Flight Controller v1.0 Parts List

Bellevue Satellite Club

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# Introduction

The following parts are necessary to assemble the Flight Controller main board. The *Description* column contains links to information pages for each part, and from that page, you can get the corresponding data sheets if you are interested. Generic items like capacitors, resistors, diodes, pins, and battery leads can be substituted between different manufacturers as long as the physical and electrical characteristics are identical.

|  |  |  |  |
| --- | --- | --- | --- |
| **Description** | **Data Sheet** | **Manufacturer’s Part Number** | **Quantity** |
| Printed circuit board (PCB) |  |  | 1 |
| [PICAXE 14M2](https://www.sparkfun.com/products/10802) |  |  | 1 |
| [32K EEPROM](http://www.mouser.com/ProductDetail/Microchip-Technology/24AA256UID-I-P/?qs=sGAEpiMZZMuVhdAcoizlRckGE7OOb5VF5G8CR0CaiQI=) (256k x 8 EEPROM through-hole package) |  | 24AA256UID | 1 |
| [Optoisolator](http://www.mouser.com/ProductDetail/Vishay-Semiconductors/4N35/?qs=sGAEpiMZZMsIeRsI8taJim785lPDMkSk) |  | 4N35 | 1 |
| [Dual inline 14-pin IC (DIL14) socket](http://www.mouser.com/ProductDetail/3M-Electronic-Solutions-Division/4814-3000-CP/?qs=sGAEpiMZZMs/Sh/kjph1tvt1/mEPT/Xolv7TyDO1KrY=) |  | 4814-3000-CP | 1 |
| [Dual inline 8-pin IC (DIL8) socket](http://www.mouser.com/ProductDetail/3M-Electronic-Solutions-Division/4808-3000-CP/?qs=sGAEpiMZZMs/Sh/kjph1tvt1/mEPT/XoueZQAPgo6HQ=) |  | 4808-3000-CP | 1 |
| [Dual inline 6-pin IC (DIL6) socket](http://www.mouser.com/ProductDetail/TE-Connectivity-AMP/1-2199298-1/?qs=sGAEpiMZZMs/Sh/kjph1tg2rzwRe0qPTZ8GGvPBO31s=) |  | 1-2199298-1 | 1 |
| [LDO 5V voltage regulator TO92 package](http://www.mouser.com/Search/ProductDetail.aspx?qs=7lkVKPoqpbZR1xiUCtyIMA==) |  | LP2950CZ-5.0 | 1 |
| [Molex 6410-03 3-pin locking polarized header](http://www.mouser.com/ProductDetail/Molex/22-27-2031/?qs=/ha2pyFadugXOaGYK9vaczm7nZ04txhJn3OGcnGWT3U=) |  | 22-27-2031 | 4 |
| [Molex 2695-03 3-pin locking polarized housing](http://www.mouser.com/ProductDetail/Molex/22-01-3037/?qs=/ha2pyFadujVoN8fcIRqZmOPBvO4F4R9vpoQ8aL6w9c=) (matches 3-pin header)  \* Qty depends on how many sensors will be connected to the Flight Controller |  | 22-01-3037 | 1 - 4\* |
| [Molex 6410-02 2-pin locking polarized header](http://www.mouser.com/ProductDetail/Molex/22-27-2021/?qs=%2fha2pyFadugXOaGYK9vac%252b3VOSSIwHp1tZOW4xWiIH4%3d) |  | 22-27-2021 | 1 |
| [Molex 2695-03 2-pin locking polarized housing](http://www.mouser.com/ProductDetail/Molex/22-01-3027/?qs=/ha2pyFadujVoN8fcIRqZsMlWF6dgIQRsLjTxOPvJ04=) (matches 2-pin header) |  | 22-01-3027 | 1 |
| [Molex 2759 KK 2.54 crimp terminal (tin plated)](http://www.mouser.com/ProductDetail/Molex/08-50-0114/?qs=%2fha2pyFadujh2f7KQ%252bXWe2d6E0tCKKZpLCtYbdvIlLc%3d) |  | 08-50-0114 | 14 |
| [Blue 5MM LED](http://www.amazon.com/microtivity-IL441-Clear-Blue-Resistors/dp/B007SJ8ZTE/ref=sr_1_3?ie=UTF8&qid=1412912506&sr=8-3&keywords=blue+5mm+led) (Microtivity) |  | IL441 | 1 |
| [1 uF Tantalum Capacitor 10%](http://www.mouser.com/ProductDetail/Kemet/T350A105K035AT/?qs=sGAEpiMZZMtZ1n0r9vR22ZBQR9LXYg3mpRoVNONMwyU=) (with 2.54mm spacing between leads, 15v or higher rating) |  | T350A105K035AT or equivalent | 1 |
| [1N4004 Diode](http://www.mouser.com/ProductDetail/Fairchild-Semiconductor/1N4004/?qs=sGAEpiMZZMuQUXCJI7Y4lnwnhMohE/Nv) |  | 1N4004 | 1 |
| [22K 1/4 watt carbon film resistor](http://www.mouser.com/ProductDetail/Xicon/291-22K-RC/?qs=sGAEpiMZZMsPqMdJzcrNwrF1kXuLm3s61FJ/UUfiwco=) |  | 291-22K-RC | 2 |
| [10K 1/4 watt carbon film resistor](http://www.mouser.com/ProductDetail/Xicon/291-10K-RC/?qs=sGAEpiMZZMu61qfTUdNhG6xwTrVwTvbz8PPav3aExs8=) |  | 291-10K-RC | 1 |
| [4K7 1/4 watt carbon film resistor](http://www.mouser.com/ProductDetail/Xicon/291-47K-RC/?qs=sGAEpiMZZMu61qfTUdNhG%2fbdyz6pU6a%252bvHlD5kaZWgo%3d) |  | 291-4.7K-RC | 2 |
| [1K 1/4 watt carbon film resistor](http://www.mouser.com/ProductDetail/Xicon/291-1K-RC/?qs=sGAEpiMZZMu61qfTUdNhG4%252b0Rda2%252bOsKn0jk4UWTXoU%3d) |  | 291-1K-RC | 1 |
| [470 1/4 watt carbon film resistor](http://www.mouser.com/ProductDetail/Xicon/291-470-RC/?qs=sGAEpiMZZMsPqMdJzcrNwgEmH43srHFxbfxkUSkqZxY=) |  | 291-470-RC | 1 |
| [Right-angle 0.100 male header pins](http://www.mouser.com/ProductDetail/3M/929730-01-20/?qs=/ha2pyFadui1hbYV8wPxcDdZMM6IzY75VVDXLm/NMho=) (These come in rows and then you snap off the number of pins you need.) |  | 929730-01-20 | 2 pins |
| [Straight 0.100 male header pins](http://www.mouser.com/ProductDetail/3M/929700-01-36-RK/?qs=%2fha2pyFaduguDN5tEWWEtbMSJzyp17WAdMwudED7vGTU%252bJFU6sdROw%3d%3d) (These come in rows and then you snap off the number of pins you need.) |  | 929700-01-36-RK | 4 pins |
| [Jumper (2-pin) with handle](http://www.frys.com/product/1350506) |  | PLS-MJ-02/H-P1C | 1 |
| [9v battery snap connector with 6” leads](http://www.mouser.com/ProductDetail/Keystone-Electronics/233/?qs=sGAEpiMZZMvxqoKe%252bDjhrte%252blrLaYtz%2fE%2fC4leBE0KM%3d) |  |  | 1 |