

# TA330 LINEAR DRIVE

## FOR BRUSHLESS SERVO MOTORS



### Consistent Linear Voltage Output with no Voltage Deadband around Zero Point

The Trust Automation TA330 Linear Drive is a fourth generation product in Trust Automation Inc's growing Linear Servo Amplifier product line. This drive allows OEMs to integrate the latest technology available for sinusoidal motor control. Linear sinusoidal commutation of three phase brushless servo motors eliminates the familiar cogging and torque ripple problems commonly found in most trapezoidal digital drives. For ultra low noise applications, (i.e. transducers, sensors, etc.), the TA330 provides an optional external 24V Input which replaces the internal bias switching supply, further reducing electrical noise. The TA330 is a highly configurable device with three common configuration modes. The TA330 will drive one single phase DC brushed motor in bridged mode, one three phase DC brushless motor using Hall Effect sensor feedback or one three phase AC brushless motor using external sinusoidal commutation.

### FEATURES

- Very low electrical noise
- Minimizes Hall sensor torque ripple
- Zero crossover distortion
- Integral forced air cooling
- Sinusoidal or trapezoidal mode
- Digital on-the-fly gain control (DTS)



### APPLICATIONS

- High and very high resolution staging
- Linear motor stages
- High inertia mismatched stages
- Low inductance motors

### TECHNICAL SPECIFICATIONS

#### Electrical

##### Supply Voltage

Bipolar:  $\pm 24V$  to  $\pm 75V$

##### Equivalent Motor Voltage

Drive Input V – 8V

##### Auxiliary 24V Supply

24V  $\pm 5\%$  @ 1A max

##### Maximum Output Current

See SOA chart

##### Fault

TTL Level 0 or 1

##### /Enable

TTL Level 0 or 1

##### Command Input

$\pm 10V$  ( $\pm 12V$  Max)

##### Torque Gain

0.6 A/V to 1.8 A/V

##### Bandwidth

5.0 kHz

#### Mechanical

**Length:** 14.90 in (37.85 cm)

**Width:** 7.69 in (19.53 cm)

**Height:** 4.70 in (11.94 cm)

**Weight:** 13.5 lbs. (6.12 kg)

#### Environmental

**Maximum Altitude:** 6,560ft (2000M)

##### Temperature (ambient)

Normal operation: 5° C to +40° C

Storage: -40° C to +70° C

Heatsink: +70° C Maximum

**Heat Dissipation:** See SOA Chart

**Airflow:** Internal fans, variable speed, thermally controlled

##### Humidity

Operating: 10% to 70%, non-condensing

Storage: 10% to 95%, non-condensing

**Pollution Degree 2**

#### Connections

##### Command Signals (J3)

10-Pin Quick Connect

##### Motor Signals (J5)

4-Pin Plug, Terminal Block

##### Hall Sensors (J4)

5-Pin Quick Connect

##### Auxiliary 24V Supply (J1)

3-Pin Plug, Terminal Block

##### Serial Monitor (J2)

6-Pin, Plug

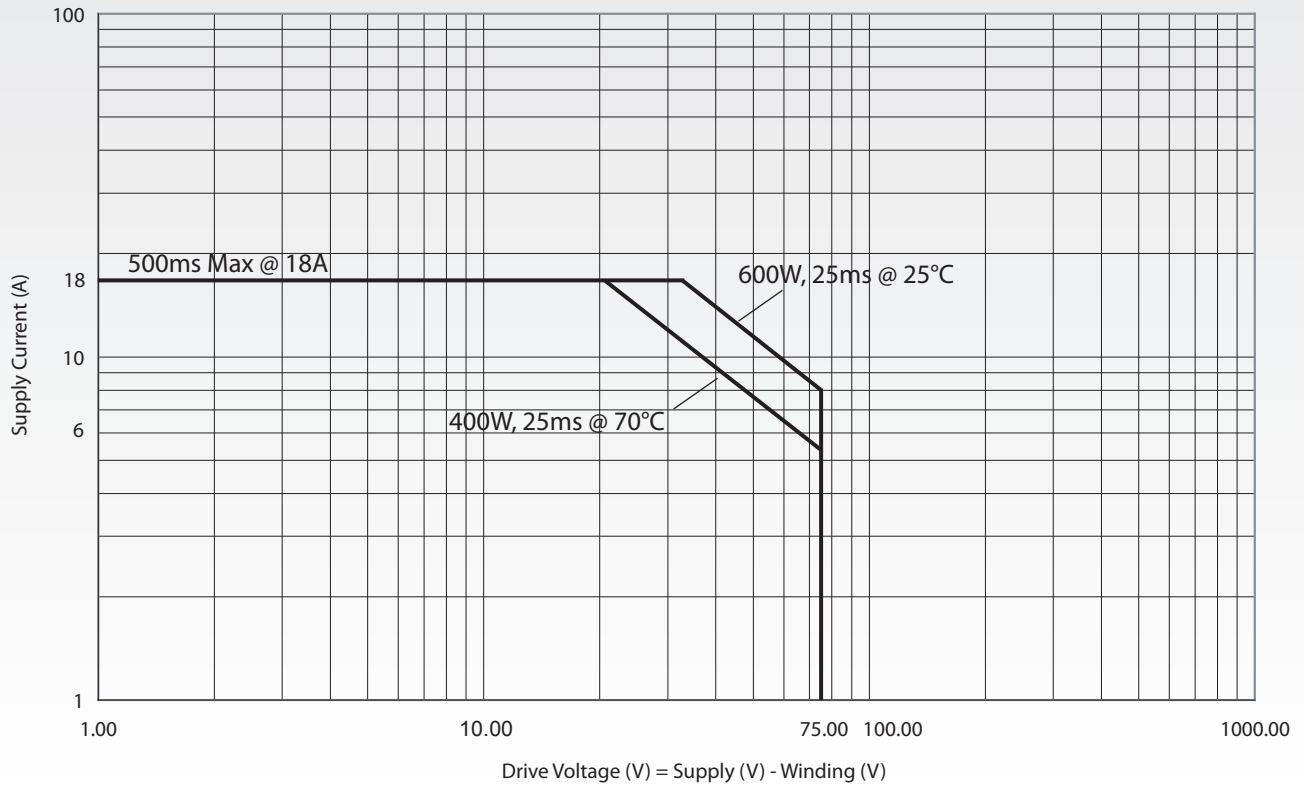
##### Motor Power (J6)

4-Pin Plug, Terminal Block

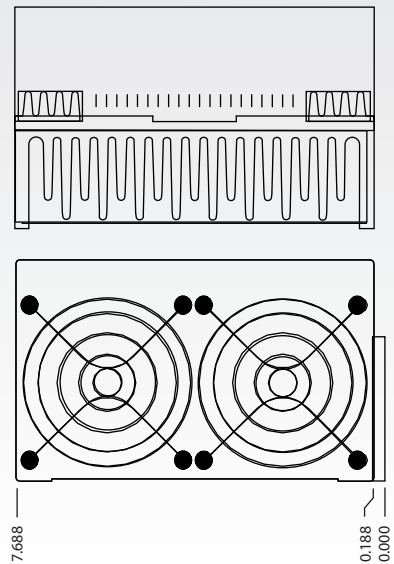
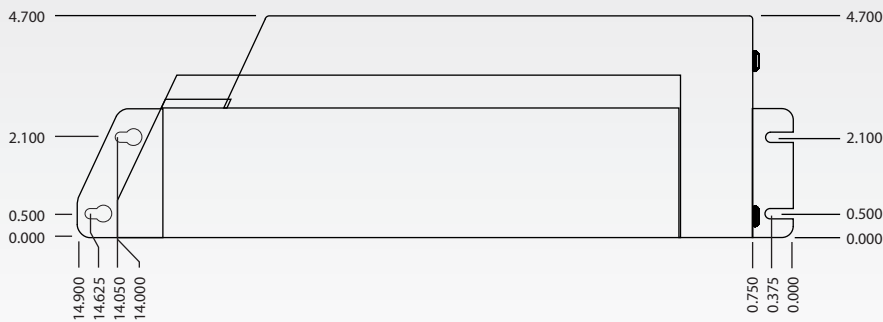
*(Mating connectors (J1, J3, J4, J5, J6) supplied with drive)  
(Serial Monitor Cable J2 sold separately)*



## SAFE OPERATING AREA



## MECHANICAL DRAWING



Note: All measurements are in inches.

