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

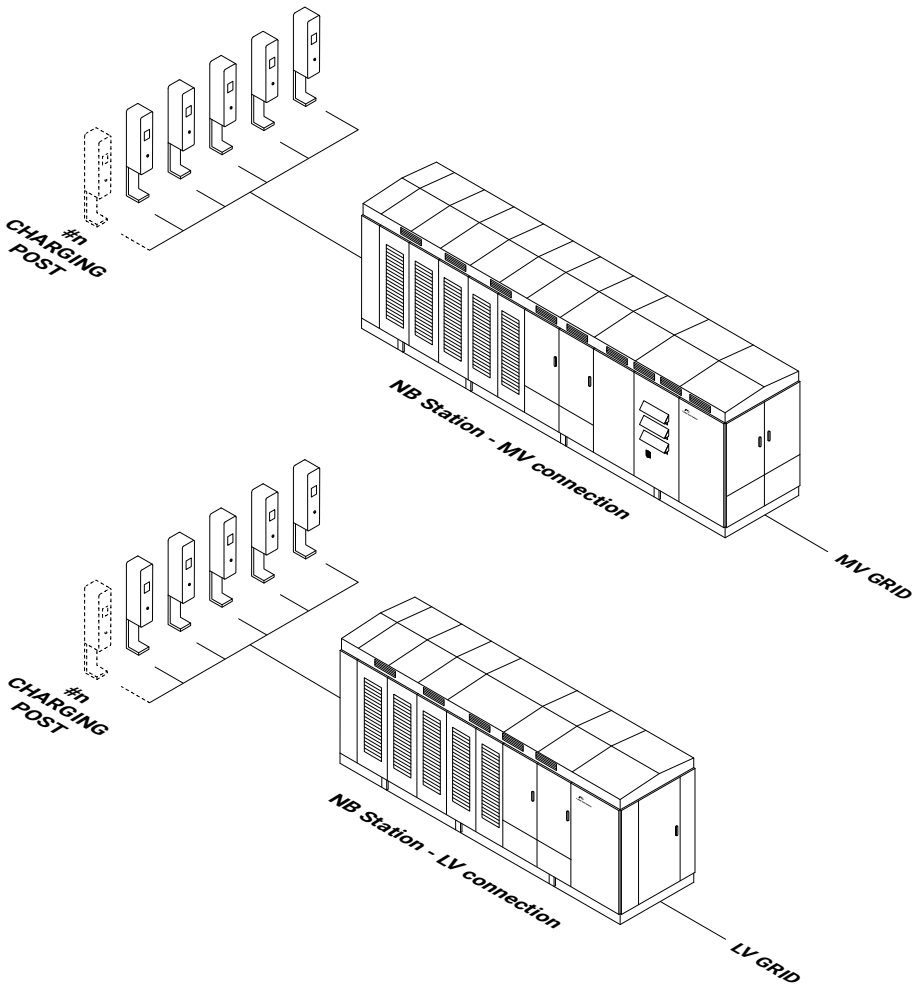
NB Station reduces the space required, simplifies installation and significantly reduces connection costs and necessary resources.

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.

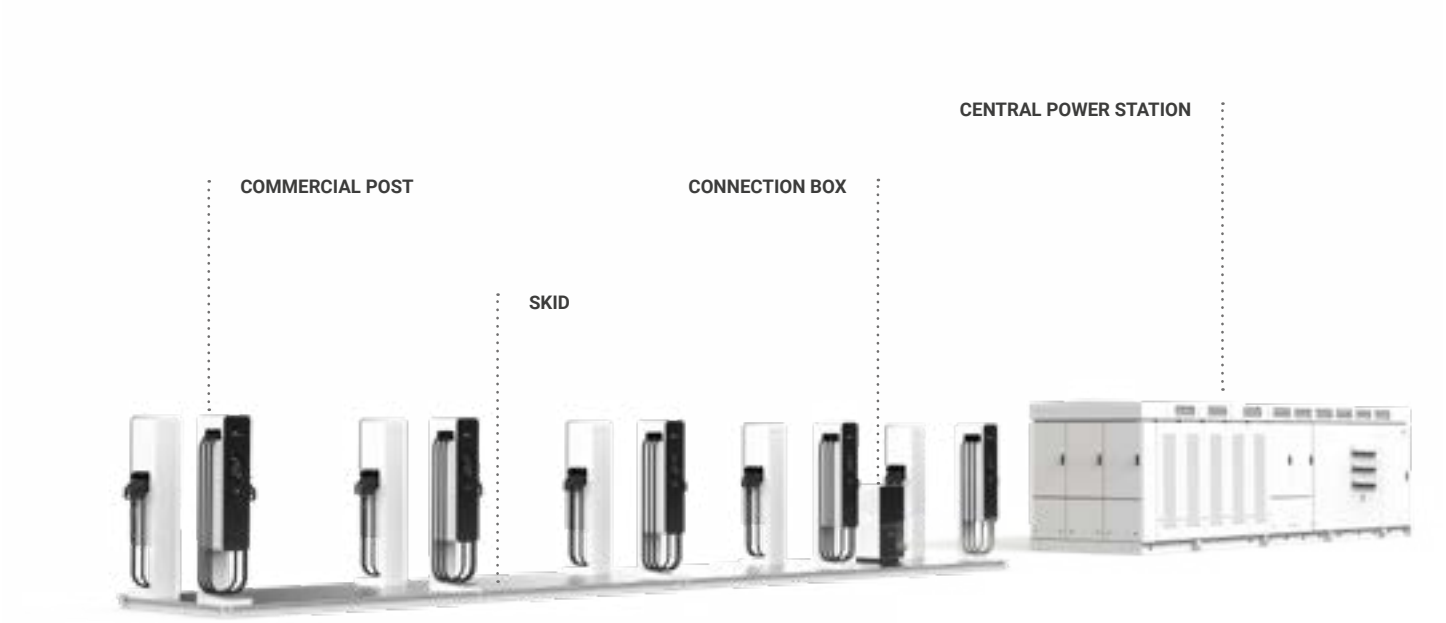
The central power station according to the client's needs can integrate the following medium voltage components:

· 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

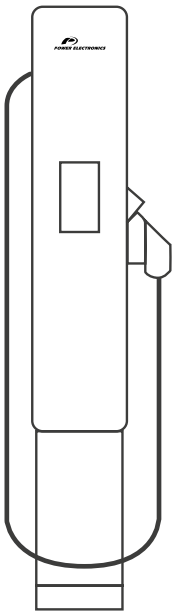
Following a modular philosophy, NB Station is composed of FRUs (Field Replaceable Units), designed to be easily replaceable on site without the need of advanced technical service personnel, providing a safe, reliable and fast Plug&Play assembly system. In the event of a fault, the faulty module is taken 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

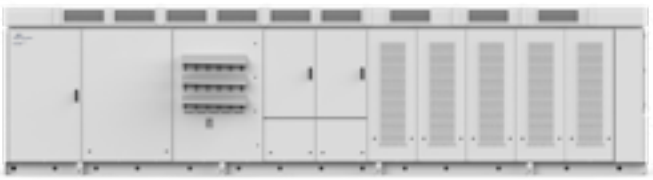
NB Station is compatible with the most extended DC connectors (CCS and CHAdeMO).



DC CONNECTOR
CCS-1

DC CONNECTOR
CCS-2

DC CONNECTOR
CHAdeMO



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 the most extended payment and authentication systems, 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.

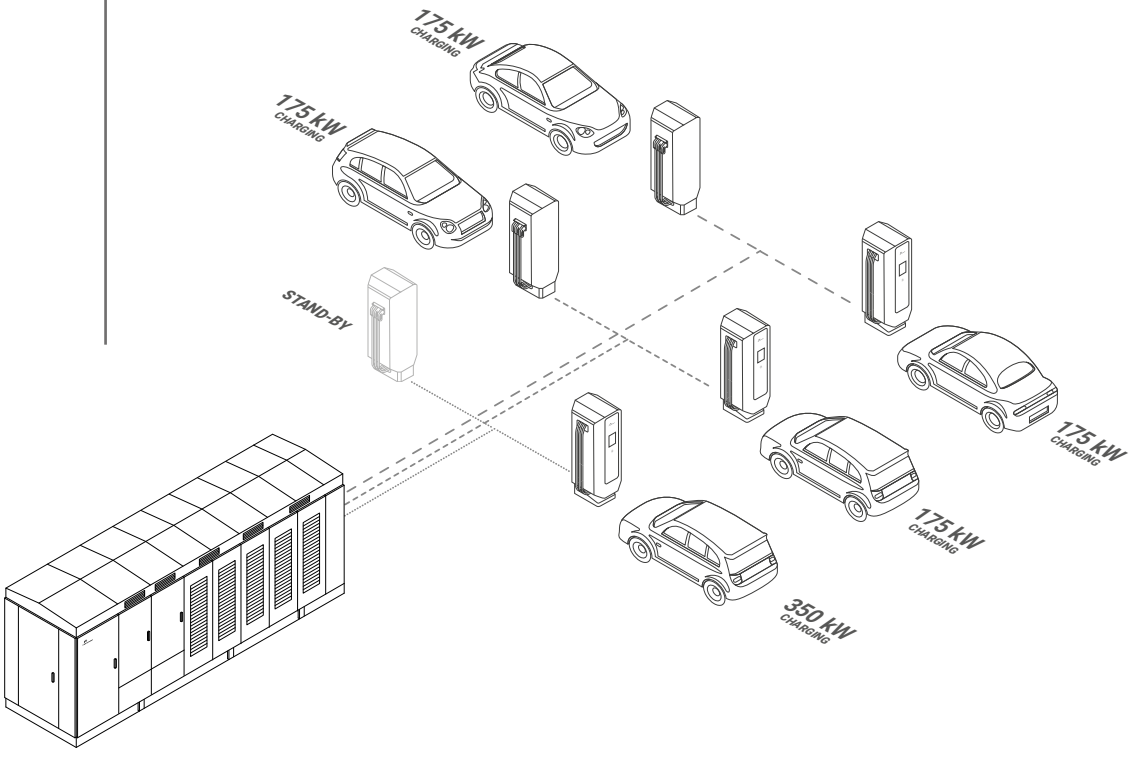
SMART
POWER BALANCE

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

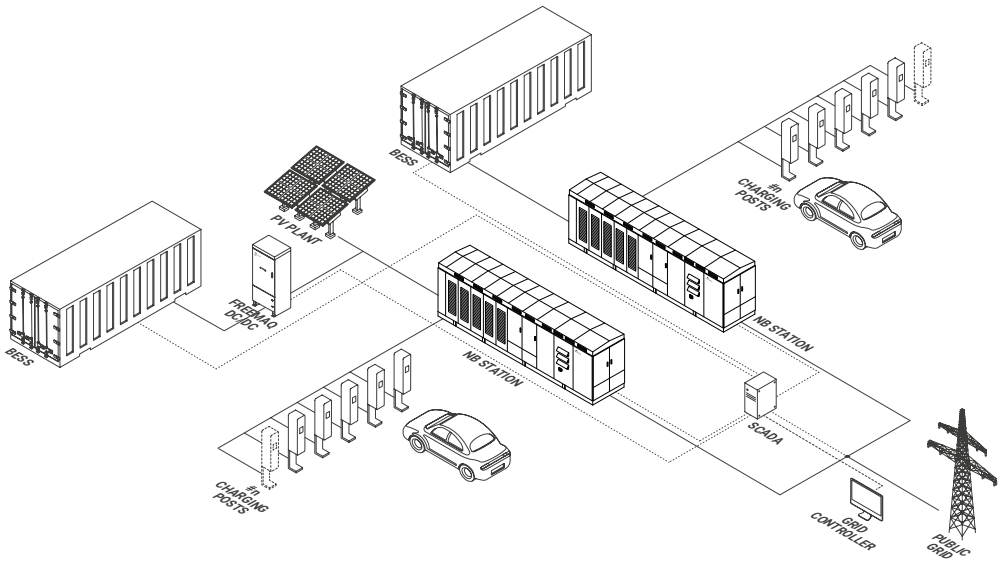
Our wide experience in the renewable energy sector, designing and manufacturing solar inverters, allows us to offer an integral solution.

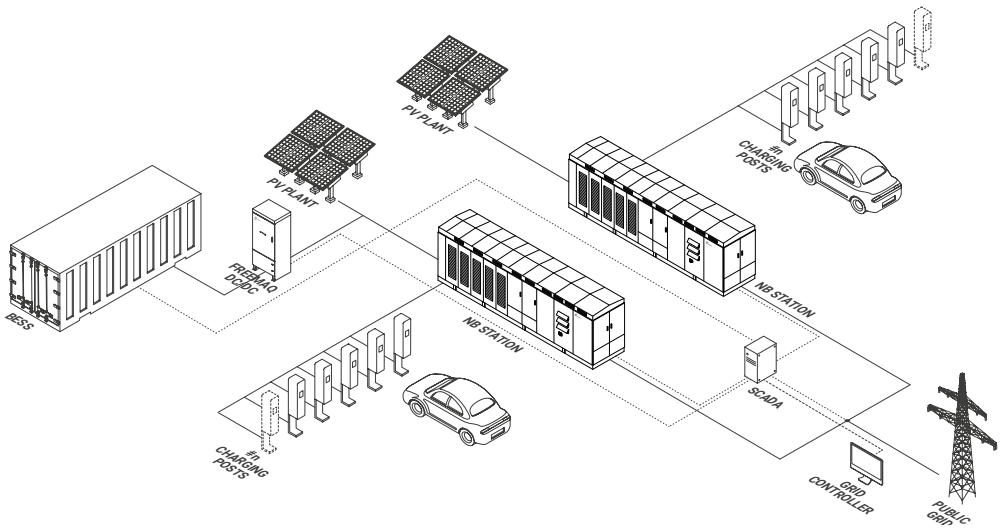
NB STATION IS ABLE TO TAKE ADVANTAGE OF AN ENDLESS ENERGY SOURCE, THE SUN

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 colour can be modified or logos and advertising can be added.

EXAMPLES OF POST CUSTOMIZATIONS

EXAMPLES OF POWER STATION CUSTOMIZATIONS

NBS

NBSK

Consult with Power Electronics for other options and colours.

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], CHAdeMO			
AC INPUT	Voltage [kV]	15 / 20 / 25 [2]			
	Power factor	> 0.99			
	Frequency [Hz]	50 / 60			
	Efficiency	93 % (preliminary)			
GENERAL	Interface	10" touchscreen			
		Status LED indicator			
		Emergency stop (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			
	User auxiliary services supply [kW]	25 (optional)			
	Cable length [m] [3]	3			
	Cable length [ft] [3]	9.84			
	Degree of protection	NEMA 3R - IP54 / IK10 [4]			
	Operating temperature	From -25ºC to 50ºC (optionally, from -30ºC to 50ºC)			
	Relative humidity	4% - 95%			
	Maximum altitude (above sea level)	2000 m; > 2000 m power derating (max. 3000 m)			
	Enclosure station colour	Grey (RAL 7035)			
	Enclosure post colour	White (RAL 9016 - microtexture painting) / Black glass			
	Customization	Enclosure / Display			
	Communications	Ethernet, OCPP 1.6, Wifi, 3G / 4G connectivity			
	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

REFERENCE	SMART POWER BALANCE	POSTS					
		NBDC060	NBDC120	NBDC120C [5]	NBDC175	NBDC175C [5]	NBDC350C [5]
NBS0350	-	7	3	3	2	2	1
NBS0350S	✓	-	6	6	4	4	2
NBS0500	-	10	5	5	3	3	-
NBS0500S	✓	-	10	10	6	6	-
NBS0700	-	14	7	7	4	4	2
NBS0700S	✓	-	14	14	8	8	4
NBS1000	-	20	10	10	6	6	3
NBS1000S	✓	-	20	20	12	12	6

[1] CCS-1 for US market. CCS-2 for IEC market.
[2] Consult with Power Electronics.
[3] Optional cable length of 5 m / 18 ft.
[4] IK08 for display and ventilation grilles.
[5] Cooled connector.

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], CHAdeMO			
AC INPUT	Voltage [V]	400 ± 10 % / 480 ± 10 %			
	Power factor	> 0.99			
	Frequency [Hz]	50 / 60			
	Efficiency	94 % (preliminary)			
GENERAL	Interface	10" touchscreen			
		Post status LED indicator			
		Emergency stop (optional)			
		Credit / debit card reader compatibility (optional)			
		RFID card reader (optional)			
	Protections	Isolation monitoring			
		Over-voltages / under-voltages			
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STANDARD CONFIGURATIONS

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NBSK0350	-	7	3	3	2	2	1
NBSK0350S	✓	-	6	6	4	4	2
NBSK0500	-	10	5	5	3	3	-
NBSK0500S	✓	-	10	10	6	6	-
NBSK0700	-	14	7	7	4	4	2
NBSK0700S	✓	-	14	14	8	8	4
NBSK1000	-	20	10	10	6	6	3
NBSK1000S	✓	-	20	20	12	12	6

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