USER MANUAL

converted®

LOVE YOUR CONVERTED BIKE?

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WELCOME

Thank you for choosing a Converted System for your bike. We are sure it will bring you hours of fun and freedom.

Converted has a dealer network throughout New Zealand to support you on your journeys.

Please read this manual and learn how to use and care for your Converted System.

CONTENTS

REGISTRATION

REGISTER YOUR CONVERTED SYSTEM

To validate your warranty you must register online or instore.
www.converted.co.nz/register

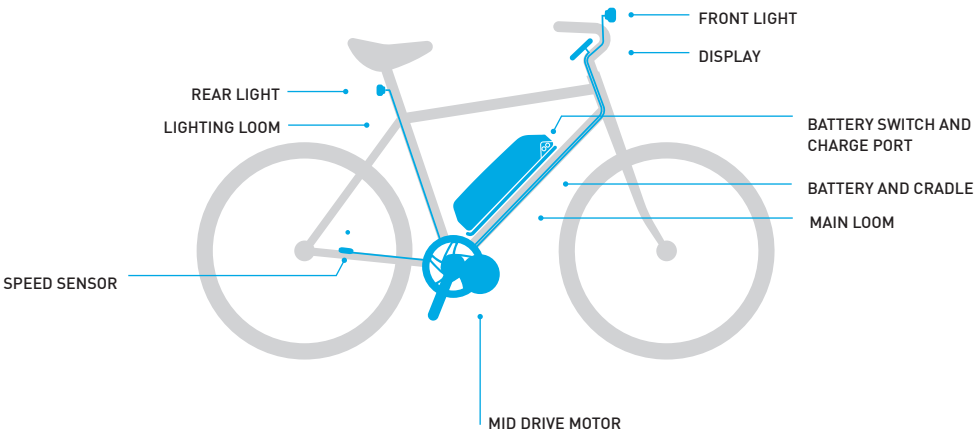
Record your systems details here.

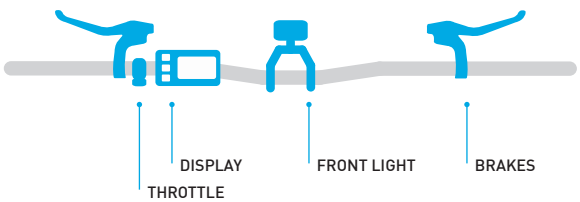
MOTOR SERIAL	eg. 20770305008
BATTERY SERIAL	eg. REVLG3613041088
PURCHASED FROM	
DATE	

QUICK START

LET'S GET STARTED

1. Ensure the battery is secure in the battery cradle.
2. Turn the key clockwise to Lock the battery in place.
3. Turn on the battery switch.
4. Hold M on display to turn the system on.
5. Press + to set assist to level 1.
6. Go ride.





YOUR CONVERTED SYSTEM

ABOUT THE SYSTEM

The motor is manufactured by Bafang, one of the world's largest electric bike motor manufacturers. The motor has been manufactured to Converted's specifications to maximise reliability and performance.

The battery is manufactured to Converted's specifications to match the performance needs of the Bafang motor. We use only Samsung, Panasonic or LG cells to ensure the best possible pack quality.

Your Converted System is IP65 rated water resistant. This means you can ride it in the rain, but not underwater. You can wash it with a hose but not a water blaster.

You can operate the motor power in two ways. One is using the pedal assist feature. Set the assist level on the display and when you pedal the motor will automatically start and add power to your ride.

The second way is to press the throttle lever. This will give you instant power whenever you need it. Great for starting off at the traffic lights or on an uphill.

The Converted System powers the bike from the pedals, through the chain to the gears at the rear of the bike.

Like a car or a motorbike you need to choose your gear to suit the riding you are doing. Start of in a low gear, just as you would in a car and change to higher gears as the bike speed increases.

When you come to a hill, change down to a lower gear so your pedal

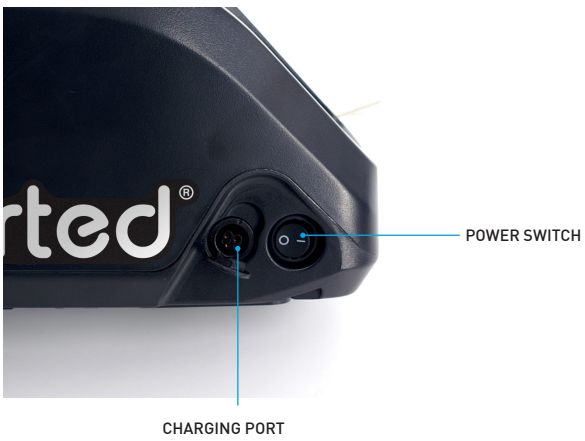
RPM remains high, you should be able to hear the motor spinning fast. This will give you the best climbing performance and save battery.

BATTERY

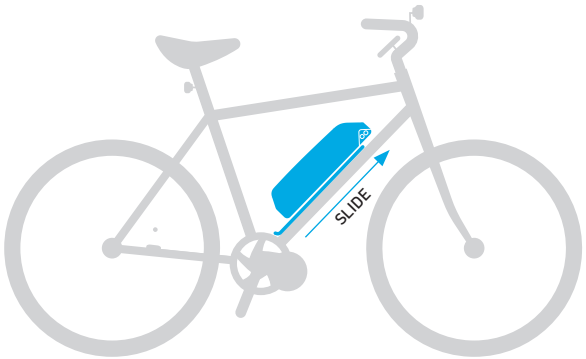
Always top up charge your battery after a days ride. A topped up battery is a happy battery that is ready to go next time you are. You can find the charge port on the side of the battery. Note alignment marks on the connector and socket.

The charger will get quite hot while charging, so make sure it is in an open space where it can cool off. It is ok to leave the charger plugged to the battery after it is finished charging. The charger will turn its self off. Do disconnect the charger from the battery once you return to your bike and the charge is complete.

Next to the charge port you will find the on/off switch for the battery. Turn the battery off when not in use. You can check if the battery is on or off by pressing the battery level indication button. If it is off the light will not show. If only the last (red) LED on the indicator is illuminated, the battery is nearing empty and requires charging.



To remove the battery from the bike, turn the key anticlockwise and slide the battery in an upward direction. Remove the key from the bike when using.



It is a good idea to take the spare key and zip tie it to the charge lead of the battery charger so not to loose it.

Please understand that the battery poses a fire risk. Read about that later in this manual.

SAFETY

Your bike is now faster and heavier that it was before. Please take it easy while you get use to riding your new bike.

Find more information about safe riding practice later in this manual.

Enjoy your Converted System!

DISPLAY

DISPLAY OVERVIEW

POWER ON/OFF (HOLD 2 SEC)
/MODE

ASSIST LEVEL UP
/LIGHTING (2 SEC)

ASSIST LEVEL DOWN
/WALK (2SEC)

REALTIME INFO
RUNNING SPEED /AVERAGE SPEED
/MAX SPEED / TRIP DISTANCE /
TOTAL DISTANCE / TRAVEL TIME

LIGHTS ON/OFF

ASSIST MODE
ECO / CITY /TOUR / POWER / BOOST

1 / 2 / 3 / 4 / 5
PEDAL ASSIST(PAS) LEVEL

BATTERY LEVEL (VISUAL)

POWER CONSUMPTION
/ USB OUTPUT STATUS

USB SOCKET

TURNING THE SYSTEM ON AND OFF

Hold the M (MODE) button for 2 seconds then the display will power on.

With display on, hold the MODE button for 2 seconds then the display will power off.

You can shut the system down by turning the battery off.

VIEWING THE INFORMATION SCREENS

After starting up the display the default screen is speed.
Press MODE to change the indicated information in sequence as below:

Running Speed (Km/h) → Average Speed (Km/h) →Max Speed (Km/h) →Trip Distance (km) → Total Distance (km) → Travel Time → Running Speed (Km/h).

The display will shut down automatically after 10 minutes of no use.

SETTING THE PEDAL ASSIST LEVEL

Adjusting the assist level sets the amount of motor power that assists your pedalling.

Press + (UP) or - (DOWN) to change the output power of the motor. The power ranges from level 0 to level 5. Level 0 deactivates the pedal assist system. Level 5 is the maximum power.

LIGHTS

Hold the + button for 2 seconds to turn on the Converted System lights and display back light.

Hold the + button for 2 seconds to turn the lights off.

Converted System lights can be purchased from www.converted.co.nz or dealers.

WALK ALONG

Hold the - button down to cause the bike to move along at walking speed.

BATTERY LEVEL INDICATOR

The 5 battery bars represent the capacity of the battery. When the battery is in low voltage, battery frame will flash to notice that the battery needs to be recharged immediately.

BATTERY POWER INDICATOR

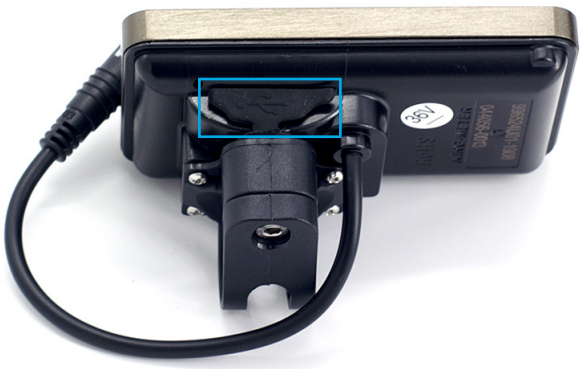
This shows the total power in Watts being drawn from the battery. The motor power is 20% less than this figure.

USB PORT

The display unit has a USB socket on the underside. This has a maximum output of 5v @ 500mA, so will allow you charge phones and run appropriate lighting. It will not run high output Headlamps.

To activate this port connect you device prior to powering on the bike at the display. When functioning correctly, USB will appear momentarily in the lower right corner of the display.

Avoid using the USB port in conditions where moisture may enter, as without the rubber cap in place the unit is not water resistant. Ensure the rubber cap is re-inserted after use.



SETTINGS

Press and hold + and – at the same time to enter the settings.

TRIP DISTANCE AND TIME CLEARANCE

TC means trip distance clearance. Press UP or DOWN to choose yes or no to clear the trip distance and trip time.

Press MODE to confirm the modification and go to the next setting.

BACKLIGHT CONTRAST

BL means backlight. Press UP or DOWN to modify the backlight brightness.

Press MODE to confirm the modification and go to the next setting.

WHEEL DIAMETER SETTING

Press UP and DOWN to select the correct value to match the wheel diameter. Selectable values include: 16, 18, 20, 22, 24, 26, 27.5, 700C, 28, 29.

Press MODE to confirm the modification and go to the next setting.

SPEED-LIMIT SETTING

When the running speed is faster than MAX SPEED, the controller will cut off the motor power. MAX SPEED default setting is 25Km/h. Press UP/DOWN to select the desired value. 40Km/h is unlimited.

Hold MODE over 2 seconds to confirm and quit the setting mode.

MAINTENANCE

BATTERY USE AND CARE

Always recharge your battery after use. A full lithium battery is a happy battery. A battery will degrade rapidly if left flat. Leaving a battery flat for a few months can render a battery useless.

When possible leave charger connected for an hour after the charge is complete. This gives the battery system time to balance individual cells and ensure your battery provides its maximum capacity.

Plug the charger into the wall and turn it on before connecting to the battery. This brings the charger up to battery voltage before connecting to avoid a surge on connection. The charger can drain the battery if it is not switched on.

Fully charge and disconnect your battery from the bike if you intend not to use the bike for several weeks.

Charge your battery once a month if you are not using it.

To remove your battery from the bike, turn the key to the unlock position. Slide in the direction of the tube to which the battery is mounted.

Store battery in a cool dry place.

NEVER LEAVE YOUR BATTERY FLAT

WATER AND RAIN

The Converted System has been designed to cope with riding in bad weather. Go for it.

In general you can wash your bike and electronic components with a low pressure hose and brush. Remove the battery from the bike before washing. **DO NOT** use a high pressure water blaster to clean your bike. Not only does this risk blasting water past seals in the electrical system but can also damage other parts of the bicycle. Do not submerge your bike in water. Avoid leaving your bike out in the rain. If you must, buy a rain cover from your local bike shop.

GENERAL MAINTENANCE

Apart from keeping your battery charged, there is no maintenance required for the electrical system. DO check that all the plugs are firmly connected.

You should have your bike serviced annually to keep it in a smooth running and safe condition.

Check all fasteners on a regular basis.

TROUBLE SHOOTING

My bike won't go!

1. Ensure the battery is charged by pressing the battery level indicator button on the side of the battery.

2. Follow the cables on the bike and make sure no plugs have been pulled out.

3. Make sure that brake levers are in there out position.

4. Contact your Converted System dealer.

ERROR CODES

If the system detects an electrical issue, an error code will show up on the display. This can assist in determining the fault and will self clear after the fault has been fixed.

04 **Throttle not returning**
Check for obstruction or damage to throttle movement. Replace throttle.

05 **Throttle sensor problem**
Replace throttle.

06 **Low voltage protection**
Flat battery or incorrect battery. Change battery. Check for battery connections for corrosion.

07 **Over voltage protection**
Incorrect battery. Use correct battery.

08 **Motor sensor problem**
Contact service center.

09 **Motor wire problem**
Contact service center.

10 **Controller overheat**
Stop riding. Allow motor to cool. Clean mud off motor.

11 **Temperature sensor problem**
Contact service center.

12 **Current sensor error**
Contact service center.

21 **Speed sensor problem**
Check speed sensor is close to magnet on wheel. LED on sensor should flash when magnet passes. If no flash, replace sensor.

30 **Communication problem**
Check all plugs. Check cables for damage. Contact service center.

LITHIUM BATTERY SAFETY GUIDE

Lithium batteries are powering a whole new generation of devices for work and play. This revolution in energy is made possible by being able to store a large amount of energy in a tiny package.

In order to get such a large amount of energy in to a tiny package Lithium Batteries are made to very fine tolerances. Any damage, manufacturing error, charging error or temperature extreme can cause the battery to become unstable and rapidly expel the energy like a firework.

A quality battery using quality cells, built by a factory with quality at it's core poses very little risk, but there are so many variables that no battery can be guaranteed to be totally risk free.

Lithium batteries are qualified as Dangerous Goods and if you have flown lately you will know the restrictions and cautions imposed on carrying lithium powered devices.

As an owner of a Lithium powered device, whether it be a phone, battery drill, laptop or ebike, you need to understand this important statement;

LITHIUM BATTERIES MAY COMBUST AT ANY TIME.

To ignore this understanding is to put material property and lives at risk. To reduce the risk of property damage or loss of life you should adopt the following mentality.

TREAT LITHIUM BATTERIES LIKE THEY MAY COMBUST AT ANY TIME.

REDUCING THE RISKS WITH LITHIUM BATTERIES

There are many things you can do to reduce the risk that Lithium batteries pose. A well treated battery poses little risk. A neglected battery poses increased risk.

Never leave your battery flat!
Always top up after a days use. A battery left flat will degrade, the structure inside the battery will become constricted. Next time it is charged it will be harder for energy to flow through the battery, causing heat. If it gets bad enough that heat can cause the battery to explode.

Avoid exposing your battery to large amounts of water.
Water can enter the battery and cause corrosion of connections. This can cause the battery to charge incorrectly, leading to some cells being incorrectly charged and becoming unstable. Never submerge your battery or clean it with a water blaster.

Do not continue to use a damaged battery.
If your battery takes a hard fall take it to your supplier for evaluation and repair. If any of the internal structure of the battery has been damaged it can lead to the battery becoming unstable.

Donít charge with a charger not specified with the battery.
An incorrect charger can cause the battery to charge too fast or too long causing it to become unstable.

Avoid heat.
Store the battery in a cool place and never let it get really hot, like in the back window of a car. If you feel the battery getting hot during use, stop using the battery and give it time to rest and cool down.

If your battery capacity has dropped, replace it.
A tired battery with less capacity than when new has cell degradation. Charging old batteries that have poor capacity can cause the pack to become unstable. Once your battery has lost half its capacity, recycle it and get a new one.

REDUCING THE RISK TO PROPERTY AND LIFE

Even if you treat your battery well, there is still a chance it may combust. Here are some practices to reduce damage in the event of a fire.

Be around when your battery is charging.
Most battery fires happen during or shortly after charging. Being home and awake means you can respond if a fire breaks out.

Charge your battery away from other combustible materials.
When a battery explodes it can shoot flames about 1 meter from the battery. Keeping a 1 meter free zone around a charging battery will reduce the chance of other items catching fire.

Charge and store your battery in a metal box.
Charging your Lithium batteries in a metal box is one of the best things you can do to reduce risk. If a battery explodes it will contain the fire inside the box and greatly reduce the risk of other items catching fire. Metal tool boxes can be purchased from hardware stores.

Contain the fire.
Do not expect to be able to extinguish a Lithium fire. If you can safely and quickly move the appliance out side, do so to where it can burn safely. If you can, try to contain the fire by covering with a fire blanket or metal container like a large cooking pot.

A burning battery gives off poisonous gases.
The smoke from a burning battery is toxic. Avoid breathing the smoke. Once the violent burning nature of the battery has stopped get the battery out side. If you have inhaled large amounts of the smoke seek medical attention.

CALL THE FIRE SERVICE.
IF YOUR BURNING BATTERY IS THREATENING PROPERTY OR LIFE, CALL THE FIRE SERVICE.

Water does not extinguish, but it cools.
Spraying water onto a Lithium fire may not put it out, but it will cool the battery and help prevent other cells from exploding and the battery case from burning. It is a good idea to shower water on the battery to cool it as it burns. DO NOT submerge the battery into a bucket of water. This will only aggravate the battery and produce dangerous gasses.

Fire extinguishers wont stop it either.
Cells explode from the inside, a battery pack can contain many cells, so if there is enough heat they will keep exploding. A fire extinguisher can help put out a burning battery case, but wont prevent other cells from exploding if they are ready to go. Still it is a good idea to use an extinguisher. Use a 5 lb. or larger ABC extinguisher, or a big CO2 extinguisher, or both.

Store your Lithium devices in a garden shed.
If you have battery tools or electric bikes, a good idea would be to store them in a garden shed away from your house if you can. Or in an area where they can burn with minimal damage to other property.

Install a fire alarm where you charge.
Batteries will often smoke first before they explode. Having a fire alarm above your battery gives you an early warning that your pack is going to blow. If you find it with smoke coming out, put it in a metal container and get it to a safe place and stand back.

Look where you are charging and storing your battery and think.
What would happen if my battery shot flames a meter out any side of the pack. What do I have nearby to contain the fire? How can I move the burning pack? What else will catch fire?

Research.
Search Lithium Battery Fires on youtube. This will give you a better understanding of what to expect and allow you to better set up your battery storage. It is early days for Lithium batteries and the risk of fire is reducing every year as cells get safer and protection improves in pack design.

RIDER SAFETY

RULES ABOUT CYCLING

Cycle helmets must be worn; meet an approved standard and be securely fastened.

Cycles must have brakes and reflectors.

Cycle lights must be on when it's dim or dark.

Cycles can tow a specially designed cycle trailer but must not be fitted with a sidecar.

BEHAVIOUR RULES

Always ride as near as you can to the left side of the road.

Ride in single file.

Use hand signals to show other road users what you are doing.

When cycling behind other cyclists and vehicles it is recommended you keep at least two seconds behind.

Don't park your cycle so that it blocks paths or driveways.

It is illegal for a cyclist to be towed on their cycle.

You must obey all signs and signals.

You must obey the give way rules and give way at pedestrian crossings.

USING HAND SIGNALS

Hand signals must be used at least three seconds before:

- Moving into traffic
- Stopping
- Turning left
- Turning right
- Moving from a lane.

Hand signal procedure

Well before you need to signal, check behind to see when a good time to move or stop would be (keep both your hands on the handlebars).

Do the hand signal while slowly counting 'one-thousand and one; one-thousand and two; one-thousand and three'. Then return your hand to the handlebars.

Check that other road users have seen you and understand your hand signal. Then carefully make your move, or stop. If you are able to make eye contact with other road users, this will help to ensure that they have seen you.

CYCLISTS RESPONSIBILITES

Use the correct lane

Before reaching an intersection, or when turning, you need to get into the correct lane.

Keep left

Keep left, but not to the extent that it compromises your safety.

Pass other vehicles safely

When passing moving or stationary vehicles, always check behind and signal your intentions.

Use hand signals

You must use hand signals to communicate your intentions to other road users.

Be safe and courteous when cycling in groups

There must never be more than two cyclists cycling next to one another. When the road is narrow or vehicles cannot pass, everyone should cycle in single file.

Share the road and paths

Wherever you ride, you are sharing space with other road users. Understanding and respecting this ensures everyone is safe and comfortable while they are on the road or on paths.

Expect hazards and ride to avoid them

Hazards could include road and weather conditions, visibility and riding behaviour.

CYCLING DEFENSIVELY IN TRAFFIC

Where possible, communicate with drivers. Make eye contact and signal intentions clearly.

Look for the presence of people inside a parked car - a door may open or the car may move off.

When a vehicle is stationary, look for brake lights or exhaust fumes - this is a sign that the car has started and may be about to leave.

Look for indicator lights on vehicles - but be careful not to rely on them - wait to see if the car's speed reduces or it changes direction.

At side roads and intersections, look at the angle of other vehicles' front wheels - this may give you an idea about what direction they might be about to head in.

In the rain or other low light conditions:

Wear reflective clothing and use your lights
Ride slowly and keep the bicycle upright especially on corners brake slowly and smoothly using both brakes avoid surface water, drains and rough surfaces.

Based on information from Cyclecraft - the complete guide to safe and enjoyable cycling for adults and children, written by John Franklin.

ACCESSORIES

Lekkie **BLING** RINGS

Lekkie CNC 7075 T6 aluminium sprocket designed to keep the straightest possible chain line with a narrow, wide tooth pattern to minimise derailments. Available in Black or Red, with 28T, 36T, 40T, 42T, 46T and 52T.

Lekkie **DRIVE** COVERS

Lekkie CNC 6061 aluminium drive cover with integrated grease port.
Also Available as a package with 40T BLING RING to maintain your best possible chain line.

Lekkie BUZZ **BARS**

Precision CNC cut from forged 6061 heat treated aluminium to bring ultimate stiffness and confidence to your ride. 15.6mm offset left crank to counter the motor offset. 2 different lengths to fine tune your ride.
Available in Black or Silver. 160mm or 170mm length options.

Converted LIGHTING KIT

Be safe and be seen with the Converted System Lighting Kit! These lights offer flexible mounting options for handlebars and forks (front) and seatpost or rack for the rear.

Tektro E-350 Brakes

Upgrade your stopping power with Tektro E-350 Hydraulic e-brakes. A welcome safety upgrade if your bikes existing brakes need attention.

WARRANTY

Your Converted System is covered by the following extensive Warranty:

Battery
Warrantied to supply at least 60% of rated capacity after 2 years.

Motor and electrical system
1 year or 5000km, whichever comes first.

In order to validate the warranty the Converted System must be serviced by an authorised dealer at 2000km.
Failure to do so can void warranties.

Converted recommends service at 2000km intervals for best performance.

Exceptions to Warranty:
Damage resulting from accident or misuse.
Not following the guidelines in the user guide.
Failure to meet the 2000km service.
Damage due to private repair or alteration.
Failure to produce proof of purchase.
Saltwater or sand ingress.
Not charging the battery as stated in the manual.

converted®

Contact us at
hello@converted.co.nz

Find your local dealer through our Converted website
www.converted.co.nz