Bluetooth Programmable Brushless DC Motor Controller

	Model	YKZ7240JN -B
1	Installing Dimension	184 x 86 x 45 mm
2	Waterproof Grade – water resistant	IP 65
3	Gross Weight	0.68 kgs
4	MOSFET Quantity	12 TO-220 Package
5	Max Voltage Range	33V – 87.6V
6	Default Under Voltage	33V (Can be set by app to user battery Voltage)
7	Current (Climbing or Off Road)	20A – 40A
8	Rated Current (Flat Road)	Best < 20A
9	Phase Peak Current (Few Seconds)	100A
10	Peak Available Motor Power	72-85V 40A
11	Default Motor Phase Angle	120 Degree
12	Throttle Working Voltage	3.8V - 4.8V
13	Brake Signal	0 - 5 V
14	Case Material | Color	Aluminum | Silver or Black
15	App Bluetooth Programmable Support both of iPhone & Android (Password: 12345678)	

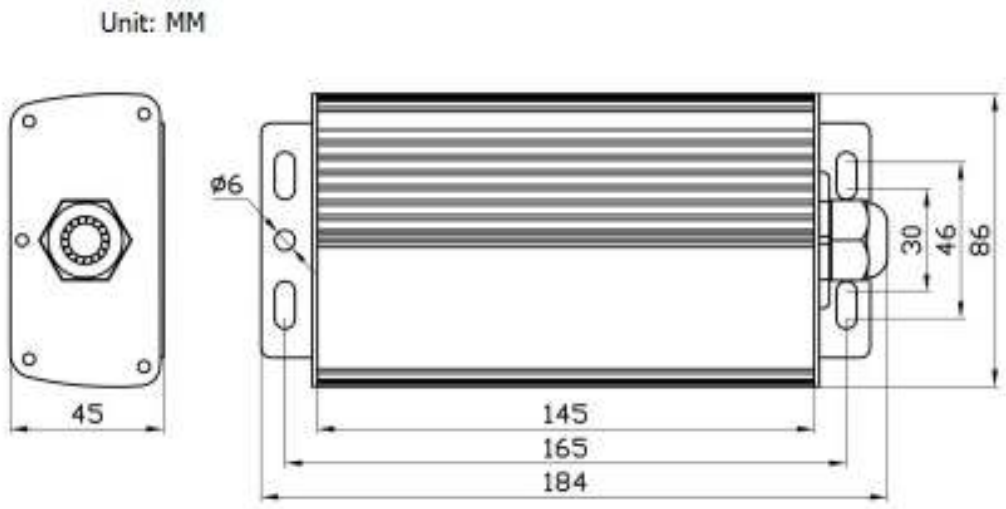
General Specifications:

•Frequency of Operation: 15.6 kHz.
•Standby Battery Current: < 0.5mA.
•5V Sensor Supply Current < 30mA.
•Supply Current, PWR, <200mA.
•Analog Brake and Throttle Input: 0-5 Volts. Producing 0-5V signal with 3-wire pot.
•Full Power Operating Temperature Range: 0°C to 50°C (controller case temperature).
•Operating Temperature Range: -30°C to 80°C, 100°C shutdown (controller case temperature).

Protection features

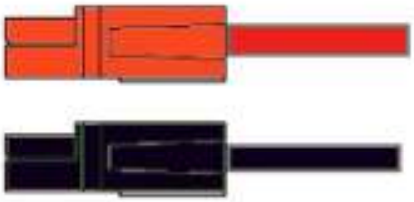
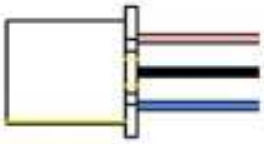
1). Overheat protection. The controller will be cutoff if inner temp ~ 100°C .
2). Throttle error protection function when starting
3). Throttle error protection function when running
4). Hardware over current protection
5). Low Voltage Protection
6) Over Voltage Protection 87.6V

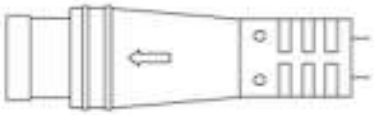
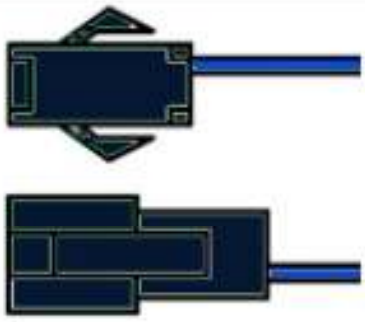
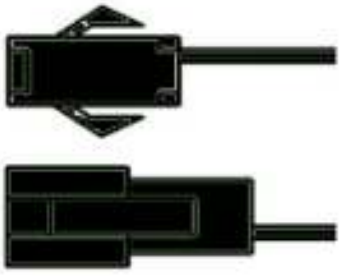
Outline Drawing



Wires Drawing

PLEASE NOTE: NOT COVERED BELOW IS THE "BULLET" CONNECTOR – THIS CONNECTION IS FROM THE RED BATTERY B+ TO THE CONTROLLER. THIS MUST BE PLUGGED IN FOR POWER

Connector / Wires	Sketch	Details
Motor Connectors		Connector to Motor Black /GND White /PAS Signal Red / +5V Green / Hall A Blue / Hall B Yellow / Hall C Green / Phase A Blue / Phase B Yellow / Phase C
Battery		Connector to Battery Red B + Black B-
Throttle Wires		Red +5 Output Volt Green 1 - 4 Volt Signal Input Black Ground
3 Speed Wires		Blue Low Speed Black Medium Speed Pink High Speed It can be programm by APP PNK to BLK = High BLK to BLK = Med BLU to BLK = Low
Reverse		Brown to Reverse Switch Contact Black to Reverse Switch Contact It can be programmed by App from 10 -100% of full Speed

Connector / Wires	Sketch	Details
Low Brake		Gray to Brake Switch Contact Black to Brake Switch Contact
Low Brake		Gray to Brake Switch Contact Black to Brake Switch Contact
S100 Meter		Connector S100 Meter, It needs with a Hall sensor to read the speed.
Speed Limiting		Plug In - Speed Limiting 60% Plug Off - No Speed Limit The percentage can be programmed by APP from 30 - 60 %
PAS Sensor Switch		Plug In - PAS Turn On Plug Off - Pas Turn Off
PAS		Red/ + 5V Green / PaS Sensor Signal Black / GND
Bluetooth		To Bluetooth Module Contact Red / +5V Green / Transmit Yellow / Recepit Black / GND 

How to use PHONE APP.

Pairing for the controller bluetooth module and smartphone. The password is 12345678.

1) **Please go to Emotor - Me – Vehicle Calibration to calibrate the value of Conversion Ratio. Otherwise the speedometer, odometer and other related data will be incorrect.**

How to calibrate for your bike

- APP–Me-Vehicle Calibration
- Turn on Calibration On/Off
- Click to Obtain Start Distance and get a value.
- Push bike perfectly straight exactly meters
- Click to Obtain of End Distance and get a value.

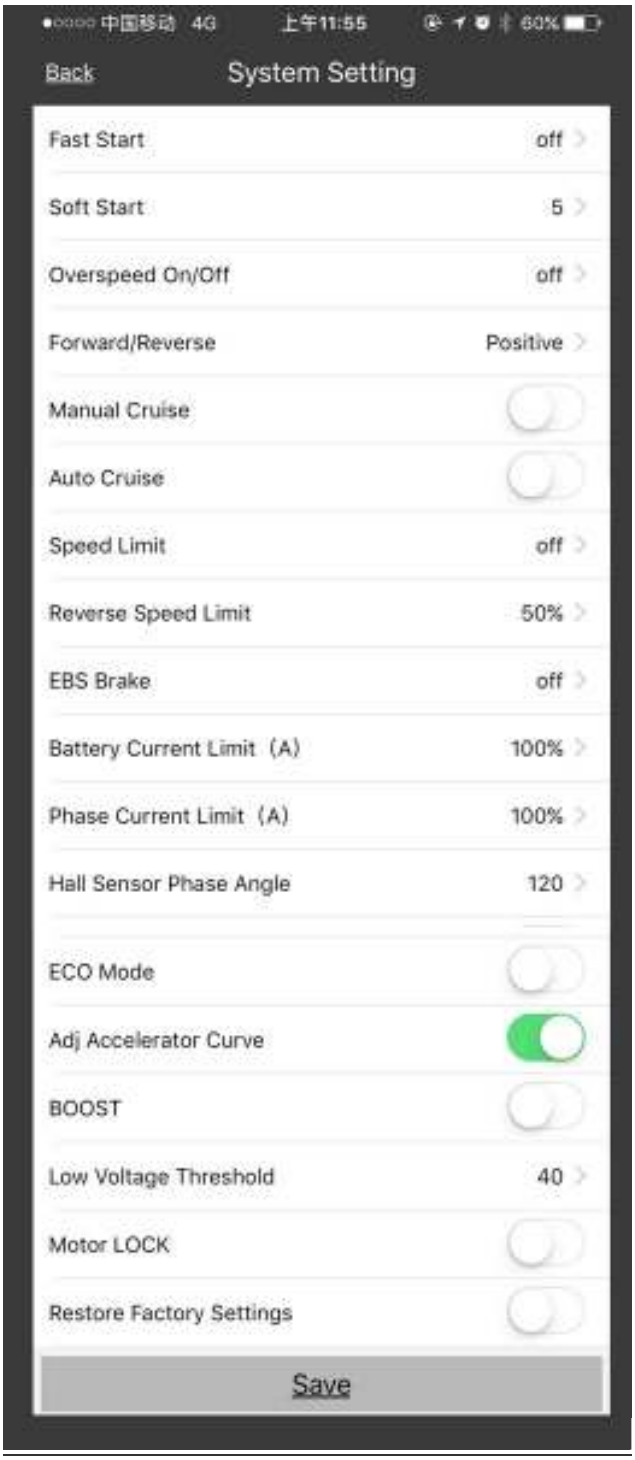
A value will be shown for Conversion Ratio, this value MUST BE BETWEEN 1- 1000, IF SO please apply it. IF NOT BEGIN AGAIN.

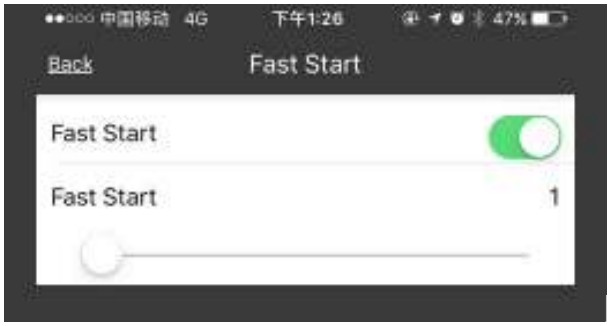
APP Display – Both of Android & iPhone

Display Data:

- Time Speedometers
- Model No.
- Time Input Voltage
- Battery Remaining percentage, it displayed after "Time Input Voltage". Only works with 72V battery and will be incorrect for other batteries so far.We will improve it infuture.
- Time Input Current
- Controller inner Temperature
- Single Battery Trip Distance
- Working Status (Hall Sensor)
- Mode (Normal/Economic)
- AverageSpeed (AVS)
- Max Speed (MXS)
- ODO – Odometer
- Remaining Distance with Current Battery.

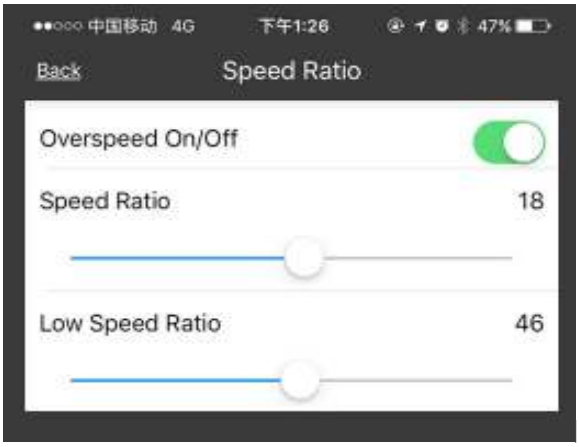
APP Configurable Features - Me < System Setting





1• Configurable Fast Start: It has 10 Grades. The 10 Grade is the Hardest Start.

2• Configurable Soft Start: It has 10 Grades. The 10 Grade is the softest Start.



3• Configurable over speed.

- ***Configurable Low speed from 10% - 80 % of full speed.***
- ***Configurable High speed to 105% - 130% of full speed. It works while it is at high speed.***
- ***Mid Speed is fixed 80% of full Speed.*** **4•**

Forward / reverse, it is option for motor direction.

It can be adjustable while the motor runs anticlockwise

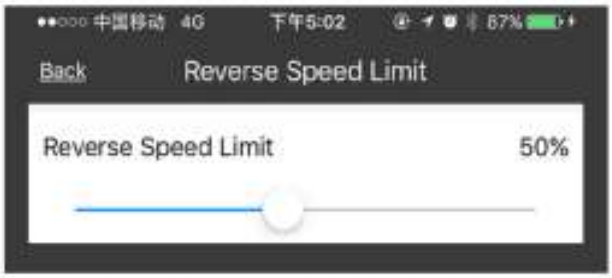
5• Manual Cruise Turn on / off

Manual Cruise needs press the wires button and turn on of Manual cruise on APP.

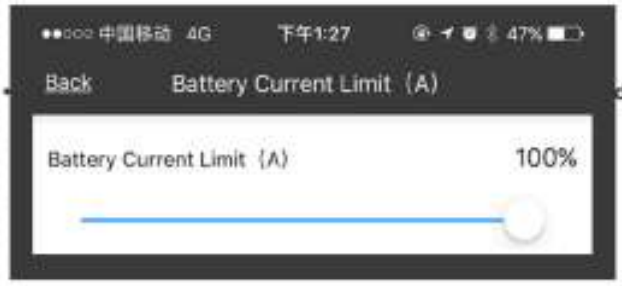
6• Auto Cruise Turn On / Off

It will be going into Auto cruise while the speed keeps 8 seconds uncharged.

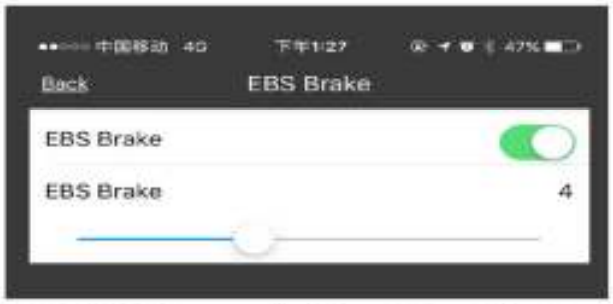
7• Speed Limit, it can be configurable from 30% to 60% of full speed. It is conflict with Overspeed (Point 3).



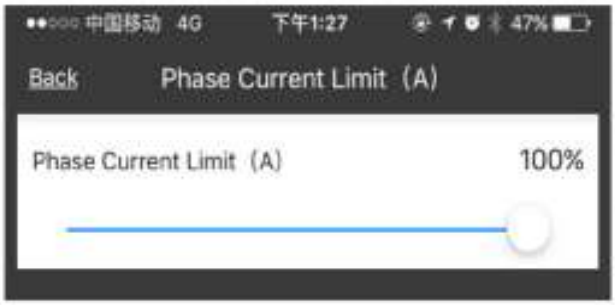
8• Reverse Speed Limit, it can be configurable from 10% to 100% of full speed.



10• Configurable Max current from 50% - 100%.



9• EBS / ABS / Regenerative, it has 10 Grade, the 10 is the strongest one. It only works with the voltage under 72V. The regen will be close automatically while the voltage above 80V.



11• Configurable Max current from 50% - 100%. It concerns to torque.

12• Options for Motor Angle..

13• Configurable the Low Voltage, the value

14 • ECO Mode Turn On / Off

- **Under this mode (Economic Mode), it can be extended distance for a single battery.**

15 • Adj Accelerator Curve

- **It is for adjusting the curve of throttle.**

16 • BOOST

- It is firmest start for the off road. But does not add any top speed.

17 • Motor LOCK

- The motor will be locked for extra security when your bike is parked – yes a thief could still roll or pedal away.

18 • Restore Factory Settings. (Two – yes TWO are YOU SURE prompts)