TRAILMASTER BLE-PRO

Electronic Speed Controller for Brushed and Brushless Motors

Thank you for purchasing the most advanced Brushless ESC specifically designed for the rigors of fine control robotics and crawling! We hope you enjoy your new product, so please take the time to read through the instructions to get the most from your TrailMaster ESC.

1.0 Features

- Castle Creations Castle Link© compatible
- 2s to 6s LiPo input (25.2v MAX)
- Programmable internal BEC (5v-7v)
- 47x38x23mm
- 70 grams (with battery wires)
- Brushed and Brushless Operation
- Sensored and Unsensored Brushless Operation
- 80a continuous power handling

2.0 Connection

- Tools and Parts required:
  - Wire cutters
  - Wire strippers
  - Soldering iron (40W)
  - Rosin core electrical solder
  - Battery connector

2.1 Adding a battery connector

The battery connector must be added to the power side of the controller. The red wire is positive (+) and black wire is negative(-). The polarity MUST BE CORRECT or the controller will be damaged. Strip enough insulation off of the battery wires to solder on your battery connector to the controller leads. After the connector is soldered and insulated check one more time to make sure the polarity is correct before plugging in a battery.

2.2 Plugging in a motor

It is critical to install your motor correctly to avoid damage to the ESC, Motor and other electronic equipment.

- Brushed Motors
  - Using a Castle Link, set Motor Type to 'Brushed Reversing'
  - Connect the 'A' wire to the positive terminal of the motor.
  - Connect the 'C' wire to the negative terminal of the motor.
  - The 'B' wire will not be used. Wrap with electrical tape to keep clean.
- Brushless Motors
  - Using a Castle Link, set Motor Type to 'Smart Sense Brushless'
  - Connect all phase wires to corresponding wires on motor A->A, B->B, C->C
- Sensored Brushless Motors
  - Connect same as regular brushless motor.
  - Connect sensor wire to sensor port on ESC and on motor. This plug is keyed for installation in only one direction.

2.3 Connecting to the receiver

Connect the receiver lead to the throttle channel on your receiver. Do not connect a battery or external BEC to the receiver unless the red wire is removed from the ESC's receiver lead. Be sure to insert plug with correct polarity.

3.0 Calibration

The ESC uses a combination of sounds and LED flashes to tell you where you are in the calibration sequence. The ESC generates sounds through the motor, so when calibrating your ESC to a transmitter it is best to have a motor plugged in.

3.1 Calibrating the ESC to YOUR transmitter

1. Remove pinion from motor to prevent accidents
2. Plug in battery
3. Hold full throttle on transmitter before ESC arms
4. ESC will beep and begin flashing red rapidly to indicate storage of full forward throttle position
5. Hold full reverse on transmitter until beeping changes
6. ESC will beep rapidly with no lights to indicate storage of full reverse throttle position
7. Position throttle in neutral position, adjust throttle trim until all lights go out
8. After about two seconds, ESC will store neutral position
9. Once calibration is complete, ESC will arm

4.0 Using your ESC

Once the battery connector is installed and ESC is connected and calibrated to your radio, the ESC will arm once the battery is plugged in. There is no on off switch on this ESC, so the battery must be unplugged after use. Full programming can be done on the computer via the Castle Link© software and USB programmer. Minimal features are available with stick programming.

5.0 Stick Programming Mode

Plug a battery into the ESC and hold full throttle on the transmitter before the ESC arms, or have a helper hold full throttle before you plug in the battery. After a few seconds you will get the four rings in a row signaling full throttle calibration. Keep holding full throttle. After a few more seconds, you will hear another four rings in a row. After the second group of four rings, relax the throttle to neutral. If you have successfully entered programming mode, the ESC will beep twice, pause, and repeat the two beeps.

The programming sequence is always presented in sequential order and always starts with the first setting in the list in the following section. The first beep(s) signifies which section of the programming you are in and the second beep(s) signifies which setting is waiting for a "yes" or "no" answer

5.1 Stick Programming Steps

Full throttle = "yes"; Full Reverse = "no"

Question – Brake/Reverse Type
1. With Reverse (default)
2. Without Reverse
3. Crawler Reverse

Question – Brake Amount
1. 25%
2. 50% (default)
3. 75%
4. 100%

Question – Reverse Amount
1. 25%
2. 50% (default)
3. 75%
4. 100%

Question – Punch/Traction Control
1. High
2. Medium
3. Low
4. Lowest
5. Disabled (default)

Drag Brake
1. Off (default)
2. 10%
3. 20%
4. 30%
5. 40%

Dead Band
1. Large – 0.1500ms
2. Normal – 0.1000ms (default)
3. Small – 0.0750ms
4. Very Small – 0.0500ms
5. Smallest – 0.0250ms

Cutoff Voltage
1. None
2. Auto-LiPo (default)
3. 5v
4. 6v
5. 9v
6. 12v

Motor Timing
1. Lowest
2. Normal (default)
3. Highest

Motor Type
1. Brushless (default)
2. Brushed Reversing
3. Brushed High Power

6.0 Troubleshooting

- ESC buzzes or at neutral
  - Turn off Holmes Hold, or turn down drag %
- Drag brake or Throttle Damping doesn't work properly
  - Recalibrate ESC to radio
  - Ensure that neutral setting on radio is adjusted properly
  - Reprogram ESC
- No lights on ESC
  - Check that battery is plugged in, and polarized correctly
- No power to motor
  - Ensure motor is plugged into ESC properly
  - Ensure motor is in good condition and brushes are properly operational
  - Ensure Battery is plugged into ESC properly
  - Ensure ESC is arming and plugged into RX properly
  - Ensure Battery is fully charged
- ESC wont arm (all lights blinking)
  - Double check that radio is on, and that ESC is plugged into RX properly
  - Try adjusting neutral on your transmitter, or reversing your throttle channel

If you have further troubles, contact us at Sales@HolmesHobbies.com or Warranty@HolmesHobbies.com

