

## Finally, an ESC that speaks our language!

The Taurus C60 is a high power, high efficiency BLDC motor controller that speaks in more than just pulses! This controller implements full FOC/SVPWM for highly efficient operation up to 6kW peak power and provides isolated CAN 2.0 and RS-485 communications, giving you more feedback and control of your propulsion system. All of this in an IP67 package with robust connector interfaces.

### Efficient High Power

The Taurus implements full four quadrant Field Oriented Control (FOC) through Space Vector Pulse Width Modulation (SVPWM) to achieve exceptional motor controller efficiency in the nominal operating range. The controller also supports overmodulation to maximize peak power output of the motor drive. The C60 variant of the Taurus design is designed for IP67, and the following key performance capabilities:

- Up to 14S (58.8V) operation
- $\pm 100A$  Peak Operation (60s)
- $\pm 70A$  Continuous Operation

### Highly Flexible Design

The Taurus supports various hardware interfaces for communication as well as commutation and alignment support. These interfaces can be used for simple comms, or configurations with pitch control servos, etc. The entire software stack for the Taurus is built on the available source licensed allocore SDK, allowing fully tailored applications for customer control, comms, and other needs.

- Isolated CAN 2.0 Comms
- Isolated RS-485 Comms
- Hall/QEP Sensor interfaces

### Customization Available

The Taurus hardware IP has been tailored to various custom packages, including winglets, booms, etc. Additionally, implementations for lower voltage/power have also been realized. Contact allocortech to get more information on customization.

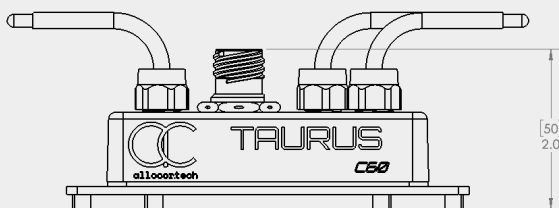
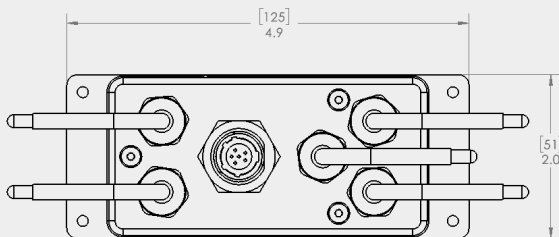
#### Advanced Control

Four quadrant control around a 40KHz current control loop allows custom fast closed-loop control on speed, torque, voltage, power, or other more advanced modes.

### Specifications

Item	Specification
Input Voltage	12V - 60V
Current Rating (DC)	100A Peak 70A Continuous
Weight	250g
Connectors	
Power	10AWG Flying Lead
Comms	D38999 24FA35PN
[Mate]	D38999 26FA35SN
Sensors	Available on Req.
Recommended Max RPM	(40KHz Control)
12 Pole Pairs	10,000RPM
10 Pole Pairs	12,000RPM
7 Pole Paris	17,000RPM
CAN 2.0 Interface	
Max Bitrate	1Mbps
Isolation Voltage*	±400V
RS-485 Interface	
Max Bitrate	3Mbps
Isolation Voltage*	±400V
Update Rate	Up to 1KHz

\*Assumes REF<sub>GND</sub> connection used



### Make Your Motors Smarter

Fixed mapping sensorless open-loop PWM *throttle* based ESCs are a thing of the past. The Taurus motor controller enables customized control loops and tuning, along with bi-directional communications to give your system more advanced control and monitoring. Taurus adds in sensed motor capabilities for slow-speed and alignment/parking support.

### Taurus Based Hybrid Generators

Four quadrant control means the Taurus controller supports full regen capabilities. Not only does this mean active regenerative braking, but moreover, the Taurus C60 can be mated with a generator system to provide the basis of a hybrid electric powertrain.

### Comms Connector



Pin	Signal
1	NC
2	ISO_CANL
3	ISO_CANH
4	NC
5	NC
6	ISO_GND