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TIREX

# 3.5 kW Portable Charger

## User Manual & Installation Guide

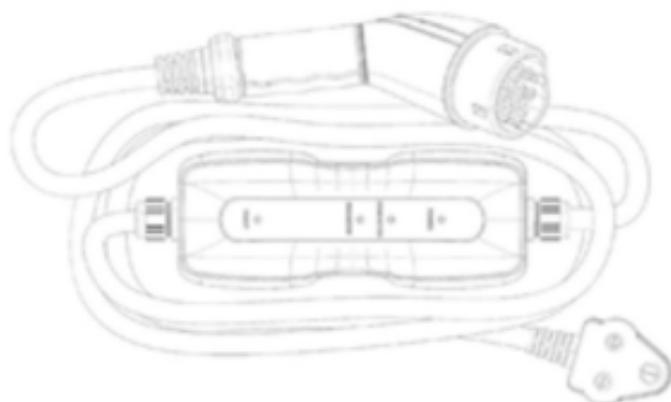
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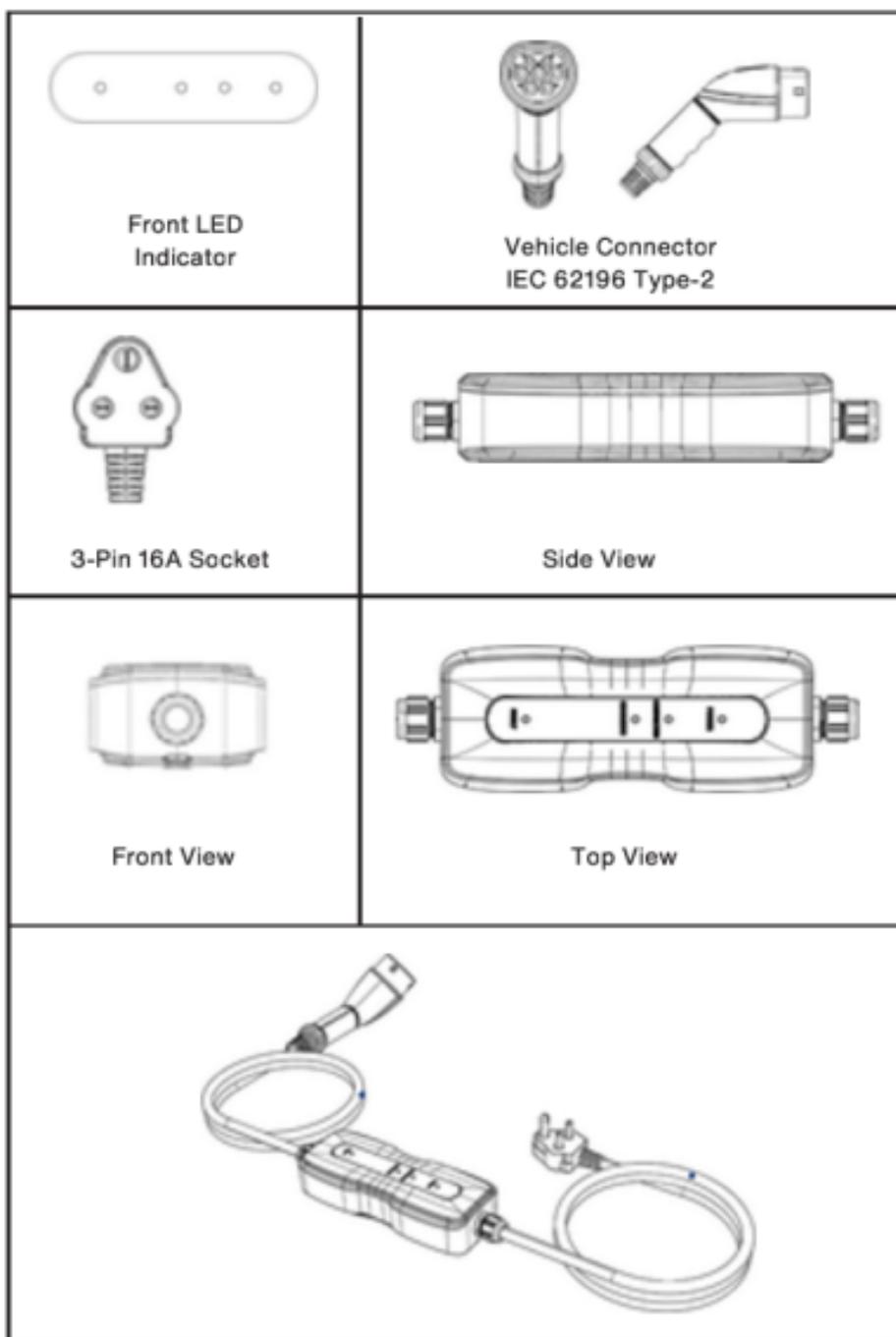


*These instructions do not purport to cover all details or variations in equipment, nor to provide for every possible contingency to be met in conjunction with installation, operation or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently 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, commitment 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 warranties or modify the existing warranty.*



## 1. General Information

This user manual describes the operation of the portable Charger. It is a high-voltage electric device that operates up to 300 VAC. Due precautions, as applicable for electrical equipment, should be followed while using this product. The Portable Charger operates from a single phase mains electric supply with a voltage range from 165VAC to 276 VAC.



## 2. Specifications

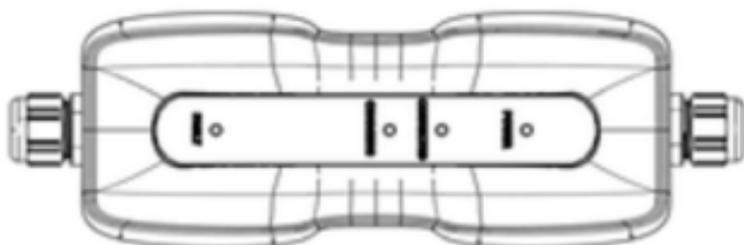
Parameters	Specifications
1 Rated Voltage	230 AC (L1, N, PE)
2 Input Voltage Range	165 VAC to 276 VAC
3 Rated Current	16A
4 Over Current Detection	>17.5A(Programmable)
5 Short Circuit Shutdown	20A
6 Under Voltage Detection	<165V
7 Over Voltage Detection	>276V
8 Insulation Resistance	>1 M Ohms, 500VDC
9 Withstand Voltage	2000 VAC r.m.s
10 Power Input Cable	16A, 3-pin plug (2.5sq mm 3 core)
11 Total Weight including Cable	1.8kg
12 IP Rating	IP 67
13 Durability	>10,000 cycles for charging gun
14 Ambient Operating Temperature Range	-25 °C to 55 °C
15 Storage Temperature Range	-40 °C to 85 °C
16 Output Connector	IEC 62196 Type-2
17 Standard Complies	All Specification as Given AIS-138 Part 1/ IS17120 / IEC62752
18 Input Cable Length	1.5 Meter
19 Output Cable Length	3.5 Meter
20 Residual Current Detection	>22mA

### Dimensions & Weight

1 Dimensions of the charger	225(L) x 91(W) x 54(H) mm
2 Weight of the charger	1.8 kg

### Environmental Conditions

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 2,000m above sea level





## Error Notification Sticker



Model:  
VIN No:  
3.5 kW  
Portability:  
3x 30A  
25-00001



**GULF OIL LUBRICANTS  
INDIA LIMITED**

INDICATION	LED STATUS
Power ON	● ● ● ●
Over voltage Fault	★ ★ ★ (At 2 Sec)
Under voltage Fault	★ ★ ★ (At 0.5 Sec)
Connected	● ● ● ●
Charging	● ● ● ●
Current Overload	● ● ● ● ▲ (At 2 Sec)
Protective Earth Leakage	● ● ● ● ▲ (At 0.5 Sec)
Control Pilot ERROR	● ● ● ● ▲
Plug Temperature Fault	★ ★ ★ (At 2 Sec)
Enclosure Over Temperature Fault	★ ★ ★ (At 0.5 Sec)
Domestic Wire Fault	● ● ● ● ▲ (At 2 Sec)

● - GLOW      ★ - BLINKING

**Product No:  
ICCPD3K5W16A-01**

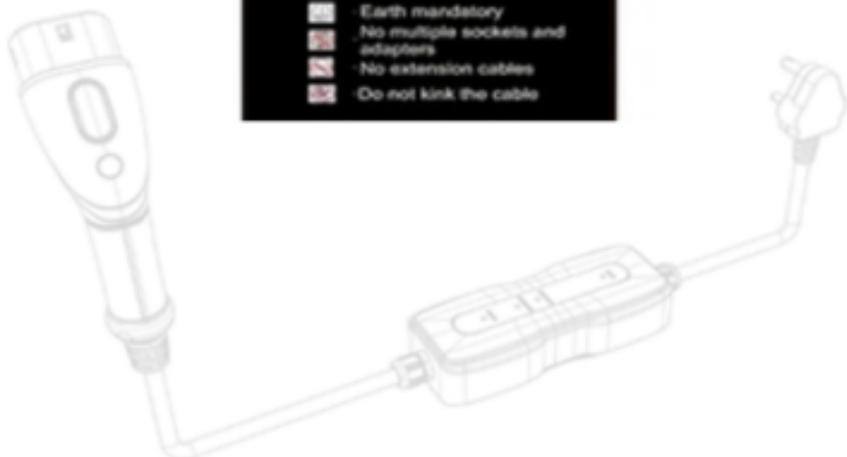


**Warning:**

- ▲ -Electric voltage
- ▲ -Hot surface

**Prohibition:**

- ⊘ -Not for IT system
- ⊘ -Earth mandatory
- ⊘ -No multiple sockets and adapters
- ⊘ -No extension cables
- ⊘ -Do not kink the cable



### 3. Operational Description

**Step 1:**  
Unbox the 3.5 kW AC charger



**Step 2:**  
Plug the charger into any household 3-pin (16A) socket, switch on charger.



**Step 3:**  
Initial condition of  
Charger:  
Power LED On  
(Blue), Charger  
not connected  
state (STATE\_A)



**Step 4:**  
Plug Type 2 EV charging cable to EV: Once it is plugged in, Charger goes into the Car Connected State. Orange LED will be On. (STATE\_B)



**Step 5:**  
When Car gets Connected: It enters the charging condition. Charger recognizes the condition and activates the relay and green led to indicate that the vehicle is charging.

## 4. Fault Condition

### Case 1:

If any of the steps mentioned above are skipped, the charger will enter an CP fault, the relay immediately turns off and indicated by a red LED turning on. It is automatically recoverable after 5 seconds, after that the CP voltage is healthy.

### Case 2:

If a current overload fault occurs during charging, the relay immediately turns off and the red LED blinks for 2 second. This indicates that there was a spike in current (more than 17.5A). It is automatically recoverable after 10 seconds, after that the output Current is healthy.

### Case 3:

If a Short circuit current fault the relay immediately turns off and the red LED blinks for 2 second. This indicates that there was a spike in current (more than 20A). In all of the above three cases, simply switch off the charger and detach the Type 2 EV cable from the vehicle, then restart the unit.

### Case 4:

If a Protective Earth fault occurs, the relay immediately turns off and red LED blinks at 0.5 s intervals. Consider checking all the AC supply lines connected to the vehicle for earth leakage. In all of the above three cases, simply switch off the charger and detach the Type 2 EV cable from the vehicle, then restart the unit.

### Case 5:

If a Over Voltage/ Under voltage Fault Occurs, and indicated by a Blue LED blinks for 2 second/0.5 second. Check input voltage with operating range. It is automatically recoverable after 100mseconds, After Input voltage within operating range.

### Case 6:

If a domestic wiring Fault Occurs, and indicated by a Orange and red LED blinks for 2 second. Check input connection as per requirements. This fault occurs due to earth absence and Line natural reverses connection.

### Case 7:

If a plug over temperature Fault Occurs, and indicated by a Orange LED blinks for 2 second. Check input connection plug temperature. This fault occurs due to Over temperature of input plug.

### Case 8:

If a Enclosure over temperature Fault Occurs, and indicated by a Orange LED blinks for 0.5s. Check Enclosure over heat. It is automatically recoverable after 100ms, After enclosure temperature with operating range.



## 5. Rear View



## 6. Safety Features

### 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.

**⚠ DANGER**

Electric shock or fire hazards

### 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 & Multi 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.



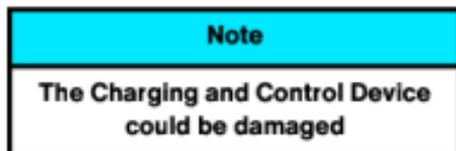
## 6. Safety Features

### 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.



- 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
- 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.
- Avoid kinking the 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.

## 7. Main Features

### Levels of safety for the user, the electric vehicle and the charging equipment

- Your version is equipped with ground monitoring if it displays the following symbol on its back label
- Versions with ground monitoring do not work in power grids without protective conductor
- Detailed description of the LED functioning mentioned on Notification Sticker placed on the back of the unit.
- Charging circuit breaker (PRCD-S) with automatic re-closure of the circuit.
- The charging equipment is for indoor and out- door use.



## 8. User Benefits & 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 residential building sockets from 150 V to 240 V 50/60 Hz (depending on the model variant) and a charging current of 6A up to 16A according to the specifications on the back label of the control box of your device.

## 9. Portable Charger Features

IEC 61851-1 Electric vehicle conductive charging system

### Ground Monitoring

Depending on the equipment, the Portable Charger measures the protective conductor resistance & stops the charging process if the measured value is too high.

### Charging Circuit breaker PRCDS

Detects fault currents and disables the charging process. A self-test that avoids the need of a monthly review after power-up and before each charging cycle.

### Charging Circuit breaker On / Off

Permits the charging process to be resumed after certain errors & a waiting period of 5 minutes. If the error has been corrected, no user intervention is required

## 10. Front Display



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

## 11. Maintenance and Care

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