Power Definitions and Formulas

Power Definitions

Breaker	Those little things in a breaker box that can get flipped if you’re looking to have a good time. In the USA, circuits are commonly 10, 15, or 20 amps. Things like washer / dryers are often on a 30A circuit, which could be represented by one or two breakers!
Circuit	A circuit is the name for the group of outlets that are tied to the same breaker. A circuit is most often a single breaker, but not always. You can have many outlets on the same circuit, but you can only consume what the breaker is rated to minus ~20%.
IEC	This is the cable that powers a device. This is not a PSU, but it is often the cable that plugs into the PSU. There are many types of IECs out there, but the most common are a two prong that look like they belong to a 90s boom box, and three prong that you see everywhere like computers, monitors, etc.
In-Rush Power	Most devices pull more power than what their normal draw is during their power up. This is called In-Rush. You might be drawing way less power during regular operation. To solve any gremlins caused by this, you just need to chase the power-on order of your devices so that their offset by a few seconds. This limits simultaneous rush power and you’ll be good!

Power Formulas

Watts = Amps x Volts
Amps = Watts / Volts
Volts = Watts / Amps

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