ELECTROCRAZE 20D-BD

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1.OVERVIEW :

Introducing the Electrocraze 20-BD, a high-performance dual-channel bi-directional brushed motor controller designed to meet the needs of robotics companies, hobbyists, and engineers alike, Crafted by Technobotix Private Limited. This motor controller is engineered for reliability and precision, providing superior control for your brushed motor applications.

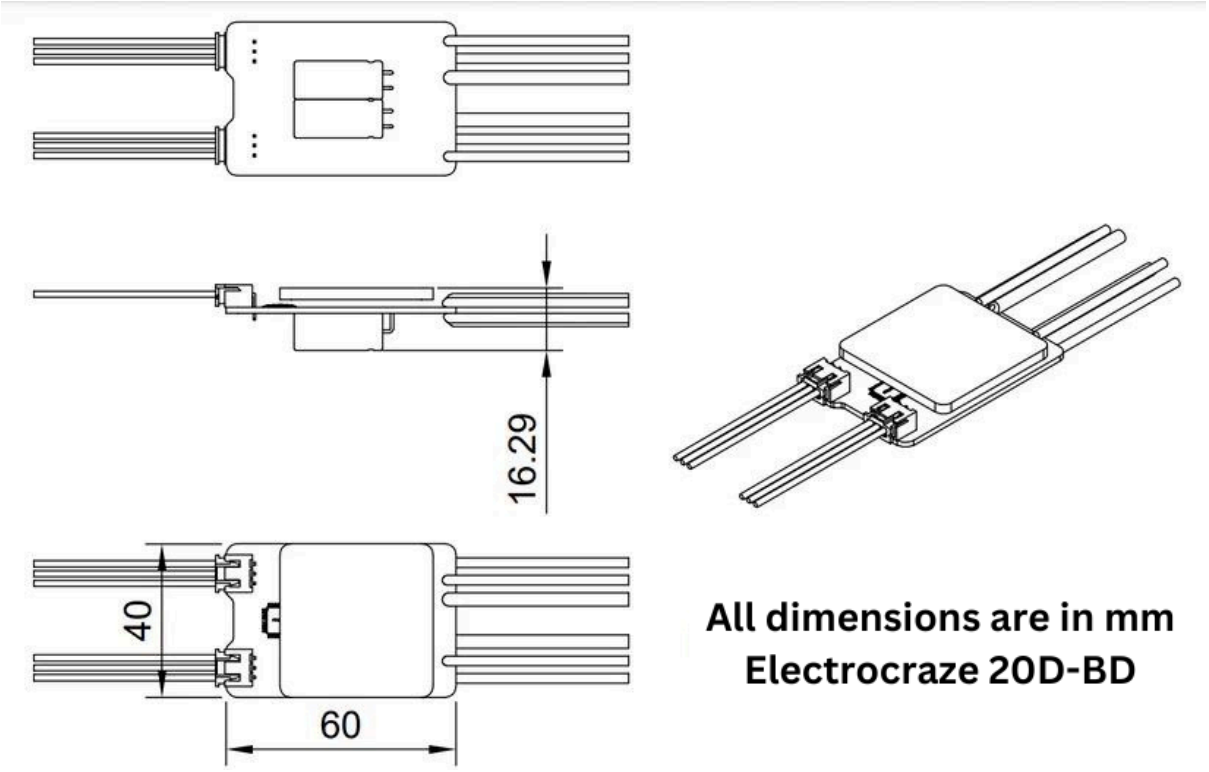
Whether you're working on sophisticated robotics products or fine-tuning your RC vehicles & robots, the ElectroCraze 20D-BD delivers seamless operation, durability, and advanced features that set it apart from the competition.

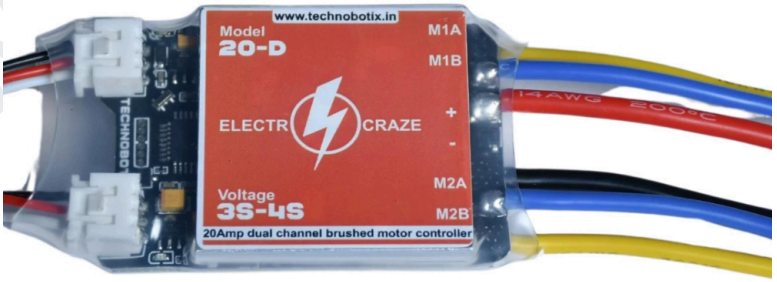
2. SPECIFICATIONS :

1. Input Voltage Range: 11-17V (3S-4S)
2. Output current continuous:20 amps/channel
3. Output Current (Peak): 45 Amps/ channel
4. Dimensions: 62 x 40 x 16 mm (excluding wires)
5. Weight: 50gms (excluding wires)
6. Input: Standard Servo Input
7. Signal Range: 1100 – 1900 us
8. Throttle Centre: 1460-1540
9. Dead Band (From Centre): 40us
10. BEC: yes (5v 100mA max)
11. Brake: Yes
12. Signal loss protection: Yes
13. Input Wire Thickness: 14 AWG Silicone Wire (Red & Black)
14. Output Wire Thickness: 16 AWG Silicone Wire (Yellow & Blue)

3. DIMENSIONS :

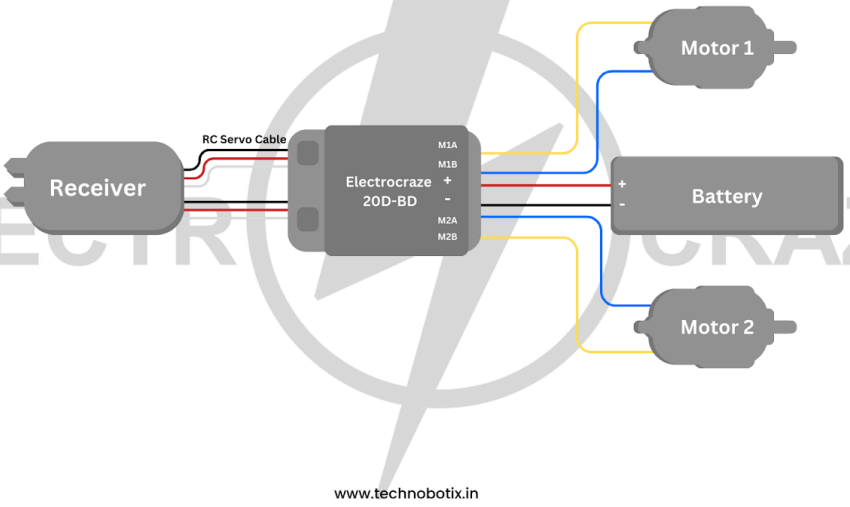
Dimensions: 62 x 40 x 16 mm (excluding wires)





4. Wiring Overview

The ElectroCraze 20D-BD motor controller is equipped with 6 high-quality 14 & 16 AWG silicone wires, each colour-coded for easy identification and proper connection:



- **Power Input Wires:**
  - **Red Wire:** Positive Terminal (+)
  - **Black Wire:** Negative Terminal (-)
- **Motor Channel Wires:**
  - **Channel 1:**
    - **Yellow Wire (M1A):** Positive Terminal of motor 1 (+)
    - **Blue Wire (M1B):** Negative Terminal of motor 1 (-)
  - **Channel 2:**
    - **Yellow Wire (M2B):** Positive Terminal of motor 2 (+)
    - **Blue Wire (M2A):** Negative Terminal of motor 2 (-)
- **RC Servo Cable:**
  Connects the motor controller to your receiver for control signals.

5. Installation Instructions

1. **Prepare Your Motor controller**
    - Ensure that the motor controller is in good condition, with no visible damage to the wires or heat shrink.
    - The motor controller comes pre-installed with heat shrink tubing, which acts as a protective seal around the PCB and components. This shielding prevents potential shorts or interference from nearby metal objects and other components.
2. **Connect Power Input**
    - **Red Wire :** Connect this to the positive terminal of your power source.
    - **Black Wire:** Connect this to the negative terminal of your power source.
    - **Important:** Ensure that your power source provides a voltage between 11V to 17V (3S-4S LiPo). Operating outside this range may damage the motor controller or connected components.
3. **Connect Motors**
    - **Channel 1 :**
        - **Yellow Wire (M1A):** Connect this to the positive terminal of Motor 1.
        - **Blue Wire (M1B):** Connect this to the negative terminal of Motor 1.
    - **Channel 2:**
        - **Yellow Wire (M2B):** Connect this to the positive terminal of Motor 2.
        - **Blue Wire (M2A):** Connect this to the negative terminal of Motor 2.
    - Ensure that the connections are secure and that the wires are properly insulated to prevent shorts.
4. **Connect RC Servo Cable**
    - Plug the RC Servo cable from the motor controller into the corresponding channel on your receiver. This cable will transmit the control signals from your receiver to the motor controller, enabling precise control over your motors.
    - Verify that the connection is firm, with no loose contacts.

5. **Power On**
    - Once all connections are securely made, you can power on your system. The motor controller will initialise, and you should observe normal operation of your motors in response to your transmitter inputs.

7. Status LED :

LED Status	Meaning
BLUE	Solid Blue indicates valid input power
BLUE & RED	Alternate blinking of blue and red lED lights indicates rc signal not received
No LED	No LED indicates the motor controller is Damage or Not Valid input Power

8. Advice & Warnings :

1. Check Battery Polarity
   Always double-check your wiring before connecting the battery. Reversing the battery polarity can cause irreversible damage to the motor controller, and such damage is not covered under warranty.
2. Controller Temperature
   The motor controller will become hot during and after operation. Avoid placing the controller in contact with materials that have a low melting point, and do not handle the controller immediately after use.
3. Do Not Insulate the Controller Do not cover the motor controller or wrap it in insulating materials, as this will impede heat dissipation and reduce the continuous current rating. Proper ventilation is essential for maintaining optimal performance.
4. Prevent Short Circuits
   Ensure that conductive materials do not come into direct contact with the motor controller board. The current limit is not guaranteed to protect against instantaneous short circuits, such as when output wires touch each other.

5. Secure Against Vibration
   Secure the motor controller properly in applications with high vibrations. Heavier components, such as the main power capacitors, should be stabilised using silicone or epoxy adhesive to prevent damage due to shock loads.

9. Troubleshooting

1. Motor controller not turning on:

   Electrocraze 20D-BD is designed to operate from 11 to 17 volts. Voltages higher than 17V will cause permanent damage. Check your battery input for continuity (no broken solder joints or loose connectors) Check for the presence of the Blue LED. If the LED is off, the controller is either not receiving power, or damaged.

2. Incorrect Servo Cable Connection :

   Ensure that CH1 & CH2 both servo cable from the motor controller is correctly connected to your receiver.Check that your signal is correct for the mode you are in. For instance, R/C mode requires both CH1 and CH2 to have valid signals & connected.

   Ground (Black wire): Ensure that the ground wire from the servo cable is connected to the ground pin on the receiver.

   5V (Red Wire): Confirm that the 5V wire is connected to the 5V pin on the receiver.

   Signal or data (White): Make sure the signal wire is connected to the signal pin on the receiver.

3. Verify the Connections:

   Double-check the wiring to confirm that all connections are secure and aligned with the correct pins on the receiver.

   If the connections are correct, try re-binding your transmitter and receiver to ensure a proper signal is being sent to the motor controller.

10. Shipping & Warranty :

Please see the Shipping and Warranty section on technobotix.in for more information on returns and replacements.

Transforming Vision Into Robotics Reality

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Or send mail on : **sales@technobotix.in**)