



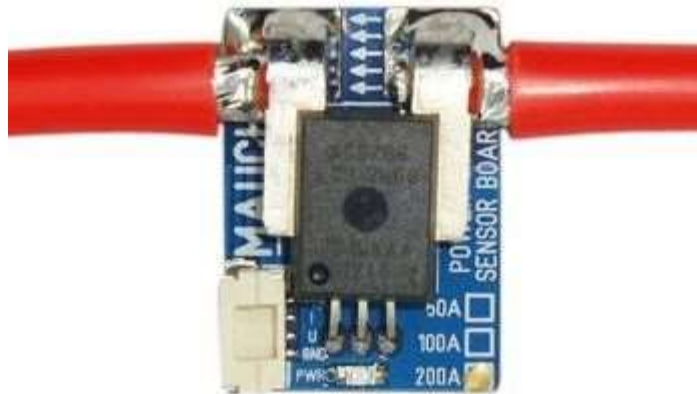
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## PL-050, PL-100 and PL-200 Sensor Boards



The PL-xxx boards are based on the famous Allegro ACS758 (or 770) hall current sensors, ACS758-050U for the 50A version, ACS758-100U for the 100A version and ACS770-250U for the 200A version. The electronic on the board is powered by an PL - Series or PC - Series BEC and the offset shifting is realized by an OP from Microchip specially designed for microprocessors analog inputs.

The sensor board is only installed into the "positive" (red) main wire from the LiPo, the "negative" black wire stays untouched, which reduces the risk of short circuits on the sensor board.

The voltage measurement has an installed filter which reduces the risk of false RTL trigger, which might happen if we fly in very windy conditions due to sudden motor speed up to keep the flight leveled.

### **This design has the following benefits:**

- Even "if" something went wrong with the current board, the FC analog input is protected as the maximum output voltage of the sensor board is 3,3V.
- Due to the offset shifting, the current measurement uses the full analog input range of the flight controller from 0.0V (0A) until 3.3V (50A / 100A / 200A), so there is no need to adjust parameter "BATT\_AMP\_OFFSET". Due to the full range of the current measurement, the display on OSD or MP is more stable.
- Most Attoboards, or even the original 3DR power module, have the problem with a sudden voltage drop during hover (0.5-1.5V) which is caused by the resistance of the installed connectors and main battery wires. In our sensor boards this voltage drop error measurement is minimized as we only measure the resistance of the positive main wire, plus the condition that the power supply for the BEC is separated and can be connected as close as possible to the battery connector.
- Delivery inclusive ABS enclosure and CFK cover.
- Delivery, without 040 sensor cable, as they come standard together with the PL-Series and PC-Series BEC's.

### Improved design compared to HS - Series:

- No more HV or LV sensors, the user can select the voltage range via a solder bridge.
- Current measurement accuracy improved to +/- 0.5% -> HS - Series +/- 1%
- No more DF13 connectors, the connector is Molex Clic-Mate / 1.25mm
- Improved filter network, the measured current is more stable.
- Delivery inclusive CFK enclosure.

### Voltage selection:



First select the correct voltage measurement range according to your used main battery.

Solder bridge out = Up to 14S (max. 60V)

Please use the voltage divider from the final test result.

Solder bridge in = Up to 7S (max. 33V)

Please use a voltage divider of 10.0 -> The measurement will be quite accurate. However, you can always measure the main battery voltage with an DVM and readjust if necessary.