



Gating an Ag8005 Output with an External Power Supply

With only the Ethernet Data & Power Input connected via the RJ45, the ADJ input of the Ag8005 is connected to +VDC via a 7K5 resistor. This will increase the output voltage at +VDC to approximately +5.5V

D2 is a 1N5820 Schottky diode with a forward voltage drop of 0.5V, therefore the voltage supplied to the device will be +5.0V.

If an external +5.5Vdc supply is also connected, Q1 will switch ON reducing the ADJ input voltage and reducing the output voltage at +VDC (to +5.0V). At the same time D1 will start to conduct maintaining the supply to the device at +5.0V (because +VDC is 0.5V less than the external power supply, D2 will not conduct).

If the external +5.5Vdc supply is removed, then R5 and R4 will turn Q1 OFF. The ADJ input will be pulled up via R1 and the +VDC output will return to +5.5V. D2 will start conducting and the Ag8005 will resume supplying power to the device.

C1 is used to remove the effect of an output load step change on the Ag8005.

