CPP-A24V80A-SA-USB

ElectroCraft CompletePower™ Plus Universal Servo Drive

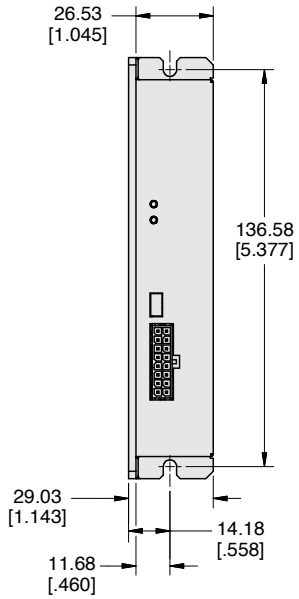
More Power in a Smaller Package

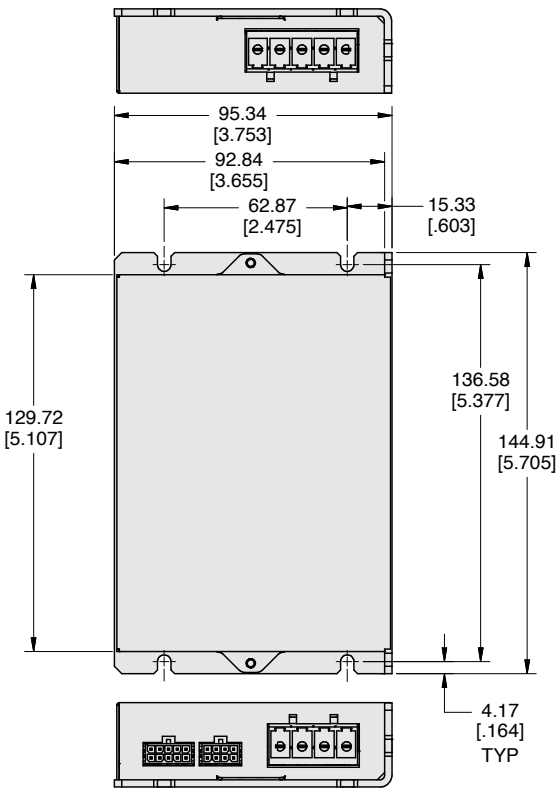
Introducing ElectroCraft's Universal Drive, the newest addition to the ElectroCraft CompletePower™ Plus family of DC motor drives.

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-A24V80A-SA-USB is one of three 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.
- Utilizing the latest in digital drive architecture to provide software selectable control mode operation.
- Compatible with Brushless and Brush motors from 12 to 80 VDC and up to 24A continuous, 60A peak current.
- Current, Speed, Step and Direction modes of operation.
- Brushless motor has sine-wave commutation using either hall sensor or encoder feedback for smooth torque. Advanced Field Oriented Control provides high dynamic response resulting in a robust motor controller with low torque ripple that produces smoother, more efficient motion!
- Brush motor has encoder feedback or IxR compensation.
- Step and Direction available for Brushless DC and Brush DC motors. Encoder required.
- Easy setup and configuration via USB interface with ElectroCraft Complete Architect™ - Windows-based software.

CPP-A24V80A-SA-USB Universal Servo Drive	
Output Power, Peak:	4800 Watts
Phase Current Peak:	60 Amps (peak of sine)
Phase Current Cont.:	24 Amps (peak of sine)
Output:	+12 to +80 VDC
Output Frequency:	20, 40, 80 kHz (selectable)





Measurements are in mm [inches]

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TECHNICAL SPECIFICATIONS

Pinouts

J1 – Supply
1 Gnd
2 Power
3 Brake Res+
4 Brake Res–
5 PE

J2 – Motor
1 A
2 B
3 C
4 Frame

J3 – Hall
1 Hall 1
2 Hall 2
3 Hall 3
4 Temp+
5 Frame
6 +5VOUT
7 Gnd
8 Temp–

J4 – Encoder
1 +5VOUT
2 +5VOUT
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 +5VOUT
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 +80 VDC power supply input.
- 24 Amps Cont., 60 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 and encoder mode for low speed performance. Step and Direction mode requires encoder feedback.
- Brush motor has encoder feedback and IxR compensation. Step and Direction mode requires encoder feedback.
- Integrated circuit for brake regeneration.
- +/- Travel limit inputs.
- 98% efficiency at full load.
- Selectable software protection options.
- Windows®-based set-up and tuning utility software included.

Model Specifications

DC Input	VDC	+12 to +80
Output	VDC	+12 to +80
Output Power, Peak	Watts	4800
Phase Cur. Peak	Amps	60 (peak of sine)
Phase Cur. Cont.	Amps	24 (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

CPP Model Number

CPP — A 24 V 80 A — SA — USB

- 24 — Continuous Current
- 80 — Voltage
- A — Revision
- SA — Form Factor (SA = Stand Alone)
- USB — Interface

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