

chargepoly

MULTI-EV STATION

Fast charging station for electric vehicles

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About

CHARGEPLY has spent two years of R&D to design this charging station in close cooperation with Institut VEDECOM. MULTI-EV STATION includes different innovations in terms of hardware and software. The product has received the CES 2022 innovation award from Consumer Technology Association in “Transportation & Vehicle Intelligence” category.

The innovative layout of the station reduces significantly cost of infrastructure. User Units are noiseless with small footprint. Power is supplied remotely from a centralized Power Unit. The charging station is modular and scalable as the fleet grows. The system offers many charging points so that users don't wait for plugging their EVs.

CHARGEPLY's smart charging applies an intelligent load planning (charging EVs at maximum power one after the other) unlike conventional stations where available power is shared between connected EVs (load balancing). The planning is made from a dynamic priority list computed by CHARGEPLY's proprietary software. Different strategies can be implemented on demand, depending on each use case (e-bus, e-trucks, e-taxis, supermarkets, etc.).



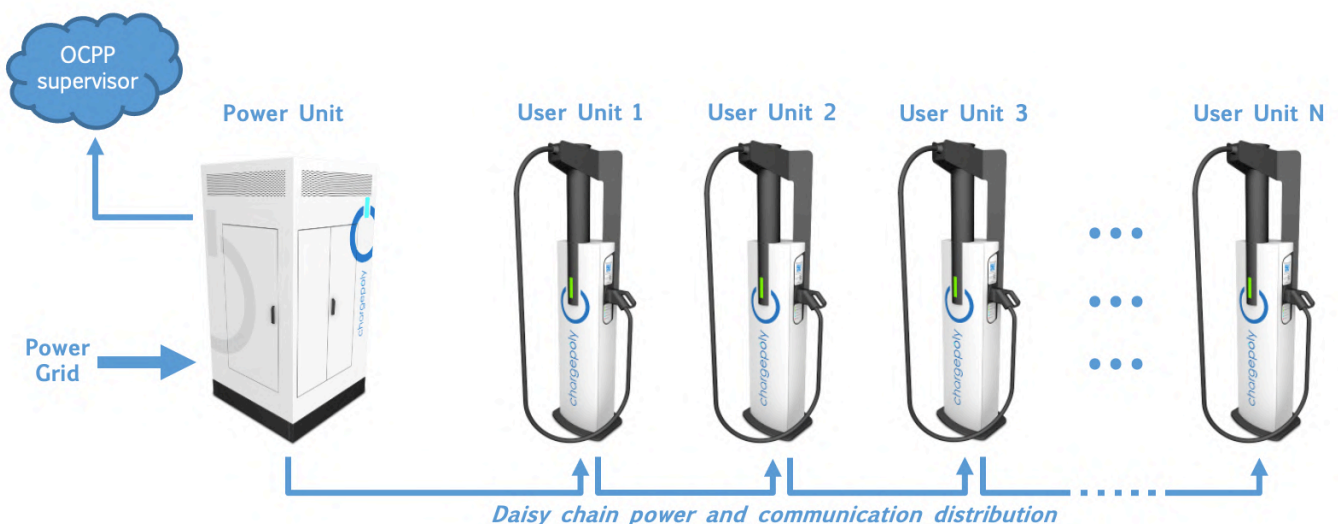
Layout

CHARGEPLY MULTI-EV STATION is composed of several Power Units and User Units:

- The **Power Unit** centralizes the DC power production up to 150kW maximum. It provides with one or two DC charging channels. The nominal power of each channel can be 25kW, 50kW, 75kW, 100kW or 150kW. Power Unit is plug-and-play. All features for grid and internet connections are included.
- The **User Unit** is a single CCS charging point and equips one parking space. Energy is supplied from a Power Unit.

Power Units and User Units are daisy chained, making the system easily scalable.

The following illustration is a configuration of one Power Unit and “N” User Units:



POWER UNIT SPECIFICATIONS

Operating conditions

Usage	Indoor/outdoor	Temperature	-25/+50°C
Humidity	≤ 95% RH	Maximum altitude	2000 m

AC Power input

Supply voltage	400 VAC +/-10 %	Connection	3 P + N + PE
Frequency range	50 Hz	Maximum power	170 kVA
Maximum current	250 A	Power factor	> 0,99
Grounding system	TT or TN	Power derating	Programmable
Overvoltage category	IV		

DC Power outputs

Nominal power	Up to 75 kW @500VDC Up to 150 kW @1kVDC	Total installed power	Up to 150 kW
Voltage range	50-500 V or 50-1000 V	Current range	0-190 A
Efficiency	Up to 95%		

Safety

Electrical protections	MCB, RCD, overvoltage	Overtemperature	Power derating
Lightning arrester	Included	Emergency stop	Included (power conversion only)

Communication

Connectivity	Ethernet 3G/4G (optional)	Protocol	OCPP 1.6J OCPP 2.0 optional
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Mechanical properties

Dimensions (HxWxD)	2000x1250x1250 mm	Weight	630 kg
Protection ingress	IP44	Impact resistance	IK10
Mounting	Stand	Cooling	Air fans

Norms

Standards	EN 61851-23 EN 61851-21-2 EN 61439-1	Marking	CE
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USER UNIT SPECIFICATIONS

Operating conditions

Usage	Indoor/outdoor	Temperature	-25/+50°C
Humidity	≤ 95% RH	Maximum altitude	2000 m

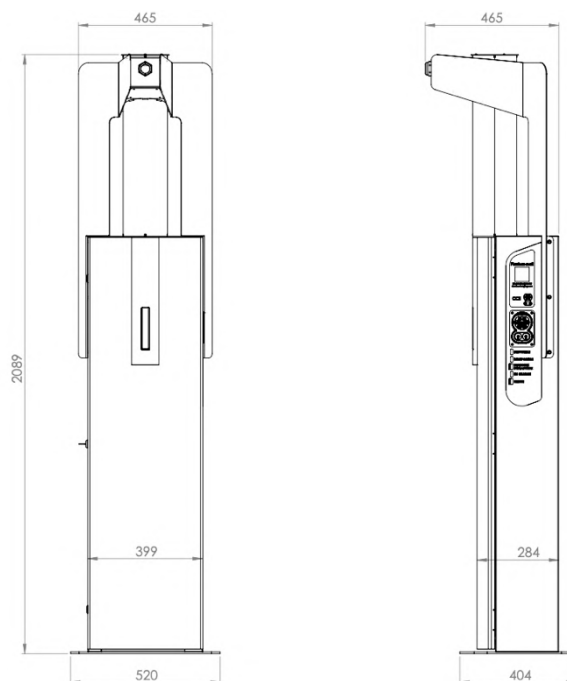
DC Charging

Charging mode	Mode 4 (DC)	Connector	CCS2
Nominal power	Up to 75 kW @500VDC Up to 150 kW @1kVDC	Numbers of charge points	up to 20
Voltage range	50-500 V or 50-1000 V	Current range	0-200 A
Charge authorization	Smartphone, Plug & Charge	Status display	LED indicator

Safety

Reverse current flow	Diode	High Speed Fuse	300 A (Class aR)
Connector holder	Locking system		

Mechanical properties



Charging cable not represented. Dimensions are in millimeters.

Cable length	3.6 m	Protection ingress	IP55
Weight	90 kg	except. CCS cable:	IP44 (parked)
Casing material	Stainless Steel		IP20 (unplugged)
Color	White	Impact resistance	IK10
Mounting	Stand	Cooling	Passive

Norms

Standards	EN 61851-23 EN 61851-21-2 EN 61439-1 ISO 15118	Marking	CE
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