



Owner's Manual for

Puma LPX

&

Lynx LPX

Lithium Polymer Powered Electric Folding Bikes





Model Shown - PowaCycle Puma LPX

Main Technical Specification Summary

Bicycle	Motor
Weight: 17.8 kg Puma 20kg Lynx	Type: High-efficiency DC Permanent-magnet Brushless Motor
Size: 1410 x 610 x 1040mm (Puma) 1600 x 560 x 1070mm (Lynx)	Maximum riding noise: ≤ 62 db
Maximum motor speed: 20 km/h	Rated power: 180W
Distance per charge: 25-33miles Power Assisted Cycling	Rated speed of revolution: 235 rpm
Climbing Ability: ≤ 12 degrees	Rated Voltage: 24V
Over Current protection value: $15 \pm 1A$	Rated efficiency: 78%
Under voltage Protection value: 21.5 V	Power consumption per 100 kilometres: ≤ 1.2 kWh
	Weight: ≤ 2.5 kg
Battery	Charger
Type: Polymer Lithium Ion Battery	Input Voltage: AC 110-220V 50Hz
Voltage: 24 V	Normal Charging Time: 4-6 hour Initial charging time will be longer.
Capacity 10Ah	

**Both Puma LPX and Lynx LPX can be folded
for easy storage and can fit into most car boots.**

Folding the Electric Bikes

With the front wheel pointing straight ahead, fully undo the large black wing nut at the base of the stem and fold the handlebars down.

Hold the bicycle upright and raise the kickstand. Release the quick release lever to the clamp in the middle of the frame and swing the lever and bolt sideways; then, if you lift the lever so the spring-loaded bolt releases the hinge, you can fold the front half of the bicycle round to meet the rear.

If you wish to reduce width even further, fold the pedals by squeezing the black panel in the middle outwards against the end of the pedal and hinging the pedal downwards.

Re-assembling is the opposite of folding, but be careful that the quick release lever and bolt to the frame hinge doesn't swing around to point backwards when bringing the hinge together, otherwise the bolt may be trapped pointing the wrong way and prevent completion of the clamping operation.

Always ensure both the wing nut to the stem hinge and quick release lever to the frame hinge are clamped tight before attempting to ride the bike.



Safety Requirements

Before use, read through this manual, and ensure that any riders are familiar with the content herein.

Always obey traffic rules.

Do not carry a passenger.

When adjusting the saddle, keep adjustment within the max safety line on the seat post.

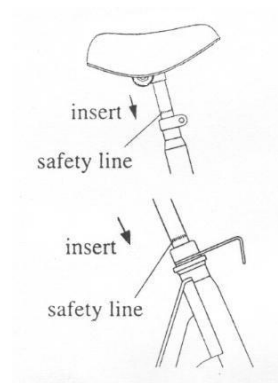
Please note that the tightening torque of saddle's grip nut and post's clamping bolt is 18Nm.

When adjusting the handle bar, do not set handlebar above the safety line/marker on the handle bar stem.

Please note that the tightening torque of screw rod for the stem handlebar clamp bolt is 18Nm.

Regular checking of the brake pads is necessary to ensure top performance.

The torque of both front and rear hub nuts, are set to 18Nm and 30Nm respectively.



Operation Guide and Precautions

Electric Cycling

- Insert the battery box into the bicycle frame.
- Insert the key in the box lock, turn the key in the battery case lock 180 degrees clockwise, and always remove the key after locking.
- To power on, turn the ignition key clockwise, noting the red indicator light on the battery box and the status lights on the throttle. The additional green status light shows when the full capacity is available with the lights extinguishing as power decreases.
- Assisted Power mode is engaged whenever the ignition is turned on.
- Users can also use the cycle in throttle mode alone. To use the throttle turn the switch on the left handlebar to the on position.
- When manoeuvring the bike it is good practice to deactivate the throttle.

Note:

The power consumption should be judged by the display status of the indicator while running at full speed.

- The riding distances after a charge will vary due to such factors as road situation, load, and wind direction.
- When riding up hills or starting from junctions or riding upwind, it is recommended that pedals are used to avoid draining the battery of power.
- By pedalling riders will increase their riding distance, and ultimately conserve the motor and battery.
- After use, turn off the battery key switch (turn the key anticlockwise), and remove the key.

Cycling without power support

- The ignition switch must be turned off in order to enable riders to use the electric bicycle in the same way as an ordinary bicycle.

Charging

- The battery for this electric bicycle must be charged by its own specific Puma or Lynx LPX charger. The charger's supply voltage must match the local voltage.
- Charging needs to be carried out in a dry cool environment.
- Do not charge in areas where there is a risk of exposure to water, or in areas that can become exposed to direct sunlight.
- The battery can be charged on or off the bicycle.
- When the red indicator on the charger turns green, it means that the battery is fully charged. According to power consumption, the charging can be completed within 2-10 hours.
- During charging, the charger and the battery box should be located in a stable position on its side to prevent it toppling over. Do not cover the charger or battery box while in use.
- During charging, if the battery pack overheats, it indicates that there is fault with the battery pack or charger. In this case, cut off the power supply immediately and return it to your vendor's after-sales-service centre for repair.

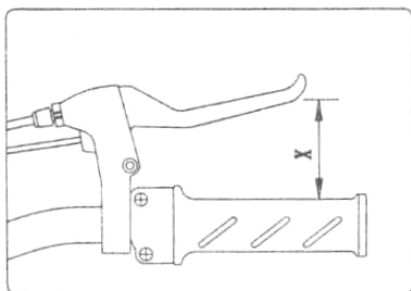
Directions for using the Battery Pack

- On the first time of use, the battery will need a longer charge of 8-10 hours.
- In order to achieve the full range from the battery, new batteries must be conditioned. To do this fully charge and discharge the battery 8-10 times.
- Only use the dedicated Li-Polymer battery charger for Puma LPX or Lynx LPX.
- When the power is exhausted, the pack shouldn't be stored for more than 48 hours, but charged as soon as convenient.
- For long life, the pack should be removed from the bicycle, fully charged, and stored in a shady, cool and dry place.
- Do not use or store the pack near heat sources such as an electric fire or heat source.
- Do not attempt to directly connect the battery pack to a mains supply outlet.
- Do not allow the battery pack to be immersed in water
- Never put the battery in fire, even at end of life.
- Do not short the battery by connecting the electrodes via metal or water.
- Take care to avoid impact to the battery pack.
- Do not use sharp tools that could pierce the battery pack.
- Do not drop or shake the battery pack violently.
- Keep the battery away from high temperatures (in direct sunlight or a heated car); overheating the battery will cause a malfunction and shorten the battery life.
- Do not use the battery pack in strong electrostatic or and magnetic field, otherwise, the safety protection device could be damaged, resulting in safety problems.
- If the electrolyte gets into the eyes when leakage of the battery happens, don't rub, wash the eyes with clean water and consult a medical doctor immediately.
- Please remove the pack from the device or charger, if it smells strange, or gives out heat, or becomes discolored and distorted, or there is any abnormality during usage, storage and charging. Switch off before doing so.
- Wipe the dirt off the charging interface of the pack with dry cloth before usage; otherwise it will cause poor contact and malfunction.
- Do not try to use electric power when the battery is exhausted. Switch off the power first and ride it as an ordinary bicycle.
- Please keep the battery pack and charger out of the reach of children.

Warning: Keep away from explosive gas, flame or spark during charging.

Maintenance

- Before using, please check that the battery box is locked in place, the red battery indicator light is on when you operate the key switch, and the throttle light does not indicate empty.
- Ensure the cleanness of the bicycle body and the battery contacts. Immediately remove the dirt to avoid the decline in the efficiency or damage to the electrical parts.
- Frequently check tyre pressures are correct against the figures marked on the side of the tyre wall. Under-inflation of tyres will reduce the riding distance achieved, and in worst case, the tyre will be damaged by either over or under-inflation.
- As with ordinary bicycles essential mechanical and safety checks are required.
- Do not use the bike in water depths where water can reach the lowest part of wheel hub or battery. Otherwise, electrical damage can occur due to water ingress.
- Keep the bicycle away from moist, high temperatures and gas-acrid environments, to avoid the chemical corrosion on the electroplated coating surfaces of the metal parts.
- Avoid long exposure to direct sunlight or drenching with water, to prevent damage or malfunctioning of parts.
- It is normal for the electric bicycle to feel heavier during reverse maneuvering, and the wheel hub can make a friction sound during forward movement.
- Do not overload to avoid damage to the battery or motor.
- Lubrication is an important item in the maintenance of the electrical bicycle. According to the usage, scrub and lubricate the rotational parts such as the front, back and middle axles, flywheel and front fork every 6 months. Special lubricating oil has been smeared on the riding components inside electrical wheel hub, so it is unnecessary to perform this lubrication yourself. Go to our authorised service/maintenance centres, if you identify any abnormal functioning or a service need.



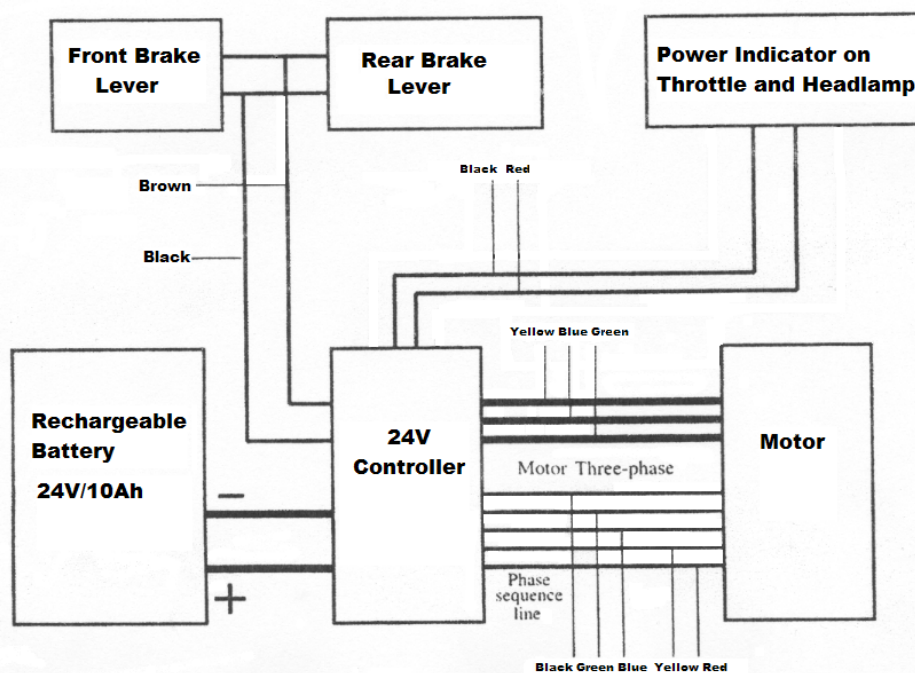
Adjusting method for braking system

Examine the braking system frequently to ensure its reliability.

Adjusting can be performed as follows:

- Check that the brake levers make contact when its movement reaches 1/2X (see illustration below).
- Loosen the screw on the braking cable seat then tighten or loosen the braking cable, enabling the average movement between each of the two brake blocks and the rims of approximately 1.5-2mm.

Electrical Circuit Diagram



Note: Wiring colours can vary.

Electric Bicycle Electrics & Troubleshooting Methods

The information in this manual is for the purpose of explanation, not as a recommendation for users to carry out repair. Any remedy outlined below must be carried out by a competent person aware of the safety issues and sufficiently familiar with electrical maintenance. PowaCycle reserves the right to without further notice, make modifications to the product. For further advice contact your vendor or PowaCycle.

Trouble Description	Causes	Troubleshooting Methods
After the switch has been turned on, the power indicator does not come on and the bicycle cannot start.	<ul style="list-style-type: none"> Poor contact between the electrodes of the battery or connecting plug. 	<ul style="list-style-type: none"> Check if there is any dirt on the electrodes of the battery unit or plug, and clean the contacts.
After the switch has been turned on. The power indicator is on, but the bicycle will not start.	<ul style="list-style-type: none"> Check for poor contact with battery. Check if the plug is properly inserted. 	<ul style="list-style-type: none"> Press the units tightly together to ensure that contact points are in place.
The motor starts and continues running after the switch is on. (Note: immediately turn off the switch to prevent an accident.)	<ul style="list-style-type: none"> The throttle has not reset. The controller is damaged. 	<ul style="list-style-type: none"> Check whether the throttle is jammed. If yes, free it. Return the control to our company's authorised service centres for repair or replacement.
Low speed, and the riding distance after charge is short.	<ul style="list-style-type: none"> The tyres are not inflated sufficiently. Frequent stop/start. Climbing hills or riding against a head wind. Battery capacity is in decline. 	<ul style="list-style-type: none"> Inflate the tyres. Pedal more when starting or climbing. Replace the old battery with a new one.
The power indicator is not on after the charger is connected to a power supply	<ul style="list-style-type: none"> AC outlet has no power. Input 2A fuse inside the charger is damaged. 	<ul style="list-style-type: none"> A competent person should test whether the outlet has power. Replace the fuse in the power plug. If the above has no effect, contact our company's authorised maintenance centres.
The power indicator on the charger is on, but always red and unrelated to the charging status.	<ul style="list-style-type: none"> 5A output fuse inside the charger is damaged. The charging plug seat inside the battery box is in poor contact. 	<ul style="list-style-type: none"> Insert and pull out the charging plug to check and ensure good contact. If the above has no effect, contact your PowaCycle authorised maintenance centre.
The power indicator on the charger is on, but always green and unrelated to the charging status.	<ul style="list-style-type: none"> The fuse of the battery box (20A) is damaged. There is an electric abnormality. 	<ul style="list-style-type: none"> Replace the fuse of the battery box. Pull out the charging plug and reinsert.

Optimising Battery Life

Puma LPX and Lynx LPX are powered by Lithium Polymer batteries. These are a stable and safe battery technology. They have the advantage in that they will tolerate shallow charging. Unlike NiMH or NiCad batteries there is no permanent power loss in the event of regular shallow charging.

For longer periods of battery storage, a cool or cold temperature is better for prolonging the Li-Pol battery life. Avoid keeping the battery at full charge and high temperature (25 degrees C. plus) for extended periods.

When in storage the battery prefers a partial charge ideally 40% rather than a full charge. If storing the battery for a few months, it is best not to keep "topping up the battery", however the battery should not be stored in a fully discharged state either. Frequent full discharges should be avoided when possible, and the battery recharged ASAP, but ideally no longer than 48 hours after a full discharge.

PowaCycle™

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Lynx LPX



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