



ElectroCraft CompletePower™ Plus EZ Drive

Simplified Speed Control

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

The EZ Drive is a simple & cost effective BLDC speed control drive, offering several standard capacities in the model lineup. Customized versions are also offered to meet large volume OEM requirements.

- Compatible with Brushless DC motors from 12 to 48VDC and up to 24A continuous, 48A peak current.
- Trapezoidal commutation.
- Mode of operation is speed control.



CPP Model Number:

CPP — A **2** **4** V **4** **8** **A** — **S** **A** — EZ

Continuous Current: 24 = 24A, 12 = 12A, 06 = 6A
 Max Voltage: 12-48VDC
 Revision: A
 Form Factor: SA= Stand Alone, PE = PCB Mount

Features:

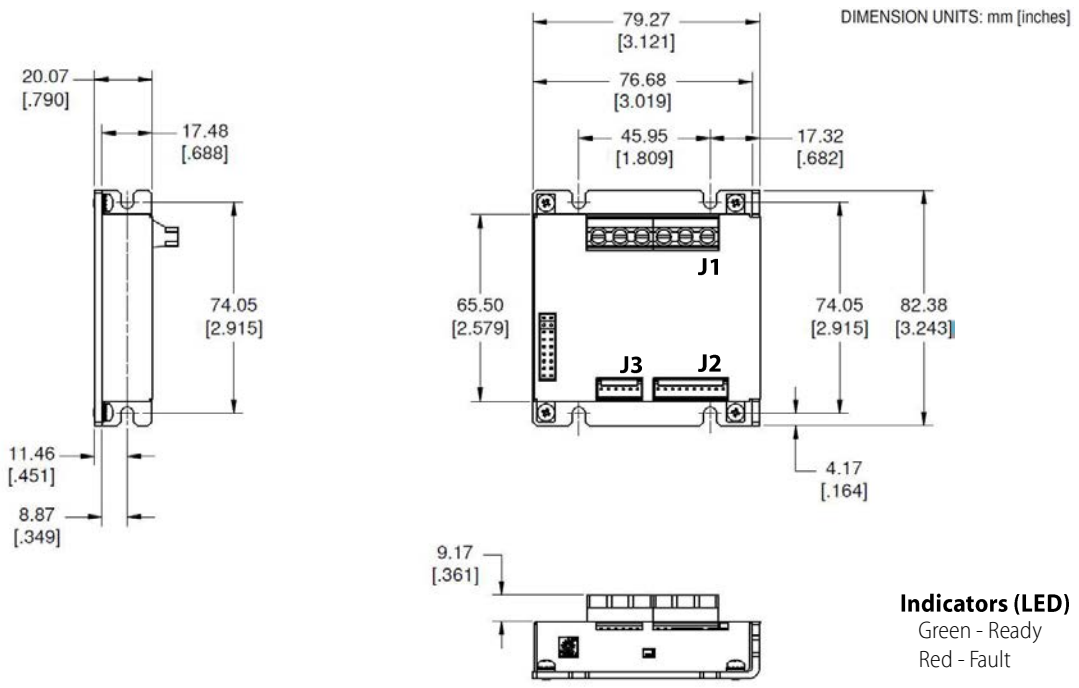
- Brushless DC motor speed control.
- 2 quadrant control.
- Trapezoidal commutation.
- Halls only operation mode.
- Encoder feedback mode for low speed precision.
- Digital tach output for external speed monitoring.
- Built-in short-circuit, over-current, over-temperature and over-voltage protection.
- Easy to configure hardware settings supporting a wide range of BLDC motors.

Model Specifications

ElectroCraft CompletePower™ Plus EZ Drive	CPP-A06V48A-SA-EZ	CPP-A12V48A-SA-EZ	CPP-A24V48A-SA-EZ
Characteristics			
Input Voltage (VDC)	12 to 48		
Output Voltage (VDC)	12 to 48		
Output Power, Peak (W)	576	1152	2304
Max Current - Amps Peak of Sine (2 seconds)	12	24	48
Max Current - Amps RMS (2 seconds)	8.5	17.0	33.9
Continuous Current - Amps Peak of Sine	6	12	24
Continuous Current - Amps RMS	4.2	8.5	17.0
PWM Output Frequency (kHz)	25		
Efficiency	97%		
Derating for PCBA models w/out heat sink	25% of Rated Values		
Control Methods			
Analog Speed Control	0-10VDC		
Internal Speed Control	Hardware setting + user accessible potentiometer		
Feedback			
Hall Sensors	120°		
Encoder Feedback	Single phase pulse train, up to 20kHz		
Speed Resolution	32bit		
Control Loops			
Speed Loop Update	25kHz		
Inputs			
Hall Inputs	TTL, CMOS, Open Collector (0-5V)		
Digital Tach/Encoder Input	TTL, CMOS, Open Collector (0-5V)		
Digital Inputs	x3 (1 enable, 1 direction, 1 brake)		
Analog Input	0-10VDC command input for speed		
Outputs			
Digital Outputs	x2 (1 tach, 1 fault)		
Auxiliary Voltage for Feedback Device	5VDC / 250mA		
Display			
LED's	Green - Ready Red - Fault		
Environment			
Ambient Temperature	0 to 40°C		
Humidity	5% to 95% RH, Non-Condensing		
Supported Motors			
Brushless DC (BLDC)	ElectroCraft RPX, LRPX, RP, RPP, RPE, MP, MPW and 3rd party BLDC motors		

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Simplified Speed Control



Pinouts:

J1 - Power & Phase

Pin #	Name	I/O	Description
1	GND	Input	DC Power Input - supply return
2	Power	Input	DC Power Input - supply
3	PE	-	Connected to drive chassis
4	A	Output	BLDC Motor Phase A
5	B	Output	BLDC Motor Phase B
6	C	Output	BLDC Motor Phase C

J3 - Hall & Tach

Pin #	Name	I/O	Description
1	Hall 1	Input	Hall Signal A, internal pull-up to +5VDC
2	Hall 2	Input	Hall Signal B, internal pull-up to +5VDC
3	Hall 3	Input	Hall Signal C, internal pull-up to +5VDC
4	Tach In	Input	Digital Tach input, +5V digital pulse train
5	+5V Out	Output	+5V DC power, internally generated
6	GND	-	Digital ground

J2 - I/O

Pin #	Name	I/O	Description
1	Frame	-	Connected to drive chassis
2	Analog In	Input	Analog input for speed control
3	Enable	Input	Drive enable, digital input
4	Tach Out	Output	Tach (speed), digital output
5	Fault Out	Output	Fault, digital output
6	+5V Out	Output	+5V DC power, internally generated
7	NC	-	-
8	DIR	Input	Direction, digital input
9	Brake	Input	Brake, digital input
10	GND	-	Digital ground

Jumper	Name	Description
1	Speed Control Mode	ON: Speed control with potentiometer OFF: Speed control using external analog voltage
2	Feedback Mode	ON: Hall mode OFF: Tach mode
3	User Max Speed Setting	16 different settings Up to 18,000 RPM in Hall mode, 1000 RPM in Tach Mode
4		
5		
6	User Max Current Setting	CPP-A06V48A-SA-EZ: 8 settings from 0.75A up to 6.0A CPP-A12V48A-SA-EZ: 8 settings from 1.5A up to 12A CPP-A24V48A-SA-EZ: 8 settings from 3.0A up to 24A
7		
8		
9		



Your Genius. Our Drive.

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