TMC-48 Stepper Controller/Drive

MODUSYSTEMS CONTROLLERS

Dynamic Closed Loop

Stall Prevention

Stall Detection

Position Maintenance

Auto Detect Connected Modules

Simple Programming to Shorten Time to Market

FLEXIBLE HARDWARE

Removable Connectors

Configurable Digital/Analog I/O

Multiple Encoder Types

High Speed Capture

Integrated Amplifier Options

Din-Rail Ready

POWERFUL SOFTWARE

Inspired by MIT's "Scratch"

Simple Drag, Drop, & Edit

Create & Save Custom Blocks

Up to 16 Concurrent Threads

Parameter Test & I/O Viewer

Integrated HMI Console Builder

Customizable Test Scopes

KEY FEATURES:

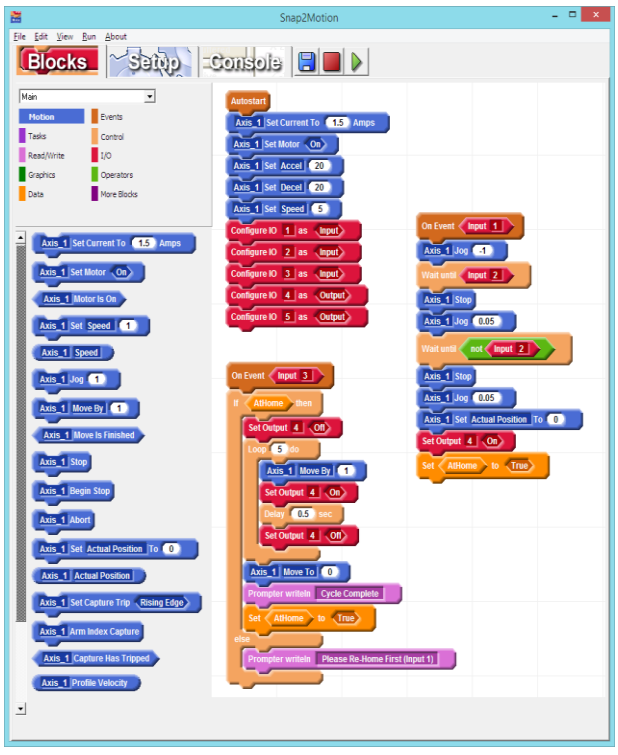
- Integrated Stepper Motor Controller & Driver
- 12-48Vdc Input, 4A Output
- Microstepping at 256 μSteps/Full Step
- (3) Digital Inputs
- (3) Digital Ouputs
- (1) 16-bit Analog Input
- Primary and Secondary Encoder Inputs
- Closed Loop Control of a Stepper Motor
- RS485 General Purpose Communications
- Dedicated USB for Device Programming
- Integral Din Rail Mount
- Removable Screw Terminals

The TMC-48 is a Single Axis Stepper Motor Controller with Integrated Amplifier capable of driving all sizes of bi-polar (2-phase) stepper motors.

Integral Torque and Servo Position Control of a Stepper Motor when paired with Primary Encoder Feedback.

With PC connected, Snap2Motion software allows for on-screen HMI development for easy development and diagnostics.

Inspired by MIT Media Labs "Scratch" software that was developed to teach the fundamentals and structure of programming



Learn More at: www.ModuSystems.com

Specifications

Controller Power

Description	Value	Units
Logic Input Voltage Range	12-48	volts DC
Logic Input Power, no outputs active, no 5V load, single module	3	watts
Motor Bus Voltage Range	12-48	volts DC
Motor Drive Current Per Phase	4	amps
Encoder Output	5	volts

Motion System

Property	Value
Microcontroller	Arm Cortex
Sample Rates	Configurable from 1 kHz to 8 kHz
Native Motion Capabilities	Concurrent Motion Coordinated Vector Motion
Application Motion Capabilities	Electronic Gearing Electronic Camming Encoder-Replaces-Time PVT Kinematics Conveyor Tracking Arbitrary Closed Form Equations
Position Range	32 bit
Maximum Encoder Count Rate post quadrature	2 MHz
Maximum Step Rate	2 MHz
Hardware Position Capture	Accurate to an individual count

Communication Ports

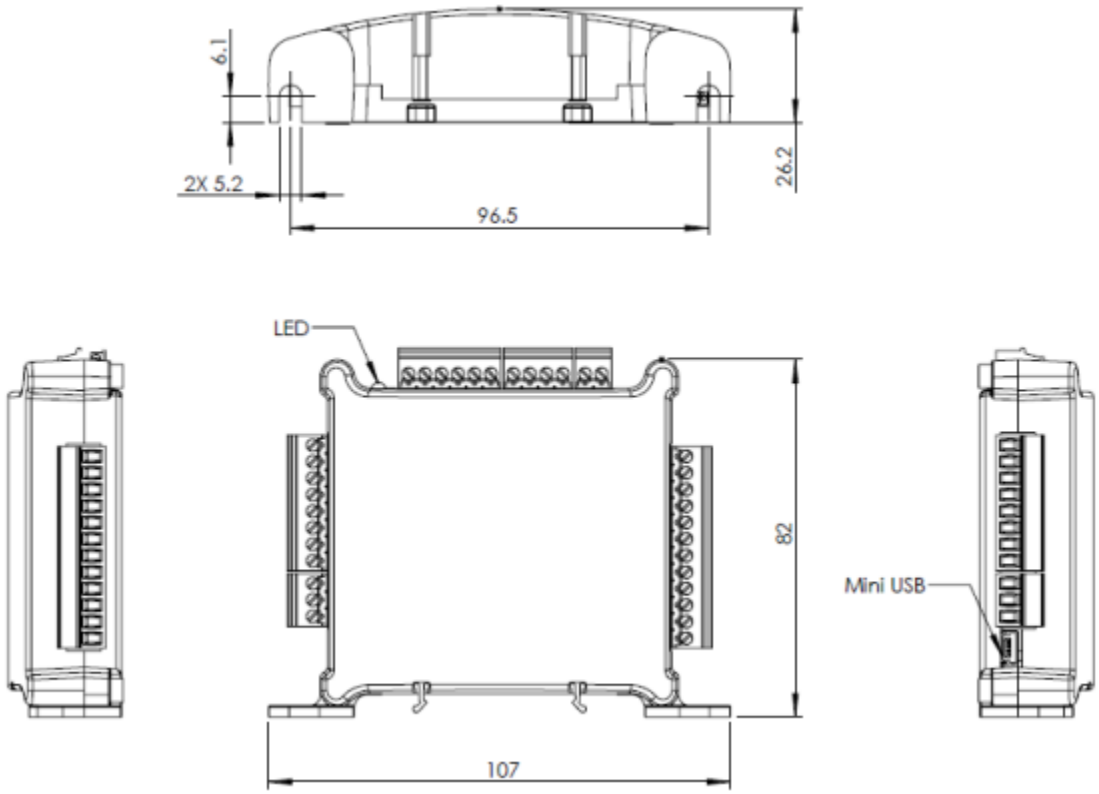
Description	Type	Connector
Programming Port	USB	Micro USB
General Purpose Serial	RS485	3 pin Half Duplex

IO and Mechanical

Inputs and Outputs

Resource	Number	Voltage	Description
Digital Inputs	3	5-24	24Vdc Sinking (NPN) or Sourcing (PNP) as group
Digital Outputs	3	5-24	Sinking Outputs up to 50mA per Channel
Analog Input	1	0-5V 0-10V 4-20mA 0-20mA	Voltage or Current Mode Analog Input (16-bit Resolution)
Encoder Inputs RS422 Differential Receivers	3	5-24	A, B, and Index channels can be used for encoder input or general purpose inputs

Mechanical



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