

TA310 LINEAR DRIVE

FOR BRUSHLESS SERVO MOTORS

BENEFITS

- Digital on-the-fly gain control (DTS)
- Over-temperature protection
- 170W continuous/340W peak
- Integral forced-air cooling
- Very low electrical noise
- Sinusoidal or trapezoidal operation

APPLICATIONS

- X-Y stages
- Wafer handling
- Brushless DC motors
- Metrology tools



TECHNICAL SPECIFICATIONS

ELECTRICAL

SUPPLY VOLTAGE

24V to 48V (20V abs min, 52V abs max)

EQUIVALENT MOTOR VOLTAGE

Up to $\pm 43V^*$

MAXIMUM OUTPUT CURRENT

See SOA chart

FAULT

TTL Level 0 or 1

/ENABLE

TTL Level 0

COMMAND INPUT

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

TORQUE GAIN

0.2 A/V to 0.8 A/V

BANDWIDTH

5.0 kHz **

*dependent upon motor load

**into a 2.5mH load

MECHANICAL

LENGTH

9.00 in (22.86 cm)

WIDTH

2.70 in (6.86 cm)

HEIGHT

3.51 in (7.62 cm)

WEIGHT

2.63 lbs (1.19 kg)

MOUNTING

(4) 6-32 screws

CONNECTIONS

COMMAND SIGNALS (J1)

10-Pin Terminal block, plug

MOTOR POWER, SIGNAL (J2)

5-Pin Terminal block, plug

HALL SIGNALS (J3)

5-Pin Terminal block, plug

(mating connectors supplied with drive)

ENVIRONMENTAL

MAXIMUM ALTITUDE

6,560FT (2000M)

TEMPERATURE (ambient)

Normal operation: 0°C to +40°C

Storage: -40°C to +70°C

Heatsink: +75°C maximum

HEAT DISSIPATION

See SOA chart

AIRFLOW

Internal fan

HUMIDITY

Operating: 10% to 70%, non-condensing

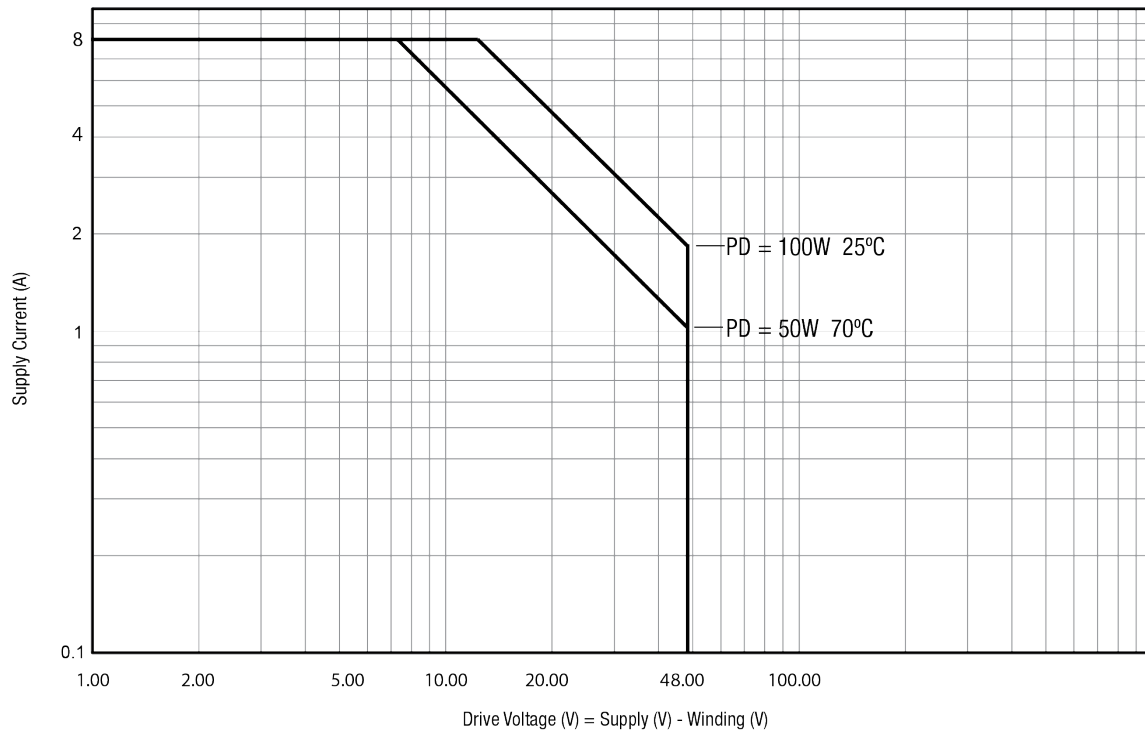
Storage: 10% to 95%, non-condensing

POLLUTION DEGREE 2

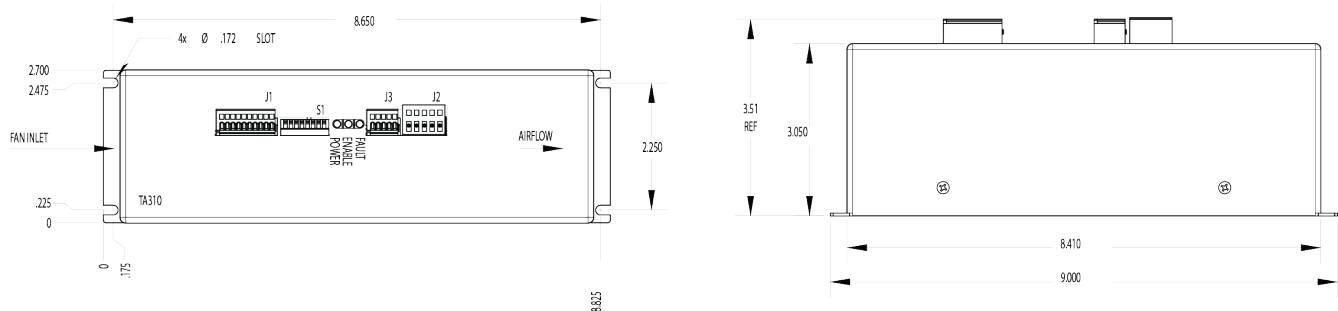
ROBUST LINEAR AMPLIFIER, PROVIDING QUIET AND SMOOTH POWER TO BRUSHLESS MOTORS

The Trust Automation TA310 Linear Drive is a linear three phase servo motor amplifier designed to drive a brushless motor with up to 340W of power. The TA310 is an excellent solution for small rotary or linear brushless motors in high precision positioning applications and systems requiring ultra quiet driving power, where low noise operation is essential. The TA310 is optimized for both sinusoidal and trapezoidal output. However, unlike standard PWM (switcher-type) amplifiers, the trapezoidal output is smoothed to minimize cogging. This flexibility enables the engineer to provide a clean linear solution for the most demanding motion control applications. The TA310 can be operated in voltage (velocity) mode or current (torque) mode, selected via user accessible DIP switch.

SAFE OPERATING AREA



MECHANICAL DRAWING



Note: All measurements are in inches

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