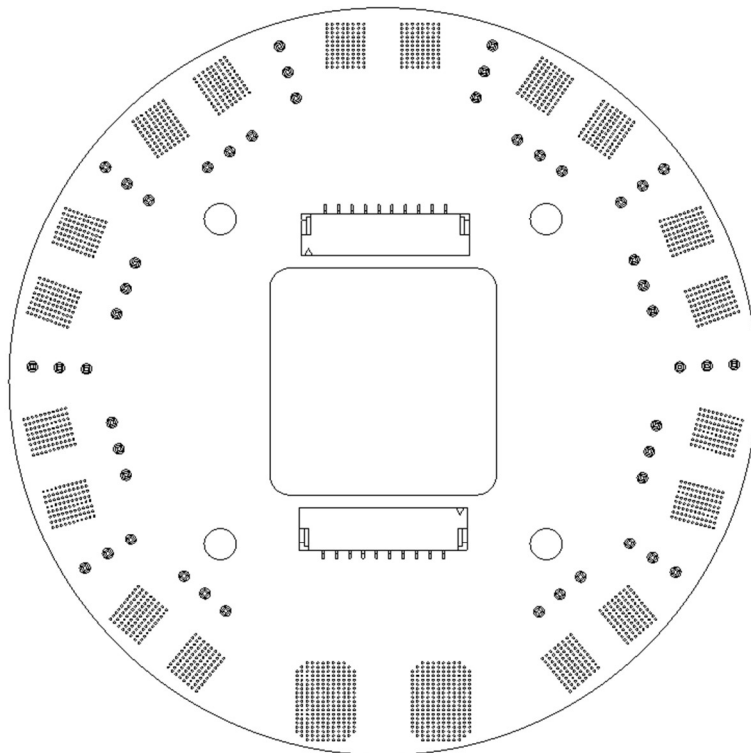


Power Distribution Board (PDB) 10

User Manual

V1.0 | 25.02





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Overview

The PDB 10 is a high-performance power management component engineered for advanced aerial and robotic platforms. Its sleek circular form-factor (35 mm radius) and lightweight build streamline integration into quadcopters, octocopters, and various embedded systems while minimizing added weight and drag.

Rated to handle up to 100 A of continuous current, the board supplies robust power to demanding applications and supports up to 8 ESCs, giving you individual control over each motor, ideal for optimizing flight performance.

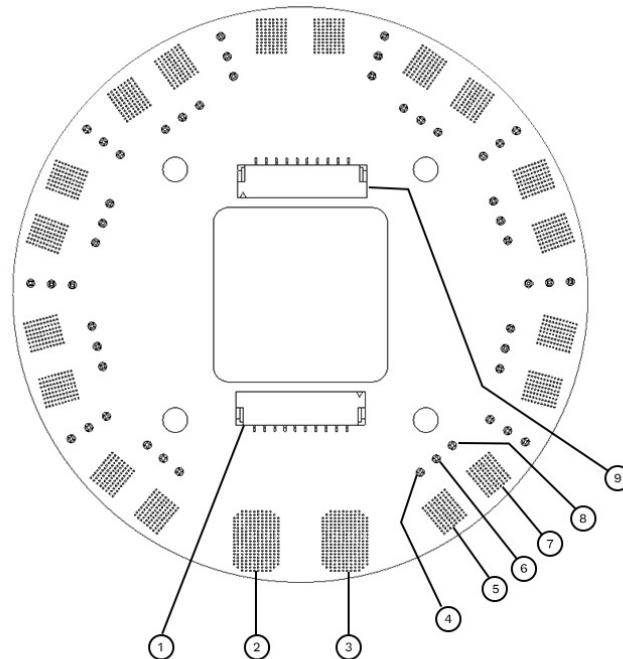
It also includes FMU PWM outputs for Flight Management Unit connectivity, alongside flexible general-purpose PWM I/O channels, enabling smooth operation and customization of peripherals.

Crafted with flame-retardant, glass-reinforced epoxy laminate material FR-4, the PDB 10 resists heat and electrical stress—perfect for rugged use in drones, robotics, RC vehicles, industrial controllers, and more. Its clever design balances power distribution, precision control, and compactness, making it a go-to solution for professional UAV builds and advanced power-critical systems.

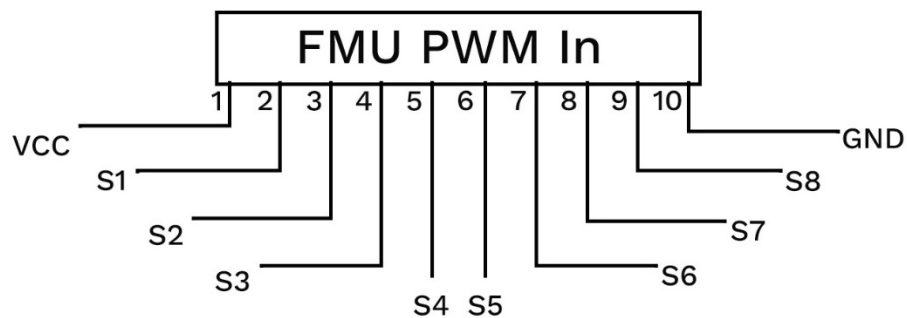
What's in the Box

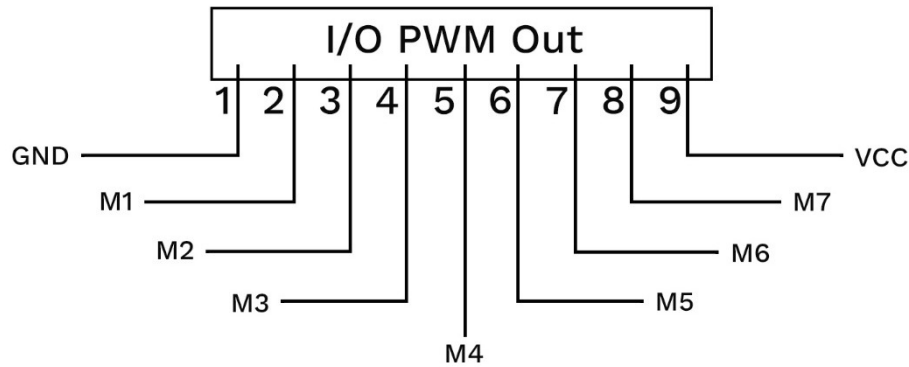
- Power Distribution Board
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Know your PDB 10



- | | |
|----------------------------|-------------------|
| 1 I/O PWM Input (To Motor) | 8 GND |
| 2 Battery Input (+) | 9 FMU Input (AUX) |
| 3 Battery Input (-) | |
| 4 ESC Control | |
| 5 ESC (-) | |
| 6 NIL | |
| 7 ESC (+) | |





Battery input pads

ESC output pads (×8)

FMU PWM connector

I/O PWM connector

Multiple mounting holes

Physical Dimensions & Weight

- Shape: Compact circular board
- Diameter: 70 mm (35 mm radius)
- Thickness: approximately 2 mm
- Weight: 17 g

Maximum Current Handling

- Continuous Current Rating: 100 A total, supporting up to 8 ESC connections
- Equivalent to approx. 30 A per ESC for quadcopter setups
- Around 12–15 A per ESC when configured for an octocopter

Key Features

- High Current Capacity: Supports up to 100 A continuous current, ensuring reliable power delivery for demanding multi-rotor and other systems
- ESC Support: Offers 1–8 ESC connections, enabling individual motor control—perfect for quadcopters, hexacopters, and even octocopters
- FMU & I/O PWM Outputs: Includes dedicated PWM outputs for Flight Management

Unit integration, plus flexible I/O PWM ports for peripherals and customized setups

- Compact Circular Design: The round form factor reduces drag and maximizes mounting simplicity in tight drone frames
- Quality Construction: Built with flame-retardant, glass-reinforced epoxy laminate material FR-4, offering excellent heat resistance, and long-term durability Aircraft

Technical Specifications

| Parameter | Value |
|----------------|-------------------------|
| Input Voltage | 7V – 25.2V (2S–6S LiPo) |
| Max Current | Up to 100A |
| PCB Dimensions | 36mm radius |
| Mounting Holes | M3, 30.5mm spacing |

Installation Guide

Step 1: Mounting

Secure the PDB using non-conductive standoffs or insulation spacers to prevent shorts.

Step 2: Wiring

- Input Power: Solder battery lead (XT60/XT90 or wire) to input pads.
- ESC Connections: Solder ESC power leads (positive and ground) to the corresponding output pads.

Note: Check polarity before soldering. Incorrect wiring can cause permanent damage.

Safety Instructions

- Always disconnect the battery before handling the PDB.
- Do not exceed the rated voltage/current limits.
- Ensure all solder joints are clean and secure.

- Avoid contact with conductive materials when powered.

Testing & Usage

- After installation, double-check all connections.
- Use a multimeter to verify voltage at each output.
- Power the unit briefly to check for heat, sparks, or unusual smell.
- Proceed with connecting other electronics once validated.

Troubleshooting

| Issue | Possible Cause | Solution |
|---------------------------|---------------------------------|--|
| No power output | Loose connection or cold solder | Recheck and re-solder as needed |
| Overheating | Excessive load or short circuit | Verify current draw and inspect wiring |
| One output not working | Damaged trace or component | Inspect visually, consider replacing PDB |
| BEC output not functional | Wrong polarity or overvoltage | Ensure correct wiring and voltage |

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*Digital Hub, Kerala
Technology Innovation
Zone, Kinfra Hi-Tech
Park, Kalamassery,
Kochi, Kerala 683503
Ph: +91 949 771 7654
E : info@axldrone.com*

*C5 UL Cyber Park,
Special Economic Zone
Calicut, India – 673016
P : +91 9645 426 414
E : info@axldrone.com*

*1441 Broadway,
#5, New York, NY 10018
P : +(646) 260-6311
E : info@axldrone.com*