

## SAE LIMITER OPERATING INSTRUCTIONS



### Specifications:

Micro Class:

Regular and Advanced:

Max voltage:

Maximum continuous current:

Connectors:

### 2023 & 2024

450 Watts

750 Watts

6S 22.2V

60 Amps

XT 60 male / female for motor power

RC 3 pin male and female for throttle signal

Labelling: Limiters are marked as 2023 specifications. 2024 event will use Limiters with 2023 labelling.

### Purpose:

The Limiter is installed between the RC receiver and the electronic speed control. Power for the motor passes through the Limiter for measurement purposes. If the motor draws more than the class maximum wattage, the Limiter adjusts the throttle command to the electronic speed control (ESC) to reduce motor power to the class's maximum wattage. The Limiter is powered by voltage supplied by the RC system.

### LED Codes:

1. LED off, motor is stopped: An error condition exist that must be resolved before operation.
2. LED blinking 9 times on power up: Unit is booting up and calibrating
3. LED on steady: The limiter is ready and the RC receiver has direct control over the ESC
4. LED off, motor is turning: The limiter is throttling back the ESC to limit the power to the class maximum.
5. LED flickering while motor turning: power system is providing close to the class limit then the LED may flicker rapidly, indicating it is alternating between codes 3 and 4 above.

## CONNECTION PROCEDURE

**SAFETY WARNING: ELECTRIC DRIVES MAY START UNEXPECTEDLY DUE TO IMPROPER CONFIGURATION OR USER ERROR. ALWAYS TREAT A POWERED DRIVE WITH EXTREME CAUTION. ALWAYS REMOVE PROPELLER FROM MOTOR WHENEVER TESTING A RADIO SETUP.**

1. Ensure that throttle signal direction and endpoint settings are correct on transmitter by configuring/testing RECEIVER with ESC before connecting the LIMITER to the radio RECEIVER and to the Electronic Speed Control (ESC).



2. XT-60 connectors are identified as follows. The FEMALE plug is preferred for use on the power source (such as on the battery leads or output of limiter) as the contacts are better shielded from the possibility of accidental shorts.



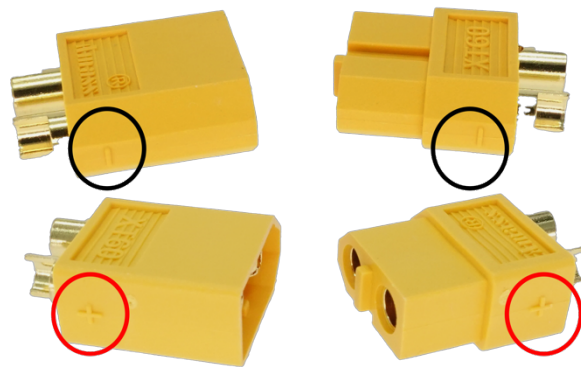
**MALE**  
always on  
load



**FEMALE**  
always on  
power source

3. User must install the proper gender XT60 connector on the battery and ESC. Pay attention to the connector gender and polarity. These are not interchangeable. The plastic connector housing is marked with positive and negative.

### **Polarity cues are molded into XT-60**

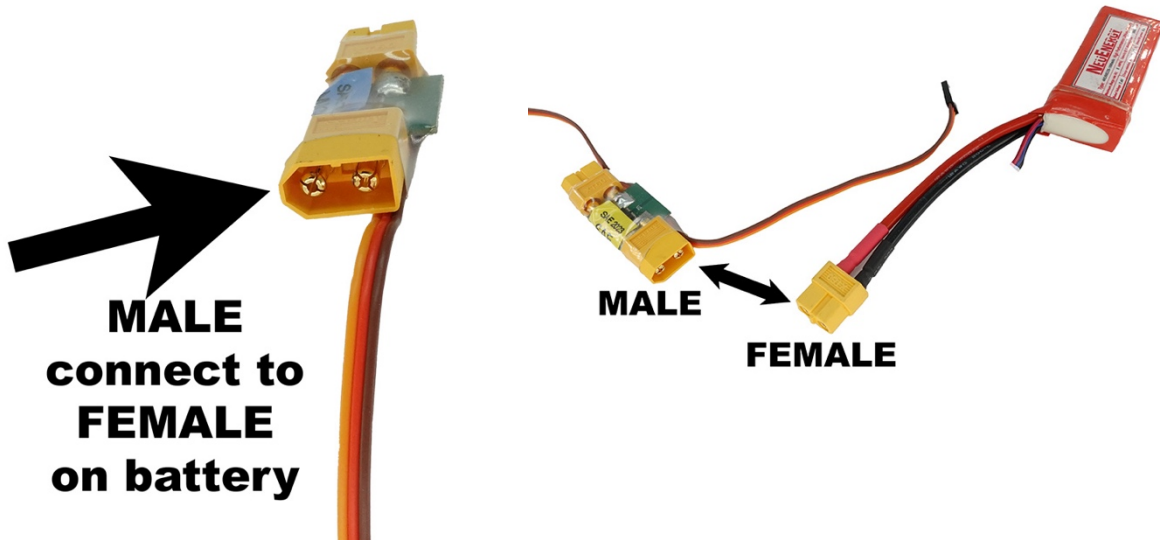


4. Connect the FEMALE XT-60 from the LIMITER to the MALE connector on the ESC.



5. Connect MALE on LIMITER to the FEMALE on the BATTERY when ready to power the drive.

Ensure all necessary safety measures are in place when the battery is connected to the drive & LIMITER as the motor may start unexpectedly with improper radio commands or setup.



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