



# **axldrone – PDB 400A**

## **Datasheet**

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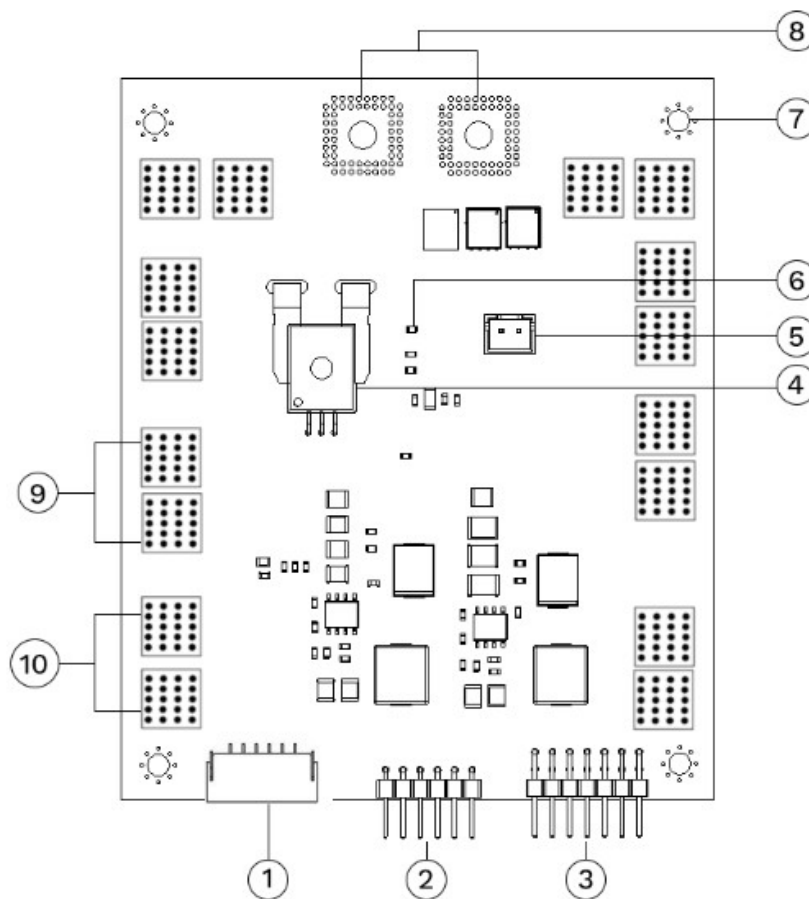
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# 1 Introduction

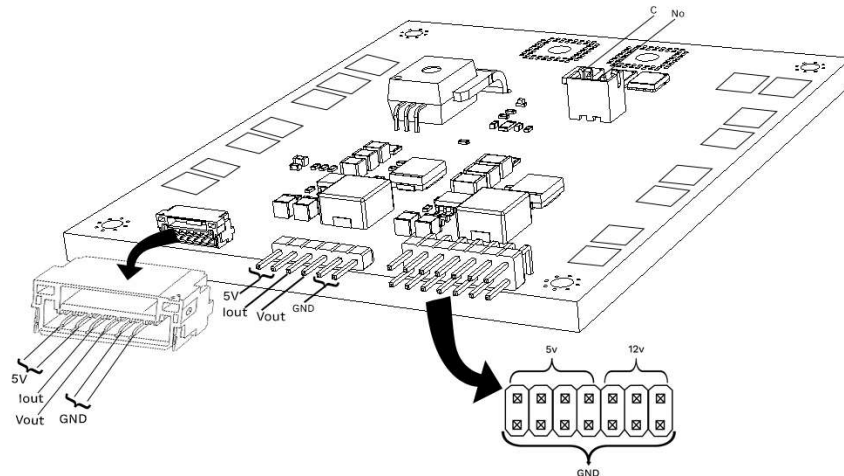
The PDB-400A is a high-current, 4-layer Power Distribution Board engineered for heavy-lift UAVs, industrial drones, and high-power robotic platforms.

Key Features:

- 8 × 60A high-current output pads
- Integrated Hall-effect current sensing
- Dual regulated BEC outputs (12V & 5V @ 4A each)
- MOSFET-based soft power switching
- Large area 2oz copper planes for efficient current handling



1. JST 6 pin connector
2. Single row male headerpin
3. Double row male header pin
4. Current sensor
5. JST 2 pin connector for soft power switch
6. Power LED
7. Mounting hole
8. Battery(14v-60v)
9. ESC 2
10. ESC 1



## 2 Specifications

Specification	Description
Board Dimensions	106 mm × 87 mm × 12 mm
Weight	55g
Input voltage	14V – 60V (14S max)
Output Channels	8
Current per Output Pad	60A Continuous
Total Board Current	Up to 400A (Continuous distributed load)
Peak Current	450A
Connectors	One 6 pin JST connector, header pin p14 2.5mm, header pin p6 2.5mm, 2 pin JST 2.5mm
Sensors	Hall-Effect Current Sensor
12V BEC Output	12V ±5%, 4A Continuous
5V BEC Output	5V ±5%, 4A Continuous
Power Switch	MOSFET Electronic Soft Switch
Ambient temperature	≤ 40°C

### 3 Peripheral inputs and outputs

Peripherals	Description
Header pins 14P 2.5mm	This header pin connector is the 12V/5V output peripheral for powering the Flight control boards, modules, sensors and other microcontroller boards.
Header pin 6P 2.5mm	This header pin connector is the 5v output power and analog signals of the current and voltage to the Flight controller.
2 Pin JST 2.5mm	This connector is for the switch control of the PDB.
6 pin JST Connector	Power and analog signals of the current and voltage to the Flight controller. (MFR Part - SM06B-GHS-TB)

#### Power source

The power source can be used as a lithium-ion battery or acid battery with a voltage range from 14V to 60V, which is supported by the board, and it is capable of carrying max 400A current continuously and a peak current of 450A.

#### PDB Connectors

The battery is connected to the board using nuts and bolts and makes sure it is tight. Choose a wire which can carry at least 450A (Pylon Battery DC Cable recommended) Use a ring connector in the wire tip and insulate using a heat sink. A 3mm bolt is used for wire board connection.

Note: - Recommended adding a 220uF 100v capacitor to the source side of the PDB.  
Do not switch OFF or ON the Anti-spark switch when load is connected to the PDB. It is safe to turn on the switch before adding load.

If not using the switch, short the switch pins.

### **Current and voltage signal**

The board has an integrated circuit for measuring the accurate value of battery voltage and current flow which is helpful to calculate the battery power monitoring. It is a Hall effect sensor which provides economical and precise solutions for current sensing. Typical applications included motor control, load detection, inverter control and over current fault detection.

- Hall-effect based current measurement
- Low insertion loss
- Real-time analog output
- Compatible with flight-controller telemetry
- Supports battery monitoring and consumption tracking

### **Dual BEC System**

#### **12V BEC:**

Output: 12V

Continuous Current: 4A

Regulated and filtered

Suitable for VTX, companion computers, and payload systems

#### **5V BEC:**

Output: 5V

Continuous Current: 4A

Suitable for flight controllers, receivers, and sensors

Both outputs are designed for stable operation under high motor load conditions.

### **MOSFET Soft Power Switch**

Spark-free battery connection

Controlled inrush current

Reduced connector wear

Low Rds(on) for high efficiency

Higher reliability than mechanical switches

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## Recommended Wiring

Current	Recommended Wire
Up to 30A	14 AWG
30–60A	10–12 AWG
Main Battery Input	8–10 AWG

Heavy solder fill is recommended on pads for maximum current handling.

## Calibration values

Amps per volt	336 amps/volt
Amps Offset	1.695 V