

*Super Electric*TM

P110 intelligent rear hub motor TFT version

User manual



1.Product instruction

1.1 Introduction of P110 motor TFT version

P110 motor is a new type of intelligent brushless motor which is developed by our company after many years of research and development. The motor not only has the characteristics of smaller size and lighter weight, but also integrates various sensors and controllers.

P110 motor has dynamic pedal torque control and slope sensing function. The maximum torque can reach more than $40\text{N} \cdot \text{m}$. This large torque brings strong climbing ability.

More than 90% electric conversion efficiency makes the electric bicycle travel longer.

High-precision parts and precise assembly make the motor's noise reach the lower decibel level in record-46DB. It makes you hardly hear the sound of the motor when riding.

TFT version motor can work by simply connecting the external battery and TFT display.

1.2 Package list

Serial No.	Products details	Item No./Name	QTY
1	P110 rear motor	P110SWXRC / P110SWXRDC	1
2	TFT LCD display	TFT320 / TFT220	1
3	Accessories package	Connecting cable	1
		M12 Washer	2
		M12*1.25 Nut	2
		Cassette tool	1
		Tie	Several

1.3 Marking instructions



1.3.1 Position: Marked by laser on the motor end cover.

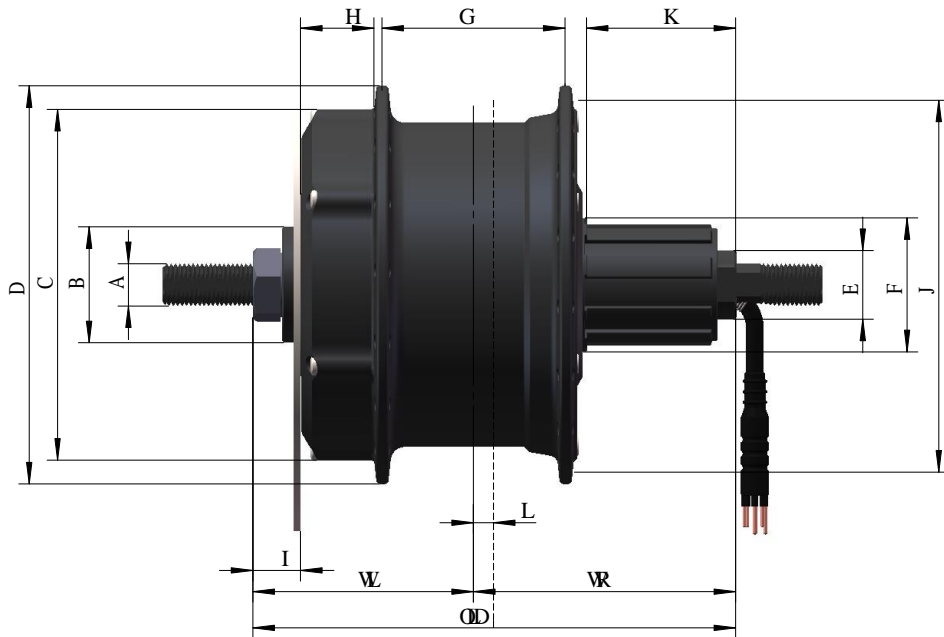
1.3.2 Number interpretation:

1st line: Brand | Motor version number

2nd line: Motor model | Serial number

3rd line: Display | Speed | Voltage | Power | RPM

1.4 Dimensions



A	2- M2Xl. 25- 6g
B	∅33mm
C	∅99. 6mm
D	∅113mm
E	∅19. 5mm
F	∅38mm
G	52mm
H	20. 87mm
I	13. 5mm
J	∅104mm
K	42. 5mm
L	5. 9mm
WL	62. 65mm
VR	74. 45mm
OD	137. 1mm

2. Motor Specification

Item No.	P110SWXRDC36/P110SWXRC36
Diameter	113mm±1mm
Width	135±2mm
Brake types	Disc brake / V brake
Outlet position	Under the shaft on the right side
Free-wheel types	Cassette & Whirl
Gears	1s, 7-10s, 11s
Spoke no.	20H, 24H, 28H, 32H, 36H
Spoke types	14g
Controller	Internal
Sensor	Internal
Rated power	250W
Max. power	750W
Max. torque	>40N·m
Rated voltage	36V
Rated input current	7.8A
Reduction ratio	1 : 13.5
Grade-ability	>20%
Efficiency	>90%
Revolution	160-260RPM
Applicable wheel diameter	14-29inch
Color	Black/Silver
Noise	<50dB
Operation temperature	-20-45°C
Storage temperature	-20-45°C
Waterproof & Dust-proof	IP65
Weight	2.4KG

3. Installation instructions

3.1 Please first check the packing list to confirm whether the motor specification is consistent.

3.2 Before installation, be sure to check that each screw and nut of the motor is intact. Don't remove the screws and nuts on the motor.

3.3 It's recommended to use 14g spokes to lace the rim, and the spokes tension range is 700-1300N. (If you buy a motor with spokes wheels, please ignore this step)

3.4 Using the attached cassette freewheel sleeve to install the flywheel of the motor correctly.



3.5 It must use the original disc brake screws of the motor to fix the disc brake, otherwise the motor may be damaged. (If it's a V brake motor, please ignore this step)



3.6 After installed the motor flywheel and disc brake, please fix the entire motor wheel to the bicycle rear fork. It's recommended to tighten the nuts at both end with a torque not exceeding $25\text{N} \cdot \text{m}$.(Note: The motor outlet must be installed outside of the frame slot opening)



3.7 According to the relevant instructions, install and fix the battery, display, cable, etc.

3.8 Connect the corresponding plug. Be sure to align the arrows at both ends of the motor plug and the connecting cable socket. And insert it to the position of the raised line. Otherwise, the motor may not work or even burn out.



3.9 After confirming that the components are installed and connected, turn on the battery switch (if any), press and hold the power button of the TFT display for 2s to start it, then set the wheel diameter, motor maximum output power, battery voltage, maximum speed, kilometers and miles according to the TFT display instruction. (Abnormal horizon may cause the motor to work unstable and affect riding)

3.10 After confirming that the electrical system can work normally, the installation is complete.

4. Notes:

4.1 Please install electrical components such as motors, cables, display, batteries, etc. strictly in accordance to the manual.

4.2 Please avoid high-pressure water gun spraying on the motor and avoid immersion in water. When cleaning with a low-pressure water gun, do not directly shoot the cassette body, bearings and other parts. (the tightness will be reduced after long-term use)

4.3 In order to perform optimally, the battery's power needs to reach a peak output power of 800W. If it cannot be achieved, the maximum power limit in the display must be lowered before use, otherwise the battery may enter over-current protection.

The maximum power setting algorithm of the display is as follows:

Maximum power(P) = Battery under voltage(V) ✖ □ Battery maximum current(A)

For example: with a 36V battery, the under voltage is 29V, and the maximum current is 20A.

The maximum power should set as 29V ✖ □ 20A = 580W

4.4 Through pedal induction, the motor starts to assist; the pedal stops and the motor stops working.

4.5 Power-assisted Level 0 is to turn off the motor power, and higher level can provide stronger power. When driving uphill and headwind, you can increase the level appropriately to provide better motor assistance.

4.6 After riding, please place your bike properly. You can turn off the electrical system manually, otherwise the electrical system will automatically sleep after stopping for 5 minutes.

4.7 Do not expose motors, cables, displays, batteries to the rain, snow, high temperature, and high humidity for a long time. If it is stored for a long time, turn off the power and avoid storing it near a heat source.

4.8 When setting the driving speed, please pay attention to the maximum driving speed of electric bicycles according to the local laws and regulations.

5. Common problems and Solutions

Common problems	Solutions
The TFT display displays normally, but the motor does not work	<ol style="list-style-type: none"> 1. Check if the battery is normally powered 2. Check if the interfaces of each parts are connected properly 3. Check if there is a problem with the instrument settings 4. If the problem cannot be solved after 1, 2, and 3, please contact the official after-sales service
TFT display reports Error 01 High Voltage.	The battery voltage is too high. Check if the battery and motor are matched
TFT display reports Error 02 Low Voltage	The battery voltage is too low, charge the battery
TFT display reports Error 03 Over Current	Over current protection, restart the motor if the fault persists, please contact the official after-sales service
TFT display reports Error 04 Motor Hall	Measurement feedback is invalid, if the fault persists when rotating the pedal, please contact the official after-sales service
TFT display reports Error 05 Hall Signal	Please contact the official after-sales service
TFT display reports Error 06 MOS	Restart the motor, if the fault persists, please contact the official after-sales service
TFT display reports Error 07 Three-Phase Power	Please contact the official after-sales service
TFT display reports Error 0A High Temperature	The temperature of the motor is too high. Please let the motor stand still, it will automatically recover after cooling down.
TFT display reports Communication Error	Check if the connection is normal, if the connection is normal, please contact the official after-sales service
TFT display cannot be turned on	<ol style="list-style-type: none"> 1. Check if the battery is supplying power normally 2. Check whether the interfaces of each parts are connected properly 3. If 1, 2 are normal, please contact the official after-sales service
Abnormal sound of the motor	<ol style="list-style-type: none"> 1. Please check the abnormal sound that is not caused by other parts of the bikes 2. Contact the official after-sales service

6. Warranty

The warranty period of this product is 24 months from the date of production (subject to the product serial number),

We promise: for P110 series motors with non-human fault during the warranty period, we will replace them free of charge (excluding the freight sent back from the user).

For the products that need to be repaired within the warranty period, the original warranty period shall be extended for 12 months.

Other cases shall be handled according to the agreement of both parties.

Warranty exclusions:

- ① The product is modified or disassembled for maintenance without authorization of our company;
- ② Damage is due to the following reasons: including but not limited to accident, abuse, negligence, abnormal installation, abnormal repair, abnormal maintenance, change, modification or other abnormal, excessive or abnormal use.
- ③ The liability of each party for the damage suffered during transportation shall be determined in accordance with incoterms.
- ④ Appearance damage or degradation caused by surface polishing, beautification, etc.
- ⑤ Damage caused by improper transportation or storage of the buyer.
- ⑥ Damage caused by unreasonable user configuration or unauthorized change of relevant accessory parameters.
- ⑦ Damage caused by force majeure.
- ⑧ Although the damaged parts were purchased by our company according to the buyer's requirements, they were not manufactured by our company.

Contact us

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