Brim

Installation Manual
Brim Chargers

A step by step user guide for your Brim Charger.

CONTENT

01) Safety and Warning

SAVE THIS BOOKLET. READ ALL INSTRUCTIONS BEFORE INSTALLING OR USING THE CHARGER.

1) Keep the charger away from explosive or flammable materials, chemicals, vapors and other hazard objects.

2) Keep the charger socket clean and dry. If it gets dirty, please wipe it with a clean dry cloth.

3) Touching the socket core is strictly forbidden when power is on.

4) Do not use the charger in case of any device defects, cracks, abrasions, bare leakages etc. Please contact the professional personnel if any of these conditions occur.

5) Do not attempt to dissemble, repair or refit the charger. If necessary please contact professional personnel. Improper operation will result in device damages, electric leakages, etc.

6) In case any abnormal condition happens, please cut off all input and output power supplies immediately.

7) Please protect charging carefully from rain and lightening.

8) Keep children away from the charger.

9) During charging, do not drive the electric vehicle. Charge only when the EV is stationary. For hybrid cars, charge only when the engine is switched off.

10) Our packaging materials are environmentally friendly and can be recycled. Please put the packaging in applicable containers to recycle it. Do not dispose of this device with the household waste. It should be taken to a suitable facility for recycling of electrical and electronic devices. For more detailed information about recycling of this device, please contact your local city/town council office or your household waste disposal service.

WARNING

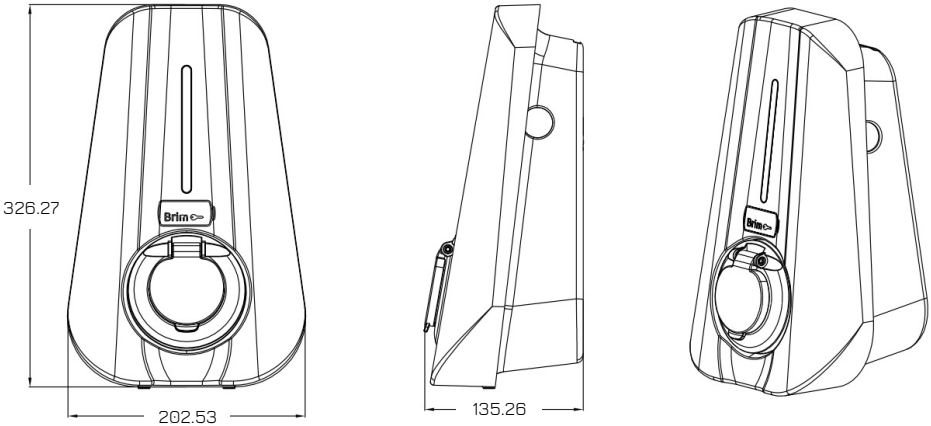
The input and output voltages of this device are high, which threaten human life safety. Please strictly observe all warnings on the device and user manual. Unauthorised and non-professional service personnel are forbidden to remove the cover of this device.

02) Introduction

2.1 Product Technical Specifications

	Model	BR-AC7000-01
Input	Power Supply	Single - Phase
	Rated Voltage	230V AC
	Rated Current	32A
	Frequency	50/60Hz
Output	Output Voltage	230V AC
	Maximum Current	32A
	Output Power	7.4kW
User Interface	Charging Outlet	Type 2 Cable
	Cable Length	4m
	Housing Material	Plastic PC 940
	LED Indicator	Green / Yellow / Red
	RFID Reader	Mifare ISO / IEC 14443A with 2pcs
	Start Mode	Plug and Play / RFID card / APP
Communication	Communication	WiFi 2.4G
	Protocol	OCPP1.6
Safety	RCD	6mA DC
	Ingress Protection	IP65
	Impact Protection	IK10
	Electrical Protection	Over current Protection, Residual current protection, Ground protection, Surge Protection, Over/Under voltage protection, Over/Under frequency, Over temperature protection, Built-in PEN
	Certification	CE, EN / IEC 61851-1: 2017, EN /IEC 61851-21-2: 2018
	Warranty	3 Years
Environment	Installation	Wall-mount / Floor-mount
	Working Temperation	-30°C ~+ 50°C
	Working Humidity	5% ~ 95%
	Work Altitude	<2000m
Package	Product Dimension	136mm x 204mm x 327mm (H*W*D)
	External Dimension	380mm x 285mm x 175wamm
	Internal Dimension	370mm x 275mm x 160mm
	Gross Weight	

2.2 External Structure

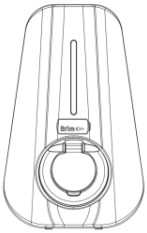
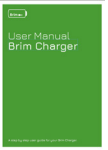


2.3 Package Contents

Unpack the product. Please check and verify following items after receiving the charger:

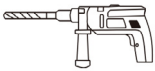
1) Visual inspection on chargers external appearance. If there is any breakage or other damage, please notify the seller immediately.

2) Check type and quantity of all accesssories as follows. If there is a quantity shortage of any item, please contact the seller at once.

				
	User Manual (x1)	M4*32 Screw (x8)	ϕ6 Expansion Pipe (x8)	Installation Board (x1)
				
Brim Charger (x1)	M4 Hex Key (x1)	Seal Cap (x2)	Insulated Terminal (x3) for Single - Phase	Coupler Holder (x1)

03) Operation Instruction

3.1 Installation Preperation

1) Tools Required		
Tool Name	Photo	Function
Multimeter		Check electrical connection and electrical parameter
Cross Screwdriver (PH2 x 150mm, PH3 x 250mm)		Tighten the screws
Insulated Torque Wrench		Tighten the bolts
Electric Drill		Hole on the wall
Diagonal Pliers		Cut cables

2) Cables and Materials		
Name	Specification	Quantity
Power Supply Cable	Single - phase power supply cable	Depend on actual requirement

3.2 Installation Process

1) Installation Notice

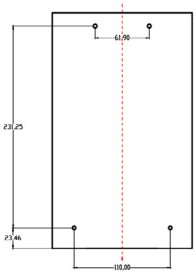
- Electrical devices should only be installed, operated, and maintained by qualified personnel. No responsibility is assumed by the manufacturer for any consquences arising out of the use of this device. A qualified person who has certified skills and knowledge related to the construction, installation ad operation of this type of electrical device and who has received saftey training to recognise and avoid the hazards involved.
- All applicable local, regional, and national regulations must be applied when installing, repairing and maintaining this device.
- RCD of the charger is intergrated 6mA DC , please install a Type A breaker outside.

2) Checks before starting the Installation Process

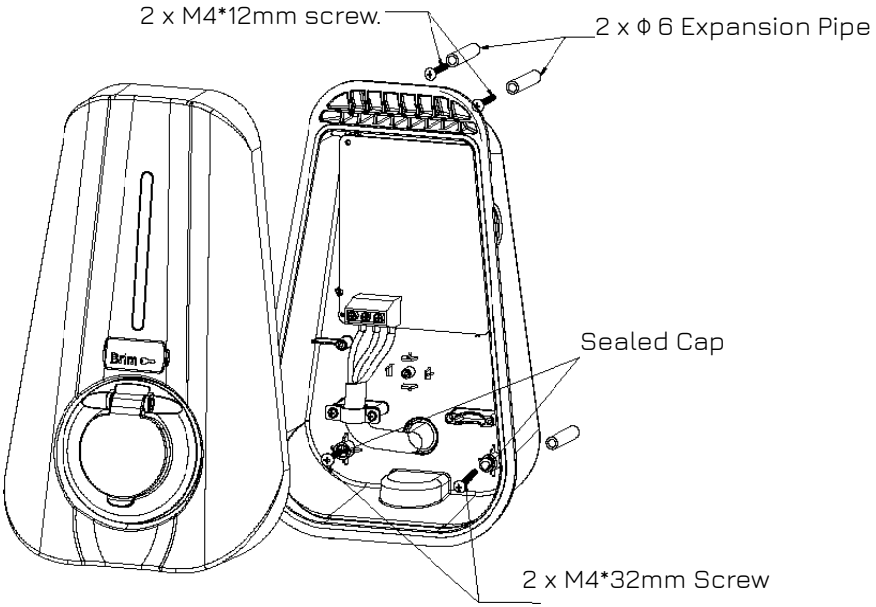
- Ensure the charger's location allows good operational access for normal use and repair & maintenance.
- The AC input components within the premise's power supply are correctly fitted with required protection items prior to installation of the charger.

3) Installation Procedure

1. Based on the profile of the attached installation board, drill 4 x ϕ 6 * 35mm holes on the wall, and insert the expansion pipe.

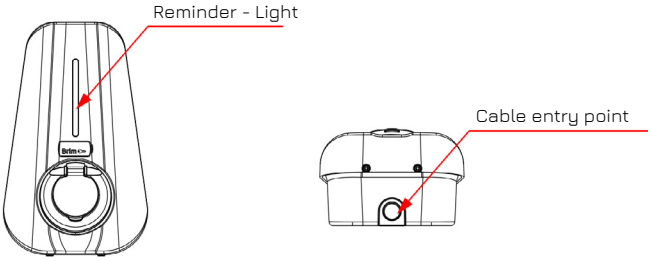


2. Lock the 2 x M4*32mm self-tapping screws into the expansion pipe, leaving a 5mm space, between the screw head to the wall.
3. Open the upper cover of the EV-charger, hang it on the 2 x M4*32mm self-tapping screws, lock it into the bottom 2 x M4*32mm self-tapping screw and then cover the sealing cap.
4. Connect wires to the connectors (Refer to Section 4.3), close the upper cover, and lock it with the 2 x M4*12mm screw.

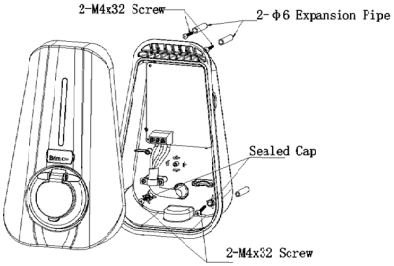


04) Electrical Connection

4.1 Charger Appearance

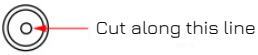


4.2 Overview of Internal Structure



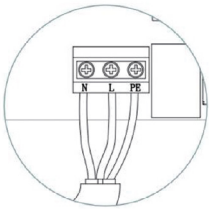
4.3 AC Wiring

NOTE: Before insert input power wire, please cut silicone sealed loop as required to maintain IP65.



NOTE: Before insert input power wire, please cut silicone sealed loop as required to maintain IP65.

1. Remove a length of 40mm of the cable jacket and strip the wire insulation to a length of 8 ~ 15mm.
2. Crimp the terminals as shown in the figure below.
3. Distinguish different input wires of three-phase and single-phase, the insert the wire into the correspoinding wire slot.



Single - phase wiring

Three - phase wiring

05) Configuration and Operation

5.1 Power-on Checking

1) Checks before Power-on

PLEASE CHECK / RE-CHECK THE FOLLOWING ITEMS PRIOR TO INITIAL POWER ON:

1. The charger's location allows good operational access for normal use and repair and maintenance.
2. The AC input components within the premises power supply are fitted correctly with required protection.
3. Double confirm the charger is installed properly.
4. No components or other items have been left on the top of the charger.

2) Power-on Status Checking

POWER-ON THE CHARGER, THE LED INDICATOR SHOULD BE IN STANDBY STATUS.

State	Description	LED Status
Standby	Power-on, but no gun plug-in	Flashing green, 1 seconds on; 3 second off
Ready to Charge	Gun plugged in, but charging has not begun	Constantly green
Charging in Progress	Gun plugged in, charging in progress	Breathing green, 1 second on; 1 second off
Fault has occurred	An error condition has occurred; See Section 6 (Troubleshooting) For troubleshooting details	Flashing red or constantly red

5.2 Charging Operation

1) Connect the Charger to Electric Vehicle

1. Plug the charging connector in the EV charger
2. After plug-in, please check the connector has been plugged in correctly
3. Charger LED indicator will flash yellow when it is ready to charge an EV

2) Start charging & stop charging

1. Scan the RFID card on the identification area of the front panel, which will start the charging.
2. When the EV is fully charged, the charging process will stop.

06) Troubleshooting

6.1 Indicator Status

LED Colour	State	LED Status
Green	Standby	Flashing green, 1S on, 3S off, Cycle
Green	Suspended EV (Waiting)	Flashing green, 200ms on, 1000ms off, 2 times, 3S off, Cycle
Green	Plug in Connector	Flashing green, 200ms on, 1000ms off, 5 times, 3S off, Cycle
Green	Charging	Flashing green, 1S on, 1S off, Cycle
Green	Finished	Solid green light
Yellow	Diconnect Network / Diconnect Server	Solid green light blocks for 1S and flashing yellow, 1S on 3S off
Yellow	Poor Power and Charger in Suspended EV	Solid yellow light blocks 200ms on 500ms off, 5 time, 3S off
Yellow	Successful Card Swipe	Flashing yellow, 100ms, 100ms off, 5 Times
Yellow	Alarm (relay overtemp load drop, grounding alarm. input terminal overtemp load drop disassembly alarm)	Solid yellow light
Yellow	Charger was Occupied	Flashing yellow, 2S on, 2S off, Cycle
Red	Relay Adhesion	Solid red light
Red	Leakage Current Fault	Flashing red, 500ms on, 500ms off, 1 time, 3S off, Cycle
Red	CP Fault	Flashing red, 500ms on, 500ms off, 2 time, 3S off, Cycle
Red	Overcurrent Fault	Flashing red, 500ms on, 500ms off, 3 time, 3S off, Cycle
Red	Input Polarity Reverse	Flashing red, 500ms on, 500ms off, 4 time, 3S off, Cycle
Red	Leakage Current Loop Abnormal	Flashing red, 500ms on, 500ms off, 5 time, 3S off, Cycle
Red	Input Terminal Overtemp	Flashing red, 500ms on, 500ms off, 6 time, 3S off, Cycle
Red	Relay Overtemp	Flashing red, 500ms on, 500ms off, 7 time, 3S off, Cycle
Red	Over / Under Voltage Fault	Solid yellow light for 2S and flashing red, 500ms on 500ms off, 1 time, 3S off, Cycle

Red	Over / Under Frequency Fault	Solid yellow light for 2S and flashing red, 500ms on 500ms off, 2 time, 3S off, Cycle
Red	Meter Comm Abnormal	Solid yellow light for 2S and flashing red, 500ms on 500ms off, 3 time, 3S off, Cycle
Red	Smart Meter Comm Abnormal	Solid yellow light for 2S and flashing red, 500ms on 500ms off, 4 time, 3S off, Cycle
Red	CT Fault	Solid yellow light for 2S and flashing red, 500ms on 500ms off, 5 time, 3S off, Cycle
Red	Charging Connector Lock Abnormal	Solid yellow light for 2S and flashing red, 500ms on 500ms off, 6 time, 3S off, Cycle
Red	Charging Connector Current Abnormal	Solid yellow light for 2S and flashing red, 500ms on 500ms off, 7 time, 3S off, Cycle
White	Security Boot Failed	Flashing white, 200ms on, 1000ms off, 2 time, 3000ms off, Cycle
White	Upgrade Firmware	Flashing white, 200ms on, 1000ms off, 5 time, 3000ms off, Cycle
White	POST (Power on Self Test)	Flashing white, 1S on, 1S off, Cycle

6.2 Fault Code and Resolution

Error Code	Problems	Possible Causes	Possible Causes
Over Voltage	Input Over Voltage	AC input voltage may be too high	1) Check the input voltage from the backend
			2) If the voltage is over 267Vac for a short time, wait till the power grid recovers to normal voltage.
Under Voltage	Input Lower Voltage	AC output current may be too large	1) Check the voltage from the backend
			2) If the voltage is under 184Vac for a short time, wait till the power grid recovers to normal voltage range.
Over Current	Output Overload	AC input frequency may be too high	1) Shut off the leakage current protection switchby the power distribution cabinet immeadiately.
			2) Check whether there is a low resistance connection between the AC output cables on the charger.

Over Frequency	Input Over Frequency	AC input frequency may be too low	1) Check the input voltage frequency from the backend. 2) If the frequency exceeds 63Hz for a short time, wait till the power grid recovers to a normal voltage range.
Under Frequency	Input Lower Frequency	Temperature may be too low inside the charger	1) Check the input voltage frequency from the backend. 2) If the frequency is lower than 47Hz for a short time, wait untill the the power grid recovers to a normal voltage range.
Over Temperature	Over Temperature	Leakage current to the earth may be too high	1) Check the surrounding conditiion of the installed charger, and whether there is a heating device nearby. Make sure the environment is under 60°
Over DC Leak	Over Leakage Current	Reverse connection of L/N input cable	1) Shut off the leakage current protection switch on the power distribution grid immediately. 2) Check whether there is a broken AC output cable or a low resistance connection to the earth.
Phase Error	Reverse Connection	Poor connection of charging cable with EV/Charger	1) Shut off the leakage current protection switch on the power distribution grid immediately. 2) Check if the AC input / output cables are normal, and if inverse connection of L / N input cables.
Cable RC Error	Charging Cable Connection Abnormal	Poor connection to EV charging cable	1) Check if charging cable connection is correct and firm

NOTE: If the above problems cannot be solved, please contact the seller.

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