SwiftWing PDB-02-BB

3S–6S Direct Power Distribution Board

Official Technical Datasheet | Document ID: SW-PDB-02-DS-v1.2 | Release Date: February 2026
SKU: SW-PDB-02-BB

Product Page: https://swiftwingtech.io/product/3s-6s-direct-power-distribution-board/

Product Overview

The **SwiftWing PDB02** is a 4-layer high-current 3S–6S direct power distribution board designed for multirotor and UAV platforms requiring robust battery bus routing without onboard voltage regulation. Built with 2 oz copper layers and optimized current planes, it supports high-current motor systems while maintaining a compact 50 mm × 50 mm form factor.

This version is supplied with solder pad footprints only and does not include pre-installed battery or ESC connectors.

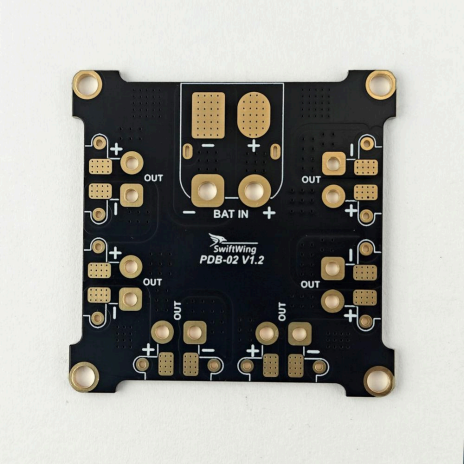

Figure 1: SwiftWing PDB-02-BB

Key Features

- Supports **3S–6S LiPo input (11.1 V–25.2 V)**
- High current handling up to **200 A total**
- 4-layer PCB with 2 oz copper planes
- XT30 and XT60 solder pad footprints
- Compact, lightweight design (9 g)

Typical Applications

- Racing and freestyle quadcopters
- Long-range UAV platforms
- Industrial multirotor systems
- Custom robotics battery distribution
- High-current power bus applications

Product Views

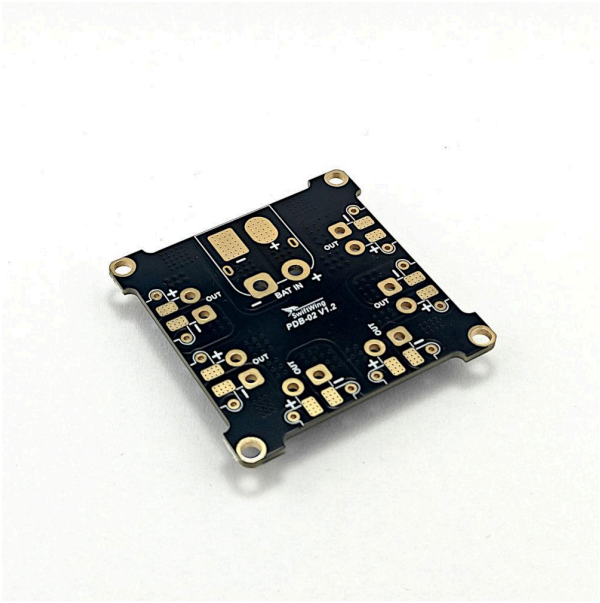

Figure 2: Top view

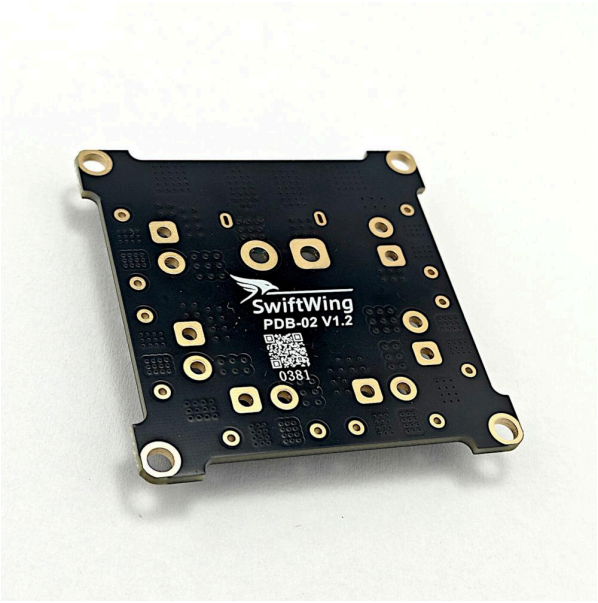

Figure 3: Bottom view

Absolute Maximum Ratings

The following ratings define the maximum limits beyond which permanent damage to the device may occur. Operation beyond these conditions is not recommended.

Parameter	Rating
Maximum Input Voltage	26 V DC
Maximum Continuous Current (Total)	200 A
Operating Temperature	–10°C to +60°C
Storage Temperature	–20°C to +85°C
Maximum PCB Temperature	105°C

*Maximum current capacity depends on wiring gauge, solder quality, cooling conditions, and load distribution. Operation beyond these limits may cause permanent damage.

Electrical Specifications

Electrical characteristics measured under nominal operating conditions unless otherwise specified.

Parameter	Specification
Recommended Battery Input	3S–6S LiPo (11.1–25.2 V)
Maximum PCB Current Capacity	Up to 200 A total*
Distribution Type	Direct battery bus

*Maximum current capacity depends on wiring gauge, solder quality, cooling conditions, and load distribution.

Mechanical Specifications

Parameter	Value
Board Size	50 mm × 50 mm × 1.6 mm ±0.15 mm
Mounting Holes	4 × M3 (45 mm spacing)
PCB Layers	4-layer, 2 oz copper
Finish	ENIG
Weight	9 g

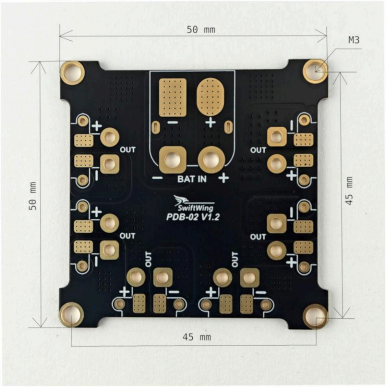

Figure 4: Top view with dimensions

Compliance

- PCB materials comply with RoHS directive requirements.
- ENIG surface finish is lead-free.
- Designed in accordance with standard UAV electronic system practices.

Connector & Assembly Notes

Important - Connector Support

- Board is shipped as **bare PCB only**
- XT60 and XT30 footprints are provided as solder pads only.

Assembly Note

- Ensure adequate airflow under high load conditions

What's in the Box

- 1 × SwiftWing PDB-02-BB (bare PCB)

(No connectors, wires, or mounting hardware included)

Ordering Information

Product Name	SKU
SwiftWing PDB-02 Direct Power Distribution Board	SW-PDB-02-BB

Manufacturer Information

Manufacturer: SwiftWing Robotics
Product Category: Power Distribution Board (PDB)
Model: SwiftWing PDB-02
SKU: SW-PDB-02-BB

Product Page:
https://swiftwingtech.io/product/3s-6s-direct-power-distribution-board/

Website:
https://swiftwingtech.io

Disclaimer

Specifications are subject to change without notice. SwiftWing Robotics assumes no liability for improper installation, incorrect battery polarity, or operation beyond specified ratings.

Users are responsible for verifying suitability and ensuring safe system integration.

Revision History

Version	Date	Description
v1.0	January 2026	Initial Release
v1.2	February 2026	Layout refinement and specification updates