

ProTekRC

Thank you for purchasing the ProTek R/C "Pro 20" Power Supply. This is one of the most powerful, easy to operate, feature packed power supplies in its class. When properly cared for, the Pro 20 power supply will provide you with years of efficient and reliable operation.



Operating Instructions:

- Ensure that no load is connected to the power supply before connecting to a 110V AC power source
- Always place on a stable, flat surface
- Do not overload the power supply (no more than a 20 Amp load)
- Verify the correct polarity of the output terminals before connecting any device (Red = Positive / Black = Negative) and DO NOT reverse the polarity
- Verify that the LED is on and that the cooling fan is operating
- If the unit becomes hot to touch, disconnect immediately

Safety Precautions:

- Do not leave the power supply unsupervised while in use
- Keep power supply away from heavy vibration, moisture, dust, or excessive heat
- Do not move the power supply while in use
- Do not operate near fire or water
- Use care when transporting to avoid any kind of impact
- Do not operate with wet hands
- Do not modify or disassemble the power supply
- Do not use the power supply to charge a battery, or connect a battery directly to the terminals
- Do not connect incompatible chargers to the power supply (do not exceed the amperage load)

The most important factor to consider when using any power supply is to ensure that the unit can supply sufficient wattage as well as amperage to efficiently operate your charger. There is a simple equation that you can use to determine the wattage necessary to supply the charger with the power needed to charge a battery. This equation should be performed before you charge any battery with specifications that differ from the battery you are familiar with.

Step 1: Volts x Charge Rate in Amps = Watts

First, start with part 1 of the equation to determine the wattage necessary to charge the battery; Voltage x Charge Rate in Amps = Watts. For an example of this equation, we are going to use a 2S, 5000mAh battery, charging at a 1C amp rate. So, a 2S battery is 7.4 volts, and a 1C charging amp rate for a 5000mAh battery is 5 amps. So you will need to multiply 7.4V x 5Amps, which equals 37 watts.

Step 2: Watts / Power Supply Output Voltage = Amperage

The Second part of the equation is how you determine the necessary amperage. Start by taking the watt value from part 1 of the equation (in our example, 37 watts), and divide it by the output voltage provided by the power supply. We will be using 13.8V as our baseline number, because the ProTek Pro 20 Power Supply produces 13.8V of output voltage. So, because the wattage determined in part one is 37W, we will divide that by 13.8V. When you perform the 37W / 13.8V equation, you get a amp rate of 2.68 Amps. So, your power supply would need to be capable of producing 2.68 amps, to charge a 2S, 5000mAh battery, at a 5 Amp Charge Rate (1C).

So the complete equation is: Power Supply Amperage = (Battery Volts x Charge Rate) / Power Supply Voltage

Now as a second example we will do the equation with a more powerful battery. Let's say you want to find the necessary Supply Amperage for a 6S, 8000mAh battery at a 2C charging amp rate. 22.2V x 16A = 355 Watts. Then divide 355W by 13.8V; which equals 25.73 Amps, so your power supply would need to be capable of producing 25.73 Amps to charge a 6S, 8000mAh battery at a 16 amp charge rate.

Equation:

- **Step 1:** Voltage x Charge Rate in Amps = Watts
- **Step 2:** Watts / Power Supply Output Voltage = Necessary Power Supply Amperage
- **Proper Equation:** Power Supply Amperage = (Battery Volts x Charge Rate) / Power Supply Output Voltage

While this calculation may seem complicated at first, it gets easier the more you do it. With today's high energy Lithium Polymer Cells and evolving battery technology it is important that you learn this math to ensure peak performance and maximum life span from your batteries and support gear. Providing "A Higher Level of Performance", ProTek R/C is here to give you the products necessary to move you to the front of the pack, and the brain power to keep you there! Class is dismissed...Now go have fun!!!

Pro 20 Specifications:

Input Voltage: 110-120V AC

Output Voltage: 13.8V DC +/- 5%

Wattage: 260W

Current: 0-20 Amp

Frequency: 50 / 60 Hz

Max. Efficiency: 85%

Output Connections: 4mm Banana/Clamp type plugs

Size (LxWxH): 190x170x85mm

Weight: 2.86 lb (1.3 kg)

Disclaimer and Warranty

All ProTek RC power supplies are covered by manufacturer warranty against defects in materials and workmanship for one (1) year after original purchase date. Warranty will not cover power supplies that have been modified, disassembled, or otherwise misused according to the included instructions. ProTek R/C is not responsible for bodily injury and/or property damage that may occur from the use of, or caused by, this power supply.