RainDance Sprinkler Controller

This controller will replace the existing broken Intermatic electromechanical sprinkler clock system (240 VAC) using off the shelf electrical components.

A clear box with a clear cover

Description automatically generatedA close-up of a toggle switch

Description automatically generatedA black electronic device with green connectors

Description automatically generatedA blue and green electronic device

Description automatically generated

# Hardware Design

XXX

|  |
| --- |
| A diagram of a circuit board  Description automatically generated |

Power originate from the 240VAC house circuit. A switching power supply makes 5VDC available to the Arduino and relay.

### Relay

### The relay (YWBL-WH Relay Module One Way 30A Optocoupler Isolation Relay Module High Power Relay) exhibits the following behavior:

* When no 5VDC control signal is present,
  + COM and NC: closed
  + COM and NO: open
  + NC and NO: open
* When a 5VDC control signal is applied,
  + COM and NC: open
  + COM and NO: open
  + NC and NO: closed

So, the 240VAC should be wired to NC and NO.

* Will the

# Software Design

XCXX

|  |
| --- |
|  |

# Irrigation Pump

# The pump is a Pentair Flotec FP5172 1.5 HP Thermoplastic Sprinkler Pump

(<https://www.pentair.com/en-us/products/residential/water-supply-disposal/water-supply-pumps/pentair-flotec-fp5172-thermoplastic-sprinkler-pump-1-5-hp.html>).

Nameplate Values: 1½ HP; 230 VAC; 9.95A; 1 PH; 60 Hz; 3450RPM

# This is a heading