



# Smart Home Charger



7.4kW to 22kW



1 connector



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# Smart Home Charger



7.4kW to 22kW



1 connector



## Smart Home Charger

### Product Introduction

This is a mode 3 type AC EV Charger which is designed according to IEC 61851-21-2 standard, it can be wall-mounted, it can also be installed on a pedestal.

### Protection Functions



Charging protocol  
OCPP1.6-J



BCP Series EV chargers have an IP65/IP55 patented designcase for outdoor and indoor use.



The type 2 socket and type 2 connector are with IEC 62196-2, makes highly flexible and compatible with all electric vehicles.



Plug and start to charge automatic.  
(RFID card for option)



The EV charger output power can be adjusted from 6A all the way up to 32A.



# Smart Home Charger



## EV Charger Model

B	CP	AT	1	N	L	16
↓	↓	↓	↓	↓	↓	↓
Company	Application	Categories	Classification	Classification	Reserved	Max Current
B: BENE Electric	CP: Home Charging	A: 1-Phase Tethered B: 1-Phase Socket AT: 3-Phase Tethered BT: 3-Phase Socket	1: Autostart 2: With RFID	None: Without The Following Functions D: With DLB Function N: Smart Version with DLB Function	Reserved	Blank: 32A 16: 16A

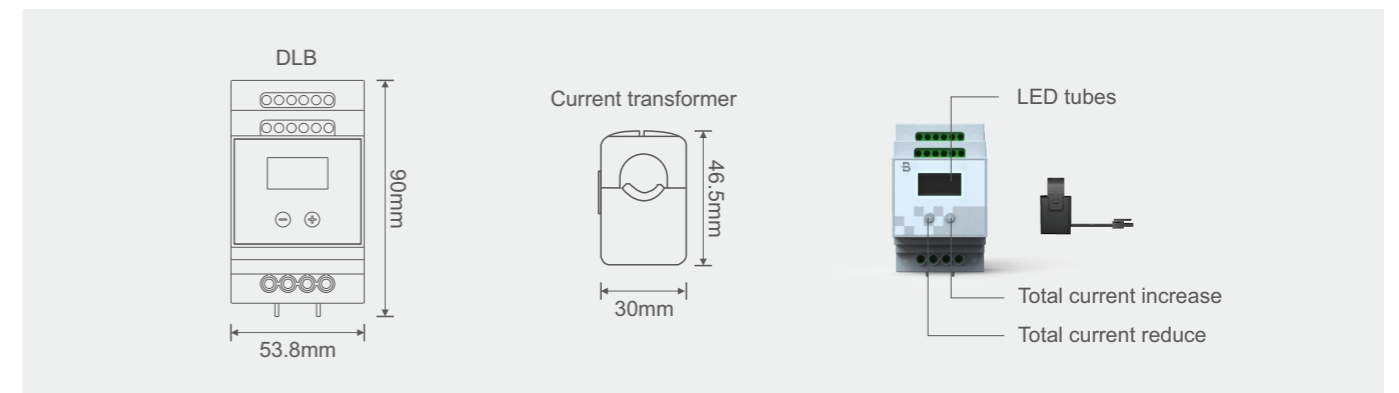


## Single Phase Model (PEN Function Is Only For UKCA Certificate)

B	CP	A	1	D	L	E	16
↓	↓	↓	↓	↓	↓	↓	↓
Company	Application	Categories	Classification	Classification	Reserved	PEN	Max Current
B: BENE Electric	CP: Home Charging	A: 1-Phase Tethered B: 1-Phase Socket AT: 3-Phase Tethered BT: 3-Phase Socket	1: Autostart 2: With RFID	None: Without The Following Functions D: With DLB Function N: Smart Version with DLB Function	Reserved	E: PEN Fault Protection Blank: Without PEN Fault Protection	Blank: 32A 16: 16A

## ✓ Dynamic Load Balancing

DLB (Dynamic Load Balancing) is available in the BCP series AC EV Charger for home use, when the EV charger is working with other household appliances at the same time, the DLB box can maintain the dynamic balance of the total household current and ensure the safety of electricity to avoid home over load. Set the Max current value of the main line on the DLB box. The charger will read this current value and automatically adjust the charging current (6A-32A) according to the idle load quota, so that the total household current will not be overloaded due to charging. This function can effectively use the power supply without providing additional power for the charging or home line update.



# Smart Home Charger

## ✓ Main problems

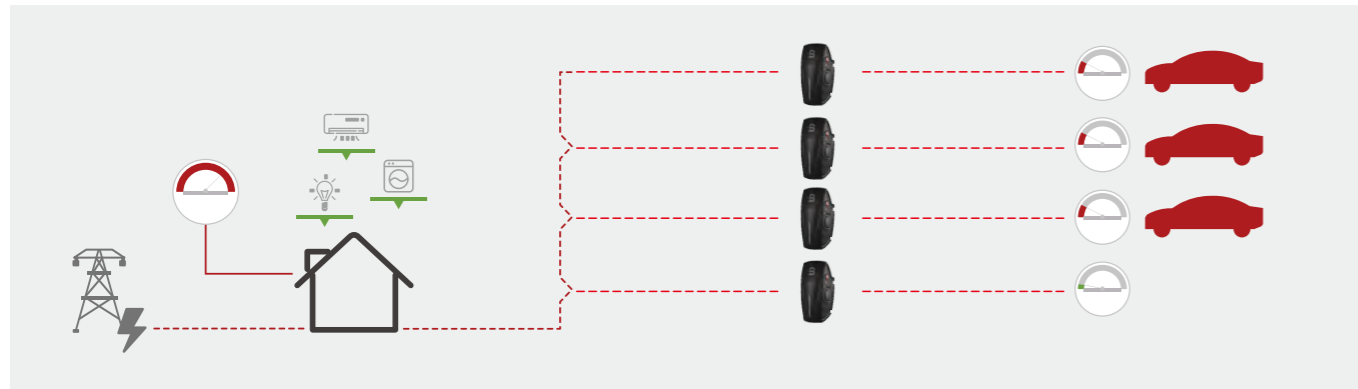
EV drivers want to charge their vehicles faster, especially in public and semi-public spaces, while charging service providers want to reduce their costs. The constant growth in EV charging creates new challenges:

- How to avoid overloading the grid and causing power cuts.
- How to minimise the investment required to upgrade installations.
- How to set up an EV charging system capable of simultaneous charging.

This situation requires an intelligent system to manage the charge and this is where DLB (Dynamic Load Balancing) comes in.

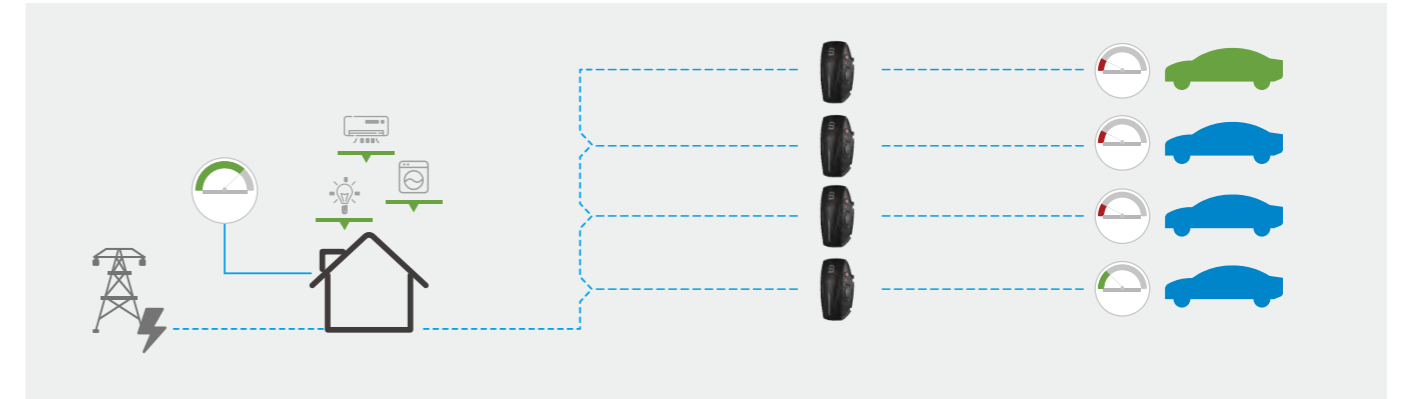
## ▶ Without Dynamic Load Balancing

Main supply overload



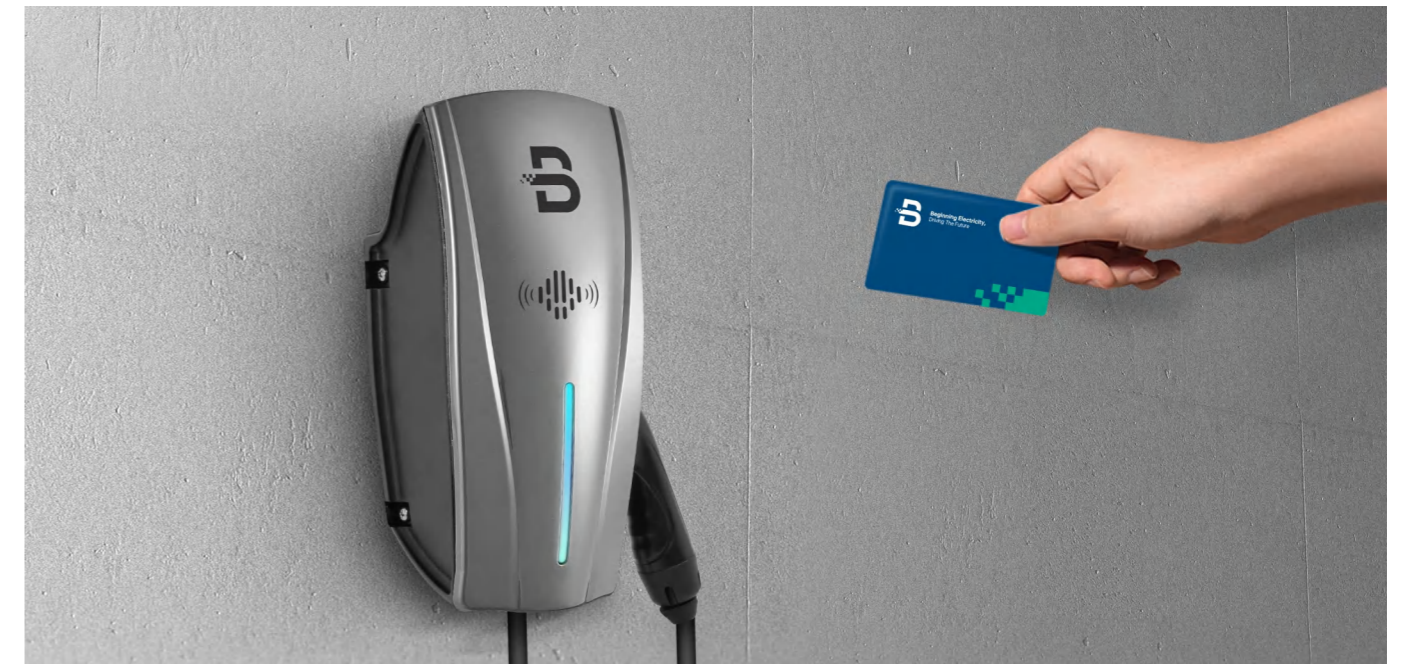
## ▶ With Dynamic Load Balancing

Main supply protected



## ✓ RFID(Radio Frequency Identification Card)

RFID card reader enabled to start up charging function while approaching the swipe area.



# Smart Home Charger

## Smart APP



The EV charger can be controlled by smart APP via WIFI or bluetooth connection.



One to one binding EV charger by reset the password, prevent the EV charger being stolen.



View charging data and status.



Set up various charging configurations, charging current, DLB mode, etc.



Scheduled charging.



Firmware update.



View historical charging records.

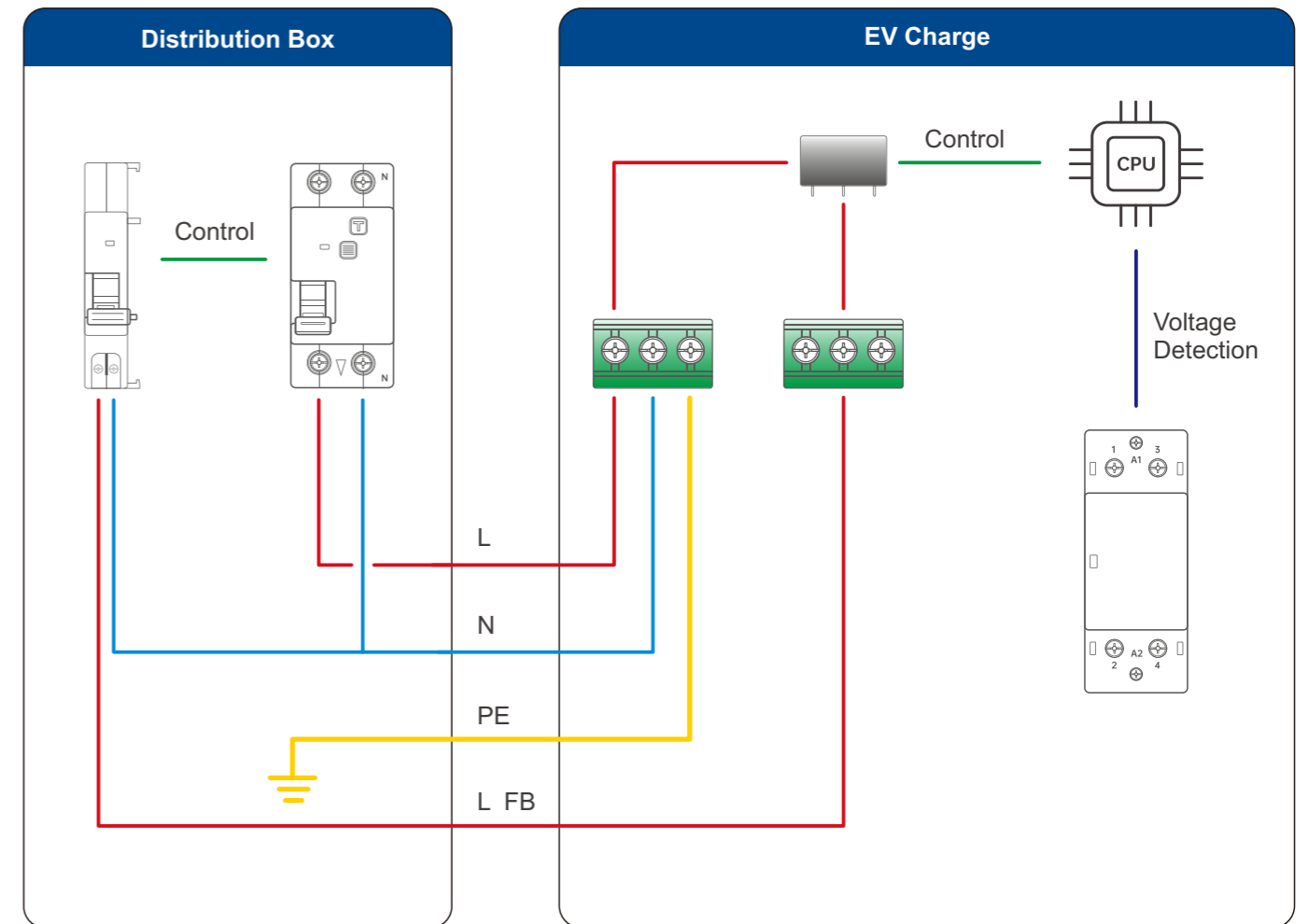


Setting monthly maximum charging values.



# Smart Home Charger

## Contactor Adhesion Protection



### • Single-Phase



### About contactor adhesion protection and why?

When the contactor in the charger is stuck due to current or short-circuit failure, the charger gun or the wires in the socket type charger will be live, brings the danger of electric shock to people.

The charger with contactor adhesion protection can avoid the danger.

### • Three-Phase



### How contactor adhesion protection works?

The main control chip of the charger keeps detecting the voltage of the contactor output;

If there is an AC voltage is detected at the output of the contactor when the charger is not in operating.

Then the charger will run the fault protection routine to alarm the lights and control the on-board relay to close.

As shown in the figure, the trip unit will drive the leakage protector to trigger and disconnect the power supply.

# Smart Home Charger



# Smart Home Charger

## Electrical

Charging Capacity	1.3kW – 7.4kW / 4.1kW – 22kW
Charge Mode	Mode 3 (IEC 61851-1)
Output Power	Selectable 1-phase or 3-phase, 230-400V 6A -32A, 50-60Hz
Socket Type	Type 2 Socket

## Protection and certification

Build-in RCD	DC6mA leakage sensor built-in
Socket	IP65, IK10
Housing Fire Ratings	V0
Operating Temperature	-25~+50°C
Compliance	IEC61851-1,IEC61851-21-2,IEC61000-4 CE EMC EU/2014.CE Low Voltage EU/2014/35
Certificate	CE, UKCA, CB, RCM

## Connectivity

Authorization	Auto-start standard / RFID card option
Status Indication	LED ring
WLAN Communication	Wi-Fi / Bluetooth 4.2 option
Charging Protocol	OCPP1.6-J

## Mechanical

Housing	Plastic
Dimension	W278 x H360 x D152 mm
Mounting	Wall or Pole

## WIFI

Operating Frequency Range	2412 - 2484MHz
WI-FI Protocols	IEEE 802.11 b/g/n
Channels	13
TX Power	<20dbm
EIRP	0.459
TX bandwidth	20MHz/40MHz
Modulation type	OFDM & DSSS
Transmitting Duty Cycle	10%

## BlueTooth BLE

Sensitivity @30.8% PER	-93 dbm
Co-channel C/I	+10db
RF Power Control Range	-12 ~ 9dbm

## NFC



Modulation Type	ASK
Operating Frequency	13.56MHz
H-field strength	21.31 dBuA/m@3m distance
Antenna Type	Coil Antenna

# Smart Home Charger



## 1-Phase Un-smart Version

# CE

Wallbox Models	BCP-A1D-L	BCP-A2D-L	BCP-B1D-L	BCP-B2D-L
				
Categorization	Un-smart Version			
Maximum Power	7.4kW			
Input Voltage /Output voltage	AC230 1-Phase			
Input Frequency	50/60Hz			
Meter	Metering Chip			
Display	LED Lights			
RFID	✘	✔	✘	✔
DLB	○	○	○	○
Wi-Fi	✘	✘	✘	✘
APP	✘	✘	✘	✘
Bluetooth	✘	✘	✘	✘
Over Voltage &Under Voltage Protection	✔	✔	✔	✔
Emergency Stop	✔	✔	✔	✔
Over Current Protection	✔	✔	✔	✔
CP Signal Short Circuit Protection	✔	✔	✔	✔
Over Temperature Protection	✔	✔	✔	✔
Lightning Protection	✔	✔	✔	✔
Contactors Adhesion Protection	✔	✔	✔	✔
Protection Degree	IP65	IP65	IP55	IP55
Environment Temperature	-25°C~+55°C			
Maximun Altitude	< 2000m			

✔ : Standard   ○ : Optional   ✘ : Without

## 1-Phase Smart Version

# CE

Wallbox Models	BCP-A1N-L	BCP-A2N-L	BCP-B1N-L	BCP-B2N-L
				
Categorization	Smart Version			
Maximum Power	7.4kW			
Input Voltage /Output voltage	AC230 1-Phase			
Input Frequency	50/60Hz			
Meter	Metering Chip			
Display	LED Lights			
RFID	✘	✔	✘	✔
DLB	○	○	○	○
Wi-Fi	✔	✔	✔	✔
APP	✔	✔	✔	✔
Bluetooth	✔	✔	✔	✔
Over Voltage &Under Voltage Protection	✔	✔	✔	✔
Emergency Stop	✔	✔	✔	✔
Over Current Protection	✔	✔	✔	✔
CP Signal Short Circuit Protection	✔	✔	✔	✔
Over Temperature Protection	✔	✔	✔	✔
Lightning Protection	✔	✔	✔	✔
Contactors Adhesion Protection	✔	✔	✔	✔
Protection Degree	IP65	IP65	IP55	IP55
Environment Temperature	-25°C~+55°C			
Maximun Altitude	< 2000m			

✔ : Standard   ○ : Optional   ✘ : Without

# Smart Home Charger

## ● 3-Phase Smart Version

Wallbox Models	BCP-AT1N-L	BCP-AT2N-L	BCP-BT1N-L	BCP-BT2N-L
				
Categorization	Smart Version			
Maximum Power	22kW			
Input Voltage /Output voltage	AC400 3-Phase			
Input Frequency	50/60Hz			
Meter	Metering Chip			
Display	LED Lights			
RFID	✘	✔	✘	✔
DLB	○	○	○	○
Wi-Fi	✔	✔	✔	✔
APP	✔	✔	✔	✔
Bluetooth	✔	✔	✔	✔
Over Voltage &Under Voltage Protection	✔	✔	✔	✔
Emergency Stop	✔	✔	✔	✔
Over Current Protection	✔	✔	✔	✔
CP Signal Short Circuit Protection	✔	✔	✔	✔
Over Temperature Protection	✔	✔	✔	✔
Lightning Protection	✔	✔	✔	✔
Contactor Adhesion Protection	✔	✔	✔	✔
Protection Degree	IP65	IP65	IP55	IP55
Environment Temperature	-25°C~+55°C			
Maximun Altitude	< 2000m			

✔ : Standard ○ : Optional ✘ : Without

# CE



# Smart Home Charger

## ● 1-Phase Un-smart Version

Wallbox Models	BCP-A1D-L-E	BCP-A2D-L-E	BCP-B1D-L-E	BCP-B2-L-E
				
Categorization	Un-smart Version			
Maximum Power	7.4kW			
Input Voltage /Output voltage	AC230 1-Phase			
Input Frequency	50/60Hz			
Meter	Metering Chip			
Display	LED Lights			
RFID	✘	✔	✘	✔
DLB	○	○	○	○
Wi-Fi	✘	✘	✘	✘
PEN	✔	✔	✔	✔
APP	✘	✘	✘	✘
Bluetooth	✘	✘	✘	✘
Over Voltage &Under Voltage Protection	✔	✔	✔	✔
Emergency Stop	✔	✔	✔	✔
Over Current Protection	✔	✔	✔	✔
CP Signal Short Circuit Protection	✔	✔	✔	✔
Over Temperature Protection	✔	✔	✔	✔
Lightning Protection	✔	✔	✔	✔
Contactor Adhesion Protection	✔	✔	✔	✔
Protection Degree	IP65	IP65	IP55	IP55
Environment Temperature	-25°C~+55°C			
Maximun Altitude	< 2000m			

✔ : Standard ○ : Optional ✘ : Without

# UKCA





## UKCA

### ● 1-Phase Smart Version

Wallbox Models	BCP-A1N-L-E	BCP-A2N-L-E	BCP-B1N-L-E	BCP-B2N-L-E
				
Categorization	Smart Version			
Maximum Power	7.4kW			
Input Voltage /Output voltage	AC230 1-Phase			
Input Frequency	50/60Hz			
Meter	Metering Chip			
Display	LED Lights			
RFID	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
DLB	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wi-Fi	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PEN	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
APP	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Bluetooth	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Over Voltage &Under Voltage Protection	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Emergency Stop	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Over Current Protection	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CP Signal Short Circuit Protection	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Over Temperature Protection	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Lightning Protection	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Contactors Adhesion Protection	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Protection Degree	IP65	IP65	IP55	IP55
Environment Temperature	-25°C~+55°C			
Maximun Altitude	< 2000m			

✓ : Standard    ○ : Optional    ✗ : Without

## Ocpp

### ● OCPP Version

Wallbox Models	BCP-A2N-P	BCP-B2N-P	BCP-AT2N-P	BCP-BT2N-P
				
Categorization	Tethered	Socket	Tethered	Socket
Maximum Power	7.4kW		22kW	
Input Voltage /Output voltage	AC230 1-Phase		AC400 3-Phase	
Input Frequency	50/60Hz			
Meter	Metering Chip			
Display	LED Lights			
RFID	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
DLB	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wi-Fi	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Ethernet	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Bluetooth	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4G	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Over Voltage &Under Voltage Protection	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Emergency Stop	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Over Current Protection	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CP Signal Short Circuit Protection	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Over Temperature Protection	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Lightning Protection	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Contactors Adhesion Protection	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Protection Degree	IP65	IP55	IP65	IP55
Environment Temperature	-25°C~+55°C			
Maximun Altitude	< 2000m			

✓ : Standard    ○ : Optional