IoT Project Wire List

AmbientHUB

Description	ESP32 Pin	ESP Descr	BME280 Pin	BME Descr	SSD1306 Pin	SSD1306 Descr	Botletics Connector/Pin	Botletics Description
I2C - SCL	GPIO22	I2C Clock	SCL	I2C Clock	SCL	I2C Clock	SCL	Botletics on-board temp sensor
I2C -SDA	GPIO21	I2C Data	SDA	I2C Data	SDA	I2C Data	SDA	Botletics on-board temp sensor
3.3 Volts supplied by ESP32	3V3	3.3v	Vcc	3.3v	Vcc	3.3v	5v	Logic Voltage
Common ground	Gnd	Gnd	Gnd	Gnd	Gnd	Gnd	Gnd	Gnd
Data ESP32 to Botletics	GPIO17	TX2					11	RX2
Data Botletics to ESP32	GPIO16	RX2					10	TX2
Botletics Power ON / OFF	GPIO18						6	Power ON / OFF
Botletics Jumper 5V to VBAT	-						5V - VBAT	Botletics Jumper 5V to VBAT
USB Micro Cable external power	USB Connector							

AmbientAP Sensor using ESP32, BME280 Temp/Hum sensor, and SSD1306 OLED Display

Description	ESP32 Pin	ESP Descr	BME280 Pin	BME Descr	SSD1306 Pin	SSD1306 Descr
I2C - SCL	GPIO22	I2C Clock	SCL	I2C Clock	SCL	I2C Clock
I2C -SDA	GPIO21	I2C Data	SDA	I2C Data	SDA	I2C Data
3.3 Volts supplied by ESP32	3V3	3.3v	Vcc	3.3v	Vcc	3.3v
Common ground	Gnd	Gnd	Gnd	Gnd	Gnd	Gnd
USB Micro Cable external power	USB Connector					

Door/window connection to ESP32	ESP32 Pin	Comments
10k - 100K ohm pullup resistor A	3V3	Connect one end of pullup resistor to 3V3, the other end to GPIO18
10k - 100K ohm pullup resistor B	GPIO35	
Door Reed Switch NO terminal	GPIO35	The NO terminal will be open when the door is shut, resulting in a logical "1" at GPIO35
Door Reed Switch C terminal	Gnd	Connect the common terminal to ground

PhotoResister connection to ESP32	ESP32 Pin	Comments
10k ohm pullup resistor A	3V3	Connect one end of pullup resistor to 3V3, the other end to GPIO34
10k ohm pullup resistor B	GPIO34	
Photoresistor GL5516 A	GPIO34	Connect one end of photresistor to Gnd, the other end to GPIO34
Photoresistor GL5516 B	Gnd	Photoresistor dark resistance is 20K ohm, light resistance is 2K ohm

Flood Sensor connection to ESP32	ESP32 Pin	Comments
Hiletgo LM393 FC37 moisture monitor		
Comparator Vcc	3V3	
Comparator Gnd	Gnd	
Comparator D0	GPIO18	Uses ESP32 internal pullup resistor
Comparator A0	GPIO36	Uses ESP32 ADC 0

DHTxx Temp/Hum Sensor Connection	ESP32 Pin	Comments
DHT11, DHT21, DHT22, etc		Temp/Hum sensor alternative to BME280
Vcc	3V3	
Gnd	Gnd	
Data	GPIO5	