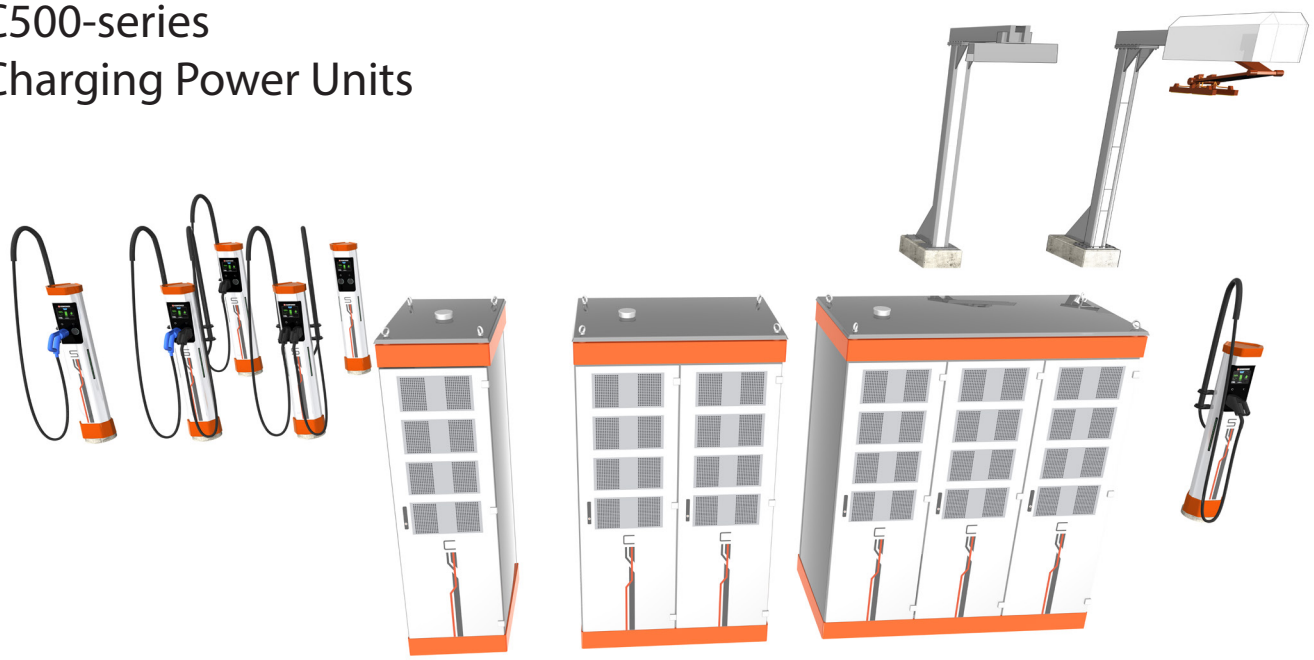
Advanced Satellite Charging System

Technical Datasheet

C500-series
Charging Power Units



Charging Power Units

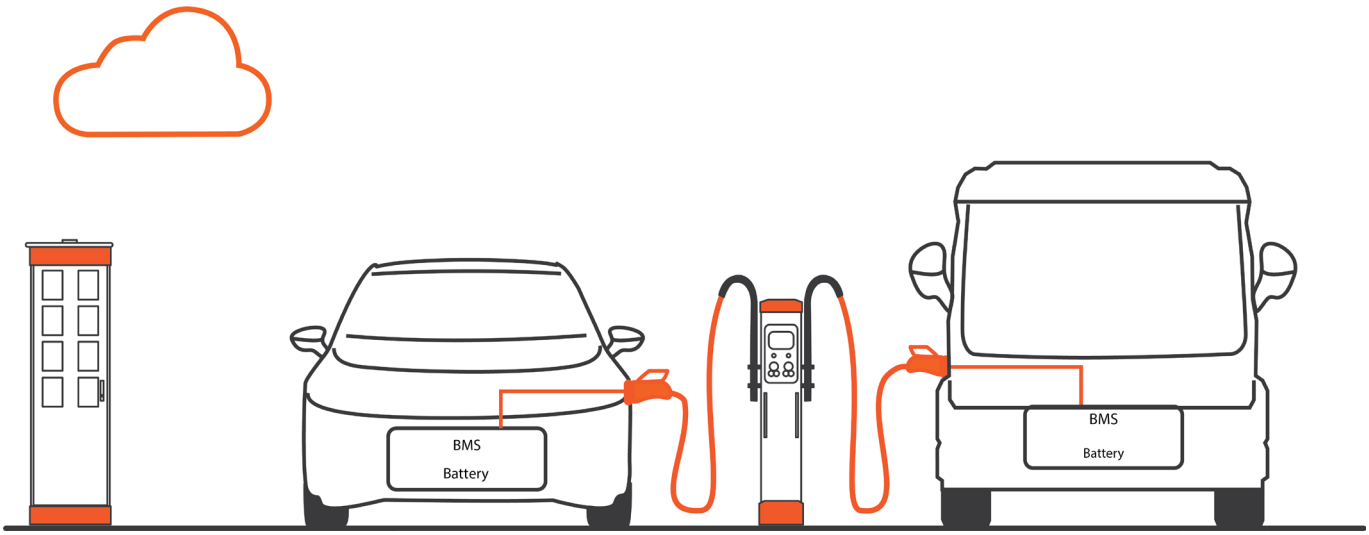
Charging Power Units (CPU) can be selected according to charging application. CPU's heavy duty electromechanical design comprises three type of modules for control, communication and power. Each cabinet utilizes 1 - 4 power modules that each has charging power up to 50 kW. Depending on the charging power demand, full CPU provides nominal power of 200/400/600 kW.

Charging power management can be selected from static or dynamic to meet application needs. On static power management, each power module is dedicated to specific satellite or pantograph. On dynamic control charging power is routed optimatically up to full power respectivily to cable sizing and number of satellites - reload from web: Kempower S-series datasheet.pdf.

- Static power management for constant charging sessions or dynamic power management (pat. pend.) for intelligent power distribution
- Scalablity with add-ons power modules
- Due to advanced power electronics design charging power can be routed to satellites, pantographs or both.

CPU's doors are equipped with micro switch and mechanical triangle-key lock.

Charging Power Unit
Technical datasheet



⚠ Recommended max. DC cabling between CPU cabinet and Satellite/Pantograph is up to 50 meters, for longer distancies consult Kempower.

C-series product codes

C501 - P160 - N - S8

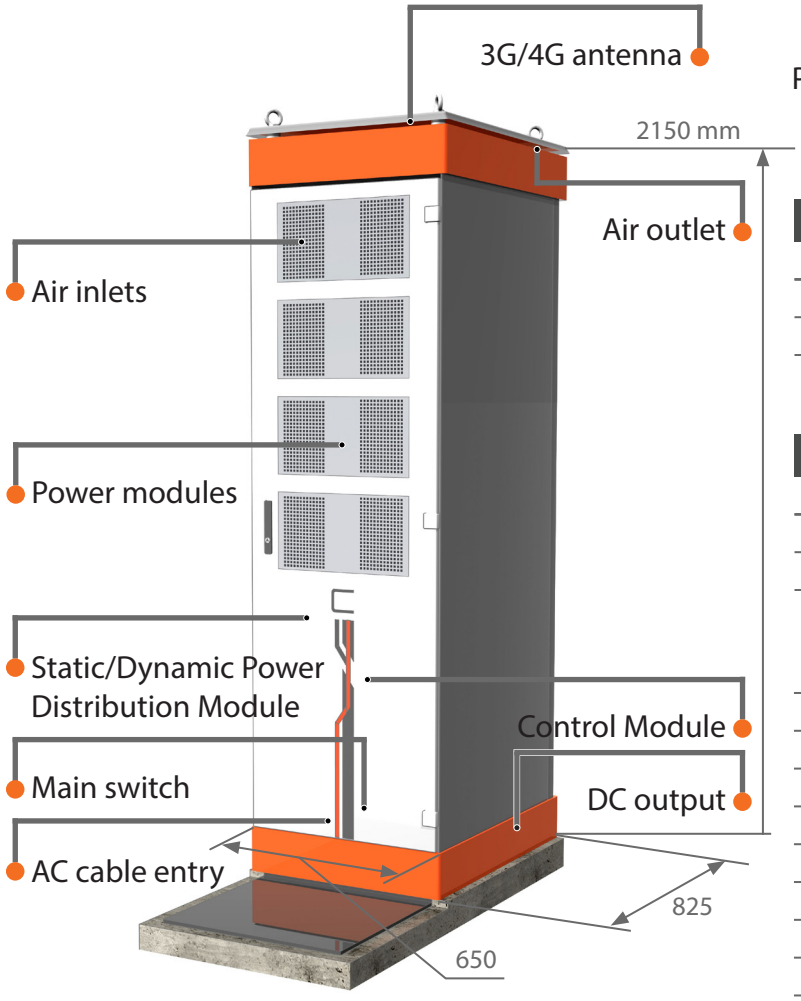
Voltage class and mechanical size indicator
501=500V model, single cabinet

DC charging power
Based on heavy duty rating.
See table on page 3

Charging cabinet options
N= Neutral

Power distribution module
S = Static, D= Dynamic

Features and Dimensions



Type	Description
501	single cabinet
502	dual cabinet
503	triple cabinet

Type	Description
S4	up to 4 static outputs
S8	up to 8 static outputs
D4	up to 4 dynamic outputs
D8	up to 8 dynamic outputs

Specification

General electric specifications C500-Series

Input Voltage	380 - 480 V_{AC} +- 10%, 50 - 60 Hz
Input current	See table below
Output Power	40 - 600 kW
Output current	See table below
Output Voltage	150 - 500 V_{DC}
Max. Output V	580 V_{DC} with 400 V_{AC}
	650 V_{DC} with 480 V_{AC}
Power factor	0.94 at P_N
Efficiency	94% @ output P_N
Standby power	50W (on full cabinet)
Output delivery	Cable + plug / Pantograph

Environmental Specifications

Operating Temperature	-40 to +55 ˚C (with derating)
Derating high ambients	1,5%/1°C up to +55°C max
Maximum altitude	4000 m
Altitude derating	1%/100m above 2000 m
Storage Temperature	-40 to +60 ˚C
Enclosure class	IP54, IK10
Humidity	< 95% relative humidity
Operational noise level	< 60 dB

Features

3G/4G/LTE, WiFi, OCPP 1.6/2.0, cloud based back-end, service and management dashboard, easy power up of power modules

Electrical Protections

Over/under voltage, Surge protection, Short circuit, Earth leakage current, Over temperature

Compliant to Standards

Electrical safety	IEC 61851-1-23
EMC, Harmonics	IEC 61851-21-2

Mechanical dimensions (WxHxD)

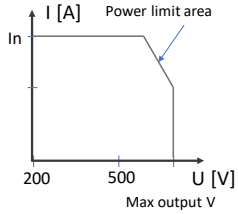
C501: 650x2150x825 mm
C502: 1250x2150x825 mm
C503: 1850x2150x825 mm
Weight: See table below

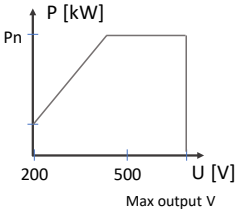
Model specific values

500V

150 - 500 V_{DC}

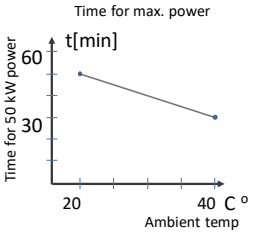
		Light Duty Rating				Heavy Duty Rating				
	Product code	P_{LD} Charging power at 400 Vdc [kW]	Charging current I_{LD} at +40 C [A_{DC}]	Input power P_{IN} at P_{LD} [kVA]	Input current I_{IN} at P_{LD} [A]	P_{HD} Charging power at 400 Vdc [kW]	Charging current I_{HD} at +40 C [A_{DC}]	Input power P_{IN} at P_{HD} [kVA]	Input current I_{IN} at P_{HD} [A]	Weight [kG]
1.	C501 P40 N _	**50**	125	57	82	**40**	100	46	66	280
2.	C501 P80 N _	**100**	250	114	164	**80**	200	91	131	320
3.	C501 P120 N _	**150**	375	171	246	**120**	300	137	197	360
4.	C501 P160 N _	**200**	500	228	328	**160**	400	182	263	400
5.	C502 P200 N _	**250**	625	284	411	**200**	500	228	328	680
6.	C502 P240 N _	**300**	750	341	493	**240**	600	273	394	720
7.	C502 P280 N _	**350**	875	398	575	**280**	700	319	460	760
8.	C502 P320 N _	**400**	1000	455	657	**320**	800	364	526	800
9.	C503 P360 N _	**450**	1125	512	739	**360**	900	410	591	1080
10.	C503 P400 N _	**500**	1250	569	821	**400**	1000	455	657	1120
11.	C503 P440 N _	**550**	1375	626	903	**440**	1100	501	723	1160
12.	C503 P480 N _	**600**	1500	683	985	**480**	1200	546	788	1200





Light duty rating:
- P_{LD} charging power is available continuously for 30 minutes in highest rated ambient temperature (+40C).
- After this the automatic power derating will slowly decrease the power limit until P_{HD} power is reached.
- 5 min break in loading of the power unit is enough for cooling the unit down so that a new full loading cycle can begin.
- In lower ambient temperatures the time for maximum P_{LD} is longer as shown in the graph on the right.

Heavy duty rating:
- P_{HD} charging power is available continuously in any condition within the specified ambient conditions for unlimited time.



CPU options

Pos.	Item	Definition
1.	C-series steel foundation	Installation KIT for a single CPU cabinet for flat surface assembly, such as concrete floor. Provides more installation space for AC and DC cables. Suitable for single cabinet, multiple KITs for multi section cabinets. Consult Kempower for details.

Your local dealer

KEMPOWER
Defining Charging
kempower.com

CE Manufactured in Finland