

## Hooking up the Belkin WeMo Light Switch to and Enviro Mini-A

**Disclaimer:** If you are not familiar/comfortable with working with household electrical systems and following associated electrical codes, please stop here or hire a licensed professional. You are doing this at your own risk and could potentially get electrocuted or start a fire. This is being provided as an example of what I was able to accomplish and I will not be held responsible for mistakes made by others trying to create a similar configuration.

### **Purpose:**

I wanted the ability to schedule when my stove runs but also have the ability to turn the stove on and off remotely. The Belkin WeMo switch is typically used for turning on lights in a home and when used in conjunction with the iOS app and IFTTT.COM, schedules and triggers can be created to activate the switch. At the moment there is no thermostat capability but I have suggested to Belkin that they design a simple temperature sensor which could be used to control the switch.

### **Parts:**

- Pellet Stove with Millivolt thermostat capability – Used Existing
- Belkin WeMo Switch - \$49.99
- 802.11N Router – Used Existing
- 14/3 Wiring 15 feet - \$12.50
- 14/2 Wiring – Used Existing
- 18 AWG Wire – Used Existing
- DPDT (Could be SPDT but they only had this one in stock) Relay 125V 10A  
<http://www.radioshack.com/product/index.jsp?productId=2049721> – \$4.97
- Wall Box Single Gang Old Work – \$0.98
- Wall Box Single Gang New Work – \$0.52
- Solid Box Cover - \$1.21

Total Cost: **\$70.17**

### **Procedure:**

Near the pellet stove I installed an old construction single gang type box for the WeMo switch. I connected a 14/3 wire to the switch as seen in the diagram. The switched output lead was connected to the Red wire. I then installed the switch into the wall. I was fortunate that the wall I was working on is connected to an unfinished closet so I could work with the wires in the closet making it very easy to pass into the basement. Once I had my 14/3 wire in the basement I ran the wire into a new construction electrical box in my basement which I installed roughly under my pellet stove to minimize the run length of the wiring. Then with the power off, I ran a 14/2 wire from an existing 15 Amp circuit (that had only one light on it) into the new box in the basement.

Now I was able to wire up the box in the basement following the diagram below. For the Neutral wire powering one side the relay coil, I pulled a short length of 14 gauge wire from a 14/2 wire. The red wire is the switched lead from the WeMo device and should be hooked to the other side of the relay coil. At this point I was not connected to the pellet stove yet so I wanted to confirm the WeMo switch would successfully operate the relay. So the power went back on and I began the process of setting up the WeMo switch by following the supplied directions. Then using the iOS app I was able to turn the switch on and “Click”. The relay fired. I could have pushed the button but that wouldn’t have been as cool.

After testing I turned the power back off and finished the wiring to the stove. I took the 18 gauge wires and ran them upstairs to the pellet stove and attached them to the millivolt thermostat connection. I

decided to have the relay show outside the box in the basement just in case I needed to quickly inspect and it saves some room in the box. So I cut a hole in a solid electrical box cover that was the size of the relay. I double checked to make sure all my connections were safe/secure and then put the box cover on by pushing the relay through the hole (most of the way) and then screwing the plate on.

The power was turned back on and after the WeMo switch initializes I was ready. A press of the switch and the pellet stove fired right up.

**Wiring Diagram:**

- 14/3 - Ground ———
- 14/3 - White ———
- 14/3 - Black ———
- 14/3 - Red ———
- 18 AWG Wire - Red - - - - -
- 18 AWG Wire - Black - - - - -

