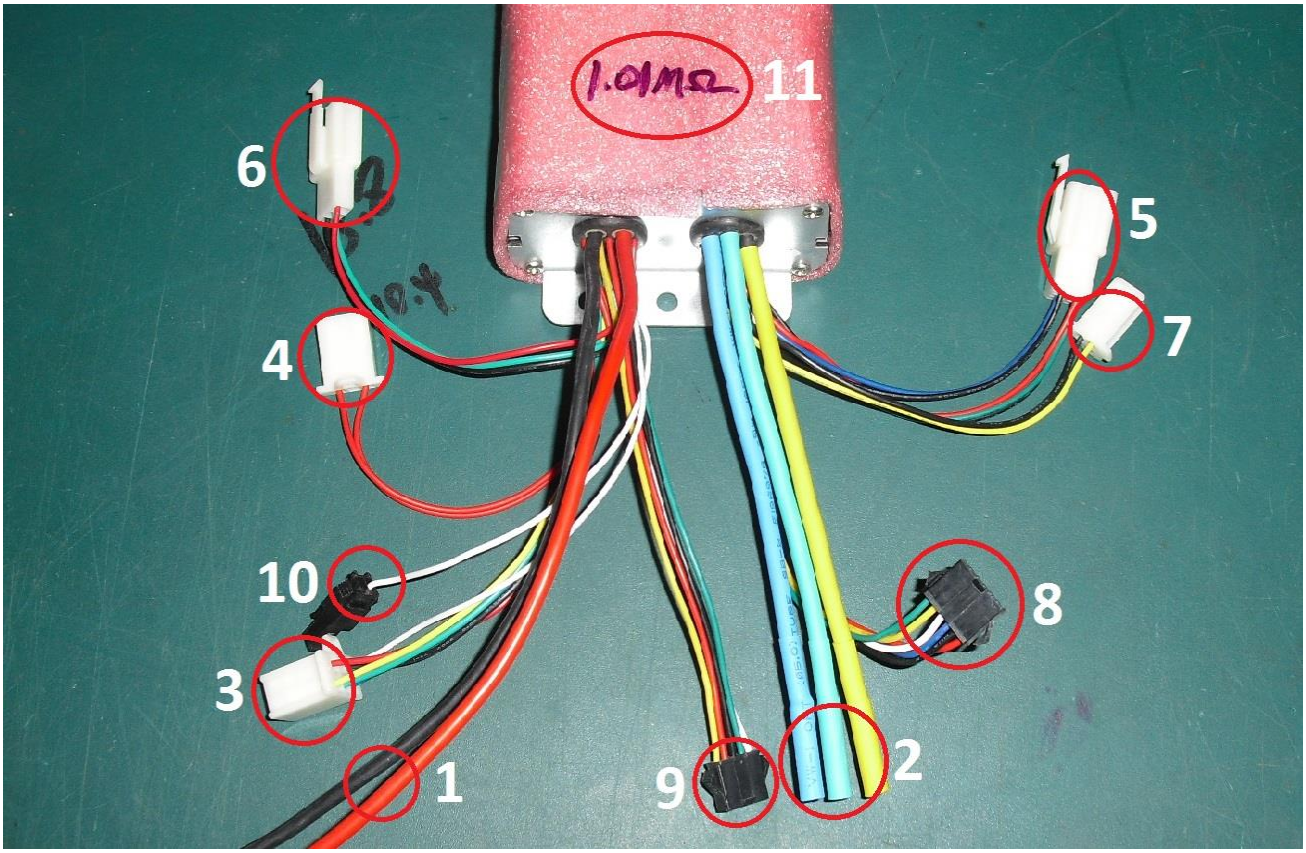
Standard EM3ev Infineon controller connections on all models apart from the 6 fet 4110.



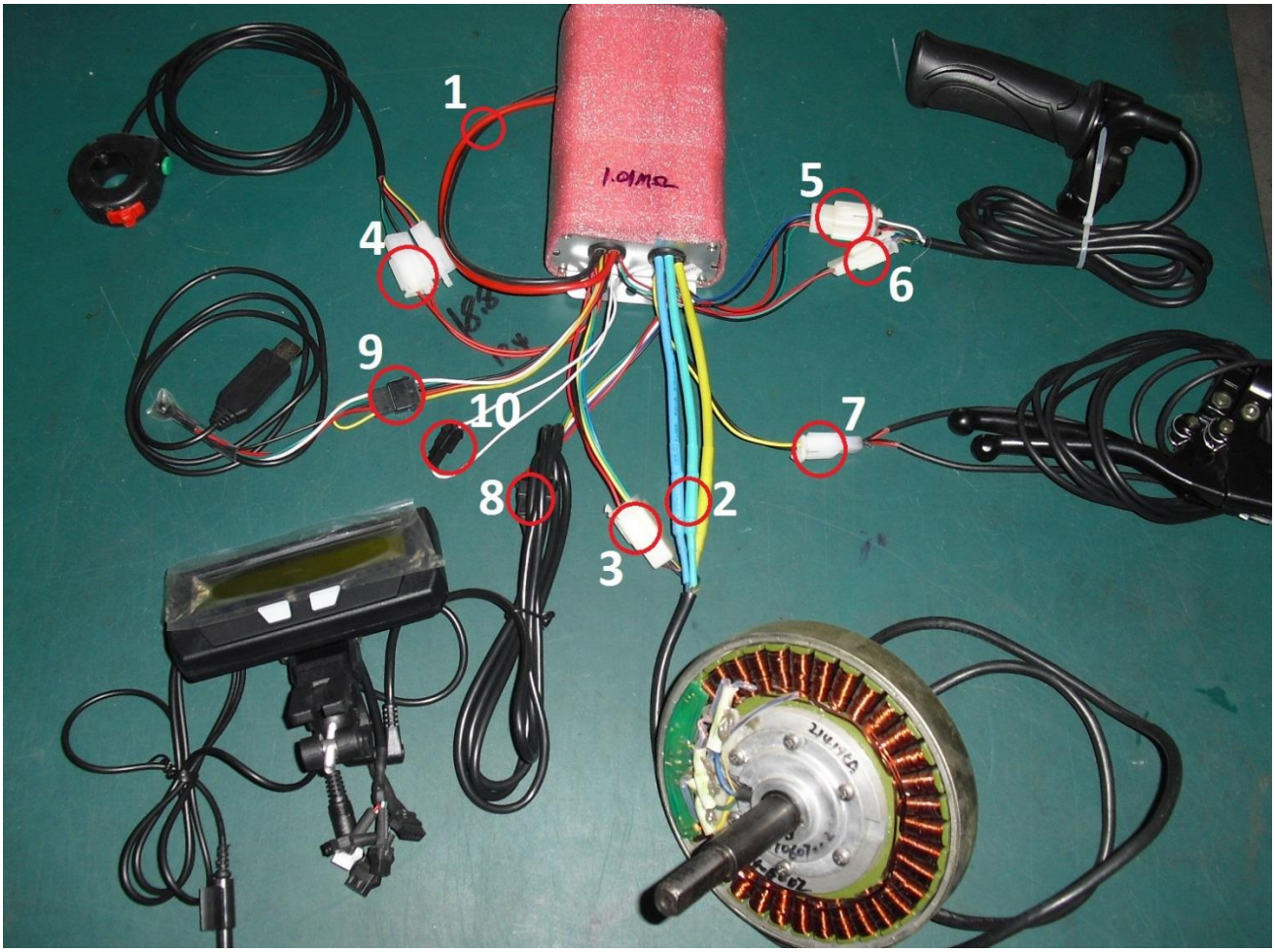
Key for above Image:

1. Battery connection. Black is 0V from Battery, Red is Positive Supply.
2. Motor Phase wires. For EM3ev supplied motors, these will be colour to colour matched. For 3rd Party motors, it may be necessary to swap colours. Use extreme caution until the correct Hall and Phase combination has been determined.
3. Motor Hall sensors. For EM3ev supplied motors, these will be colour to colour matched. For 3rd Party motors, it may be necessary to swap colours. Use extreme caution until the correct Hall and Phase combination has been determined.
4. Ignition. The controller is powered off until the Ignition wires are linked via a switch.
5. Throttle and Cruise. Cruise function causes the controller to lock onto the present throttle setting when cruise button is pressed. Speed is maintained with no throttle input until ebrakes are applied or throttle is applied again.
6. 3 speed switch. If unterminated, the controller defaults to speed 2 (75%). Speed 1 is 50%, speed 3 is 100%.
7. Ebrakes. The controller functions without ebrakes connected, but they are recommended for safety purposes.
8. Cycle Analyst Plug.
9. Program Cable.
10. Regenerative Braking Enabled (linked) and Disabled (not connected).
11. Shunt resistance value. This is a required parameter to configure a Cycle Analyst CA-DP or CA-DPS.

Note:

The white link wires as shown above (10) are not used for Regen Braking on the 6 fet 4110. The 6 fet 4110 has Regen Braking permanently enabled and the white link wires are instead used for Input Voltage range Selection. With white wires linked, the controller is configured for 36-60V Packs. For 72V Packs, disconnect the white wire link.

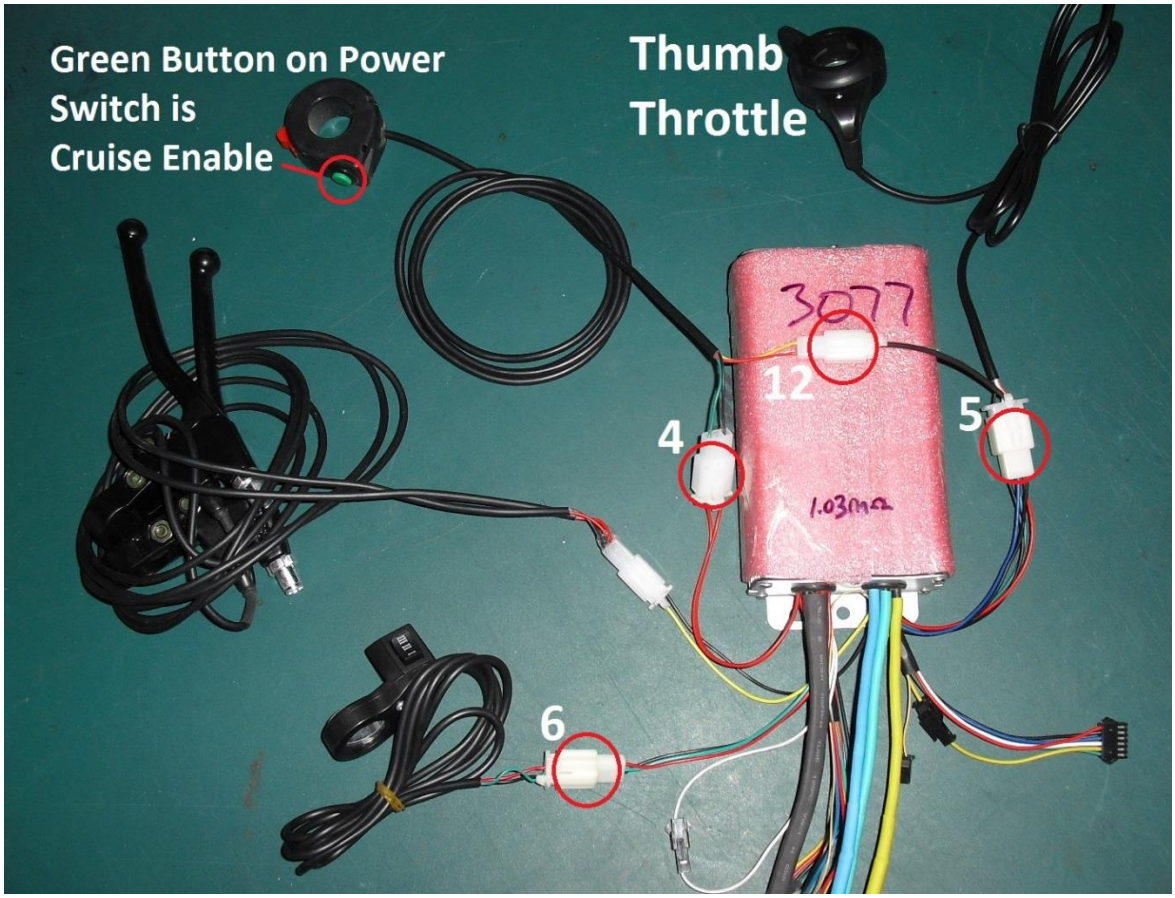
Standard EM3ev Infineon controller with typical connections including CA Vers.2.



Using the exact same key as the previous image, but this time with parts actually connected and including CA V2:

1. Battery connection. Black is 0V from Battery, Red is Positive Supply.
2. Motor Phase wires. For EM3ev supplied motors, these will be colour to colour matched. For 3rd Party motors, it may be necessary to swap colours. Use extreme caution until the correct Hall and Phase combination has been determined.
3. Motor Hall sensors. For EM3ev supplied motors, these will be colour to colour matched. For 3rd Party motors, it may be necessary to swap colours. Use extreme caution until the correct Hall and Phase combination has been determined.
4. Ignition. The controller is powered off until the Ignition wires are linked via a switch.
5. Throttle and Cruise. Cruise function causes the controller to lock onto the present throttle setting when cruise button is pressed. Speed is maintained with no throttle input until ebrakes are applied or throttle is applied again.
6. 3 speed switch. If unterminated, the controller defaults to speed 2 (75%). Speed 1 is 50%, speed 3 is 100%.
7. Ebrakes. The controller functions without ebrakes connected, but they are recommended for safety purposes.
8. Cycle Analyst Plug.
9. Program Cable.
10. Regenerative Braking Enabled (linked) and Disabled (not connected).

Using EM3ev Infineon controller with Thumb Throttle.



When using a thumb throttle the unused green push button on the Power Switch functions as the Cruise Button. The Thumb Throttle connector has an additional lead with plug that matches the 2 pin plug on the Power Switch. Key Below:

4. Ignition. The controller is powered off until the Ignition wires are linked via a switch (as previously shown).
5. Throttle and Cruise. Notice a short additional lead which links to the matching 2 pin shell on the Power Switch (labeled 12 in above).
6. 3 speed switch. The Thumb throttle does not have an integrated 3 speed (or Cruise), so a separate 3 speed switch is used, as shown in image above.
12. Cruise function. The short flying lead from the throttle plug (5) allows the spare push button on the Power Switch to be re-purposed for Cruise function.

Details of Integrated Throttle.

The integrated throttle as shown left has a 3 speed switch, details as below:
Speed 1 – I (programmed to 50% as standard in EM3ev Infineon)
Speed 2 – 0 (programmed to 75% as standard)
Speed 3 – II (programmed to 100% as standard)
Press cruise button and the controller will be fixed at the present throttle opening. You can now remove the throttle input and the controller will continue at the same speed. Cruise function will continue until either the ebrakes are used or throttle is applied.