**EcolibriumReef - Arduino**

This is an aquarium controller based on Arduino. The component connections are described below. It is also described in the .ino file.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Power Supply** | **Arduino Pins** | | **Components** | **Controlled Devices** | **Notes** |
|  | D1 | TX | Not used |  | Arduino IDE uses D0 & D1 to upload program |
|  | D0 | RX | Not used |  | Serial monitor also uses D0 & D1 for debugging |
|  | RST |  | Momentary Button |  |  |
|  | GND |  | Power all components except relays |  |  |
|  | D2 |  | Relay B Pin 4 | Solenoid 4 |  |
|  | D3 |  | Relay B Pin 3 | Solenoid 3 |  |
|  | D4 |  | Relay B Pin 2 | Solenoid 2 |  |
|  | D5 |  | Relay B Pin 1 | Solenoid 1 |  |
|  | D6 |  | Relay A Pin 4 | Fan 2 |  |
|  | D7 |  | Relay A Pin 3 | Fan 1 |  |
|  | D8 |  | HC-05 TX |  |  |
|  | D9 |  | HC-05 RX |  |  |
|  | D10 |  | HC-05 State |  |  |
|  | D11 |  | Relay A Pin 2 | Blue Light |  |
|  | D12 |  | Relay A Pin 1 | White Light |  |
|  | D13 |  | LED |  |  |
|  | 3V3 |  | Not used |  |  |
|  | REF |  | Not used |  |  |
|  | A0 |  | Not used |  |  |
|  | A1 |  | DS18B20 data (white) |  |  |
|  | A2 |  | Float switch |  |  |
|  | A3 |  | DHT22 Pin 2 (data) |  |  |
|  | A4 | SDA | DS3231RTC & LCD |  |  |
|  | A5 | SCL |  |  |
|  | A6 |  | Not used |  |  |
|  | A7 |  | Not used |  |  |
|  | 5V |  | Power all components except relays |  | Arduino does not have enough amperage to power all relays |
|  | RST |  | Not used |  |  |
| External 5V 2.1A - | GND |  | Power all relays |  |  |
| External 5V 2.1A + | VIN |  | Power all relays |  |  |