



## Stepper Controller **Automation1 SI4**

### Complete Your Machine Control

Build flexibility into your motion system with the Automation1 SI4, our 2- or 4-axis stepper controller that easily interfaces with any device that can receive clock and direction signals—most commonly standard stepper drives. With the SI4, you can integrate any existing third-party device or stepper motor while maintaining all the benefits of the Automation1 precision motion control platform.

### Automation1

The SI4 is a part of the user-friendly Automation1 motion control platform, which includes the following:

- ◆ **Development Software**
- ◆ **Controls**
- ◆ **Motor Drives**
- ◆ **Fiber-Optic HyperWire® Communication Bus**



### KEY FEATURES:

- ◆ Supports **SINGLE CONNECTOR** axis interface including clock & direction output, encoder feedback, 2x EOT limit inputs, marker input, amplifier enable & fault, plus optional absolute encoder support
- ◆ Supports **CLOSED-LOOP STEPPER** control
- ◆ Features one **CLOCK OUTPUT** (up to 25 MHz) & direction output per axis
- ◆ Includes **8/8 DIGITAL I/O** (optically isolated), 1x highspeed input

## AUTOMATION1 SI4 SPECIFICATIONS

CATEGORY	SPECIFICATION
<b>HyperWire Communication</b>	2x HyperWire small form-factor pluggable (SFP) ports
<b>Control Output</b>	Supports two or four axes of stepper clock & direction control
<b>Control Supply</b>	Voltage: 24 VDC Current, 2 Axis Unit: 2 A max, 0.45 A typical Current, 4 Axis Unit 2 A max, 0.6 A typical
<b>User Power Supply Output</b>	5 VDC
<b>Modes of Operation</b>	Open loop Closed loop
<b>Protective Features</b>	Output short circuit Control power supply undervoltage
<b>25-Pin Axis Connector</b>	Stepper clock & direction output High-speed differential inputs (encoder sin, cos & marker) Absolute encoder interface (support optional) CW & CCW limits 5 VDC power supply Amplifier enable & fault
<b>Digital I/O Connector</b>	8x optically isolated digital inputs (externally powered, 5-24 VDC) 8x optically isolated digital outputs (externally powered, 5-24 VDC) 1x optically isolated high-speed inputs 1x 5 VDC power supply
<b>Drive Array Memory</b>	16.7 MB (4,194,304 32-bit elements)
<b>High Speed Data Capture</b>	Yes (50 ns latency)
<b>Automatic Brake Control</b>	Assignable digital output
<b>E-Stop Sense Input</b>	Assignable digital input
<b>Absolute Encoder (Optional)</b>	BiSS C Unidirectional; EnDat 2.1; EnDat 2.2
<b>Position Command Update Rate</b>	20 kHz
<b>Operating Temperature</b>	0 to 40 °C
<b>Storage Temperature</b>	-30 to 85 °C
<b>Weight</b>	0.59 kg (1.30 lb)
<b>Compliance</b>	CE approved; follows EU 2015/863 RoHS 3 directive

## AUTOMATION1 SI4 ORDERING OPTIONS

### Configuration

**2P1** 2 Axes of Control, Standard Packaging

**2P2** 2 Axes of Control, OEM Packaging

**4P1** 4 Axes of Control, Standard Packaging

**4P2** 4 Axes of Control, OEM Packaging

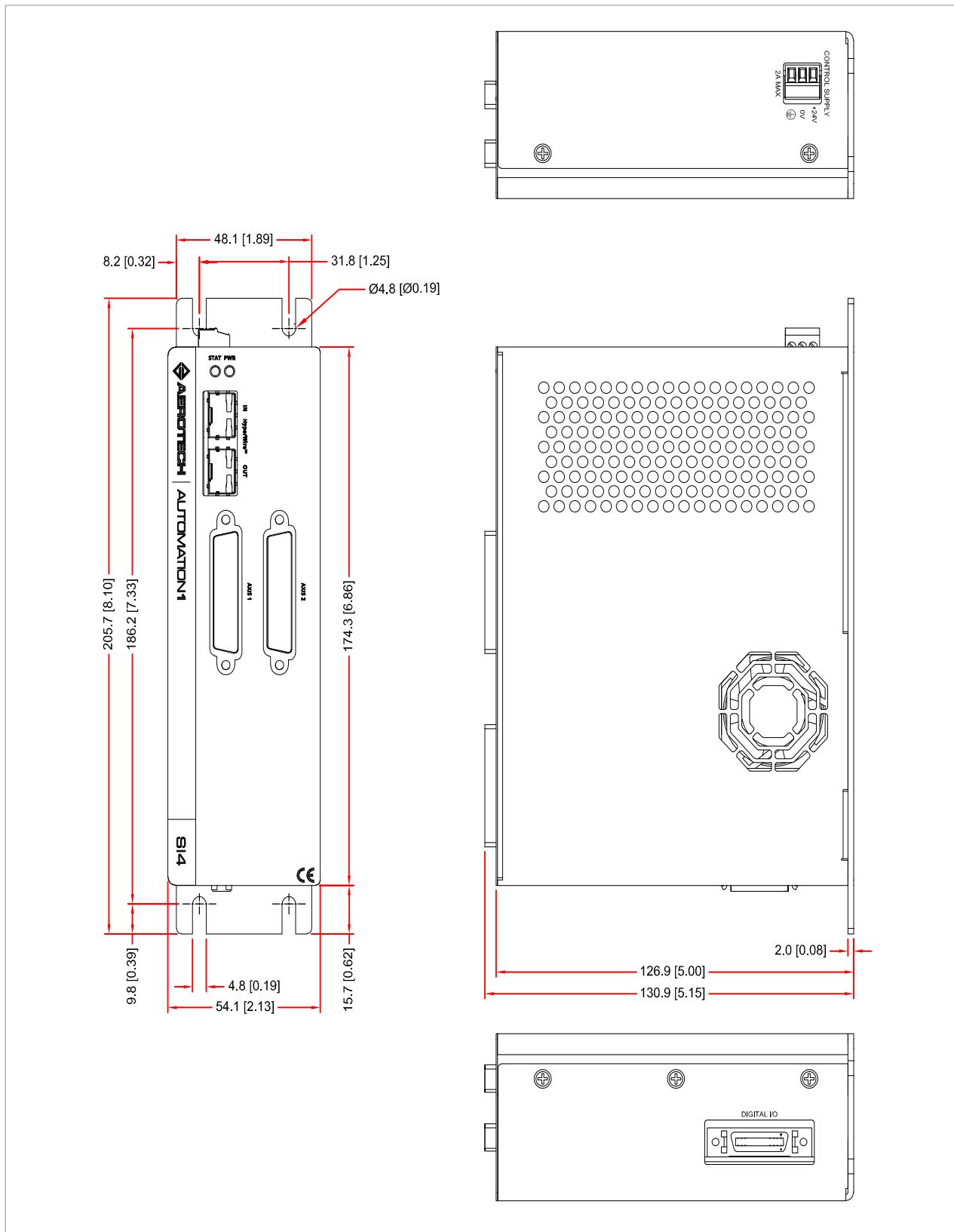
### Absolute Encoder

**A0** No Absolute Encoder Support (default)

**A1** Absolute Encoder Support

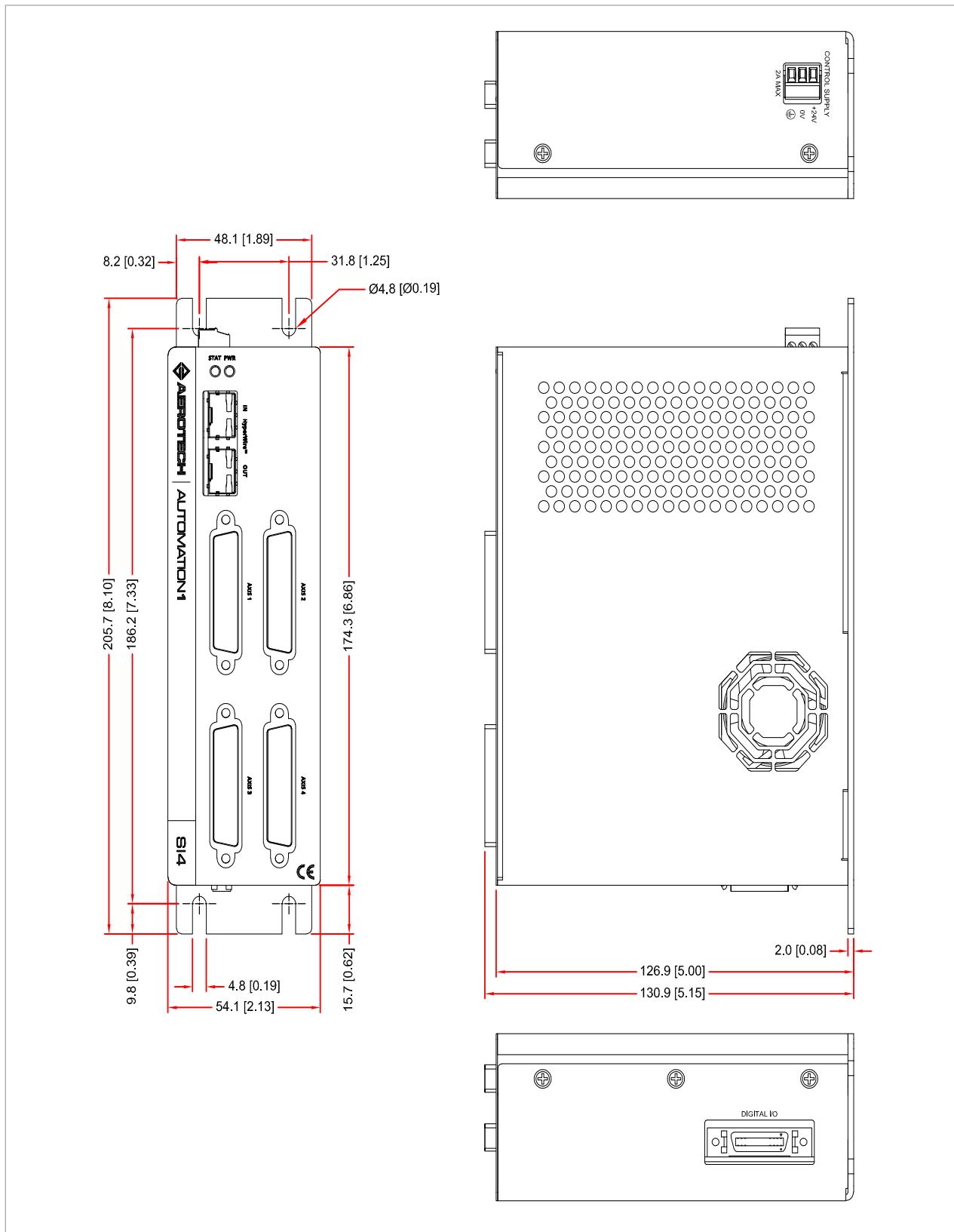
## AUTOMATION1 SI4 DIMENSIONS

### AUTOMATION1-SI4-2P1



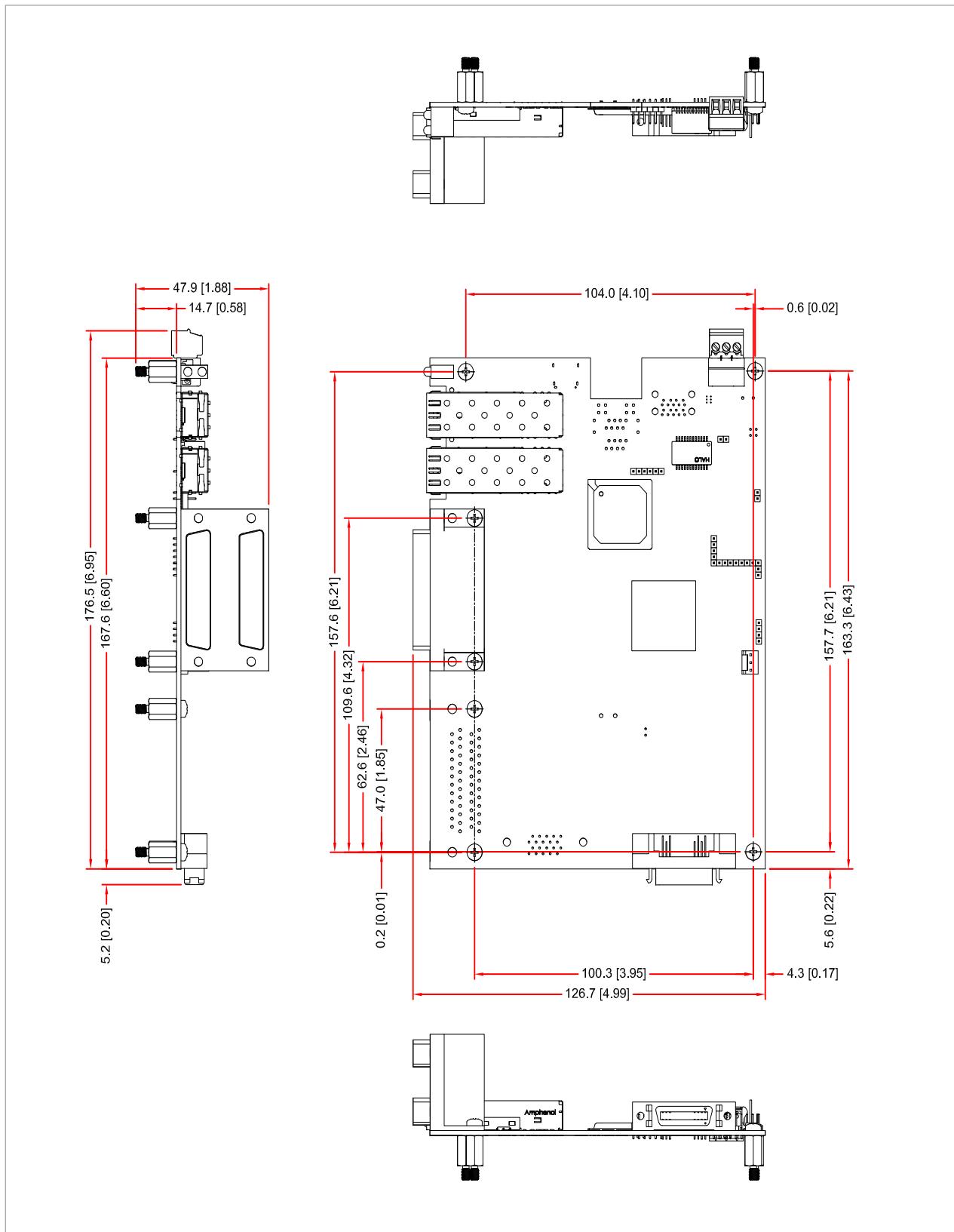
## AUTOMATION1 SI4 DIMENSIONS

### AUTOMATION1-SI4-4P1



## AUTOMATION1 SI4 DIMENSIONS

### AUTOMATION1-SI4-2P2



## AUTOMATION1 SI4 DIMENSIONS

### AUTOMATION1-SI4-4P2

