



R<sup>2</sup>Prototyping gmbh  
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The *R<sup>2</sup> Buffer Pack* is a Capacitive Storage System that provides several key benefits; it helps to maintain voltage levels during spike/brownout conditions, smooth's out reverse induction currents from servos that can damage BEC/ESC's, filters out voltage spikes that can damage BEC/ESC's and in the event of a total power failure from the main pack or BEC in the ESC, it can provide for RX power with a short duration of approximately 10-60 seconds, depending on your setup, so that you can land your machine under your control.



**This device is not a replacement for the BEC or RX pack; it is temporary power storage only.**

There are two LED indicators on the board adjacent to the two adjustment pots; one Red LED will show that power is going to the capacitors; the other Green LED will show the charge capacity of the capacitors.



The unit comes adjusted from the factory for most applications. There are two pots on the main board labeled **Charge** and **Cutoff**. The Charge pot adjusts the charge rate of the system from 300ma to 900ma while the Cutoff pot adjust the voltage reading whereby the buffer stops delivering power to the bus, in other words if the caps discharge down to this level during use, that is the low voltage threshold and the R<sup>2</sup> unit shuts off. There is also a **shutdown button** next to the CE designation that allows the capacitors to be switched off after flying, although after switching off, either automatically or manually, the capacitors will be discharge by the controller. The unit comes with charge rate set to approx.. 650 mA with the cutoff voltage set to 2.5 volts. The unit automatically adopts to any input voltage up to 8.5 V.

#### System Highlights

- Ready to use unit
- Works with all major brand ESCs/BECs
- Maximum operating voltage of up to 8.5 Volt
- Automatically armed at power up
- Maintenance free
- Unit delivered preset, tested and ready-to-fly

#### Instructions

- Connect to an empty port
- Fly if both LEDs are solid on (fully charged)
- Safe to fly if not fully charged (Power LED is solid, Full LED is off)
- Press button after flight to switch off the unit
- Capacitors will be self-discharge after switching off automatically

#### What it does

- Buffers current peaks to prevent damage to BECs/ESCs
- Buffers reverse induction currents (EMF) from servos to prevent damage to BECs/ESCs
- Stabilizes output voltage for safer operation during heavy manoeuvres
- Prevents receivers and flight stabilization units from brownouts during short blackouts from BEC supply
- Supply emergency power in case of BEC/ESC failure for safe landing



An optional remote shutdown button can be added as illustrated.

To install, simply plug the unit into a free RX or FBL Controller port that has access to the Power bus, i.e., not just a signal port but one that has Signal, Negative and Positive leads in the pinout. Both LED's lit means that the system is fully charged and ready to go.