

ELECTRIC MOBILITY

Last Generation EV Charging Solutions and Products



BEL e-POWER
Renewable Energy & Electric Mobility Smart Ecosystems



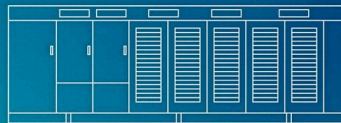
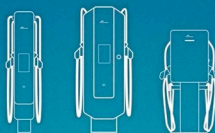
OUR EV
SOLUTIONS

Charging Equipment

Product Range

NB Station

750 / 900 / 1050
1200 / 1350 / 1500 kW

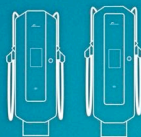


NB 120

60 / <<<<<< 90 / 120 kW

NB 240

150 / 180 / 210 / 240 kW



NBi 120

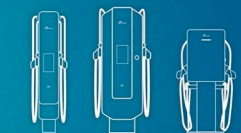
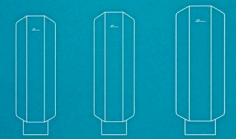
60 / 90 / 120 kW

NBi 240

150 / 180 / 210 / 240 kW

NBi 360

270 / 300 / 330 / 360 kW



POWER CABINET

DISPENSER

NB City

2 x 7.7 kW

NB Wall FR1

1 x 22 kW

NB Wall FR2

2 x 22 kW



Technology by



#1
Leader in central invertors
in USA, UK and LATAM
World leader in energy storage

Product Range

Commercial and Industrial Solutions

Commercial Product Range



NB STATION



NBi STATION



NB 120 NB 240 / 360



NB CITY



NB WALL



NB POD

Available Q1 2022

Industrial Product Range



NBi Station

Total power: 420 kW – 1200 kW
Posts: 60 kW / 120 kW / 175 kW
Pantographs: 175 kW / 350 kW / 450 kW / 600 kW



NBi Dispenser

50 kW / 100 kW / 150 kW @ 400 Vac
60 kW / 120 kW / 180 kW @ 480 Vac

Bel e-Power and Power Electronics are both strongly committed to electric mobility, and have allocated resources and effort to the research and development of electric-vehicle charging solutions. We are already designing, manufacturing and distributing power stations and charging points to provide energy for all types of electric vehicle. **The durability, reliability, safety and ease of maintenance of our equipment make it the best choice.**

NB 120

Up to 2 vehicles charging simultaneously

Stand-alone Solution

Ratings: 60, 90 and 120 kW.

Simultaneous charging 2 x 60 kW.

CHAdeMO + CCS or CCS + CCS.

Full power from 300 to 1000 Vdc.

Retrofit of power stages.

Smart Fleet Management.

Back-office integration OCPP 1.6.

DC STAND-ALONE CHARGER

NB 120 is an outdoor, robust and attractive charger, which allows the simultaneous charging of two vehicles with output power of up to 120 kW in DC and 22 kW in AC.

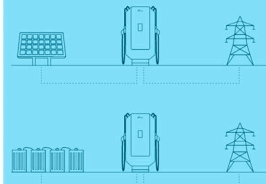
NB 120 is the ideal fast-charging DC and AC post for both urban and industrial settings. It can be equipped with 3G/4G connectivity and an RFID scanner, and configured for compatibility with smartphone-based authentication systems. It also permits the smart management of fleets.

Each charging post can be compatible with any system of payment and authentication. This system offers the most useful solutions on the market for easy interaction with the customer, including RFID cards and compatibility with smartphones and credit/debit cards. In order to kick-start charging successfully, we offer easy integration with any existing back-office system, with APIs based on widely used global standards and communications protocols such as OCPP.



BUS READY

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.



NB 240

Up to 4 vehicles charging simultaneously

Stand-alone Solution

Ratings: 150, 180, 210 and 240 kW.

Simultaneous charging 4 x 60 kW with satellite.

CHAdeMO + CCS or CCS + CCS.

Full power from 300 to 1000 Vdc.

Retrofit of power stages.

Smart Fleet Management.

Back-office integration OCPP 1.6.

DC STAND-ALONE CHARGER

NB 240 is an outdoor, robust and attractive charger, which allows the simultaneous charging of four vehicles with output power of up to 240 kW in DC and 22 kW in AC.

NB 240 can be set to charge at 400 or 1000 Vdc depending on the battery characteristics of the electric vehicle.

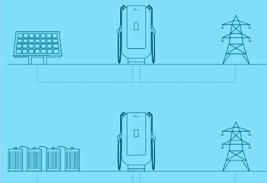
Its smart design offers an easy, fast and safe charging experience, which makes it the best solution for sites where it is required a combination of design, high power and innovation.

Each charging post can be compatible with any system of payment and authentication. This system offers the most useful solutions on the market for easy interaction with the customer, including RFID cards and compatibility with smartphones and credit/debit cards. In order to kick-start charging successfully, we offer easy integration with any existing back-office system, with APIs based on widely used global standards and communications protocols such as OCPP.



BUS READY

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.



NB City

The best solution for smart cities

Simultaneous charging of 2 x 22 kW.

Compatible with AC Type 2 connectors.

NB Charger App.

RFID card reader.

Bluetooth, Ethernet, Wifi and 3G/4G connectivity.

Dual Power Sharing.

Smart Fleet Management.

Back-office integration OCPP 1.6.

NB City is the ideal AC charging point for both urban and industrial settings. It can be equipped with 3G/4G connectivity and RFID card reader, and configured for compatibility with smartphone-based authentication systems. It also permits the smart management of vehicle fleets.

Supplied with Bluetooth connectivity, the system can also incorporate 3G/4G and be made compatible with any system of payment and authentication. This system offers the most useful solutions on the market for easy interaction with the customer, including RFID cards and compatibility with credit/debit cards and smartphones. In order to kick-start your charging business successfully, Power Electronics offers easy integration with any existing back-office system, with APIs based on widely used global standards and communications protocols such as OCPP.

Dual Power Sharing - Dual Power Sharing functionality is able to balance the power based on the EV needs. When there is just one car charging, the charger can supply maximum power whereas there are two cars charging, the power is dynamically balanced between the two of them

Dynamic Power Control - This option ensures dynamic adaptation of the power being used to charge the vehicle in accordance with the energy being consumed by other electrical appliances in the facility, without having to increase network connection capacity.



NB Wall

The best solution for home and car parks

Simultaneous charging of 2 x 22 kW.

Compatible with AC Type 2 connectors.

NB Charger App.

RFID card reader.

Bluetooth, Ethernet, Wifi and 3G/4G connectivity.

Dual Power Sharing.

Smart Fleet Management.

Back-office integration OCPP 1.6.

NB Wall is a robust and attractive outdoor AC charging system, making it ideal for "smart" car parks and homes. It has been designed with durability, reliability and ease of use in mind. Available in two frame sizes, operating up to 2x22 kW outlets, NB Wall is compatible with AC connectors Type 1 and 2. Available with outlet socket or hard-wired version.

NB Wall is the ideal AC charger for private homes and public car parking facilities alike. It is equipped with a simple user interface designed for intuitive operation via a smartphone app. It can also be supplied with highly advanced connectivity and authentication systems. Each charging post can be compatible with any system of payment and authentication. This system offers the most useful solutions on the market for easy interaction with the customer, including RFID cards and compatibility with credit/debit cards and smartphones. In order to kick-start your charging business successfully, Power Electronics offers easy integration with any existing back-office system, with APIs based on widely used global standards and communications protocols such as OCPP.



NB Station

Turn-key solution

NB Station is the only EV charging station on the market to integrate the transformer and medium-voltage cells into the same set of equipment. Its operation supposes considerable savings in terms of both CAPEX and OPEX, and it greatly simplifies the design of charging infrastructure.

**Ratings: 750 to 1500 kW
(up to 20 DC/DC modules of 75 kW).**

**Extended full power voltage range
option from 320 Vdc.**

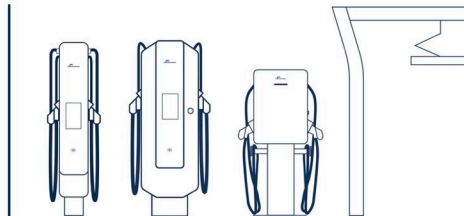
Retrofit of power stages.

Smart Power Balance.

Bus Plus Ready.

Back-office integration OCPP 1.6.

**Compatible with dispensers
and pantographs:**



LV and MV Power Station:



NBSK – LV connection



NBS – MV connection

NB Station

A turnkey solution with maximum integration

Ratings: 60, 120, 175 kW and 350 kW

Total power from 420 kW to 1200 kW.

Sequential fleet charging.

Smart Power Balance.

Smart Fleet Management.

Back-office integration OCPP 1.6.

Being expandable over time, the central power station has been developed to support future increases in charging power, thus offering a solution that can grow with the EV market demand and car battery technology

- DC FAST CHARGING IN DC MODE
- MULTI-STANDARD CONNECTORS
- SIMPLE USER INTERFACE
- SMART POWER BALANCE
- MAXIMUM EFFICIENCY
- EASY BACK-OFFICE INTEGRATION
- MAXIMUM DURABILITY
- FUTURE HIGH DC VOLTAGE RETROFIT
- BUS PLUS READY
- TURNKEY SOLUTION
- PLUG & PLAY

Installations of this type consist of a central power station, which supplies energy to charging points installed on a metal skid platform. The platform is supplied ready-wired for direct connection between the series of charging posts and the central power station. This is done via a junction box, without any need to wire each post individually.



NBi 120

The combination of modularity and high performance

Ratings: 60, 90 and 120 kW.

Compatible with dispensers and pantographs.

Simultaneous charging up to 2 x 60 kW.

Sequential fleet charging.

Full power from 300 to 1000 Vdc.

Retrofit of power stages.

Smart Power Balance.

Smart Fleet Management.

Back-office integration OCPP 1.6.



NBi 240

The combination of modularity and high performance

Ratings: 150, 180, 210 and 240 kW.

Compatible with dispensers and pantographs.

Simultaneous charging up to 4 x 60 kW.

Sequential fleet charging.

Full power from 300 to 1000 Vdc.

Retrofit of power stages.

Smart Power Balance.

Smart Fleet Management.

Back-office integration OCPP 1.6.



NBi 360

The combination of modularity and high performance

Ratings: 270, 300, 330 and 360 kW.

Compatible with dispensers and pantographs.

Simultaneous charging up to 6 x 60 kW.

Sequential fleet charging.

Full power from 300 to 1000 Vdc.

Retrofit of power stages.

Smart Power Balance.

Smart Fleet Management.

Back-office integration OCPP 1.6.



NB POD

The combination of design and storage

Q1
2022

NEW

Fully Integrated BMS

100 kWh Lithium-ion Battery

Integrated Protections Load

Levelling

Peak Power Shaving

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.

Load levelling

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 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.

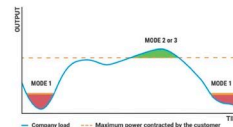
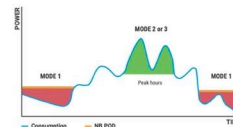


MODE 1
NB POD charging from the grid

MODE 2
Vehicle charging from NB POD



MODE 3
Vehicle charging from NB POD + Grid



NBi Station

The best solution for buses and heavy vehicles

Pantographs-type charging systems :



Charging-posts solutions :



Ratings: 60, 120 and 175 kW.

Compatible with dispensers and pantographs.

Pantographs: 175 kW / 350 kW / 450 kW / 600 kW.

Total power from 420 kW to 1200 kW.

Sequential fleet charging.

Retrofit of power stages.

Smart Power Balance.

Back-office integration OCPP 1.6.

Smart Fleet Management.

NBi Station is a highly efficient and flexible solution for fleets of high-usage electric vehicles, including heavy goods vehicles. Compatible with both current and future electric cars, trucks and buses, it offers a wide range of voltage and power options.

NBi Station can charge electric vehicles at up to 1000 Vdc. It is optimized for heavy goods vehicles and those with high levels of autonomy. It provides solutions based on pantographs and high-power charging posts.

Consisting of a central power station and a series of distribution points, NBi Station supplies both direct-current charging and ultra-fast charging, with charging solutions based on individual posts or pantographs for highly autonomous electric vehicles such as buses. The central power station can integrate medium voltage components such as the MV switchgear, transformer, energy meter and the user's customizable cabinet, in accordance with the needs of each customer.

They are equipped with RFID-based authentication to make them compatible with the most widely used mobile apps on the market.



FAST AND ULTRA-FAST CHARGING



SMART POWER BALANCE



MAXIMUM DURABILITY



MULTI-STANDARD CONNECTORS



MAXIMUM EFFICIENCY



BUS PLUS READY



TURNKEY SOLUTION



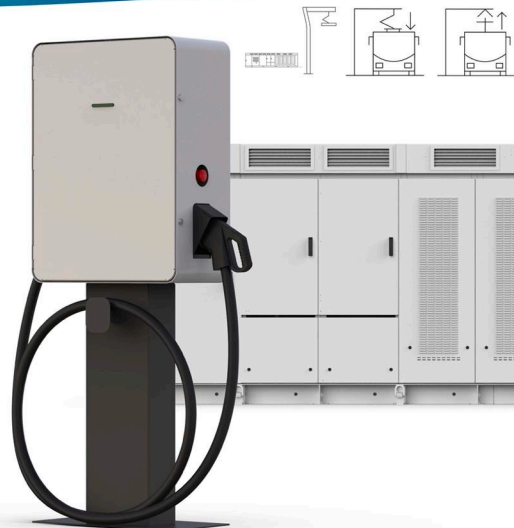
SIMPLE USER INTERFACE



PLUG & PLAY

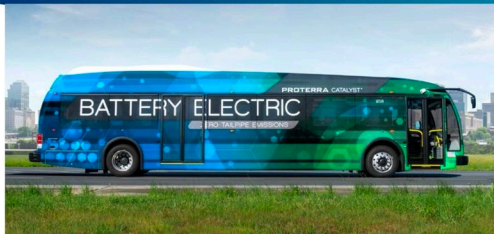


EASY BACK-OFFICE INTEGRATION



NBi Station

The best solution for buses



NBi Bus Station, Proterra (USA)



Our cooperation with Proterra (USA)



The New Generation of Proterra Charging Systems

Proterra's newest line of electric bus chargers provides operators with a comprehensive set of products to scale their electric vehicle fleets, building on Proterra's decade of delivering electric buses and charging infrastructure while leveraging Power Electronics' more than 30 years of experience in solar, energy storage, and electric mobility. Developed in collaboration with Power Electronics, the new Proterra charging systems are more reliable, compact, and cost-effective than ever. These high-power charging systems — available in a range of power levels up to 1.5 MW — also enable simultaneous charging of multiple vehicles from a single charger.

<https://www.proterra.com>



NB Charging Points

Solutions for Different Needs





NBi Station. PE (Valencia, Spain)



NB City.



NB Wall. IGC Tecnos (Oporto Office Park)



NB City.



NB City. Ford (Valencia)

NB Station

Full 360° Service

COMPATIBLE WITH ANY BACK-OFFICE

- OCPP 1.6
- Modbus TCP
- 3G / 4G connectivity
- Flexible integration



ORM

- Remote fault diagnosis
- Charging sessions monitoring
- Charging point status
- Remote software updating



PAYMENT PLATFORM

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



GRID

- IEC 60870 integration
- Power curtailment
- Low harmonics content
- High power factor



Functionality

Features

Advanced communication services:

Ethernet, 4G y OCPP 1.6

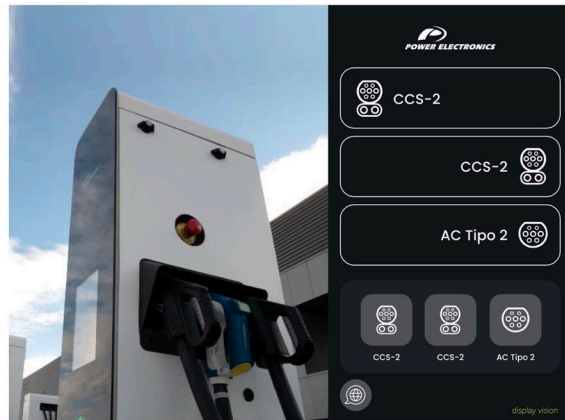


Multiple payment methods:

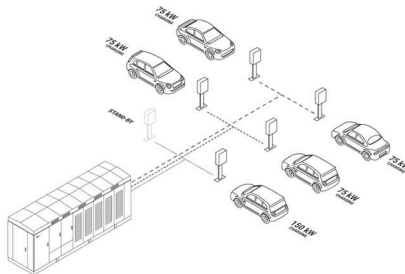
mobile app, RFID, credit/debit card



- Possibility of indoor and outdoor installation (IP54 / IK10) ;
- High efficiency (> 96%) reduced THDi (< 5%);
- Compatible with the most widespread CCS Type 2, CHAdeMO and AC Type 2 connector ;
- Simultaneous DC charging ;
- Up to three hoses per load post:

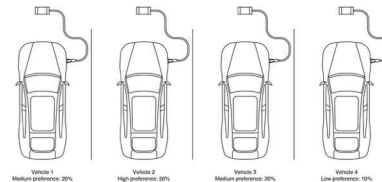
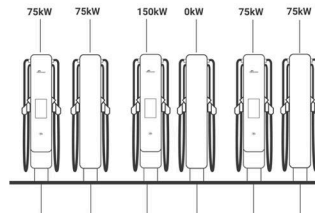


Smart Management



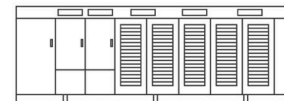
Our system can balance power to match the number of charging points currently in use. This allows a substantial reduction in the total energy required, which in turn reduces costs in terms of both electrical infrastructure and contractual power capacity.

- Maximum power management depending on the contracted one.
- Power distribution by points: VIP, FIFO, balanced rolling, etc.



Smart Power Balance

Dynamic power balancing depending on the vehicle to be loaded and intelligent control of the use of load poles.



Functionality

Some of Our Main Characteristics

NB Station is the most powerful modular solution on the market, it can reach up to 1500 kW, combining DC charging posts from 75 kW to 350 kW. It is designed to provide a comprehensive super fast charging solution for both public and private charging.

Easy Back-Office Integration

In order to kick-start your charging business successfully, Power Electronics offers easy integration with any existing back-office system, with APIs based on widely used global standards and communications protocols such as OCPP.

Fast charging in DC mode

NB Station supplies direct-current charging at up to 350 kW, with output voltages ranging from 50 to 500 Vdc and 150 to 1,000 Vdc.

Low and Medium Voltage

The station connection can be in low or medium voltage. In medium voltage the station incorporates the MV to LV transformer within the same enclosure. Something that makes us unique.

Maximum Durability

This successful and revolutionary outdoor design is based on our 30 years of experience in the manufacture of electronic power-supply equipment.

Maximum Efficiency

NB Station charging points are highly efficient, which minimizes system wastage and delivers considerable reductions in OPEX installation costs.

Maximum Integration

NB Station is the only vehicle charging station on the market to integrate the transformer and medium-voltage cells into the same set of equipment. Its operation supposes considerable savings in terms of both CAPEX and OPEX, and it greatly simplifies the design of charging infrastructure.

Multi-standard connectors

Designed in conjunction with car manufacturers, NB Station is compatible with the most widely used vehicle connectors and charging protocols: CCS and CHAdeMO.

Plug and Play Concept

Based on our modular approach, NB Station consists of various field replacement units (FRU) that do not require highly trained technical service personnel, resulting in a "plug and play" configuration that is safe, reliable and fast.

Our solution, based on the galvanized steel skid platform, also offers the advantages of pre-wired charging posts tested at Power Electronics factory. The posts are also fitted with a junction box designed for easy interconnection with the central power station.

This way we provide a unique solution in the market helping to have considerable savings in both Capex and Opex.

Turnkey Solution

Consisting of a central power station and a series of distribution points, NB Station simplifies the task of installation and considerably reduces connection costs and the consumption of necessary resources. The central power station according to the client's needs can integrate the following medium voltage components such as the MV switchgear, transformer, energy meter and the user's customizable cabinet, in accordance with the needs of each customer.

Smart Power Balance

NB Station allows you to optimize the usage of charging points, with dynamic power balancing matched to the vehicle being charged.

Simple User Interface

Charging posts are fitted with a touchscreen, which clearly displays the progress of the charging process. They are equipped with RFID-based authentication to make them compatible with the most widely used mobile apps on the market. And they are also compatible with contactless solutions (NFC), allowing drivers to start a charging session simply by scanning in their credit or debit card.

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

Design

Customizable per Request



Customizable external enclosures

Our charging posts external enclosures are fully customizable. The enclosure can be color-customized and further personalized with branded labels that feature clients logos, texts and advertisement.

Graphic advertising

NB 120 offers the option of installing an advertising panel on the back of the equipment.



Comparative

Our "NB120" versus "Efacec QC120"



SMART FLEET MANAGEMENT

- **US:** Smart Fleet Management can operate either via Ethernet or WIFI
- **EFACEC:** Load Management System. Connection method unknown.

Our Advantages :

- ✓ **CAPEX reduction:** Smart Fleet Management can be done in a wireless LAN. It does not require ethernet cable to be installed.
- ✓ **Charging optimization.** NB 120 allows the optimization of the car fleet charging by means of the automatic balancing of power, depending on the demand and site conditions.
- ✓ Possibility to manage all NB Chargers in the same smart fleet network.
- ✓ **HW optimization.** A single internet connection is needed to manage the entire fleet through OCPP.
- ✓ **Logic of priorities:**
 - ✓ **Equitable power distribution** between posts.
 - ✓ **Sequential charging**
 - ✓ **FIFO priority** (maximum priority is assigned in order of arrival).
 - ✓ **Priority to the least time to finish charging.**
 - ✓ **VIP users.**
 - ✓ **Configurable power to each post.**

CABLE MANAGEMENT SYSTEM

- **US:** Built in cable management system to provide longer cable lengths options. 5m as standard and 7.5m as optional.

- **EFACEC:** Technology unavailable.

Our Advantages :

- ✓ **CAPEX reduction.** 5 meter connector allows to have several cars connected to the same charger despite being on different parking lots. There is no need to install more chargers.
- ✓ **OPEX reduction.** Vandalism and deterioration of connectors due to continuous contact with the floor dirt and dust is prevented with the cable management system.
- ✓ Easier to manipulate and to connect to every EV regardless on the position of the charging outlet.

CONNECTOR DUTY CYCLE

- **US:** CCS connectors can support being overcharged for a period of time.

- **EFACEC:** Technology availability unknown.

Our Advantages :

- ✓ **CAPEX reduction.** A single 200A, 250A or 300A CCS cable could support more current for a period of time when needed. This way Power Electronics NB 120 does not need a cooling unit for >300A charging sessions, reducing its overall cost.
- ✓ **OPEX reduction.** Easier preventive and corrective maintenance, as there is no need to check or repair a cooling unit.



OUR EV
SOLUTIONS

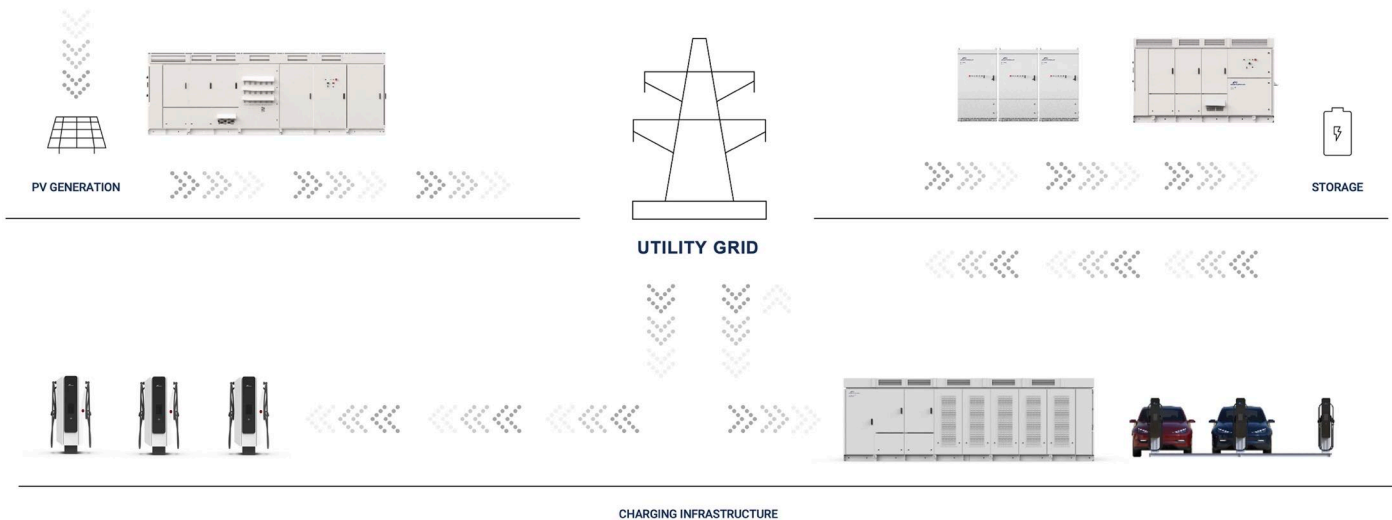
PV Charging Stations

Solar Footprint



NB Station

Value Proposal

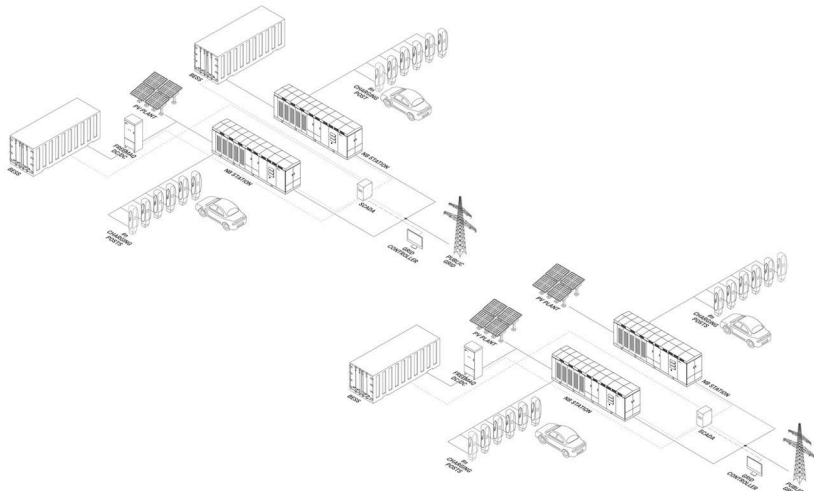


Powered by PV Energy

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

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.

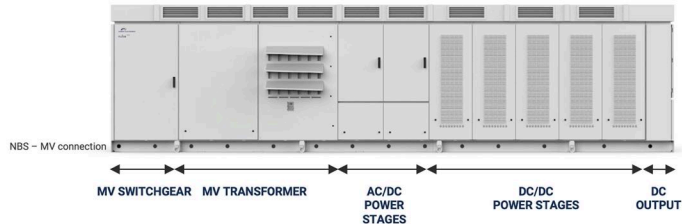
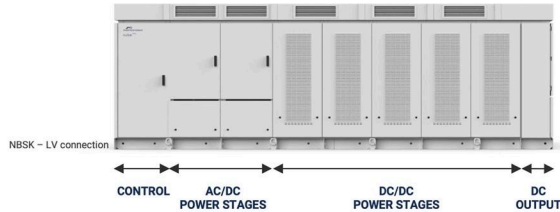
In addition, the battery system allows to attenuate the intermittent nature of renewable energy sources offering a continuous charging system.



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

NB Station

Modular Technology - FRU Concept



Modular technology for simplifying future retrofits:

NB Station can be easily power-scalable to support EV fleets growth or to follow the increase in EV market size over time.

Designed to support every EV and use case:

From heavy-duty to medium-duty electric vehicles. Two voltage range configurations are available:

- HV range (standard): full power above 520 Vdc up to 1000 Vdc.
- Extended range (option): full power above 320 Vdc up to 1000 Vdc.

Power stages, FRU* concept:

Power stages designed to be easily replaceable on the field without the need of advanced technical service personnel.

Opex Improvement:

Easy and reduced maintenance with low operating costs.



[*] Field Replaceable Unit

NB Station

Modular Technology - FRU Concept



NB – MV connection

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 TM , CHAdeMO, GB/T		
AC INPUT	Voltage [V]		15 / 20 / 25 ^{III}		
	Power factor		> 0.99		
	Frequency [Hz]		50 / 60		
	Efficiency		94%		
GENERAL	Interface		10" touchscreen		
			Status LED indicator		
			Emergency stop (optional)		
			Vehicle detection (optional)		
			Credit / debit card reader compatibility (optional)		
	Protections		RFID card reader (optional)		
			Isolation monitoring		
			Over-voltages / under-voltages		
			Over-currents / short-circuits		
			ICD		
	Auxiliary services power [kW]		Over-temperatures		
			15 / 20 / 25		
			Cable length [m] ^{III}		
			3		
			Cable length [ft] ^{III}		
	Degree of protection		9-94		
			NEMA 3R - IP54 / IK10 ^{III}		
			Operating temperature		
			From -25°C to 50°C (optionally from -35°C to 50°C)		
			Relative humidity		
	Maximum altitude (above sea level)		4% - 95%		
			2000 m		
			Customization		
			Enclosure / Display		
			Communications		
	Charging post dimensions (W x D x H) [mm]		OCPP 1.6, Ethernet, 3G/4G connectivity (optional), Wifi (optional)		
			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	NBDC175	NBDC175C ^{III}	NBDC350C ^{III}
NBS0350	-	7	3	2	2	1
NBS0500	✓	-	6	4	4	2
NBS0600	-	10	5	3	3	-
NBS0600S	✓	-	10	6	4	2
NBS0700	-	14	9	6	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 TM , CHAdeMO, GB/T		
AC INPUT	Voltage [V]		400 ± 10 % / 480 ± 10 %		
	Power factor		> 0.99		
	Frequency [Hz]		50 / 60		
	Efficiency		95%		
GENERAL	Interface		10" touchscreen		
			Post status LED indicator		
			Emergency stop (optional)		
			Vehicle detection (optional)		
			Credit / debit card reader compatibility (optional)		
	Protections		RFID card reader (optional)		
			Isolation monitoring		
			Over-voltages / under-voltages		
			Over-currents / short-circuits		
			ICD		
	Auxiliary services power [kW]		Over-temperatures		
			15 / 20 / 25		
			Cable length [m] ^{III}		
			3		
			Cable length [ft] ^{III}		
	Degree of protection		9-94		
			NEMA 3R - IP54 / IK10 ^{III}		
			Operating temperature		
			From -25°C to 50°C (optionally from -35°C to 50°C)		
			Relative humidity		
	Maximum altitude (above sea level)		4% - 95%		
			2000 m		
			Customization		
			Enclosure / Display		
			Communications		
	Charging post dimensions (W x D x H) [mm]		OCPP 1.6, Ethernet, 3G/4G connectivity (optional), Wifi (optional)		
			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		



NBSK – LV connection

STANDARD CONFIGURATIONS

REFERENCE	SMART POWER BALANCE	POSTS				
		NBDC060	NBDC120	NBDC175	NBDC175C ^{III}	NBDC350C ^{III}
NBSK0350	-	7	3	2	2	1
NBSK0500	✓	-	6	4	4	2
NBSK0600	-	10	5	3	3	-
NBSK0600S	✓	-	10	6	6	2
NBSK0700	-	14	7	4	4	2
NBSK0700S	✓	-	14	8	8	4
NBSK1000	-	20	10	6	6	3
NBSK1000S	✓	-	20	12	12	6

NB Station

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 1200kW, combining DC posts from 60kW to 350kW.

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.

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).

Compatible with dispensers and pantographs
750 to 1500 kW (up to 20 DC/DC modules of 75 kW)

Slim dispenser power: 75 – 150 – 225 kW

Cable length of 5 meters by default.

Cable management system integrated by default.

Cooled dispenser power: 225 – 375 kW

Cable length of 5 meters by default.

Cable management system integrated by default.

Depot dispenser power: 75 – 150 – 225 kW

Cable length of 4 meters by default.

Pantographs power: 75 – 150 – 225 – 375 – 450 – 600 – 750 kW

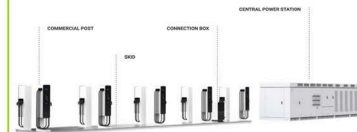
Pantograph can be top down or bottom up.

SPEED UP PROCESS

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.



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.

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.

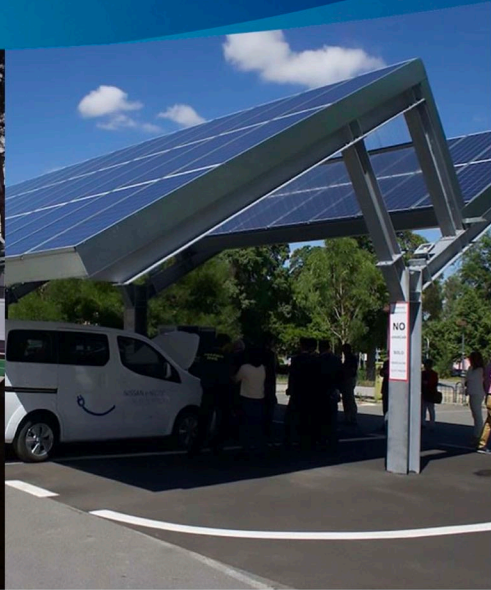
Vehicle detection

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.



NB Stations

Powered by Solar Energy



NB PV Bus

The best solution for buses

Cities are in urgent need of decarbonised transport. Urban areas are disproportionately contributing to global transport emissions. Therefore, a **substantial positive environmental impact can be made by decarbonising urban transport emissions globally.**

The United Nations (UN) estimates that 68% of the world's population will live in cities by 2050, compared to only 55% in 2018. As the world's population growth drives an increasing level of urbanisation, cities should lead the way on curbing carbon emissions. Although the world's **cities** occupy just 3% of the Earth's land, they **account for two-thirds of the world's energy demand and are responsible for about 70% of CO2 emissions.** Fossil fuel-based urban transportation has been a major contributor to climate change.

Multiple challenges result from increasing urbanisation. There is the need to modernize existing infrastructure or to develop new infrastructure to meet ever-increasing transportation demands and new lifestyles.

The progressive electrification of public transportation systems and a push for last-mile mobility alternatives help to improve the quality of life for citizens. Several cities are also implementing ultra-low emissions zones and, in many cases, establishing a date to completely ban the use of internal combustion engine (ICE) vehicles.



Render of Carris dedicated, hypothetical EV station



BEL E-POWER



Bel e-Power

Who We Are

Bel e-Power (BEP) was born from the union of Grupo Bel and Power Electronics to, together, lead the electric mobility charging market in Portugal.

Based on pillars such as sustainability, renewable energy, smart-energy and smart-energy-related technology, BEP intends to be a reference in the implementation of solutions for production, management and consumption of renewable energy in the electric mobility sector.

The combination of Power Electronics' over three decades of industrial experience in the energy field and its EV solutions unparalleled in the market, which are already an international reference - including in the United States, with the strategic positioning of Grupo BEL and financial support from international institutional investors, place us as a potential natural leader on the Portuguese EV charging market.



GRUPO BEL

BEL e-POWER
electric


POWER ELECTRONICS

Bel e-Power

Who We Are

Maintaining our commitment with sustainability and to actively contribute to fight the climate change, we intent to boost the EV sector growth in Portugal by creating conditions for a larger adoption of this kind of mobility.

Based on a vertical ecosystem of factors correlated to the maximization of technological innovation as competitive distinction, **BEP initial main goal is to contribute to a proper Electric Mobility charging infrastructure with high efficient and ultra-fast charging stations and stand-alone posts.**

Our chargers will help to fill a gap of super efficiency as, besides the sparse Tesla super-charging stations, the big majority of the existing charging points are not the most efficient in terms of charging speed. Also, according to our assessment, they not prepared to be easily upgraded for the future needs and demands of a sector in great expansion with constant tech improvements and innovations.

BEP plug&play chargers and stations, created to respond to present and future regulations and technologic advances, will provide energy for all types of electric vehicles, from two-wheeled and cars, to buses and trucks.






We are the energy of the future
40 GW of power capacity installed around the world




We are world leaders in energy storage
Adaptable and flexible energy storage systems

POWER ELECTRONICS



We move when you do
Power stations and charging points for the latest generation of electric vehicles



We have a firm sense of commitment
We are strongly committed to a sustainable future

Power Electronics

Headquarters



Power Electronics

The combination of modularity and high performance

The Company

After more than thirty four years in the field, **Power Electronics is now a leading supplier of technology to strategic sectors** involved in the economic and industrial development of more than a hundred countries; with a range that includes solar inverters, electronic starters, variable-speed drives and converters designed for the grid connection of battery-based energy storage systems.

The year 2020 saw us achieve 40 GW of installed power capacity, with a productive equivalent of 20 GW, making us the American continent's leading (and the world's fourth-placed) supplier of solar inverters for photovoltaic power plants. We continue to occupy the top position in the United States, Mexico, the UK and Spain.

The company is now addressing the challenge of electric mobility, by making charging-infrastructure products for all manner of electric vehicles.



Power Electronics

Worldwide presence

Large financial strength ratios.
Stable growth over the past three decades.
33 years of sustainable profit.

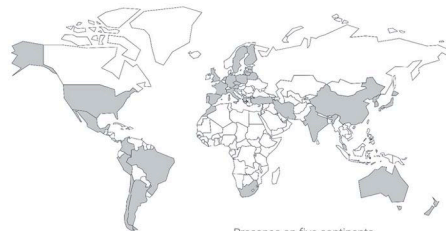
Presence in all industrial sectors:
Energy, Mining, Water, Oil & Gas, Metal, Cement, Marine and Electric Mobility.

#1

**Leader in central inverters in
USA, UK and LATAM**
World leader in energy storage

+22 GW
Installed Power

+18 GW
Annual Capacity Production



Presence on five continents

+28
Delegations

+100
Sales Countries

+2500
Employees



Power Electronics

Power on Support



Engineering support

Off-grid commissioning

24/7 Customer service

24/7 On-site assistance

Spare parts warranty

Training courses

Customer oriented philosophy



for a greener world

BEL e-POWER
Renewable Energy & Electric Mobility Solutions

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