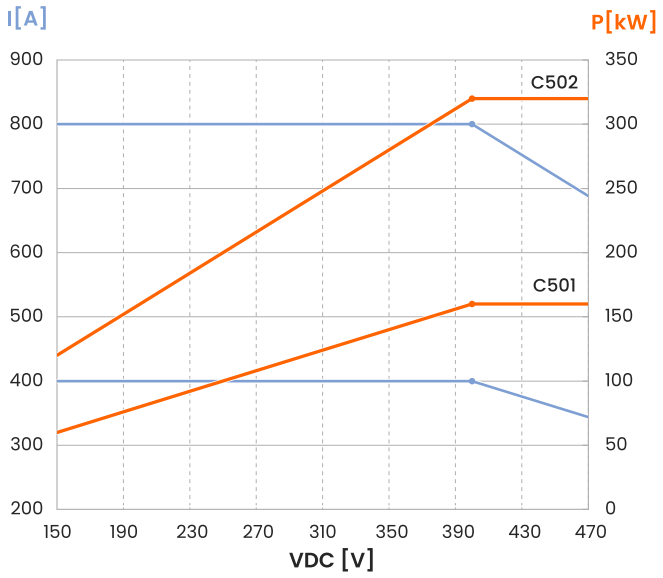


150–470 VDC

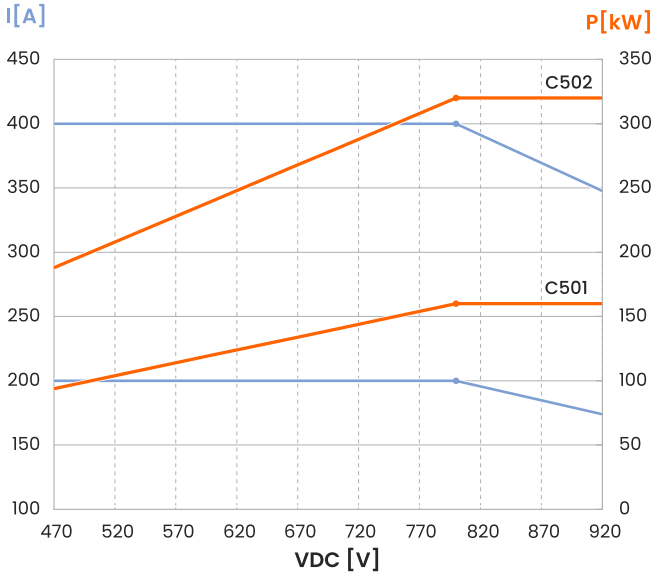


470–920 VDC

Figure 2. Power curve - continuous operation



150–470 VDC



470–920 VDC

Compliance to standards

IEC 61851-1, IEC 61851-23, IEC 61851-21-2, IEC 62196-3
UL 2202, UL 2231-2
CSA Std. c22.2 No. 281.2, CSA Std. c22.2 No. 107.1
FCC 47 CFR Part 15 Subpart B, Class A
CTEP Certified to Accuracy Class 2.0 (< 1.0% error): • COA No. 5982-24 for Kempower standard devices without a 3rd party DC meter

Options

Payment terminal	Payter Apollo: Contactless payment with online PIN entry and verification[A]
	Payter P68 payment terminal with contactless, chip reader, and magnetic stripe (no PIN pad)[B]
Customized branding	Branding options, such as custom colors and stickers Contact Kempower for availability, pricing, and minimum order quantity

[A]*When a credit card reader is needed in Washington State, use Payter P68 due to local regulations.*

[B]*Available in the US only.*

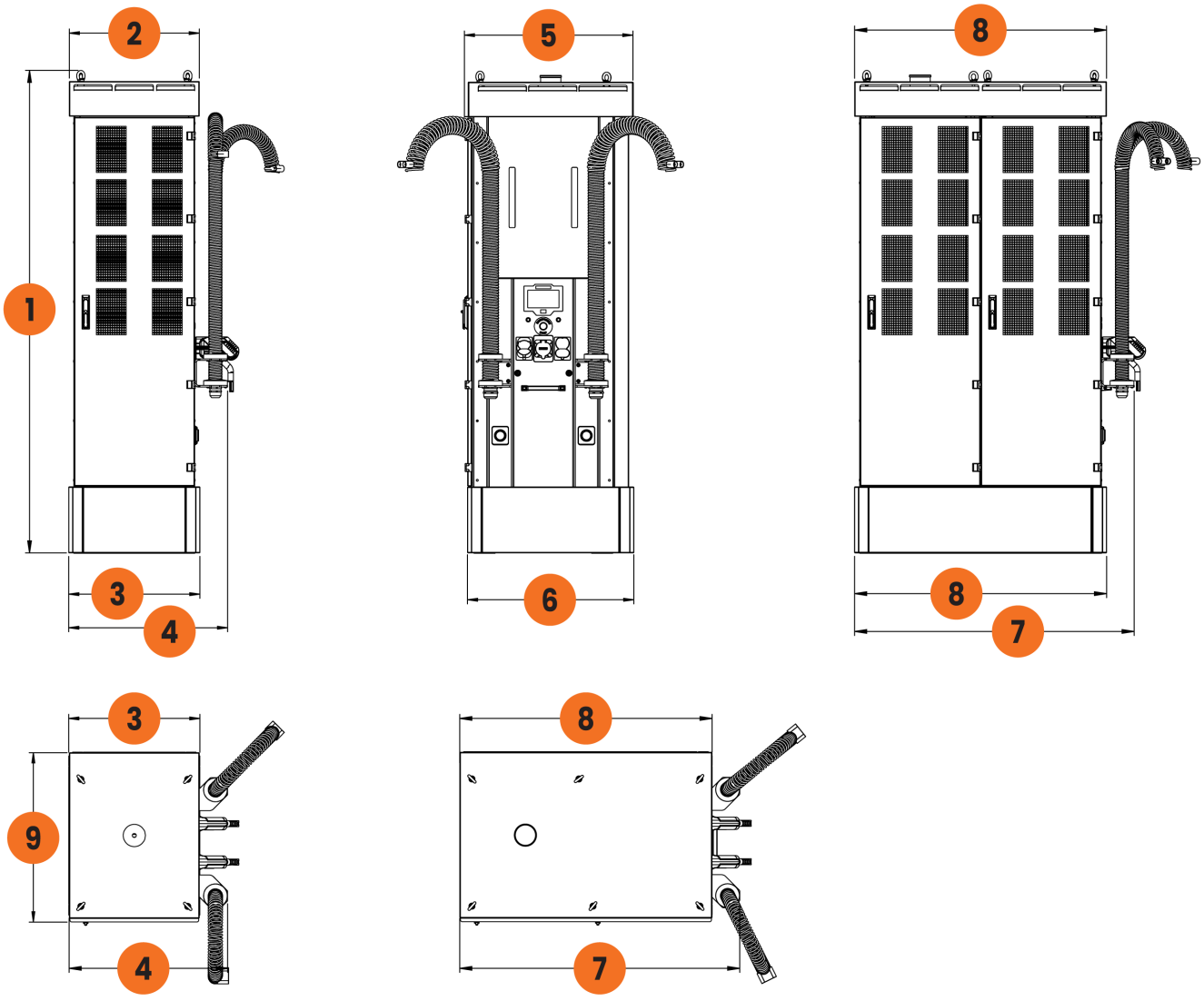
Mechanical dimensions

Size (W x H x D)

C501: 25.6 x 94.3 x 33.1 in./651 x 2395 x 841 mm
C502: 49.2 x 94.3 x 33.1 in./1250 x 2395 x 841 mm

Weight

C501: max. 1,157 lb./525 kg
C502: max. 2,039 lb./925 kg



Measurements

1. 94.3 in./2395 mm
2. 25.4 in./645 mm
3. 25.6 in./651 mm
4. 31 in./788 mm
5. 33 in./839 mm
6. 32.5 in./826 mm
7. 54.6 in./1388 mm
8. 49.2 in./1250 mm
9. 33.1 in./841 mm

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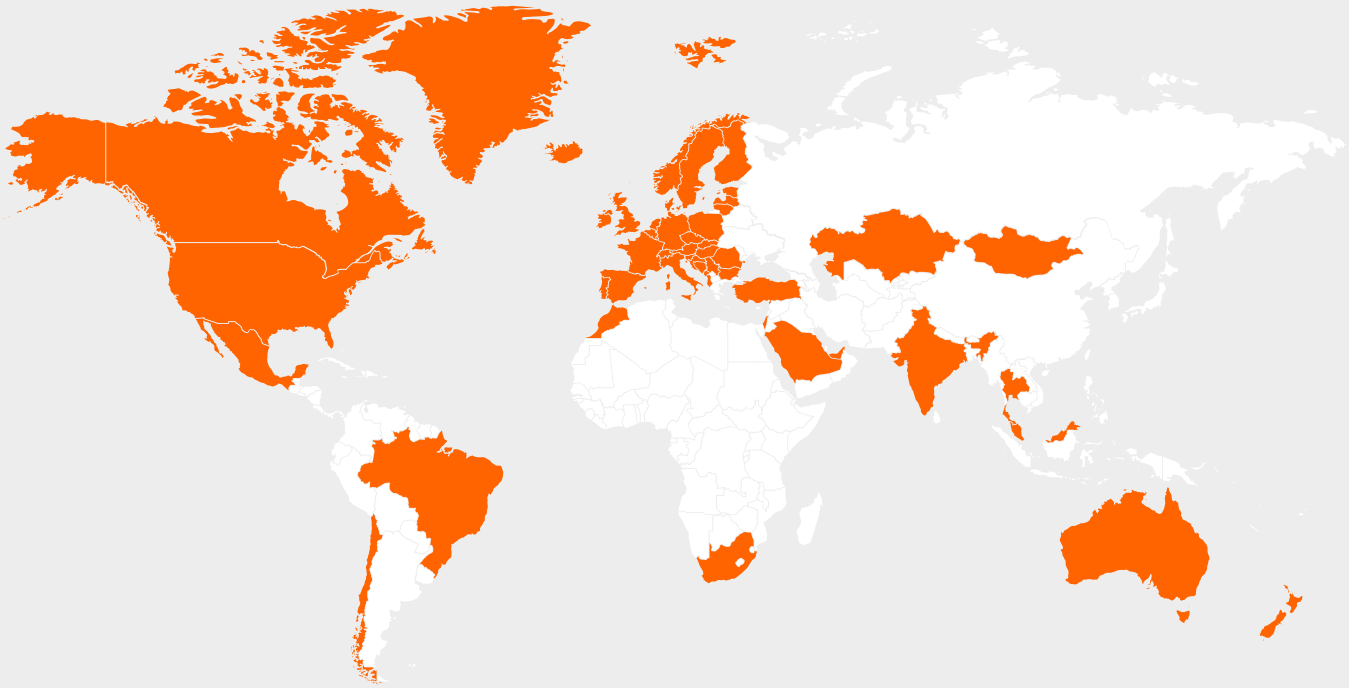

Kempower Inc.

2530 S Tricenter Blvd, Durham, NC 27713 USA