

## TORSION 10X FEATURES

- High-performance racing ESC.
- For sensor or sensorless motors (auto-sensing).
- Multiple settings to adjust performance.
- Multiple protection systems (low voltage, overheat, radio signal loss).
- Optional ESC program box #ORI65202 available for advanced setup and firmware upgrade.

## WARNINGS

- This is a high-performance product which can cause injuries if used improperly.
- Do not let children use this product without the supervision of an adult.
- Never leave the ESC unsupervised while it is powered on.
- The ESC might get hot during use, be careful when handling it.
- Always disconnect the battery after use, do not store with the battery connected.
- Do not use near flammable materials.
- If the ESC stops functioning properly (stutter, overheating, smoke, etc.), immediately discontinue use, disconnect the battery and seek assistance.

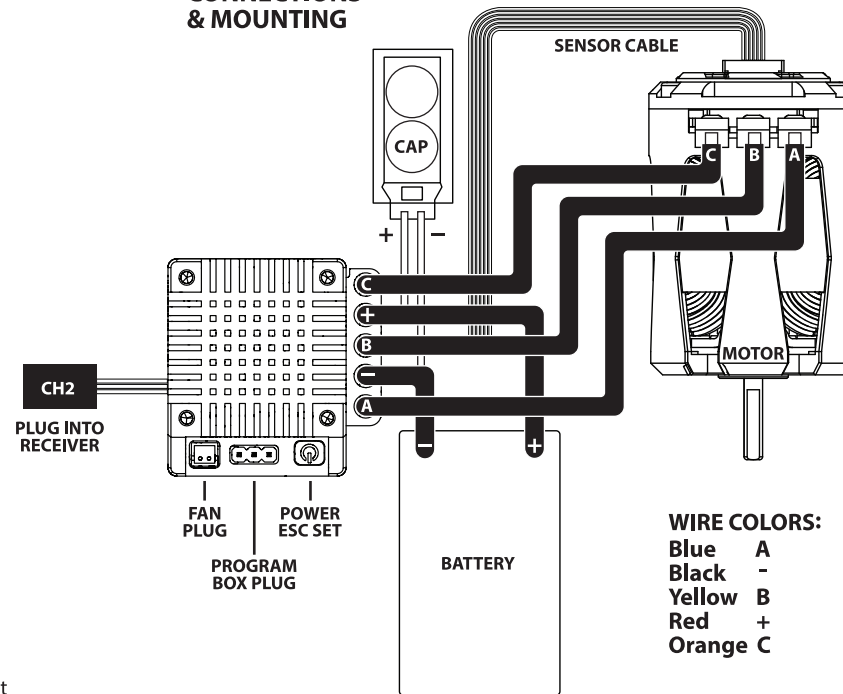
## WARRANTY

Team Orion Racing guarantees this product to be free from manufacturing and workmanship defects. The warranty does not cover incorrect installation, components worn by use or any other issue resulting from incorrect use or handling of the product. No liability will be accepted for any damage resulting from the use of this product. By the act of connecting and operating this product, the user accepts all resulting liability.

The following are considered incorrect use:

- Failure to follow instructions.
- Improper use of the product (abusive use, out of spec, etc.)
- Failure to adapt settings for proper function (improper connections, wrong gearing, installation, setup, etc.).
- Overload, overheating (desoldering, melting, etc.).
- Running in inadequate conditions (damage or rust from rain, humidity, etc.).
- Improper maintenance (presence of dirt, etc.).
- Disassembly, modification by the user (modifying original connectors, wires, components, etc.).
- Mechanical damage.

## CONNECTIONS & MOUNTING



**Receiver:** Connect the Rx connector to the throttle channel (CH2) of your radio receiver. (White shrink tube is the Signal wire)

**Mount ESC:** Secure the ESC to your car chassis with double sided tape.

**Fan:** If necessary, install the included cooling fan on top of the ESC with screws. Make sure to check for correct polarity when connecting to the cooling fan power port.

**Motor:** Make sure you connect each phase (A, B, C) of the motor to the corresponding (A, B, C) mounting point on the ESC.

**Sensor:** Connect one end of the sensor cable to the motor sensor port and the other end to the ESC sensor port.

**Battery:** We recommend using a red wire for the positive (+) battery input terminal, and a black wire for the negative (-) terminal.

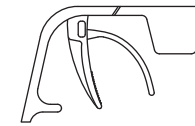
**WARNING!** Connecting a battery in reverse polarity will damage the ESC.

## CALIBRATION

In order to ensure proper function, the ESC must be calibrated to your transmitter. Reset all of the transmitter settings, center the trims, and make sure the throttle channel reverse switch is set to the REV position before proceeding to the calibration.

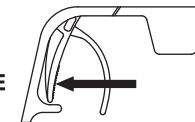
1. Turn on the transmitter.
2. Push the SET button on the ESC for 2 seconds or longer. The GREEN LED will light up and the motor will emit a rhythmic beep sound.
3. With the transmitter throttle in the neutral position, press the SET button one time, the GREEN LED will start blinking. When the GREEN LED turns off and the RED LED turns on, the motor will make one beep to indicate the neutral calibration is finished.

NEUTRAL



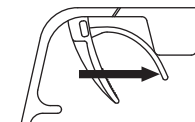
4. Move the transmitter throttle to full throttle and press the SET button one time, the RED LED will start blinking. When the GREEN and RED LEDs are both on, the motor will beep twice to indicate the full throttle calibration is finished.

FULL THROTTLE



6. Move the transmitter throttle to full brakes and press the SET button one time, the GREEN and RED LED's will start blinking. The GREEN and RED LEDs will turn off, and the motor will beep three times to indicate the full brake calibrations is finished.

FULL BRAKES



7. The calibration is complete and the ESC is ready to use.



## TORSION 10X SPECIFICATIONS

Voltage input	2S LiPo
Continuous current (A)	120A
Burst current (A)	750A
Motor type	Sensored
Motor Limit	3.5T
BEC output	6.0V-7.4V / 5A
Dimensions	37 x 36.9 x 20.3mm
Weight (without wire and fan)	93g

## ADVANCED SETUP WITH OPTIONAL ESC PROGRAM BOX

#	PARAMETER	AVAILABLE SETTINGS	DEFAULT SETTINGS
1	Operation Mode	Forward/Brake, Forward/Reverse/Brake, Forward/Reverse	Forward/Brake
2	Reverse Speed	25%, 50%, 75%, 100%	25%
3	Low Volt Cut	None, (2.9V/Cell - 3.5V/Cell; 0.1V/Step), Custom(5V - 20V; 0.1V/Step)	3.2V/Cell
4	Drag Brake	(0% -16%; 2%/Step), Custom(0% -100%; 1%/Step)	12%
5	Initial Brake	=Drag Brake, (0% - 16%; 2%/Step), Custom (0% - 50%; 1%/Step)	=Drag Brake
6	Full Brake	75%, 80%, 85%, 90%, 95%, 100%	90%
7	Brake Rate	Level 1- Level 9	Level 5
8	Brake Frequency	0.5KHz, 1KHz, 2KHz, 4KHz, 8KHz, 16KHz	2KHz
9	Brake Mode	Linear, Traditional	Traditional
10	Throttle Rate	Level 1 - Level 9	Level 5
11	BT Soft Power	(0 - 20; 1%/Step)	0
12	BT Soft Range	(0% - 50%; 5%/Step)	0%
13	Drive Frequency	2KHz, 4KHz, 8KHz, 12KHz, 16KHz, 24KHz, 32KHz	8KHz
14	Deadband	4%, 6%, 8%	6%
15	Temp Cut Set	Off, 221F/105C, 257F/125C	221F/105C
16	Coast Value	(0% - 20%; 1%/Step)	0%
17	Boost Timing	(0 degrees - 60 degrees; 1 degree/step)	0 degrees
18	Boost Timing Act	Auto, RPM	Auto
19	Boost Start RPM	(500RPM - 3500RPM; 500RPM/Step)	1500RPM
20	Boost End RPM	(3000RPM - 6000RPM; 500RPM/Step)	5000RPM
21	Turbo Timing	(0 degrees - 60 degrees; 1 degree/Step)	0 degree
22	Turbo On Slope	(3 degrees/0.1s - 30 degrees/0.1s; 3 degrees/Step), Instant	3 degrees/0.1 second
23	Turbo Off Slope	(3 degrees/0.1s - 30deg/0.1s; 3deg/Step), Instant	18 degrees/0.1 second
24	Turbo Delay	Off, (0.05s - 0.45s; 0.05s/Step), (0.5s - 1.0s; 0.1s/Step)	0.2 second
25	Motor Rotation	CCW, CW	CCW
26	BEC Voltage	6V, 7.4V	6V
27	Reset Default	No, yes	No
28	Max ESC Temp	Display the maximum temperature of the ESC	
29	Max Motor RPM	Display the maximum RPM of the motor	



Optional ESC Program Box #ORI65202 available for advanced setup and firmware upgrade.