

# Nube 50

FAST DC AND AC CHARGING

MULTI-STANDARD CONNECTORS

SMART FLEET MANAGEMENT

HIGH EFFICIENCY

FRIENDLY USER EXPERIENCE

MULTIPLE PAYMENT OPTIONS

EASY BACK-OFFICE INTEGRATION

24/7 RELIABLE SERVICE

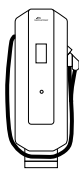
OUTDOOR DURABILITY

DC HYBRID CHARGING SOLUTIONS



# THE FUTURE OF SMART E-MOBILITY

THE COMBINATION  
OF AESTHETICS  
AND ADVANCED  
FUNCTIONALITIES



**<30 MIN**

Nube 50

**Design**

Nube 50 is an outdoor/indoor, robust and attractive fast charger designed keeping in mind durability, reliability and maintainability.

**Connector Types**

Operating up to 50 kW in DC and up to 22 kW (7,7 kW in US) in AC fast charging, Nube 50 is compatible with the most extended DC connector types CCS Type 1/2, CHAdeMO and GB/T, and AC Type 1/2 connector.

**User-friendly Interface**

With a user-friendly interface, its daylight readable touch screen display with graphic visualization of charging progress, will provide EV owners a quick, safe and easy EV charging experience today and in the future.

**Easy Interaction**

With its smart advanced connectivity and a management system based on IoT, Nube 50 offers an easy user interaction with multiple payment options and a reliable solution thanks to its successful remote management solution.

**Standard-based APIs**

For running successfully your charging business, Power Electronics offers an easy integration to any back-office systems using standard-based APIs, payment services and energy management solutions, based on OCPP communication protocol.

**Smart Design**

Every charging post integrates optionally 4G connectivity and is compatible with any payment and authentication system, offering the most useful solutions in the market for an easy interaction with the customer: smartphone, RFID, credit /debit card (NFC). To comply with the most demanding requirements regarding billing, Nube 50 offers MID certified meters.

**Smart Fleet Management**

Dynamic power balancing for vehicle fleet management designed to minimize the initial investment and operation costs.

**DC Hybrid Charging Solutions**

Nube 50 is able to take advantage of an endless energy source, the sun. With Power Electronics hybrid solution, Nube 50 can be connected to a photovoltaic field and / or to the utility grid.

# EASY TO USE JUST TAP

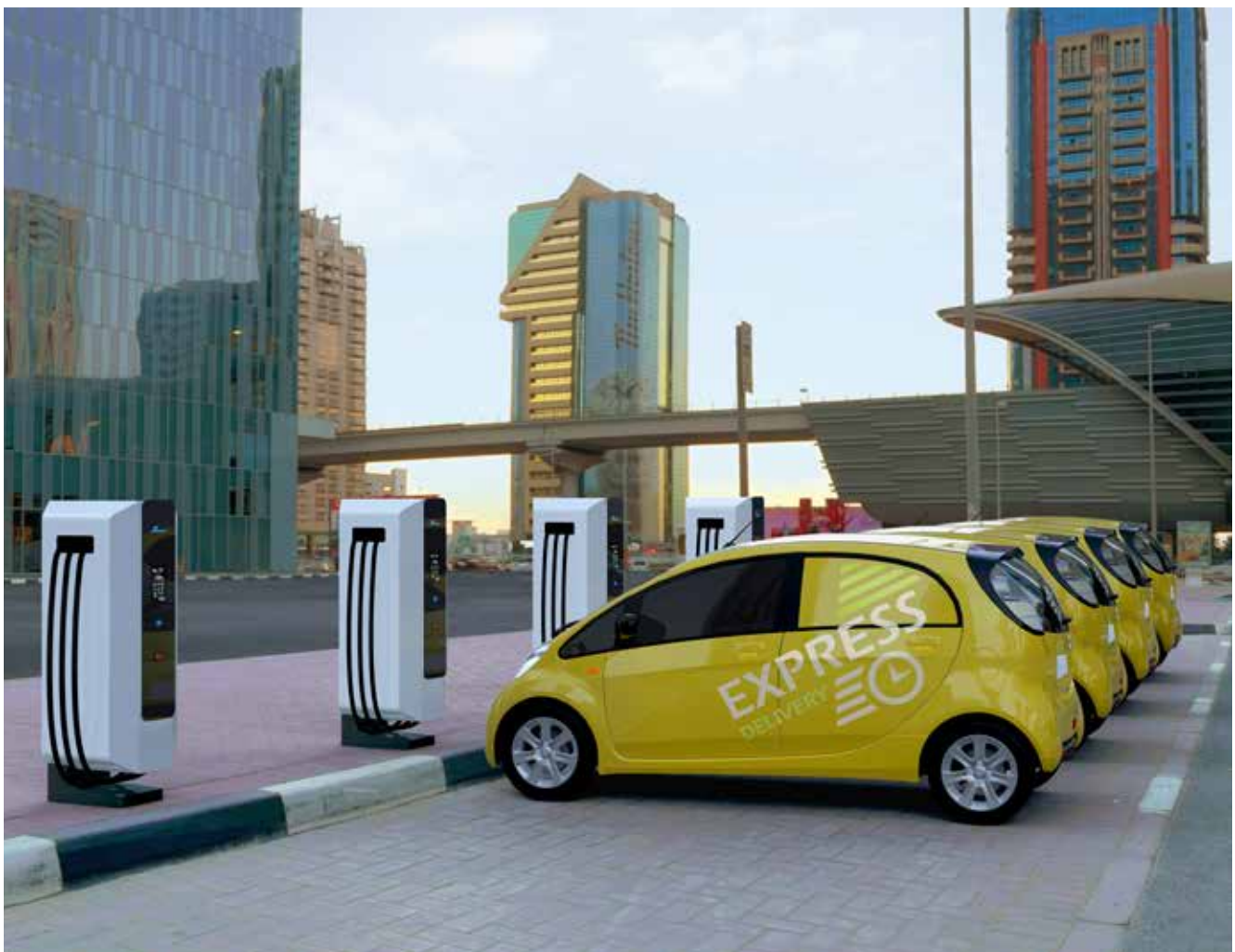
**Power Electronics commitment is to operate an EV chargers network in a successful reliable and cost-effective way.**

## **User-friendly Interface**

With a user-friendly interface, its daylight readable 10" touch screen display with graphic visualization of charging progress, will provide EV drivers a quick, safe and easy interaction.

## **Status Indicator**

Power Electronics posts integrate a status indicator, for EV drivers not losing time and going to an available post.



### Payment and Authentication System

Every post is compatible with any payment and authentication system, offering the most useful solutions in the market for an easy interaction with the customer.



#### RFID

Drivers can launch a charging session by tapping the RFID card.



#### Credit / Debit Card

Power Electronics offers a compatibility with contact-less (NFC) solutions, letting drivers initiate the charging process by simply tapping their credit/debit card.



#### Pin Code

With its intuitive interface, it guides EV drivers through all the steps to follow during a charging session, using the most secure payment and authentication methods.



#### Smartphone

Compatible with the most extended Apps in the market. These Apps for EV drivers are able to start a charging session, reserve a post at any time, or simply manage their historical charging sessions.

# FULL 360° SERVICE

**Power Electronics offers an innovative charging solution adapted to every client's needs. With its advanced connectivity, allows having Nube 50 the main services to operate, use and manage EV networks now and in the future.**

- Compatible with any back-office (OCPP 1.6 and customized)
- O&M platform based on IoT (Internet of Things)
- Compatible with any payment management platform
- Web, PC and mobile monitoring tools (Android & iOS)
- MID certified meters.

## Fundamental services to operate successfully every Nube 50



### O&M

- Fault diagnosis
- Remote troubleshooting
- Charging point status
- Software updating
- Charging station management APIs



### Customer Back-office

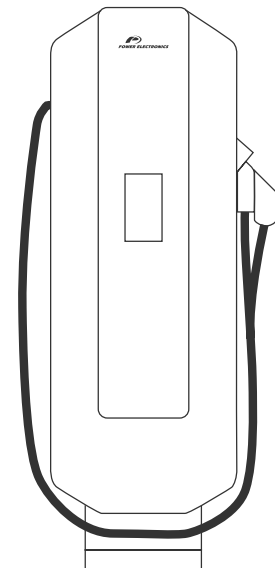
- Client authentication
- Payment platform
- Charging point reserve
- Charging station location



### Payment Platform

- Credit/Debit card
- RFID card
- Mobile apps
- Cyber security

### OCPP

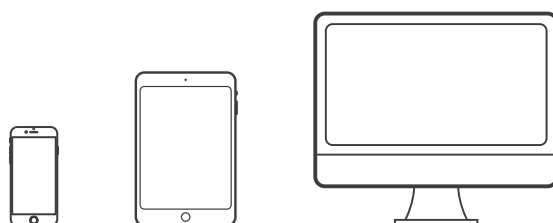


**Compatible with any Back-office**

OCPP is the internationally established open protocol for the communication between EV chargers and any back office system around the world. Power Electronics offers an easy integration to any back-office systems using standard-based APIs.

**Monitoring Tools**

Optionally, Power Electronics can provide advanced web, PC and mobile (Android & iOS) monitoring tools, offering our clients a useful and intuitive platform for managing in real time all chargers. These tools offer charging statistics, status and usage statistics among others.





# SMART AND CUSTOMIZABLE DESIGN

EXACTLY THE WAY YOU WANT

## **Customizable External Enclosures**

Power Electronics offers customizable external enclosures. Customize your charging post with branded labels that feature clients logos, texts, merchandising, advertisements...

## **Display Advertising**

Power Electronics 10" touch screen display is prepared to display advertising, either static images, video or flash content.

## **Vehicle Detection**

Optionally, it is possible to include the vehicle detection function, which allows starting the charging process when the car is close to the recharging post.

## **AC Charging**

It is possible to include an AC Type 1 and Type 2 charging connector, which allows a charging power up to 22 kW or 7.7 kW in US.



## EXAMPLES OF POST CUSTOMIZATIONS

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# SMART FLEET MANAGEMENT

**Power Electronics has developed the most advanced functionality for power balancing in vehicle fleet management. Designed to minimize the initial investment and the operation costs.**

**Smart Fleet Management** functionality is able to balance the power based on the number of charging posts in use. Therefore, the total power required to supply the total energy gets substantially reduced, representing a cost reduction in the electrical facility infrastructure and a cost saving due to a minor power contracted. Besides, the hardware and the back-office communication is optimized.

## Total Power Available 100%

Vehicle 1  
Normal preference 20%

Vehicle 2  
High preference 50%

Vehicle 3  
Normal preference 20%

Vehicle 4  
Low preference 10%

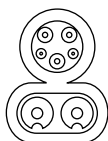


# TECHNICAL CHARACTERISTICS

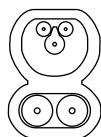
## NUBE 50

	US	IEC	
<b>DC OUTPUT (default)</b>	Power [kW]	50	
	Voltage range [V]	50 - 500	
	Current [A]	125	
	Available connectors	CCS Type 1, CHAdeMO, GB/T	CCS Type 2, CHAdeMO, GB/T
<b>AC OUTPUT (option)</b>	Power [kW]	6,7 - 7,7	22,2
	Voltage range [V]	208 - 240 ± 10 %	400 ± 10 %
	Current [A]		32
	Available connectors	Type 1	Type 2
<b>AC INPUT FOR DC OUTPUT</b>	Power [kVA]	52	
	Voltage [V]	480 (3ph + PE) ± 10 %	400 (3ph + N + PE) ± 10 %
	Current [A]	63 / 75	
	Power factor	> 0,99	
	Frequency [Hz]	50 / 60	
	Efficiency	> 97%	
	<b>GENERAL</b>	Interface	10" touchscreen Emergency-stop (optional) Post status LED indicator Vehicle detection(optional) Credit/Debit card reader (optional) RFID card reader (optional) Connector locker (optional)
	Protections	Isolation monitor Over-voltages / Under-voltages Over-currents / Short-circuits Over-temperature	
	Wire length [ft/m] <sup>[1]</sup>	12	3
	Enclosure color	White (RAL 9016) / Glass colour black	
	Customization	Enclosure <sup>[3]</sup> / display	
	Degree of protection	NEMA 3R	IP54   IK10 <sup>[2]</sup>
	Working temperature	From -25°C to 50°C (optionally, from -30°C to 50°C)	
	Relative humidity	From 4% to 95%	
	Maximum altitude (above sea level)	2000m	
	Communications	OCPP 1.6, Ethernet, GPRS 4G (optional), Wifi (optional)	
	Dimensions [mm]	600 x 700 x 1.800	
	Dimensions [ft]	2 x 2.3 x 5.9	
	Regulations	UL 2202, UL 2594 NEC 625, FCC Part 15 Class A	IEC 61851-1, IEC 61851-23, IEC 61851-24 IEC 61000-6-2, IEC 61000-6-3

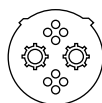
### AVAILABLE CONNECTORS DC



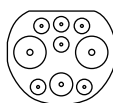
CCS-1



CCS-2

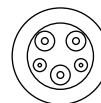


CHAdeMO

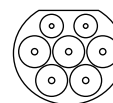


GB/T

### AVAILABLE CONNECTORS AC



AC Type 1



AC Type 2

[1] 5m / 18ft wire length optional.

[3] Optionally, enclosure grey (RAL 7016).

[2] IK08 for display and ventilation grilles.