

# CONVERSION KIT INSTRUCTIONS

# CONVERSION KIT INSTRUCTIONS

## STAGE 1

FIT THE MOTOR WHEEL



## Stage 1 Requirements

### Front dropouts = 100mm

The width between front fork dropouts should be 100mm. Please also check the gap between forks further up, against the motor diagram to ensure the motor casing will fit without rubbing.



### Rear dropouts = 135mm

The width between rear dropouts should be 135mm. Please also check the gap between the frame further up, against the motor diagram to ensure the motor casing will fit without rubbing.



### Axle size = 10mm

The motor axle is 10mm wide. If the gap in your forks or dropouts for the motor axle is less than 10mm you may need to file it down. If it is much larger than 10mm then be cautious as the motor could come loose. The use of a torque arm is advised.

## Step 1 - replacing wheel (250W front wheel)

### 1.1a: Remove Original Wheel

Unscrew the original front wheel, remove it from the forks



### 1.2a: Transfer rim tape and tyre

Transfer the rim tape and tyre from the original wheel, to the new motor wheel.



### 1.3a: Fit motor wheel into forks

Fit the motor wheel into the forks (with cable exiting the motor next to the left-hand fork).

[Check and tighten wheel spokes before riding. Should be re-checked every 100km.](#)



### 1.4a: Fit torque arm

Torque arms are recommended, and sold separately because there are various types on offer.

Choose between an eyelet torque arm (shown here) and the universal torque arm that comes with a hose-clamp to allow you to fit to any fork type if you don't have the M5 eyelet required for the eyelet torque arm.



## Step 1 - replacing the wheel (250W rear wheel)

### 1.1b: Remove Original Wheel

Unscrew the original front wheel, remove it from the forks



### 1.2b: Transfer gear cluster

Use a suitable tool to remove the gear cluster and transfer it onto the new motor wheel.



### 1.3b: Transfer rim tape and tyre

Transfer the rim tape and tyre from the original wheel, to the new motor wheel.



### 1.4b: Fit motor wheel into dropouts

Fit the motor wheel into the rear dropouts and align the gear cluster with the chain.

[Check and tighten wheel spokes before riding. Should be re-checked every 100km.](#)



### 1.5b: Fit torque arm

Torque arms are recommended, and sold separately because there are various types on offer.

Choose between an eyelet torque arm (shown here) and the universal torque arm that comes with a hose-clamp.



## Step 1 - replacing the front wheel (1000W rear wheel)

### 1.1b: Remove Original Wheel

Unscrew the original front wheel, remove it from the forks



### 1.2b: Transfer gear cluster

Use a suitable tool to remove the gear cluster and transfer it onto the new motor wheel.



### 1.3b: Transfer rim tape and tyre

Transfer the rim tape and tyre from the original wheel, to the new motor wheel.



### 1.4b: Fit motor wheel into dropouts

Fit the motor wheel into the rear dropouts and align the gear cluster with the chain.  
[Check and tighten wheel spokes before riding. Should be re-checked every 100km.](#)



### 1.5b: Fit torque arm

Torque arms are recommended, and sold separately because there are various types on offer.  
Choose between an eyelet torque arm (shown here) and the universal torque arm that comes with a hose-clamp.



## Fit disc brake (optional)

### Screw on disc to hub

Dismantle the original disc and install it on the motor wheel (tighten screws in a diagonal direction, do not tighten too much or you may damage the thread)



### Fit spacers

Fit spacers onto the axle as required to align the disc with your brake caliper.



### Fit wheel into dropouts



### Tighten all screws.



# CONVERSION KIT INSTRUCTIONS

## STEP 2

FIT CONTROLLER AND ACCESSORIES



## Step 2: Fit controller and accessories (ECO system)

2.1:

### Strip handlebars

Remove the brakes and grips from the handlebars.



2.2a:

### Fit cut-off brakes

Slide on the electric cut-off brake levers, tighten, and connect the brake cables.



2.2b:

### Fit brake sensors

Alternative to cut-off brakes that fit onto your existing brake levers. Stick the sensor onto the base of the brake lever, and then stick the magnet onto the lever arm using the sticky pads provided. When the brake is in the resting position, the magnet should rest less than 5mm from the sensor.



2.3:

### Fit LED display

Slide on the LED display to the handlebars and tighten.



2.4

### Fit throttle (optional)

Fit the throttle onto the handlebars (note this is for off-road use only)



## Step 2: Fit controller and accessories (ECO system)

### 2.5: Fit the Pedal Assist Sensor (PAS)

Separate the two sections of the PAS disc and then fit it around the pedal crank.

Remove the sticky back of the pedal sensor and fit it onto the frame so that the magnet disc rotates 1-2mm away from the sensor:

**Note - a robust and stable fitting of the PAS disc and sensor to ensure the PAS disc rotates at a constant distance from the sensor is required for correct function.**

Secure the PAS sensor in place with cable ties (feed through the two holes at the back of the sensor) as required.



### 2.6: Plug in the motor cable

**Note: Make sure the motor cable is pushed in all the way, this is a common cause of error. You should hear a second click once it is fully pushed in.**



### 2.7a: Connect controller and house in controller box

Run the wires down the frame (and secure in place with cable ties provided). Connect each item to the corresponding connection on the controller and place inside the controller box which screws onto the frame.



### 2.7b: House in controller bag

Alternative to controller box, available separately. Velcro controller bag that fits easily to the corner area of your frame.



## Step 2: Fit controller and accessories (PRO system)

### 2.1: Strip handlebars

Remove the brakes and grips from the handlebars.



### 2.2a: Fit cut-off brakes

Slide on the electric cut-off brake levers, tighten, and connect the brake cables.



### 2.2b: Fit brake sensors

Alternative to cut-off brakes that fit onto your existing brake levers. Stick the sensor onto the base of the brake lever, and then stick the magnet onto the lever arm using the sticky pads provided. The magnet should rest less than 5mm from the sensor.



### 2.3: Fit LCD display

Slide on the LCD display to the handlebars and tighten the bracket into place.



### 2.4 Fit throttle (optional)

Fit the throttle onto the handlebars (note this is for off-road use only)



## Step 2: Fit controller and accessories (PRO system)

### 2.5: Fit the Pedal Assist Sensor (PAS)

Separate the two sections of the PAS disc and then fit it around the pedal crank.

Remove the sticky back of the pedal sensor and fit it onto the frame so that the magnet disc rotates 1-2mm away from the sensor:

**Note - a robust and stable fitting of the PAS disc and sensor to ensure the PAS disc rotates at a constant distance from the sensor is required for correct function.**

Secure the PAS sensor in place with cable ties (feed through the two holes at the back of the sensor) as required.



### 2.6: Plug in the motor cable

**Note: Make sure the motor cable is pushed in all the way, this is a common cause of error. You should hear a second click once it is fully pushed in.**



### 2.7a: Connect controller and house in controller box

Connect all accessories to the colour coded cable harness.

**Green = display, Yellow = PAS and throttle, Red = Brakes**

Then connect the cable harness, battery and motor cable to the controller and house in the control box.

**NOTE: housing of the battery covered in next section**



### 2.7b: House in controller bag

Alternative to controller box, available separately. Velcro controller bag that fits easily to the corner area of your frame.



## Step 3a: Fit battery (downtube battery)

### 3.1a:

#### Screw on the battery rack

Remove the bottle mount screws, fit the battery rack over the top of the mounting holes and screw it into place.



### 3.2a:

#### Slide in the battery

Simply slide the battery into the rack and turn it on using the keys.



### 3.3a:

#### Connect to controller

Connect the battery wire to the motor controller and then replace the controller in the controller housing.



## Step 3b: Fit battery (rear rack battery)

### 3.1b:

#### Screw on the rear rack

Screw the rear rack in place, fixing it to the bracket screws under the seat post and on the rear dropouts.



### 3.2b:

#### Slide in the battery

Simply slide the battery into the rack and turn it on using the keys.



### 3.3b:

#### Connect to controller

Connect the battery wire to the motor controller and then fit the controller in the controller housing.



## Step 3c: Fit battery (rear rack battery)

### 3.1c:

Fit the battery holder to the seat post.

Using rubber padding if necessary, tighten the battery holder metal section to the seat post



### 3.2c:

Fit controller inside and screw on plastic housing

Connect the battery holder and other wires to the controller.

Fit the controller underneath the metal section and screw on the plastic housing

**Recommended: seal the controller in a plastic bag and sellotape into place**



### 3.3c:

Slide in battery

Slide in the battery and turn on with the key



# CONVERSION KIT INSTRUCTIONS

## FINISHING UP



# CHECKLIST

1) TIGHTEN SPOKES	Ensure that your spokes are tightened, and check them every 100km
2) PUMP TYRES	Pump tyres to your preferred pressure and ensure rim tape is in place
3) CHECK SCREWS	Ensure all screws, nuts and bolts are well tightened
4) SECURE TORQUE ARM	Make sure the torque arm on the motor is well tightened.

Before your first ride, take the bicycle out on a short trip on well-known roads.

# BATTERY CHARGING

1. Plug the charger into the mains power.
2. One of the indicator lights should glow green.
3. Carefully plug the charger into the battery, don't force it.
4. Red light indicates the battery is charging.
5. Once the charger indicator lights change to green, or 1 red and 1 green  
The battery is fully charged.

Expect 3-4 hours for a full charge

Note: The battery has an in-built charging monitor so it is impossible to over-charge.

However, you should never leave the battery on charge for long periods of time as this can damage the battery.

Aim to always fully charge the battery in one go to get optimal life.

## TROUBLESHOOTING

### No Power

If you have no power to the motor, follow this step by step process to identify the problem.

1. Measure the battery output voltage
  - a. Measure at the connection wires that usually connect to the controller, carefully using a multimeter. A 36V battery should read 42V, a 48V battery should read 52V.
2. Plug in just the battery, controller and display
  - a. Test if the display turns on?
3. Connect the motor making sure you plug the cable in all the way
  - a. Activate the 6kph walk mode, does the motor turn?
4. Connect the PAS
  - a. Activate the PAS by hand, the red light should blink and the motor should turn

Report back to us at which point do the tests fail?

## TROUBLESHOOTING CONTINUED...

Motor runs backwards	Fit the motor the other way around.
Motor feels stiff or does not turn smoothly.	Check for interference or obstruction on the vbrakes or disc brakes.
Rattling or other noises when riding	Check all screws and nuts are well tightened.
Wheel is out of line or Spokes are loose	Keep spokes well maintained every 100km If they become loose, just carefully adjust the tension to realign - follow a youtube tutorial or consult us.
Motor does not fit into forks or dropouts	It is not uncommon to need to file Out the forks or dropouts slightly to accommodate the motor. Do this slowly and carefully and please note we cannot accept responsibility for damaged forks. Alternatively, you may prefer to buy a new set of compatible forks.
Motor casing rubs on Dropouts or forks	Motor diagrams are available to check Before purchase. But in the rare case that the motor does Not fit into your forks or dropouts, you can use some axle spacers to slightly Widen them or alternatively buy a new set of forks.

## TROUBLESHOOTING CONTINUED...

Interference with Disc bolts	<p>If you are not using disc brakes, then you can remove the disc bolts</p> <p>If you have disc brakes, then you can file down the bolt ends, or add axle spacers to remove the interference.</p>
Wires are not Long enough.	<p>If you need wire extensions then please contact us.</p>
No space on handlebars	<p>If you are trying to fit a throttle, then</p> <p>If the handlebars are crowded we recommend the thumb throttle.</p>
Does it work without the PAS	<p>You can use either/or PAS or throttle.</p> <p>They can work in conjunction with each other.</p> <p>Please note that throttles are not road Legal and are bought separately.</p>
Error messages on display	<p>Please refer to the display manual.</p> <p>If the error message is not covered then Please contact us.</p>