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.
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.

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

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

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%
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.

**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

Consult with Power Electronics for other options and colours.
## Power Electronics

### DC Output (default)
- **Power [kW]**: 50
- **Voltage range [V]**: 50 - 500 / 150 - 1000
- **Current [A]**: 125
- **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**: AC Type 2 [1]

### AC Input for DC Output
- **Power [kW]**: 53
- **Voltage [V]**: 400 ± 10%
- **Current [A]**: 76
- **Power factor**: > 0.99
- **Frequency [Hz]**: 50 / 60
- **Efficiency**: 94 % (preliminary)

### General
- **Interface**: 10” touchscreen
- **Emergency stop**: (optional)
- **Status LED indicator**: 
- **Credit / debit card reader compatibility**: (optional)
- **RFID card reader**: (optional)
- **Isolation monitor**: 
- **RCD Type A**: [2]
- **MCB**: 
- **Surge arrester**: (optional) Type 2 / Type 1+2
- **Smart Fleet Management**: 
- **MID meter**: (optional) [3]
- **Vehicle detection**: (optional)
- **Datalogger**: (optional)
- **Cable length [m]**: [4]
- **Enclosure colour**: White (RAL 9016 - microtexture painting) / Black glass
- **Customization**: Enclosure / Foot / Glass / Logo / Display
- **Degree of protection**: IP54 / IK10 [5]
- **Operating temperature**: From -25°C to 50°C (optionally, from -30°C to 50°C)
- **Relative humidity**: 4% - 95%
- **Maximum altitude (above sea level)**: 2000 m; > 2000 m power derating (max. 3000 m)
- **Communications**: Ethernet
- **OCPP 1.6**: 
- **Wifi**: (optional)
- **Wifi + 3G / 4G connectivity**: (optional)
- **Ethernet switch**: (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
- CCS-2
- CHAdeMO
- GB/T

### Available AC Connectors
- AC Type 2

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[1] Type 1 under request.
[2] RCD Type A + RCM for AC charge if it is included.
[4] Optional cable length of 5 m.
[5] IK08 for display and ventilation grilles.
## 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 [kW] | 64 |
| Voltage [V] | 480 ± 10 % |
| Current [A] | 76 |

## GENERAL

| Interface | 10'' touchscreen |
| Emergency stop (optional) | |
| Status LED indicator | |
| Credit / debit card reader compatibility (optional) | |
| RFID card reader (optional) | |

### Protections

| Isolation monitor | |
| RCD Type A | |
| MCB | |
| Surge arrester (optional): Type 2 / Type 1+2 | |

### Others

| Smart Fleet Management | |
| Revenue meter (optional) | |
| Vehicle detection (optional) | |
| Datalogger (optional) | |

### Cable length [ft]

| 9.8 |

### Enclosure colour

| White (RAL 9016 - microtexture painting) / Black glass |

### Customization

| Enclosure / Foot / Glass / Logo / Display |

### Degree of protection

| NEMA 3R |

### 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) |

### Communications

| Ethernet |
| OCPP 1.6 |
| WiFi (optional) |
| WiFi + 3G / 4G connectivity (optional) |
| Ethernet switch (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 |

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### AVAILABLE DC CONNECTORS

- CCS-1
- CHAdeMO
- GB/T

### AVAILABLE AC CONNECTORS

- AC Type 1

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[1] CCID for AC charge if it is included.
