

Applicable to:

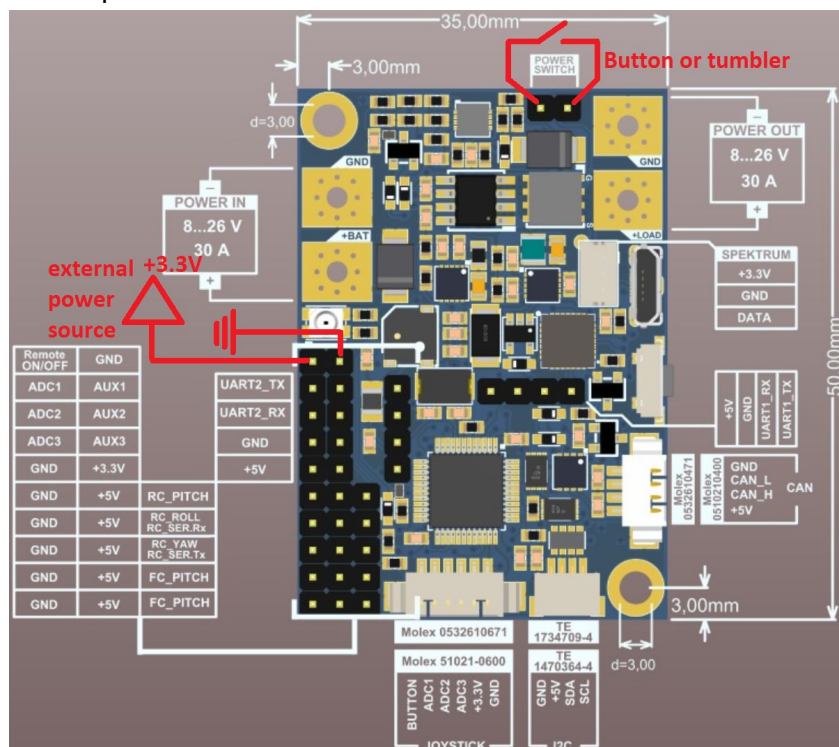
SimpleBGC32 CAN\_MCU controller

[https://www.basecamelectronics.com/simplebgc32can\\_mcu/](https://www.basecamelectronics.com/simplebgc32can_mcu/)

## Introduction

Electroinc power switch allows to control the system power through:

- button
- toggle switch
- external power on input +3.3V



It's provides soft startup current to charge buffer capacitors in CAN drivers. This switch should be used only together with the capacitive load — i.e. overall current consumed by all connected devices in first 500ms at startup, should not exceed 1A (roughly). This feature requires some configuration, the “Hardware” tab of GUI has the following parameters:

- “Over-current-protection threshold, A” - safety parameter, sets the limit at which the switch will be disconnected, will save gimbal in case of short circuit
- “Power button ON delay, ms” - sets this value to “0” for toggle switch, otherwise it's sets the delay of holding the button after which the gimbal will be powered on
- “Power button OFF delay, ms” - sets the button holding time after which the gimbal will be turned off

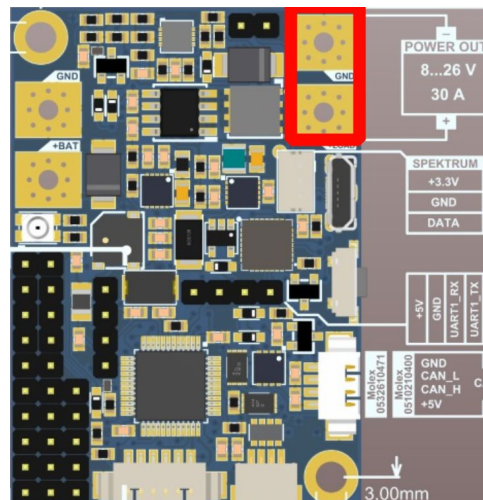
- “Turn ON power limiter” - sets the power that is supplied to the output when the gimbal turns on, the default value is ~50, which is suitable for turning on the gimbal in the 6S battery setup and three CAN Drv modules connected to output.

## Possible problems and solutions

- Because voltage measurement occurs directly at the CAN MCU output, voltage calibration problem may occur. The type of error in this case (may be caused by other problems):

### Emergency stop: Undervoltage or power supply protection

If, due to this problem, power is not supplied to the output of the board, you should check that the voltage is interpreted by the controller correctly - it is necessary to apply voltage to the output of the board, and check with a multimeter that it matches the displayed in the GUI.



If the voltage is incorrect, then you need to set the checkbox in “Hardware” →” Disable power switch”, apply voltage to the output of the board and calibrate the voltage. If the supply voltage is displayed correctly in the GUI, then the procedure was successful and recalibration is not required.

- Even if the “Compensate voltage drop” function is not used, the full battery value will be used at power up. If the voltage exceeds this value by 10%:



next error will be set:

### Emergency stop: Battery voltage is higher than expected at startup sequence

- In the case of a low-power power supply, as well as an additional load on the controller power output, it is possible to adjust the “Turn ON power limiter” parameter. It is necessary

to start with the default value, if the turn-on power is not enough, the supply voltage at the output does not reach the required one in the turn-on procedure, the LED on CAN Drv will light up shortly, then the supply voltage will drop and the GUI will give an error:

### Emergency stop: Undervoltage or power supply protection

Initially, you need to make sure that the supply voltage is calibrated correctly. Next, you should gradually increase the “Turn ON power limiter” parameter, it should also be borne in mind that too high a value of the parameter can damage the power switch in case of excessive current load.

If you do not need the functionality of the power switch, you can set the “Hardware”→”Disable power switch” checkbox and solder the bridge (marked by red dotted line):

