



## Powerful, Efficient and Flexible!

The Taurus AEX is a high efficiency BLDC motor controller that speaks in more than just pulses! This controller implements full FOC/SVPWM for highly efficient operation up to **4kW peak power** and provides isolated CAN 2.0 and RS-485 communications, giving you more feedback and control of your propulsion system. The AEX supports Hall or Quadrature sensor inputs for more accurate positioning. Taurus AEX can be used as a motor controller but can also be used for linear actuation and controlling servos.



*Available with DroneCAN Support!*

### ⏻ 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 AEX has the following performance capabilities:

- Up to 24S (100.8V) operation
- +/-63A Peak Operation with adequate heatsinking

### 📐 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
- General Purpose Input/Output for index, homing, and other sensors

### ⚙️ 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

<b>Input Voltage</b>	20 - 67.2V (16S) 20 - 84V (20S) 20 - 100.8V (24S)
<b>Current Rating (DC)</b>	47A Peak/52A Continuous (16S) 63A Peak/58A Continuous (20S) 63A Peak/58A Continuous (24S)
<b>Weight</b>	184 g - w/finned enclosure 149 g - w/flat plate enclosure 79 g - without enclosure
<b>Connectors</b>	Power+Comms Sensors+Phase Output
	Positronic CBD17W2F37S6000 Positronic CBD13W3F37S600X
<b>Recommended Max RPM</b>	
12 Pole Pairs	10,000RPM
10 Pole Pairs	12,000RPM
7 Pole Pairs	17,000RPM
<b>CAN 2.0 Interface</b>	
Max Bitrate	1Mbps
Isolation Voltage	± 400V
<b>RS-485 Interface</b>	
Max Bitrate	3Mbps
Isolation Voltage	± 400V
<b>RS-232 Interface</b>	
Max Bitrate	1Mbps
Isolation Voltage	± 400V
<b>Update Rate</b>	Up to 500 Hz

## Make Your Motors Smarter

Fixed mapping sensorless open-loop PWM throttle based ESCs are a thing of the past. Taurus motor controllers enable 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 Taurus controllers support full regen capabilities. Not only does the Taurus AEX enable active regenerative braking, it can also be mated with a generator system to provide the basis of a hybrid electric powertrain.

## Customized Packaging Solutions

Allocortech offers customized packaging solutions for its various Taurus BLDC Motor Controllers to fit your integration and heat sinking needs.

