

SPD-481000BLDC 48-72 Volt DC 800/1000 Watt Brushless DC Motor Controller

Operating Voltage: 48-72 Volts DC (Works with 48V, 60V, and 72V Battery Packs)

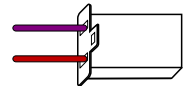
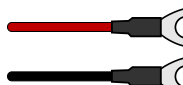
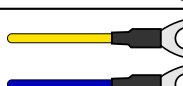
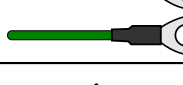

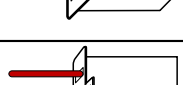
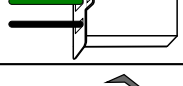

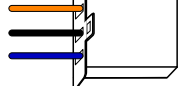
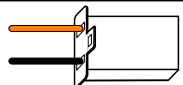
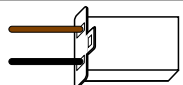
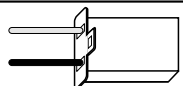
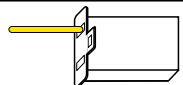
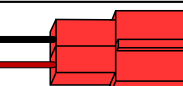
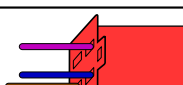
Power: 1000 Watts (Works with 800-1000 Watt Brushless DC Motors)

Current Limit: 35 Amps (35 Amps Maximum Current Output)

Low Voltage Protection: 40 Volts +/-0.5V

Works with both Sensored and Sensorless Brushless DC Motors

Compatible with 120 Degree and 60 Degree Motor Phases

| | | | |
|-----------------------------|---|--|---|
| Power Switch Wires |  | Purple to Power Switch Contact Red to Power Switch Contact | |
| Input Power Wires |  | Red Wire to Battery Positive + Black Wire to Battery Negative - | |
| Motor Phase Wires |  | Yellow to Yellow Motor Phase U Wire Blue to Blue Motor Phase V Wire Green to Green Motor Phase W Wire | |
| † Motor Hall Sensor Wires |  | Red to Red Motor Hall Wire +5V Black to Black Motor Hall Wire GND Yellow to Yellow Motor Hall U Wire Green to Green Motor Hall V Wire Blue to Blue Motor Hall W Wire | |
| * Throttle Wires |  | Red +5 Volt Output Green 1-4 Volt Signal Input Black Ground | |
| * Pedal Assist Sensor Wires |  | Purple PAS Signal Input Red +5 Volt Output Black Ground | |
| † 3 Speed Control Wires |  | Orange High Speed Black Medium Speed Blue Low Speed | BLK to ORG = High BLK to BLK = Med BLK to BLU = Low |
| † Cruise Control Wires |  | Orange to Cruise Control Switch Contact Black to Cruise Control Switch Contact | |
| † Reverse Wires |  | Brown to Reverse Switch Contact Black to Reverse Switch Contact | |
| † Switch Brake Switch Wires |  | White to Brake Switch Contact Black to Brake Switch Contact | |
| † Voltage Brake Switch Wire |  | Yellow to +12V Brake Switch Wire | |
| † Alarm Power Wires |  | Black to Alarm Positive - Input Red to Alarm Positive + Input | |
| † Alarm Signal Wires |  | Purple to Vehicle Power On Signal Blue to Motor Disable Signal Brown to Alarm Power On Signal | |
| † Speedometer Wire |  | Yellow/Green to Speedometer | |
| ** Self Learning Wires |  | Connect Together for Self Learning Mode Disconnect After Self Learning Is Completed | |

† Optional Connections: These wires do not need to be connected for the controller to operate.

* Either the Throttle and or Pedal Assist Sensor needs to be connected for the controller to operate.

** The Self Learning Wires can be connected to train the controller to operate with the motor that it is attached to and then disconnected after the training has been completed.

Controller Programming Directions

The controller requires programming after installation otherwise the motor may not operate normally or the motor's shaft may not rotate in the direction that it needs to.

Programming Directions

1. Prop the drive wheel in the air or remove the chain or belt from the motor. When the Self Learning Wires are plugged together the motor will automatically spin at a reduced speed so the drive wheel of the vehicle need to be propped in the air so it can spin freely, or the chain or belt needs to be removed if propping the drive wheel in the air is not possible.
2. Turn the vehicle's power switch or key switch on.
3. Plug the Self Learning Wires together. If the motor is now spinning in the direction that you want it to then unplug the Self Learning Wires and turn off the vehicle's power switch or key switch. Programming is now complete and the vehicle is ready to use.
4. If the motor spins in the oposite direction that you want it to when the Self Learning Wires are plugged together then unplug the Self Learning Wires, wait 10 seconds, and then plug the Self Learning Wires together again. If the motor is now spinning in the direction that you want it to then unplug the Self Learning Wires and turn off the vehicle's power switch or key switch. Programming is now complete and the vehicle is ready to use.
5. If following the programming directions above does not work then turn the vehicle's power switch or key switch off, wait 10 seconds, and try again.

Installation Notes

Switch and Voltage Brake Switch Wires

1. The Switch and Voltage Brake Switch Wires are optional to connect to and the controller will operate normally with nothing connected to them.
2. When the Brake Switch is activated the controller turns off the motor, and when the brake switch is released the controller turns the motor back on.
3. The Switch Brake Switch Wires connect to a normally open SPST brake switch.
4. The Voltage Brake Switch Wire connect to a +12 Volt DC brake light wire.
5. The Switch and Voltage Brake Switch connectors are optional to use, however, if they are used then use either one or the other, and do not use both of them at the same time.

Cruise Control, Reverse, and 3 Speed Control Wires

1. The Cruise Control, Reverse, and 3 Speed Control Wires are optional to connect to and the controller will operate normally with nothing connected to them.
2. The Cruise Control Wires can be permanently plugged in together, or connected to a 2 position On-Off maintained contact SPST switch. When the cruise control function is enabled, cruise mode is activated when the throttle is released after the vehicle has been running at a constant speed for a few seconds. Moving the throttle again deactivates cruise mode.
3. The Reverse Wires connect to a 2 position On-Off maintained contact SPST switch.
4. The 3 Speed Control Wires connect to a 3 position On-Off-On maintained contact SPDT switch.