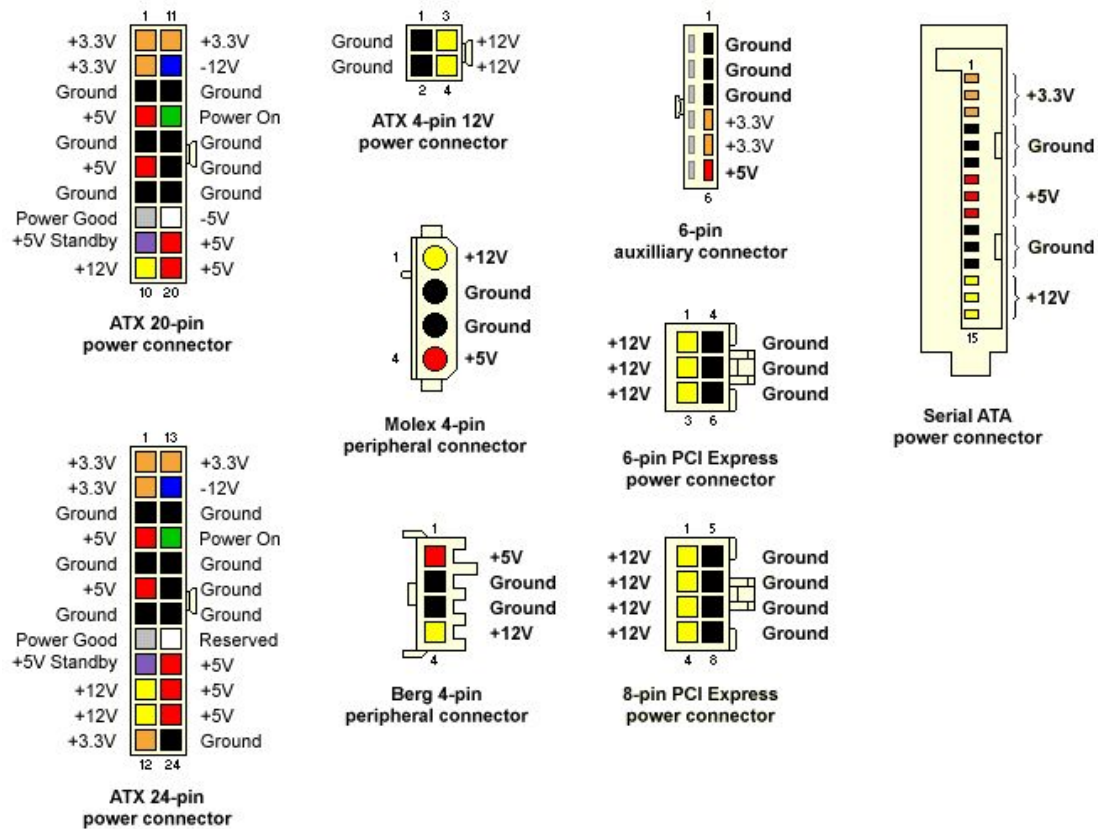
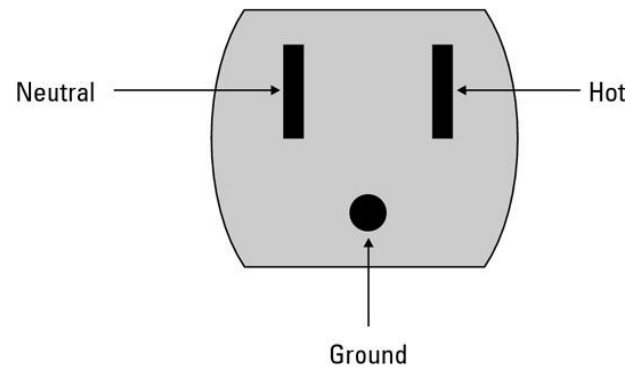


- **PSU :**
 - **Power Supply Unit**
 - **Converts AC to DC**
 - **Rails** → 12v, 5v and 3.3v DC
 - There is no 100% efficiency (heat) → the **minimum rating for ATX 12v is 70%**
 - 500W minimum recommended
 - **Connectors:**
 - **P1**
 - **P4**
 - **Molex**
 - **PCIe**
 - **Sata**
 - **Mini Molex (BERG)**



- **FRU :** Field replaceable Unit (not to repair)
- **Electricity Properties:**
 - **Voltage :** pressure of electrons (**V**) - **Volts**
 - **Current :** amount of electrons (**A**) - **Ampere**
 - **Wattage :** measure of power needed or consumed (**W**) - **Wattage** → $W = V * A$
 - **Resistance :** opposition to the flow of current (**Ω**) - **Ohm**
- **Wire** → Has an Amperage rating
- **Circuit Breaker** : stops the flow if there is a failure

- **Alternating Current (AC) :**
 - Electrical Current flows in **both** directions
 - In US → 115 volts
 - Other countries → 230 volts
- **Direct Current (DC) :**
 - Electrical current flows in **one** direction
- **Surge Protector :**
 - Protects against power surges
 - Higher Rating = better
- **UPS :**
 - Uninterruptible Power Supply
 - Is a battery
 - AC surge protection
 - Measured in Watts and Volts-Amps
- **Soft Power:**
 - PSU always on when plugged in (5V)
 - Configured in CMOS
- **PFC :**
 - Power Factor Correction
 - Eliminates Harmonics
- **PSU fail:**
 - Sudden death
 - Over time :
 - Intermittent Problems (not easy to diagnose)
 - Random Lock-ups
 - Sporadic boot-up difficulties
- **Fire Extinguishers :**
 - **Class A** → Paper and Wood
 - **Class B** → Flammable liquids such as gasoline
 - **Class C** → Live Electrical Equipment
 - **Class D** → Combustible metals such as titanium or magnesium



References :

- Mike Meyers - CompTIA A+ Certification All-In-One Exam Guide 8th edition
- Images :
 - Power Connectors diagram : http://www.technologyuk.net/computing/computer_systems/images/psu09.gif
 - Outlet Diagram : <http://media.wiley.com/Lux/73/309573.image1.jpg>