

TA333 LINEAR DRIVE

FOR BRUSHLESS SERVO MOTORS



Consistent Linear Voltage Output with no Voltage Deadband around Zero Point

The Trust Automation TA333 Linear Drive is another fourth generation drive in Trust Automation Inc's continually expanding product line. This linear three-phase servo motor drive, as all Trust Automation Linear drives, is a true class AB amplifier and is the most up to date technology in the industry for sinusoidal motor control. Linear sinusoidal commutation of three-phase brushless servo motors eliminates the familiar cogging and torque-ripple problems that plague most trapezoidal digital drives. For ultra low noise applications, (i.e. transducers, sensors, etc.), the TA333 provides an optional external 24V Input which replaces the internal bias switching supply, further reducing electrical noise. The TA333 is a highly configurable device with four common configuration modes. The TA333 will drive one brushless motor using external sinusoidal commutation. It can also use Hall Effect sensor feedback for smooth internally commutated trapezoidal operation. The TA333 also supports one or two brush or voice coil type motors as well as driving two coil stepper motors under sinusoidal control.

FEATURES

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



APPLICATIONS

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

TECHNICAL SPECIFICATIONS

Electrical

Supply Voltage

Bipolar: $\pm 24V$ to $\pm 100V$

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

1.0 A/V to 2.5 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: $5^{\circ}C$ to $+40^{\circ}C$

Storage: $-40^{\circ}C$ to $+70^{\circ}C$

Heatsink: $+70^{\circ}C$ 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

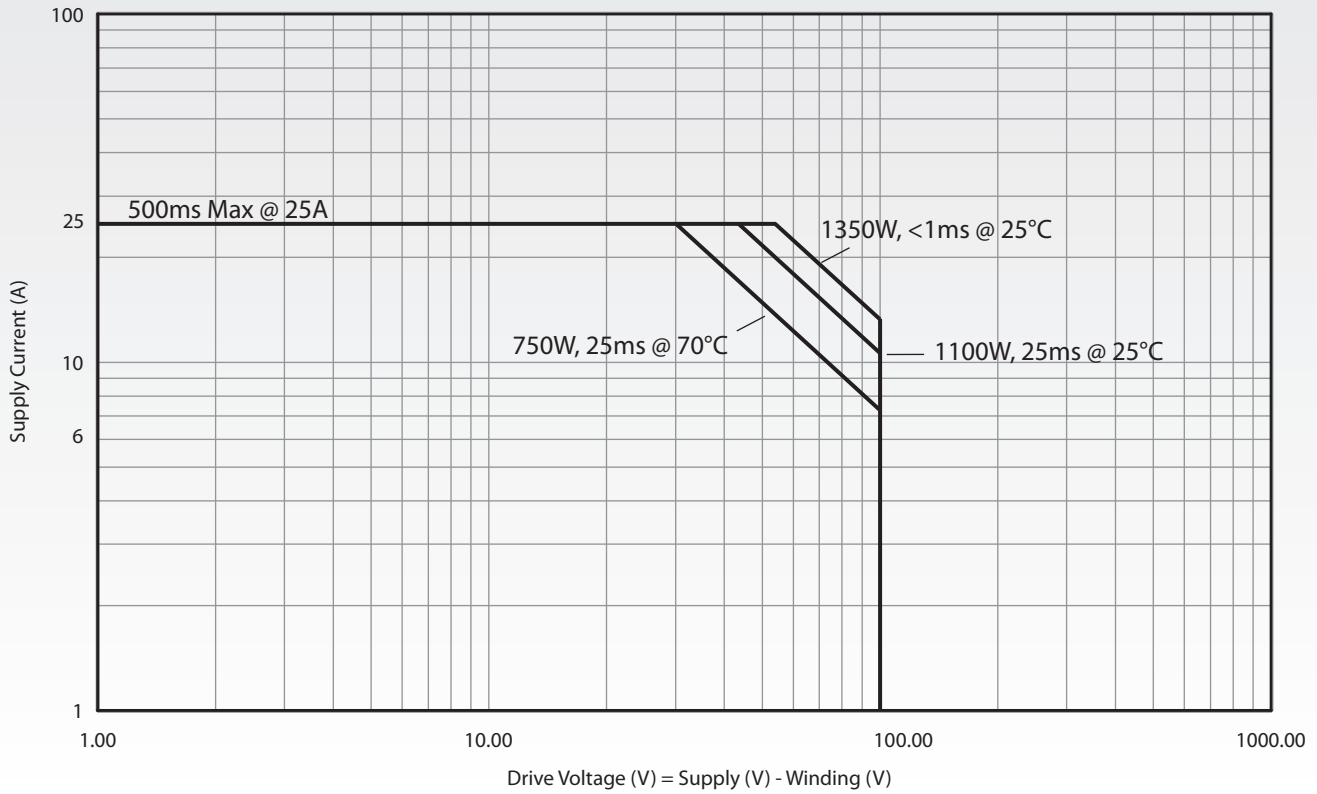
Motor Power (J6)

4-Pin Plug, Terminal Block

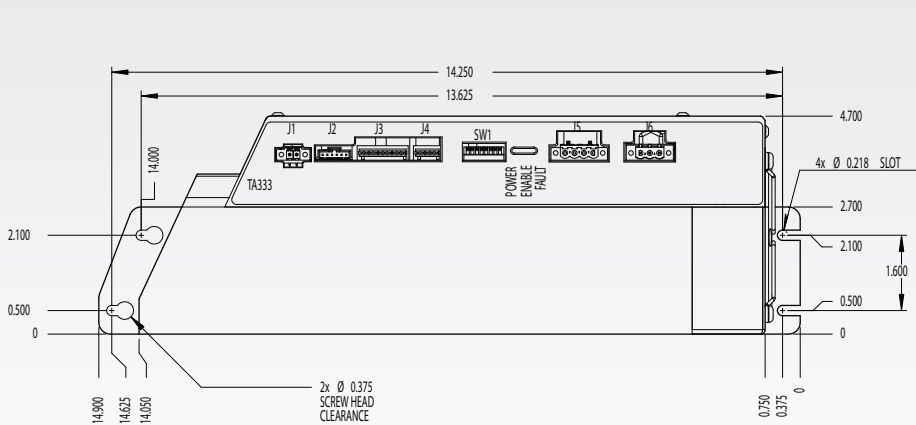
*(Mating connectors (J1, J3, J4, J5, J6) supplied with drive)
(Serial Monitor Cable J2 sold separately)*



SAFE OPERATING AREA



MECHANICAL DRAWING



Note: All measurements are in inches.

