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Taurus AEX Physical ICD

601-0065-000 Rev. C

The Taurus AEX is a high efficiency BLDC motor controller that speaks in more than pulses. This controller implements full FOC/SVPWM for highly efficient operation up to 2kW peak power and provides isolated CAN 2.0 and RS-485 communications. The AEX also 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.

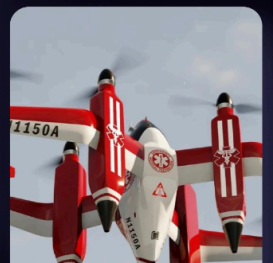




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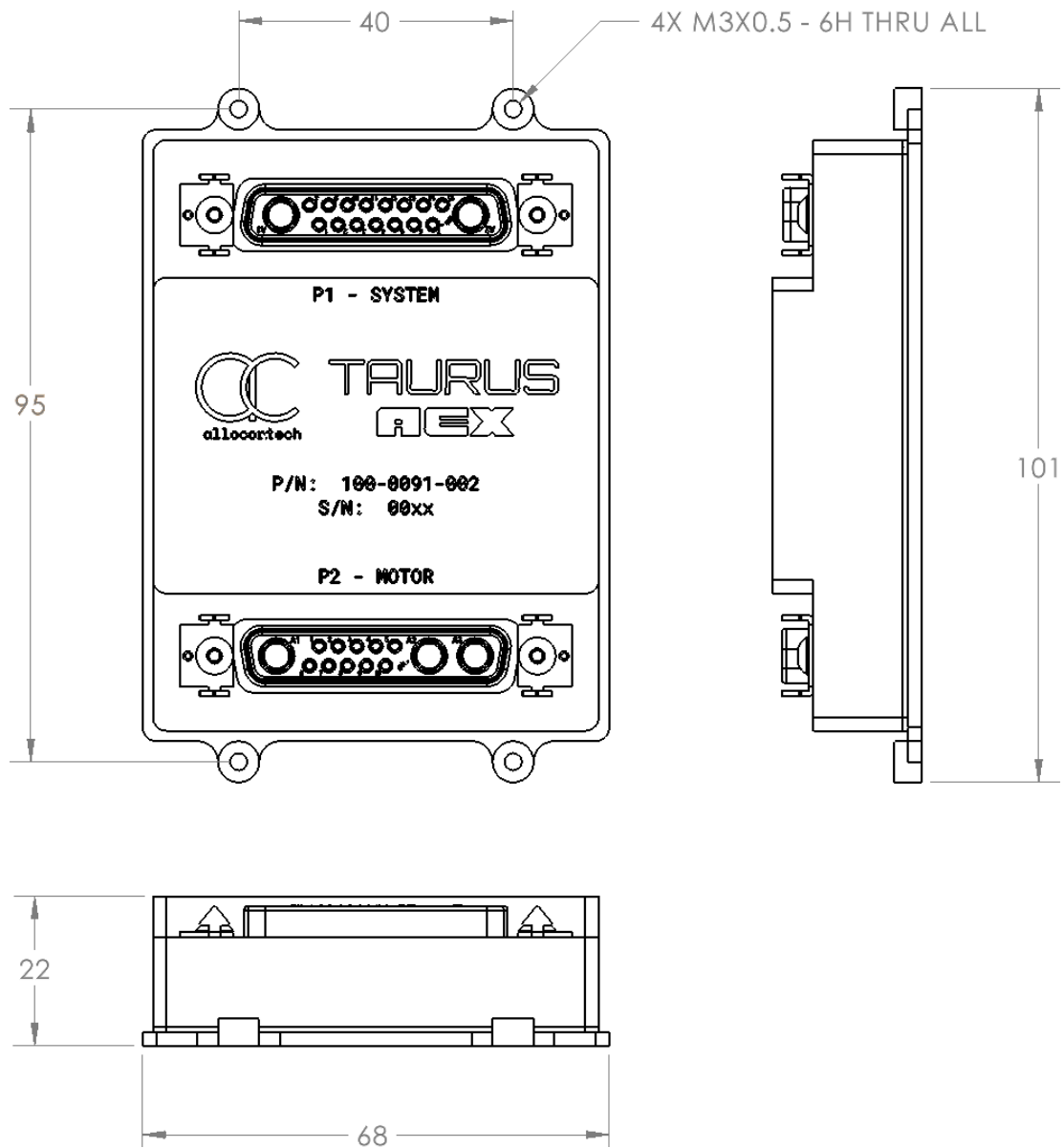
Version History

Revision	Changes
A	Initial Release
B	Added DC bulk capacitance
C	Add unit masses Refine connector information Change to new template



Mechanical

Dimensions and Outline



Mass

Mass of units without wires and harnessing:

Variant	Mass (g)
No enclosure	76
With enclosure (flat plate)	149
With enclosure (finned heatsink)	184



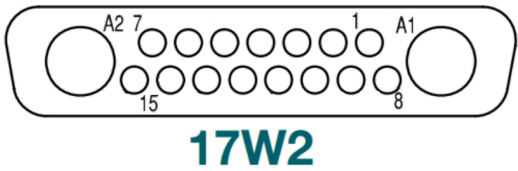
Mounting Interfaces

The unit is secured using four mounting feet extending from the lid. The holes accommodate M3 screws, providing threaded holes in a 95mm x 40mm pattern.

Electrical

Connector List

P1 - SYSTEM (HV Power Input and Communications)

	Connector P/N: Mating Connector P/N:	CBD17W2F37S60V5X CBC17W2M00xxx (ex. CBC17W2M000000) <i>*Finishes and retention can be adjusted per customer need (e.g. Tin, Nickel, Stainless, retention clips, jackscrews, etc.)</i>
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P1 Connector Pinout

Pin	Name	Function	Notes
1	NC		
2	RS422/485_RX_P	RS-485 Receive Positive	Full Duplex, Referenced to ISO-GND, Connect to host TX_P
3	RS422/485_TX_N	RS-485 Transmit Negative	Full Duplex, Referenced to ISO-GND, Connect to host RX_N
4	RS232_TX	RS-232 Transmit	Referenced to ISO-GND, Connect to host RX
5	NC		
6	CAN_P	CAN Positive	Referenced to ISO-GND
7	CAN_N	CAN Negative	Referenced to ISO-GND
8	NC		
9	RS422/485_RX_N	RS-485 Receive Negative	Full Duplex, Referenced to ISO-GND, Connect to host TX_N
10	RS422/485_TX_P	RS-485 Transmit Positive	Full Duplex, Referenced to ISO-GND, Connect to host RX_P
11	RS232_RX	RS-232 Receive	Referenced to ISO-GND, Connect to host TX
12	ISO-GND	Isolated RS232 GND	
13	ISO-GND	Isolated CAN GND	
14	ISO-GND	Isolated RS485 GND	
15	NC		
A1	VIN	HV Input	
A2	GND	HV Ground	



Electrical Characteristics (16S)

Parameter	Min	Nominal	Max	Units
HV Input Operating Voltage	20	59.2	67.2	V
VIN Current		TBD		A
Motor Phase Current	NA	50*	100	ARMS
DC Bulk Input Capacitance		275		μF

* Maximum continuous phase current dependent on cooling capabilities

Electrical Characteristics (20S)

Parameter	Min	Nominal	Max	Units
HV Input Operating Voltage	20	74	84	V
VIN Current		TBD		A
Motor Phase Current	NA	50*	80	ARMS
DC Bulk Input Capacitance		63		μF

* Maximum continuous phase current dependent on cooling capabilities

Electrical Characteristics (24S)

Parameter	Min	Nominal	Max	Units
HV Input Operating Voltage	20	88.8	100.8	V
VIN Current		TBD		A
Motor Phase Current	NA	35*	70	ARMS
DC Bulk Input Capacitance		63		μF

* Maximum continuous phase current dependent on cooling capabilities