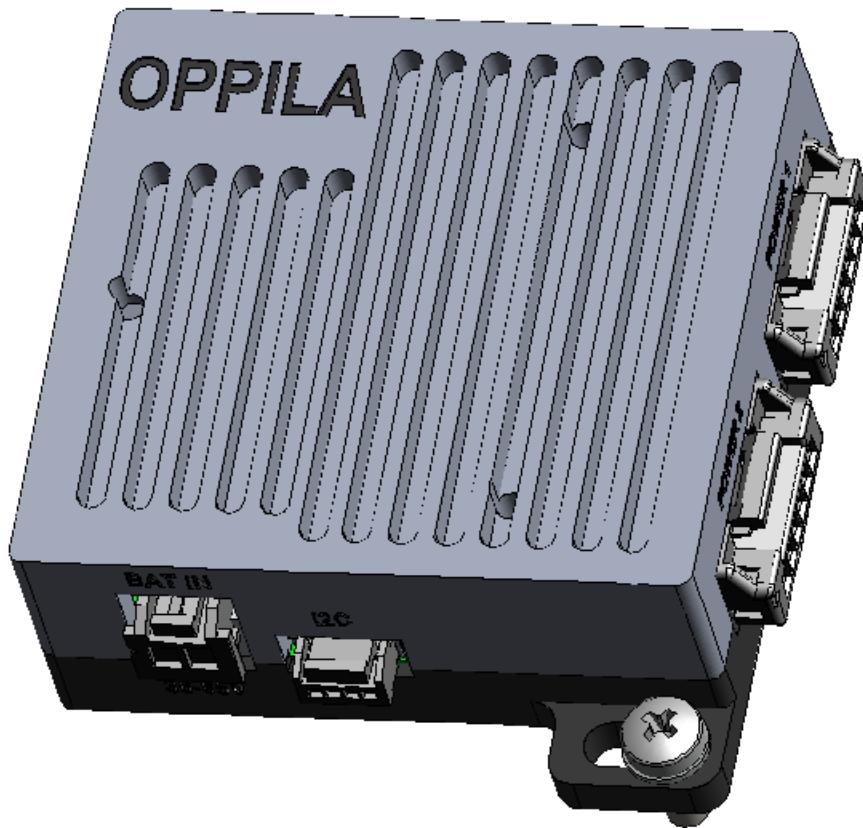


## Datasheet – Cube Power Module for Cube Autopilot

### Description

Cube Power Module is a voltage monitoring and power distribution module designed specifically for the Cube Autopilot series. It accurately measures battery voltage up to 14S LiPo (58.8 V) and communicates over I2C using a calibrated digital front-end. It also includes dual independent 5.3 V / 3 A outputs for redundant autopilot power. The module is enclosed in a rugged CNC-machined aluminum housing for mechanical stability and EMI protection.



**Fig1: High-Precision I2C based Power Module for Cube Autopilot**

### Features

- Supports battery input from 2S to 14S (7 V – 58.8 V)
- Accurate digital voltage telemetry ( $\pm 0.1$  V)
- Fixed I2C address (0x42) for Cube Autopilot compatibility
- Dual independent 5.3 V / 3A power outputs (Power1 and Power2)
- LED indicators for input power and output rails
- Reverse voltage protection up to 58.8 V (14S)
- Built-in surge protection
- CNC-machined aluminum enclosure (included)

## Applications

- Cube Autopilot-based UAVs and drones
- Battery voltage monitoring systems
- Flight control power distribution
- Robotics and automation requiring I2C-based power monitoring

## Specifications

Parameter	Value
Input Voltage Range	7 V – 58.8 V (2S – 14S LiPo)
Voltage Measurement Accuracy	±0.1 V
I2C Address	Fixed at 0x42
Output Voltage (Power1)	5.3 V / 3 A
Output Voltage (Power2)	5.3 V / 3 A
Enclosure	CNC-machined aluminum
Dimensions in millimeter	57.5 x 47.5 x 19 (including mounts)
Mounting	2 x M3 oval slots
Weight	50 grams approx.
Operating Temperature	-40 °C to +85 °C

## Connector Pinouts

### 1. Battery Input

Pin	Signal	Description
1	Vbat	Battery positive
2	PGND	Power ground

### 2. I2C Communication

Pin	Signal	Description
1	INA_3V3	Logic supply (3.3 V ref)
2	I2C_SCL	I2C clock line
3	I2C_SDA	I2C data line
4	PGND	Signal ground

### 3. Power Output 1 (Power1)

Pin	Signal	Description
1	PGND	Power ground
2	5.3V	Regulated Output 5.3 V
3	NC	Not connected
4	NC	Not connected
5	PGND	Power ground
6	5.3V	Regulated Output 5.3 V

### 4. Power Output 2 (Power2)

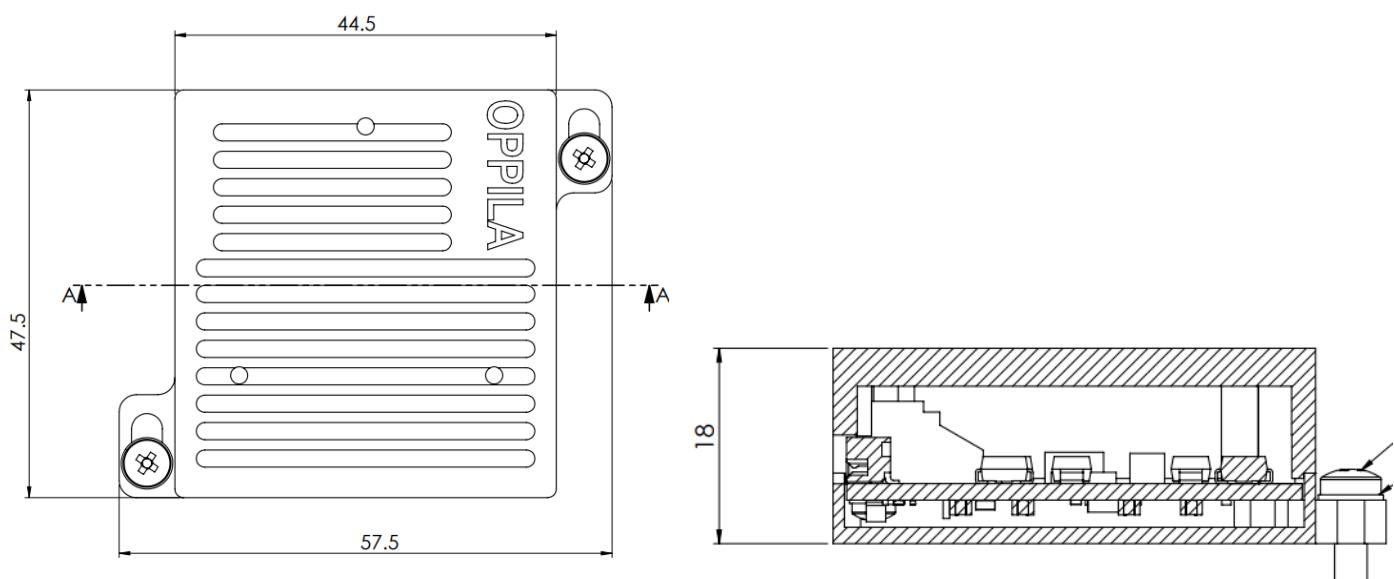
Pin	Signal	Description
1	PGND	Power ground

2	5.3V	Regulated Output 5.3 V
3	NC	Not connected
4	NC	Not connected
5	PGND	Power ground
6	5.3V	Regulated Output 5.3 V

## Mechanical & Environmental

Parameter	Value
Dimensions	57.5 mm x 47.5 mm x 18 mm (including mounts)
Mounting	2 x M3 oval slots
Weight	50 g
Enclosure	CNC-machined aluminum (included by default)
Operating Temperature	-20 °C to +85 °C

## Dimensional drawing



## Ordering Information:

### OP - CPM 5V3 DC 3A

**Manufacturer:** Oppila Microsystems Private Limited.

**Product Series:** CPM

**Voltage:** Regulated output voltage: 5.3 V

**Channel Type:** Dual independent output channels

**Output Current:** Maximum output current per channel: 3 A

## Part Number Configuration:

OP	CPM	5V3	DC	3A
Manufacturer	Series	Output Voltage	Output channels	Output Current
OP – Oppila Microsystems Private Limited	Product Series	5V0 – 5.0 V	SC – Single channel	2A – 2.0 A
		5V3 – 5.3 V	DC – Dual channel	3A – 3.0 A
		5V5 – 5.5V		5A – 5.0A

For custom voltage, current options, please contact us.

## Contact Information:

Oppila Microsystems Private Limited  
No.10, Himagiri Silicon City,  
Doddathogur Cross, Neeladri Road,  
Electronic City Phase -1,  
Bangalore -560100, Karnataka, India.  
Website: [www.oppila.in](http://www.oppila.in); Sales: [info@oppila.in](mailto:info@oppila.in)  
Phone: +91-9940896114; +91-9036033425