



Relay Board: The GPIOs are 3.3V with max current of 16mA. The GPIOs don't actually control the relay but control a 5V (sourced from the RPi) signal that goes to and controls the relays, the diagram is a bit misleading. A relay closed relay draws 16mA on the 3.3V and 6mA on the 5V = $3.3 \cdot .016 + 5 \cdot .006 = 0.083W$ from the RPi board.

USB-C Pwr Block The power block can supply 3.0A at 5V = 15W. The RPi itself draws about 1.0A @5V = 5W and the 8 relay control signals will draw $8 \cdot 0.083 = 0.66W$. Total power draw from the 15W supply is 1.66W.

AC/AC Transformer The xformer can supply 1.66A at 24V = 39.8W. Solenoids draw 0.6A at turn-on and 0.2A at steady state. Solenoids draw $0.6A \cdot 24V = 14.4W$ at turn-on and $0.2A \cdot 24V = 4.8W$ at steady-state. Max solenoids that can be turned-on simultaneously $39.8/14.4 = 2.7$.

