

# POWERZONE

## Brushless Motor Adapter

PowerZone is used to convert select ParkZone and HobbyZone ARF models to brushless operation. The model will continue to use the factory installed R/C receiver and servos.

The conversion will require a brushless motor, ESC (electronic speed control) with integrated BEC (battery eliminator), and a PowerZone adapter board. Like most brushless installations, some basic soldering is involved.

Brushless conversion success will depend on your choice of motor, ESC, and flight battery pack. You should seek advice from the motor manufacturer on what battery and ESC they recommend for your model aircraft. In addition, be sure that the battery voltage is compatible with the Hobbyzone/Parkzone receiver and servos that are installed in your model. Excess voltage may damage them, so consult the model's operating manual on what voltages are allowed.

### Universal Installation Instructions

1. Begin by soldering the ESC (electronic speed control) to the motor and battery pack connector. Just follow the instructions that they provided. To minimize servo glitching, it is important that the ESC and motor wires are installed as far from the receiver and antenna as possible. Sometimes it helps to twist or braid the three motor wires. It is best to keep the wiring as short as practical.
2. PowerZone plugs into the ESC's 3-wire cable (see Figure 1). Note that the ESC's brown wire is at the top, near the Status LED.
3. Disconnect the two wires from the existing brushed motor. Identify the negative lead (typically the black motor wire). Solder this wire to the bare lead on the PowerZone board (see 'A', Figure 1). Use electrical tape or heat-shrink tubing to insulate the soldered connection. Cut off the other unused motor wire and insulate the end.

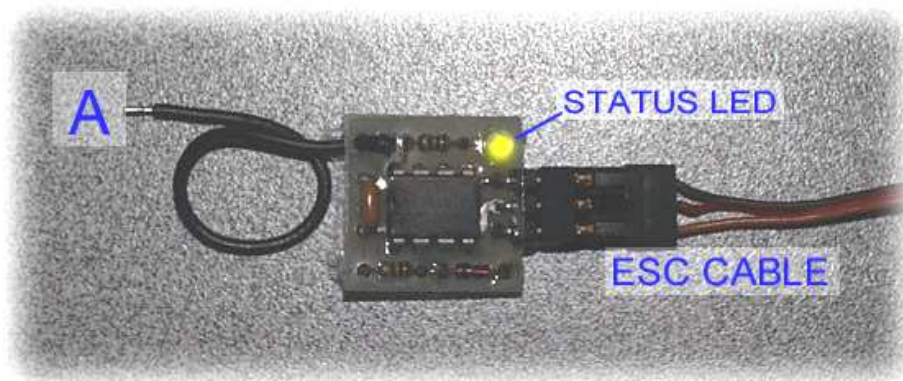


FIGURE1

4. If desired, the PowerZone may be mounted on the top of the ESC using double-sided foam tape or resilient plastic adhesive. For best ESC ventilation, install it on the side that does not get hot during use. Figure 2 shows a PowerZone installed on top of the popular Castle Creations Phoenix 10 ESC.

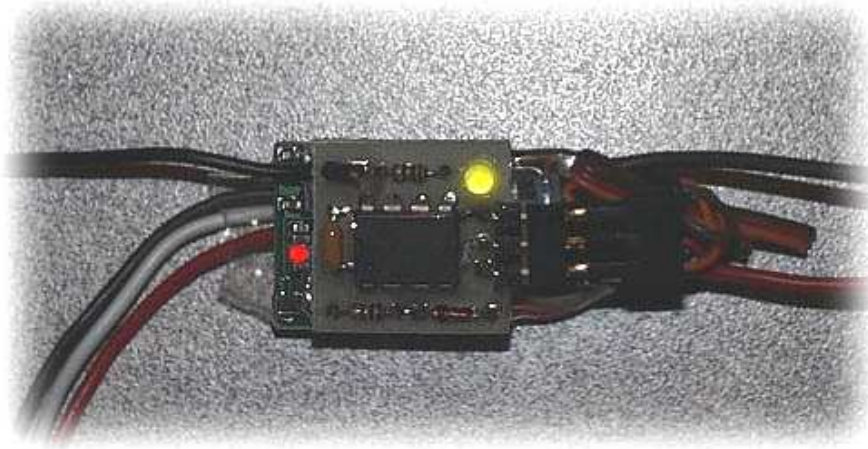


FIGURE 2

5. Once the installation is complete you will need to configure your ESC. Please follow the instructions that are provided by the ESC supplier.

*Note: Some HobbyZone/ParkZone models have a throttle-arming feature that may interfere with ESC programming. If your ESC uses the R/C transmitter to alter its settings, and the ESC does not seem to correctly respond to programming, then it may be necessary to perform a simple workaround.*

*Begin by arming the receiver. Then remove power from the ESC (maintain receiver power), wait a moment, then re-apply ESC power. Continue by following the ESC's programming instructions. You may also use their optional PC interface or temporarily connect the ESC to a standard R/C system to perform the programming steps.*

### **Status LED**

PowerZone has a bright LED that indicates operational status. Upon power-up, the LED will blink three times to indicate that PowerZone is initialized. During use, the motor speed will be indicated by the intensity of the LED.

If you find that the LED correctly blinks at power up, but the motor does not run, then please double check the orientation of the ESC's 3-pin cable. Figure 1 shows the correct direction.