

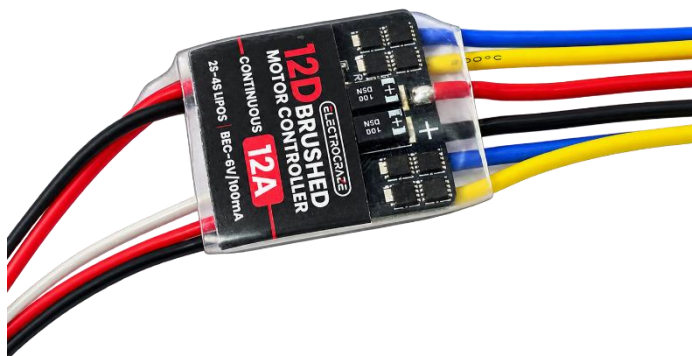


ElectroCraze 12D-BD v2

Dual Channel 12A Brushed Motor Controller

Precision dual-motor control for RC vehicles, differential-drive robots & combat bots

PRODUCT OVERVIEW



The **ElectroCraze 12D-BD v2** is a compact dual-channel brushed motor controller engineered for precision and performance. With an input voltage range of **8–16V (2S–4S LiPo)**, it delivers a continuous output of **12A per channel (15A peak instant)**. Featuring signal loss protection, an integrated 6V BEC, and a hardware Mix Mode switch, it provides reliable motor control for RC vehicles, differential-drive robots, and custom robotics projects.

SPECIFICATIONS

Model	ElectroCraze 12D-BD v2
Input Voltage	8V – 16V (2S to 4S LiPo)
Output Current (Cont.)	12 A per channel
Output Current (Peak)	15 A per channel
Signal Input	Standard Servo Input
Signal Range	1100 – 1900 μ s
Throttle Centre	1460 – 1540 μ s
Dead Band (From Centre)	40 μ s
BEC Output	6V 100 mA max
Input Wire	20 AWG Silicone Wire (Red & Black)
Output Wire	20 AWG Silicone Wire (Red & Black)
Dimensions	30.7 × 30.7 × 5.58 mm (excl. wires)
Weight	22 g (incl. wires)

KEY FEATURES

[DC] Dual-Channel Brushed Control
Independent or mixed control of two motors

[CL] Current Limiting
Peak 15A per channel for high-demand bursts

[SC] Signal Loss Protection
Safeguards motors on RC signal interruption

[MX] Mix Mode (PCB Pads)
Solder pads enable built-in drive mixing

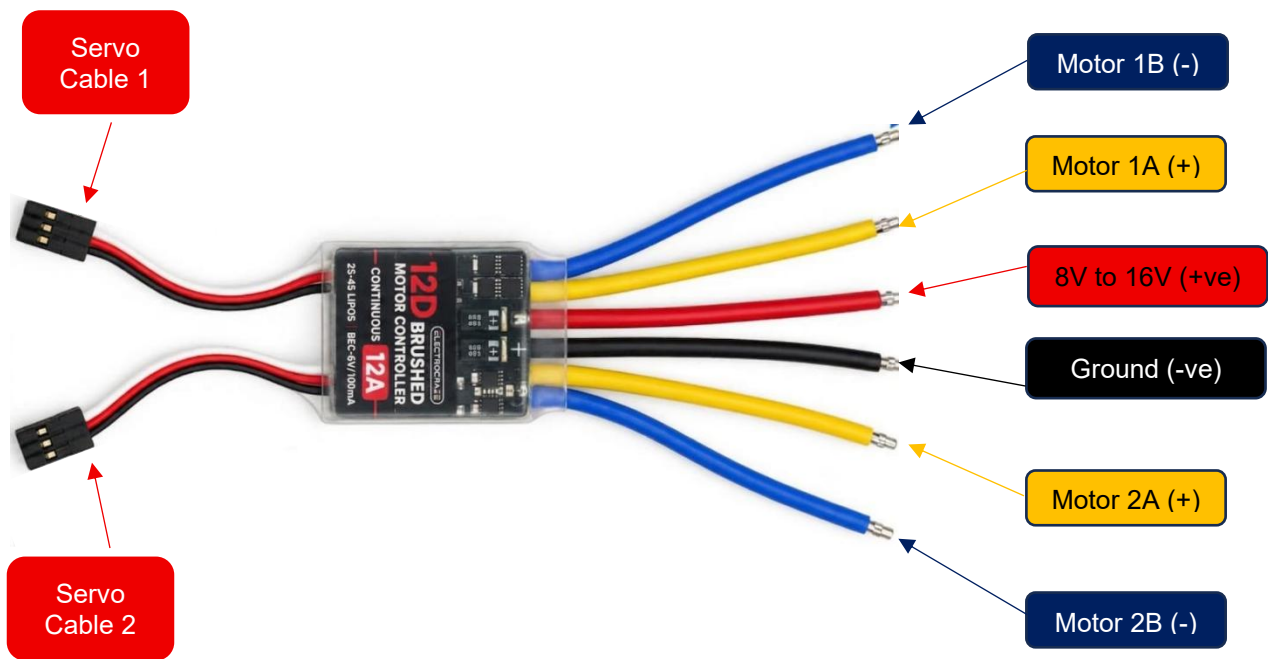
[BEC] Integrated 6V BEC
Powers receiver without external BEC

[SZ] Small in Size
Compact Board Size

LED INDICATOR STATUS

LED Colour	LED Status	Meaning
Green	Solid	Valid Power — controller powered on
Blue	Solid	Valid Signal — RC signal received
Green (solid) + Blue (blink)	Alternate	Power OK but no signal received
No LED	—	Motor controller not powered

WIRING SUMMARY



POWER INPUT

Red → Positive (+)
Black → Negative (-)

MOTOR CH 1

Yellow (M1A) → Motor 1 (+)
Blue (M1B) → Motor 1 (-)

MOTOR CH 2

Yellow (M2A) → Motor 2 (+)
Blue (M2B) → Motor 2 (-)

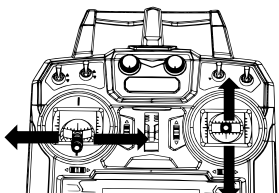
RC Servo Cable: Connect Servo Connector 1 & 2 to your receiver for drive signals. Verify signal, 5V, and ground pin alignment on receiver.

MODE SUMMARY

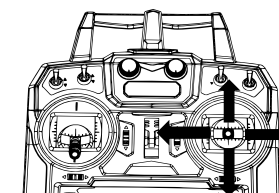
Normal Mode

Both channels operate independently via servo cable 1 & 2. Ideal when separate motor control is needed. Use transmitter mixing if combined control is required.

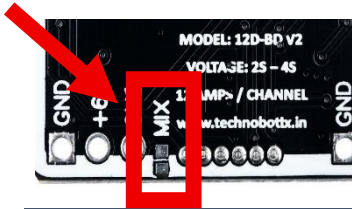
Case 1: V-tail Mixing

Servo Connector	Receiver Channel	
Servo Connector 1	CH2	
Servo Connector 2	CH4	

Case 2: Elevon Mixing

Servo Connector	Receiver Channel	
Servo Connector 1	CH1	
Servo Connector 2	CH2	

Mix Mode:

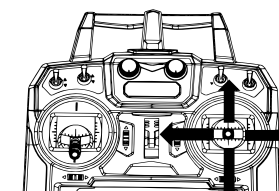


Single throttle input drives both channels together. Built-in hardware switch — perfect for differential-drive robots even without transmitter mixing support.

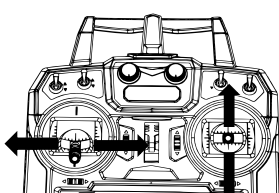
Connect PCB pads (solder) for enabling Mix Mode.



Case 1: Elevon Mixing

Servo Connector	Receiver Channel	
Servo Connector 1	CH1	
Servo Connector 2	CH2	

Case 2: V-tail Mixing

Servo Connector	Receiver Channel	
Servo Connector 1	CH4	
Servo Connector 2	CH2	

APPLICATIONS

Differential Drive Robots

RC Ground Vehicles

Robotic Platforms

RC Boats & Crawlers

Combat Robots

Custom Robotics Projects

ADVICE & WARNINGS

- **Check Battery Polarity:** Always verify wiring before connecting power. Reversed polarity causes irreversible damage.
- **Controller Temperature:** The board gets hot during operation. Do not touch immediately after use.
- **Do Not Insulate:** Never wrap in insulating material — heat must dissipate freely for rated performance.
- **Prevent Short Circuits:** Keep conductive materials away from the PCB. Instantaneous shorts may not be current-limited.
- **Secure Against Vibration:** Stabilize heavy PCB components (capacitors) with silicone or epoxy in high-vibration builds.

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