Low-Power Motor Amplifier

TA115



- 🌒 Very low electrical noise
- 🌒 150W continuous/325W peak
- 5Khz bandwidth
- Integral forced-air cooling
- 🌑 Digital on-the-fly gain control (DTS)
- Over temperature protection
- Selectable current limit

Applications

- voice coil motors
- optics positioners
- x-y micro stages
- small DC motors

A robust linear amplifier, built to provide quiet and smooth power to brush motors.

The TA115 is a linear servo motor amplifier, designed to drive a brush motor with up to 325W of power. The TA115 is an excellent solution for voice-coil type motors, high-precision positioning applications, and systems requiring ultra-quiet driving power, when low-noise operation is essential.

Trust Automation's Dynamic Transconductance Selection (DTS) feature allows changing the amplifier's torque gain on-the-fly thus permitting high-resolution control, without sacrificing power capa-

bility. DTS is included on all of Trust Automation's amplifiers.

The TA115 can be operated in voltage (velocity) mode or current (torque) mode; selected via a user-accessible DIP switch. Fault logic is also selectable via a DIP switch.

Trust Automation is committed to products that are easy to install and use. Amplifier connections are made via pluggable-terminal connectors. Therefore, all connections are easily installed and removed, which reduces hardware cost, and assembly time.



Connector Pinouts

Connector - I1

Wago P/N 733-110

<u>Pin</u> **Description** Command Signal Input A+ 1

- 2 Command Signal Input A-
- 3 Aux Gnd Aux Gnd
- 5 Dynamic Transconductance Select Bit D0
- Dynamic Transconductance Select Bit D1
- 7 /ENABLE*
- 8 FAULT*
- Aux Gnd
- 10 V_{AUX} (user-supplied +5V)**

Connector - I2

Wago P/N 734-105

<u>Pin</u>	Description	
1	Motor +	
2	Motor -	
3	GND	
4	GND	

- V_{SUPPLY} (15-48VDC) 5
- *Referenced to Aux Gnd
- **User-supplied/connected for optical isolation (optional)
- ***Referenced to GND

Switch Settings

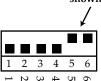
S1 - System Configuration

SW#	DOWN
1	TA115-supplied +5V
	(20mA max)
2	Aux Gnd tied to GND
3	/FAULT
4	Current mode
5	DTS bit 0
6	DTS bit 1

<u>UP</u>

User-supplied +5V (for optical isolation) Aux Gnd isolated from GND **FAULT** Voltage mode (A_v=20)

> S1-5, S1-6 are shown UP.



Gain - Transconductance & DTS

Setting	<u>S1-5</u>	S1-6
10V in = 2A out	Down (0)	Down (0)
10V in = 4A out	Up (1)	Down (0)
10V in = 6A out	Down (0)	Up (1)
10V in = 8A out	Up (1)	Up (1)

NOTE:

S1-5 and S1-6 must be "UP" for DTS

Electrical

Supply Voltage – unipolar 15-48V Equivalent Motor Voltage up to ±43V* Output Current ±8A peak** Fault TTL Level 0 or 1 /Enable TTL Level 0 Command Input ±10V Torque Gain 0.2 - 0.8 / V5KHz*** Bandwidth

Mechanical

Length 9.0 inches (allow >1 inch clearance on each end for sufficient forced-air cooling)

Width 2.7 inches Height 3.0 inches Weight 2lbs. 10 oz. Mounting (4) 6-32 screws

Absolute Maximum Ratings

Supply Voltage Command Input ±12V Heatsink Temperature 75°C Heat Dissipation - continuous 100W - peak 200W



^{*}dependent upon motor load **for 0.5 second

^{***}into a 2.5 mH load