SolarGuardn v0.667

# Parts

|  |  |  |
| --- | --- | --- |
| **Description** | **Source** | **Price** |
| NodeMCU devkit V1.0 ESP-12E | <http://a.co/10eGSEd> | $8.69 |
| Solar Cell, 6VDC, 2 watt |  |  |
| Solar lipo charger |  |  |
| Battery holder, 2x 18650 |  |  |
| 1A 3.3V regulator (3V in) |  |  |
| 4 channel I2C ADC |  |  |
| BME280 I2C Weather Sensor |  |  |
|  |  |  |

# ESP()

Temperature, Humidity, Pressure

Light level in garden

Soil moisture content

Water level in tank

Power control (pump, valve, light)

MQTT and IFTTT support

Web server to monitor and update

# pin definitions

|  |  |  |
| --- | --- | --- |
| **GPIO** | **Pin label** | **Description** |
| ADC | A0 | MOIST, LDR (analog) |
| 16 | D0 | (sleep) |
| 5 | D1 | LPOW (Q1) |
| 4 | D2 | MPOW (Q2) |
| 0 | D3 | BUTTON (flash) |
| 2 | D4 | RELAY (Q3) |
| 14 | D5 | I2C-CLK |
| 12 | D6 | I2C-DAT |