

EVA Robotics Evodrive ST-17
Stepper Servo Controller



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\$995.00

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EvoDrive ST-PCB

Stepper Motor Controller



Designed for OEMs

The EvoDrive ST-PCB has been designed with the product design engineer in mind. The ST-PCB provides the full closed-loop performance of the EvoDrive in a cost-effective embedded module.

The EvoDrive ST-PCB is perfect for bench-top robotics and precision automation. It is particularly suited for multi-axis designs where BOM cost and time to market are critical.

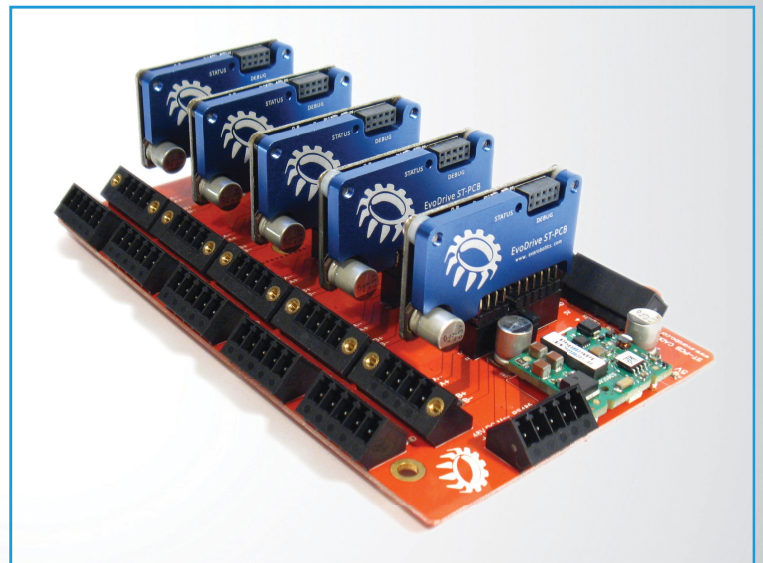
ST-PCB 5-axis Caddy

The ST-PCB is designed for integration with your own product electronics.

Sometimes, however, you just need an off-the-shelf multi-axis controller - perhaps for a light CNC project or 3D printer. The ST-PCB Caddy provides full support electronics for up to five ST-PCB modules.

The ST-PCB Caddy provides:

- Single voltage input (12-48VDC)
- Opto-isolated inputs to each ST-PCB module.
- On board RS485 bus to each module, with a single connection to the ST-PCB Caddy.
- On board bulk capacitance, EM Filtering, and layout for EMC to ensure minimal electrical noise.
- Screw Terminal headers for easy connectivity



ST-PCB Controller Specifications

| Motor Driver | Minimum | Nominal | Maximum |
|----------------------|--|-----------------|----------|
| Power Supply Voltage | 12V DC | 24V DC | 48V DC |
| Peak Motor Current | 0.01 A | 1.7 A | 3.0 A |
| Maximum Resolution | 102400 steps / rev | | |
| PWM Frequency | | 33.3 KHz | |
| Motor Compatibility | 2-Phase Bipolar Stepper Motors Any step size (0.9° to 7.2°) | | |
| Motor Speed (RPM) | | Motor dependent | 3000 RPM |

| Accuracy | Minimum | Nominal | Maximum |
|--|-----------------------------|-------------------|-------------------|
| Open-loop step size | 0.00352° (102400 steps/rev) | | |
| Open-loop accuracy | | Dependent on load | 1 motor step |
| Closed-loop Encoder Resolution CPR (After Quad) | 2048 (8192) | 4096 (16384) | 25600 (102400) |
| Standard Encoder Resolution CPR (After Quad) | | 4096 (16384) | |
| Standard Closed-loop Accuracy | 0.04395° (Encoder/2) | | |
| Closed-loop Control Mode | Four-Quadrant Servo Control | | |

| Communications | Minimum | Nominal | Maximum |
|------------------------------------|--|---------|----------------|
| Comms Interfaces Channel 1 | Virtual RS232 over USB (via separate adaptor) | | |
| Comms Interfaces Channel 2 | SPI UART (RS232 or RS485 supported via external transceivers) | | |
| UART BAUD Rate | 9600 | 9600 | 115200 |
| SPI Max Clock Rate | | | 4MHz |
| RS485 Flow Control | via Input 4 pin if configured | | |
| Command Protocols Both Channels | Stacked ASCII Commands Non-Stacked Binary commands | | |
| Max Command Length | | | 128 Characters |

| Digital I/O | Minimum | Nominal | Maximum |
|----------------------------|---|---------|---------|
| General Purpose Inputs | 4 CMOS Logic Inputs (weak pull-down) | | |
| General Purpose Outputs | 0 | | |
| Digital Input Low Voltage | 0V DC | | 1.3V DC |
| Digital Input High Voltage | 2.0V DC | | 5V DC |
| Power Rails Required | 5.0V DC (approx 50mA) | | |
| Digital Control Modes | Step/Dir CW/CCW Triggered Programs | | |
| Triggered Programs | 10 single-line programs which can be triggered by: Each Input (Pos or Neg Edge), Driver Startup, Encoder Index Pulse | | |
| Triggered Program Length | 64 Characters | | |

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