



Product range

Commercial

Power Electronics offers unique charging solutions for electric vehicles, in the commercial, urban and domestic areas, for light fleet vehicles and carparks. The commercial product range is focused on providing innovative solutions with a distinguished design.



NB Station

TURN-KEY SOLUTION

MAXIMUM FLEXIBILITY

USER-FRIENDLY INTERFACE

SMART POWER BALANCE

BUS PLUS READY

BACK-OFFICE INTEGRATION OCPP 1.6

THE FUTURE OF SMART E-MOBILITY

NB Station offers a complete flexible turn-key solution with its successful and revolutionary outdoor design based on our more than 30 years of experience in the manufacture of power electronics. NB Station consists of a central power station which supplies energy to DC charging posts. Specially designed with a modular concept, the central power station can reach up to 1200 kW, combining DC posts from 60 kW to 350 kW. It is the ideal solution to optimize the CAPEX and OPEX of the charging infrastructure. NB Station is the best solution for service stations and motorways, applications with high rotation of vehicles and where it is required a simple, fast and safe charging experience.

TURN-KEY SOLUTION

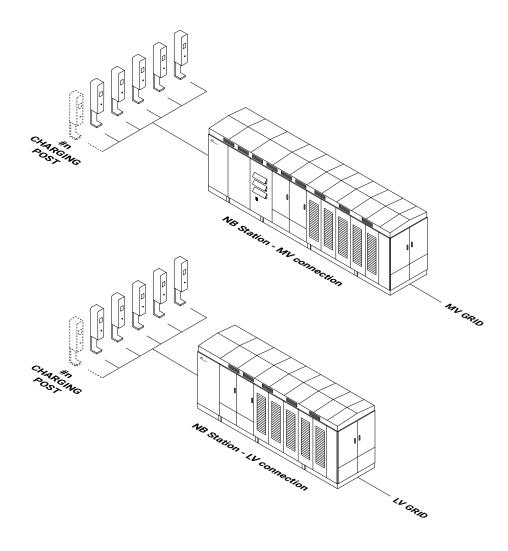
NB Station reduces the space required, simplifies installation and significantly reduces connection costs and necessary resources.

NB Station consists of a central power station which supplies energy to charging posts, designed for an easy interaction with the electric vehicle drivers and following the current standards of user safety.

Being expandable over time, the central power station, has been developed to be able to increase the charging power, offering a solution which can grow with the electric vehicles market demand and the batteries technologies. It can be a low voltage or a medium voltage station.

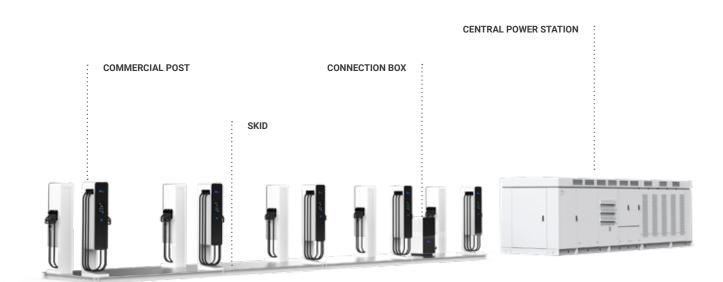
The central power station according to the client's needs can integrate the following medium voltage components:

- · MV switchgear.
- · MV transformer.
- · Metering supervision equipment.
- · Customizable user cabinet with an independent electric circuit for the client's needs.



Speed up your charging installation with a flexible turn-key platform

Depending on the output power required, the client can choose a wide number of charging posts to fit any project and to configure the best layout. The skid solution, which is based on an outdoor platform made of high resistance galvanized steel with a non-slip surface, offers a plug and play solution. In the skid, all posts are wired and a connection box is included to connect to the central power station.



MAXIMUM FLEXIBILITY

NB Station is a modular solution that can reach up to 1200 kW, combining DC posts from 60 kW to 350 kW. The configuration can be with a low voltage or a medium voltage station.

Field replaceable power stages

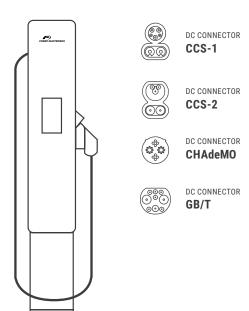
Following a modular philosophy, NB Station is composed of FRUs (Field Replaceable Units), designed to be easily replaceable on site without the need of advanced technical service personnel, providing a safe, reliable and fast Plug&Play assembly system. In the event of a fault, the faulty module is taken off-line and its power is distributed evenly among the remaining functioning FRUs. It is a solution to be easily upgraded for the next EV generation and the most reliable charger in the market.

High DC voltage retrofit

NB Station allows an easy retrofit to charge at different voltage levels depending on the electric vehicle battery configuration. Maximum charging voltage can be 500 Vdc or 1000 Vdc.

Connector types

NB Station is compatible with the most extended DC connectors (CCS, CHAdeMO and GB/T).





NBS - MV station



NBSK - LV station

USER-FRIENDLY INTERFACE

Intuitive experience

With a user-friendly interface, the 10" display allows an optimal user experience and the visualization of statistics of the charging processes. Power Electronics posts integrate a status indicator so that the drivers can easily identify its availability. It provides drivers a fast, safe and simple interaction.

Payment and authentication system

Every charging 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 their RFID card.



Credit / Debit card

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



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.

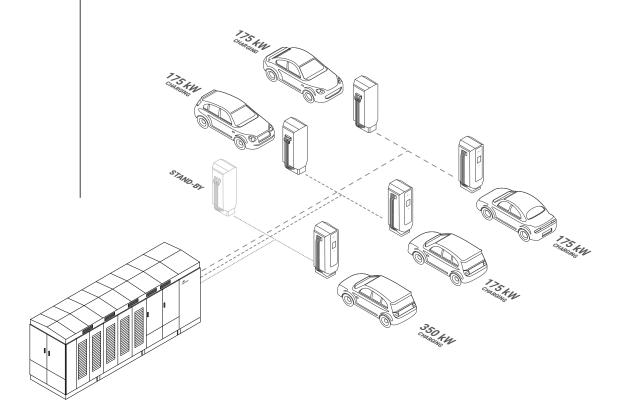
SMART POWER BALANCE

SMART POWER BALANCE TECHNOLOGY

NB Station allows the optimization of the use of the charging point and dynamic balancing of power depending on the vehicle to be charged.

CONFIGURATION EXAMPLE

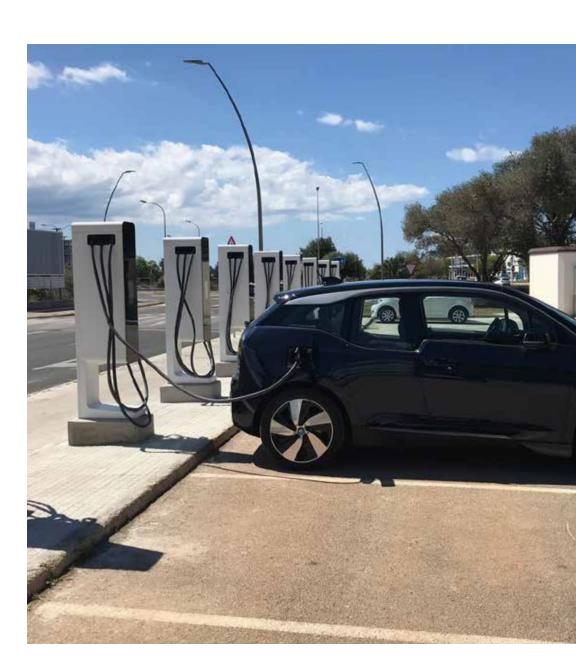
NB Station NBSK1000S Six charging posts of 350 kW



Power Balance

Power Electronics has developed the most advanced functionality for power balancing in vehicle fleet management.

NB Station includes an advanced DC Smart Power Balance technology that allows for charging at different power levels matching all EV needs.



BUS PLUS READY

Our wide experience in the renewable energy sector, designing and manufacturing solar inverters, allows us to offer an integral solution.

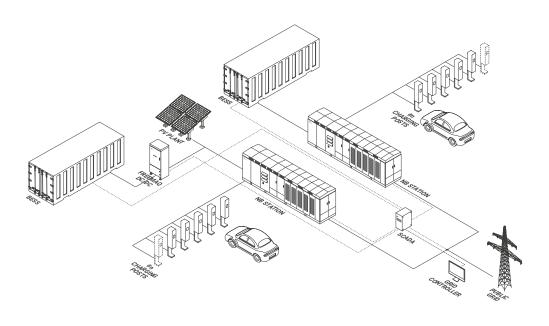
NB STATION IS ABLE TO TAKE ADVANTAGE OF AN ENDLESS ENERGY SOURCE, THE SUN

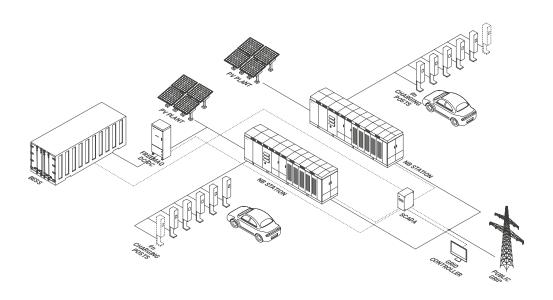


NB Station allows the EV charging from different power sources: photovoltaic field, battery system and utility grid.

Adding a Freemaq DC/DC converter allows to store the photovoltaic excesses in the battery system. Stored energy can be exported to the grid when the price is higher, maximizing the revenues of the charging business.

In addition, the battery system allows to attenuate the intermittent nature of renewable energy sources offering a continuous charging system.





SMART AND CUSTOMIZABLE DESIGN

EXACTLY THE WAY YOU WANT

Customizable external enclosures

Power Electronics offers customizable external enclosures for the central power station and the posts. The color can be modified or logos and advertising can be added.

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 charging post.



EXAMPLES OF POST CUSTOMIZATIONS



EXAMPLES OF POWER STATION CUSTOMIZATIONS

NBS **NBSK**





NB STATION NBS

REFERENCE		NBS0350 NBS0350S	NBS0500 NBS0500S	NBS0700 NBS0700S	NBS1000 NBS1000S			
DC OUTPUT	Station maximum power [kW]	420	600	840	1200			
	Charging post power [kW]	60 / 120 / 175 / 350						
	Voltage range [V]	50 - 500 / 150 - 1000						
	Available connectors		CCS [1], CHA	deMO, GB/T				
AC INPUT	Voltage [V]	15 / 20 / 25 [2]						
	Power factor	> 0.99						
	Frequency [Hz]		50.	/ 60				
	Efficiency		94	1%				
GENERAL	Interface		10" touc	chscreen				
		Status LED indicator						
			Emergency stop (optional)					
			Vehicle detec	tion (optional)				
		Cre	dit / debit card reade	r compatibility (optic	nal)			
		RFID card reader (optional)						
	Protections	Isolation monitoring						
			Over-voltages /	under-voltages				
		Over-currents / short-circuits						
		RCD						
	Over-temperatures Over-temperatures							
	Auxiliary services power [kW]	15 / 20 / 25						
	Cable length [m] [3]	3						
	Cable length [ft] [3]		9.	84				
	Degree of protection	NEMA 3R - IP54 / IK10 ^[4]						
	Operating temperature	From -25°C to 50°C (optionally, from -35°C to 50°C)						
	Relative humidity	4% - 95%						
	Maximum altitude (above sea level)	2000 m						
	Customization	Enclosure / Display						
	Communications	OCPP 1.6, Ethernet, 3G/4G connectivity (optional), Wifi (optional)						
	Charging post dimensions (W x D x H) [mm]	300 x 500 x 1800						
	Charging post dimensions (W x D x H) [ft]	1.0 x 1.6 x 5.9						
	Other station options	Motorized protection switchgear (remote operation)						

STANDARD CONFIGURATIONS

DEFEDENCE	SMART POWER BALANCE	POSTS				
REFERENCE		NBDC060	NBDC120	NBDC175	NBDC175C [5]	NBDC350C [5]
NBS0350	-	7	3	2	2	1
NBS0350S	✓	-	6	4	4	2
NBS0500	-	10	5	3	3	-
NBS0500S	✓	-	10	6	6	-
NBS0700	-	14	7	4	4	2
NBS0700S	✓	-	14	8	8	4
NBS1000	-	20	10	6	6	3
NBS1000S	✓	-	20	12	12	6

NB STATION NBSK

REFERENCE		NBSK0350 NBSK0350S	NBSK0500 NBSK0500S	NBSK0700 NBSK0700S	NBSK1000 NBSK1000S	
DC OUTPUT	Station maximum power [kW]	420	600	840	1200	
	Charging post power [kW]		60 / 120 .	/ 175 / 350		
	Voltage range [V]	50 - 500 / 150 - 1000				
	Available connectors		CCS [1], CHA	AdeMO, GB/T		
AC INPUT	Voltage [V]	400 ± 10 % / 480 ± 10 %				
	Power factor	> 0.99				
	Frequency [Hz]		50	/ 60		
	Efficiency		9	5%		
GENERAL	Interface		10" tou	chscreen		
		Post status LED indicator				
			Emergency	stop (optional)		
			Vehicle detec	ction (optional)		
		Credit / debit card reader compatibility (optional)				
		RFID card reader (optional)				
	Protections	Isolation monitoring				
		Over-voltages / under-voltages				
		Over-currents / short-circuits				
		RCD Over-temperatures				
	Auxiliary services power [kW]	15 / 20 / 25				
	Cable length [m] [2]	3				
	Cable length [ft] [2]	9.84				
	Degree of protection	NEMA 3R - IP54 / IK10 ^[3]				
	Operating temperature	From -25°C to 50°C (optionally, from -35°C to 50°C)				
	Relative humidity	4% - 95%				
	Maximum altitude (above sea level)	2000 m				
	Customization	Enclosure / Display				
	Communications	OCPP 1.6, Ethernet, 3G/4G connectivity (optional), Wifi (optional)				
	Charging post dimensions (W x D x H) [mm]	300 x 500 x 1800				
	Charging post dimensions (W x D x H) [ft]	1.0 x 1.6 x 5.9				

STANDARD CONFIGURATIONS

DEFEDENCE	SMART POWER BALANCE	POSTS				
REFERENCE		NBDC060	NBDC120	NBDC175	NBDC175C [4]	NBDC350C [4]
NBSK0350	-	7	3	2	2	1
NBSK0350S	✓	-	6	4	4	2
NBSK0500	-	10	5	3	3	-
NBSK0500S	✓	-	10	6	6	-
NBSK0700	-	14	7	4	4	2
NBSK0700S	✓	-	14	8	8	4
NBSK1000	-	20	10	6	6	3
NBSK1000S	✓	-	20	12	12	6



NB 100 / NB 120

UP TO 4 VEHICLES CHARGING AT THE SAME TIME
USER-FRIENDLY INTERFACE
SMART FLEET MANAGEMENT
BUS PLUS READY
BACK-OFFICE INTEGRATION OCPP 1.6

DC STAND-ALONE CHARGER

NB 100 / NB 120 is an outdoor, robust and attractive charger, which allows the simultaneous charging of four vehicles with output power of up to 100 kW in DC (120 kW in US) and 43 kW in AC (7.7 kW in US). NB 100 / NB 120 can be set to charge at 400 or 800 Vdc depending on the battery characteristics of the electric vehicle. Its smart design offers an easy, fast and safe charging experience, which makes it the best solution for sites where it is required a combination of design, high power and innovation.

UP TO 4 VEHICLES CHARGING AT THE SAME TIME

NB 100 / NB 120 has been designed to obtain the maximum income with a stand-alone charger.

Connector types

Each charger can install up to four connectors per post, allowing four vehicles to be charged simultaneously (2 in DC and 2 in AC). The charger is compatible with the most extended DC connectors (CCS, CHAdeMO and GB/T) and AC connectors.



DC CONNECTOR CCS-1



DC CONNECTOR CCS-2



DC CONNECTOR CHAdeMO



DC CONNECTOR **GB/T**



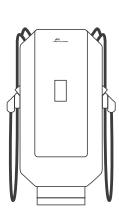
AC CONNECTOR

Type 1



AC CONNECTOR

Type 2





USER-FRIENDLY INTERFACE

Intuitive experience

With a user-friendly interface, the 10" display allows an optimal user experience and the visualization of statistics of the charging processes. Power Electronics posts integrate a status indicator so that the drivers can easily identify its availability. It provides drivers a fast, safe and simple interaction.

Payment and authentication system

Every charging 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 their RFID card.



Credit / Debit card

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



Smartphone

Power Electronics' NB Charger smartphone application allows monitoring and the scheduling charging sessions, consult statistics and historical, update the software version, define users' roles and manage the charging energy.

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.

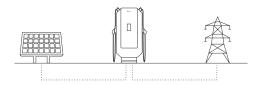
Total power available 100%

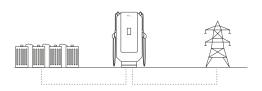
Vehicle 1 Normal preference 20% Vehicle 2 High preference 50% Vehicle 3 Normal preference 20% Vehicle 4 Low preference 10%



BUS PLUS READY

NB 100 / NB 120 can connect to a DC power supply to provide electric vehicle charging power. The power source could be the photovoltaic energy, a battery system or the utility grid.







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 and advertisement.

Graphic advertising

 $NB\ 100\ /\ NB\ 120$ offers the option of installing an advertising panel on the back of the equipment.

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 charging post.

AC charging

It is possible to include an AC Type 1 or 2 charging connector, which allows a charging power up to 43 kW or 7.7 kW in US.





EXAMPLES OF POST CUSTOMIZATIONS













NB 100 IEC

DC OUTPUT (default)	Power [kW]	100		
	Voltage range [V]	50 - 500 / 150 - 1000		
	Current [A]	250		
	Available connectors	CCS- 2 ^[1] , GB/T, CHAdeMO		
AC OUTPUT (option)	Power [kW]	22 / 43		
	Voltage range [V]	400 ± 10 %		
	Current [A]	32 / 63		
	Available connectors	Type 2 [1]		
AC INPUT FOR DC OUTPUT	Power [kVA]	105		
	Voltage [V]	400 ± 10 %		
	Current [A]	152		
	Power factor	> 0.99		
	Frequency [Hz]	50 / 60		
	Efficiency	95%		
GENERAL	Interface	10" touchscreen		
	-	Emergency-stop (optional)		
	-	Post status LED indicator		
	-	Credit-debit card reader compatibility (optional)		
	-	RFID card reader (optional)		
	Protections	Isolation monitor		
	-	Over-voltages / Under-voltages		
		Over-currents / Short-circuits		
		Over-temperatures		
	Others	Smart Fleet Management (optional)		
		Vehicle detection (optional)		
	Cable length (m) [2]	4		
	Number of connectors	Up to 4		
	Enclosure color	White (RAL 9016 - microtexture painting) / Black glass		
	Customization	Enclosure / Glass / Display		
	Advertising	Back side		
	Degree of protection	IP54 IK10 [3]		
	Operating temperature	From -25°C to 50°C (optionally, from -35°C to 50°C)		
	Relative humidity	From 4% to 95%		
	Maximum altitude (above sea level)	2000 m		
	Communications	OCPP 1.6, Ethernet, 3G/4G connectivity (optional), Wifi (optional)		
	Dimensions (W x D x H) [mm]	870 x 790 x 1800		
	Regulation	IEC 61851-1, IEC 61851-23, IEC 61851-24, IEC 61000-6-2, IEC 61000-6-3		

AVAILABLE DC CONNECTORS

AVAILABLE AC CONNECTORS









CCS-2

CHAdeMO

GB/T

AC Type 2

NB 120 US

DC OUTPUT (default)	Power [kW]	120		
	Voltage range [V]	50 - 500 / 150 - 1000		
	Current [A]	250		
	Available connectors	CCS-1, CHAdeMO, GB/T		
C OUTPUT (option)	Power [kW]	6.7 - 7.7		
	Voltage range [V]	208 - 240 ± 10 %		
	Current [A]	32		
	Available connectors	Type 1		
C INPUT FOR DC OUTPUT	Power [kVA]	126		
	Voltage [V]	480 ± 10 %		
	Current [A]	152		
	Power factor	> 0.99		
	Frequency [Hz]	60		
	Efficiency	95%		
GENERAL	Interface	10" touchscreen		
	_	Emergency-stop (optional)		
	_	Post status LED indicator		
	_	Credit-debit card reader compatibility (optional)		
	_	RFID card reader (optional)		
	Protections	Isolation monitor		
	_	Over-voltages / Under-voltages		
	_	Over-currents / Short-circuits		
	_	Over-temperatures		
	Others	Smart Fleet Management (optional)		
	_	Vehicle detection (optional)		
	Cable length [ft] [1]	13.12		
	Enclosure color	White (RAL 9016 - microtexture painting) / Black glass		
	Customization	Enclosure / Glass / Display		
	Advertising	Back side		
	Degree of protection	NEMA 3R		
	Operating temperature	From -25°C to 50°C (optionally, from -35°C to 50°C)		
	Relative humidity	From 4% to 95%		
	Maximum altitude (above sea level)	2000 m		
	Communications	OCPP 1.6, Ethernet, 3G/4G connectivity (optional), Wifi (optional)		
	Dimensions [ft]	2.85 x 2.60 x 5.90		
	Regulation	UL 2202, UL 2594, NEC 625, FCC Part 15 Class A		

AVAILABLE DC CONNECTORS

AVAILABLE AC CONNECTORS









CCS-1

CHAdeMO

GB/T

AC Type 1



NB 50 / NB 60

SIMULTANEOUS DC + AC CHARGING
USER-FRIENDLY INTERFACE
SMART FLEET MANAGEMENT
BUS PLUS READY
BACK-OFFICE INTEGRATION OCPP 1.6

THE COMBINATION OF AESTHETICS AND ADVANCED FUNCTIONALITIES

NB 50 / NB 60 is an outdoor, robust and attractive charger, designed for durability, reliability and ease of maintenance. With output power up to 50 kW in DC (60 kW in US and 43 kW in AC (7.7 kW in US), NB 50 / NB 60 allows the simultaneous charging of two vehicles in DC and AC. NB 50 / NB 60 can be set to charge at 400 or 800 Vdc depending on battery characteristics of the electric vehicle. Its smart design offers a simple, fast and safe charging experience, which makes it being the best solution for sites that require the combination of design, high power and innovation.

SIMULTANEOUS DC + AC CHARGING

NB 50 / NB 60 has been designed to obtain the maximum income with a stand-alone charger.

Connector types

Each charger can install up to three connectors per post, allowing the simultaneous charging of two vehicles 1 in DC and 1 in AC. The charger is compatible with the most extended connectors for DC charging (CCS, CHAdeMO and GB/T) and AC.

High DC voltage retrofit

NB 50 / NB 60 allows an easy retrofit to charge at different voltage levels depending on the electric vehicle battery configuration. The maximum charging voltage can be 500 Vdc or 1000 Vdc.



DC CONNECTOR CCS-1

DC CONNECTOR CCS-2



DC CONNECTOR CHAdeMO



DC CONNECTOR **GB/T**



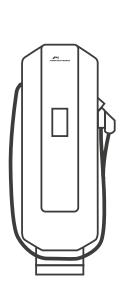
AC CONNECTOR

Type 1



AC CONNECTOR

Type 2





USER-FRIENDLY INTERFACE

Intuitive experience

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Payment and authentication system

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RFID

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



Credit / Debit card

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



Smartphone

Power Electronics' NB Charger smartphone application allows monitoring and the scheduling charging sessions, consult statistics and historical, update the software version, define users' roles and manage the charging energy.

SMART FLEET MANAGEMENT

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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%

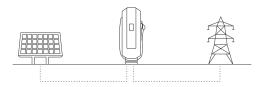
Vehicle 1 Normal preference 20% Vehicle 2 High preference 50% Vehicle 3 Normal preference 20% Vehicle 4 Low preference 10%

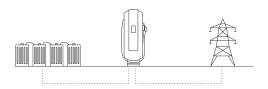




BUS PLUS READY

NB 50 / NB 60 can connect to a DC power supply to provide electric vehicle charging power. The power source could be the photovoltaic energy, a battery system or the utility grid.







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 and advertisement.

AC charging

It is possible to include an AC Type 1 or 2 charging connector, which allows a charging power up to 43 kW or 7.7 kW in US.

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 charging post.



EXAMPLES OF POST CUSTOMIZATIONS













IEC

DC OUTPUT (default)	Power [kW]	50
	Voltage range [V]	50 - 500 / 150 - 1000
	Current [A]	125
	Available connectors	CCS-2 ^[2] , GB/T, CHAdeMO
C OUTPUT (option)	Power [kW]	22 / 43
	Voltage range [V]	400 ± 10 %
	Current [A]	32 / 63
	Available connectors	Type 2 [1]
C INPUT FOR DC OUTPUT	Power [kVA]	52
	Voltage [V]	400 ± 10 %
	Current [A]	76
	Power factor	> 0.99
	Frequency [Hz]	50 / 60
	Efficiency	95%
ENERAL	Interface	10" touchscreen
	_	Emergency stop (optional)
	_	Status LED indicator
	_	Credit / debit card reader compatibility (optional)
	_	RFID card reader (optional)
	Protections	Isolation monitor
	_	Over-voltages / under-voltages
	_	Over-currents / short-circuits
	_	Over-temperatures
	Others	Smart Fleet Management (optional)
	_	Vehicle detection (optional)
	Cable length [m] [2]	3
	Enclosure color	White (RAL 9016 - microtexture painting) / Black glass
	Customization	Enclosure / Glass / Display
	Degree of protection	IP54 IK10 [3]
	Operating temperature	From -25°C to 50°C (optionally, from -35°C to 50°C)
	Relative humidity	From 4% to 95%
	Maximum altitude (above sea level)	2000 m
	Communications	OCPP 1.6, Ethernet, 3G/4G connectivity (optional), Wifi (optional)
	Dimensions (W x D x H) [mm]	600 x 700 x 1800
	Regulation	IEC 61851-1, IEC 61851-23, IEC 61851-24, IEC 61000-6-2, IEC 61000-6-3

AVAILABLE DC CONNECTORS

AVAILABLE AC CONNECTORS









CCS-2

CHAdeMO

GB/T

AC Type 2

NB 60 US

DC OUTPUT (default)	Power [kW]	60
	Voltage range [V]	50 - 500 / 150 - 1000
	Current [A]	150
	Available connectors	CCS-1, CHAdeMO, GB/T
AC OUTPUT (option)	Power [kW]	6.7 - 7.7
	Voltage range [V]	208 - 240 ± 10 %
	Current [A]	32
	Available connectors	Type 1
AC INPUT FOR DC OUTPUT	Power [kVA]	63
	Voltage [V]	480 ± 10 %
	Current [A]	76
	Power factor	> 0.99
	Frequency [Hz]	60
	Efficiency	95%
GENERAL	Interface	10" touchscreen
		Emergency stop (optional)
		Status LED indicator
		Vehicle detection (optional)
		Credit / debit card reader compatibility (optional)
		RFID card reader (optional)
	Protections	Isolation monitor
		Over-voltages / under-voltages
		Over-currents / short-circuits
		Over-temperatures
	Others	Smart Fleet Management (optional)
		Vehicle detection (optional)
	Cable length [ft] [2]	9.8
	Enclosure color	White (RAL 9016 - microtexture painting) / Black glass
	Customization	Enclosure / Glass / Display
	Degree of protection	NEMA 3R
	Operating temperature	From -25°C to 50°C (optionally, from -35°C to 50°C)
	Relative humidity	From 4% to 95%
	Maximum altitude (above sea level)	2000 m
	Communications	OCPP 1.6, Ethernet, 3G/4G connectivity (optional), Wifi (optional)
	Dimensions (W x D x H) [ft]	2 x 2.3 x 5.9
	Regulation	UL 2202, UL 2594, NEC 625, FCC Part 15 Class A

AVAILABLE DC CONNECTORS

AVAILABLE AC CONNECTORS









CCS-1

CHAdeMO

GB/T

AC Type 1



NB Dispenser

FLEXIBLE ARCHITECTURE

USER-FRIENDLY INTERFACE

SMART POWER BALANCE

BUS PLUS READY

BACK-OFFICE INTEGRATION OCPP 1.6

THE COMBINATION OF MODULARITY AND HIGH PERFORMANCE

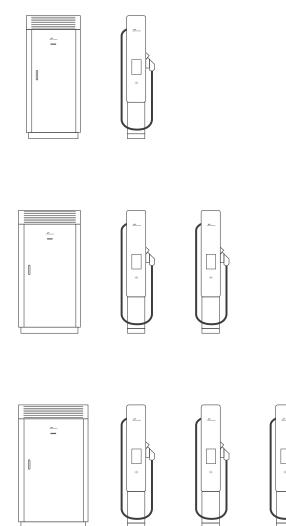
NB Dispenser is an outdoor robust and modular charger, designed for durability, reliability and ease of maintenance. Thanks to its flexible architecture NB Dispenser series allows the installation in any location. The charging solution consists of a power cabinet with low voltage input, which combines with commercial posts. With output power up to 150 kW in DC (180 kW in US), NB Dispenser allows the simultaneous charging of three vehicles thanks to the advanced functionality, Smart Power Balance. NB Dispenser can be configured to charge either at 400 or 800 Vdc depending on the characteristics of the electric vehicle battery. Its smart design offers a simple, fast and safe charging experience, which makes it being the best solution for sites that require the combination of design, high power and innovation.

FLEXIBLE ARCHITECTURE

NB Dispenser is the charging solution for locations where space is at a premium.

The NB Dispenser series is a DC charging solution with low voltage input consisting of a power cabinet which supplies energy to commercial charging posts. The posts offer a user interface simple and attractive, meeting current safety standards.

The available power cabinet configurations are from 50 kW to 150 kW (from 60 kW up to 180 kW in US) and are combined with DC post of 50, 100 and 150 kW (60, 120 and 180 kW in US).



USER-FRIENDLY INTERFACE

Intuitive experience

With a user-friendly interface, the 10" display allows an optimal user experience and the visualization of statistics of the charging processes. Power Electronics posts integrate a status indicator so that the drivers can easily identify its availability. It provides drivers a fast, safe and simple interaction.

Payment and authentication system

Every charging 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 their RFID card.



Credit / Debit card

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



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.

SMART POWER BALANCE

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.

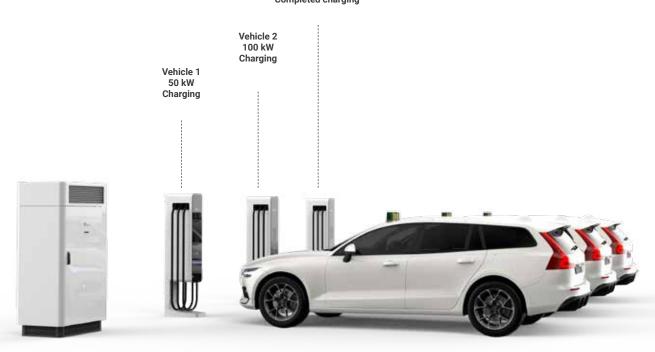
Smart Power Balance functionality is able to balance the power based on the number of charging posts in use. Therefore, the total power required to supply the total energy gets substantially reduced, representing a cost reduction in the electrical facility infrastructure and a cost saving due to a minor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

CONFIGURATION EXAMPLE

NBD150S

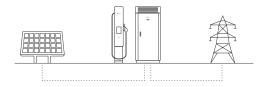
Three NBDC100 posts of 100 kW

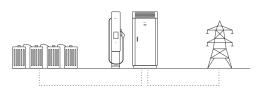
Vehicle 3 0 kW Completed charging



BUS PLUS READY

NB Dispenser can connect to a DC power supply to provide electric vehicle charging power. The power source could be the photovoltaic energy, a battery system or the utility grid.







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 and advertisement.

AC charging

It is possible to include an AC Type 1 or 2 charging connector, which allows a charging power up to 43 kW or 7.7 kW in US.

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 charging post.



EXAMPLES OF CUSTOMIZATIONS



NB DISPENSER IEC

REFERENCE		NBD050 NBD050S	NBD100 NBD100S	NBD150 NBD150S
DC OUTPUT	Power cabinet maximum output power [kW]	50	100	150
	Post maximum power [kW]	50	50 / 100	50 / 100 / 150
	Voltage range [V]		50 - 500 / 150 - 1000	
	Available connectors		CCS-2 [1], CHAdeMO, GB/	Т
AC OUTPUT	Power [kW]		22 / 43	
	Voltage [V]		400 ± 10 %	
	Available connectors		AC Type 2 [1]	
AC INPUT	Power [kW]	53	105	158
	Voltage [V]		400 ± 10 %	
	Power factor		> 0.99	
	Frequency [Hz]		50 / 60	
	Efficiency	95%		
GENERAL	Interface		10" touchscreen	
		Post status LED indicator		r
		Emergency stop (optional)		
		Credit / debit card reader compatibility (optional)		
		RFID card reader (optional)		
	Protections	Isolation monitor		
		Over-voltages / under-voltages		
		Over-currents / short-circuits		
		RCD		
		Over-temperatures		
	Others	Smart Power Balance (optional)		nal)
		Vehicle detection (optional)		al)
	Cable length [m] [2]	3		
	Degree of protection	IP54 IK10 ^[3]		
	Operating temperature	From -25°C to 50°C (optionally, from -35°C to 50°C)		35°C to 50°C)
	Relative humidity	4% - 95%		
	Maximum altitude (above sea level)	2000 m		
	Customization	Enclosure / display		
	Communications	OCPP 1.6, Ethernet, 3G/4G connectivity (optional), Wifi (optional)		
	Post dimensions (W x D x H) [mm]	300 x 500 x 1800		

STANDARD CONFIGURATION

REFERENCE	SMART POWER BALANCE	POSTS		
REFERENCE	SWART POWER BALANCE	NBDC050	NBDC100	NBDC150
NBD050	-	1	-	-
NBD100	-	2	1	-
NBD100S	$\sqrt{}$	-	2	-
NBD150	-	3	-	1
NBD150S	$\sqrt{}$	-	3	3

NB DISPENSER US

REFERENCE		NBD060 NBD060S	NBD120 NBD120S	NBD180 NBD180S
OUTPUT (DC)	Power cabinet maximum output power [kW]	60	120	180
	Post maximum power [kW]	60	60 / 120	60 / 120 / 180
	Voltage range [V]		50 - 500 / 150 - 1000	
	Available connectors		CCS-1, CHAdeMO, GB/T	
AC OUTPUT	Power [kW]		6.7 / 7.7	
	Voltage [V]	208 / 240 ± 10 %		
	Available connectors		AC Type 1	
AC INPUT	Power [kW]	63	126	189
	Voltage [V]		480 ± 10 %	
	Power factor		> 0.99	
	Frequency [Hz]	60		
	Efficiency	95%		
GENERAL	Interface		10" touchscreen	
		Post status LED indicator		
		Emergency stop (optional)		
		Credit / debit card reader compatibility (optional)		
		RFID card reader (optional)		
	Protections	Isolation monitor		
		Over-voltages / under-voltages		
		Over-currents / short-circuits		
		CCID		
		Over-temperatures		
	Others	Smart Power Balance (optional)		nal)
		Vehicle detection (optional)		al)
	Cable length [ft] [1]	9.84		
	Degree of protection	NEMA 3R		
	Operating temperature	From -25°C to 50°C (optionally, from -35°C to 50°C)		
	Relative humidity	4% - 95%		
	Maximum altitude (above sea level)	2000 m		
	Customization	Enclosure / display		
	Communications	OCPP 1.6, Ethernet, 3G/4G connectivity (optional), Wifi (optional)		
	Post dimensions (W x D x H) [ft]		1.0 x 1.6 x 5.9	

STANDARD CONFIGURATION

REFERENCE	SMART POWER BALANCE		POSTS	
REFERENCE	SWART POWER BALANCE	NBDC060	NBDC120	NBDC180
NBD060	-	1	-	-
NBD120	-	2	1	-
NBD120S	√	-	2	-
NBD180	-	3	-	1
NBD180S	√	-	3	3



NB POD

FULLY INTEGRATED BMS
65 KWH LITHIUM-ION BATTERY
INTEGRATED PROTECTIONS
LOAD LEVELING
PEAK POWER SHAVING

THE COMBINATION OF DESIGN AND STORAGE

NB POD is an outdoor storage system, robust and attractive, designed with durability, reliability and ease of maintenance. NB POD integrates a 65 kWh and 100 kW lithium-ion, and allows easy connection with any DC charger in the Power Electronics product range. It is a completely autonomous system, which integrates protections and the control of the battery system. NB POD allows reducing the contracted power of the recharging infrastructure and to store energy in periods of low demand to pour it out in periods of high demand.

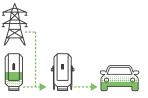
OPERATION MODES



MODE 1 NB POD charging from the grid



MODE 2 Vehicle charging from NB POD



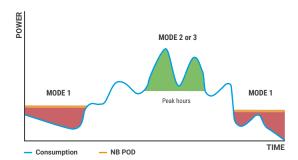
MODE 3 Vehicle charging from NB POD + Grid

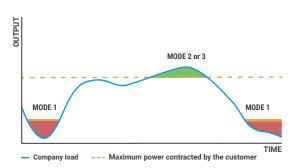
Load leveling

NB POD is able to store energy during periods of low demand from the grid, in order to later use this energy to charge vehicles when when the price per KWh is high. This has the benefit of using the battery stored energy at a higher market price during peak periods.

Peak power shaving

By delivering stored energy to the charger during periods of high demand, it reduces the burden on the distribution network and increases significantly its efficiency. Energy is stored during periods of low demand increasing the load on the grid. During peak periods this stored energy is used to charge electric vehicles. In addition the use of NB POD allows the charger's owner to reduce the total power contracted required and therefore a cost reduction.







NB POD

BATTERY	Battery technology	Lithium-ion
	Battery capacity	65 kWh
	Battery power	100 kW
RACK MANAGEMENT UNIT	BMS communication protocol	Modbus TCP, Modbus RTU
	Protections	Fully integrated
		Over-voltages / Under-voltages
		Over-currents / Short-circuits
		Over-temperatures
GENERAL DATA	Dimensions [mm]	870 x 790 x 1800
	Dimensions [ft]	2.85 x 2.60 x 5.90
	Degree of protection	NEMA 3R - IP54
	Enclosure color [1]	White (RAL 9016 - microtexture painting) / Front colour black
	Operating 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)	2000 m
	Cooling system	Heating, ventilation and air conditioning
	Communications	Ethernet, RS485
	Interface	Status LED indicator
		Emergency stop (optional)
	·	



NB City

USER-FRIENDLY INTERFACE
SMART FLEET MANAGEMENT
DYNAMIC POWER CONTROL
BACK-OFFICE INTEGRATION OCPP 1.6

THE BEST SOLUTION FOR SMART CITIES

NB City is a robust and attractive outdoor AC charging system, making it ideal for "smart" cities. It has been designed with durability, reliability and ease of maintenance in mind. With output power of 2 x 22 kW (2 x 7.7 kW in US), NB City is compatible with AC Type 1 and 2 connectors. Its smart design offers a simple, fast and easy charging experience, which makes NB City the best AC charging solution for applications that require maximum urban integration with the most advanced functionalities.

MULTIPLE CONNECTION OPTIONS

NB City has been designed to offer the most flexible charging solution to be installed in smart cities.

NB City is compatible with Type 1 and 2 AC connectors with outlet socket options or versions with straight and spiral cables.





AC Type 1

AC Type 2

OUTLET SOCKET VERSION





HARD-WIRED VERSION

2 x Type 1 or 2 x Type 2



USER-FRIENDLY INTERFACE

Intuitive experience

NB City has a smartphone app to facilitate the interaction with the user. Optionally, it can install a display that allows the visualization of the charging process. Power Electronics chargers integrate a state indicator so that the drivers can easily identify its availability.

Payment and authentication system

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





Bluetooth

Presence recognition through bluetooth connectivity.



RFID

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



Credit / Debit card

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



Smartphone

Power Electronics' NB Charger smartphone application allows monitoring and the scheduling charging sessions, consult statistics and historical, update the software version, define users' roles and manage the charging energy.

ENERGY MANAGEMENT

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

Smart Fleet Management

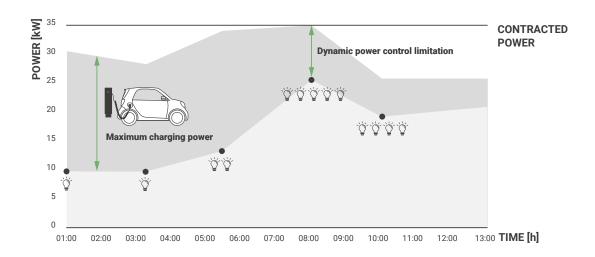
This functionality is able to balance the power based on the number of charging posts in use. Therefore, the total power required to supply the total energy gets substantially reduced, representing a cost reduction in the electrical facility infrastructure and a cost saving due to a minor power contracted.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



Dynamic Power Control

This optional device ensures dynamic adaptation of the power being used to charge the vehicle in accordance with the

energy being consumed by other electrical loads in the facitlity, without having to increase contractual power capacity.



SMART AND CUSTOMIZABLE DESIGN

Customizable external enclosures

Power Electronics offers customizable external enclosures. The color can be changed or logos and advertising can be added. Optionally, a panel for advertising can be included on the back of the charger.













NB CITY IEC

Model	ADVANCED	PROFESSIONAL	
AC input [V]	400	(3ph)	
Maximum output power per connector [kW]		2.2	
Energy measurement	Internal energy	/ measurement	
	-	MID meter	
Energy management	Smart Fleet	Management	
Communications	W	/ifi	
	-	3G/4G connectivity	
	Ethe	ernet	
	OCP	P 1.6	
Authentication	Bluetooth		
	RFID card reader		
Protections	RCD Type A		
	M	СВ	
	-	RCM	
external enclosure	IP54 / IK10 (IK08 for disp	olay and ventilation grilles)	
	White colour (RAL 9016	- microtexture painting)	
	C4 anti-corrosion paint [1]		
Glass colour	Bla	ack	
Operating temperature	From -25°C to 50°C		
Relative humidity	From 49	% to 95%	
nterface	NB Charger App - Status	indicator - Time schedule	
Dimensions (W x D x H) [mm]	350 x 200 x 1300		
Regulation	IEC 61851-1, IEC 61000-6-2, IEC 61000-6-3		

STANDARD MODELS

MODEL	REFERENCE	TYPE OF CONNECTOR
ADVANCED	NBCHA46 2 x AC Type 2 (Plug - 3 m)	
	NBCHA47	2 x AC Type 2 (Socket)
PROFESSIONAL	NBCHP46	2 x AC Type 2 (Plug - 3 m)
	NBCHP47	2 x AC Type 2 (Socket)

AVAILABLE OPTIONS IEC

ENCLOSURE	Customizable enclosure colour
	Customizable foot colour
	Customizable glass colour
	Stainless steel AISI 316L (2B)
	PE logo substitution
	Extra logo
	Advertising (back side)
CONNECTION	4 m cable (spiral)
CONFIGURATION	5 m cable (straight)
	Anti-vandalism system (socket outlet)
	Connector locker
PROTECTIONS	Surge arrester Type 2
	Surge arrester Type 1+2
	RCD Type A with automatic reset [1]
INTERFACE	Display
ENERGY	Dynamic Power Control (< 65 A)
MANAGEMENT	Dynamic Power Control (< 100 A)

NB CITY US

Reference	NBCUA28		
AC input [V]	208 Vac or 240 Vac single-phase: L1, L2 and earth		
Maximum output power per connector [kW]	6.7 o 7.7		
Connector	2 x AC Type 1 (12 ft)		
Energy measurement	Internal energy measurement		
Energy management	Smart Fleet Management		
Communications	Wifi		
	3G/4G connectivity		
	Ethernet		
	OCPP 1.6		
Authentication	Bluetooth		
	RFID card reader		
Protections	CCID		
	MCB		
External enclosure	NEMA 3R - White colour (RAL 9016 - microtexture painting) - C4 anti-corrosion paint [1]		
Glass colour	Black		
Operating temperature	From -13°F to 122°F		
Relative humidity	From 4% to 95%		
Interface	NB Charger App - Status indicator - Time schedule		
Dimensions (W x D x H) [ft]	1.15 x 0.65 x 4.27		
Regulation	UL 2594, FCC Part 15 Class B, NEC 625		

AVAILABLE OPTIONS US

ENCLOSURE	Customizable enclosure colour
	Customizable foot colour
	Customizable glass colour
	Stainless steel AISI 316L (2B)
	PE logo substitution
	Extra logo
	Advertising (back side)
CONNECTION	13.1 ft cable (spiral)
CONFIGURATION	18 ft cable (straight)
	Connector locker
PROTECTIONS	Surge arrester Type 2
	Surge arrester Type 1+2
INTERFACE	Display
ENERGY	Revenue meter
MANAGEMENT	Dynamic Power Control (< 65 A)
	Dynamic Power Control (< 100 A)



NB Wall

USER-FRIENDLY INTERFACE
SMART FLEET MANAGEMENT
DYNAMIC POWER CONTROL
BACK-OFFICE INTEGRATION OCPP 1.6

THE BEST SOLUTION FOR HOME AND CAR PARKS

NB Wall is a robust and attractive outdoor AC charging system, making it ideal for car parks and smart homes. It has been designed with durability, reliability and ease of use in mind. With output power of 2 x 22 kW (2 x 7.7 kW in US), NB Wall is compatible with AC Type 1 and 2 connectors. Its smart design offers a simple, fast and easy charging experience, which makes NB Wall the best AC charging solution for applications that require maximum integration with the most advanced functionalities.

MULTIPLE CONNECTION OPTIONS

NB Wall has been designed to offer the most flexible charging solution to be installed in car parks and smart homes.

With up to 2×22 kW (2×7.7 kW in US) NB Wall is compatible with Type 1 and 2 AC connectors with outlet socket options or versions with straight and spiral cables.





AC Type 1

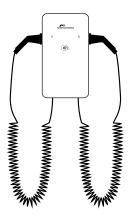
AC Type 2

OUTLET SOCKET VERSION

Type 1 or Type 2



2 x Type 1 or 2 x Type 2



HARD-WIRED VERSION

Type 2



2 x Type 2



USER-FRIENDLY INTERFACE

Intuitive experience

NB Wall has a smartphone app to facilitate the interaction with the user. Power Electronics chargers integrate a state indicator so that the drivers can easily identify its availability.

Payment and authentication system

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





Bluetooth

Presence recognition through bluetooth connectivity.



RFID

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



Credit / Debit card

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



Smartphone

Power Electronics' NB Charger smartphone application allows monitoring and the scheduling charging sessions, consult statistics and historical, update the software version, define users' roles and manage the charging energy.

ENERGY MANAGEMENT

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

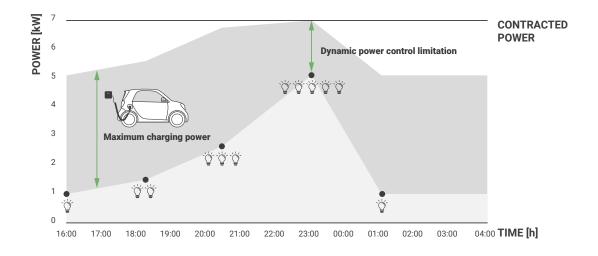
Smart Fleet Management

This functionality is able to balance the power based on the number of charger 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.



Dynamic Power Control

This optional device ensures dynamic adaptation of the power being used to charge the vehicle in accordance with the energy being consumed by other electrical loads in the facitlity, without having to increase contractual power capacity.



SMART AND CUSTOMIZABLE DESIGN

Customizable external enclosures

Power Electronics offers customizable external enclosures. The color can be changed or logos and advertising can be added.



NB WALL IEC

Model	ADVANCED	PROFESSIONAL	
Frame	1	2	
AC input [V]	400 (3ph)		
Maximum output power per connector [kW]	22	2.2	
Energy measurement	Internal energy	measurement	
	-	MID meter	
Energy management	Smart Fleet I	Management	
Communications	W	/ifi	
	-	3G / 4G connectivity	
	Ethe	ernet	
	OCP	P 1.6	
Authentication	Bluetooth		
	RFID card reader		
Protections	RCD 1	Гуре А	
	-	RCM	
External enclosure	IP54 / IK10 (IK08 for display and ventilation grilles)		
	White colour (RAL 9016 - microtexture painting)		
	C4 anti-corrosion protection [1]		
Glass colour	Bla	ack	
Operating temperature	From -25°	°C to 50°C	
Relative humidity	From 4% to 95%		
Cable input	Bottom input	Bottom and rear input	
Interface	NB Charger App - Status indicator - Time schedule		
Dimensions (W x D x H) [mm]	310 x 200 x 310	310 x 200 x 560	
Regulation	IEC 61851-1, IEC 61000-6-2, IEC 61000-6-3		

STANDARD MODELS

MODEL	REFERENCE	TYPE OF CONNECTOR
ADVANCED	NBWHA41	1 x AC Type 2 (Plug - 3 m)
	NBWHA42	1 x AC Type 2 (Socket)
PROFESSIONAL	NBWHP46	2 x AC Type 2 (Plug - 3 m)
	NBWHP47	2 x AC Type 2 (Socket)

AVAILABLE OPTIONS IEC

	DESCRIPTION	ADVANCED	PROFESSIONAL
ENCLOSURE	Customizable enclosure colour	0	0
	Customizable glass colour	0	0
	Stainless steel AISI 316L (2B)	0	0
	PE logo substitution	0	0
	Extra logo	0	0
CONNECTION CONFIGURATION	4 m cable (spiral)	0	0
	5 m cable (straight)	0	0
	Cable holder	0	0
	Anti-vandalism system (socket outlet)	0	0
	Connector locker	0	0
PROTECTIONS	RCM	O ^[1]	•
	RCD Type A automatic reset	-	0
	MCB	O ^[1]	0
COMMUNICATIONS	3G / 4G connectivity	0	•
ENERGY MANAGEMENT	MID meter	O ^[1]	•
	Dynamic Power Control (< 65 A)	0	0
	Dynamic Power Control (< 100 A)	0	0

Not available option Available option

Included by default

NB WALL US

Model	ADVANCED	PROFESSIONAL		
Reference	NBWUA23	NBWUP28		
Frame	1	2		
AC input [V]	208 Vac or 240 Vac single-phase: L1, L2 and earth			
Maximum output power per connector [kW]	6.7 o 7.7			
Connector type	1 x AC Type 1 (12 ft)	2 x AC Type 1 (12 ft)		
Energy measurement	Internal ene	ergy measurement		
Energy management	Smart Fleet Management			
Communications	Wifi			
	-	3G / 4G connectivity		
	Ethernet			
	OCPP 1.6			
Authentication	Bluetooth			
	RFID	card reader		
Protections	CCID			
External enclosure	NEMA 3R - White colour (RAL 9016 - microtexture painting) - C4 anti-corrosion protection [1]			
Glass colour	Black			
Operating temperature	From -13°F to 122°F			
Relative humidity	From 4% to 95%			
Cable input	Bottom input	Bottom and rear input		
Interface	NB Charger App - Status indicator - Time schedule			
Dimensions (W x D x H) [ft]	1.01 x 0.65 x 1.01	1.01 x 0.65 x 1.84		
Regulation	UL 2594, FCC Part 15 Class B, NEC 625			

AVAILABLE OPTIONS US

	DESCRIPTION	ADVANCED	PROFESSIONAL
ENCLOSURE	Customizable enclosure colour	0	0
	Customizable glass colour	0	0
	Stainless steel AISI 316L (2B)	0	0
	PE logo substitution	0	0
	Extra logo	0	0
CONNECTION CONFIGURATION	13.1 ft cable (spiral)	0	0
	18 ft cable (straight)	0	0
	Cable holder	0	0
	Plug-in version NEMA 6-50	0	-
	Connector locker	0	0
PROTECTIONS	MCB	0	0
COMMUNICATIONS	3G/4G connectivity	0	•
ENERGY MANAGEMENT	Revenue meter	0	0
	Dynamic Power Control (< 65 A)	0	0
	Dynamic Power Control (< 100 A)	0	0

Not available option Available option

Included by default