KEMPOWER

Technical Datasheet

Kempower Station Charger C500

Version 2

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

Station Charger can have one or two DC charging outputs with options for CCS2 and CHAdeMO, and an optional AC charging socket. Key features include user-friendly cable management and optional integrated energy meters and payment terminals. With a dedicated power distribution option, up to two external dispensers can be added to the charger configuration.

The system uses dynamic power management, which automatically distributes available power to the connected charging outputs based on vehicle needs.

It uses 50 kW Power Modules and dynamic power management with 25 kW granularity to optimize power routing, leading to cost savings in the installed charging hardware and grid connection, and an optimized charging experience.

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

Power range

Up to 400 kW

Adaptive voltage range

150–1000 V

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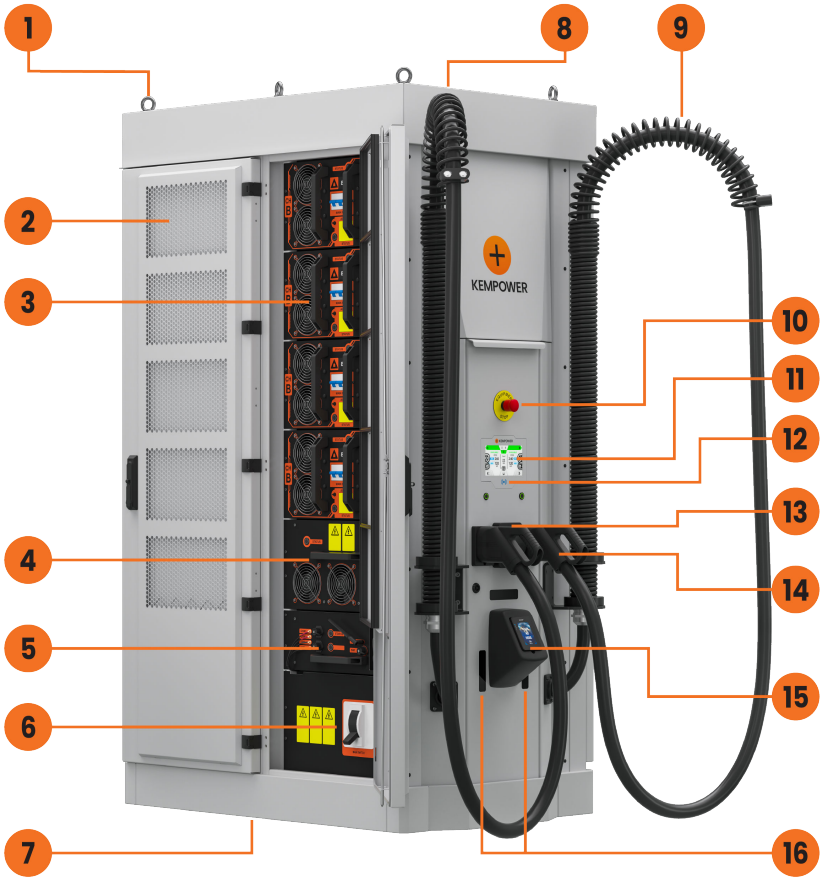

1. Lifting lugs
2. Air inlet
3. Power Module (1–4 pcs/cabinet)
4. Power distribution module
5. Control module
6. Main switch
7. AC supply cable entry
8. WiFi/cellular/GPS antenna
9. Charging cable support system
10. Equipment stop button (option)
11. 7” touch screen display
12. RFID reader
13. AC charging socket
14. Vehicle connectors
15. Payment terminal (option)
16. DC energy meters (option)

Advanced cable support system for premium user experience

Scalability with add-on Power Modules & up to 2 external vehicle connectors

Reduced installation cost with all-in-one charging solution

Available with DC energy meters and payment terminals

Customizable branding

Advanced charging control and customization with Kempower ChargEye

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Product code interpretation

C502•CC•5•E•O•D2•V2•C0

Kempower Station Charger C500 double cabinet • 2 x CCS2 vehicle connector • charging cable length 5 m • nominal charging cable current 300 A • standard user interface and Payter Apollo payment terminal • up to 2 dynamic outputs • Version 2 • unbranded

Item	Code	Description
Product type	C501	Kempower Station Charger C500 single cabinet[A] (four Power Module slots)
	C502	Kempower Station Charger C500 double cabinet[A] (eight Power Module slots)
Vehicle connector type	C	CCS2[B]
	CC	2 x CCS2
	CCA	2 x CCS2 & Type 2 AC[C]
	CD	CCS2 & CHAdeMO
	CDA	CCS2 & CHAdeMO & Type 2 AC[C]
Charging cable length	5	5 m
	7	7 m
Nominal charging cable current	B	125 A (CHAdeMO)
	C	200 A (CCS2)
	D	250 A (CCS2)
	E	300 A/500 A[D] (CCS2)
User interface and payment	S	Standard user interface
	O	Payter Apollo: Contactless payment with online PIN entry and verification
Meter	M	Certified DC energy meter
Equipment stop	E	Equipment stop button
Power distribution modules	D2	Up to 2 adaptive dynamic outputs 150–1000 VDC
	D4	Up to 4 adaptive dynamic outputs 150–1000 VDC
	R	Static power distribution[E]
Version	V2	Version 2
Branding	C0	Unbranded: Solid color RAL7047
	Cn	Branded: number (n) indicates branding, e.g. C8[F]

[A] *The rated current of a single charging output terminal using a power distribution module is limited to 200 A.*

[B] *Not available with power distribution D4. If ordered with static power distribution (R), dynamic upgrade is not available.*

[C] *Type 2 AC charging point with a MID-approved AC energy meter as standard.*

[D] *With 300 A charging cables:*
500 A (max. 10 min) in +25 ˚C. Requires at least 3 output terminals and a specific hardware configuration with a double cabinet and the required number of Power Modules.

375 A continuous in +25 ˚C. Requires at least 2 output terminals and a specific hardware configuration with a double cabinet and the required number of Power Modules.

With single cabinet and power distribution D4, the max. charging current is 400 A per output.

[E] *Dynamic power distribution upgrade is available.*

[F] *Branding according to Kempower Customer Branding Guidelines.*

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PM550V2 Power Module Version 2 for Kempower Power Cabinet C500

Item	Code	Description
Product type	PM550V2	Power Module Version 2 for Kempower Power Cabinet C500 (50 kW in standard operation)

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•CC•x•C•	2 x CCS2	2 x 200 A	2 x 80 kW	2 x 160 kW
C501•CC•x•D•	2 x CCS2	2 x 250 A	2 x 100 kW	2 x 200 kW
C501•CC•x•E•	2 x CCS2	2 x 300/500 A[B]	2 x 120/200 kW	2 x 200 kW
C501•CD•x•CB•	CCS2 & CHAdeMO	200 A & 125 A	80 kW & 50 kW	160 kW & 100 kW
C501•CD•x•DB•	CCS2 & CHAdeMO	250 A & 125 A	100 kW & 50 kW	200 kW & 100 kW
C501•CD•x•EB•	CCS2 & CHAdeMO	300/500 A[B] & 125 A	120/200 kW & 50 kW	200 kW & 100 kW
C501•CCA•x•C•	2 x CCS2 & Type 2 AC	2 x 200 A & AC 3 phases 32 A	2 x 80 kW & AC 22 kW	2 x 160 kW & AC 22 kW
C501•CCA•x•D•	2 x CCS2 & Type 2 AC	2 x 250 A & AC 3 phases 32 A	2 x 100 kW & AC 22 kW	2 x 200 kW & AC 22 kW
C501•CCA•x•E•	2 x CCS2 & Type 2 AC	2 x 300/500 A[B] & AC 3 phases 32 A	2 x 120/200 kW & AC 22 kW	2 x 200 kW & AC 22 kW
C501•CDA•x•CB•	CCS2 & CHAdeMO & Type 2 AC	200 A & 125 A & AC 3 phases 32 A	80 kW & 50 kW & AC 22 kW	160 kW & 100 kW & AC 22 kW
C501•CDA•x•DB•	CCS2 & CHAdeMO & Type 2 AC	250 A & 125 A & AC 3 phases 32 A	100 kW & 50 kW & AC 22 kW	200 kW & 100 kW & AC 22 kW
C501•CDA•x•EB•	CCS2 & CHAdeMO & Type 2 AC	300/500 A[B] & 125 A & AC 3 phases 32 A	120/200 kW & 50 kW & AC 22 kW	200 kW & 100 kW & AC 22 kW

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

[B]*With 300 A charging cables:*
500 A (max. 10 min) in +25 ˚C. Requires at least 3 output terminals and a specific hardware configuration.
375 A continuous in +25 ˚C. Requires at least 2 output terminals and a specific hardware configuration.
With power distribution D4, the max. charging current is 400 A per output.

Note: *With 2 x DC & 1 x AC, simultaneous charging possible with all three outputs. Requires at minimum two Power Modules for simultaneous adaptive voltage DC charging.*

Note: *Depending on the required cable length, replace* ***x*** *in the product code with* ***5*** *or* ***7****, e.g. C501•CD•****5****•CB for a 5 m cable.*

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Product code	Vehicle connector	Max. charging current	Max. DC charging power at 400 VDC[A]	Max. DC charging power at 800 VDC[A]
C502•CC•x•C•	2 x CCS2	2 x 200 A	2 x 80 kW	2 x 160 kW
C502•CC•x•D•	2 x CCS2	2 x 250 A	2 x 100 kW	2 x 200 kW
C502•CC•x•E•	2 x CCS2	2 x 300/500 A[B]	2 x 120/200 kW	2 x 240/400 kW
C502•CD•x•CB•	CCS2 & CHAdeMO	200 A & 125 A	80 kW & 50 kW	160 kW & 100 kW
C502•CD•x•DB•	CCS2 & CHAdeMO	250 A & 125 A	100 kW & 50 kW	200 kW & 100 kW
C502•CD•x•EB•	CCS2 & CHAdeMO	300/500 A[B] & 125 A	120/200 kW & 50 kW	240/400 kW & 100 kW
C502•CCA•x•C•	2 x CCS2 & Type 2 AC	2 x 200 A & AC 3 phases 32 A	2 x 80 kW & AC 22 kW	2 x 160 kW & AC 22 kW
C502•CCA•x•D•	2 x CCS2 & Type 2 AC	2 x 250 A & AC 3 phases 32 A	2 x 100 kW & AC 22 kW	2 x 200 kW & AC 22 kW
C502•CCA•x•E•	2 x CCS2 & Type 2 AC	2 x 300/500 A[B] & AC 3 phases 32 A	2 x 120/200 kW & AC 22 kW	2 x 240/400 kW & AC 22 kW
C502•CDA•x•CB•	CCS2 & CHAdeMO & Type 2 AC	200 A & 125 A & AC 3 phases 32 A	80 kW & 50 kW & AC 22 kW	160 kW & 100 kW & AC 22 kW
C501•CDA•x•DB•	CCS2 & CHAdeMO & Type 2 AC	250 A & 125 A & AC 3 phases 32 A	100 kW & 50 kW & AC 22 kW	200 kW & 100 kW & AC 22 kW
C502•CDA•x•EB•	CCS2 & CHAdeMO & Type 2 AC	300/500 A[B] & 125 A & AC 3 phases 32 A	120/200 kW & 50 kW & AC 22 kW	240/400 kW & 100 kW & AC 22 kW

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

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Note: *With 2 x DC & 1 x AC, simultaneous charging possible with all three outputs. Requires at minimum two Power Modules for simultaneous adaptive voltage DC charging.*

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

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General electrical specifications

Input voltage	380...480 VAC ±10%
Network type	TN-S, TN-C, TN-C-S, TT
Input frequency	50/60 Hz ±5%
Overvoltage category	III (IEC 60664-1)
Icc	35 kA
Power factor at full load	0.98
THDi (typical), at rated input voltage	< 5% at full load
Output voltage	150...1000 VDC
Output power granularity	25 kW in standard operation
AC charging level 2	240 V phase voltage (3 phase supply)
Efficiency at full load	> 95%
Standby power consumption	C501: Max. 0.165 kW
	C502: Max. 0.310 kW

Environmental specifications

Operating temperature	-30...+55 °C
Current derating[A]	Charging current decreases 1.5% for every 1 °C rise in temperature above +40 °C
Maximum altitude without derating	2000 m
Altitude derating	Charging current decreases 1.4% for every 100 m rise above 2000 m
Operational noise level	< 60 dB at 1 m distance
Storage temperature	-40...+60 °C
Ambient air humidity	< 95% relative humidity
Enclosure rating	IP54, IK10 (IK09 for the payment terminal)

[A]*Thermal performance applies only to a standard, unbranded Kempower Station Charger.*

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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
Modbus TCP/IP	RJ45, IEEE 802.3/802.3u Compatible with firmware version 3.0 and later
CCS2	DIN 70121:2012, ISO 15118-1:2013
CHAdeMO	0.9/1.0
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
Overload protection
Earth leakage current monitoring
Device overtemperature
Overcurrent (input and output)

Power performance

AC supply current for each cabinet is calculated based on the number of Power Modules to be installed into each cabinet now or in the future.

Number of Power Modules in cabinet	Charging power	Input current at 400 V	Input current at 480 V	Charging power	Input current at 400 V	Input current at 480 V
	Standard operation			**Continuous operation**		
1	50 kW	78 A	65 A	40 kW	63 A	52 A
2	100 kW	157 A	131 A	80 kW	125 A	105 A
3	150 kW	235 A	196 A	120 kW	188 A	157 A
4	200 kW	313 A	261 A	160 kW	251 A	209 A

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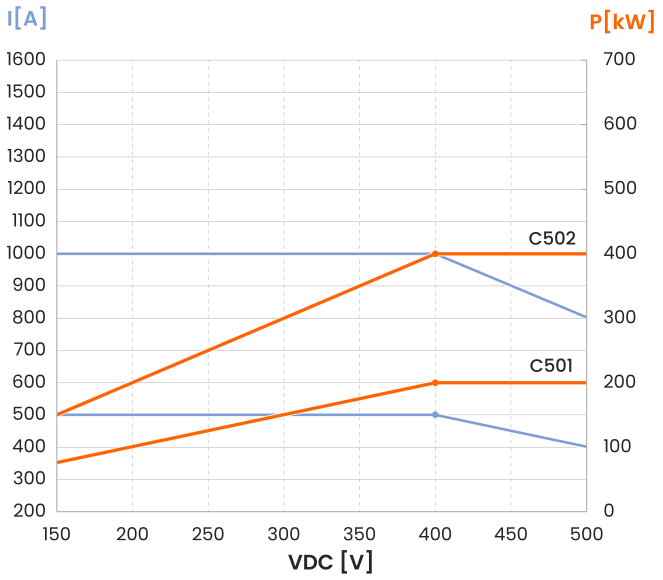
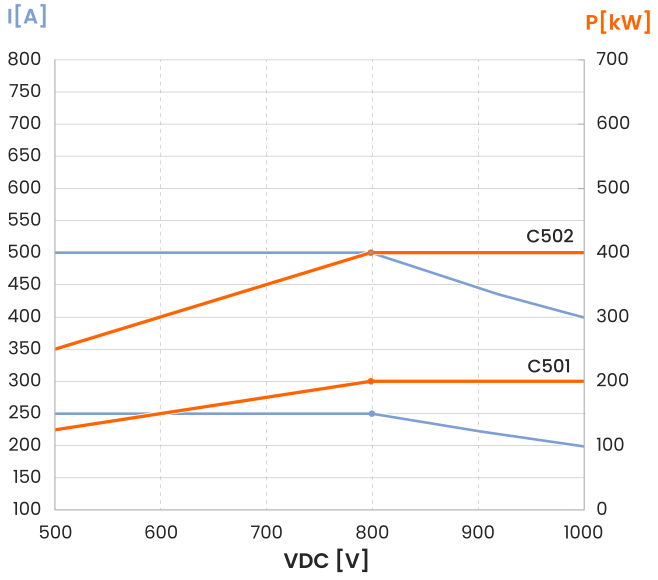
Figure 1. Power curve - standard operation

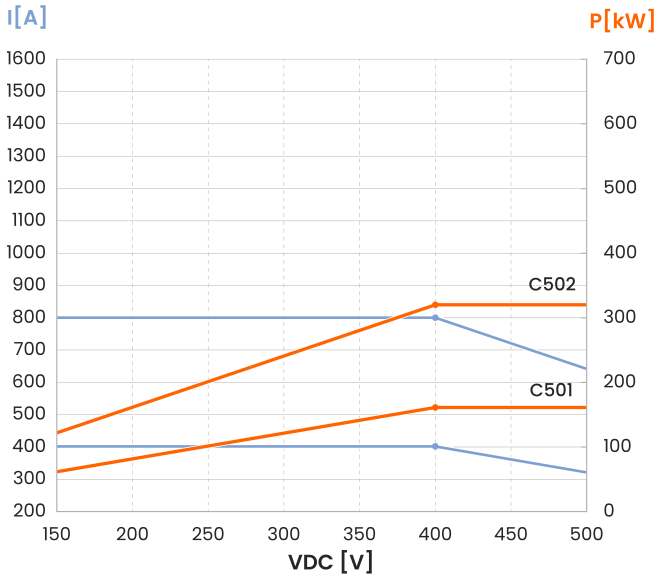


150–500 VDC

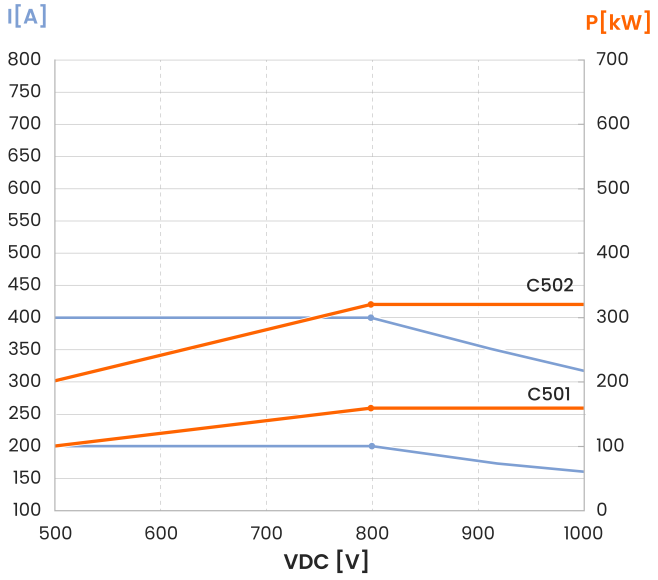


500–1000 VDC

Figure 2. Power curve - continuous operation



150–500 VDC



500–1000 VDC

Compliance to standards

IEC 61851-1
IEC 61851-23
IEC 61851-21-2

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Options

Payment terminal	Payter Apollo: Contactless payment with online PIN entry and verification
Equipment stop button	
DC energy meter	Energy meter (kWh) for an individual DC charging point
Customized branding	Branding options, such as custom colors and stickers Contact Kempower for availability, pricing, and minimum order quantity
Steel base	Installation kit for a single cabinet, for flat surface assembly

Mechanical dimensions

Size (W x H x D)
C501: 710 x 2198 x 870 mm C502: 1310 x 2198 x 870 mm

Weight
C501: max. 525 kg C502: max. 925 kg

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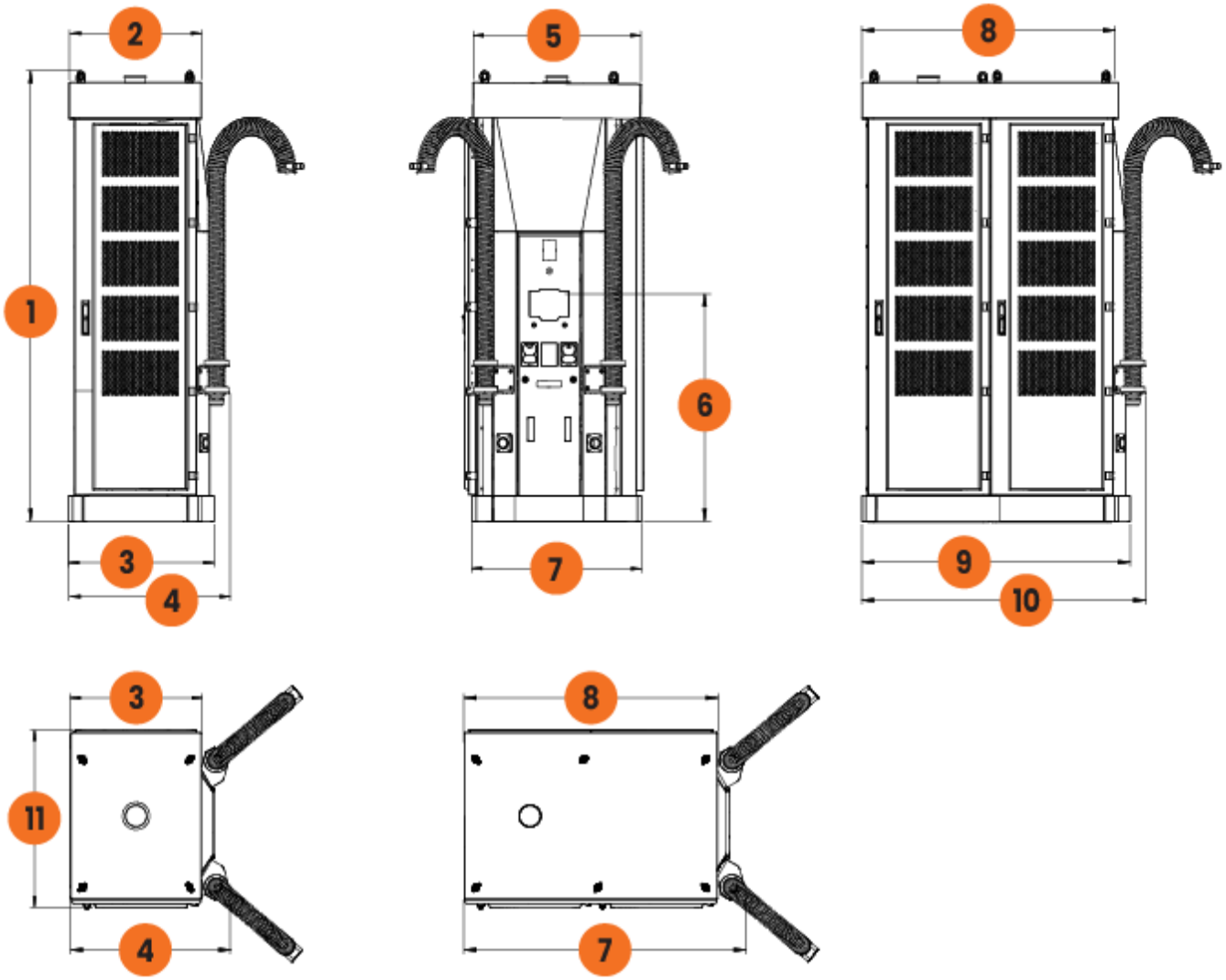

Measurements

1.	2198 mm	4.	785 mm	7.	827 mm	10.	1385 mm
2.	645 mm	5.	820 mm	8.	1250 mm	11.	870 mm
3.	710 mm	6.	1104 mm[A]	9.	1310 mm		

[A]957 mm to the buttons

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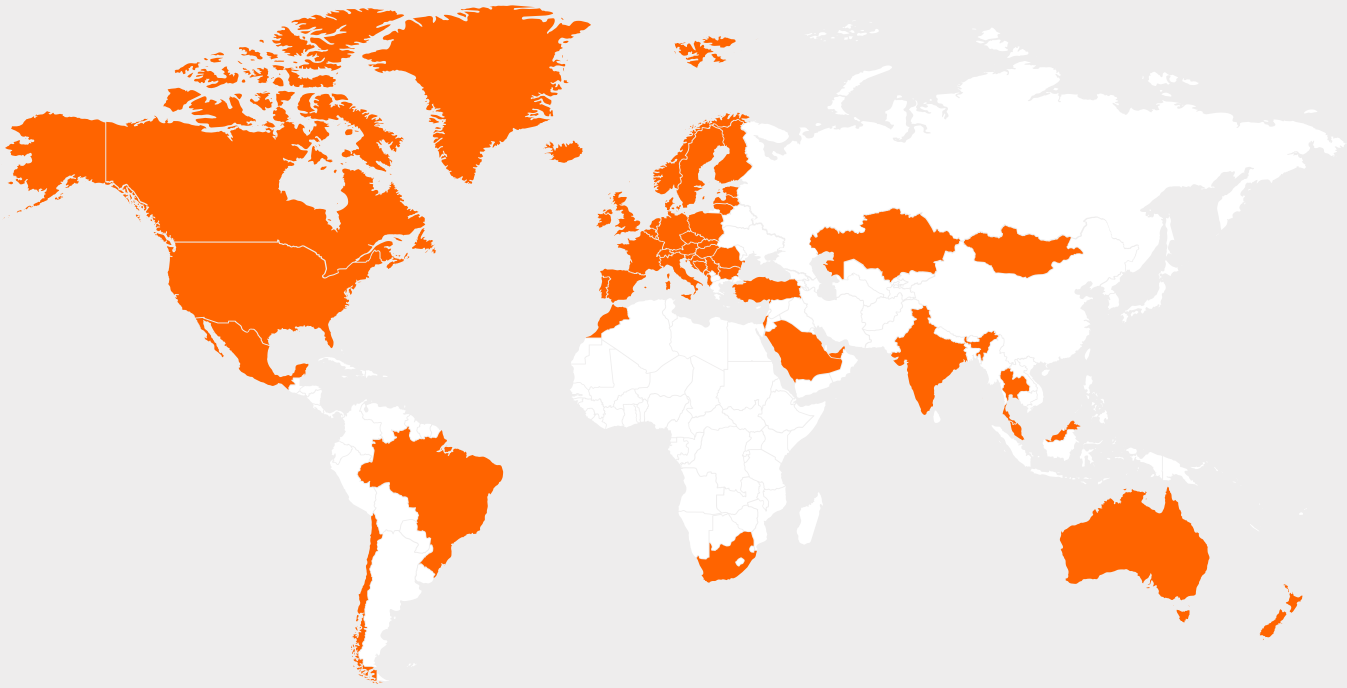

Kempower Oyj

Ala-Okeroistentie 29, 15700 Lahti, Finland

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