Power Requirements

|  |  |  |  |
| --- | --- | --- | --- |
| **Raspberry Pi 3 Model B** | **Recommended Power Supply Current capacity** | **Maximum TOTAL USB current draw** | **Typical bare-board current consumption** |
| 2.5A | 1.2A  500mA (Max Per Port) | 400mA |
|  | | | |
|  |  | **Typical Current Draw** | M**ax Current Draw** |
| **Possible Powered Peripherals**  **+**  **Ports** | USB CAMERA | 72mA  (640x480) |  |
| USB – SERIAL CONNECTOR | 100mA | 500mA |
| Keyboard | 100mA | 500mA |
| Mouse | 100mA | 1000mA |
| HDMI port | 50mA | 50mA |
| GPIO Pins | 16mA | 50mA (across all pins) |

**Can use powered USB hubs to provide more power for USB peripherals**

|  |  |  |
| --- | --- | --- |
|  |  | **Raspberry Pi 3 Model B (Amps)** |
| **Boot** | Max | 0.75 |
| Average | 0.35 |
| **Idle** | Average | 0.30 |
| **Video playback (H.264)** | Max | 0.55 |
| Average | 0.33 |
| **Stress** | Max | 1.34 |
| Average | 0.85 |

# Power Supply Options:

The device is powered by 5V micro-USB, 800mA – 2.5A.

1.2A Power supplies provide ample power for “most” applications.

# Portable Power Supply Options

1. Batteries: 4xAA (Rechargeable) Full charge (4.8V) **Could cause damages if level drops**
   1. Would have to consider purchasing a UBEC (Universal Battery Eliminations Circuit) to regulate the power such that it prevents the batteries from damaging the Pi
   2. Requires we buy a suitable battery box for the AA batteries
2. Portal Batteries designed for charging smartphones
   1. Must emit constant 5V @ 2.0 – 2.5A
   2. [**https://www.amazon.ca/Intocircuit%C2%AE-26000mAh-Notebooks-Compatible-Lightning/dp/B00GCWZ1Q8/?tag=mak0954-20&th=1**](https://www.amazon.ca/Intocircuit%C2%AE-26000mAh-Notebooks-Compatible-Lightning/dp/B00GCWZ1Q8/?tag=mak0954-20&th=1)

# References:

<https://www.raspberrypi.org/help/faqs/#performanceBlend>

<https://msdn.microsoft.com/en-us/library/windows/hardware/ff543162(v=vs.85).aspx>

<http://elinux.org/RPi_USB_Webcams>