Gulf CHARGE

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7.4kW HOME CHARGER

User Manual & Installation Guide

Contents

These instructions do not purport to cover all details or variations in equipment, nor to provide for every possible contingency to be met in conjunction with installation, operation or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes, the matter should be referred to the Tirex head-office. The contents of this instruction manual shall not become part of or modify any prior or existing agreement, commit ment or relationship. The sales contract contains the entire obligation of Tirex. The warranty contained in the contract between the parties is the sole warranty of Tirex. Any statements continued herein do not create new warrantiesor modify the existing warranty.

1.0 General Information

In Accordance to IS 17017 Electric vehicle conductive charging system

- **General requirements :**

- Earth Connection Required
- It is recommended to use 2P 40 AMPS MCB
- Connection cable to charger should be rated up to Nominal 32 A

According to the operating mode, the home charging equipment emits different combinations of continuously illuminated and/or flashing LEDs

This is a product manual for the 7.4kW Home Charger, with a Type-2 Connector that allows you to charge your electric vehicle (EV) using various methods and monitor the charging status via an app. It is an electric device and operates up to 280 VAC. Do take the necessary precautions for handling electrical equipment while using this product.

The Home Charger operates from single phase, mains electric supply having voltage range from 180VAC to 280 VAC. Please read this manual carefully before using the product and follow the safety instructions.

General safety instructions

- Only perform the procedures as indicatedin this document.
- Only perform service by a qualifiedinstallation engineer

Safety instructions for use

Do's:

Install power outlet socket correctly, else it can lead to electric shock or fire when charging the high-voltage battery via the vehicle charging inlet. Ensure that power outlet socket is tight and has no loose contacts.

Operate the charging equipment in properly earthed power networks. The grid socket used for charging is preferred to be connected to a protected circuit that complies with local laws and standards.

Don'ts

Using a damaged or faulty charging cable or a damaged or faulty socket, improper use of the charging equipment or failure to comply with the precautions can cause short-circuits, electrocution, explosions, fire and burns

- If the Charging device is connected or connector is damaged do not use. Check cable and connector for damage and soiling before using.

- Do not use a socket that is worn out or damaged. The power plug must be firmly seated in a socket in accordance with all local codes and ordinances.
- The operation of the charging equipment connected to a worn out or damaged socket can result in serious injury or fire!
- Do not remove the cover and do not open the housing. The device contains no parts that could be serviced by the user. Leave any servicing tasks to qualified personnel.
- Do not touch any parts inside the vehicle connector. Do not apply any over voltage to the charging equipment! For the socket voltages suitable for the device please refer to the specification on the back label.

- Using Extension cords & Multiple Socket is Prohibited because it a Fire-Hazard.

- Do not perform any modifications or repair tasks to electrical components and do not open the device.

- Do not touch the contacts on the vehicle charging inlet and the charging equipment.
- Keep and the charging equipment free of moisture, water, snow, ice and other liquids. Never immerse in water.

- Disconnect the charging device from the socket during a thunderstorm.
- Do not insert any objects in the vehicle charging inlet or in the charging equipment.

• Safety instructions for use

• Don’ts

- Clean the charging equipment only if the control unit is completely disconnected from the power grid and from the vehicle. Use a dry cloth for cleaning.
- The charging equipment should not be operated by persons under the influence of drugs, alcohol or medications.
- The charging equipment should not be operated by persons who are not familiar with its use or who have not read the User Manual. Keep the charging equipment away from persons with disabilities and children who cannot assess the hazards involved with its handling.
- Do not Touch charging equipment While performing an unattended charging process unauthorized persons.

Warning

Explosion or Fire Hazards

- In order to determine whether the vehicle is equipped with a charging inlet, please refer to the vehicle manual. Components of the charging equipment can cause sparks and ignite flammable or explosive vapors.
- During charging ensure that the charger is located at height of 500mm to 900mm above ground as preferred by customer.
- Do not use the charging and control device in potentially explosive ambient.
- This device is intended only for charging vehicles, which do not require ventilation during the charging process.
- Do not slide the charging equipment over sharp edges.

Note

The Charging & Control Device could be damaged

- Avoid kinking the charging cable.

- Do not exert any unusual mechanical strain on the cable.

- Do not run over plug, control box or cables.

- Do not operate the charging equipment outside the permissible ambient temperature range from-25 °C to +55 °C. Lower or higher temperatures can damage the device. Do not attempt to connect not matching vehicle connectors and charging inlets. Do not use the charging equipment with coiled cable.

- Cover the charging gun after using it.

Contents of the Box

- A 7.4kW Home Charger with a Type-2 Gun and Input cable
- Type-2 Gun Dummy Socket and Fasteners
- Template for Drilling Holes for Charger and Type-2 Dummy Socket
- A User Guide with Warranty Card.

2.0 Product
Features and Specifications

- Main Features

Levels of safety for the user, the electric vehicle and the charging equipment Ground monitoring (model-dependent) LEDs (detailed description of the LED display Table 1) The Home charging equipment is for indoor and outdoor use.

User benefits and features

- This charging equipment allows you to charge your battery-powered electric vehicle (BEV) or plug-in hybrid electric vehicle (PHEV) without any additional device.
- The user-friendly plug system makes the vehicle connector fit directly into the charging inlet of the vehicle and the existing electrical infrastructure.
- The charging equipment provides a standard grounded power connection to industrial sockets from 180 V to 276 V 50 Hz and a charging current of 32A according to the specifications on the back label of the control box of your device.

• Technical Specifications

• Electrical Specification		
1	Rated Voltage	230 VAC
2	Input Voltage Range	180 to 276VAC (1P+N+E)
3	Power Max	7.4kW
4	Rated Current	32A
5	Input Frequency	50Hz
6	Control Pilot PWM Duty Cycle	53. 33%
7	Over Voltage Trip	> 280 VAC
8	Over Current Trip	35A
9	Residual Current Detect	30mAAC & 6mADC

• Proximity Pilot		
1	Resistance Between PE and PP is 220 ohms	Within EVSE Connector

• Control Pilot Voltage Level		
1	As per Standard IEC 61851-1	+/- 12V

• Technical Specifications

• Control Pilot Voltage Level after connection		
1	As per Standard IEC 61851-1	+12V, +9V, +6V

• Mechanical Specifications		
1	Dimensions	424 (L/H) x 222 (W) x 121 (D) mm
2	Weight	5.5 Kg
3	EVSE Connector Outlet	IEC 62196 Type 2
4	Enclosure Protection Class	IP65

• Environmental Condition		
1	Operating temperature	-25°C to +55°C
2	Storage temperature	-40°C to +85°C
3	Humidity	Up to 95%, non-condensing
4	Altitude	Max. 2000 m above sea level

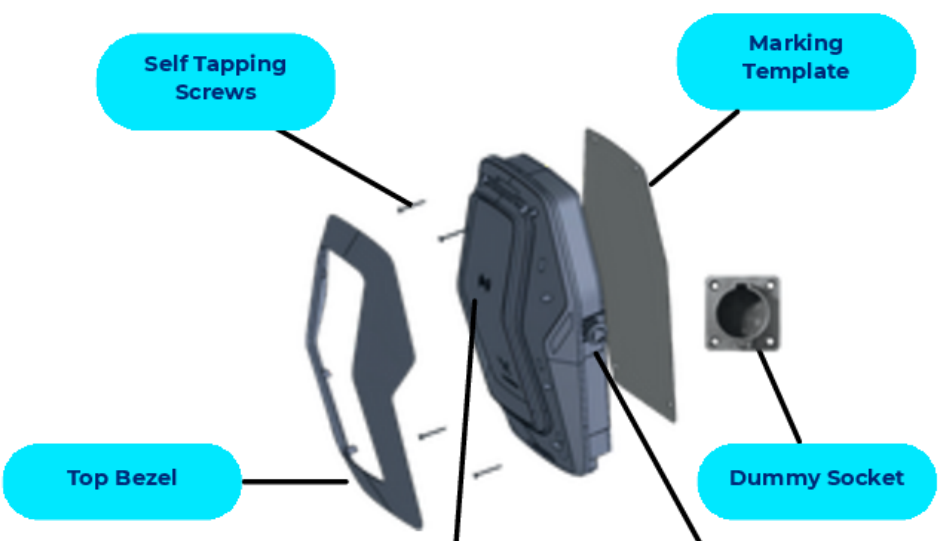
• Electrical Specification		
1	Rated Voltage	Power ON - Blue
		Car Connected - Orange
		Charging - Green
		Fault - Red
2	Over Current Protection Fault	Slow Blinking Red (2 Secs)
3	PE (Protection Earth Fault- Residual Current)	Fast Blinking Red (0.5 Sec)

• Product Labelling and Descriptions

Setup and Operations

How to Install and Energise

- Unbox the Charger
- There is Marking Template with punched lining in the corrugated box.
- Cut and use the Marking Template to mark the mounting screw location.
- Drill the Four mounting holes using a 5 mm drill bit .
- Drill Four more holes using a 5 mm drill bit on the right side of charger to mount the Dummy Socket.
- Remove the charger from the Bag and Loosen the two screws present at the bottom end of the Top Bezel Remove the Top Bezel and use the Four Self-Tapping Screws to Mount the Charger. Verify if it is firmly fixed Mount & screw the Top Bezel back to its position.
- Ensure the Single phase connection to the mains where the input 10sq mm 3 core cable is coded as Red for Line, Black for Neutral & Green / Yellow for Earthing.
- You are ready to contribute to green revolution.
- Start charging using mobile app or RFID card/Tag.



Function	Wire Colour
Line	Red
Neutral	Black
Earth	Green /Yellow

3.0 Setup & Operations

How to Operate

Charger Configuration with Mobile Application:

- Install Tirex Chargers Mobile Android Application
- Power On the Charger, Blue LED Will Glow
- Type Product SR No. / Scan Product QR code through Mobile App
- TAP RFID Tag/Card on the charger to its defined area when requested by Application.
- After successful registration of Application with Charger.
- User is able START / STOP Charging through mobile Application.

Steps of Operating the charger using RFID Card/Tag

- Power on the Charger, Blue Led will be Glow
- Connect O/P Gun to Car
- Connected (Orange) LED will Glow to indicate gun is connected to the car
- Tap RFID Tag/Card on the charger to its defined area
- Charger will start charging and Green LED will be ON
- Now to stop charging Tap RFID Tag/Card on the charger to its defined area Green LED will be turned off

Note: In-Case the charger installation site is in remote area or basement where the internet connectivity is low, Please pre-register before installing the charger

- **How to Operate**

Indication	LED Status	Indication	LED Status	Warning	Prohibition
Power ON		Control Pilot Fault			
Connected		Over Current Fault			
Charging		Residual Current Fault		-Glow -Blinking	
Over Volatge Fault		RFID Authenticate			
Under Volatge Fault		Domestic Wiring Fault			
Enclosure Over Temperature Fault		Emergency Stop Button			

Current LED indication Pattern of 7.4kW Home Charger			Blue	Orange	Green	Red
Blue	Continuous ON	Power ON	On	Off	Off	Off
Orange	Continuous ON	Connected	Off	On	Off	Off
Green	Continuous ON	Charging	Off	Off	On	Off
Blue	Blinking at 2sec	Over Voltage Fault	On	Off	Off	Off
Blue	Blinking at 0.5sec	Under Voltage Fault	On	Off	Off	Off
Orange	Blinking at 0.5sec	Enclosure Over Temperature Fault	Off	On	Off	Off
Red	Continuous ON	CP Fault	Off	Off	Off	On
Red	Blinking at 2sec	Over Current Trip	Off	Off	Off	On
Red	Blinking at 0.5sec	PE fault	Off	Off	Off	On
Orange & Red	Blinking at 2sec alternatively	Domestic Wire Fault	Off	On	Off	On
Orange & Red	Blinking at 0.5sec alternatively	Emergency Stop Button	Off	On	Off	On

Note: By Tapping RFID Card / Tag on charger, Green LED will flash 3 times to indicate it is tapped and charging will start.

4.0 Maintenance & Care

Warning! To reduce hazards of electric shock and damage to the device, clean the plugs and the housing with utmost caution.

Danger
Electric Shock or Fire Hazard

Clean the charging equipment with a dry cloth. Do not use any cleaning agents or flammable solvents, such as alcohol or benzene.

Cleaning or any other contact with chemicals can damage the device and is prohibited.

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