

电动三轮车 使用说明书

Electric Tricycle User Manual



中国制造 Made in China

感谢您购买此产品手册, 使用前请仔细阅读本手册, 阅读后请妥善保管, 以便日后查阅。

Thank you for purchasing this product manual. Please read this manual carefully before use,
and after reading it, please keep it in a safe place for future reference.

PAIRA

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1.前言

感谢您选择PAIRA电动三轮车。本说明书旨在帮助您安全、高效地使用和维护您的电动三轮车,请在使用前仔细阅读说明书中的各项内容,以确保您能够充分了解电动三轮车的功能及操作。

2.电动三轮车功能介绍

2.1 基本功能

电动驱动系统:采用高效电动机驱动,提供平稳的加速和稳定的行驶体验。

制动系统:前轮配备手刹,后轮采用液压油刹制动系统,确保行车安全的同时保证制动省时省力。

变速系统:提供低、中、高三档位调节,根据行驶需要选择不同的速度档位。

显示系统:包括电量表、速度表和行驶里程表,实时显示车辆状态。

灯光系统:前大灯采用高亮LED灯珠,节能高亮,视觉效果好,尾灯和刹车灯保证行驶的安全性提示。

悬挂系统:前后悬挂系统采用大规格、高弹性弹簧,提升车辆的载重性能的同时,保证了乘坐的舒适性,减轻路面颠簸。

储物空间:仪表盘配备储物盒,方便存放手机等小件物品。

2.2 附加功能

智能防盗系统:通过电子锁和报警系统增加安全性,触碰车身可以发出报警声音。

多媒体系统:集收音机、蓝牙、USB播放音乐和USB充电接口为一体的立体音多媒体播放器:不但能播放高品质音乐的同时,还可以为手机等设备提供充电服务。

3. 车辆参数说明

RADI Q1 车辆参数

| | |
|--------|--------------------------------------|
| 车长 | 3.05米*1.25米*1.72米 |
| 车重 | 284.6kg (不含电池) |
| 控制器 | 62v-72v, 3000W/36管永磁同步控制器, 最大限流98A |
| 电机 | 62v-72v, 3000W永磁同步电机, 峰值功率约额定功率的2.5倍 |
| 前减震 | 43-530封闭外簧液压减震, 2.0轴孔 |
| 后减震 | 14/200弹簧 |
| 悬挂 | 12"520连杆+360阻尼 |
| 刹车 | 前鼓刹, 后油刹, 手刹机械刹车, |
| 收音机 | 支持蓝牙, usb, 输出功率45W |
| 音乐喇叭 | 低音喇叭(峰值功率30W, 高音喇叭15W |
| 鸣笛喇叭 | 12v1.5A |
| 倒车喇叭 | 1.2v1.5A.英文倒车喇叭 |
| 灯光 | 前大灯led, 配卤素灯, 转向灯led, 后尾灯led |
| 轮胎 | 前后400-12钢丝内外胎 |
| 设计时速 | 55km/h |
| 最佳空载时速 | 30km/h续航最佳 |
| 最佳重载时速 | 15-20km/h |
| 载重 | 500kg |
| 整车最大质量 | 852kg |
| 空载能量消耗 | 约0.1kw/1km |
| 重载能量消耗 | 约0.22kw/1km |

RADI Q2 车辆参数

| | |
|--------|--------------------------------------|
| 车长 | 3.55米*1.25米*1.72米 |
| 车重 | 310.5kg (不含电池) |
| 控制器 | 62v-72v, 3000W/36管永磁同步控制器, 最大限流98A |
| 电机 | 62v-72v, 3000W永磁同步电机, 峰值功率约额定功率的2.5倍 |
| 前减震 | 43-530封闭外簧液压减震, 2.0轴孔 |
| 后减震 | 14/200弹簧 |
| 后桥 | 220米-1.08米, 油刹中悬浮后桥, 固定速比1: 10 |
| 悬挂 | 12"520连杆+360阻尼 |
| 刹车 | 前鼓刹, 后油刹, 手刹机械刹车, |
| 收音机 | 支持蓝牙, usb, 输出功率45W |
| 音乐喇叭 | 低音喇叭(峰值功率30W, 高音喇叭15W |
| 鸣笛喇叭 | 12v1.5A |
| 倒车喇叭 | 1.2v1.5A.英文倒车喇叭 |
| 灯光 | 前大灯led, 配卤素灯, 转向灯led, 后尾灯led |
| 轮胎 | 前后400-12钢丝内外胎 |
| 设计时速 | 55km/h |
| 最佳空载时速 | 30km/h续航最佳 |
| 最佳重载时速 | 15-20km/h |
| 载重 | 500kg |
| 整车最大质量 | 852kg |
| 空载能量消耗 | 约0.1kw/1km |
| 重载能量消耗 | 约0.22kw/1km |

4. 使用说明

4.1 开机操作

1. 确保电池充满电。
2. 短按电源开关, 启动电动三轮车。
3. 检查显示屏上的电量、速度和其他信息, 确保正常工作。

4.2 行驶操作

1. 加速: 轻按加速把手, 逐渐增加速度。
2. 减速: 松开加速把手或轻踩刹车。
3. 转向: 使用把手调整方向, 保持车速平稳。

4.3 停车

1. 将车停在平整、稳固的地面上。
2. 使用手刹将车完全停稳, 防止溜车。
3. 拔出车钥匙, 关闭电源。

5. 保养说明

1、定期检查

电池:每月检查电池电量和状态,确保每月慢充充满一次。

轮胎:检查轮胎气压和磨损情况,保持适当气压。

刹车:检查刹车系统的磨损情况,确保刹车灵敏有效。

灯光系统:检查前灯、尾灯和刹车灯的工作状态。

2、清洁

使用干净的湿布擦拭车身,避免使用强酸或强碱性清洁剂。

3、润滑

使用干净的湿布擦拭车身,避免使用强酸或强碱性清洁剂。

6. 维修说明

1、常见问题及解决方法

无法启动:

检查电池电量是否充足。

确认电源开关已打开。

检查电缆连接是否牢固。

车速异常:

检查加速把手是否正常。

检查电动机是否有异常噪音或故障。

检查控制器是否有异味。

刹车不灵:

检查刹车系统的磨损情况。

调整刹车系统的松紧度。

油泵油量是否充足,是否漏油。

2、专业维修

对于无法自行解决的问题,请联系专业维修服务中心进行检修。

定期到指定服务点进行全面检查和维护保养。

7. 锂电池注意事项

7.1 充电

1. 充电电流

充电电流不得超过本规格书中规定的最大充电电流。使用高于本规格书推荐的电流充电可能引起电池的充放电性能、机械性能和安全性能的问题。

2. 充电电压

充电电压不得超过本规格书中规定的最大上限电压。使用高于本规格书推荐的电流充电可能引起电池的充放电性能、机械性能和安全性能的问题。

3. 充电温度

电池必须在 0°C~45°C 的环境温度范围进行充电,且充电电流不得超过表 3 的充电电流。

4. 禁止反向充电

正确连接电池的正负极,严禁反向充电。若电池正负极反接,将导致电池报废并产生安全隐患。

7.2 放电

1. 放电电流

放电电流不得超过本标准规定的最大放电电流,大电流放电会导致电池容量骤减并导致电池过热。

2. 放电温度

电池必须在 -30°C~45°C 的环境范围内进行放电,且放电电流不得超过表 4 的放电电流。

3. 禁止过放电

在电池正常使用过程中,应安装电池管理系统防止电池过放电的发生,若电池过放电,将导致电池报废产生安全隐患。需要注意的是,在电池长期未使用期间,它可能会由于自放电特性而处于自放电状态,为防止这种现象的发生,电池应定期充电,将电压维持在 3.2V 以上。

7.3 连接

1. 使用前应使用细砂纸对极柱进行打磨,否则可能会造成接触不良引起的功能失效。
2. 建议使用铜连接汇流排来连接电池。
3. 采用专用扳手等工具进行连接操作。

7.4 日常维护与检查

1. 定期检查电池状态:定期查看电池的外观是否有变形、鼓包、漏液等异常情况,以及检查电池的电压、容量等性能指标是否正常。如果发现异常,要及时进行更换或修复。
2. 注意电池的使用年限:一般来说,磷酸铁锂电池的使用寿命为数年,但具体使用年限会因使用方式、环境等因素而有所不同。如果电池使用时间较长,性能明显下降,应考虑更换新电池。

7.5 使用环境

1. 温度适宜: 锂电池放电温度为 $-20^{\circ}\text{C}\sim 60^{\circ}\text{C}$, 在这个温度范围内使用电池, 避免在极端温度下使用, 如在寒冷天气下, 电池容量可能会降低; 在高温环境中, 可能会影响电池性能甚至引发安全问题。
2. 保持干燥通风: 应在清洁、干燥、通风的环境中使用, 避免与腐蚀性物质接触, 远离火源及热源。不要将电池放置在潮湿的地方, 以免电池受潮损坏。
3. 避免金属接触: 不要将电池与金属物体混放, 以免金属物体触碰到电池正负极, 造成短路, 损害电池甚至造成危险。
4. 防止物理损坏: 不要敲击、针刺、踩踏、改装、日晒电池, 这些行为可能会破坏电池的内部结构, 导致电池性能下降或引发安全问题。
5. 携带电池禁止乘坐电梯。
6. 在行驶前检查电池电量, 避免电量过低。

7.6 存储

1. 控制电量水平: 如果长时间不使用电池, 建议充电至 40% 左右的电量水平后存放, 并每隔一段时间 (如 3 个月左右) 对电池进行一次充电, 以避免电池因自放电导致电量过低, 造成不可逆的容量损失。
2. 合适的存储环境: 将电池存放在干燥、阴凉的地方, 温度不宜过高 (低于 15°C 或更低为佳)。例如, 可将电池放在通风良好的室内柜子或抽屉里, 不要放在阳光直射或靠近热源的地方。

7.7 注意事项

不仔细阅读下列事项可能导致电池泄露、爆炸或起火。

警告!

- 严禁将电池浸入水中, 保存不用时, 应放置于阴凉干燥的环境中
- 禁止将电池在热高温源旁边, 如火、加热器等使用或留置
- 充电时必须选用锂离子电池专用充电器
- 使用过程中, 严禁将电池正负极颠倒
- 禁止将电池丢入火种或给电池加热
- 禁止用金属件直接连接电池正负极造成短路
- 禁止将电池与金属, 如发夹、项链、等一起运输或贮存
- 禁止敲击或抛掷、踩踏或弯折电池等
- 禁止直接焊接电池
- 禁止用钉子或其他利器刺穿电池

小心!

- 不要使用处于极热环境中的电池, 如阳光直射或者夏天汽车内部环境。否则, 电池过热中使用可能造成自然, 同时也会影响电池的性能, 降低循环使用寿命。
- 禁止在强静电或强磁场环境中使用电池, 否则易破坏电池安全保护装置, 带来不安全的隐患。
- 如果遭遇电池电解液泄露, 电解液沾到皮肤上, 应立即使用大量流动的清水清洗受影响部位, 否则可能会导致皮肤灼伤。
- 如电池出现异味、发热、变色、变形或者使用、贮存、充电过程中出现任何异常现象, 应停止对电池的使用。

7.8 电池参数

1. 方形铝壳磷酸铁锂电池

2. 电芯型号: IF P 27 175 200 A - 100Ah

IF: 电池的代表性正极材料是磷酸铁锂, P: 电池的代表形状是正方形

27: 代表电池的厚度和尺寸, 175: 代表电池的宽度尺寸

200: 代表电池的高度尺寸, A: 代表电池外壳由铝制成

100Ah: 代表电池的额定容量

3. 遵循标准

GB/T 31484-2015 电动汽车用动力蓄电池循环寿命要求及试验方法

GB/T 31485-2015 电动汽车用动力蓄电池安全要求及试验方法

GB/T 31486-2015 电动汽车用动力蓄电池电性能要求及试验方法

4. 工作温度

工作温度(充电) $0^{\circ}\text{C} \sim 45^{\circ}\text{C}$, 工作温度(放电) $-30^{\circ}\text{C} \sim 45^{\circ}\text{C}$

5. 高低电压范围

最高充电电压: $3.65\text{V} \times 20 = 73\text{V}$

最低放电电压: $2.0\text{V} \times 20 = 40\text{V}$ (温度 $> 0^{\circ}\text{C}$)

高低电压范围为: $40\text{V} - 73\text{V}$

6. 最大充电电流

标准充电电流: $0.5\text{C} \times$ 电池组容量(每个单体容量为100Ah, 则总容量为100Ah)

标准连续充电电流 = $0.5\text{C} \times$ 总容量 = $0.5\text{C} \times (100\text{Ah}) = 50\text{A}$

最大持续充电电流: 因为每个单体最大持续充电电流为1C, 所以:

最大持续充电电流 = $1\text{C} \times$ 总容量 = $1\text{C} \times (100\text{Ah}) = 100\text{A}$

7. 最大放电电流

标准放电电流 $0.5\text{C} = 0.5\text{C} \times$ 总容量 = $0.5\text{C} \times (100\text{Ah}) = 50\text{A}$

最大持续放电当前 = $4\text{C} \times$ 总容量 = $4\text{C} \times (100\text{Ah}) = 400\text{A}$

8. 通信方式

可以选择485或CAN, 具体取决于系统设计和需求。

推荐使用: CAN (控制器区域网络)

9. 电芯类型

根据提供的信息, 单体是锂离子(磷酸铁锂)类型。

10: 电芯外壳材料

电芯外壳材料: 铝合金

11. 电池排列方式

电池组由20个串联单元组成, 因此排列方式为: 串联

12. 电池组尺寸

长 \times 宽 \times 高: $360*341*245\text{ mm}$

13. 电池组外壳

不锈钢

8.安全注意事项

驾驶安全

驾驶时务必佩戴头盔及其他保护装备。

遵守当地交通规则，保持安全车速。

天气情况

在雨天或湿滑路面行驶时，减速慢行，注意保持车身稳定。

避免在冰雪天气或极端天气条件下使用电动三轮车。

载重限制

遵循厂家提供的最大承载重量，不超载使用电动三轮车。

9.常见问题解答

Q1:为什么电动三轮车启动不了?

A1: 检查电池电量是否充足, 是否有电路故障, 或者钥匙是否正确插入并转动至“ON”位置。

Q2:电池使用寿命多长?

A2: 正常使用情况下, 锂电池的使用寿命约为4000次充放电周期, 具体寿命取决于使用和维护情况。

Q3:如何延长电池寿命?

A3: 定期充电, 避免深度放电, 存放时保持适宜电量。

Q4:如何判断电池是否需要更换?

A4: 若电池充电后续航能力显著下降, 或者电池有明显的膨胀、漏液等现象, 应考虑更换电池。

Q5:电动三轮车适合什么样的天气使用?

A5: 电动三轮车适用于晴天和轻微雨天, 但应避免在大雨、冰雪天气或极端高温天气条件下使用。

1. Preface

Thank you for choosing PAIRA electric tricycle. This manual is designed to help you use and maintain your electric tricycle safely and efficiently. Please read carefully all the contents in the manual before use to ensure that you can fully understand the functions and operations of the electric tricycle.

2. Introduction to the functions of electric tricycles

2.1 Basic Functions

Electric Drive System: Adopts a high-efficiency electric motor drive to provide a smooth acceleration and a stable driving experience.

Brake System: The front wheel is equipped with a handbrake, and the rear wheel uses a hydraulic oil brake system to ensure driving safety while saving time and effort for braking.

Transmission System: Provides low, medium, and high gear adjustments, and you can choose different speed gears according to your driving needs.

Display System: Includes a battery meter, speedometer, and odometer to display the vehicle status in real-time.

Lighting System: The front headlights use high-brightness LED bulbs, which are energy-saving and have a good visual effect. The taillights and brake lights ensure driving safety.

Suspension System: The front and rear suspension systems use large-sized, high-elastic springs to improve the vehicle's load-carrying performance while ensuring riding comfort and reducing road bumps.

Storage Space: The dashboard is equipped with a storage box for convenient storage of small items such as mobile phones.

2.2 Additional Functions

Intelligent Anti-theft System: Increases security through an electronic lock and alarm system, and touching the vehicle body can trigger an alarm sound.

Multimedia System: A stereo multimedia player that integrates a radio, Bluetooth, USB for playing music, and a USB charging port: It can not only play high-quality music but also provide charging services for mobile phones and other devices.

3. Vehicle Parameter Description

RADI Q1 Vehicle Parameters

| | |
|------------------------------------|---|
| Vehicle length | 3.05 m * 1.25 m * 1.72 m |
| Vehicle weight | 284.6 kg (without battery) |
| Controller | 62v-72v, 3000W 36-tube permanent magnet synchronous controller, maximum current limiting 98A |
| Motor | 62v-72v, 3000W permanent magnet synchronous motor, peak power is 2.5 times the rated power |
| Front shock absorber | 43-530 sealed external spring hydraulic shock absorber, 2.0 shaft hole |
| Rear shock absorber | 14/200 spring |
| Suspension | 12*520 connecting rod + 360 damping |
| Brakes | Front drum brake, rear oil brake, mechanical hand brake |
| Radio | Supports Bluetooth, USB, output power 45W |
| Music speaker | Bass speaker peak power 30W, treble speaker 5W |
| Horn | 12v 1.5A |
| Reverse alarm | 1.2v 1.5A English reverse alarm |
| Lighting | Front LED headlight, equipped with halogen light, halogen turn signal light, rear LED taillight |
| Tires | Front and rear 400-12 steel wire inner and outer tires |
| Designed speed | 55 km/h |
| Best speed under no load | 30 km/h for best range |
| Best speed under full load | 15-20 km/h |
| Load capacity | 500 kg |
| Maximum vehicle weight | 852 kg |
| Energy consumption under no load | About 0.1 kW/1 km |
| Energy consumption under full load | About 0.22 kW/1 km |

RADI Q2 Vehicle Parameters

| | |
|----------------------------------|--|
| Vehicle length | 3.55 m * 1.25 m * 1.72 m |
| Vehicle weight | 310.5 kg (without battery) |
| Controller | 62v-72v, 3000W 36-tube permanent magnet synchronous controller, max current limiting 98A |
| Motor | 62v-72v, 3000W permanent magnet synchronous motor, peak power 2.5 times the rated power |
| Front shock absorber | 43-530 sealed outer spring hydraulic shock absorber, 2.0mm shaft hole |
| Rear shock absorber | 14/200 spring |
| Rear axle | 220mm-1.08m, oil brake mid-suspension rear axle, fixed speed ratio 1:10 |
| Suspension | 12*520 linkage + 360 damping suspension |
| Brakes | Front drum brake, rear oil brake, mechanical hand brake |
| Radio | Bluetooth and USB supported radio, output power 45W |
| Music speaker | Low-frequency speaker peak power 30W, high-frequency speaker 5W |
| Horn | 12v 1.5A horn |
| Reverse alarm | 1.2v 1.5A, English reversing alarm |
| Lighting | LED front headlight with halogen lamp, halogen turn signal lamp, LED rear taillight |
| Tires | Front and rear 400-12 steel wire inner and outer tires |
| Designed speed | 55km/h designed speed |
| Best speed under no load | 30km/h best speed under no load |
| Best speed under full load | 15-20km/h best speed under full load |
| Load capacity | 500kg load capacity |
| Maximum vehicle mass | 852kg maximum vehicle mass |
| Energy consumption under no load | Approximately 0.1kw/1km energy consumption under no load |
| Energy consumption under | Approximately 0.22kw/1km energy consumption under full load |

4. Instructions for use

4.1 Startup Operation

1. Ensure the battery is fully charged.
2. Press the power switch briefly to start the electric tricycle.
3. Check the battery level, speed, and other information on the display to ensure normal operation.

4.2 Driving Operation

1. Acceleration: Gently press the acceleration handle to gradually increase the speed.
2. Deceleration: Release the acceleration handle or lightly step on the brake.
3. Steering: Use the handle to adjust the direction and maintain a stable speed.

4.3 Parking

1. Park the vehicle on a flat and stable ground.
2. Use the handbrake to stop the vehicle completely to prevent it from rolling.
3. Remove the key and turn off the power.

5. Maintenance Instructions

1. Regular Inspection

Battery: Check the battery level and status monthly and ensure a full slow charge once a month.

Tires: Check the tire pressure and wear condition and maintain the appropriate pressure.

Brakes: Check the wear condition of the brake system to ensure sensitive and effective braking.

Lighting System: Check the working status of the front lights, taillights, and brake lights.

2. Cleaning

Use a clean damp cloth to wipe the vehicle body and avoid using strong acid or alkaline cleaners.

3. Lubrication

Check the headstock and rear wheel bearing components monthly and lubricate them with lubricating oil to keep them running smoothly.

6. Repair Instructions

1. Common Problems and Solutions

Unable to Start:

Check if the battery is fully charged.

Confirm that the power switch is turned on.

Check if the cable connections are secure.

Abnormal Speed:

Check if the acceleration handle is normal.

Check if the motor has abnormal noise or faults.

Check if the controller has an abnormal smell.

Ineffective Brakes:

Check the wear condition of the brake system.

Adjust the tightness of the brake system.

Check if the oil pump has sufficient oil and if there is any oil leakage.

2. Professional Repair

For problems that cannot be solved by yourself, please contact a professional repair service center for inspection and repair.

Regularly take the vehicle to the designated service point for a comprehensive inspection and maintenance.

7. Precautions for Lithium Batteries

7.1 Charging

1. Charging current

The charging current shall not exceed the maximum charging current specified in this specification. Charging with a higher current than recommended in this specification may cause problems with the battery's charging and discharging performance, mechanical performance and safety performance.

2. Charging Voltage

The charging voltage shall not exceed the maximum upper limit voltage specified in this specification. Charging with a higher current than recommended in this specification may cause problems with the battery's charging and discharging performance, mechanical performance and safety performance.

3. Charging temperature

The battery must be charged in the ambient temperature range of 0°C~45°C, and the charging current shall not exceed the charging current in Table 3.

4. Prohibit reverse charging

Connect the positive and negative terminals of the battery correctly, reverse charging is strictly prohibited. Reverse charging is strictly prohibited. Reversing the positive and negative terminals of the battery will cause the battery to be scrapped and pose a safety hazard.

7.2 Discharging

1. Discharge current

The discharge current shall not exceed the maximum discharge current specified in this standard, high current discharge will lead to a sudden decrease in battery capacity and overheating of the battery.

2. Discharge temperature

The battery must be discharged within the ambient range of -30°C~45°C, and the discharge current shall not exceed the discharge current in Table 4.

3. Prohibition of over-discharge

During the normal use of the battery, a battery management system should be installed to prevent over-discharge of the battery, if the battery is over-discharged, it will result in the battery being scrapped and create a safety hazard. It should be noted that the battery may be in a self-discharge state due to its self-discharge characteristics during a long period of non-use. In order to prevent this phenomenon, the battery should be recharged periodically to maintain the voltage above 3.2V.

7.3 Connection

1. The poles should be polished with fine sandpaper before use, otherwise it may cause malfunction due to poor contact.
2. It is recommended to use a copper connection busbar to connect the battery.
3. Use special spanners and other tools for connection operation.

7.4 Daily Maintenance and Inspection

1. Regularly check the status of the battery: Regularly check the appearance of the battery for any abnormalities such as deformation, bulging, leakage, etc., as well as checking whether the battery's voltage, capacity and other performance indicators are normal. If any abnormality is found, it should be replaced or repaired in time.
2. Pay attention to the service life of the battery: Generally speaking, the service life of lithium iron phosphate batteries is several years, but the specific service life will be different due to the way of use, environment and other factors. If the battery has been used for a long time and its performance has significantly decreased, it should be considered for replacement with a new battery.

7.5 Use environment

1. Suitable temperature: lithium battery discharge temperature is - 20 °C ~ 60 °C, use the battery in this temperature range, avoid using it in extreme temperature, such as in cold weather, the battery capacity may be reduced; in a high temperature environment, it may affect the battery performance or even cause safety problems.
2. Keep dry and ventilated: it should be used in a clean, dry and ventilated environment, avoid contact with corrosive substances, and keep away from fire and heat sources. Do not place the battery in a wet place to avoid moisture damage to the battery.
3. Avoid metal contact: Do not mix the battery with metal objects, so as to avoid metal objects touching the positive and negative terminals of the battery, resulting in a short circuit, damaging the battery or even causing danger.
4. Prevent physical damage: Don't knock, pinch, step on, modify or sunbathe the battery, these behaviours may damage the internal structure of the battery, leading to a decline in battery performance or cause safety problems.
5. Do not carry the battery in the lift.
6. Check the battery level before driving to avoid low battery level.

7.6 Storage

1. Control the charge level: If the battery is not used for a long time, it is recommended to charge the battery to about 40% of the charge level and then store it, and charge the battery every once in a while (e.g., about 3 months) to avoid the battery from self-discharge leading to too low a charge level, which will cause irreversible loss of capacity.
2. Suitable storage environment: Store the battery in a dry, cool place where the temperature is not too high (below 15 degrees or lower is preferred). For example, the battery can be placed in a well-ventilated indoor cabinet or drawer and not in direct sunlight or near a heat source.

7.7 Precautions

Failure to read the following precautions may result in battery leakage, explosion or fire.

Warning!

- Do not immerse the battery in water and keep it in a cool and dry environment when not in use.
- It is prohibited to use or leave the battery next to a source of heat, such as a fire or heater.
- Charging must use the special charger for lithium-ion batteries.
- During use, it is strictly prohibited to reverse the positive and negative poles of the battery.
- It is prohibited to throw the battery into a fire or heat the battery.
- Prohibit the use of metal parts directly connected to the positive and negative battery terminals to cause a short circuit.
- Do not transport or store the battery together with metal, such as hairpins, necklaces, etc.
- Do not knock or throw, step on or bend the battery.
- Do not solder the battery directly.
- Do not pierce the battery with nails or other sharp objects.

Caution!

- Do not use the battery in extremely hot environments such as direct sunlight or the interior of a car in summer. Otherwise, use of the battery in excessive heat may cause natural, but also affect the performance of the battery and reduce the cycle life.
- Prohibit the use of the battery in a strong static electricity or strong magnetic field environment, otherwise it is easy to destroy the battery safety protection device, bringing unsafe hidden danger.
- If you experience battery electrolyte leakage and the electrolyte gets on your skin, you should immediately use a large amount of flowing water to wash the affected area, otherwise it may lead to skin burns.
- If the battery has a strange smell, heat, discolouration, deformation or any abnormal phenomenon during use, storage or charging, the use of the battery should be stopped.

7.8 Battery parameters

1. Square aluminum shell lithium iron phosphate battery

2. Cell modl: IF P 27 175 200 A – 100Ah

IF: The representative positive electrode material of the battery is lithium iron phosphate

P: The representative shape of the battery is square

27: Representing the thickness and size of the battery

175: Representing the width dimension of the battery

200: Representing the height dimension of the battery

A: The representative battery housing is made of aluminum

100Ah :Representing the rated capacity of the battery

3. Compliance with standards

GB/T 31484-2015 Cycle Life Requirements and Test Methods for Power Batteries Used in Electric Vehicles

GB/T 31485-2015 Safety Requirements and Test Methods for Power Batteries for Electric Vehicles

GB/T 31486-2015 Requirements and Test Methods for Electrical Performance of Power Batteries for Electric Vehicles

4. Working temperature

Working temperature (charging) 0 °C~45 °C

Working temperature (discharge) -30 °C~45 °C

5.. High and Low Voltage Range

Maximum charging voltage: $3.65V \times 20 = 73V$

Minimum discharge voltage: $2.0V \times 20 = 40V$ (temperature > 0°C)

High and Low Voltage Range: 40V - 73V

6. Maximum Charging Current

Standard charging current: $0.5C \times$ battery pack capacity (100Ah per cell, 100Ah total capacity)

Standard continuous charging current= $0.5C \times$ total capacity= $0.5C \times$ (100Ah)=50A

Maximum continuous charging current: Because the maximum continuous charging current of each unit is 1C, so:

Maximum continuous charging current= $1C \times$ total capacity= $1C \times$ (100Ah)=100A

7. Maximum Discharging Current

Standard discharge current $0.5C = 0.5C \times$ total capacity = $0.5C \times$ (100Ah) = 50A

Standard discharge current $0.5C = 0.5C \times$ total capacity = $0.5C \times$ (100Ah)=50A

Maximum continuous discharge current = $4C \times$ total capacity = $4C \times$ (100Ah) = 400A

Maximum continuous discharge current= $4C \times$ total capacity= $4C \times$ (100Ah)=400A

8. Communication Mode

Either 485 or CAN can be selected, depending on the system design and requirements.

Recommended: CAN (Controller Area Network)

9. Cell Type

According to the information provided, the monomer is of the lithium ion (Lithium Iron Phosphate) type.

10: Cell shell material

Cell shell material: Aluminum alloy

11. Cell Arrangement

The battery pack consists of 20 series-connected cells and is therefore arranged as follows: Series

12. Battery Pack Size

Length x Width x Height: 360 * 341 * 245 mm

13. Battery Pack Case and Coating Material Type

stainless steel

8.Safety Precautions

Driving Safety:

Always wear a helmet and other protective equipment when driving.
Comply with local traffic rules and maintain a safe speed.

Weather Conditions:

When driving on rainy or slippery roads, slow down and pay attention to maintaining the stability of the vehicle body.
Avoid using the electric tricycle in snowy, icy, or extreme weather conditions.

Load Limit:

Follow the maximum load capacity provided by the manufacturer and do not overload the electric tricycle.

9.FAQs

Q1: Why can't the electric tricycle start?

A1: Check if the battery is fully charged, if there is a circuit fault, or if the key is inserted correctly and turned to the "ON" position.

Q2: How long is the service life of the battery?

A2: Under normal use, the service life of the lithium battery is about 4000 charge-discharge cycles, and the specific life depends on the usage and maintenance situation.

Q3: How to extend the battery life?

A3: Charge regularly, avoid deep discharge, and maintain an appropriate battery level during storage.

Q4: How to determine if the battery needs to be replaced?

A4: If the battery's endurance significantly decreases after charging or if the battery has obvious signs of expansion, leakage, etc., the battery should be considered for replacement.

Q5: What kind of weather is the electric tricycle suitable for?

A5: The electric tricycle is suitable for sunny and slightly rainy days, but it should be avoided in heavy rain, snowy, icy, or extreme high-temperature weather conditions.