



By Rob Fowler

Connecting the Equipment to the Controller

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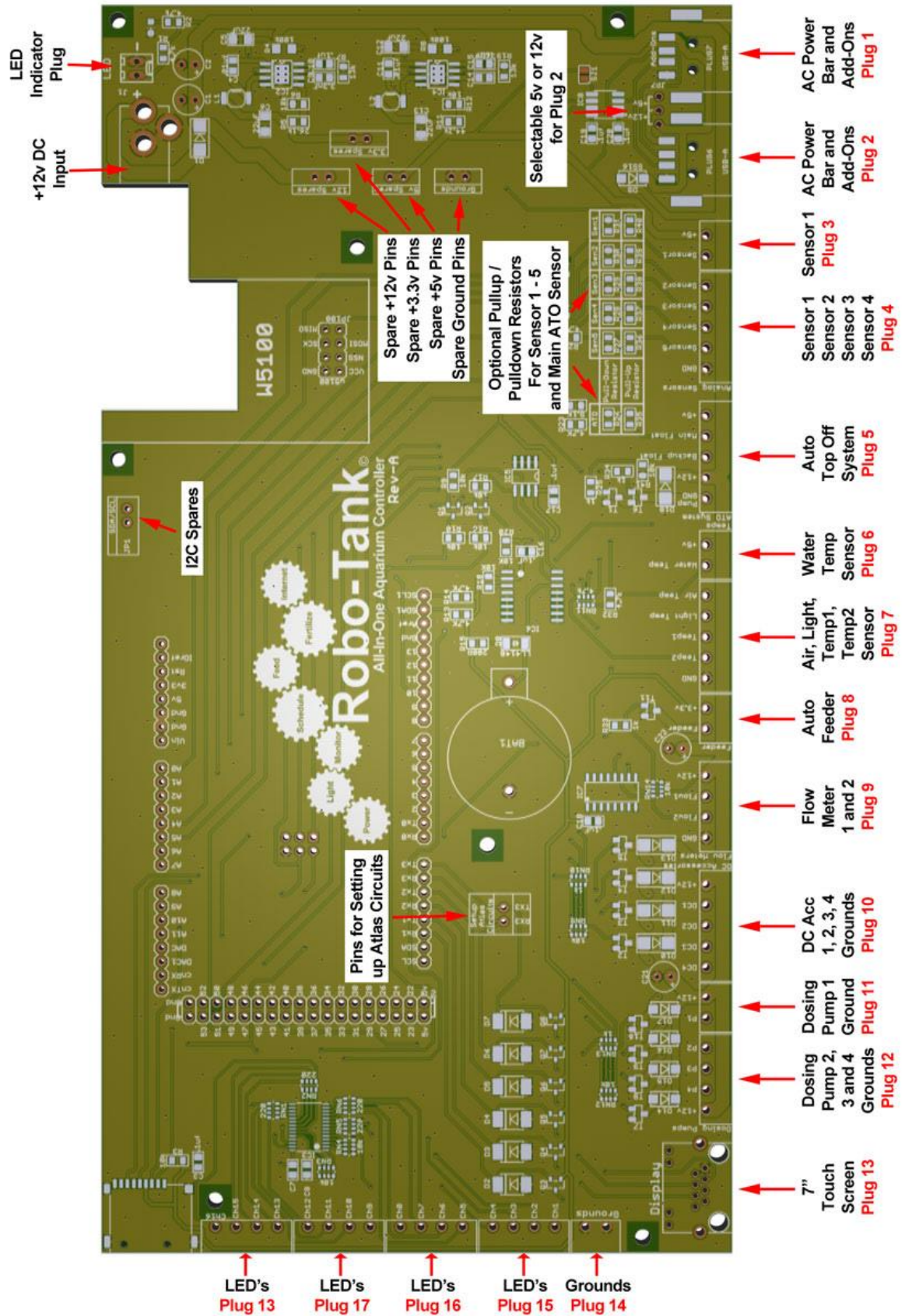
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Introduction

This manual shows you the pin outs to wire the different equipment and sensors for the controller.

If you have an analog or digital sensor you would like to use contact me so we can verify it will work, and the pin outs to use.

Controller PCB View with case open (top PCB view)



Plugs and Ports Definitions

You'll notice reference to **"Plugs"** and **"Ports"** through-out this document, this is because some Plugs have multiple Ports. Below is an image showing each of the plug numbers, use the list below to see what equipment can be connected to each plug. To wire up your equipment go to the diagrams on page 8 and find the plug number you want to connect, on each diagram you'll see which pin is for each port. When navigating the controller on the display features are referenced to port numbers below.

Main Controller Board Plugs and Ports

- **Plug 1**
 - Power Bar / Add-Ons
- **Plug 2**
 - Power Bar / Add-Ons
- **Plug 3**
 - **Port 1** – Float Switch / Analog Sensor 1
- **Plug 4**
 - **Port 2** – Float Switch / Analog Sensor 2
 - **Port 3** – Float Switch / Analog Sensor 3
 - **Port 4** – Float Switch / Analog Sensor 4
 - **Port 5** – Float Switch / Analog Sensor 5
- **Plug 5**
 - **Port 6** – Main ATO Float Switch / Analog Sensor
 - **Port 7** – Backup ATO Float Switch
 - **Port 8** – ATO Pump DC Ground
- **Plug 6**
 - **Port 9** – Water Temperature Sensor (DS18B20)
- **Plug 7**
 - **Port 10** – Air Temperature Sensor (DHT22)
 - **Port 11** – Light Temperature Sensor (DS18B20)
 - **Port 12** – Extra Temperature Sensor 1 (DS18B20 or DHT22)
 - **Port 13** – Extra Temperature Sensor 2 (DS18B20 or DHT22)
- **Plug 8**
 - **Port 14** – Auto Feeder Data
- **Plug 9**
 - **Port 15** – Flow Meter 1 Data
 - **Port 16** – Flow Meter 2 Data
- **Plug 10**
 - **Port 17** – DC Accessory DC Ground 1
 - **Port 18** – DC Accessory DC Ground 2
 - **Port 19** – DC Accessory DC Ground 3
 - **Port 20** – DC Accessory DC Ground 4
- **Plug 11**
 - **Port 21** – Dosing Pump DC Ground 1
- **Plug 12**
 - **Port 22** – Dosing Pump DC Ground 2
 - **Port 23** – Dosing Pump DC Ground 3
 - **Port 24** – Dosing Pump DC Ground 4
- **Plug 13**
 - 7" Touch Screen
- **Plug 14**
 - Common DC Grounds

- **Plug 15**

- **Port 25** – LED Ch1 (0-5v PWM Signal)
- **Port 26** – LED Ch2 (0-5v PWM Signal)
- **Port 27** – LED Ch3 (0-5v PWM Signal)
- **Port 28** – LED Ch4 (0-5v PWM Signal)

- **Plug 16**

- **Port 29** – LED Ch5 (0-5v PWM Signal)
- **Port 30** – LED Ch6 (0-5v PWM Signal)
- **Port 31** – LED Ch7 (0-5v PWM Signal)
- **Port 32** – LED Ch8 (0-5v PWM Signal)

- **Plug 17**

- **Port 33** – LED Ch9 **or** Dosing 1 Pump Stirrer (0-5v PWM Signal)
- **Port 34** – LED Ch10 **or** Dosing 2 Pump Stirrer (0-5v PWM Signal)
- **Port 35** – LED Ch11 **or** Dosing 3 Pump Stirrer (0-5v PWM Signal)
- **Port 36** – LED Ch12 **or** Dosing 4 Pump Stirrer (0-5v PWM Signal)

- **Plug 18**

- **Port 37** – LED Ch13 **or** Dosing 5 Pump Stirrer (0-5v PWM Signal)
- **Port 38** – LED Ch14 **or** Dosing 6 Pump Stirrer (0-5v PWM Signal)
- **Port 39** – LED Ch15 **or** Dosing 7 Pump Stirrer (0-5v PWM Signal)
- **Port 40** – LED Ch16 **or** Dosing 8 Pump Stirrer (0-5v PWM Signal)

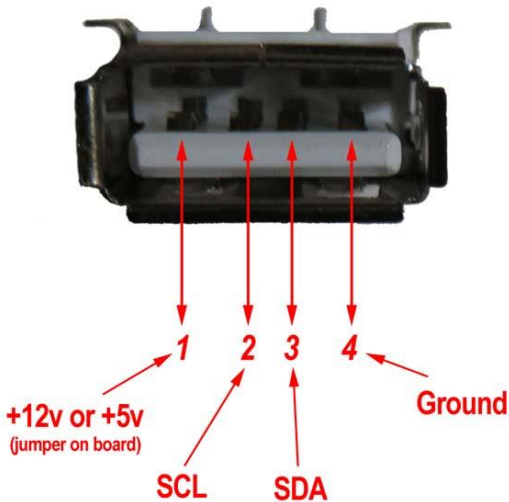
Plugs & Connector Pin Outs

Plug 1 – 4 (Power Bar / Addons, Sensor 1, Sensor 2-5)

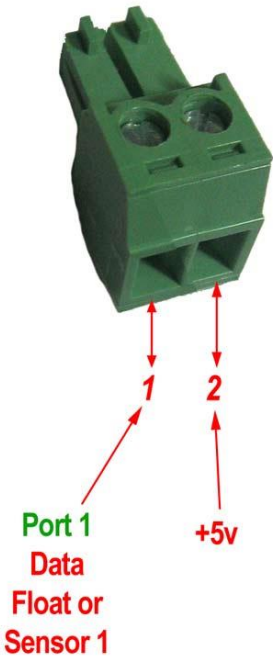
Plug 1 - Power Bar / Add-Ons



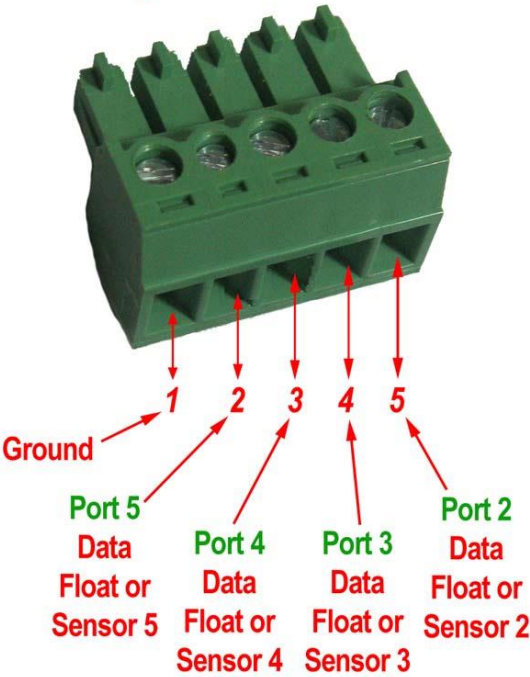
Plug 2 - Power Bar / Add-Ons



Plug 3 - Sensor 1

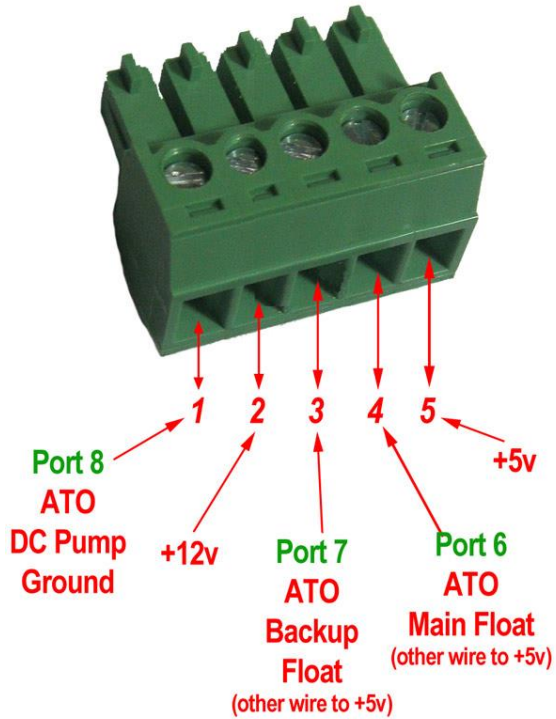


Plug 4 - Sensor 2, 3, 4 & 5

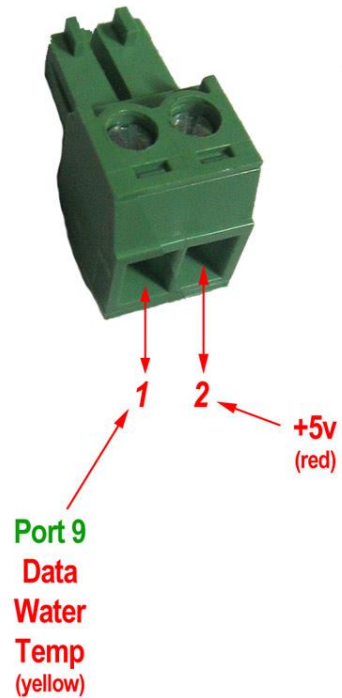


Plug 5 – 8 (ATO System, Water Temperature Sensor, Air-Light-Temp1-Temp2 Sensors, Auto Feeder)

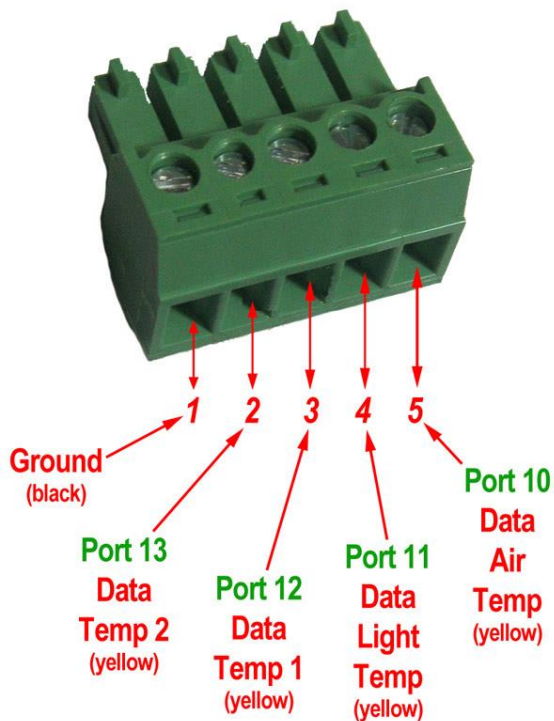
Plug 5 - Auto Top Off System



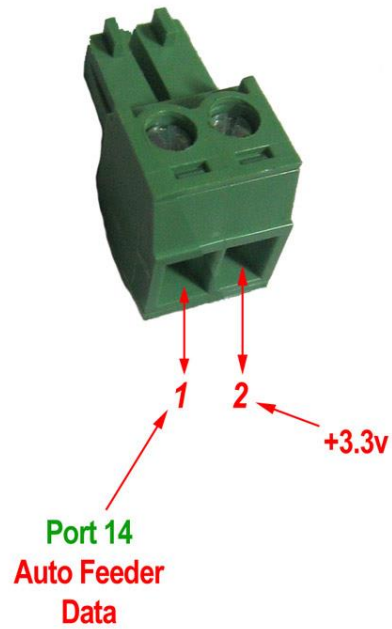
Plug 6 - Water Temperature Sensor



Plug 7 - Air, Light, Temp1, Temp2 Sensors

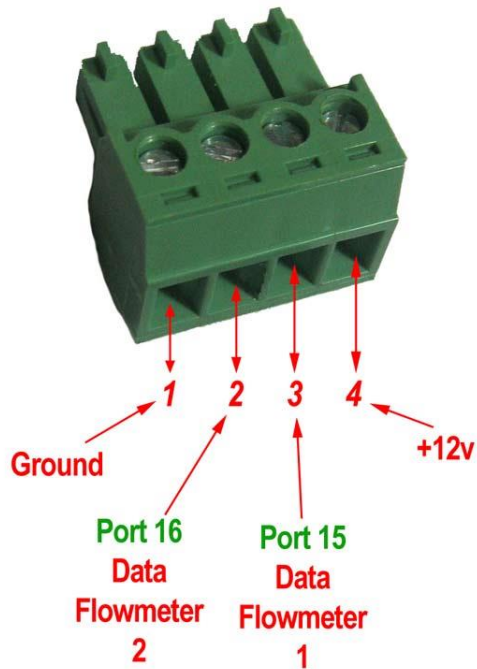


Plug 8 - Auto Fish Feeder

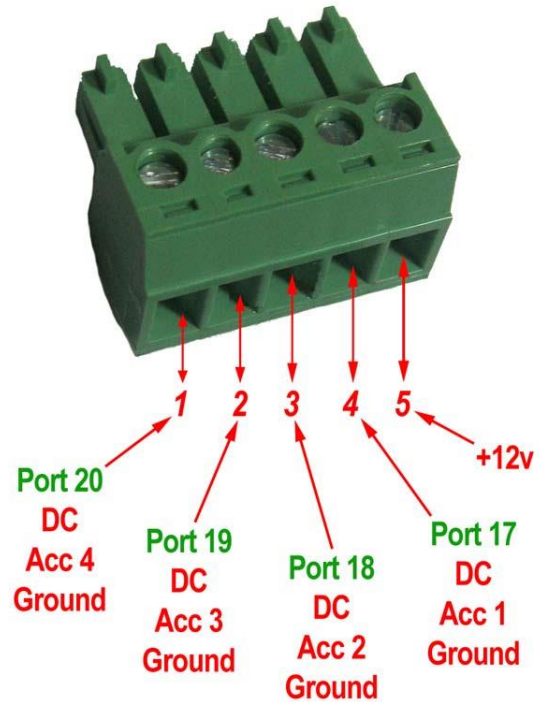


Plug 9 – 12 (Flow Meter 1-2, DC Accessories 1-4, Dosing Pump 1 and Dosing Pump 2-4)

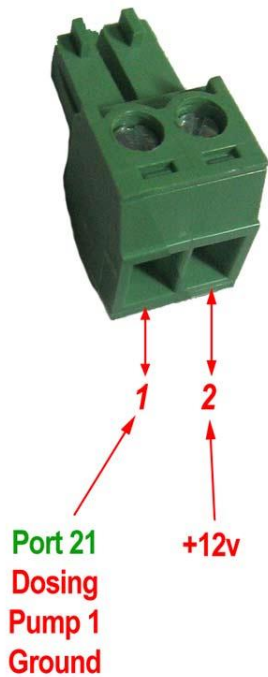
Plug 9 - Flow Meter 1 and 2



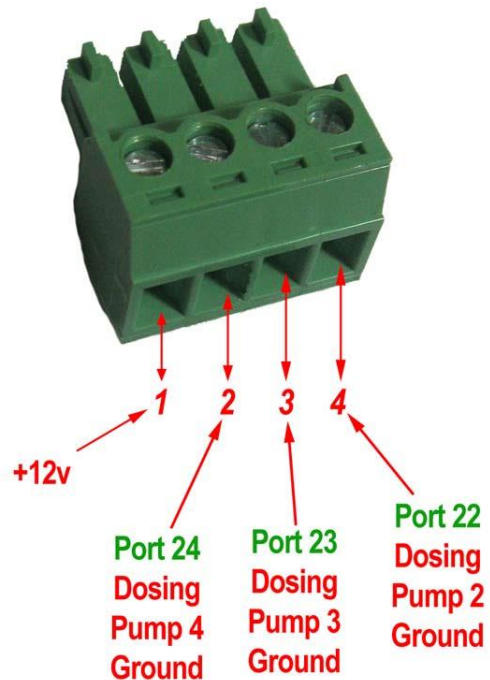
Plug 10 - DC Accessories 1, 2, 3 and 4



Plug 11 - Dosing Pump 1



Plug 12 - Dosing Pump 2, 3 and 4

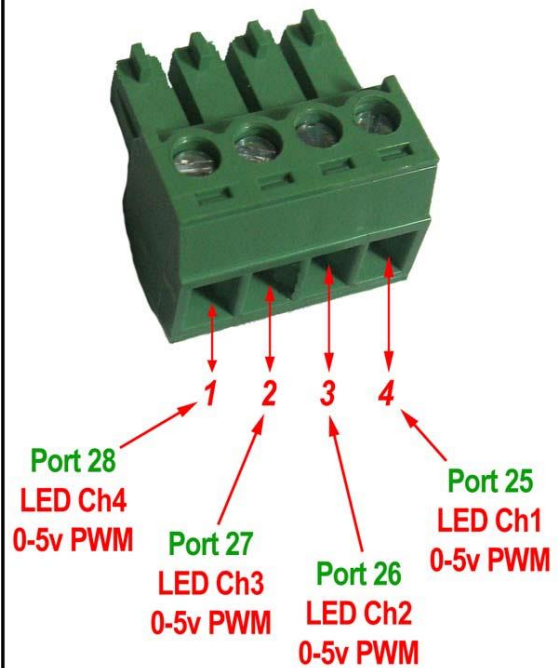


Plug 14 – 17 (Spare DC Grounds, LED Channels 1-4, LED Channels 5-8 and LED Channels 9-12)

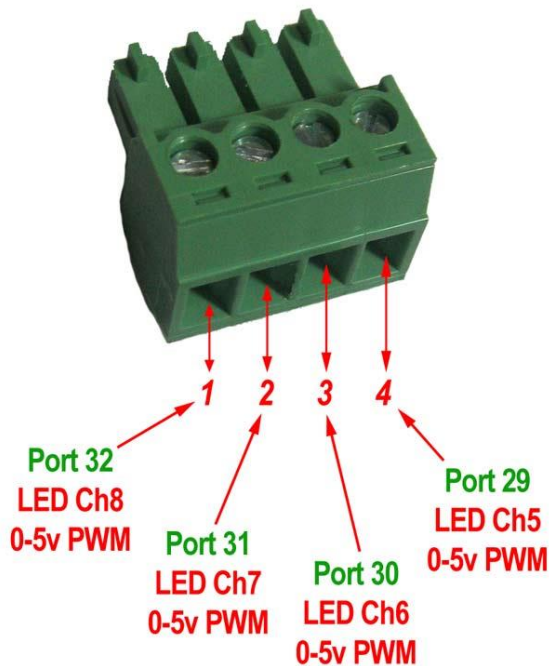
Plug 14 - Spare DC Grounds



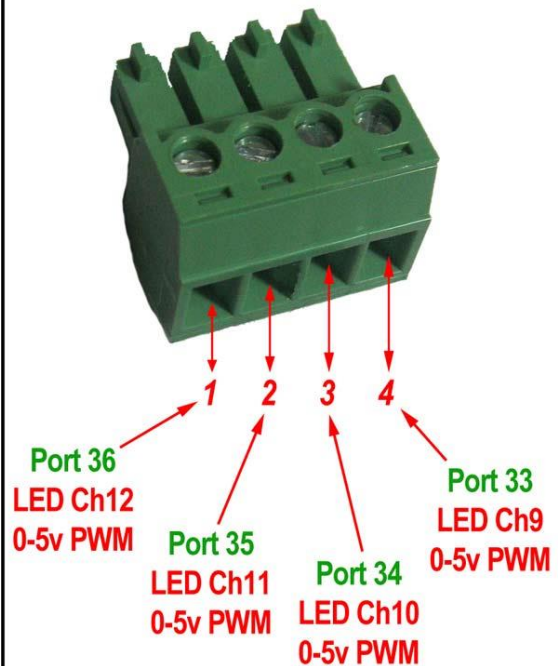
Plug 15 - LED Channels 1 - 4



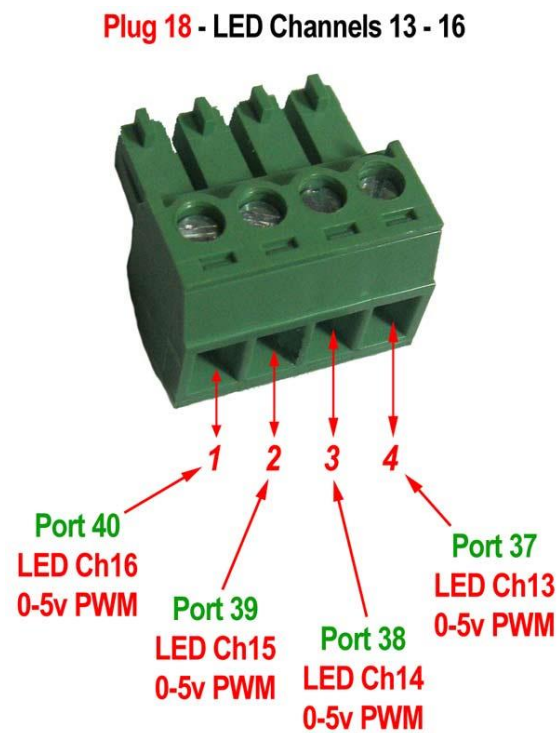
Plug 16 - LED Channels 5 - 8



Plug 17 - LED Channels 9 - 12

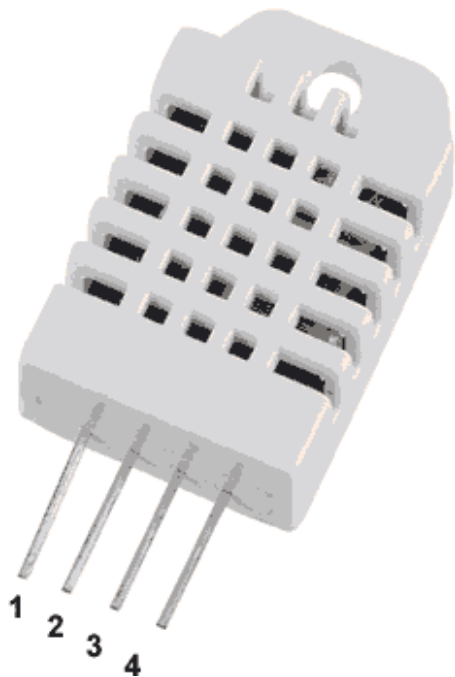


Plug 18 (LED Channels 13 - 16)

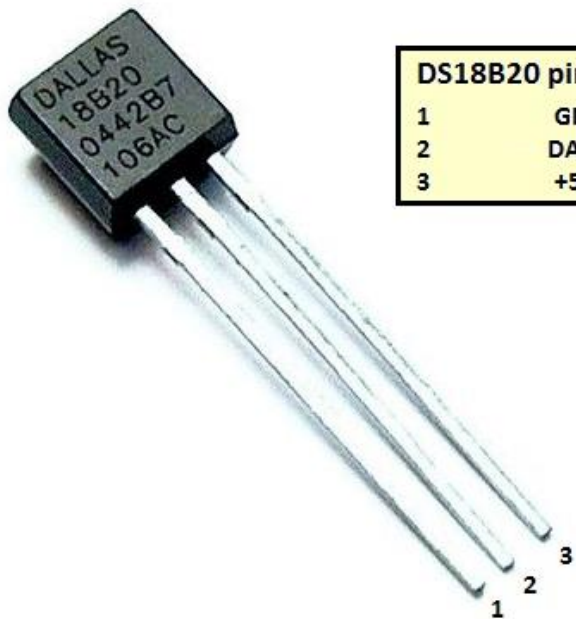


DHT22 Temperature / Humidity Sensor Pin outs

DHT22 pins	
1	VCC
2	DATA
3	NC
4	GND



DS18B20 Transistor Temperature Sensor Pin Outs



DS18B20 pins	
1	GND
2	DATA
3	+5V

DS18B20 Waterproof Temperature Sensor Pin Outs

Note: Not all sensors
have same color wires

