



Applications

The T100 was designed for various consumers and limitless applications. **Students and Schools** can use the T100 for educational projects or to compete in competitions such as the AUVSI RoboSub and RoboBoat competitions and the MATE ROV competition. Its capable and affordable hardware make it perfect for **Makers and Hobbyists**, as well as **Professional Users** who want a high-quality thruster that performs better than many of the high-end (expensive) alternatives.

Features

The T100 is basically a brushless electric motor, just like you'd find on an RC airplane or a quadcopter drone. The big difference is that this motor is purpose-built for use in the ocean and was designed specifically for use on ROVs, AUVs, and robotic surface vehicles. Of course you could also use it to propel your stand-up-paddleboard or cruise around while kayaking! It's **compact design** fits in any project.

The T100 is made of **high-strength, UV resistant** polycarbonate injection molded plastic. The core of the motor is sealed and protected with an epoxy coating and it uses **high-performance plastic bearings** in place of steel bearings that rust in saltwater. Everything that isn't plastic is either aluminum or high-quality stainless steel that **doesn't corrode**.

A specially designed propeller and nozzle provides **efficient, powerful** thrust while active water-cooling keeps the motor cool. Unlike other thrusters, our design doesn't have any air- or oil-filled cavities – water flows freely through all parts of the motor while it's running and can handle **extreme pressures**.

The thruster is **easy to use**: just connect the three motor wires to any brushless electronic speed controller (ESC) and you can control it with an RC radio or a microcontroller. It's usable with Arduino, ArduPilot, Raspberry Pi, BeagleBone, and many other embedded platforms.

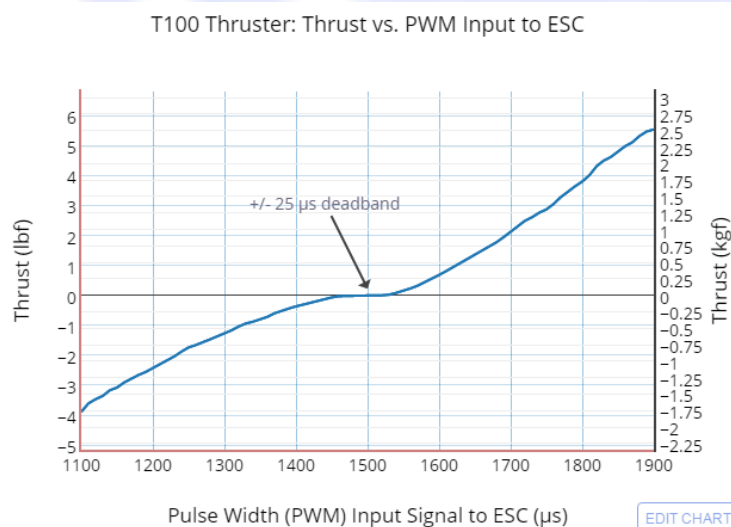
The T100 comes with **clockwise and counter-clockwise propellers** to counter torque, as well as a bracket for **versatile mounting options** for use on almost anything.

Contents

- T100 Thruster
- Clockwise and counterclockwise propellers

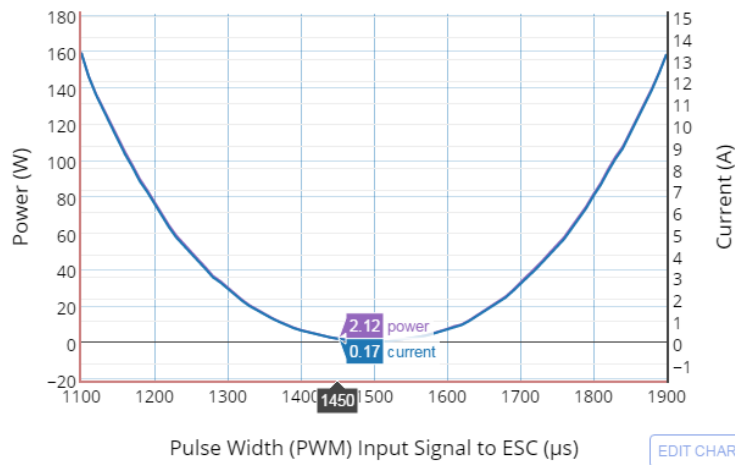
([Mounting bracket and screws](#) are no longer included)

Performance Charts

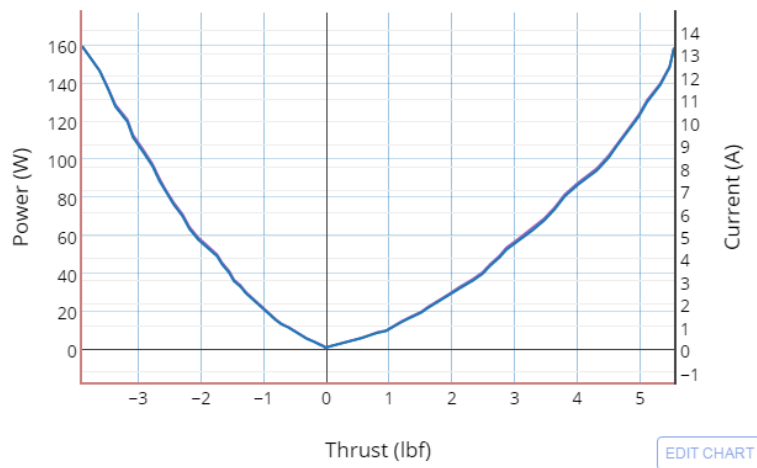




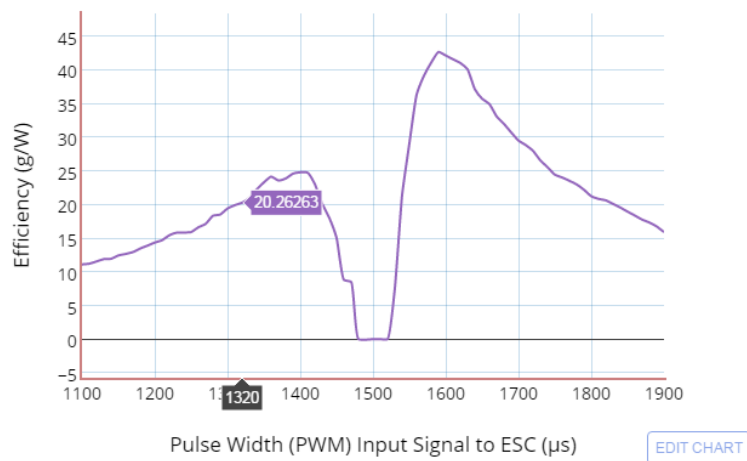
Power and Current vs. PWM Input to ESC



T100 Thruster: Power and Current vs. Thrust



T100 Thruster: Efficiency vs. PWM Input to ESC





Specification Table

Performance		
Maximum Forward Thrust	2.36 kgf	5.2 lbf
Maximum Reverse Thrust	1.85 kgf	4.1 lbf
Minimum Thrust	0.01 kgf	0.02 lbf
Rotational Speed	300-4200 rev/min	
Electrical		
Operating Voltage	6-16 volts	
Max Current	12.5 amps	
Max Power	135 watts	
Phase Resistance	0.24 +/- 0.01 Ohms	
Phase Inductance (@ 1 kHz)	0.120 +/- 0.008 mH	
Physical		
Length (without BlueESC)	102 mm	4.0 in
Length (with BlueESC)	113 mm	4.45 in
Diameter	100 mm	3.9 in
Weight in Air (with 1m cable)(without BlueESC)	0.65 lb	295 g
Weight in Air (with 1m cable)(with BlueESC)	0.84 lb	378 g
Weight in Water (with 1m cable)(without BlueESC)	0.26 lb	120 g
Weight in Water (with 1m cable)(with BlueESC)	0.37 lb	167 g
Propeller Diameter	76 mm	3.0 in
Mounting Hole Threads	M3 x 0.5	
Mounting Hole Spacing	19 mm	0.75 in
Cable Length	1.0 m	39 in
Cable Diameter	6.3 mm	0.25 in

Dimensions

T100 Thruster (without BlueESC)

