

TIMS-0201

STEPPER MOTOR CONTROLLER

USB - SINGLE AXIS

TIMS-0201 USB SINGLE AXIS STEPPER MOTOR CONTROLLER

HIGHLIGHTS

USB Interface

Upgradeable Firmware

Home, Forward Limit,

Reverse Limit Inputs

Adjustable Current Level

Quadrature Encoder Inputs

Motor Voltage and Current Measurement

Thermal Overload Protection

Accepts 10 - 40 Volt, up to 2A, Power Supply

Half-Step and Full-Step Capability

General Purpose I/O Pins (DIO,AI,T/C,PWM)

Bipolar Constant Current Motor Drive with Wide Range of Programmable Current Control 5-1000 mA

Fast Recovery Schottky Commutation Diodes

Industry-leading Command of Stepping Motors

Jova Solutions TIMS-0201™ single axis stepper motor controllers are low cost “plug and play” solutions for operating small to midsize stepping motors. A USB interface, now standard on all PCs and laptops, eliminates the need for PCI plug-in cards and costly installations. The USB 1.1/2.0 full speed interface allows you to rapidly connect, disconnect and move the TIMS-0201 module without needing a time consuming installation or computer reboot.

The TIMS-0201 stepper motor controller contains general purpose I/O pins with software configurable functionality including digital input, digital output, counter/timer input, PWM output or analog input. The GPIO pins can also be programmed to be home, reverse or forward limit switch inputs or quadrature encoder inputs.

Stepper Motor Commands

The TIMS-0201's stepper motor controllers on-board programmable controller provides step output signals to the driver circuits. A 32-bit position register tracks motor position using internal counts or the optional encoder inputs. The TIMS-0201 library of commands provide flexibility and programming ease.

Input Signals

Home, CW and CCW Limits, and quadrature encoder inputs are available for each motor.

Stepper Motor Interface Outputs

There are six output lines for direct connection to the stepper motor. Winding motors A and B each have Phase A, Phase B, and Center Tap outputs.

USB Interface

The TIMS-0201 modules interface to computers via a USB 1.0/2.0 full speed (FS) connection.

USB connections allow a virtually unlimited number of USB devices to connect through a single PC port.

Drivers and Software

A complete LabVIEW driver library is provided for ease of integration into higher level programs. A low-level DLL is also provided for integration with other programming languages. All drivers are available for both the Windows and Linux operating systems.

Power Supply

Each TIMS-0201 stepper motor controller has a 2.1 mm connector that accepts power from an external +10 to +40 Vdc power supply. USB provides 5-volt power to the on-board logic circuitry.



TIMS-0201 Commands

Position	Move	Seek
Read/Set Step Count	Get/Set Step Rate	Set/Get Seek Step Rate
Read/Set Encoder Count	Move Absolute/Relative	Seek Home
Get Target Position	Move Continuous	Seek Forward/Reverse Limit
Enable/Disable Encoder	Single Step	Get/Set Soft Limits
	Stop	

GPIO

Motor

Get/Set GPIO Configuration	Get/Set Motor Current Limit
Read/Write DIO	Get Motor Status
Set/Read Timer/Counter	Read Motor Winding Voltage +
Get/Set PWM	

TIMS-0201 Summary Chart

Motor Type Supported	2-Phase
Axes	1
Max Amps/Phase	1.0
Step Rate Maximum	4000 Steps/sec
Resolution (Steps)	1/2 or Full
Programmable Current	Yes
Limit Switch Support	Yes
Quadrature Encoder Inputs	Yes
General Purpose I/O - Pins	6

Physical Specifications

Operating Temperature	0 to +50 deg C.
Storage Temperature	- 40 deg C to +125 deg C
Temperature (max)	+70 deg C
Height	1.30 (in.)
Width	4.00 (in.)
Depth	3.00 (in.)
Weight	7 oz.

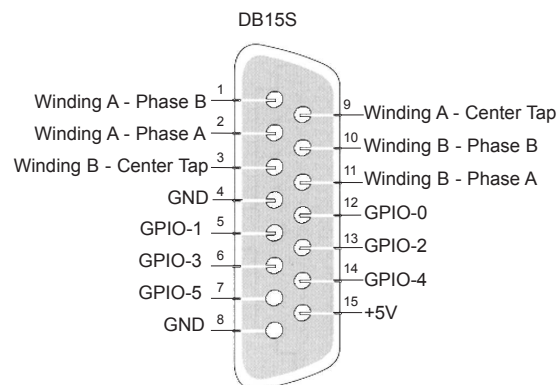
TIMS-0201 Stepper Motor Controller General Purpose IO

GPIO	DI	DO	AI	Quad Encoder	Timer Counter	PWM	Home Limit	FWD Limit	REV Limit
0	✓	✓		✓			✓	✓	✓
1	✓	✓		✓			✓	✓	✓
2	✓	✓					✓	✓	✓
3	✓	✓			✓		✓	✓	✓
4	✓	✓	✓			✓	✓	✓	✓
5									

Stepper Motor Interface Connector (DB-15S) Pin Out

Pin Signal

1	Winding A - Phase B
2	Winding A - Phase A
3	Winding B - Center Tap
4	GND
5	GPIO-1
6	GPIO-3
7	GPIO-5
8	GND
9	Winding A - Center tap
10	Winding B - Phase B
11	Winding B - Phase A
12	GPIO-0
13	GPIO-2
14	GPIO-4
15	+5V



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