

Cube mini carrier board v1.3 USER GUIDE

GENERAL:

The Airbot Systems Mini carrier board is one of the most simple way to install a Cube (aka Pixhawk 2.1) on a drone. The Mini carrier board encapsulate all the wiring in a 50.5x57.5mm board The carrier board allows saving space and weight for applications which have size limits.

DIMENSIONS :



FEATURES :

- Dual power inputs (redundant power with automatic switch to the second power source when first one fails, thanks to the Proficnc-Hex Power Selection Module // Power inputs must be between 5v and 5.7v)
- Easy to install on a drone (see the mounting pattern above)
- Power distribution & voltage protection (providing the current to each connector)
- Motors PWM signal distribution (up to 8 motors distributed on board corners)
- Standard 2.54mm servo PPM/S.BUS/Spectrum RC input (+5v/+3.3v selectable and provided by the carrier board)
- AUX center pins are connected together. It allows to power the AUX rail by adding external power supply.

CONNECTIVITY :

LABEL	CONNECTOR ON THE BOARD	CONNECTOR TO PLUG IN
I2C_2 - CAN1 - CAN2	JST GH : BM04B-GHS-TBT	GHR-04V-S
USB - TELEM1 - TELEM2 - GPS2	JST GH : BM06B-GHS-TBT	GHR-06V-S
GPS1	JST GH : BM08B-GHS-TBT	GHR-08V-S
POWER1 - POWER2	Molex CLIKMATE : 502443-0670	502439-0600

All connectors are the same than the Proficnc/Hex original Pixhawk 2.1 carrier board

PINOUT DIAGRAM :



RC SIGNAL AND POWER SELECTION :





RC Signal Input selection (Solder bridge to choose) -RC_IN for PWM or S.BUS -SPECT for SPECTRUM





From v1.3, a layout trace connect RC signal and 5v by default. Soldering is not necessary.

If you want to use Spectrum and 3v3, simply cut this traces and solder the corresponding bridge

HOW TO MOUNT IT :

You can make the fastener by yourself : if you have a 3D printer, you can download a 3D file to print the mounting bracket or download a .DXF file if you have a CNC milling machine. These files are downloadable from the product page on <u>www.airbot-systems.com</u> website.

We are considering to manufacture fasteners and put on our website, for people who can not make it themselves.

POWER DISTRIBUTION BOARD : (optional)

The Airbot Systems Mini PDB is the best Mini Carrier Board companion. It allows to power up to height ESC with max total current @ 180A, and four pairs of small power pads (2 on top side / 2 on bottom). The mounting hole are the same than the Mini carrier board, so the board can be stacked together, separated by small nylon spacers.



ATTENTION ! : The power board can not be attached to a conductive support. Be careful of respecting distance from any conductive material by using nylon spacers and or isolation stuff (e.g PlastiDIP)