



E-BIKE CONVERSION KIT

User Manual [Version 4.0 JULY 2023]



Introduction

Congratulations on purchasing an Electric Bike Conversion Kit. We hope you enjoy years of satisfactory and safe riding.

Read This Manual Carefully Before Use – Failure To Do So May Result In Injury, Property Damage And May Void Warranty.

This manual is provided to help you to get the best performance, comfort, enjoyment and safety from your riding. The manual describes specific care and maintenance procedures that help protect your warranty and ensure trouble-free use. Please pay attention to the section on battery charging and maintenance. Products covered by this manual may vary in appearance, assembly, inclusions, specifications, description and packaging.

Read the manual before assembling and riding.

Note that the manual is not intended to be an extensive reference source for servicing, maintenance, and/or repairs. For additional assistance, contact an authorized TDRMOTO service center.

In the interests of your safety and the safety of others, it is highly recommended to have your bicycle assembled and serviced/adjusted by a skilled electric bike mechanic.

Warning!

Each state and territory in Australia have different rules and regulations, please obey any local laws or regulations which may affect locations where the product may be used.

SAFETY

- Riding can be a hazardous activity. Certain conditions may cause the equipment to fail without fault of the manufacturer. The product can and is intended to move, and it is therefore possible to lose control, fall off and/or get into dangerous situations that no amount of care, instruction or expertise can eliminate. If such things occur, you can be seriously injured or die, even when using safety equipment and other precautions. Ride at your own risk and use common sense. Failure to use common-sense and heed all before riding on the road, take time riding in an enclosed area to familiarise yourself with the controls and behaviors of an electrically assisted bicycle. Try all settings so you are familiar with the results.
- Before every ride, check bicycle condition and ensure that no fasteners are loose, particularly axles, pedals, seat and handlebars. Ensure that the tires are inflated to within specification (printed on the tyre sidewall), and that the brakes are operating correctly.
- Before each ride, check to ensure the frame latch, frame latch safety hook, handle post latch and handle post safety hook are all properly secured. When secured, the frame and handle post will be completely rigid.
- This product is manufactured for performance and durability but is not impervious to damage. Stunts or other aggressive riding can over-stress and damage the product, and the rider assumes all risks associated with how the product is looked after.
- Keep fingers and other body parts away from moving components.
- Always wear suitable protective equipment, such as an approved safety helmet (with chin strap securely buckled). A helmet may be legally required by local law or regulation in your area. Wear suitable footwear for bicycle riding and clothing that helps make you visible to others.
- Any information provided by TDRMOTO is general in nature only and may not take account of your specific circumstances. It is the responsibility of each user to check their local laws before riding.

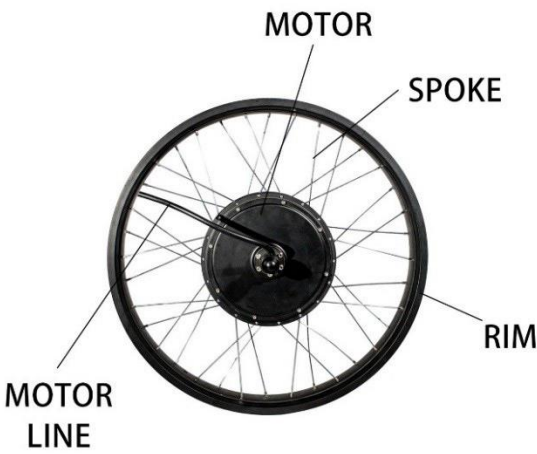
Battery and Charging

- Never modify the electrical system. Alterations could cause a fire resulting in serious injury and could also damage the electrical system.
- Charge with the supplied or recommended charger only. Use of the wrong charger could cause a fire or explosion resulting in serious injury.
- Ensure the voltage and frequency of the charger is compatible with mains electrical supply.
- Use the battery charger in dry locations only.
- Regularly check the charger for damage to the electrical cord, plug, enclosure and other parts. If any damage or malfunction occurs, do NOT use the charger until repaired or replaced.
- Use caution when charging.
- Do not operate the charger or charge batteries near flammable materials.
- Do not clean or perform any maintenance on the product when it is being charged.

ITEM CHECK LIST

1. Motor Rim

FRONT/REAR 1000W/1500W RIM MOTOR

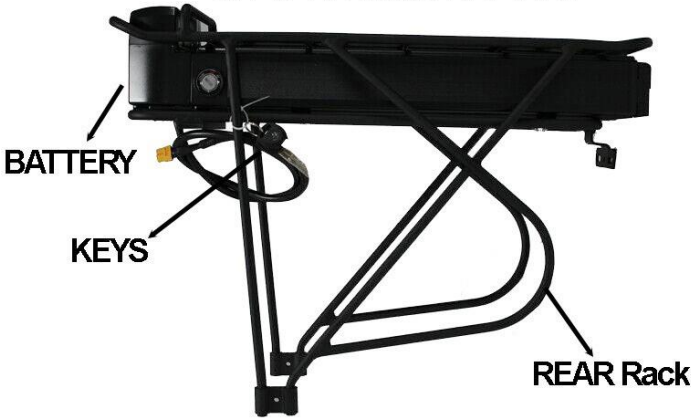


FRONT/REAR 250W/350W/500W/750W RIM MOTOR

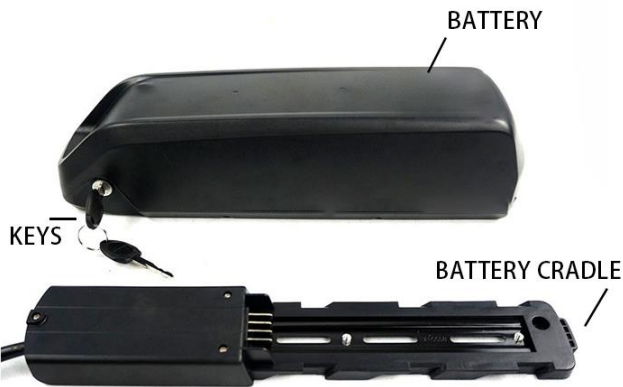


2. Battery & Charger

48V REAR RACK BATTERY



36V DOWNTUBE BATTERY



3. Throttle, Brake Levers, LCD Display & Controller

OR



THUMB THROTTLE



TWIST THROTTLE



BRAKE LEVERS SET

OR



Page 18-21



Page 22-27

LCD DISPLAY PANEL

Warning: incorrect setting can cause damage



CONTROLLER

4. PAS (Pedal Assisted System/Sensor) & Motor Cable

OR



PAS



1 TO 4 CABLE
SOME MOTOR LINES ARE NOT REMOVEABLE
AND CONNECTED TO CONTROLLER

INSTALL OVERVIEW



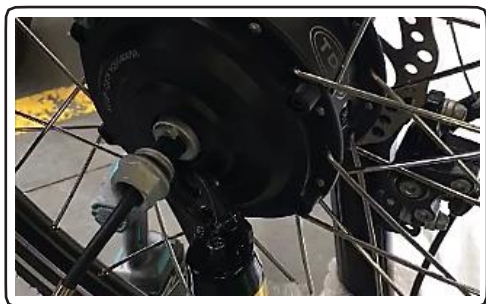
1. Remove Contents

Take your components out of the box. Remove the protective packaging. Keep track of all the parts that you remove from the box. – Remove the battery and put it on charge.



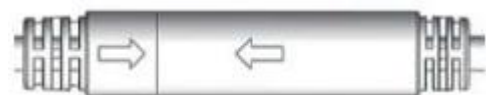
2. Prepare your bike

Make sure you have measured your dropout slots and the clearance between your dropouts (approx. 98mm–102mm for front forks and 133mm–137mm for rear). Remove your current wheel, remove the tyre, tube, rim tape and your handlebar grips, shifters.



3 Installation

Once you have your bike ready for installation, the first step (after transferring your rim take, tube and tyre) is to install the wheel and secure the axle nuts. Take note of the order of the washers so that you can replicate this when installing onto the forks. Then move on to the battery cradle or rear rack mount and handlebar controls.

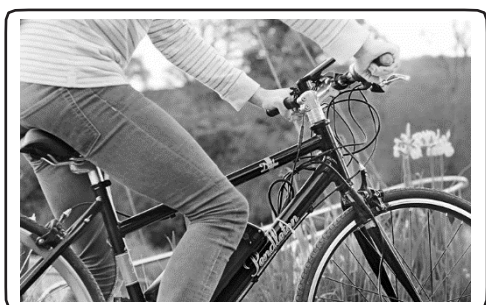


Always make sure the two arrows are facing each other when Connection cables. Incorrect connection leads to Error 3.



4 TidyUp

After you have installed all the components needed to control each part of the kit, it's now time to tidy up the wiring harness and make your conversion look nice and neat.

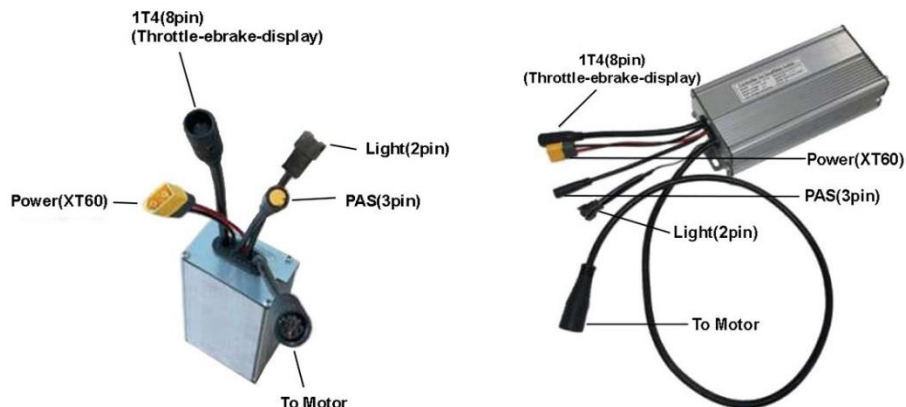


5 Ride!

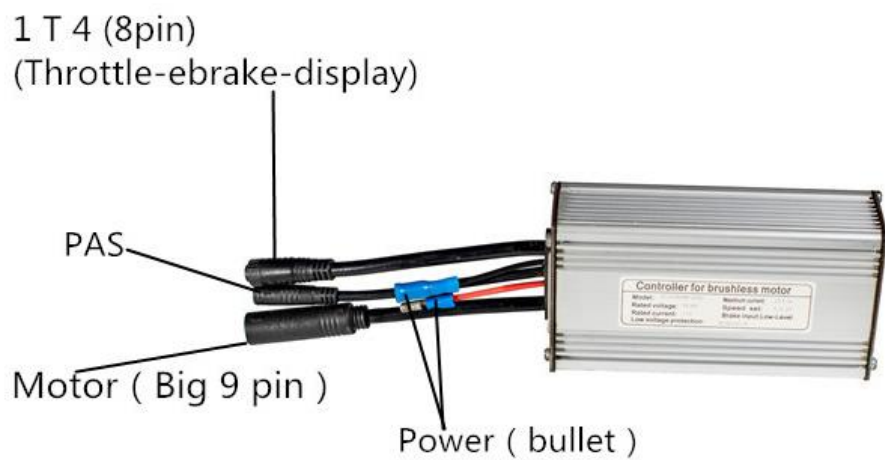
Once the battery is fully charged, lock it into its cradle, turn it on and you're now ready to go!

INSTALLATION PROCESS

Controller cable Introduction



Type A



Type B

Tools Require (Not Included)



Preparation

Before beginning your conversion, there are a couple things you can do that will make the installation more efficient. Remove your handlebar controls such as your brakes, shifters and grips. Remove your wheel and install your existing tube, tyre and rim tap (recommended) onto the new electric wheel.

The first step in any conversion is installing the wheel. The easiest way to take off your wheel is to turn your bike upside down so that your bike rests on the handlebars, and the seat. Your seat height may need to be adjusted to ensure the bike will be stable, when upside down.

Take off your disk brake caliper from or release your V-brakes. For disk brake users, it's much easier to fit the motor wheel with the caliper removed.



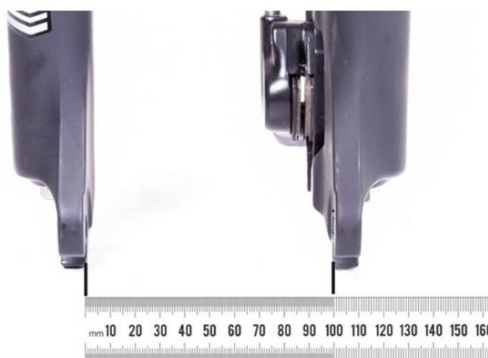
We have designed our kits to fit as broad a range of bikes as possible, and by checking a couple of measurements, you can be positive of a good fit.

Axle slot width are usually standard with the majority of bikes coming with a 10mm width. This is where the motor axle will fit in; if your bike measures up at approximately 10mm then you are ok for this measurement.

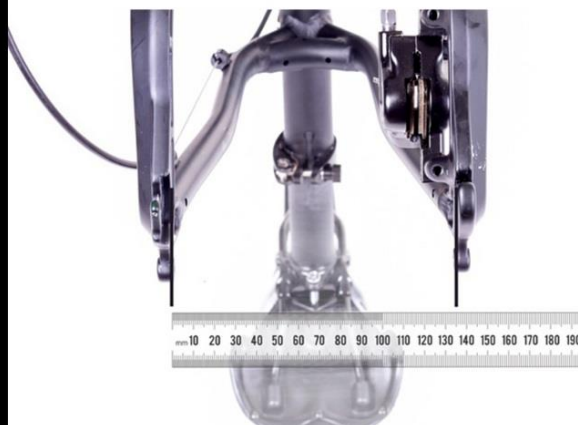
Dropout width requirement will differ based on whether you opt for a front or rear motor. For a front motor, the width of the dropout should be 98mm - 102mm. For a rear motor, you will need 133mm - 137MM width between dropouts.



For a front motor, the width of the dropout should be 98mm - 102mm



For a rear motor, you will need 133mm - 137MM width between dropouts.



Remove the original wheel. Assemble inner tube & tire on motor wheel and pump up.



For Disk Brake User

The disk brake rotor can be installed onto the side of the motor hub just like a regular hub. You will need to use the existing bolts that are already installed into the side of the hub. Simply loosen them, install your disk rotor and then tighten the bolts as shown. If you overtightened these bolts, you may risk stripping the hub which is not covered by warranty.

The only other thing that you may need to trial is the use of the white plastic disk brake spacer that each hub comes with. This is rarely needed as your rotor should line up to your caliper quite closely, however it's sometimes needed to achieve the required offset. There will usually be sufficient adjustment in your caliper to line the rotor up correctly.



Caution:

Remove the black plate when installing a disc brake but leave it on or v-brake.

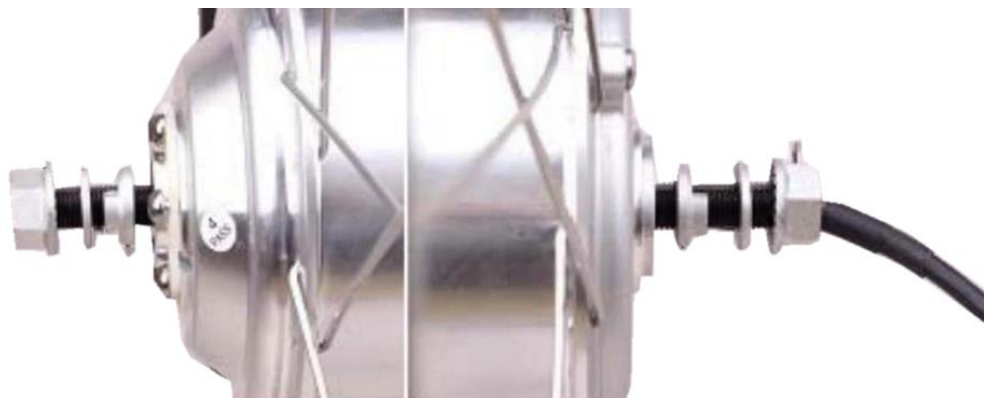
Front Hub Motor Installation

You will need to loosen the axle nuts on your new electric wheel. This will allow the axle to slot into your dropouts. The distance between your dropouts should be around approx. 98mm - 102mm. Your forks will stretch in and out a certain amount without causing any structural issues. The dropout axle slots should be approx. 10mm however you may need to file off a thin layer of paint for the axle to slot in all the way. The axles are designed to be a very tight fit, so don't stress if you need to remove a small amount of material, this is normal.

The cable that exists in the hub should sit on the right side of your bike (when sitting on your bike). Otherwise, you're going to go backward!

With your bike upside down, your wheel should be pushed all the way down into the dropouts to make sure it's a nice and tight fit.

One torque washer should be fitted against the hub, on the side of the forks (on each side) and then one flat washer on the outside. Adjustment and additional washers may need.



Caution!

Depending on the type of your bike the lug of the torque washer may face up or down.

It is important to ensure the lug is facing the correct direction and it does not spin with axle when riding.

With these in place you can then tighten the axle nuts using a spanner or adjustable wrench. Make sure you have the right size as to protect the nuts from being stripped. Tighten to approx. 30-40Nm (250 - 350 in lbs). Adjust the disc brake caliper (if applicable) to a suitable location and tighten the bolts, then place the rubber cap.



Rear Hub Motor Installation

You will need loosen the axle nuts on your new electric wheel. This will allow the axle to slot into your dropouts.

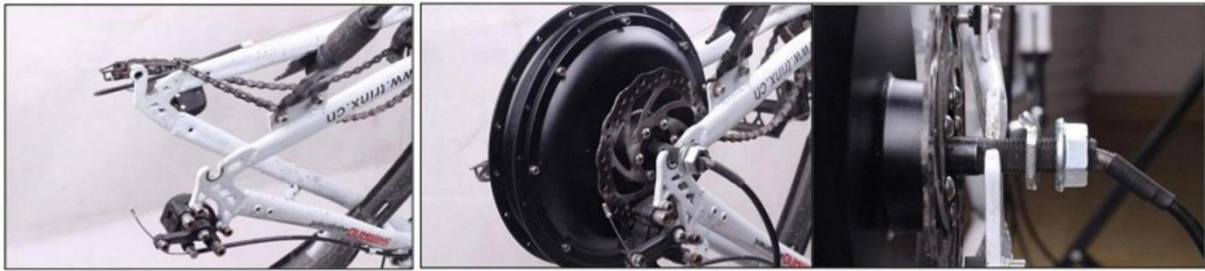
Install the brake disc (if applicable) and freewheel on the motor, when tightening the screws on the disc, tighten them diagonally. The motor rim requests a thread-on type freewheel cassette which not included. You can use your original one if your original is thread-on type.

The distance between your dropouts should be around approx. 135mm - 142MM. Your frame will stretch in and out a certain amount without causing any structural issues. The dropout axle slots should be approx. 10mm however you may need to file off a thin layer of paint for the axle to slot in all the way.

The axles are designed to be a very tight fit, so don't stress if you need to remove a small amount of material, this is normal.

The cable that exists in the rear hub may sit on the left side or right side depending on the type of motor you have. **However, please take the freewheel cassette side as the guide and the freewheel cassette side should sit on the right side of your bike (when sitting on your bike).**





Caution!

Depending on the type of your bike the lug of the torque washer may face up or down.

It is important to ensure the lug is facing the correct direction and it does not spin with axle when riding.

Downtube / Battery Cradle Installation

The battery installation starts with mounting the battery cradle. This is what your battery will attach to and it's also where the controller is housed.

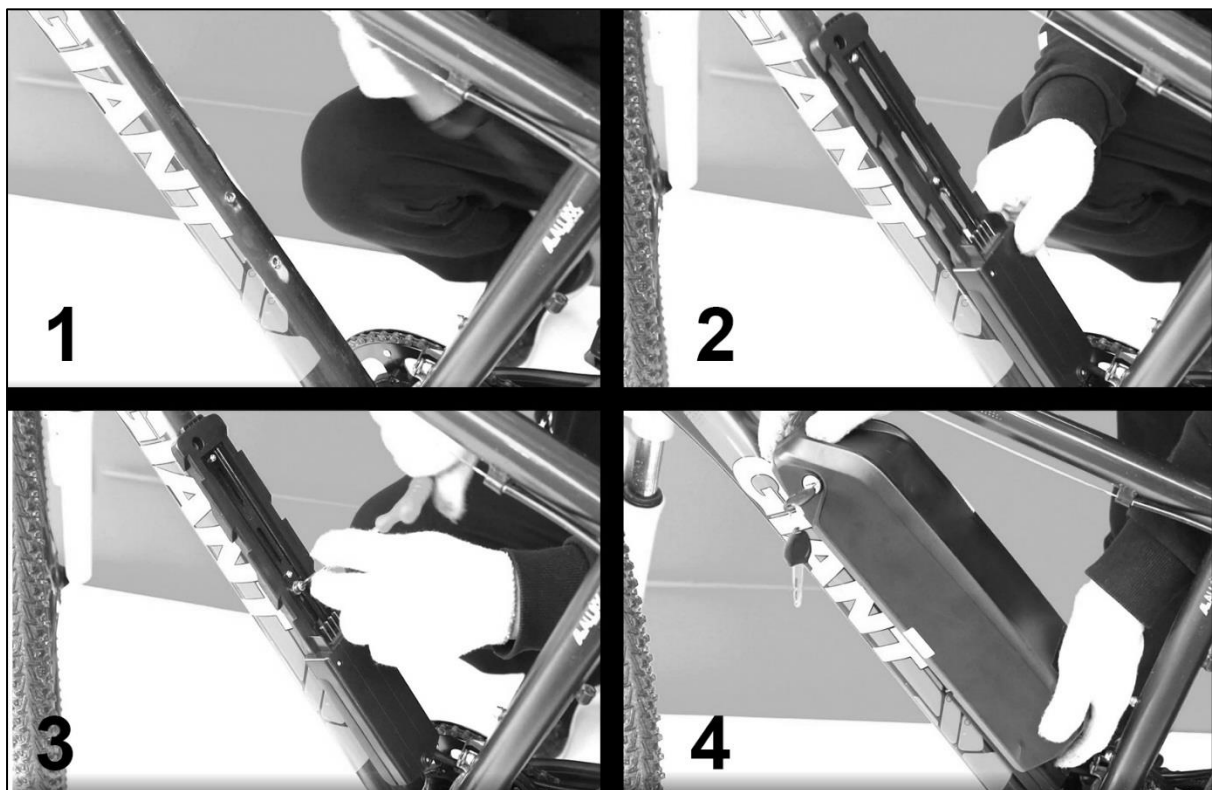
The most common way to install the battery is by using the drink bottle holder mounts on your frame. Simply remove your drink bottle holder, (if you have one) and you're ready to install the battery cradle.

You will be able to tell where your cradle will fit best by simply holding the cradle up against your frame. You will have a few different height options however keep in mind you need room above the cradle to maneuver the battery in and out. You can secure the cradle by using your existing bolts/screws and tighten as shown.

Be careful not to over tighten your bolts/screws as drink bottle mounts and threads are only 'nutserts'. If installed correctly the battery and cradle should feel very secure and not bounce over bumps.

If drink bottle mounts aren't an option, you can drill through holes in your frame and use high tensile steel bolts and lock nuts to attach the cradle. If done correctly, this is a very solid but you need to get some fasteners from local bolt shop.

Please note that the cradle should always be secure and tight to avoid any vibrations or movement of the battery.



Rear Battery Carrier Rack Installation

The rear rack with a custom-built aluminum slide that interfaces with the battery case and allows you to securely lock the battery into place. In some instances, it also looks best to mount the controller on the stem of the rear rack.

Unfasten the rear rack seat post cam latch almost all the way, so that you can unlatch the seat post and place it over the seat post. Clamp in back into position and tighten the latch all the way by screwing it and then tightened the cam latch. This should be very tight.

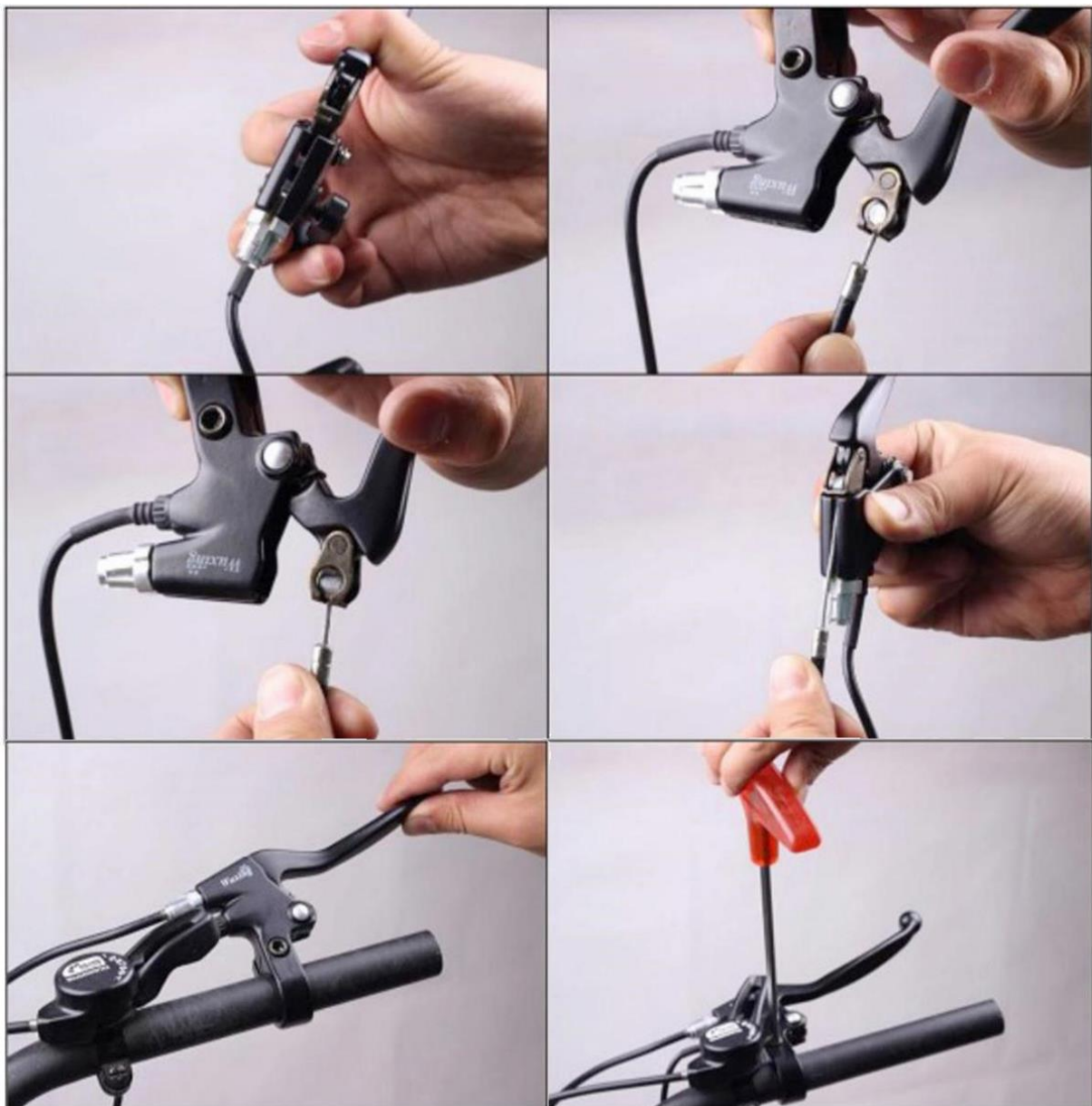


E-Brake Levers Installation

This kit comes standard with e-brake handles. The use of these isn't compulsory, but it's suggested as an added safety. When you pull the lever, it will automatically cut the power to the motor.

Start by sliding them onto your handlebars. Once in position you can tighten the handles using the bolt (under each lever). The e-brake handles accept your normal cable brakes, which fasten inside the lever section in the same way as most other cable brake levers. Pull tight the brake lever all the way and you will see the same mechanism that relinquished the end of your brake cable when you removed it from your existing levers.

Please note that E-brake sensors (not included) are required for the bike with combined shifters and brakes or hydraulic brakes. E-brake sensors purchasing are available from TDRMOTO.



Throttle Installation

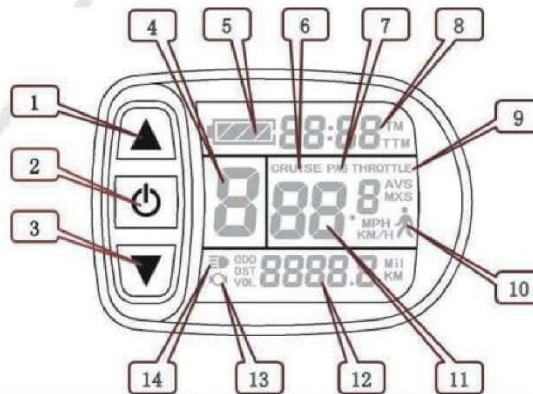
Start by sliding the twist grip throttle onto your handlebars, (usually the right side). Move the throttle so it butts up against the brake lever and tightens in place.

Once you have the throttle secured, make sure the cable is not fouling the brake lever, otherwise re-adjust. Slide both grips handle onto the handlebars.



STANDARD LCD USER MANUAL

Functions and Display



1		UP button	11	Km/H	Riding speed(metric)
2		SW button		MPH	Riding speed (imperial)
3		DOWN button		MXS	MAX speed
4	ASSIST	Pas level		AVS	Average speed
5		Battery capacity indicator	12	Km	Distance(metric)
6	CRUISE	Cruise function		Mil	Distance (imperial)
7	PAS	Power-assisted function		DST	Trip distance
8	TM	Single trip time		ODO	Total distance
	TTM	Total trip time		VOL	Battery voltage
9	THROTTLE	Throttle display	13		The brake display
10		6Km/H push power assist	14		Backlight and headlights

Operation

1. ON/OFF

Hold button long to turn on the power, and hold button long for a second time to turn off the power. When the motor stops driving and when the e-bike is not used for a consecutive 5 minutes, it will automatically shut down and turn off the motor power supply.



2. Display 1



Hold button to start up and enter display 1.



2.1 Turn on backlight and headlights



Hold  button long to turn on backlight and headlights (the controller should have headlight drive output function); hold  button long again to turn off the backlight and headlights.

2.2 Assist ratio gear (ASSIST) switch



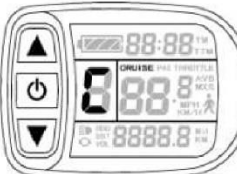
Hold  or  shortly to switch 1-5 file gear. Gear 1 is for the minimum power, gear 5 is for the highest power. Each startup will automatically restore the gear shutdown last time(the user can set randomly). Gear 0 is without booster function.


2.3 THROTTLE display



Turn on throttle, THROTTLE display.

2.4 Cruise function



After the cruise function is turned on, the trip riding speed is greater than 7 km/ h, hold  button long and enter cruise, the CRUISE lit. Brake or hold any button to cancel.

2.5 Display and delete of single Data

2.7 Display and delete of single Data



After power on for 5 seconds, hold ▲ and ▼ at the same time, single trip riding time (TM) and single trip distance (DST) flash, hold ⏻ button shortly, the content of both is cleared. If failed holding the button within 5 seconds, it will automatically return the display interface after 5 seconds, original content is preserved.

3. Display 2



Hold ⏻ button shortly in display 1 to enter display 2. In the riding mode after 5 seconds, display 2 automatically returns to display 1.

4. Display 3



Hold ⏻ button shortly in display 2 to enter display 3. In the riding condition, five seconds later, a single maximum speed (MXS) display automatically returns to the real riding speed (KM/H).

5. In display 3, hold ⏻ button shortly (SW), and the display will re-enter display 1.

6. Hold ⏻ button to turn off the display and the power supply of controller.

7. Automatically prompt interface

7.1 Error Code Display



Error Code	Definition
01__info	Throttle Abnormality
03__info	Motor hall signal Abnormality
06__info	Motor or controller has short circuit Abnormality

Electronic control system failure will display (flashing) fault code. Once the fault was removed, it automatically exits from the fault code display interface.

General Project Setting

1. Set maximum riding speed



After power on for 5 seconds, hold ▲ and ▼ at the same time, maximum riding speed KM/H and MXS flash, hold ▲ or ▼ shortly to set the maximum riding speed (default 25KM/H). Hold ⏻ button shortly and Hold go to the next parameter settings.

DO NOT SET ABOVE LOCAL SPEED LIMIT FOR THIS DEVICE.

2. Wheel diameter setting



The wheel diameter will be set after finishing setting the maximum riding speed, wheel diameter specifications flashes. Hold or shortly to set the specifications of wheel diameter. Select the range 6,8,10,12,14,16,18,20,22, 24,26,700c and 28 inches. Hold shortly and go to the next parameter settings. **FIREFLY WHEEL IS SET FOR 12" WHEEL DIAMETER.**

3. Set the metric units



The metric units will be set after finishing setting wheel diameter, KM/H and Km flash. Hold or button shortly and select metric units of speed and mileage in synchronization.

Display	Metric	Imperial
Riding speed	KM/H	MPH
Total distance	Km	Mil

4. KM/H and Km stop flash after metric unit setting is completed. Hold button shortly again to re-enter the maximum riding speed setting interface; or hold button long to exit from setting environment of routine projects and save the setting values, returning to display 1.

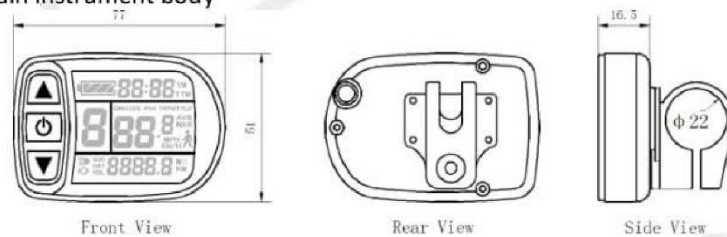
5. Exit from routine project setting

All three routine project settings can exit from the setting environment and return to the display if hold button long after each setting is completed, meanwhile the setting values are saved.

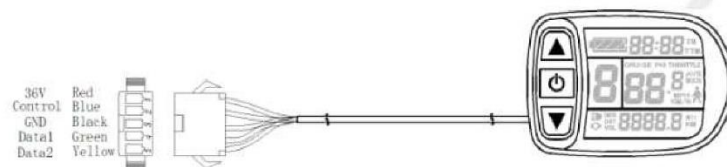
Under each setting interface, if the button failed holding for more than 1 minute, it will automatically return to display 1, and the setting value is invalid.

Outline Drawings and Dimensions

1. Dimensions of main instrument body



2. Wiring diagram



3. Default password: 000

UPGRADED COLOURED LCD DISPLAY USER MANUL

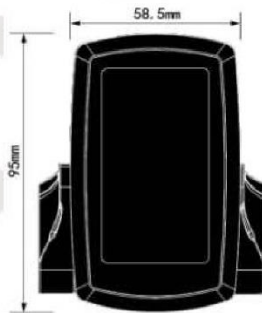


Fig 3-3 Front view dimension



Fig 3-4 Side view dimension

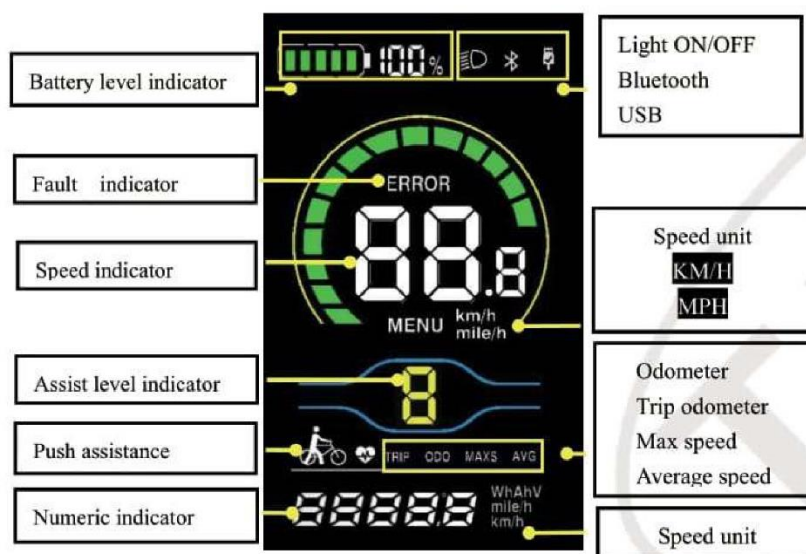
1. Functional overview and Functional area layout

4.1 Function overview






The YL80C-C display offers a variety of functions to suit your riding needs, including:

- Battery level indicator
- Motor power indication
- Pedal assist(PAS) level indicator
- Speed display (current speed, maximum speed, average speed)
- Mileage display (single mileage and total mileage)
- Push assistance control and indication
- Light ON/OFF
- Error code display
- USB connection indicator (optional)
- Heart rate indicator (optional)
- Bluetooth connection indicator (optional)
- Personalized parameter settings (e.g wheel diameter, speed limit, battery power setting and PAS parameter setting, password setting, controller current limiting setting, etc.)
- Factory default parameter recovery function

4.2 Functional areas





4.3 Button definitions

There are five buttons on the operating unit of display YL80C, i.e., the on/off button , plus button , minus button , headlight button  and switching button .


2. General operation

5.1 Power on/off

By pressing and holding the button , the display will start to work and the working power supply of the controller will be turned on. In the power-on state, by pressing the button , your e-bike will be powered off. In the power-off state, the display will no longer use the battery power, and its leakage current will be less than 1 uA.

1 If your e-bike is not used for more than 10 minutes, the display will be automatically powered off.

5.2 Display interface

After the display is turned on, the display will show the real-time speed (km/h) and the trip distance (km) by default. By pressing the button , the information displayed will be switched between the trip distance (km), ODO (km), maximum speed (km/h), average speed (km/h) and riding power.

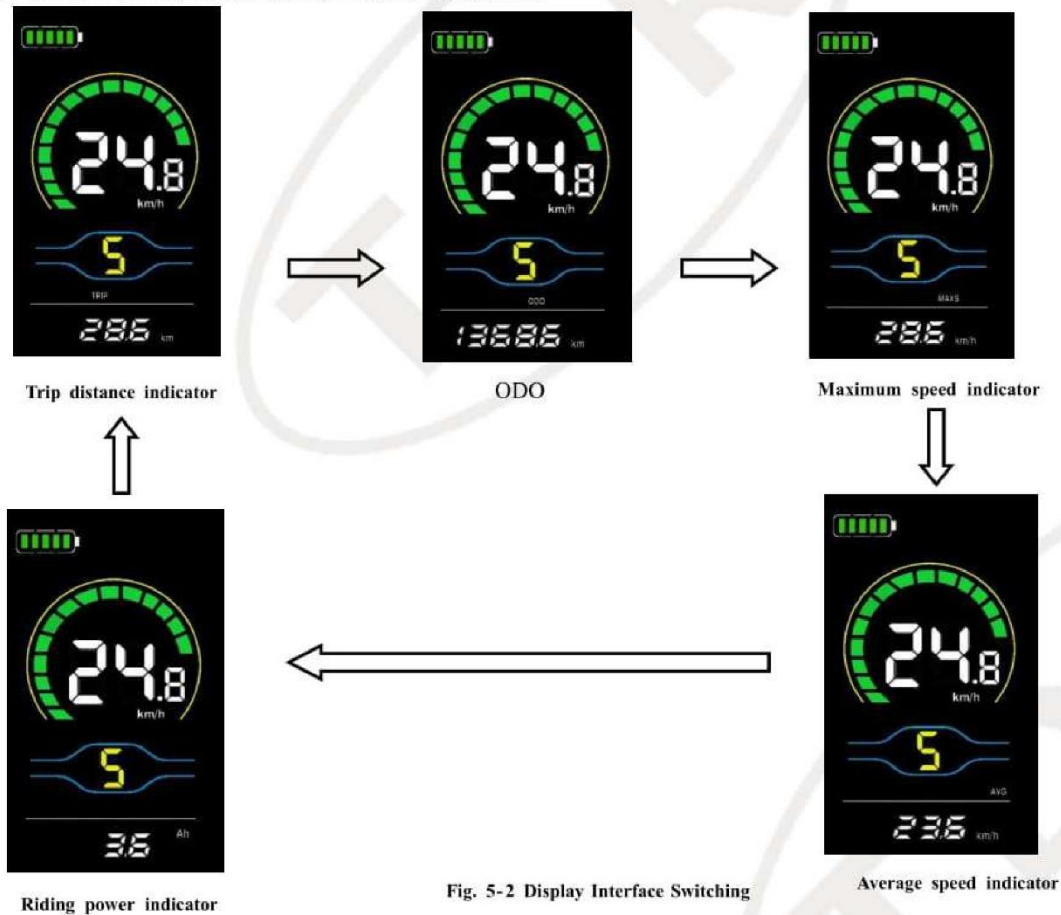







Fig. 5-2 Display Interface Switching

5.3 Push assistance



By pressing and holding the button , the electric push assistance mode will be enabled. Your e-bike will run at the constant speed of 6km/h. The display will show . By releasing the button , your e-bike will immediately stop power output and return to the state before push assistance.

■ The push assistance function can only be used when you are pushing your e-bike. Please do not use it during riding.

5.4 Headlight on/off

By pressing the button , the controller will turn on the headlights and the display backlight will turn dark; by pressing the button  again, the controller will turn off the headlights and the display backlight will resumes the luminance.

5.5 Assist level selection

By pressing the button /, the e-bike assist level will be switched to change the motor output power.

5.6 Battery Display

The battery level indicator consists of five segments. When the battery is fully charged, the five segments will be all on. In case of undervoltage, the outline of the battery indicator will flash, which means the battery has to be charged immediately.

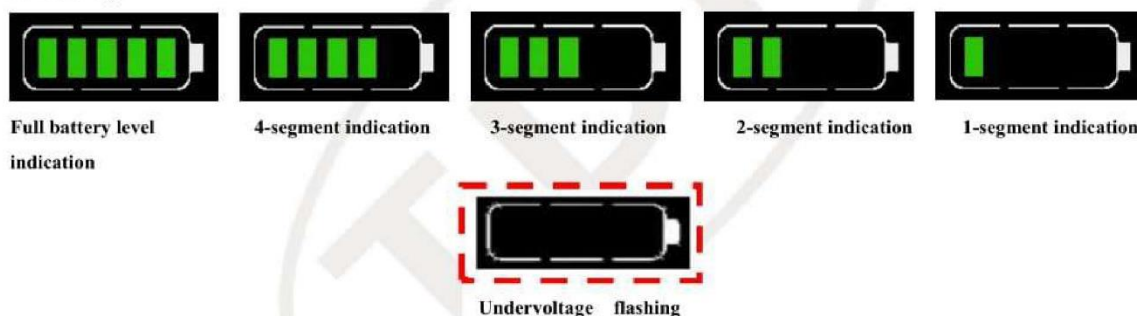


Fig. 5-6 Battery Level Indicator Interface

5.7 Motor power indication

The output power of the motor can be known through the meter. The display method is as shown in the figure below.



5.8 Error code display

When the electric control system of the electric vehicle fails, the instrument will automatically display the error code. For the definition of the detailed error code, please refer to **Appendix 1**.

■ When the error code appears on the display, please troubleshoot the problem in time, the electric bicycle will not be able to drive normally after the problem occurs.

3. General setting

■ Each setting needs to be done with the bicycle stationary.

The personalized parameter setting procedure is as follows:

When the display is ON and the speed shows 0,

- (1) Press and hold **+** **-** simultaneously for more than 2 seconds to enter the personalized parameter setting interface.
- (2) Press **+** / **-** to toggle between the personalized parameter setting interface, and press **i** to enter the parameter changing state.
- (3) Press **+** / **-** to select the parameter, long press **+** for addition operation, long press **-** for subtraction operation.
- (4) Press **i** to save the parameter settings and return to the personalized parameter setting interface.
- (5) Long Press **i** to save the parameter settings and exit the personalized parameter setting interface.

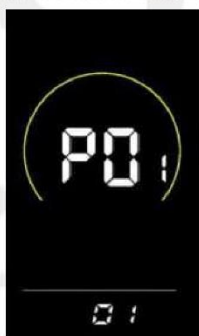
The following options are available on the personalized parameter setting interface:

6.1 Backlight luminance setting

P01 is the backlight brightness setting option, parameters 01, 02, 03 can be set to indicate the backlight brightness, 01 is the darkest, 02 is the standard brightness, and 03 is the brightest.

Press the button **i** to enter the parameter modification interface. Press the button **+** / **-** for parameter selection.

Press the button **i** to save the parameter and return to the selection interface of general setting options.



6.2 Metric/imperial system setting

P02 refers to the metric/imperial system setting option. 00 represents the metric system, and 01 represents the imperial system.

Press the button **i** to enter the parameter modification interface. Press the button **+** / **-** for parameter selection. Press the button **i** to save the parameter and return to the selection interface of general setting options.

6.3 Rated voltage setting

P03 refers to the rated voltage setting option. Available values include: 36V and 48V.

Press the button **i** to enter the parameter modification interface. Press the button **+** / **-** for parameter selection. Press the button **i** to save the parameter and return to the selection interface of general setting options.

6.4 Cruise function setting

P04 refers to the cruise function setting option. 00 represents off, and 01 represents on.

Press the button **i** to enter the parameter modification interface. Press the button **+** / **-** for parameter selection. Press the button **i** to save the parameter and return to the selection interface of general setting options.

6.5 PAS level setting

P05 is the Pedal assist (PAS) level setting. The available Pedal assist level settings are: 0~3, 1~3, 0~5, 1~5.

Press the button **i** to enter the parameter modification interface. Press the button **+** / **-** for parameter selection. Press the button **i** to save the parameter and return to the selection interface of general setting options.

6.6 Wheel diameter setting

P06 is the wheel diameter setting. The adjustable wheel diameter range is: 1~50inch.

Press **i** , to enter the parameter changing state. Press the **+** / **-** to select the parameter and press **i** to save the parameter setting and return to the personalized parameter setting interface

6.7 Number of speed sensor magnets setting

P07 is the speed sensor magnet number setting. The adjustable speed sensor magnet number range is: 1 ~ 100 pcs.

Press **i** to enter the parameter changing state. Press the **+** / **-** to select the parameter and press **i** to save the parameter setting and return to the personalized parameter setting interface

6.8 Speed Limit Setting

P08 is the speed limit setting. The adjustable speed limit range is: 1~100km/h.

Press **i** to enter the parameter changing state. Press the **+** / **-** to select the parameter and press to save the parameter setting and return to the personalized parameter setting interface.

6.9 Start-up setting

P09 is the start-up setting. The display can choose the following start modes: 00→zero start, 01→non-zero start

Press **i** to enter the parameter changing state. Press the **+** / **i** to select the parameter and press to save the parameter setting and return to the personalized parameter setting interface.

6.10 Drive mode setting

P10 is the drive mode setting option. 00 represents power assisted drive, 01 represents electric drive, and 02 represents power assisted electric coexistence

Press **i** to enter the parameter changing state. Press **+** the **-** to select the parameter and press **i** to save the parameter setting and return to the personalized parameter setting interface.

6.11 Pedal assist sensitivity setting

P11 is the pedal assist sensitivity setting, The adjustable range is: 01~24

Press **i** to enter the parameter changing state. Press the **+** / **-** to select the parameter and press **i** to save the parameter setting and return to the personalized parameter setting interface

6.12 Pedal assist strength setting

P12 is the Pedal assist strength setting, The adjustable range is 0 ~ 05

Press **i** to enter the parameter changing state. Press the **+** / **-** to select the parameter and press **i** to save the parameter setting and return to the personalized parameter setting interface

6.13 Type setting of magnetic steel discs for power assist

P13 is the number of pedal assist sensor magnets setting. Three types of magnetic can be selected: 5, 8 and 12 pcs

Press **i** to enter the parameter changing state. Press the **+** / **-** to select the parameter and press **i** to save the

parameter setting and return to the personalized parameter setting interface.

6.14 Controller Current Limit Setting

P14 is the controller current limit setting. The adjustable range is: 1~50A.

Press **i** to enter the parameter changing state. Press the **+** / **-** to select the parameter and press **i** to save the parameter setting and return to the personalized parameter setting interface.

6.15 Battery under voltage value setting

P15 is the battery under voltage setting.

Press **i** to enter the parameter changing state. Press the **+** / **-** to select the parameter and press **i** to save the parameter setting and return to the personalized parameter setting interface.

6.16 Total mileage reset setting

P16 is the total mileage reset setting option, press and hold **+** for 5 seconds to reset 0D0 (total mileage).

6.17 Power-on password setting

P17 is the power-on password setting. The power-on password is not activated by default but users can activate it from setting PSd-y. The factory default password is 1212. Users can set other four-digit password. Please keep the password in mind after changing it, otherwise you will not be able to use the display.

Press **i** to enter the parameter changing state. Press the **+** / **-** to select the parameter. press **i** to save the parameter setting and return to the personalized parameter setting interface.

Schedule 1: Error code definition table

YL-02 (LKLS) protocol error code:		
Error code	State meaning	Process mode
Error05	Brake failure	Whether the brake is in place; replace the brake lever
Error06	Battery undervoltage	Battery charging required
Error07	Motor failure	Check for loose power cables
Error08	Handlebar failure	Check whether the handle is in place; check the link of the handle, if it is normal, you need to replace the handle
Error09	Controller failure	Check controller hall connections
Error10	Communication reception failure	Check if the meter cable is connected
Error11	Communication sending failure	Check if the meter cable is connected

Pedal Assist Sensor Installation

The purpose of the pedal assist sensor is to generate a signal from the rotation of the crank that the controller processes to know that you're pedaling and want some power!

The pedal assist is the primary function of an electric bike and the level of assistance is adjustable on the handlebar LCD. Remove the pedal crank and place the magnetic pedal assist sensor on the bottom bracket. Please keep in mind the direction of the arrows. The distance between the disk and the sensor should be about 2mm. Crank pulley is required, it can be purchased from tdmoto.

8 Magnets Sensor (to be installed on Right Hand Side)



Steps 1



Steps 2



Steps 3

12 Magnets Sensor (to be installed on Left Hand Side)



Steps 1



Steps 2



Steps 3

Tidy Up

It's time to tidy up the wires after installed all major component. Use the zip/cable ties to bundle and secure the cables coming from the base of the battery, controller, pedal sensor and anything else leading up to the handlebars.



Make sure the brakes are adjusted, the wheel is secure, screws are tightened, and everything is functioning as expected.

Battery Operation

The battery used in this conversion kit is very sleek in. The way it attaches to its cradle, (which also houses the controller) is by sliding the battery down onto the cradle and locking it into place. This may take a couple attempts at getting it right however once in place it makes for a very secure fitting that won't rattle around during use (a common problem with other systems).

The battery should never be ridden without being locked into the cradle. It should also never be dropped or treated roughly. If you're battery is returned to us and has signs of being dropped, this will void the warranty. Even with the battery locked in and turned off, the bike should be locked using a high-quality bike lock.

Never modify the electrical system. Alterations may cause a fire, resulting in serious injury and could also damage the electrical system. Charge with the supplied charger only. Use of the wrong charger may cause a fire or explosion, resulting in serious injury. Ensure the voltage and frequency of the charger is compatible with mains electrical supply.

Use the battery charger in dry locations only and the battery must be charged before first use. For maximum battery performance and service life, charge the battery after each use, and charge at temperatures between 0 and 40°C (32 and 104°F).

Battery charging generally takes up to 4 - 8 hours from discharged to fully charged. Do NOT charge the battery continuously for more than 24 hours. If the bicycle has not been used for over 4 weeks, charge the battery before use. Always switch the bicycle OFF after each use. The battery pack can be recharged repeatedly. However, rechargeable batteries eventually need to be replaced. A significantly reduced operating period after charging indicates that the battery is no longer serviceable and should be replaced. Discard old batteries in an environmentally responsible manner.

The battery charger has a charge status LED indicator:

- Red - Battery charging.
- Green - Battery fully charged or disconnected.

To charge the battery:

Remove the battery from the bicycle, then plug the charger connector into the battery's charging port.

Connect the charger to a mains electrical supply and switch ON. The indicator LED on the charger illuminates red to show the battery is charging.

When the battery is charged (approximately 4-8 hours), the charger indicator LED illuminates green. Disconnect the charger from the electrical supply, then put the battery back to the bike.

Battery Storage

When storing the batteries for a long period of time:

Charge the batteries at least every 30 days to avoid capacity loss. Batteries slowly self-discharge when unused over a long period. If the battery cells are left at a critically low charge state, the lifespan and capacity will be permanently reduced.

Always disconnect the charger from the mains electrical supply and battery before storing the battery.

Avoid storing batteries in extreme temperatures, whether hot or cold. The recommended battery storage temperature is between 0 and 25°C (32 to 77°F). Avoid exposing batteries to temperatures at or above 40°C (104°F) for extended periods.

Batteries are best kept in a cool, dry place. Do not allow batteries to accumulate condensation, as this may cause shorting or corrosion.

Maintenance and Care

Extra maintenance is required over and above a normal bicycle.

One of the main things you may come across is that your spokes need to be tightened more often than a non-electric wheel. A spoke-tightening tool is needed to check the tightness of each spoke after the first 50km and then every 100km.

It is important to do a check on all of your fasteners every few months. It never hurts to go over your bike with tools, tightening and checking everything that can be checked. This will ensure you have a safe and well-serviced bike.

Please keep in mind the usual bike maintenance like tyre pressures, brake pads, etc.

Never use a high-pressure washer or a garden hose to clean the e-bike system. The force of a water jet could damage the electrical components of the propulsion system. Do not use water to clean electric components. Use a wet rag or similar.

The motor in this kit is a sealed unit and requires no maintenance during its design life.

Lastly (just to reiterate) it's important that you charge the battery at least once every month to ensure the battery maintains a safe storage level.

Troubleshooting

Our troubleshooting advice will take you through a logical way to diagnose any issues that may arise during installation and use.

Before commencing troubleshooting, disconnect all components. Do not short cut this process. There are countless times a loose plug has caused grief. By disconnecting all the plugs and then reconnecting just the crucial components, this will solve any loose plug issue.

Go through one by one plugging in the other components (such as the PAS or the e-brake handles) to see if any of these are the cause of the problem. In this basic state you may discover the culprit quickly.

Fault	Solution
Display turns on, but motor does not Activate	Check the motor plug from the controller. This is a very stiff connection and will not work unless the plug is all the way in to the indicator line. The twisting of the handlebars can sometimes cause the plug to pull out slightly if there is not enough slack in the motor cable.
	Check the eBrake levers. Make sure the lever is free of locking.
	Check the Pedal Sensor. Make sure Pedal Sensor is installed properly.
Motor runs backwards	Remove the motor from the forks and switch the direction.
Motor feels like it has something caught inside or some kind of brake on inside	Remove the disk brake bolts completely and see if this remedies the issue. If the disk brake bolts are too long, they will go too far into the housing and foul against the internals.
Rim has a buckle or spokes coming loose all the time	We would recommend a competent wheel builder to fix any major spoke tension issues, however there are some good youtube tutorials on how to adjust spoke tension.
Spokes has snapped or missing	We stocks spare spokes for very reasonable prices, just check out our spares section online and you can find the right type and length for your kit.
Disk brake bolts foul against the inside of the fork	If you're not running disk brakes, you don't need the bolts so just remove them. If you are running disk brakes, you will have to use some additional washers to 'space' the motor over to the non-disk brake side to achieve clearance.
Disk brake bolts won't tighten	
	You may require some longer bolts, but be careful they are not too long and foul against the internals of the motor.
I have hydraulic brakes, or integrated shifters and brakes	If the e-brakes provided are not ideal, either you can elect not to use e-brake handles (the kit will still function) or you purchase an e-brake cut-off sensor which can mount to your existing brake handles.
I don't want to use PAS, or don't want to use throttle	The controller is configured so you can run both the pedal as- sist sensor, and the throttle, or one or the other.
Display won't turn on, unless the battery charger is plugged in	Check all the connections, make sure the battery is charged. If the display turns on only when the battery charger is plugged in, you will have to submit a service ticket with this information.
Error message on the display	Please refer to display manual for error code definition and if
	needed, report the error code to TDRMOTO in a service ticket.
My kit loses power over bumps	Check all connections to make sure all the plugs are all the way connected. Check that the battery is locked to the cradle and not loose. A momentary discontinuity in power will turn the kit off.



Some experts believe that the incorrect or prolonged use of almost any product may cause serious injury or death. To help reduce your risk of serious injury or death, refer to the information below.

- Consult all documentation, packaging and product labelling before use. Note that some products feature documentation available online. It is recommended to print and retain the documentation.
- Before each use, check the product for loose/broken/damaged/missing parts, wear or leaks (if applicable). Never use a product with loose/broken/damaged/missing parts, wear or leaks.
- Products must be inspected and serviced (if applicable) by a qualified technician every 6 months. This is based on average residential use by persons of average size and strength, and on a property of average metropolitan size. Use beyond these recommendations may require more frequent inspections/servicing.
- Ensure that all users of the product have completed a suitable industry recognized training course before being allowed access to the product.
- The product has been supplied by a general merchandise retailer that may not be familiar with your specific application or description of application. Be sure to attain third-party approval from a qualified specialist for your application before use, regardless of any assurances from the retailer or its representatives.
- This product is not intended for use where fail-safe operation is required. As with any product (for example, automobile, computer, toaster), there is the possibility of technical issues that may require the repair or replacement of parts, or the product itself. If the possibility of such failure and the associated time it may take to rectify could in any way inconvenience the user, business or employee, or financially affect the user, business or employee, then the product is not suitable for your requirements. This product is not intended for use where incorrect operation or a failure of any kind, including but not limited to, a condition requiring product return, replacement, parts replacement or service by a technician may cause financial loss, loss of employee time or an inconvenience requiring compensation.
- If this product has been purchased in error when considering the information presented here, contact the retailer directly for details of their returns policy, if required.

If you have any questions regarding any issues with your electric bicycle, please contact our Customer Support team on: 03 9931 1626 or info@tdrmoto.com.au

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12 Month Limited Warranty

We warrant against possible manufacturing defects providing the following conditions are satisfied:

- Product is completely and correctly assembled
- Product is used under normal condition for its intended purpose
- Product receives all necessary maintenance and adjustments

What is covered by this Limited Warranty;

1 Year Warranty on Motor

1 Year Warranty on Battery

What is not covered by this Limited Warranty:

- Top Speed is not covered under warranty, if your electric bike does not reach estimated top speeds, this is not covered under warranty.
- If product does not reach the factory estimated distance advertised, which can be vary depending on how you use the product and, total weight carried, road condition etc
- All batteries will and do lose capacity over time, capacity loss is not covered under warranty. (If the battery unit is used incorrectly or seal tampered with, this will void your battery warranty). Others that is not covered under warranty for battery are; If you have not charged your battery regularly, left your battery sitting unused for over more than 3 months, If you damaged your charger or battery by incorrect use.
- Damage due to normal wear and tear and maintenance. Parts that are not covered under warranty under for normal wear and tear include: controller, lcd display unit, brakes, thrum throttle, derailleur and gear adjustments, tightening on all nuts, spokes, bottom bracket, cables, etc.
- Damage due to external causes.
- Any minor scratches, marks or imperfections will not be covered.

Warranty will be void if the product is ever:

- Misused, abused or neglected
- Modified in any way
- Rented, installed for commercial use, sold or given away

TDRMOTO will not be liable for incidental or consequential loss or damage due directly or indirectly from use of this product.

Warranty and Repair Claim

To claim your warranty, please provide proof of purchase and contact us via email or phone listed below. The cost of sending and returning of your product is at customers expense.

Warranty repair timeframe may take up to 60 days depend on replacement part availability. If there is a delay due to the nature of the repair, or a delay beyond our control, we will inform you and do whatever possible to limit the turnaround time of your product.

Other Repairs

Repairs of TDRMOTO products which is not covered by warranty can also be repaired at authorised service centre's at customers cost. We will carry most of the spare parts on our current and past models. Should you wish to purchase any parts, please contact us.

Contact Information

Website: www.tdrmoto.com.au email: info@tdrmoto.com.au

Address: 14 Hammer Court Hoppers Crossing VIC 3029 Ph: 03 9931 1626

Our goods and services come with guarantees that cannot be excluded under the Australian Consumer Law. For major failures with the service, you are entitled:

- to cancel your service contract with us; and
- to a refund for the unused portion, or to compensation for its reduced value.

You are also entitled to choose a refund or replacement for major failures with goods. If a failure with the goods or a service does not amount to a major failure, you are entitled to have the failure rectified in a reasonable time. If this is not done you are entitled to a refund for the goods and to cancel the contract for the service and obtain a refund of any unused portion. You are also entitled to be compensated for any other reasonably foreseeable loss or damage from a failure in the goods or service.

Motor Serial Number	Battery Serial Number	Purchase Date