![ElectroCraft® powering innovation™]

CPP-B06V48A-SA-USB

ElectroCraft CompletePower™ Plus Universal Servo Drive

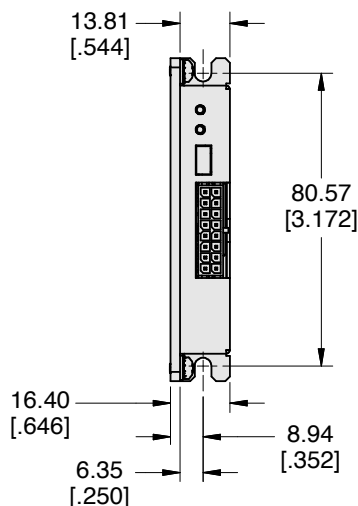*More Power in a Smaller Package*

Introducing ElectroCraft's Universal Drive, the newest addition to the ElectroCraft CompletePower™ Plus family of DC motor drives.

The Universal Drive takes performance, efficiency and flexibility to the next level, utilizing state-of-the-art digital drive technology combined with an intuitive and highly configurable user interface. Perfect for a wide range of industrial, commercial market, and consumer product applications. The CPP-B06V48A-SA-USB is one of four standard capacities in the model lineup. Customized versions are also offered to meet large volume OEM requirements.
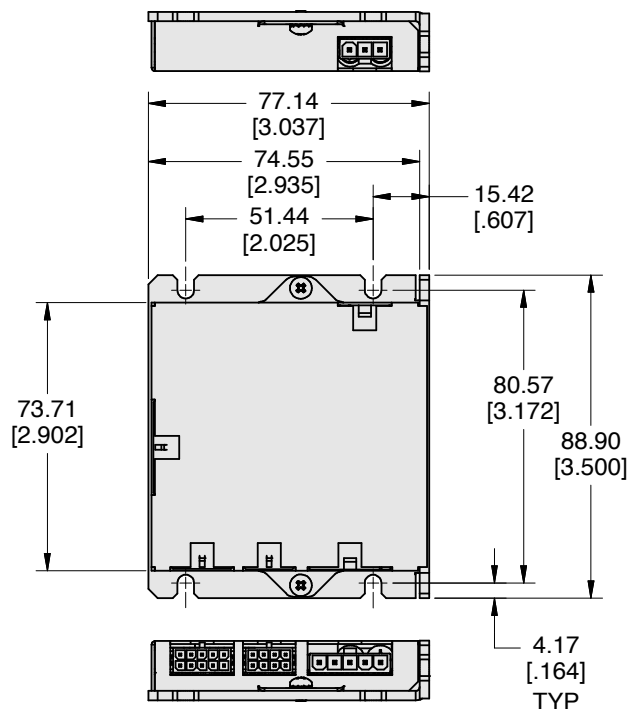
- Driven by design to be one of the most space efficient, low voltage, digital servo drives available.

- Utilizes the latest in digital drive architecture to provide software selectable control mode operation.

- Compatible with Brushless motors, PMDC Brush motors, and Stepper motors (Open-Loop and Closed-Loop) from 12 to 48 VDC and up to 6A continuous, 6A peak current.

- Modes of operation include speed control, torque control or step & direction positioning for Brushless, PMDC Brush and Closed-Loop Steppers.

- Sine-wave commutation for brushless motors using either hall sensors or encoder feedback.

- Advanced Field Oriented Control (FOC) of Brushless and Closed-Loop Stepper motors provides high dynamic response resulting in a robust motor controller with low torque ripple that produces smoother, more efficient motion!

- Open-loop stepper motors support single step up to 256 micro-steps (1MHz max step rate @50% ± 10% duty-cycle).

- Encoder feedback or IxR compensation is available for PMDC Brush motors.

- Easy setup and configuration via USB interface with ElectroCraft Complete Architect™ - Windows-based software.

CPP-B06V48A-SA-USB	
Universal Servo Drive	
Output Power, Peak:	288 Watts
Phase Current Peak:	6 Amps (peak of sine)
Phase Current Cont.:	6 Amps (peak of sine)
Output:	+12 to +48 VDC
Output Frequency:	20, 40, 80 kHz (selectable)

Measurements are in mm [inches]

13.81 [.544]

80.57 [3.172]

16.40 [.646]

6.35 [.250]

8.94 [.352]

77.14 [3.037]

74.55 [2.935]

51.44 [2.025]

15.42 [.607]

73.71 [2.902]

80.57 [3.172]

88.90 [3.500]

4.17 [.164] TYP

022619

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ElectroCraft CompletePower™ Plus Universal Servo Drive

More Power in a Smaller Package

ElectroCraft®
powering innovation™

TECHNICAL SPECIFICATIONS

Pinouts

J1 – Supply
1. Gnd
2. Power
3. PE

J2 – Motor
1. A / A+
2. B / A-
3. C / B+
4. Brake / B-
5. Frame

J3 – Hall
1. Hall 1
2. Hall 2
3. Hall 3
4. Temp+
5. Frame
6. +5V$_{OUT}$
7. Gnd
8. Temp-

J4 – Encoder
1. +5V$_{OUT}$
2. +5V$_{OUT}$
3. A+
4. B+
5. Z+
6. Frame
7. Gnd
8. A–
9. B–
10. Z–

J5 - I/O
1. Frame
2. A In+
3. Step
4. Limit+
5. Enable
6. Out0
7. Fault
8. +5V$_{OUT}$
9. A Out
10. A In-
11. Dir
12. Limit-
13. Brake
14. In0
15. Ready
16. Gnd

J6 - USB
USB Communications

LED
Green - Ready
Red - Fault

Features:

- +12 to +48 VDC power supply input.
- 6 Amps Cont., 6 Amps Peak (2 seconds).
- 2 and 4 quadrant modes.
- Sinusoidal and Trapezoidal commutation modes.
- 20 kHz, 40 kHz and 80 kHz of programmable PWM frequency options.
- Current, Speed, Step and Direction modes of operation.
- USB Communications.
- Drive status diagnostics.
- +/-10V Analog command input.
- +/-10V Analog output (configurable).
- Digital direction input.
- Configurable ramp for current and speed.
- Brushless motor has halls-only operation mode for speed control, or encoder feedback mode for better performance at low speeds.

- Brush motor has encoder feedback mode or IxR compensation.
- Stepper motor has open-loop operation or closed-loop operation with encoder feedback.
- Step and Direction (closed-loop) available for Brushless DC, PMDC Brush and Stepper motors. Encoder required.
- Single step up to 256 microsteps open-loop control for Stepper motor (1MHz max step rate @50% ± 10% duty-cycle).
- Integrated circuit for brake regeneration.
- +/- Travel limit inputs.
- 97% efficiency at full load.
- Selectable software protection options.
- Windows®-based set-up and tuning utility software included.

Model Specifications

DC Input	VDC	+12 to +48
Output	VDC	+12 to +48
Output Power, Peak	Watts	288
Phase Cur. Peak	Amps	6 (peak of sine)
Phase Cur. Cont.	Amps	6 (peak of sine)
Output Frequency	kHz	20, 40, 80 (selectable)
Motor Inductance	mH	0.1 to 50
Motor feedback &	VDC	+5, 3% reg.
Interface power	mA	250 max.
Ambient Temp. Range	°C	0 to 40
Humidity	5% to 95% RH, Non-Condensing	

Control Loops

Speed loop update rate .... Digitally adjustable up to 10 kHz
Current loop update rate .... 20 kHz
Position loop update rate.................... Digitally adjustable up to 10 kHz (Step and Direction only)
Loop operation .... Velocity, Torque, Position (Step and Direction only)

Feedback

Halls sensors .... 120°
Encoder .... 2 MHz, Differential or Single-ended
Current resolution .... 12 bit
Speed resolution .... 32 bit
Motors .... Brushless DC, Brush DC, Stepper

CPP Model Number

C P P — B	0 6	V	4 8	A	—	S A	—	U S B
	Continuous Current		Voltage	Revision		Form Factor		Interface

SA = Stand Alone

Your Genius. Our Drive.