



# User Manual for Irrway®



**[WWW.IRRWAY.COM](http://WWW.IRRWAY.COM)**

8/22/2013



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## About this Manual

The purpose of this user manual is to help ride Irrway®. It is important that you read and adhere to all the safety instructions, warnings and cautions contained in this manual prior to using Irrway®.



# LIMITED WARRANTY – Terms and Conditions

Standard Limited Warranty - Terms and Conditions: Greendzine Technologies product, Irrway® - Electric Personal Mobility Scooter.

## Definitions

The following terms will have the prescribed meanings, unless the context requires otherwise.

- **GDTPL:** Greendzine Technologies Private Limited, is a company duly registered under the Companies Act with the Registered Office at #387, 8<sup>th</sup> Main, 7<sup>th</sup> Cross, BTM 2<sup>nd</sup> Stage, Bangalore 560 076, Karnataka.
- **Product(s):** Irrway® - EPMS: **E**lectric **P**ersonal **M**obility **S**cooter is designed and manufactured solely by GDTPL, in India. Irrway® purchased from any dealer or reseller will not be covered under the Product definition and therefore will not be eligible for GDTPL Limited Warranty.
- **Customer:** An end-user, for example: a firm, company, or legal entity, is who purchases the Product(s) directly from GDTPL.

GDTPL offers this Limited Warranty to the customer (Non-transferable) who purchases New Product(s) (Irrway® - EPMS), Replacement Parts, and Accessories in Bangalore.

## Warranty Period

Product(s) is covered by One (1) year Limited Warranty from the date the Product is delivered to the customer.

If a Customer transfers the ownership of the product(s) to another end-user, the Limited Warranty from the date of transfer will be cancelled.

Customer must provide the proof of purchase, including Invoice and Warranty Card of the Product(s), as a pre-condition for availing the Product (s) warranty.

## Warranty Type

**Onsite Warranty:** Onsite Warranty will be provided at the Customer's location. Onsite warranty is limited to the location(s) within Bangalore.

## Warranty Terms

GDTPL Warrants the following listed components, subjected to Exclusions, Limitations, and Conditions. Assembly of the Product(s) listed below, only if there is/are any defect(s) in the manufacturer's material or workmanship, for a period of One year from the date of delivery to the customer. Chassis, Gearbox, Handle Bar, Rear Drive Shafts Assembly, Front Steering Shaft Assembly, Motor, Control Electronic Board, and Internal Wiring comes under GDTPL Warranty Terms. This warranty does not include the attachments under the ninety (90) days warranty.

GDTPL Warrants all other parts and components of the Product(s) such as Plastic Parts, Handle Grip, Mat, Batteries, Chargers, Tires, Electronic Lock, Clamps, Wheel Guards, Brake Assembly, Top and Bottom Covers, LED, Throttle, Replacement Parts, and Accessories for a period of ninety (90) days from the date of delivery to the customer, subjected to Exclusions, Limitations, and Conditions.



GDTPL warrants repairing or replacing any defective part(s) of the Product(s), to rectify the problem in the Product(s), within the Limited Warranty period subjected to Exclusions, Limitation, and Conditions.

GDTPL reserves the right to use re-engineered part(s) with performance parameter equivalent to the similar new part(s), for performing the warranty services. The replaced part(s) will become the property of GDTPL.

In the advent of repairs or replacement of any part(s), during the warranty period, the warranty will thereafter continue only for the unexpired period of the original Limited Warranty.

## **The Warranty of the product(s) will be rendered null and void if:**

This Limited Warranty does not cover damages caused to the product(s), Replacement Part(s), or Accessories caused by any of the following : All external and physical damages without limiting to dropping , accident, collision, fire , short-circuit, immersion in water , overloading , racing, or using the product(s) contrary to the training /Instruction given by GDTPL; altering or modifying the product, or accessing the parts within the Chassis such as Motor, Battery, Control Electronics Board, Mechanical Drive and so on; tampering quality seal; disassembling the product; deteriorating paints , plastic parts, and appearance items that results from use and/or exposed to the elements; Cleaning with high pressure wash, abrasives, acids, and solvents; exposing to environmental condition beyond the limits stated by GDTPL; Failure to properly maintain, use, or carryout improper servicing of the product(s); using non –GDTPL specified /manufactured parts , replacement parts, or accessories.

## **Limitation of Liability**

GDTPL disclaims all warranties and conditions not stated in this Limited Warranty – Terms and Conditions. GDTPL does not make any other express warranty in writing GDTPL does not warrant that the operation of the product(s) will be uninterrupted or error-free.

GDTPL's maximum liability under this warranty is limited to defects in Components, Replacement parts, or Accessories. The warranty is limited to repair cost or replacement cost of the defective part within the warranty period.

GDTPL is not liable for any other event other than the events stated:

Indirect damage caused due to improper functioning of the product, including business interruption, loss of brand, lost revenue, loss of use, or any other commercial or economic loss of any kind and special, incidental, or consequential damages (but not limited to lost profits or savings).

This limitation of liability applies in all circumstances that is when damages are sought out and a claim is made under this limited warranty or any other claim. This limitation of liability cannot be ignored or modified by any person.

## **Governing Laws**

Any disputes arising in connection with this Limited Warranty shall be governed by the laws of India. The courts of Bangalore shall have the exclusive jurisdiction over the disputes.

## **Extended warranty**

One Year Extended Warranty: At an additional cost the customer can buy one year warranty extension at the time of the product purchase(s). The Extended warranty shall cover only Chassis, Control Electronic Board, and Mechanical Drive.



## 1. Introduction

Irrway® is an Electric Vehicle (EV) used for short distance, point-to-point and In-Campus mobility. Before using Irrway® read through this manual and follow all the instructions carefully. All warnings and cautions must be read with care to avoid any untoward incidents. In case of more information visit our website [www.greendzine.in](http://www.greendzine.in), [www.irrway.com](http://www.irrway.com) or mail to [gdt@greendzine.in](mailto:gdt@greendzine.in)

### NOTE

*Irrway® has been designed to be used for people above 16 years of age. The minimum weight of the rider must not be less than 50 Kg, so as to ensure that the rider's safety is maintained. The maximum weight of the rider should not be more than 90 Kg.*

### WARNING





*If the rider is below the minimum rider weight limit, riding Irrway® will result in serious injury.*



## 2. Safety Information

This section provides safety and warning information which you must be aware of before you use your Irrway®.

<b>WARNING</b>		Indicates action that may result in personal injury or death.
<b>CAUTION</b>		Indicates actions that may result in minor injury or physical damage to Irrway®.
<b>NOTE</b>		Indicates important points, useful information to be kept in mind during operation.

### 2.1 General Safety Information

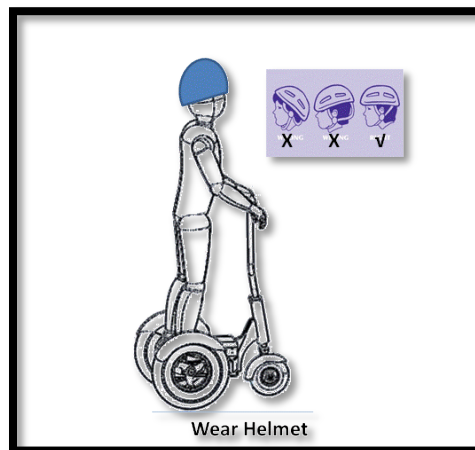
#### NOTE

*Irrway® has been designed to be used for people above 16 years of age.  
The minimum weight of the rider should be 50 Kg so as to ensure that the rider safety is maintained.  
The maximum weight of the rider should not be more than 90 Kg.*

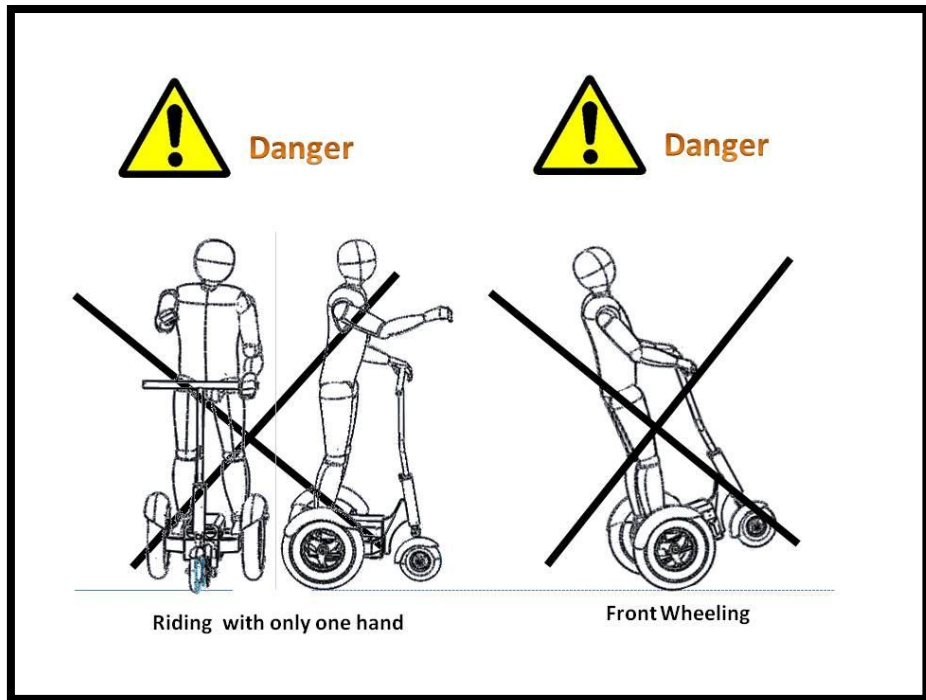
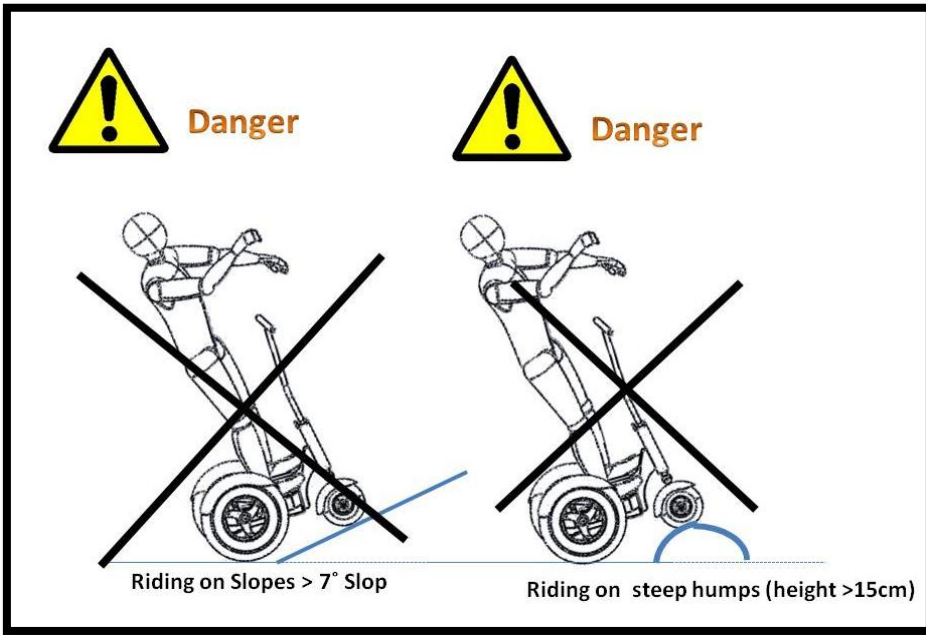
#### WARNING

*If the below instructions are not followed it will lead to serious injury.*

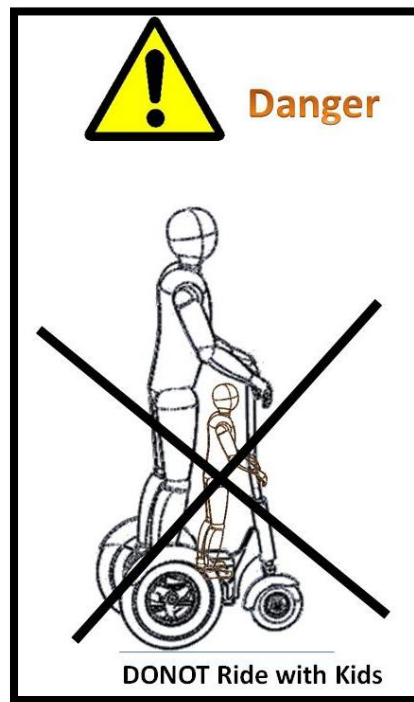
- The user must wear a helmet when riding Irrway®.



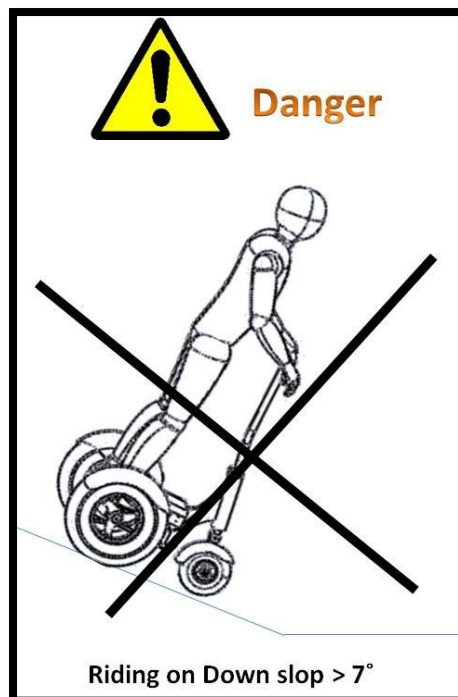
- Do not wear loose clothing when riding Irrway®.
- Ride Irrway® within campus (Gated community) ONLY.



- Irrway® is used for single user only.



- Do not ride Irrway on slope more than 7 degrees gradient.

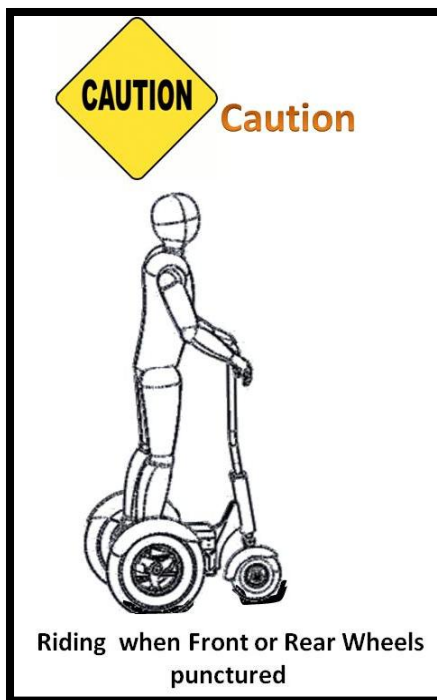


The following are some of the Safety instructions which have to be followed:

- Do not do pressure wash Irrway®.
- Do not submerge Irrway® in water.
- Do not expose Irrway® to heavy rain.
- Tyre pressure must be checked before riding Irrway®.

## CAUTION

If the above instructions are not followed it will damage Irrway®.





### 3. Know Your Irrway®

This section helps you understand how to setup your Irrway® for operation.

#### 3.1 Unpacking Irrway®

The following items are shipped along with your Irrway®.

ITEM	SPECIFICATION	QUANTITY
Irrway®	NX	One
Charger	220 V (Normal Household socket)	One
RFID Keys	Key less entry	Two
Tool Kit	Helmet, Elbow Pads	One each

The accessories for Irrway® can be purchased online on [www.Irrway.com](http://www.Irrway.com).

In case of any discrepancy in the above Specification or Quantity, call +91 80 414 724 28, +91 9945974290, +91 9900213503 or email to [info@greendzine.in](mailto:info@greendzine.in)

#### 3.2 Inspection

An Inspection is important and should be done when the Irrway® is delivered at your door step to avoid any warranty issues. In case of damages call +91 080 414 724 28, +91 9945974290, +91 9900213503 or email to [info@greendzine.in](mailto:info@greendzine.in)

Do the following checks to identify any damages done if any during shipping.

INITIAL CHECKS	STATUS
Check for any external damages (Scratches/Dents/Paint Peeling) on the Irrway®	
Check for any loose hanging parts on the Irrway®	
Serial Number	



### 3.3 Handling Irrway®

Irrway® should be lifted only at its specific lifting points as shown in the below figure:



#### CAUTION

*Lifting Irrway® by holding other points will damage Irrway and will not be covered under warranty.*







## 4. Description

Irrway® is a three wheeled Electric Vehicle (EV) primarily used for personal mobility transportation. The three wheels ensure smooth, balance free riding for Users of various age groups.

### NOTE

*Irrway® has been designed to be used for people above 16 years of age.  
The minimum weight of the rider should be 50 Kg so as to ensure that the rider safety is maintained.  
The maximum weight of the rider should not be more than 90 Kg.*

### NOTE

*Irrway® range depends on the Terrain, maintaining appropriate tire pressure, payload and appropriate riding.*

### 4.1 Know your Irrway®

This section describes the various components of Irrway® required for the User to ride the Irrway®. The following figure depicts the various components of Irrway®:



- Handle Bar
- Foot Rest
- Front Wheel with Disc Brake
- Rear Wheel
- Charging Port
- Charger

### 4.1.1 Handle Bar

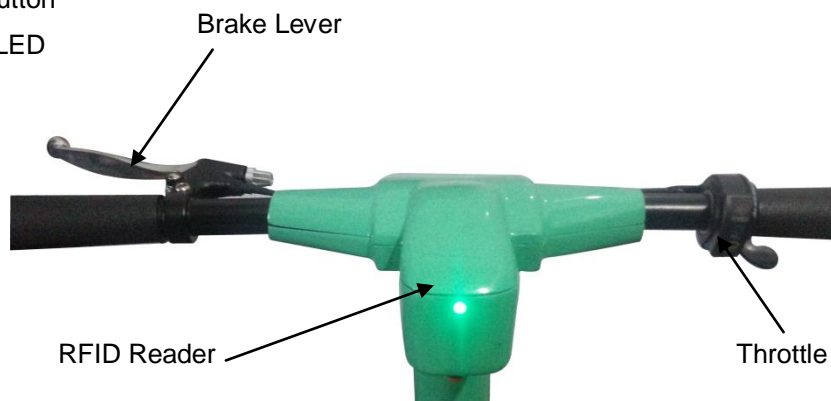
The handle bar is used for navigating Irrway®. The User should hold the handle bar at the appropriate location at all times when standing on Irrway®.

#### WARNING

*To avoid any possible injury, do not stand or ride Irrway® without holding the handle bar.  
To avoid any possible injury, do not ride Irrway® with one hand or without holding the handle bar.*

The handle bar contains the following components:

- Radio Frequency Identification (RFID) Reader
- Brake Lever
- Throttle
- Push Button
- Status LED



The above components are described in detail in the below sections:

#### 4.1.1.1 Radio Frequency Identification Reader

The RFID is a feature customized for every Irrway® to ensure the safety of the vehicle. The RFID reader is positioned on the handle bar. The RFID card must be swiped in front of the RFID reader to activate your vehicle.



#### 4.1.1.2 Brake Lever

The brake lever on Irrway® has two functionalities. When the brake lever is pulled, the following happens:

- The front disc brake is activated thereby bringing Irrway® to a halt
- The electronic switch on the brake lever cuts off the power to the system thereby slowing the vehicle

Both of the above provide adequate braking to Irrway® and enhance the rider safety.





#### 4.1.1.3 Throttle

The throttle is provided to control the speed of Irrway®. Positioning the thumb on the throttle lever and applying pressure on it will accelerate Irrway® and releasing the thumb will decelerate Irrway®.



#### 4.1.1.4 Push Button

The push button is provided to do the following:

- Wake-up of system from Sleep mode
- Controlling the Lights

##### Wake-Up of system from Sleep mode

When Irrway® is in Sleep mode the push button has to be pressed and released to bring it to Swipe mode.

##### Controlling the Lights

- To Switch-On the lights press the Push button and hold it for two seconds
- To Switch-Off the lights press the Push button and hold it for two seconds

### NOTE

*The lights will work only when Irrway® is activated (After the RFID is swiped in).*

#### 4.1.1.5 Status LED

The Status LED is provided to indicate the following:

- System Status
- Low Battery Indicator

##### System Status

The following are the two system status:

1. When the LED glows continuously it indicates that the system is in Swipe mode.

### NOTE

*User has to swipe the RFID card to activate the system.*



2. When the LED does not glow it indicates that Irrway® is in Sleep mode or Irrway® is activated and ready to use.

### NOTE

If Irrway® is in Sleep mode [Refer to Section 5.3 Powering-Up](#).

#### Low Battery Indication

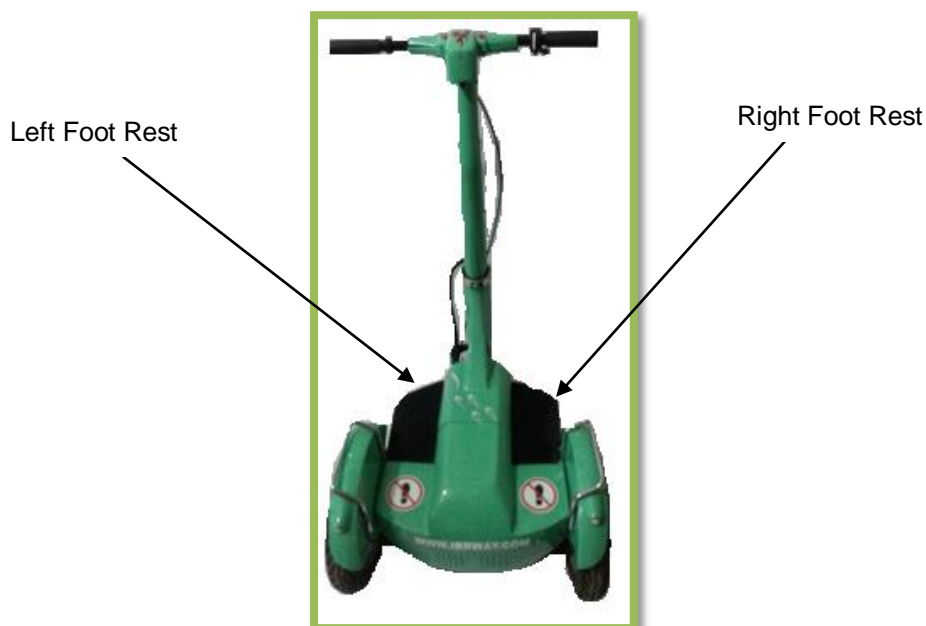
When the LED starts blinking continuously, it indicates that the battery is low. Irrway® must be stopped, switched off and the batteries must be charged. [Refer to Section 5.1 Battery Charging](#)

### CAUTION

Do not ride Irrway® when the Low Battery LED glows.

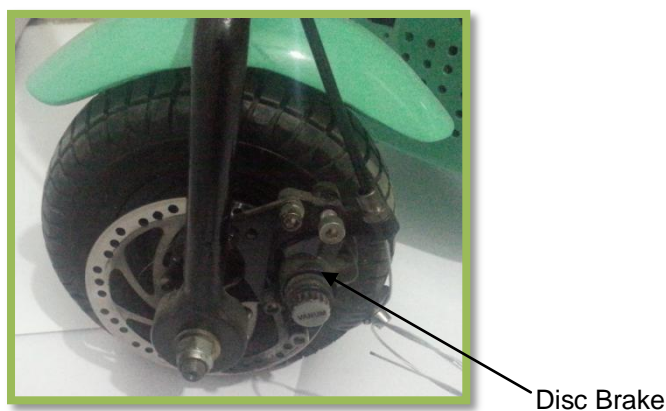
#### 4.1.2 Foot Rest

The foot rest is the place where the Rider has to stand appropriately to ensure a safe ride.



#### 4.1.3 Front Wheel with Disc Brake

The front wheel is a 4" tube wheel which is coupled with a disc brake.



### NOTE

Tyre pressure for the front wheel should be checked once a week and should be maintained at 12 psi.



#### 4.1.4 Rear Wheel

The rear wheels are 10" tube wheels. All the wheels are positioned so as to provide appropriate stability for Irrway®.

#### NOTE

*Tyre pressure for the rear wheel should be checked once a week and should be maintained at 30 psi.*

#### 4.1.5 Charging Port

The charging port is provided on Irrway® to charge the batteries.



#### CAUTION

*Do not insert any metal objects in the Charging port as it will Damage the product*

#### WARNING

*Do not insert any metal objects in the Charging port as it will lead to an electrical shock.*

#### 4.1.6 Charger

A charger is provided with every Irrway® to charge the batteries. The charger can be connected to any house hold 220V, 50Hz supply.



#### WARNING

*Do not touch charger when charging or immediately after switching off. The charger will be hot.  
Do not use the charger if the wires/connectors are damaged.*

## 5. Start-up Procedure

The Start-up procedure is done in order to ensure that Irrway®'s performance is optimized and also to assist the user for first time use of Irrway®. Setting up of Irrway® will familiarise the user with Irrway® and do the necessary prerequisites for the first ride. This is very important and has to be done cautiously.

### 5.1 Battery Charging

Before the first operation, Irrway® must be charged for a minimum duration of 8 hours and up to a maximum duration of 12 hours. To charge the batteries, perform the following steps:

1. Connect the 3-pin plug of the charger to a socket which is of Indian standard compliance (220V, 50Hz).
2. The connector on the other end of the charger should be inserted into the connector in the Irrway®'s charging port. The connector is designed to engage in one position only.
3. Insert the connector and rotate the ring in clockwise direction to secure the connector. Refer figure below for connecting the connector.



#### CAUTION

*To avoid any possible damage to Irrway®, do not force the connector if it does not fit.  
Use only the charger supplied with your vehicle.  
Ensure that the charger is unplugged from the vehicle before operation.  
Operation is possible only if the charger is unplugged from the vehicle.*

#### WARNING

*To avoid any possible electric shock do not force the connector if it does not fit.  
To avoid any possible shock do not spray water on the charger.  
To avoid any possible shock do not submerge the charger in water.  
Proper ventilation has to be there when Irrway® is charged.*

4. Switch on the power supply.

#### NOTE

*The Charger is provided with an LED which emits Red or Green light.  
Red light indicates that the Batteries are getting charged.  
Green light indicates that the Batteries are fully charged.*



5. Switch off the charger once the Green light glows or after 8hrs of charging.

### NOTE

*In case the Red light continues to glow for more than 8 hours, switch off the charger and call your nearest service personnel.*

*Irrway® does not power up when the charger is connected.*

Irrway® is now ready for use.

## 5.2 Standing on Irrway®

The rider should always stand at the appropriate position on the Irrway®.

1. The rider should stand on the mat towards the front of Irrway® only. Refer figure below:



### WARNING

*The rider should never stand towards the back of the Irrway® or with one leg in front and other leg in the back. Do not lift one leg while standing/riding on Irrway®. This will lead to serious injury.*





### CAUTION

Stand on Irrway® only on the foot rest. Do not stand on other parts of Irrway® as it may damage Irrway®.

### WARNING

To avoid any possible injury, do not ride Irrway® unless the rider is standing at the appropriate position.

2. Hold the handle bar with both hands as shown in figure below.



## 5.3 Powering-Up

Irrway® is provided with two RFID cards which are used to power it up.



### CAUTION

Do not bend the RFID card.

1. Press the push button and release it. The status LED will glow continuously. Irrway® is in Swipe mode.

**NOTE**

*Once the status LED glows it indicates that the user has to swipe the RFID card. If the RFID card is not swiped within 30 seconds Irrway® will go into sleep mode automatically.*

2. Swipe the RFID card on the RFID sensor to activate Irrway®. Irrway® is now powered up.

**NOTE**

*Swiping the RFID card again on the RFID sensor will switch off Irrway®.*

Irrway® is now ready for use.

**NOTE**

*After swiping the RFID tag, if Irrway® is not used for 3 minutes, Irrway® will go into Swipe mode. Swipe the RFID card again to activate Irrway®.*

## 6. Riding Irrway®

To ride Irrway® it must be powered up [Refer to Section 5.3 Powering-Up](#). Once Irrway® is powered-up do the following to ride Irrway®:

1. Stand on the foot rest and hold the handle bar. [Refer to Section 5.2 Standing on Irrway®](#).
2. Press the throttle with the thumb. Irrway® will move forward.



### NOTE

The Throttle will not work when the brake lever is pulled.

3. Steer Irrway® in the required direction.
4. To stop Irrway® pull the brake lever.

### NOTE

The braking distance for Irrway® at a top speed of 15 KMPH is 0.5 Meters.

5. To switch off Irrway® swipe the RFID tag.





## 7. Irrway® Maintenance

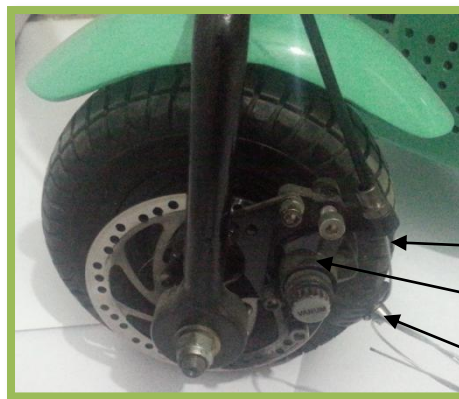
Irrway® is designed in such a way so as to ensure minimum or no maintenance. Irrway® maintenance must be done by the user on a regular basis.

TASK	SPECIFICATION	DURATION
Dry-Wash	Wipe with a duster cloth	Daily
Wet-Wash	Dip the duster cloth in water and then squeeze it. Wipe Irrway® with the cloth. Do not pour water on Irrway® Do not spray water on Irrway®	Weekly
Tyre Pressure	Front Tyre Pressure = 12 Psi Rear Tyre Pressure = 30 Psi	Fortnightly
Brake Wire	The brake wire tension must be checked and adjusted accordingly	Weekly/As and when required

For any other queries or maintenance issues call the service personnel on +91 80 414 724 28 or email to [gdt@greendzine.in](mailto:gdt@greendzine.in).

### 7.1 Brake Wire Adjustment

The brake wire tension must be adjusted on a weekly basis or whenever the user feels that the brakes are ineffective.



Brake Wire

Disc Brake

Allen Nut



Brake Wire

Allen Nut

To adjust the brake wire, do the following:

1. Pull the brake lever.



2. Loosen the nut with an allen key.



3. Hold the brake wire with cutting pliers and pull it.
4. Tighten the nut.
5. Release the brake lever.