

TA620 DRIVE

HIGH PERFORMANCE SINGLE AXIS

BENEFITS

Feedback: differential A quad B with index & Hall Sensors
 Trapezoidal, SCurve, velocity and custom move profiles
 Application specific parameters stored in EEPROM
 BNC input for clock or pulse input following
 Dedicated I/O:
 Air sense; main, bearing & clamp
 Aux interlock
 Clamp, controller, at speed, at zero
 User I/O: four outputs, four inputs
 Integrated emergency stop circuitry
 110/220VAC power
 DC or AV brushless motor control
 True Class-AB power stage

APPLICATIONS

Semiconductor processing equipment
 Disk drive test systems
 High and very high resolution staging
 Linear motor stages
 High inertia mismatched stages
 Low inductance motors



TECHNICAL SPECIFICATIONS

ELECTRICAL

AC INPUT

110/220 VAC

DC MOTOR OUTPUT

Up to $\pm 134V^*$

DRIVE CURRENT - CONTINUOUS

See SOA chart

DRIVE CURRENT - PEAK

8.0A

MECHANICAL

LENGTH: 11.40 in (28.96 cm)

WIDTH: 7.06 in (17.93 cm)

HEIGHT: 6.75 in (17.15 cm)

WEIGHT: 20 lbs

MOUNTING: Panel

CONNECTIONS

MOTOR POWER (J1)

10-Pin D-Shell (unique)

ENCODER (J2)

15-Pin D-Shell

FREQUENCY INPUT (J3)

BNC

ENCODER OUTPUT (J4)

BNC

AUXILIARY ENCODER (J5)

15-Pin D-Shell

USER I/O (J6)

25-Pin D-Shell

RS-232 (J7)

9-Pin D-Shell

(J8)

USB

(cables and interface modules sold separately)

ENVIRONMENTAL

MAXIMUM ALTITUDE

6,560FT (2000M)

TEMPERATURE (ambient)

Normal operation: 0°C to +40°C

Storage: -20°C to +80°C

HUMIDITY

Operating: 10% to 70%, non-condensing

Storage: 10% to 90%, non-condensing

HIGH PERFORMANCE, STAND ALONE, SINGLE AXIS MOTION CONTROL

The Trust Automation TA620 Drive continues Trust Automation's tradition of motion control innovation. The TA620 is a single axis drive designed for applications requiring high performance, high power and accurate velocity control. The TA620 provides advanced control from 0-30,000 RPM, with high acceleration and deceleration for process optimization. The advanced dual processor design optimizes performance by splitting the tasks between host communication and control algorithm processing. The graphical user interface and USB 2.0 communication to your host computer make setup and development as simple as possible.

This advanced electrical design delivers peak performance but maintains software that is easy to configure and use to reduce development time and shorten time to market.

DRIVE SPECIFICATIONS

FEATURE

ENCODER INPUT FREQUENCY
MIN POSITION LOOP UPDATE RATE
MAX POSITION LOOP UPDATE RATE
MAX COMMUTATION RATE
VELOCITY ACCURACY
POSITION ACCURACY
COMMUTATION RATE
DAC RESOLUTION
DEDICATED DIGITAL INPUTS
DEDICATED DIGITAL OUTPUTS
USER DIGITAL INPUTS
USER DIGITAL OUTPUTS

VALUE

5.0 M counts / sec
 0.1 kHz
 19.8 kHz
 10.0 kHz
 0.0005% Spindle Dependent
 1 ct Application Dependent
 100 μ S
 16 Bits
 4 750ma 24V DC
 4 Open Collector
 4 Optically Isolated
 4 Optically Isolated

DRIVE FEATURES

POSITION RANGE

$\pm 2,147,483,648$ counts per move (32 bit)

VELOCITY RANGE

$\pm 655,360,000$ counts / sec

ACCELERATION RANGE

$\pm 655,360,000$ counts / sec

JERK RANGE

$\pm 8,000,000,000,000$ counts / sec

POSITION ERROR SIZE

$\pm 4,294,967,296$ encoder counts

DEDICATED EMERGENCY STOP CIRCUIT

1 E-Stop Monitor Input
 1 E-Stop Trigger Output
 Hardware Disable of Drive Enables on E-Stop

MOTION PROFILE MODES

Trapezoidal, Point to point & Interpolated
 SCurve, Point to Point
 Velocity Contouring
 Custom Contouring
 Master Follower from BNC Inputs

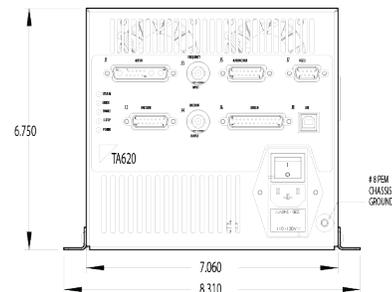
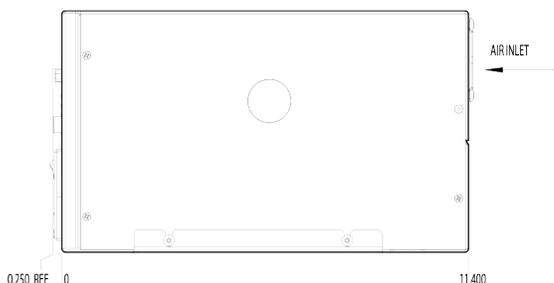
FILTER GAIN TYPES

Home Filter Set
 Stopped Filter Set
 Motion Filter Set

FILTER TERMS

(Kp) Proportional, (Ki) Integral, (Kd) Derivative
 (IL) Integral Limit, (TL) Torque Limit
 (DS) Derivative Sub Sampling
 (AF) Acceleration & (VF) Velocity Feed Forward
 (PW) Position Window
 (SH) Parameter Global Scale

MECHANICAL DRAWING



Note: All measurements are in inches