E-GM Edition Controller - Installation And Operation Manual 101

When you receive the controller, please hook it up temporarily to a battery and motor to confirm everything is functioning properly, prior to permanent installation.

Connection Instructions

1. Connect the throttle to the controller. The connector type and pin-out may not match your existing connector, since manufacturers have not yet standardized.
   a) Pin-out info: **red** = +5v, **green** = signal, **black** = ground

2. Connect the motor hall and phase wires to the controller. The connectors and color codes of both the hall wires and the phase wires may not match your existing connector, since manufacturers have not yet standardized.
   a) For known color codes of both hall and phase wires
   b) If you do not see your motor listed, click here for a combination matching sheet.

3. Connect the battery to the controller. The thin red wire is for ignition. You may need to connect it to the battery positive to start your "engine".

4. Connector the ignition wire to activate the controller.

5. Turn the throttle gently and confirm that the motor spins.

Once the controller is confirmed functional, you can find a permanent place to mount it on your electric bike, along with your motor and battery pack.
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USB-TTL Programming Adapter, and Software Driver Installation

Let's focus on the driver setup first.

Do not insert the USB-TTL programming adapter yet.

1. Download the driver here (Windows Vista & Windows 7 32bit/64bit),
or here for (Windows XP driver only), and save it to a folder on your computer.

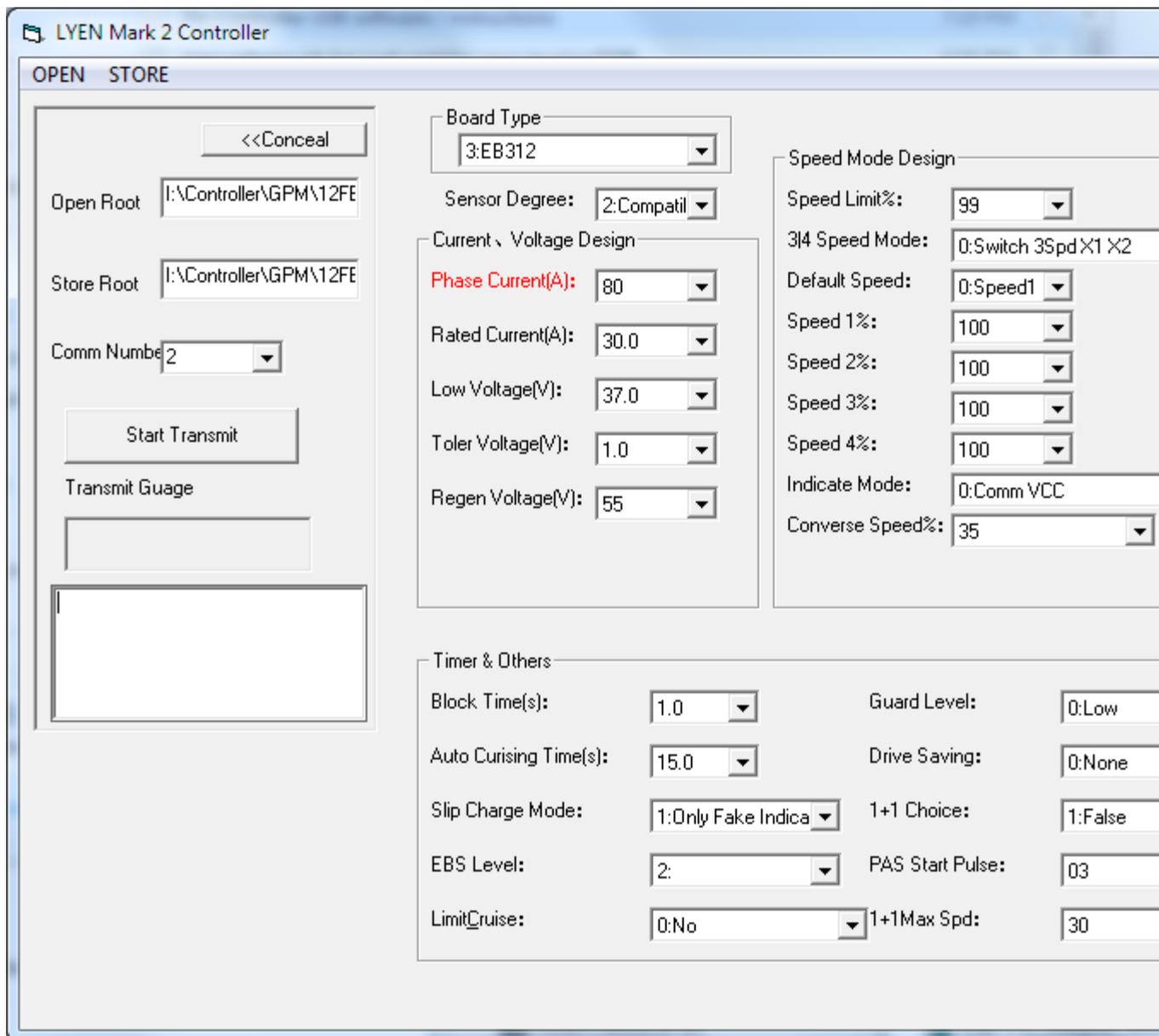2.Unzip and extract the zipped file to a local directory. *(example: My Documents, Desktop, C:\temp, etc.)*

3. Open the program *USB-TTL_Programming_adapter_driver.exe*

4. Follow the on-screen instructions.

5. When setup is complete, you may need to restart your computer.

6. If so, restart computer and insert the USB-TTL programming adapter into a spare USB port.

7. Verify that the USB-TTL adapter driver is installed properly by going to START > Control Panel > System > System Properties > Hardware > Device manager > and expand the Ports (COM & LPT). Look to see if there is a yellow exclamation mark by the adapter driver. I not, The installation process is complete. If you see the yellow exclamation mark.

Program Installation

1. Download the program [here](#) and save it to a folder on your computer.

2. Open the folder and unzip the files to a new folder.

3. Open the program named **Install.bat** if you are running 32bit OS such as Windows XP or newer OS. For 64bit OS, select *Run as administrator* and click **Install64.bat**

4. The program will then register 4 files. Simply click ?OK? 4 times, once for each file registration, and you should be ready to go.

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Definition Of Program Parameters**:**

LYEN Mark 2 Controller

OPEN   STORE

Board Type
3:EB312

<<Conceal

Open Root   I:\Controller\GPM\12FE

Store Root   I:\Controller\GPM\12FE

Comm Numbe 2

Start Transmit

Transmit Guage

Sensor Degree: 2:Compatil

Current、Voltage Design
Phase Current(A):   80
Rated Current(A):   30.0
Low Voltage(V):   37.0
Toler Voltage(V):   1.0
Regen Voltage(V):   55

Speed Mode Design
Speed Limit%:   99
3|4 Speed Mode: 0:Switch 3Spd X1 X2
Default Speed: 0:Speed1
Speed 1%:   100
Speed 2%:   100
Speed 3%:   100
Speed 4%:   100
Indicate Mode: 0:Comm VCC
Converse Speed%:   35

Timer & Others
Block Time(s):   1.0
Auto Curising Time(s):   15.0
Slip Charge Mode: 1:Only Fake Indica
EBS Level: 2:
LimitCruise: 0:No

Guard Level: 0:Low
Drive Saving: 0:None
1+1 Choice: 1:False
PAS Start Pulse: 03
1+1Max Spd: 30

1. Open File

2. Save File

3. <<Hide, >>Expand

right portion of the menu

4. Open Path

5. Save Path

6. Comm Port

7. Start Transmit

8. Transmit Progress

9. Transmit Status

10. Save To Directory

11. Save On Directory

12. Board Type

13. Hall Angle

14. Current, voltage setting

15. Phase Current (A)

16. Rated Current (A)

17. Low Voltage Cutoff (V)

18. Voltage Tolerance (V)

19. Highest Regen Limit (V)

20. Timer & Others

21. Block Time (s)

22. Auto Cruising Time (s)

23. Slip Charge Mode

24. EBS Level

25. Limit Cruise 3 Speed

26. Speed Mode Define

27. Limit Speed (%)

28. 3 / 4 Speed Mode

29. Startup Speed

30. Speed 1 (%)

31. Speed 2 (%)

32. Speed 3 (%)

33. Speed 4 (%)

34. SP Indicate Mode

35. Reverse Speed (%)

36. Guard Level

37. Drive Saving

38. PAS Choice

39. PAS Sense/Load

40. PAS Max Ratio

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Programming Instructions

1. Unplug the controller from the electric bike battery.

2. Plug the USB-TTL programming adapter into a spare USB port.

3. Wait 30-60 seconds for the computer to recognize and install the driver for the adapter

4. Verify the USB-TTL adapter driver is installed properly, by going to START > Control Panel > System > System Properties > Hardware > Device Manager, and expand the Ports (COM & LPT) to confirm that the COM port for the USB to Serial Adapter appears. If you see a yellow exclamation mark.

5. Plug the USB-TTL programming adapter into the JST-SM 5 pin connector of the controller.

6. Open the file called *E-GM_MK2.exe*

7. Load the profiles by clicking *OpenFile* for your controller (For example, 6 FET.asv, 12 FET.asv, 18 FET.asv, 24 FET.asv, etc.). It will then display the default value.

8. When you are satisfied with your settings, save a copy by clicking on *Save File.*

(Use a name other than the default profile, to avoid overwriting it)

9. Select *"Comm Num"* to choose the Com Port associated with the USB adapter. (You can confirm the port number by opening Control Panel > Phone and Modem Options).

10. When you are ready to send the settings to the controller, click *Start Transmit* program command.

11. The press the button on the USB-TTL adapter and hold it for 5 seconds. The status box will display *?O.K*?, indicating it has been transmitted successfully.

13. Click *Stop Transmit* program command.

14. Disconnect the USB-TTL programming adapter from the 5 pin connector of the controller.

15. Disconnect the USB-TTL programming adapter from your computer.

16. Close the program.

17. Reconnect the electric bike battery to the controller

18. You are now ready to perform a test ride with the newly programmed controller parameters.

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Connector and Wiring Description

1. Connect the battery to the controller. The thin red wire is for ignition. You may need to connect it to the battery positive to start your "engine"

2. Battery Connector

Red =   Battery positive

Black = Negative

3. Phase Wire Connectors

Yellow = Phase A

Green = Phase B

Blue =   Phase C

4. Hall Sensor Connector

Red =   +5V

Black =   Ground

Yellow = Hall A

Green = Hall B

Blue =   Hall C

5. Throttle Connector

Red = +5V

Green = Signal

Black = Ground

6. E-Brake Connector

Yellow = Signal

Black   = Ground

7. *Cycle Analyst* Direct Plug module connector

Pin 1: Red = Battery +

Pin 2: Black = Ground

Pin 3: Black = Shunt -

Pin 4: Yellow = Shunt +

Pin 5: Green = Speed sensing

Pin 6: Blue = Hall Effect Throttle Over-Ride

8. Regenerative Braking jumper wire

Both wires are White > connect = enable, disconnect = disable

9. USB-TTL Programming Adapter connector

Pin 1: Red =   +5v Feed

Pin 2: Red =   +5v

Pin 3: Black = Ground

Pin 4: Green = Transmit

Pin 5: White = Receive