CPP-A40V24A-SA-CAN

ElectroCraft CompletePower™ Plus Universal Servo Drive

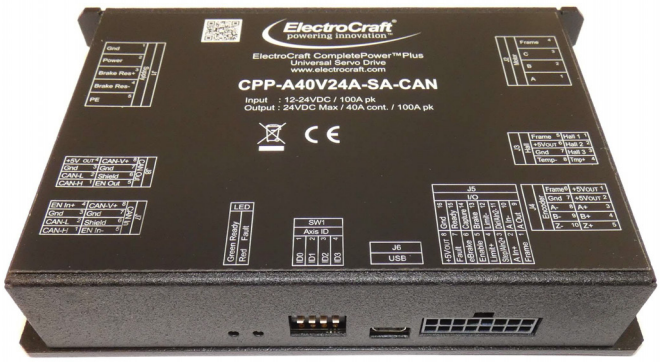
More Power in a Smaller Package

Introducing ElectroCraft's Universal Drive,

the newest addition to the ElectroCraft CompletePower™ Plus family of DC motor drives.

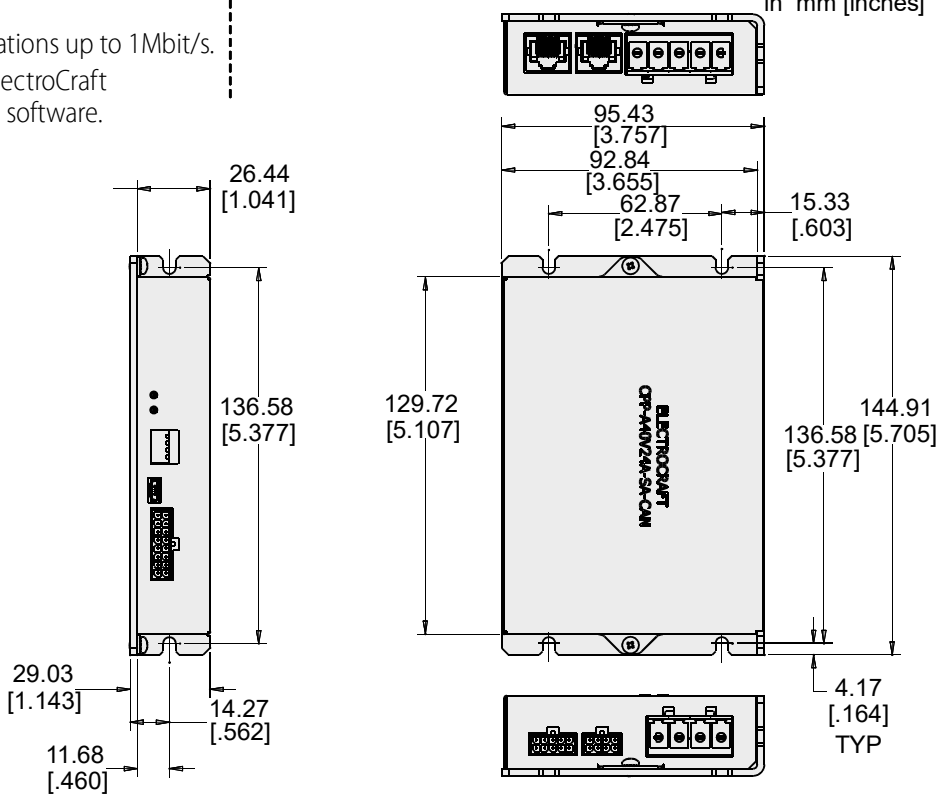
The Universal Drive takes performance, efficiency and flexibility to the next level, utilizing state-of-the-art digital drive technology combined with an intuitive and highly configurable user interface. Perfect for a wide range of industrial, commercial market, and consumer product applications. The CPP-A40V24A-SA-CAN is one of several 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 DC and Permanent Magnet Brushed DC Motors from 12 to 24 VDC and up to 40A continuous, 100A peak current.
- Sine-wave commutation using either hall sensor or encoder feedback provides smooth torque.
- Modes of operation include Speed, Current, and Position control.
- Advanced Field Oriented Control provides high dynamic response resulting in a robust motor controller with low torque ripple that produces smoother, more efficient motion!
- Built in USB and CAN Bus Communications up to 1Mbit/s.
- Easy setup and configuration using ElectroCraft CompleteArchitect™ Windows-based software.



CPP-A40V24A-SA-CAN Universal Servo Drive	
Output Power, Peak:	2075 Watts
Phase Current Peak:	100 Amps (peak of sine)
Phase Current Cont.:	40 Amps (peak of sine)
Output:	+12 to +24 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 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 +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 / A In2+
4 Limit+
5 Enable
6 eBrake
7 Fault
8 +5VOUT
9 A Out1
10 A In1-
11 Dir / A In2-
12 Limit-
13 Brake
14 Capture
15 Ready
16 Gnd

J6 - USB
USB Communications

Indicators (LED)
Green - Ready
Red - Fault

J7 - CAN In
1 CAN-H In
2 CAN-L In
3 Gnd
4 Enbl / In+
5 Enbl / In-
6 Shield
7 GND
8 CAN V+

J8 - CAN Out
1 CAN-H Out
2 CAN-L Out
3 Gnd
4 +5VOUT
5 Enbl / Out-
6 Shield
7 GND
8 CAN V+

SW 1- Axis ID
1 ID-Bit0
2 ID-Bit1
3 ID-Bit2
4 ID-Bit3

Features:

- +12 to +24 VDC power supply input.
- 40 Amps Cont., 100 Amps Peak (2 seconds).
- 2 and 4 quadrant modes.
- Sinusoidal and Trapezoidal commutation.
- 20 kHz, 40 kHz and 80 kHz of programmable PWM frequency options.
- Current, Speed and Position modes of operation.
- USB Communications.
- CAN Bus Communications.
- Drive status diagnostics.
- +/-10V Analog command input.
- +/-10V Analog output (configurable).
- Built in short circuit, over current, over temperature, and over voltage detection.
- Digital Step and Direction inputs.
- Halls only operation mode.
- Integrated electromagnetic brake control circuit.
- Encoder mode for low speed performance.
- Integrated braking circuit control.
- +/- Travel limit inputs.
- Configurable ramp for current and speed.
- 97% efficiency at full load.
- Selectable software protection options.
- Windows®-based setup and tuning utility software included.
- Hardware CAN Axis ID selection switches.

Model Specifications:

DC Input	VDC	+12 to +24
Output	VDC	+12 to +24
Output Power, Peak	Watts	2075
Phase Cur. Peak	Amps	100 (peak of sine)
Phase Cur. Cont.	Amps	40 (peak of sine)
Output Frequency	kHz	20, 40, 80 (selectable)
Motor Inductance	mH	0.1 to 50
Motor feedback &	VDC	+5, 5% 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
Loop operation	Velocity, Torque, Position

Feedback

Halls sensors	120°
Encoder	4 MHz, Differential or Single-ended
Current resolution	12 bit
Speed resolution	32 bit
Position resolution	32 bit
Motors	BLDC / PMDC

CPP Model Number:

CPP — A | 40 | V | 24 | A | — SA | — CAN

- A: Drive Technology
- 40: Continuous Current
- V: Voltage
- 24: Voltage
- A: Revision
- SA: Form Factor (SA = Stand Alone)
- CAN: Interface

Your Genius. Our Drive.

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