PRIAN SMART EV CHARGER

MODEL-WAVE 3.3KW×3 SMART AC CHARGER

Manufactured in India by:
Prian EMobility Pvt Ltd, PUNE – 411026

Dear Customer,

Thank you for your support for our products. Our Company focuses on the field of renewable energy and is committed to providing customers with excellent chargers and complete solutions. The EV chargers have the characteristics of advanced function, steady performance, wide application range and strong practicality, gaining a good reputation in the industry.

Congratulations for your excellent choice of Indigenous EV Charging Station which incorporates world latest technology with built in protection to provide you the optimum performance for maximum power saving and provide your Electric Vehicle the exact replication of mains power.

This user manual describes the installation, use and maintenance of AC EV charging station. This manual is intended for installation and maintenance personnel. Failure to read this manual carefully before installation, maintenance and operation may lead to improper operation. Failure to follow the safety notes may lead to a danger of death, injury and damage to the device, Prian cannot accept any liability for claims resulting from this.

Please spare some time to read the installation and operating instructions in this manual carefully before installing and using this product. This manual will provide you a thorough understanding of the device for its optimum use.

Hope you shall be fully satisfied with our products for years to come.

Management Team

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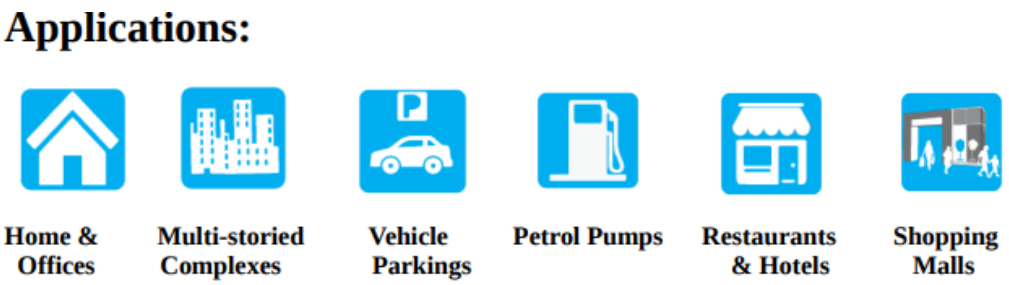
1. PRODUCT INFORMATION

1.1 General

Fig. 1 Front View of WAVE

Key Features:

- Compact – User-friendly – SMART EV Charger For 2W/3W/4W
- Up to 15A @230V Charging
- Max. Output power: 3.3kW×3
- 15A Industrial Socket/ 15A Domestic Socket
- Access through Mobile App, RFID or Wireless Remote.
- OCPP 1.6 Compliant



- AC EV charging station provides a friendly HMI, with the corresponding control, metering and communication functions, belongs to the special AC power supply device for EV. It is widely used in all kinds of household Electric Vehicle charging, as well as various chargingstations, parking lots, community garages and public electric vehicle charging places

- The single-phase AC charger is used for AC charging Electric Vehicles, with the function of charging by scanning the RFID card. The RFID card is a key component to start or stop charging. The indicator LED on the front panel shows in different colors what is happening with the charger. The protection degree of the charger is high (IP65), with excellent ability to resist water and rust.

1.2 Technical specifications

- Product Model : WAVE AC 10kW 3 Socket EV Charger
- Charging Interface : 3 Pin industrial Socket
- Power Input : Input Rating: 198-250VAC, three phase, 15A,50Hz Standby Power < 5W
- Power Output : 230VAC, 15A, 50Hz, 3.3 kW Single Phase
- Protection : Over current, Under-voltage, Over-voltage, Residual current, Surge protection, short circuit and Ground fault.
- User Interface : Unique Operational Status LED Indicators.
- Installation : Indoor / Outdoor
- Ingress Protection : IP55
- Cooling : Natural Air cooling
- Operating temperature : Minus 30deg C to 65 deg C.
- Storage temperature : Minus 40 deg C to +65deg C.
- Humidity : Less than 95% relative humidity, non-condensing
- Noise level : Less than 70dBA

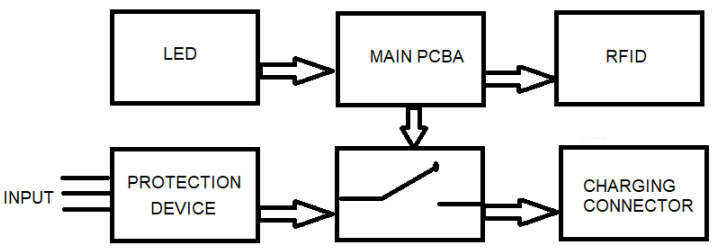
1.2.1 Model & Batch Identification **F13003-1023-0001**

F13003	**1023**	**0001**
Product Code	Month & Year of Manufacture	Wall box Shell Code

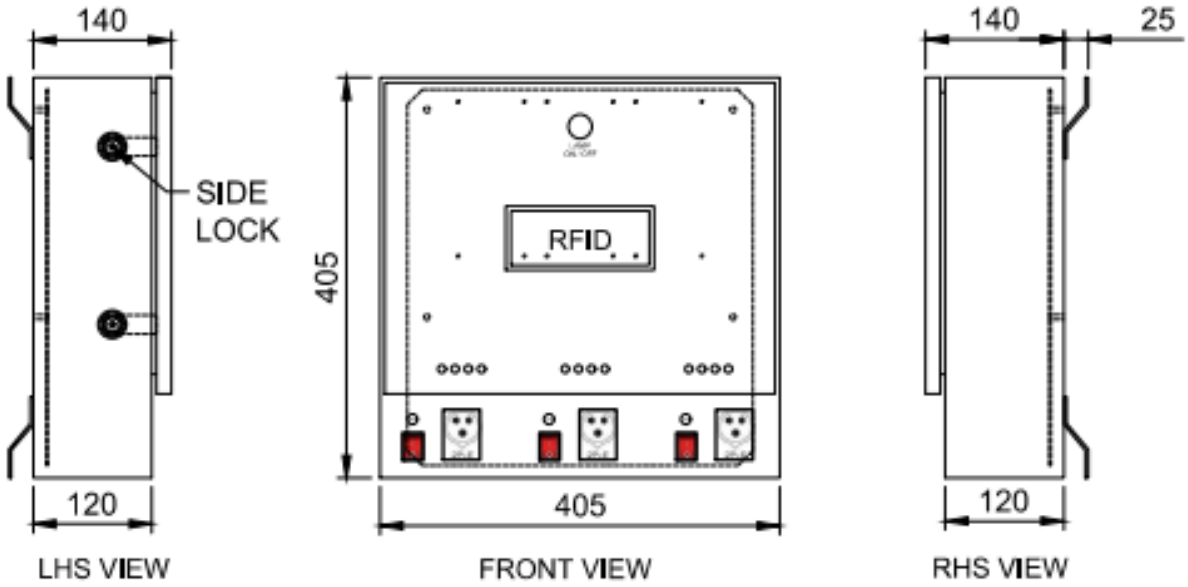
1.2.2 Functional description

1	Charging mode	Mode 2
2	Charging control	Local: “Plug-and-charge”; Remote: smart phone APP control
3	Display screen (if any)	LED Indicators AND APP SCREEN
4	Communication protocol	Mobile Application (Android)/ OCPP 1.6
5	Safety protection	Emergency stop button, Surge protection, over temperature, over/under voltage, over current, ground fault protection

1.3 Block diagram



1.4 Mechanical Parameters



1	Mounting	Wall-mounted/ Stand- mounted
2	Charging connector	3 Pin industrial Socket/ Domestic Socket
3	Dimension (L×W×H)	405mm × 405mm × 170mm
4	Weight	Wave : ≤ 10kg
5	Color & Material	Wall Box: White, Metal Powder Coated
6	Enclosure Protection	IP55

1.4.1 Ambient conditions

1	Storage/Operating temperature	Minus 40deg C to +65deg C/ Minus 30deg C to 65deg C
2	Altitude /Relative humidity	≤ 2000m / Less than 95% relative humidity, non-condensing
3	Vibration	Less than 70dBA
4	Installation location	Good ventilation, No flammable/ Explosives, Good Earthing, Out of direct sunlight and protected from wind and rain

2. INSTALLATION INSTRUCTIONS

2.1 Transport or movement

Please observe the following points when transporting or moving to ensure product safety:

2.1.1 This product is an electrical device. It should be handled with care to avoid strong vibration and shock

2.1.2 The front panel of the product is a glass panel that cannot be used as a loaded part for handling.

2.1.3 The rear cover of the product is a sheet metal part that should be well protected to avoid shocks.

2.1.4 The charging station must not be transported by pulling the charging plug and its charging cable

2.2 Unpacking

2.2.1 Packing list: The package, includes:

Charging station -1
Wall-mounting accessories (including screws)- Set 1
User manual -1
Warranty certificate -1

2.2.2 Inspection: When unpacking, carefully check the below points:

2.2.2.1 Whether there is any damage during shipment. If any damage or missing parts are found, please do not operate the machine and inform the supplier

2.2.2.2 Whether the accessories are missing according to the packing list

2.2.2.3 Whether the model and specifications on the nameplate of the machine match the requirements

2.2.3 Note:

2.2.3.1 Keep the packing box and packing materials 1 month for future handling

2.2.3.2 If any omission or inconsistency is found, please contact the supplier as soon as possible

2.2.3.3 Do not remove stickers otherwise warranty will be void

2.3 Installation preparation

Refer to Section **4** for more safety notes and ambient conditions:

2.3.1 It is recommended to install the charging station in a place with good ventilation, out of direct sunlight and protected from wind and rain.

2.3.2 In order to ensure good ventilation condition, mount the charging station vertically and leave enough space. If you purchase products with floor mounted accessories, the installation effect is similar to that of wall mounted product

2.3.3 The product mounted on the wall is shown in Fig. 2

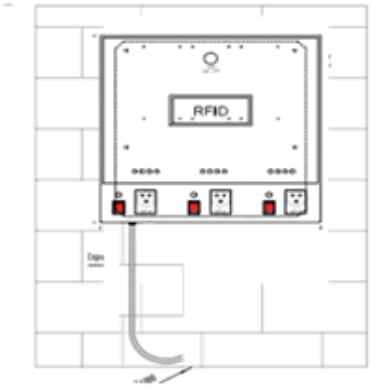
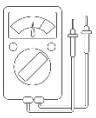
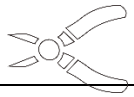
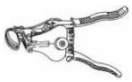
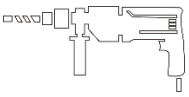
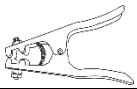


Fig 2 Wave on the Wall

2.3.4 Tools for installation: Prepare the following tools at least before installing the AC EV charging station.

Sr No.	Tools' Name	Schematic Picture	Main Uses
1	Multi-meter		Check the electrical connection and measure the voltage
2	Diagonal pliers		Cut the cable
3	Wire stripper		Peeling cables
4	Electric Impact drill		Drill fixing holes in the wall
5	Wrench		Fastening bolt
6	Cross screwdriver		Fastening screw
7	Crimping pliers		Pressed cable terminal

2.4 Installation Steps

2.4.1 Step 1: Install the attachment

As in the below figure 2.2, drill 4 mounting holes of 10mm diameter and 50mm depth at the appropriate height, spaced 382mm×355mm apart, and secure the mounting accessories to the wall with the expansion screw available in the box.

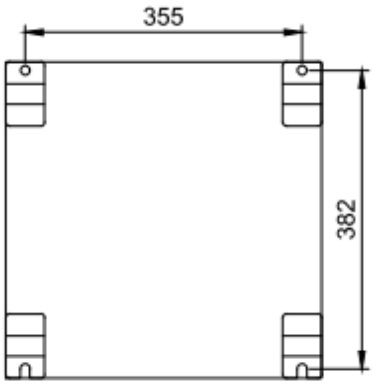


Fig 2.2

2.4.2 Step 2: Wiring

2.4.2.1 Secure mounting Accessories (1) to the Charging station ;

2.4.2.2 Input cable of 1 meter is provided with the device PG 25 Gland (2);
2.4.2.3 Connect the input cable through the Input Cable Interface (2), to the MCB externally;
2.4.2.4 It is recommended to use flame retardant copper core cable as the input cable upto MCB, Fix the Neutral wire, Live wires (L1/L2/L3) and PE wire to the corresponding terminals, and finally fix the cable.

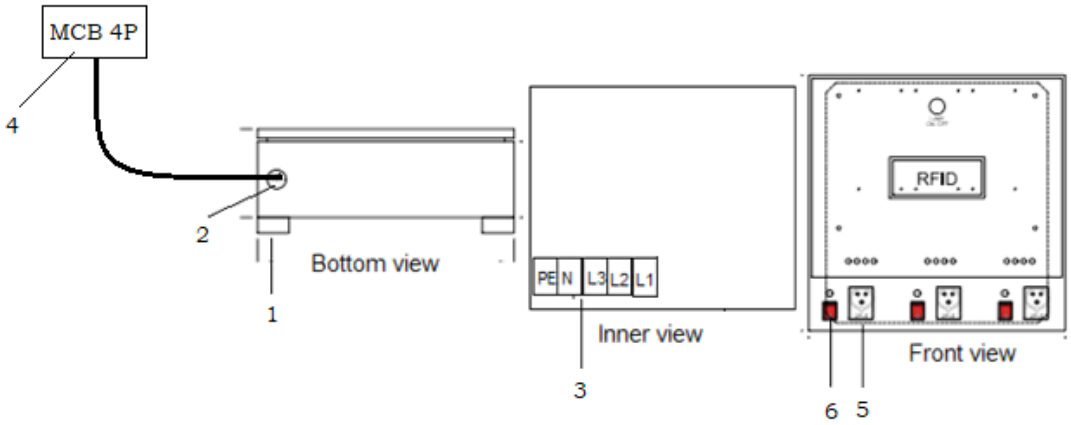


Fig 2.3

①: Mounting Accessories;
②: Input Cable Interface;
③: Input Terminal (PE/N/L3/L2/L1);
④: MCB (If any);
⑤: Three pin socket;
⑥: Switch.

2.4.3 Step 3: Fitment on the wall: Follow the arrow, and hold the wall box Accessories (1) and attach by sliding downwards

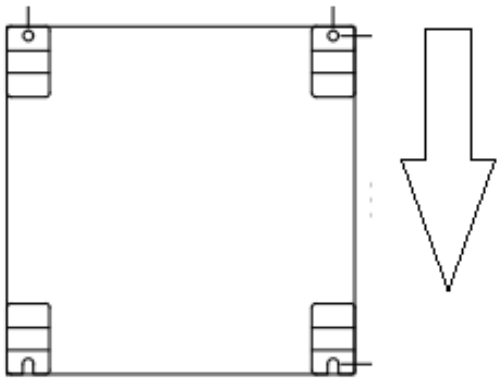


Fig 2.4

3. OPERATIONS

3.1 Power On

3.1.1 After the charging station is installed and its correctness is confirmed, turn on the Protection device (MCB) and the indicator light "POWER" lights up and the charging station goes into standby mode

3.1.2 Park the electric vehicle in its place, turn off the motor and apply brake

3.1.3 Human-machine interface: As shown in Fig. 3.1, the Product is configured with multiple human-machine interfaces

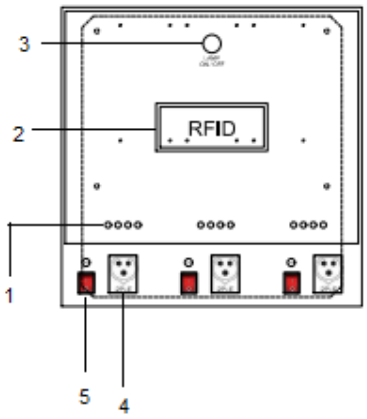
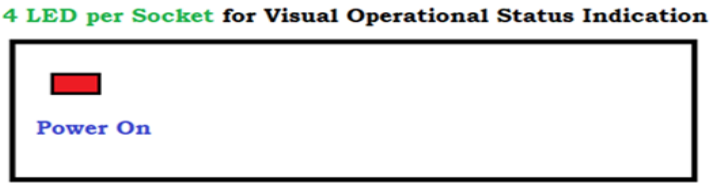


Fig 3.1

① LED indicators
② RFID reader
③ Emergency stop button
④ Empty charging connector socket
⑤ On/off switch

LED Indicators/ **Power ON**



3.2 User Authentication

3.2.1 RFID Reader /Authentication: Model is equipped with an RFID card reader and the charging process can be started and stopped using the RFID card (see Fig. 6-3) configured with the host. The special customer-specific function for swiping the card is not described separately here

3.2.2 Authentication through application: Device can be authenticated with any application which is compliant with OCPP1.6.

3.2.3 Android Application "Prian" is available in play store and can be used by the users to charge the vehicle after authentication. Steps of operation of Application is provided separately.

3.3 Engaging the Vehicle

3.3.1 Connect the Vehicle plug to the Device socket and press the switch next to the charging Socket being used. The Amber Light will start glowing

3.3.2 Take the charging adapter and plug the charging adapter into the AC charging socket of the electric vehicle and the "Connect" lamp of the charging station lights up.

3.4 Charging the Vehicle

3.4.1 With the "plug-and-charge" charging station, the charging process is initiated automatically; with the "card-controlled" charging station, the card must be swiped to start; with the APP -controlled charging station, the cell phone must be operated to start. When the “Charging” light begins to flash, the pile will enter the charging state

3.5 Stop Operations

3.5.1 Emergency Stop Button: This button is used to stop the charging process in case of emergency. In the event of an emergency (e.g., fire, smoke, unusual noise, water intrusion, etc.), please press this button to ensure personal safety and move away from the charging station immediately. Then contact the supplier.

3.5.2 Stop Charge: Normal

3.5.2.1 There are two normal shutdowns for "plug-and-charge" charging stations: first, the automatic shutdown when fully charged/ on completion to charging time, and second, the manual shutdown

3.5.2.2 Operation of manual stoppage: press the Switch near the socket of the charger, the vehicle will stop charging

3.5.2.3 Pull the adapter out of the vehicle to complete the charging process. If you cannot pull out the adapter, because the vehicle is usually locked, press the unlock button of the vehicle key and the adapter can be pulled out.

3.5.3 Stop Charge: Others

3.5.3.1 Emergency stop: In the event of an emergency (e.g. fire, smoke, unusual noises, water ingress etc.), please press the red "emergency stop" button on the charging station at any time to stop the charging process to ensure personal safety.

3.5.3.2 Forced fault stop: A fault stop initiated by the vehicle's on-board charger.

3.5.3.3 Automatic fault stop : A fault stop initiated by the charging station

Note:

For the "APP -controlled" charging station, please start and stop the charging process via your APP. For "card-controlled" charging stations, please start and stop the charging process by swiping your card

4. FAULT HANDLING AND MAINTENANCE

4.1 Fault Handling

The charging station is automatically protected in the event of the fault. The fault information and handling methods are as follows

Pop up Notification	Fault	Handling Method
Expired Session	Power Failure	The charging has stopped unexpectedly. Please unplug your charger. You may connect again
Charging stopped due to Over/Under Voltage threshold	Over/Under Voltage	Try to use the alternate Socket as one phase might experience Over or Under Voltage
Charging stopped due to Over Current threshold	Over Current	Check whether the charging adapter is correctly connected to the vehicle, and check whether the on-board charger is normal Disconnect the Vehicle and get the adapter of the Vehicle checked from the EV Service Centre.
The vehicle seems to be fully charged	Electric vehicle response timeout	Make sure that the charging adapter is properly connected to the vehicle, pull out and retry, or the car is full charge.
Exorbitantly high negative wallet Balance shown	Metering fault	Contact your Service Provider and Raise a ticket
Continuous low Noise when Charging Stops	Relay sticking	The device is damaged and needs to be returned to the factory for repair
Body experiencing minor shock	Earth fault	Charging station is not grounded properly; input power cable needs to be checked
Blue light does not start in Charger and Vehicle in NOT Charging	No diode at EV end	This EV does not meet the IEC standards and cannot be charged
Green and Blue light is glowing simultaneously	Charging Timeout	Contact your Service Provider and Raise a ticket
If Device is not visible on Application	Detection Failure	Device need to restart after switching off and on the MCB

4.2 Maintenance

To ensure the long-term stable operation of the device, please service the device regularly (usually every month) according to the operating environment.

4.2.1 The equipment is maintained by professionals.

4.2.2 Check that the device is well grounded and safe

4.2.3 Check whether there are potential safety risks in the vicinity of the charging pole, e.g. whether there are objects with high temperature, corrosion or flammable and explosive substances in the vicinity of the charging station.

4.2.4 Check if the connection point of the input terminal has a good contact and if there are any anomalies. Check if other connection points are loose

5. SAFETY NOTES

5.1 Safety signs

The following warning, command and information signs are used in the user manual and in the Prian's range of EV Charging Stations:

5.1.1 Warning Signs

CAUTION: Warning of electrical hazards.
This sign is intended to alert the user that serious injury or substantial property damage may result if the equipment is not operated as instructed.

ATTENTION: Warning of a dangerous place or situation.
This sign is intended to alert the user that minor injury or property damage may occur if the equipment is not operated as instructed.

CAUTION: Warning of electromagnetic field.

CAUTION: Warning of combustion.

5.1.2 Prohibiting Signs

No access for unauthorized persons

No access for persons wearing pacemakers

5.1.3 Mandatory Signs

Use protective footwear

Must wear a safety helmet

Must wear a Electrical safety gloves

5.2 Environment

The EV charging station should be installed on non-combustible material such as metal; otherwise, dangerous fires may occur.

Do not leave flammable or explosive substances near the charging station, otherwise dangerous explosions may occur.

The EV charging station should be installed in a place where there is no conductive dust and insulation-damaging gasses or vapors.

The EV charging station should be installed in a place where there are no strong vibrations and shocks; for good ventilation, the charging station should be mounted vertically.

The installation foundation must be higher than the ground level and a drainage trench must be made around the charging station, otherwise the equipment may be damaged.

5.3 Installation



Safety protection must be done when installing the EV Chargingstation.

Before wiring, make sure that the power supply is completely disconnected; otherwise, a dangerous electric shock may occur.

Installation and wiring should be carried out by professionally qualified personnel, otherwise dangerous electric shocks may occur.

The ground terminal of the EV charging station must be safely grounded; otherwise, a dangerous electric shock may occur.

The cable nose of the charging station must be securely fastened, otherwise there is a risk that the device will be damaged.

Do not allow metals such as screws or gaskets to enter the interior of the charging station, otherwise dangerous explosions and fires may occur.

The main connection of the EV charging station must be firmly connected to the cable ends, otherwise property damage may occur.

Bare parts of line ends of electrical cables must be wrapped with insulating tape; otherwise, dangerous fires and property damage may occur.

5.4 Operating

Forced charging is strictly prohibited in case of failure of the electric vehicle or charging station. Do not overcharge your vehicle. Use the recommendation of charging by the vehicle manufacturer.

To prevent injury, minors or persons of limited capacity are strictly prohibited from approaching the charging station.

In the event of an emergency (e.g., fire, smoke, unusual noise, water intrusion, etc.), to ensure personal safety, press the red "Emergency Stop" button on the charging station at all times and stay away from the charging station immediately. Press the MCB to 'Off Position' to cut off the electrical supply and then contact the supplier.

It is strictly prohibited to use the charging station if the charging adapter or charging cables are defective, cracked, worn or broken, or if the charging cables are exposed. If you find such defects, please contact the supplier in time.

EV can only be charged with the engine off and stationary.

Do not charge in rainy and thunderous weather.

5.5 Maintenance

After replacing main PCBA, parameters must be adjusted and matched before operation; otherwise, property loss may result.

It is recommended that routine safety inspection visits to charging station be conducted at least once a week.

Keep the charging connector clean and dry and wipe with a clean, dry cloth if soiled.

6. STANDARDS

6.1 Reference standard

The AC EV Charging Station is designed to IEC Standards. The Standards of this Series of Product include:

6.1.1 IEC 61851-1:2017 Electric vehicle conductive charging system - Part 1: General requirements

6.1.2 IEC 62196- 2:2016 Plugs, socket-outlets, vehicle connectors and vehicle inlets – Conductive charging of electric vehicles – Part 2: Dimensional compatibility and interchangeability requirements for AC pin and contact-tube accessories

6.1.3 Low-voltage electrical installations - Part 7-722: Requirements for special installations or locations - Supplies for electric vehicles

6.1.4 Conforms to the standards of IS 17017. The product is an EVSE that conforms to the Mode 2

6.1.5 IP55 certified for indoor and outdoor applications

6.2 Charging Connector

The product is an EVSE that conforms to the Mode 2.

6.2.1 The Charging connector of products is Normal three pin socket (Schematic diagram shown as Fig. 5.1)

6.2.2 The charging Connector of product is Industrial three pin socket (Schematic diagram shown as Fig. 5.2)

Fig 5.1 Domestic 3-Pin Socket

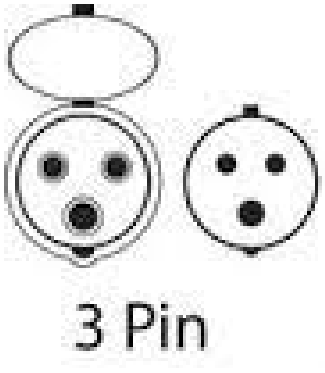


Fig 5.2 Industrial Socket

7. ABBREVIATIONS

1	IEC	International Electro technical Commission
2	EV	Electrical Vehicle, this can be BEV (battery EV) or PHEV (plug-in hybrid EV)
3	EVSE	Electric Vehicle Supply Equipment
4	LCD	Liquid Crystal Display
5	LED	Light-Emitting Diode
6	RFID	Radio Frequency Identification
7	CMS	Central Management System, Manages EVSE and has the information for authorizing users for using its EVSE.
8	OCPP	Open Charge Point Protocol A standard open protocol for communication between EVSE and a CentralSystem and is designed to accommodate any type of charging technique. (www.openchargealliance.org)
9	IP	Ingress Protection
10	PE	Protective Earthing
11	HMI	Human-Machine Interface
12	RCCB	Residual Current Circuit Breaker
13	MCB	Miniature Circuit Breaker
14	MCCB	Molded Case Circuit Breaker

8. WARRANTY AGREEMENT

1. The scope of warranty refers to the product itself.

2. The warranty period is 12 months. During the warranty period, the company will repair the product free of charge in case of failure or damage (determinedby the company's technical personnel) under normal use.
3. The starting time of warranty period is from the date of Invoicing.

4. Even in the warranty period, a certain maintenance fee will be charged in caseof the following situations.

   ① Equipment failure caused by not following the user's manual.
   ② Equipment damage caused by fire, flood, abnormal voltage, etc.
   ③ Equipment damage caused by using the product for abnormal functions.
   ④ Equipment damage caused by foreign matter entering.
   ⑤ Equipment damage caused by other human external factors.

5. The service fee shall be calculated according to the actual cost. If there is another contract, the contract shall prevail.
6. Please be sure to keep this card and show it to the maintenance personnel during the warranty period.

If you have any questions, please contact the agent or our company directly.

WARRANTY CARD

PRIAN E MOBILITY PVT.LTD

Shop No 71, T-153/01, Mahasainik Industrial Estate, Bhosari MIDC Pune-411026

Please complete the following details and retain with the original purchase docket

Product Modal Number/ Name: _____

Date of Purchase: _____ Store location: _____

Customer Name: _____

Address: _____

Phone: _____ Email: _____

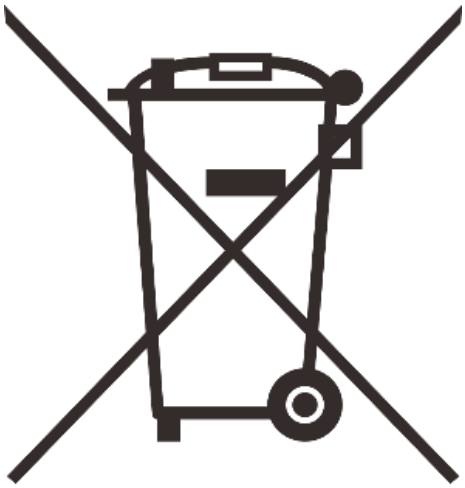
Warranty Start Date: _____

Warranty End Date: _____

Signature: _____ Date: _____

COMPLIANCE STATEMENT

This product cannot be discarded at will when it is abandoned. It must be collected separately for special treatment.



For more information & sales queries:
Please Contact
Mobile: +91 8956508351/52;
Mail Id: marketing@prianenergy.com
Get to know more about us – Visit: https://www.prian.co.in

Make an appointment with our experts today for your EV Charging need and "Quick Quote".

Manufactured in India by:
PRIAN E Mobility Pvt Ltd. PUNE – 411026