EV charger Selection Guide

**1-phase from 1.3kW to 7.4kW
or 3-phase from 4.1kW to 22kW**

ZBENY

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

The type 2 (IEC 62196-2) charging connector 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.

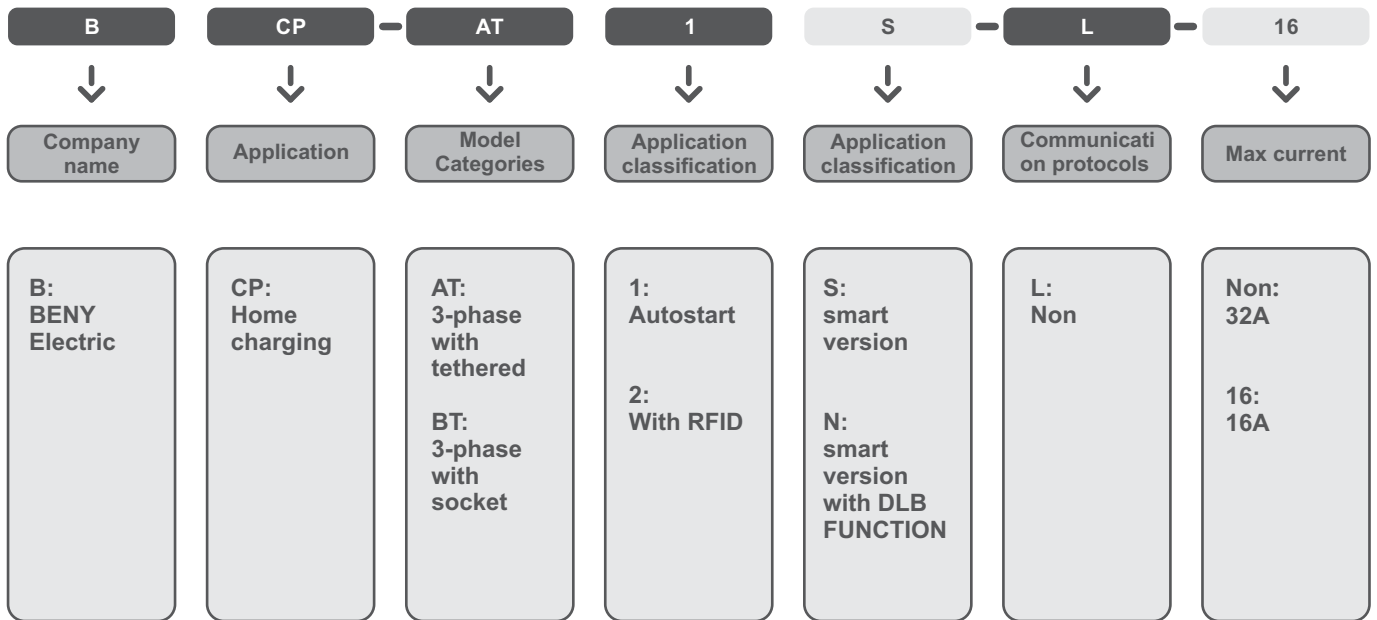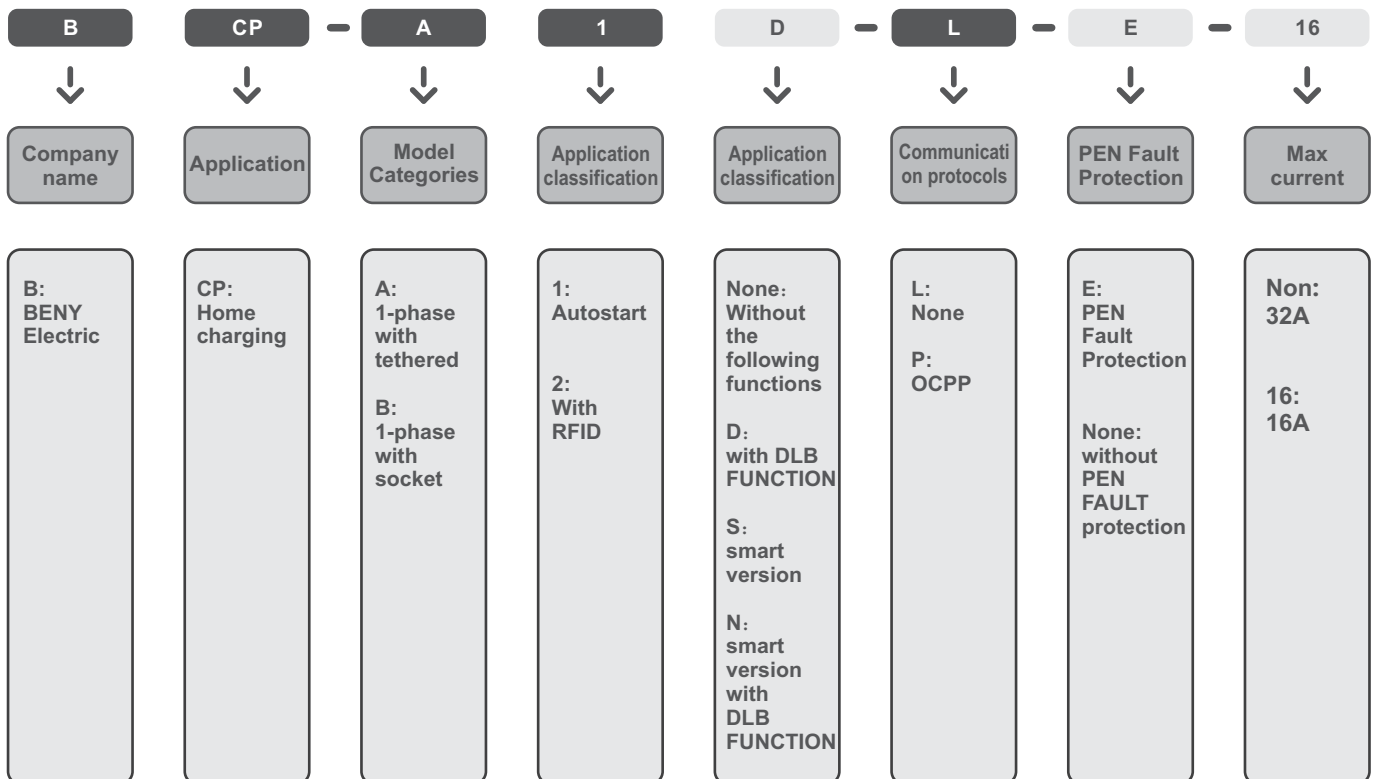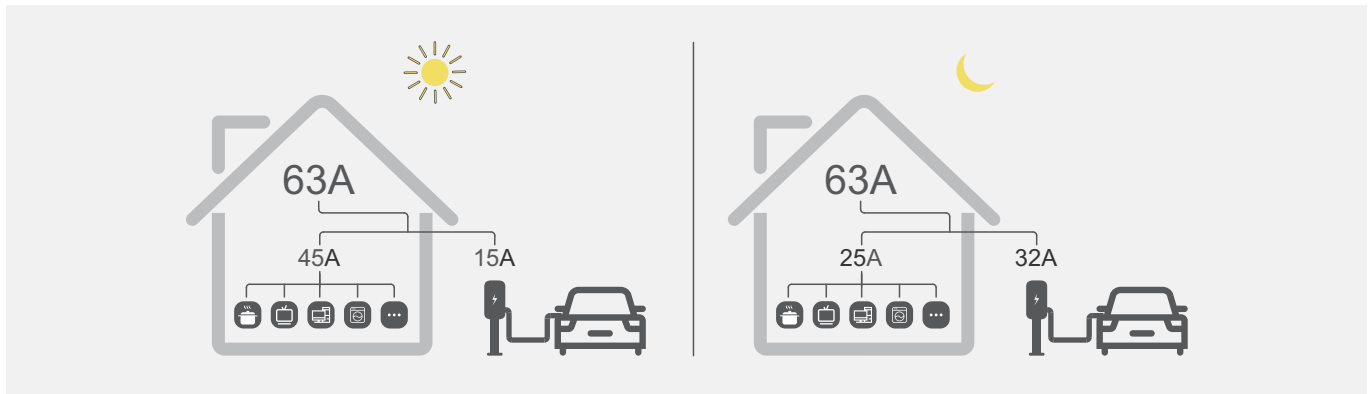Charging protocol OCPP1.6J is optional.

Model Number

Three phase EV charger model

| B | CP – AT | 1 | S – L – 16 |

Company name	Application	Model Categories	Application classification	Application classification	Communication protocols	Max current
B: BENY Electric	**CP:** Home charging	**AT:** 3-phase with tethered **BT:** 3-phase with socket	**1:** Autostart **2:** With RFID	**S:** smart version **N:** smart version with DLB FUNCTION	**L:** Non	**Non:** 32A **16:** 16A

Single phase model (PEN function is only for UKCA certificate)

| B | CP – A | 1 | D – L – E – 16 |

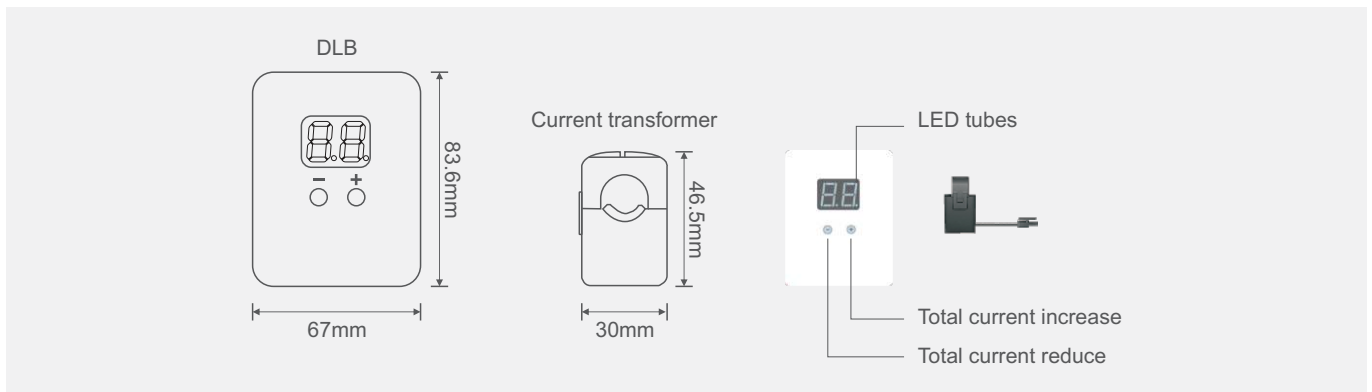| Company name	Application	Model Categories	Application classification	Application classification	Communication protocols	PEN Fault Protection	Max current
B: BENY Electric	**CP:** Home charging	**A:** 1-phase with tethered **B:** 1-phase with socket	**1:** Autostart **2:** With RFID	**None：** Without the following functions **D：** with DLB FUNCTION **S：** smart version **N：** smart version with DLB FUNCTION	**L:** None **P:** OCPP	**E:** PEN Fault Protection **None:** without PEN FAULT protection	**Non:** 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.

DLB
83.6mm
67mm

Current transformer
46.5mm
30mm

LED tubes
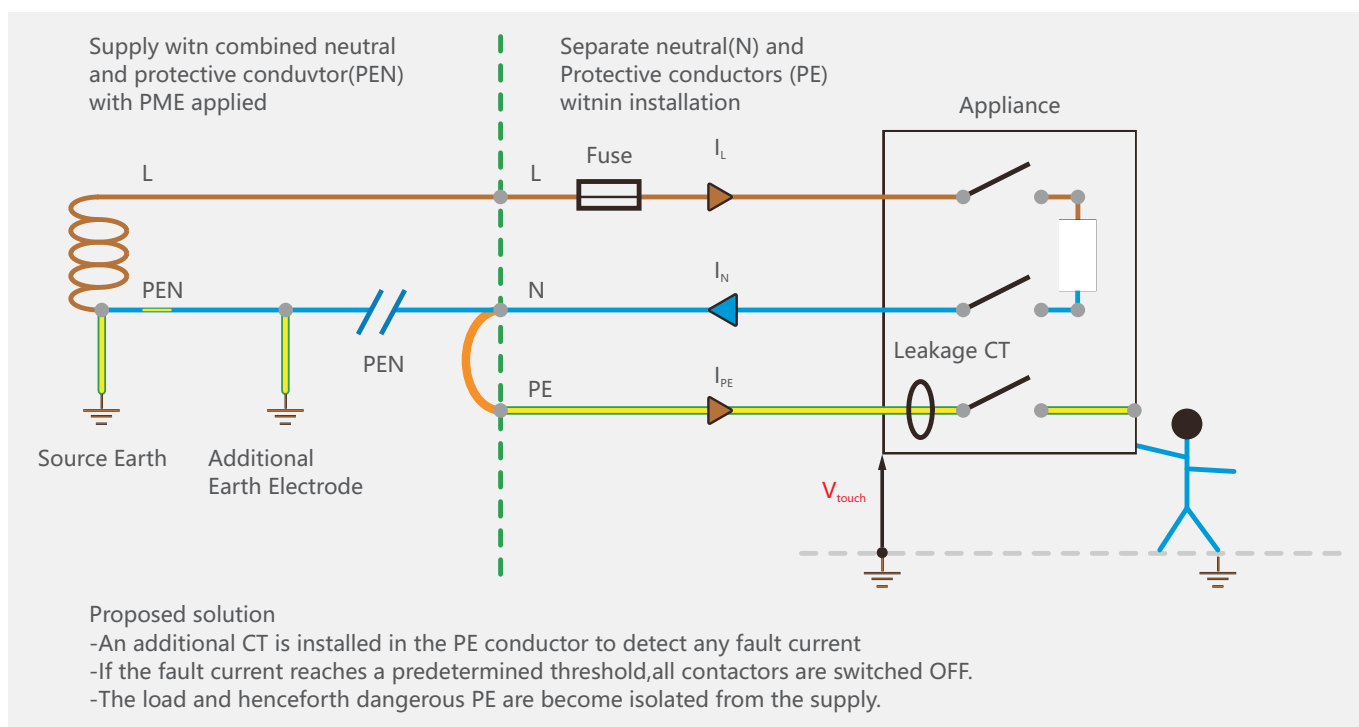Total current increase
Total current reduce

✅ RFID(Radio Frequency Identification Card)

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

✅ PEN Fault Detection

Supply witn combined neutral and protective conduvtor(PEN) with PME applied

Separate neutral(N) and Protective conductors (PE) witnin installation

Appliance

L

L

Fuse

I_L

PEN

N

I_N

PEN

PE

I_{PE}

Leakage CT

Source Earth

Additional Earth Electrode

V_{touch}

Proposed solution
- An additional CT is installed in the PE conductor to detect any fault current
- If the fault current reaches a predetermined threshold,all contactors are switched OFF.
- The load and henceforth dangerous PE are become isolated from the supply.

For TN-C-S systems without grounding at the user's end (as shown above), when the PEN line to the household is cut off due to a line fault and the rear end of the PEN line is in suspension without repeated grounding, and the distribution box RCD is not working properly at this time, the voltage of the protective ground PE is equal to the voltage of the fire line L. If not equipped with this protection,the shell of the EV in charging will be charged with a voltage equal to the fire line L voltage. If there are no other appliances except the EV charger, the leakage current will exceed 30mA and the person will not be able to disengage himself, which is a safety hazard; if there are even other appliances, the leakage current can easily exceed100mA, which is very fatal.

If the user uses a EV charger equipped with PEN protection as shown above (model with -E suffix), its internal design has a contactor to cut off the ground, once the PEN line is cut off, the contactor KM1 and KM2 immediately and automatically disconnected, there is only a weak leakage current between CP and PE to L line, its current value is less than 1mA, which is the smallest perceived leakage current of the human body, people can disengage themselves, no safety risks.
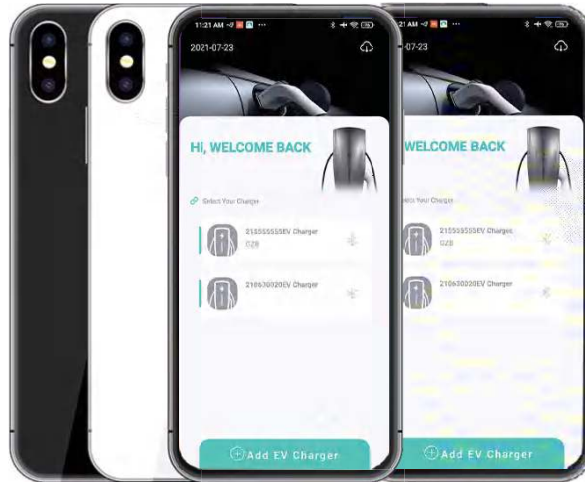
✅ Smart APP

- 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;

Specifications

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
Connector options	Fixed cable type 2 plug or type 2 Socket
Fixed cable length	6m (18 ft)
Cable Entry	Rear or bottom

Protection and certification

Build-in RCD	TYPE A + DC6mA leakage sensor built-in
With cable	IP65,IK07
Socket	IP55,IK07
Housing fire ratings	V0
Operating temperature	-25~+55℃
Compliance	IEC61851-1,IEC61851-21-2,IEC61000-4 CE EMC EU/2014.CE Low Voltage EU/2014/35
Certificate	CE, UKCA, SAA

Commectivity

Authorization	Auto-start standard / RFID card option
Status indication	LED ring
WLAN communication	Wi-Fi / Bluetooth 4.2 option
Charging protocol	OCPP1.6J optional

Mechanical

Housing	Polycarbonate
Dimension	W169 x H380 x D151 mm
Mounting	Wall or Pole

Model Selection

Classification	Model Number	Single / Three phase	Connections	RFID	DLB	Bluetooth / WIFI	Pen Fault Protection	16A
Non-smart version	BCP-A1-L	Single	with tethered					
	BCP-A2-L		with tethered					
	BCP-A1D-L		with tethered		√			
	BCP-A2D-L		with tethered					
	BCP-B1-L		with socket					
	BCP-B2-L		with socket					
	BCP-B1D-L		with socket		√			
	BCP-B2D-L		with socket					
	BCP-A1-L-E		with tethered					
	BCP-A2-L-E		with tethered					
	BCP-A1D-L-E		with tethered				√	
	BCP-A2D-L-E		with tethered					
	BCP-B1-L-E		with socket		√		√	
	BCP-B2-L-E		with socket					
	BCP-B1D-L-E		with socket				√	
	BCP-B2D-L-E		with socket					
	BCP-A1-L-16		with tethered		√		√	√
	BCP-A2-L-16		with tethered					
	BCP-A1D-L-16		with tethered		√			√
	BCP-A2D-L-16		with tethered					
	BCP-B1-L-16		with socket					√
	BCP-B2-L-16		with socket					
	BCP-B1D-L-16		with socket		√			√
	BCP-B2D-L-16		with socket					
	BCP-A1-L-E-16		with tethered				√	√
	BCP-A2-L-E-16		with tethered					
	BCP-A1D-L-E-16		with tethered		√		√	√
	BCP-A2D-L-E-16		with tethered					
	BCP-B1-L-E-16		with socket				√	√
	BCP-B2-L-E-16		with socket					
	BCP-B1D-L-E-16		with socket		√		√	√
	BCP-B2D-L-E-16		with socket					
Smart version	BCP-A1S-L	Single	with tethered			√		
	BCP-A2S-L		with tethered	√		√		
	BCP-A1N-L		with tethered		√	√		
	BCP-A2N-L		with tethered	√	√	√		
	BCP-B1S-L		with socket			√		
	BCP-B2S-L		with socket	√		√		
	BCP-B1N-L		with socket		√	√		
	BCP-B2N-L		with socket	√	√	√		
OCPP	BCP-A2N-P	Single	with tethered	√	√	√		
	BCP-B2N-P	Single	with socket	√	√	√		
	BCP-AT2N-P	Three phase	with tethered	√	√	√		
	BCP-BT2N-P	Three phase	with socket	√	√	√		

Model Selection

Classification	Model Number	Single / Three phase	Connections	RFID	DLB	Bluetooth / WIFI	Pen Fault Protection	16A
Smart version	BCP-A1S-L-E	Single	with tethered			√	√	
	BCP-A2S-L-E		with tethered	√		√	√	
	BCP-A1N-L-E		with tethered		√	√	√	
	BCP-A2N-L-E		with tethered	√	√	√	√	
	BCP-B1S-L-E		with socket			√	√	
	BCP-B2S-L-E		with socket	√		√	√	
	BCP-B1N-L-E		with socket		√	√	√	
	BCP-B2N-L-E		with socket	√	√	√	√	
	BCP-A1S-L-16		with tethered			√		√
	BCP-A2S-L-16		with tethered	√		√		√
	BCP-A1N-L-16		with tethered		√	√		√
	BCP-A2N-L-16		with tethered	√	√	√		√
	BCP-B1S-L-16		with socket			√		√
	BCP-B2S-L-16		with socket	√		√		√
	BCP-B1N-L-16		with socket		√	√		√
	BCP-B2N-L-16		with socket	√	√	√		√
	BCP-A1S-L-E-16		with tethered			√	√	√
	BCP-A2S-L-E-16		with tethered	√		√	√	√
	BCP-A1N-L-E-16		with tethered		√	√	√	√
	BCP-A2N-L-E-16		with tethered	√	√	√	√	√
	BCP-B1S-L-E-16		with socket			√	√	√
	BCP-B2S-L-E-16		with socket	√		√	√	√
	BCP-B1N-L-E-16		with socket		√	√	√	√
	BCP-B2N-L-E-16		with socket	√	√	√	√	√
Three phase version	BCP-AT1S-L	Three phase	with tethered			√		
	BCP-AT2S-L		with tethered	√		√		
	BCP-BT1S-L		with socket			√		
	BCP-BT2S-L		with socket	√		√		
	BCP-AT1N-L		with tethered		√	√		
	BCP-AT2N-L		with tethered	√	√	√		
	BCP-BT1N-L		with socket		√	√		
	BCP-BT2N-L		with socket	√	√	√		
	BCP-AT1S-L-16		with tethered			√		√
	BCP-AT2S-L-16		with tethered	√		√		√
	BCP-BT1S-L-16		with socket			√		√
	BCP-BT2S-L-16		with socket	√		√		√
	BCP-AT1N-L-16		with tethered		√	√		√
	BCP-AT2N-L-16		with tethered	√	√	√		√
	BCP-BT1N-L-16		with socket		√	√		√
	BCP-BT2N-L-16		with socket	√	√	√		√

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