



Zhejiang Bodo Evse Co. Ltd  
(Zhejiang Proleds Technology Co., Ltd)

# Product Manual

## Charging interface solution



1. Company Profile .....	01	3.3. Type 2 to GB AC EV Charger .....	12
2. Mode 2 EV Charger .....	03	4. AC Charger Station .....	13
2.1. Type 1 EV Charger .....	04	5. EV charger Kits .....	15
2.2. Type 1 EV Charger (Mode B) .....	05	5.1. Type 1 / Type 2 Socket .....	18
2.3. Type 2 EV Charger .....	06	5.2. Adapter .....	19
2.4. Type 2 EV Charger (Mode B) .....	07	5.3. Other .....	21
2.5. GB AC EV Charger .....	08	5.4. Small Charger .....	26
3. Mode 3 EV Charger .....	09	5.5. Inverter .....	27
3.1. Type 2 to Type 1 EV Charger .....	10	6. Certificate Of Authentication .....	29
3.2. Type 2 to Type 2 EV Charger .....	11	7. Cooperative Brand .....	30



## Company Profile

BODO EVSE,  
Charging for the future!



## Zhejiang Proleds Technology Co., Ltd

**Zhejiang Bodo Evse Co. Ltd.** (i.e Zhejiang Proleds Technology Co., Ltd) was established in 2018, located in Ningbo city China. Have more than 10000 square meters factory and more than 100 employees. We have strict QC and normative manufacturing procedures, keep each of our products have "0" false. Our product range is EV charger, EV charging sockets, EV wall box, EV charging posts, and all kinds of spare parts for EVSE. Our brand "CEL FED" have a high reputation in European market with its stable quality and competitive price. We focus on R & D and make sure launched 1-2 new design for each month, all of our products have TUV approval. Now we are trying to make all of effect to offer you a satisfied charger for EV in the world, everything we do is for your satisfaction!

### Workshop



# Mode 2 EV Charger



## 2.1. Type 1 EV Charger (SAE J1772)



### ELECTRICAL PERFORMANCE

- Rated current (adjustable) : 10/13/16/24/32A
- Insulation resistance: >500MΩ(DC500V)
- Terminal temperature rise: <50K
- Operation voltage: 110 - 250V AC
- Contact resistance: 0.5mΩ Max
- Withstand voltage: 1500V

### MECHANICAL PROPERTIES

- Mechanical life: no-load plug in / out > 10000 times
- Impat of external force: can afford 1M drop
- Coupled insertion force: 45N < F < 100N

### ENVIRONMENTAL PERFORMANCE

- Operating temperature: - 30°C — + 50°C

### APPLIED MATERIALS

- Case material: thermoplastic, flame tetardant grade UL94 V - 0
- Terminal: Copper alloy, silver plating

### CABLE DESCRIPTION

- Leakage protection
- Lightning protection
- Overcoltage under - voltage protection
- Ground proction
- Over load protection
- Over - temperature protection

## 2.2. Type 1 EV Charger (Mode B)



### ELECTRICAL PERFORMANCE

- Rated current: 16A
- Insulation resistance: >500MΩ(DC500V)
- Terminal temperature rise: <50K
- Operation voltage: 110 - 250V AC
- Contact resistance: 0.5mΩ Max
- Withstand voltage: 1500V

### MECHANICAL PROPERTIES

- Mechanical life: no-load plug in / out > 10000 times
- Impact of external force: can afford 1M drop
- Coupled insertion force:  $45N < F < 100N$

### ENVIRONMENTAL PERFORMANCE

- Operating temperature: - 30°C — + 50°C

### APPLIED MATERIALS

- Case material: thermoplastic, flame retardant grade UL94 V - 0
- Terminal: Copper alloy, silver plating

### CONTROL BOX FUNCTION

- Leakage protection
- Lightning protection
- Overvoltage under - voltage protection
- Ground protection
- Over load protection
- Over - temperature protection

## 2.3. Type 2 EV Charger (IEC 62196-2)



### ELECTRICAL PERFORMANCE

- Rated current (adjustable) : 10/13/16/24/32A
- Insulation resistance: >500MΩ(DC500V)
- Terminal temperature rise: <50K
- Operation voltage: 110 - 250V AC
- Contact resistance: 0.5mΩ Max
- Withstand voltage: 1500V

### MECHANICAL PROPERTIES

- Mechanical life: no-load plug in / out > 10000 times
- Impact of external force: can afford 1M drop
- Coupled insertion force:  $45N < F < 100N$

### ENVIRONMENTAL PERFORMANCE

- Operating temperature: - 30°C — + 50°C

### APPLIED MATERIALS

- Case material: thermoplastic, flame retardant grade UL94 V - 0
- Terminal: Copper alloy, silver plating

### CONTROL BOX FUNCTION

- Leakage protection
- Lightning protection
- Overvoltage under - voltage protection
- Ground protection
- Over load protection
- Over - temperature protection

## 2.4. Type 2 EV Charger (Mode B)



### ELECTRICAL PERFORMANCE

- Rated current: 16A
- Insulation resistance: >500MΩ(DC500V)
- Terminal temperature rise: <50K
- Operation voltage: 110 - 250V AC
- Contact resistance: 0.5mΩ Max
- Withstand voltage: 1500V

### MECHANICAL PROPERTIES

- Mechanical life: no-load plug in / out > 10000 times
- Impact of external force: can afford 1M drop
- Coupled insertion force: 45N < F < 100N

### ENVIRONMENTAL PERFORMANCE

- Operating temperature: - 30°C — + 50°C

### APPLIED MATERIALS

- Case material: thermoplastic, flame retardant grade UL94 V - 0
- Terminal: Copper alloy, silver plating

### CONTROL BOX FUNCTION

- Leakage protection
- Lightning protection
- Overvoltage under - voltage protection
- Ground protection
- Over load protection
- Over - temperature protection

## 2.5. GB AC EV Charger (GB/T20234.2)



### ELECTRICAL PERFORMANCE

- Rated current (adjustable) : 10/13/16/24/32A
- Insulation resistance: >500MΩ(DC500V)
- Terminal temperature rise: <50K
- Operation voltage: 110 - 250V AC
- Contact resistance: 0.5mΩ Max
- Withstand voltage: 1500V

### MECHANICAL PROPERTIES

- Mechanical life: no-load plug in / out > 10000 times
- Impact of external force: can afford 1M drop
- Coupled insertion force: 45N < F < 100N

### ENVIRONMENTAL PERFORMANCE

- Operating temperature: - 30°C — + 50°C

### APPLIED MATERIALS

- Case material: thermoplastic, flame retardant grade UL94 V - 0
- Terminal: Copper alloy, silver plating

### CABLE DESCRIPTION

- Rated current: 16A / Single phase ( 3\*2.5mm<sup>2</sup> + 1\*0.75mm<sup>2</sup> TPU, φ10.5 / TPE, φ13)  
16A / Three phase ( 5\*2.5mm<sup>2</sup> + 1\*0.75mm<sup>2</sup> TPU, φ13 / TPE, φ16.3)  
32A / Three phase ( 3\*6mm<sup>2</sup> + 1\*0.75mm<sup>2</sup> TPU, φ13 / TPE, φ16.3)  
32A / 40A / Three phase ( 5\*6mm<sup>2</sup> + 1\*0.75mm<sup>2</sup> TPU, φ16.3)

- Gun color: black / white/ orange / green optional  
Cable color: black / orange / green optional

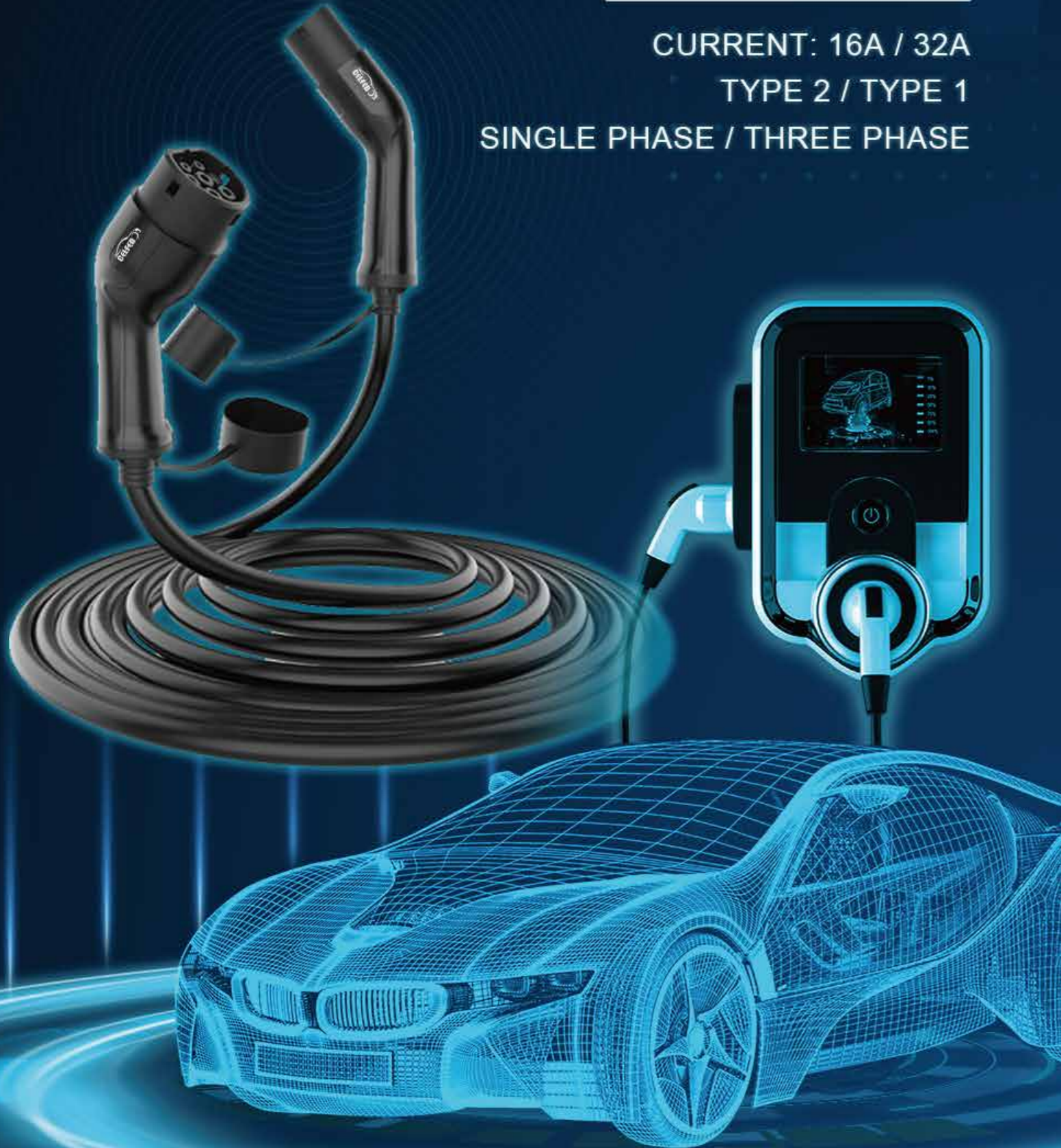


# Mode 3 EV Charger

CURRENT: 16A / 32A

TYPE 2 / TYPE 1

SINGLE PHASE / THREE PHASE



## 3.1. Type 2 (IEC 62196-2) to Type 1 (SAE J1772)



### ELECTRICAL PERFORMANCE

- Rated current (adjustable) : 10/13/16/24/32/40A
- Insulation resistance: >500MΩ(DC500V)
- Terminal temperature rise: <50K
- Operation voltage: 110 - 250V AC
- Contact resistance: 0.5mΩ Max
- Withstand voltage: 1500V

### MECHANICAL PROPERTIES

- Mechanical life: no-load plug in / out > 10000 times
- Impact of external force: can afford 1M drop
- Coupled insertion force: 45N < F < 100N

### ENVIRONMENTAL PERFORMANCE

- Operating temperature: - 30°C — + 50°C

### APPLIED MATERIALS

- Case material: thermoplastic, flame retardant grade UL94 V - 0
- Terminal: Copper alloy, silver plating

### CABLE DESCRIPTION

- Rated current: 16A ( 3\*2.5mm<sup>2</sup> + 1\*0.75mm<sup>2</sup> TPU, φ10.5 / TPE, φ13)  
32A / 40A ( 3\*6mm<sup>2</sup> + 1\*0.75mm<sup>2</sup> TPU, φ13 / TPE, φ16.3)

- Gun color: black / white/ orange / green optional  
Cable color: black / orange / green optional

## 3.2. Type 2 to Type 2 (IEC 62196-2)

## 3.3. Type 2 (IEC 62196-2) to GB Type (GB/T20234.2)



### ELECTRICAL PERFORMANCE

- Rated current (adjustable) : 10/13/16/24/32/40A
- Insulation resistance: >500MΩ(DC500V)
- Terminal temperature rise: <50K
- Operation voltage: 110 - 250V AC
- Contact resistance: 0.5mΩ Max
- Withstand voltage: 1500V

### MECHANICAL PROPERTIES

- Mechanical life: no-load plug in / out > 10000 times
- Impact of external force: can afford 1M drop
- Coupled insertion force: 45N < F < 100N

### ENVIRONMENTAL PERFORMANCE

- Operating temperature: - 30°C — + 50°C

### APPLIED MATERIALS

- Case material: thermoplastic, flame retardant grade UL94 V - 0
- Terminal: Copper alloy, silver plating

### CABLE DESCRIPTION

- Rated current: 16A / Single phase ( 3\*2.5mm<sup>2</sup> + 1\*0.75mm<sup>2</sup> TPU, φ10.5 / TPE, φ13)  
16A / Three phase ( 5\*2.5mm<sup>2</sup> + 1\*0.75mm<sup>2</sup> TPU, φ13 / TPE, φ16.3)  
32A / Three phase ( 3\*6mm<sup>2</sup> + 1\*0.75mm<sup>2</sup> TPU, φ13 / TPE, φ16.3)  
32A / 40A / Three phase ( 5\*6mm<sup>2</sup> + 1\*0.75mm<sup>2</sup> TPU, φ16.3)
- Gun color: black / white/ orange / green optional  
Cable color: black / orange / green optional

### ELECTRICAL PERFORMANCE

- Rated current (adjustable) : 10/13/16/24/32/40A
- Insulation resistance: >500MΩ(DC500V)
- Terminal temperature rise: <50K
- Operation voltage: 110 - 250V AC
- Contact resistance: 0.5mΩ Max
- Withstand voltage: 1500V

### MECHANICAL PROPERTIES

- Mechanical life: no-load plug in / out > 10000 times
- Impact of external force: can afford 1M drop
- Coupled insertion force: 45N < F < 100N

### ENVIRONMENTAL PERFORMANCE

- Operating temperature: - 30°C — + 50°C

### APPLIED MATERIALS

- Case material: thermoplastic, flame retardant grade UL94 V - 0
- Terminal: Copper alloy, silver plating

### CABLE DESCRIPTION

- Rated current: 16A / Single phase ( 3\*2.5mm<sup>2</sup> + 1\*0.75mm<sup>2</sup> TPU, φ10.5 / TPE, φ13)  
16A / Three phase ( 5\*2.5mm<sup>2</sup> + 1\*0.75mm<sup>2</sup> TPU, φ13 / TPE, φ16.3)  
32A / Three phase ( 3\*6mm<sup>2</sup> + 1\*0.75mm<sup>2</sup> TPU, φ13 / TPE, φ16.3)  
32A / 40A / Three phase ( 5\*6mm<sup>2</sup> + 1\*0.75mm<sup>2</sup> TPU, φ16.3)
- Gun color: black / white/ orange / green optional  
Cable color: black / orange / green optional





## 4.1. AC Charger Station

This product has exquisite appearance, small size, multi-function housing, ingenious ingenious anti-theft design and high integration, can be widely used in residential garage and other AC show charging scene.

### USE CASE

- Home / Personal use / Vehicle

### STRUCTURE OF APPEARANCE

- Product attributes: Identification( swipe card )
- Product dimension: Gun head 240-98-70mm / Pile box 280-220-93mm
- Installation: Wall mounted type / Column type
- Net Weight: 3.7kg (5m)
- Cable mode: Down in and out
- Cable Length: 5m
- Optional style: Type 1 / Type 2 / GB/T

### ELECTRICAL PERFORMANCE

- Rated Voltage: AC90V - 265V
- Frequency: 50 / 60 Hz
- Rated Power: 7KW
- Maximum Current: 32A

### SAFETY

- Applied environment: indoor / outdoor
- Ingress Protection: Gun head IP67 / Pile box IP54
- Cooling method: Natural cooling
- Work Temperature: - 30°C — + 50°C
- Work Humidity: 5% ~ 95% without any condensation
- Work Altitude: < 2000M
- Electrical Protection: Overvoltage protection, undervoltage protection, overload protection, grounding protection, low temperature protection, lightning protection, leakage protection

### COLOR

- Gun color: black / white/ orange / green optional
- Cable color: black / orange / green optional



## USE CASE

- Home / Personal use / Vehicle

## STRUCTURE OF APPEARANCE

- Product attributes: Identification( swipe card )
- Product dimension: 272-220-90mm
- Installation: Wall mounted type / Colume type
- Net Weight: 4.9kg (5m)
- Cable mode: Down in and out
- Cable Length: 5m
- Functional design: LED light bar / display screen (optional)

## ELECTRICAL PERFORMANCE

- Rated Voltage: AC220V ± 15% / AC380V ± 15%
- Frequency: 50 Hz
- Rated Power: 7KW / 11KW / 21KW
- Maximum Current: 32A

## SAFETY

- Applied environment: indoor / outdoor
- Ingress Protection: IP54
- Impact Protection: IK10
- Work Temperature: - 20°C — + 50°C
- Work Humidity: 5% ~ 95% without any condensation
- Work Altitude: < 2000M
- Electrical Protection: Overvoltage protection, undervoltage protection, overload protection, grounding protection, low temperature protection, lightning protection, leakage protection

## COLOR

- Gun color: black / white optional
- Cable color: black / orange / yellow / green / yellow optional



## USE CASE

- Home / Personal use / Vehicle

## STRUCTURE OF APPEARANCE

- Product attributes: Identification( swipe card )
- Product dimension: 232-148-68mm
- Installation: Wall mounted type / Colume type
- Net Weight: 4.6kg (5m)
- Cable mode: Down in and out
- Cable Length: 5m
- Functional design: LED light bar / display screen (optional)

## ELECTRICAL PERFORMANCE

- Rated Voltage: 220V
- Frequency: 50 Hz
- Rated Power: 7KW
- Maximum Current: 32A

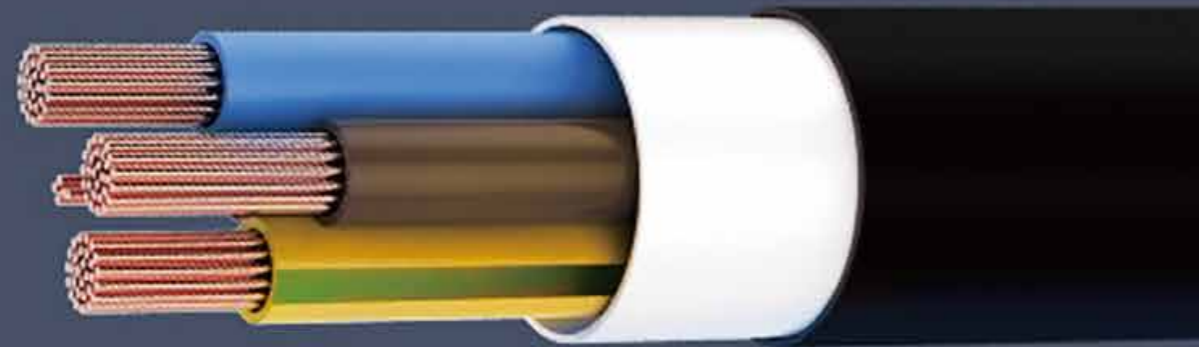
## SAFETY

- Applied environment: indoor / outdoor
- Ingress Protection: IP54
- Impact Protection: IK10
- Work Temperature: - 30°C — + 55°C
- Work Humidity: 5% ~ 95% non-condensing
- Work Altitude: < 2000M
- Electrical Protection: Overvoltage protection, undervoltage protection, overload protection, grounding protection, low temperature protection, lightning protection, leakage protection

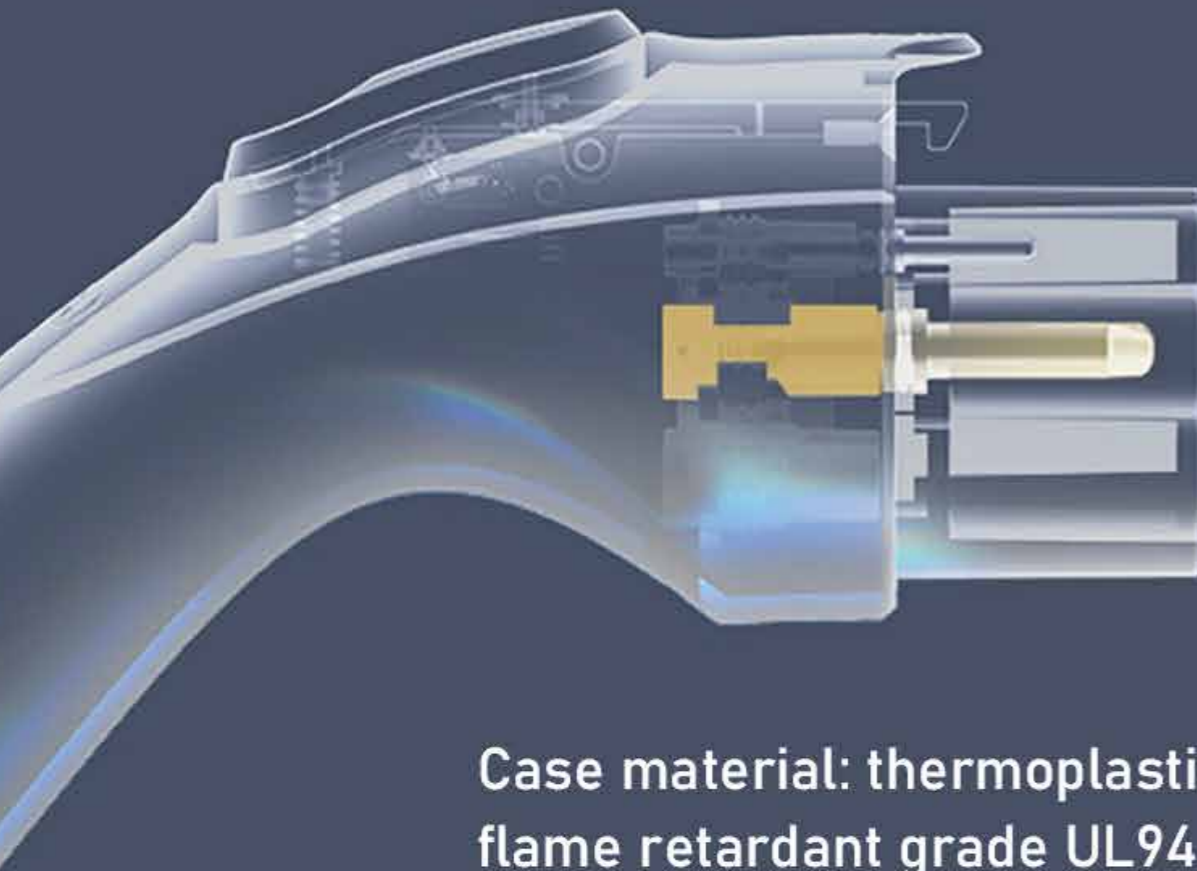
## COLOR

- Gun color: black / white optional
- Cable color: black / orange / yellow / green / yellow optional

# EV charger Kits



DEKRA H07BZ5-F 3G2.5mm<sup>2</sup>\*0.5mm<sup>2</sup>  
450/750V EN 50620



Case material: thermoplastiv,  
flame retardant grade UL94 V-0  
Terminal: Copper alloy, silver plating

## 5.1. Type 1 / Type 2 Socket



### ELECTRICAL PERFORMANCE

- Rated current: 16A / 32A
- Operationvoltage: Type1(120V / 250V) Type 2 (250V / 480V)
- Insulation resistance: >500MΩ(DC500V)
- Terminal temperature rise: <50K
- Contact resistance: 0.5mΩ Max
- Wishstand voltage: 2000V

### MECHANICAL PROPERTIES

- Mechanical life: no-load plug in / out > 10000 times
- Coupled insertion force: 45N < F < 100N
- Impat of external force: can afford 1M drop

### ENVIRONMENTAL PERFORMANCE

- Operating temperture: - 30°C — + 50°C

### APPLIED MATERIALS

- Case material: thermoplastic, flame tetardant grade UL94 V - 0
- Terminal: Copper alloy, silver plating

### CABLE DESCRIPTION

- Rared current: 16A / Single phase ( 3\*2.5mm<sup>2</sup> + 1\*0.75mm<sup>2</sup> TPU, φ10.5 / TPE, φ13)  
16A / Three phase ( 5\*2.5mm<sup>2</sup> + 1\*0.75mm<sup>2</sup> TPU, φ13 / TPE, φ16.3)  
32A / Three phase ( 3\*6mm<sup>2</sup> + 1\*0.75mm<sup>2</sup> TPU, φ13 / TPE, φ16.3)  
32A / 40A / Three phase ( 5\*6mm<sup>2</sup> + 1\*0.75mm<sup>2</sup> TPU, φ16.3)
- Shell color: black / white/ orange / green optional  
Cable color: black / orange / green optional

## 5.2. Adapter



### T1-T2



### T2-T1



### T1-GB/T



### T2-GB/T



### Tesla-T2



### T1-Tesla



### CCS1-Tesla



### CCS1-Tesla



#### ELECTRICAL PERFORMANCE

- Rated current: 16A / 32A
- Operation voltage: 110 - 250V AC
- Insulation resistance: >1000MΩ(DC500V)
- Contact resistance: 0.5mΩ Max
- Terminal temperature rise: <50K
- Withstand voltage: 2000V

#### MECHANICAL PROPERTIES

- Mechanical life: no-load plug in / out > 10000 times
- Coupled insertion force: 45N < F < 100N

#### ENVIRONMENTAL PERFORMANCE

- Operating temperature: - 30°C — + 50°C

#### APPLIED MATERIALS

- Case material: thermoplastic, flame retardant grade UL94 V - 0
- Terminal: Copper alloy, silver plating

#### ELECTRICAL PERFORMANCE

- Rated current: 16A / 32A / 250A
- Operation voltage: 110 - 250V AC / 500-1000V AC
- Insulation resistance: >1000MΩ(DC500V)
- Contact resistance: 0.5mΩ Max
- Terminal temperature rise: <50K
- Withstand voltage: 2000V

#### MECHANICAL PROPERTIES

- Mechanical life: no-load plug in / out > 10000 times
- Coupled insertion force: 45N < F < 100N

#### ENVIRONMENTAL PERFORMANCE

- Operating temperature: - 30°C — + 50°C

#### APPLIED MATERIALS

- Case material: thermoplastic, flame retardant grade UL94 V - 0
- Terminal: Copper alloy, silver plating

## 5.3. Other

### A variety of plugs can be customized



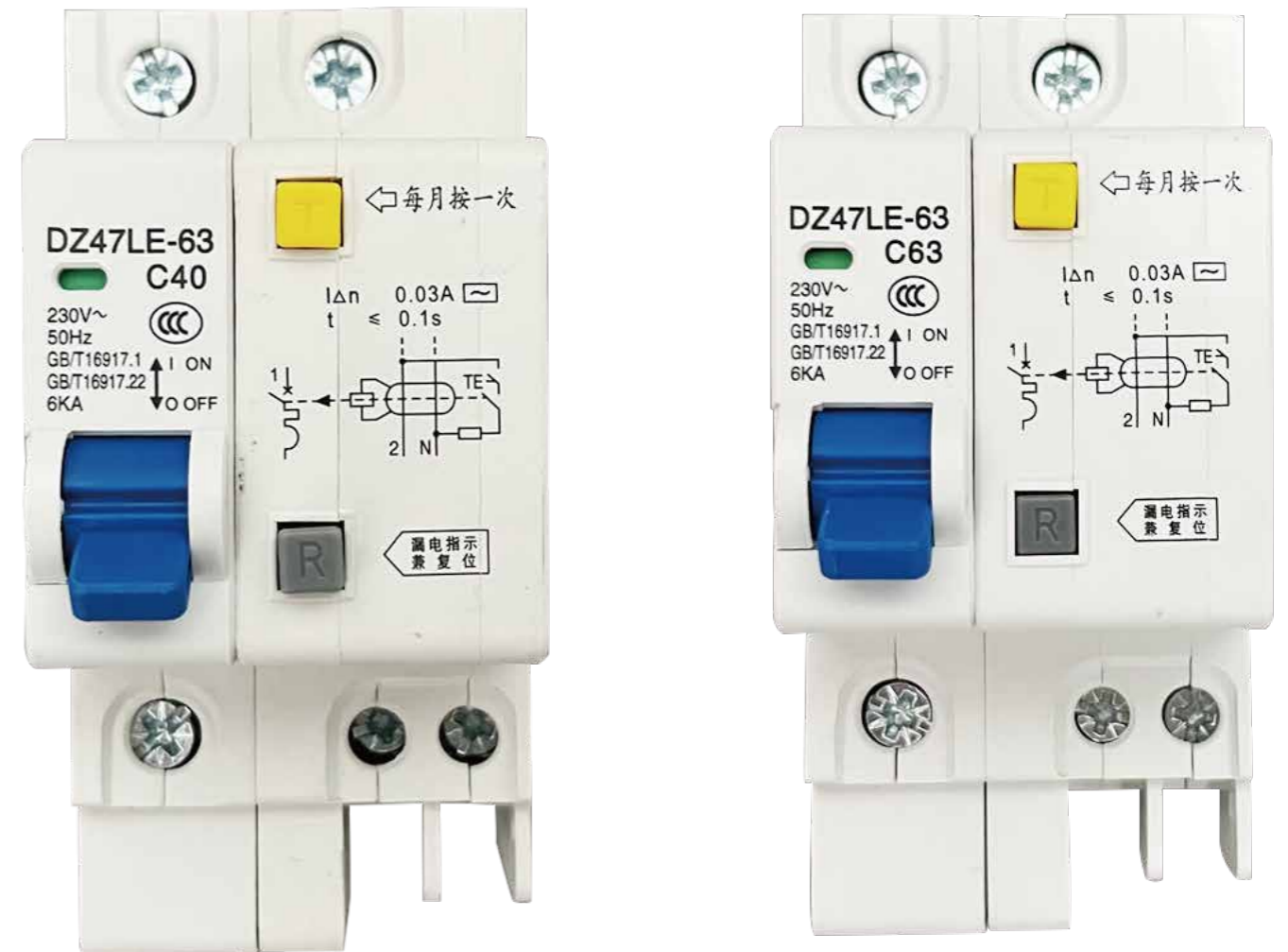
### Pure copper cable

- A variety of colors can be customized
- Single Phase / Three Phase



### Control box

- Various specifications can be customized

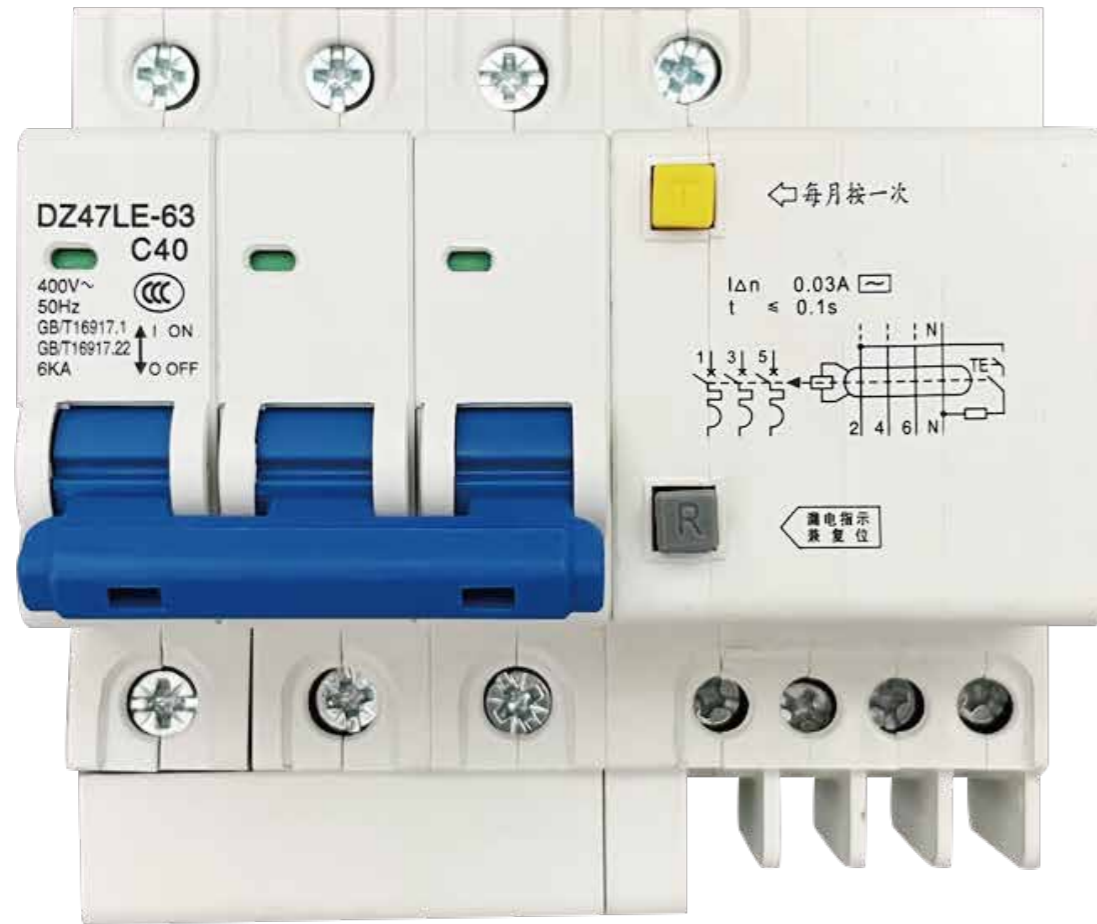


### SWITCHING PERFORMANCE

- Current: 40A / 63A
- Voltage: 230V
- Pole: 1P + N
- Rated frequency: 50 Hz
- Standard: GB / T 16917.1 OR GB / T 16917.22
- High sensitivity:  $I_{\Delta n} 0.03A$ ,  $t \leq 0.1s$

### PACKING

- Carton packaging

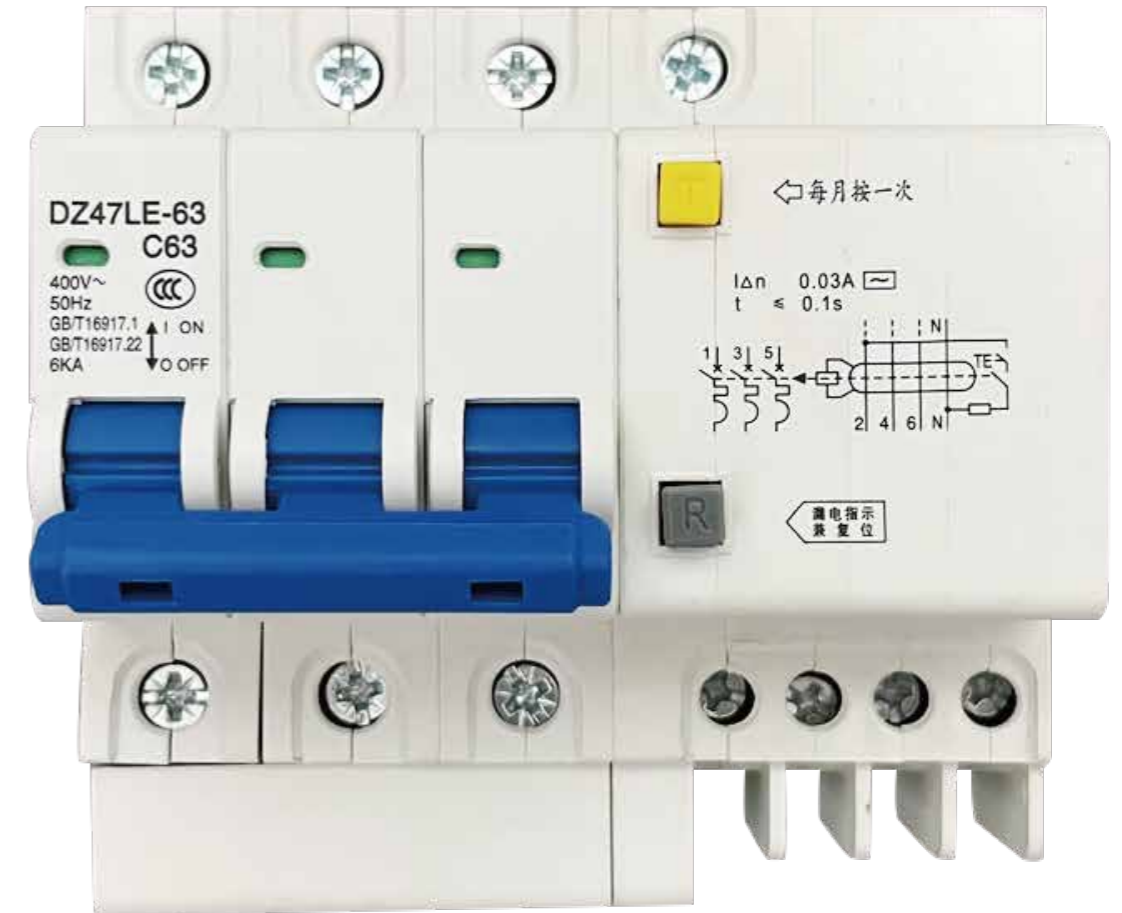


## ELECTRICAL PERFORMANCE

- Current: 40A
- Voltage: 400V
- Pole: 3P + N
- Rated frequency: 50 Hz
- Standard: GB / T 16917.1 OR GB / T 16917.22
- High sensitivity:  $I\Delta n$  0.03A ,  $t \leq 0.1s$

## PACKING

- Carton packaging

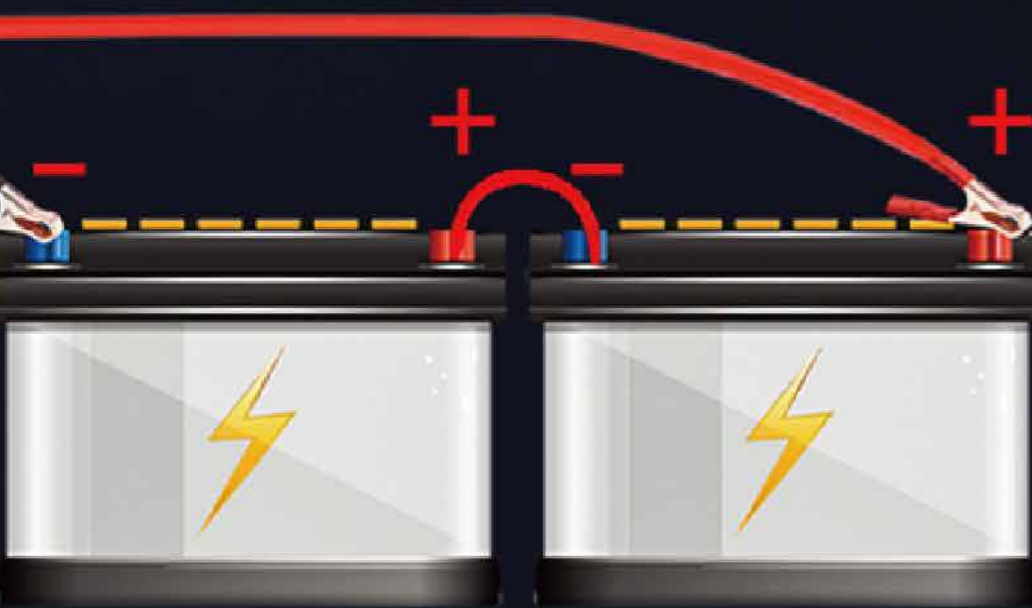
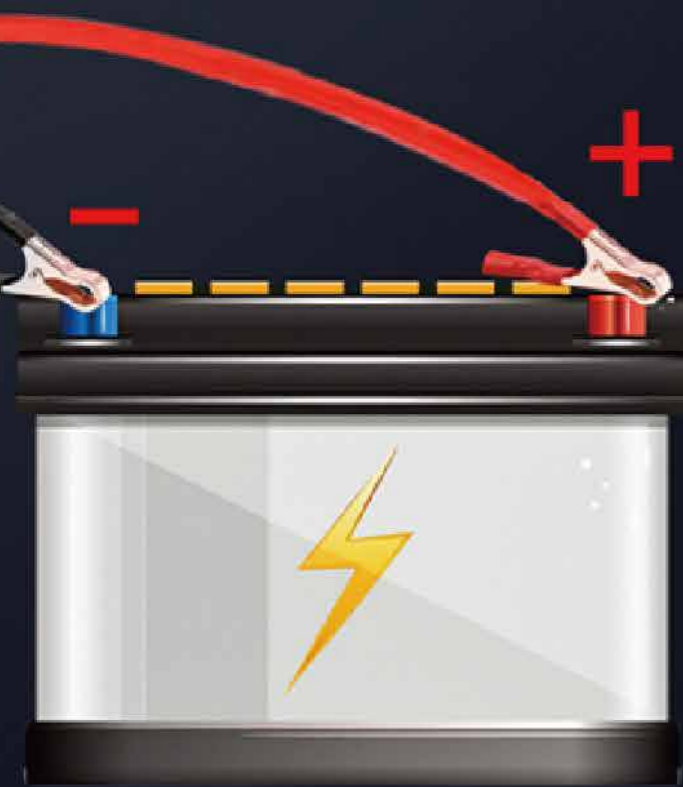


## ELECTRICAL PERFORMANCE

- Current: 63A
- Voltage: 400V
- Pole: 3P + N
- Rated frequency: 50 Hz
- Standard: GB / T 16917.1 OR GB / T 16917.22
- High sensitivity:  $I\Delta n$  0.03A ,  $t \leq 0.1s$

## PACKING

- Carton packaging



## 5.4. Small Charger



### ELECTRICAL PERFORMANCE

- Input voltage: 100-240V - 50 / 60Hz
- Output voltage: 12V
- Applicable battery capacity: 10AH - 200AH

### ENVIRONMENTAL PERFORMANCE

- Operating temperature: - 10°C — + 45°C

### CHARGE VOLTAGE

- Summer made (> 30°C): 14.5V
  - Normal made (8°C - 30°C): 14.8V
  - Winter made (< 8°C): 15.5V MAX
- (Measurements allowed tolerance +/- 0.4V)

**1** RED CLIP THE POSITIVE ELECTRODE OF THE BATTERY +  
BLACK CLIP THE NEGATIVE ELECTRODE OF THE BATTERY -

**2** PLUG IN THE HOME 220V POWER  
SUPPLY TO START CHARGING

## 5.5. Inverter



### ELECTRICAL PERFORMANCE

- Rated current: 29A / 50A
- DC Input voltage: DC12V
- No-load current: <0.5A
- Output: 220V  $\pm$  5% 1.36A / 220V  $\pm$  5% 2.3A
- Frequency: 50  $\pm$  2Hz / 50 Hz
- Rated power: 300W / 600W
- Surge power: 600W / 200W
- Working voltage: 11-14 V
- Efficiency: >87%

### ENVIRONMENTAL PERFORMANCE

- Working temperature: - 10°C — + 40°C

### PROTECTION

- Undervoltage protection: DC9.5  $\pm$  0.5V
- Recovery voltage: DC11.5  $\pm$  0.5V
- Over voltage shut down: DC15.5  $\pm$  0.5V
- Cooling fan: By temperature or Load

### PACKING

- Carton packaging

### ELECTRICAL PERFORMANCE

- Rated current: 96A / 144A
- DC Input voltage: DC12V
- No-load current: <0.5A / <0.6A
- Output: 220V  $\pm$  5% 4.5A / 220V  $\pm$  5% 6.8A
- Frequency: 50 Hz / 50Hz
- Rated power: 1000W / 1500W
- Surge power: 2000W / 3500W
- Working voltage: 11-14 V
- Efficiency: >87%

### ENVIRONMENTAL PERFORMANCE

- Working temperature: - 10°C — + 40°C

### PROTECTION

- Undervoltage protection: DC9.5  $\pm$  0.5V
- Recovery voltage: DC11.5  $\pm$  0.5V
- Over voltage shut down: DC15.5  $\pm$  0.5V
- Cooling fan: By temperature or Load

### PACKING

- Carton packaging



# 6. Certificate Of Authentication

# 7. Cooperative Brand

.....Who will be the next?





# Thanks for watching

Join in CEL FED, Green travel, Green life!



[www.bodoevse.com](http://www.bodoevse.com)

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# Product Manual

## Charging interface solution



Zhejiang Bodo Evse Co. Ltd  
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