

## Addendum 1.1

A few modifications to the WeatherStation:

- A Hydreon RG11 Rain Sensor: <http://rainsensors.com/> These sensors uses IR emitters and detectors to detect water droplets to the sensitivity of a single drop. They are also very easy to integrate into an Arduino environment. The Manual is here:  
[http://hydreon.com/wp-content/uploads/sites/3/2015/documents/rg-11\\_instructions.pdf](http://hydreon.com/wp-content/uploads/sites/3/2015/documents/rg-11_instructions.pdf)

Only complication is that the RG-11 operates on a 12v system while Arduino is a 5v system. Had to pull separate wiring for the RG-11 and also use a voltage divider for the signal. The dip switches are configured in Mode 1 (High Sensitivity, Mono-Stable On and Dark Detect Off).

The wiring has 12v DC and GND going to screw terminal pins PWR1 and PWR2 respectively. PWR1 is also connected to COM with NO and PWR2 going to Arduino. But before it can be connected to an input pin (PIN 10 in my case), the voltage will need to be divided:  
<https://learn.sparkfun.com/tutorials/voltage-dividers>

The value of R1 and R2 doesn't matter as much, as long as they are selected in a way where the dividing math works out. Don't also forget to tie the GND from RG-11 to the GND from Arduino on the breadboard.

- A HDS-10 for condensation detection. This is used to see if there is dew condensation. Wiring is very simple. Arduino is used to supply 5v, and the HDS-10 is connected to 5v through a 47k resistor. The other pin of HDS-10 is then connected to an input pin (PIN 9) in my case.

Both of these are set as configurable options in the Ascom driver so everything will work even if there is no RG-11 or HDS10.