MCU pin: Features			Sensor mo	dules				I
PA1 Digital I/O PA2 Digital I/O PA3 Digital I/O PA4 Digital I/O PA5 Digital I/O PA6 Digital I/O PA7 Digital I/O PA7 Digital I/O PA8 Digital I/O PA8 Digital I/O PA8 Digital I/O PA9 Digital I/	U pin: F	Features	Module	Signal				Remarks
PA2 Digital I/O PA3 Digital I/O PA4 Digital I/O PA5 Digital I/O PA6 Digital I/O PA7 Digital I/O PA7 Digital I/O PB8 SS/PCINTO PB9 SS/PCINTO PB9 SS/PCINT1 PB2 MOSI/PCINT2 PB3 MISO/PCINT3 PB4 LED 4 (shield) PB5 LED 3 (shield) PB6 LED 2 (shield) PB7 LED 1 (shield) PC0 Digital I/O PC1 Digital I/O PC2 Digital I/O PA5 Digital I/O PJ11-4 PJ11-10 J11-6 PJ11-5 PJ11-7 Timer2 J11-7 Timer2 J11-7 Timer2 J11-9 J11-10 J11-9 J11-10 J1) [Digital I/O	•		J11-2			
PA3 Digital I/O PA4 Digital I/O PA5 Digital I/O PA6 Digital I/O PA7 Digital I/O PA7 Digital I/O PB8 SS/PCINTO PB8 SS/PCINTO PB9 SS/PCINT1 ADXL345 CS J9-8 PB1 adxl345.c PB1 SCK/PCINT2 ADXL345 SDD/MISO J9-7 PB2 adxl345.c PB2 MOSI/PCINT3 ADXL345 SDD/MISO J9-7 PB2 adxl345.c PB3 MISO/PCINT3 ADXL345 SDA/MOSI J9-6 PB3 adxl345.c PB4 LED 4 (shield) PB5 LED 3 (shield) PB6 LED 2 (shield) PB7 LED 1 (shield) PC0 Digital I/O PC1 Digital I/O PC2 Digital I/O PC2 Digital I/O PJ12-4	. [Digital I/O			J11-1			
PA4 Digital I/O J11-6 PA5 Digital I/O J11-5 PA6 Digital I/O J11-8 PA7 Digital I/O Speaker J11-9 J11-9 +5V J11-10 PB0 SS/PCINTO ADXL345 SCL J9-3 PB0 adxl345.c PB1 SCK/PCINT1 ADXL345 CS J9-8 PB1 adxl345.c PB2 MOSI/PCINT2 ADXL345 SDO/MISO J9-7 PB2 adxl345.c PB3 MISO/PCINT3 ADXL345 SDA/MOSI J9-6 PB3 adxl345.c PB4 LED 4 (shield) PB4 leds.c PB5 LED 3 (shield) PB5 leds.c PB7 LED 1 (shield) PB7 leds.c PC0 Digital I/O J12-2 PC1 Digital I/O J12-1 PC2 Digital I/O J12-4	· [Digital I/O			J11-4			
PAS Digital I/O J11-5 PA6 Digital I/O J11-8 PA7 Digital I/O speaker J11-7 Timer2 tone.c GND J11-9 J11-10 J11-10 J11-10 AdxI345.c SCL J9-3 PB0 adxI345.c adxI345.c AdxI345.c AdxI345.c PB1 adxI345.c AdxI345.c AdxI345.c AdxI345.c AdxI345.c PB2 adxI345.c AdxI345.c PB3 adxI345.c AdxI345.c PB4 leds.c PB4 leds.c PB5 leds.c PB6 leds.c PB6 leds.c PB7 <	3 [Digital I/O			J11-3			
PA6 Digital I/O	. [Digital I/O			J11-6			
PA7 Digital I/O speaker J11-7 Timer2 tone.c Solution Solution	5 [Digital I/O			J11-5			
SS/PCINTO	5 [Digital I/O			J11-8			
PB0 SS/PCINTO ADXL345 SCL J9-3 PB0 adxl345.c PB1 SCK/PCINT1 ADXL345 CS J9-8 PB1 adxl345.c PB2 MOSI/PCINT2 ADXL345 SDO/MISO J9-7 PB2 adxl345.c PB3 MISO/PCINT3 ADXL345 SDA/MOSI J9-6 PB3 adxl345.c PB4 LED 4 (shield) PB4 leds.c PB5 LED 3 (shield) PB5 leds.c PB6 LED 2 (shield) PB6 leds.c PB7 LED 1 (shield) PB7 leds.c PC0 Digital I/O J12-2 PC1 Digital I/O J12-1 PC2 Digital I/O J12-4	, [Digital I/O	speaker		J11-7	Timer2	tone.c	
PBO SS/PCINTO ADXL345 SCL J9-3 PBO adxl345.c PB1 SCK/PCINT1 ADXL345 CS J9-8 PB1 adxl345.c PB2 MOSI/PCINT2 ADXL345 SDO/MISO J9-7 PB2 adxl345.c PB3 MISO/PCINT3 ADXL345 SDA/MOSI J9-6 PB3 adxl345.c PB4 LED 4 (shield) PB4 leds.c PB5 LED 3 (shield) PB5 leds.c PB6 LED 2 (shield) PB6 leds.c PB7 LED 1 (shield) J12-2 PC0 Digital I/O J12-1 PC2 Digital I/O J12-4	D				J11-9			
PB1 SCK/PCINT1 ADXL345 CS J9-8 PB1 adxl345.c PB2 MOSI/PCINT2 ADXL345 SDO/MISO J9-7 PB2 adxl345.c PB3 MISO/PCINT3 ADXL345 SDA/MOSI J9-6 PB3 adxl345.c PB4 LED 4 (shield) PB4 leds.c PB5 LED 3 (shield) PB5 leds.c PB6 LED 2 (shield) PB7 leds.c PB7 LED 1 (shield) J12-2 PC1 Digital I/O J12-1 PC2 Digital I/O J12-4	1				J11-10			
PB1 SCK/PCINT1 ADXL345 CS J9-8 PB1 adxl345.c PB2 MOSI/PCINT2 ADXL345 SDO/MISO J9-7 PB2 adxl345.c PB3 MISO/PCINT3 ADXL345 SDA/MOSI J9-6 PB3 adxl345.c PB4 LED 4 (shield) PB4 leds.c PB5 LED 3 (shield) PB5 leds.c PB6 LED 2 (shield) PB7 leds.c PB7 LED 1 (shield) J12-2 PC0 Digital I/O J12-1 PC2 Digital I/O J12-4							_	
PB2 MOSI/PCINT2 ADXL345 SDO/MISO J9-7 PB2 adxl345.c PB3 MISO/PCINT3 ADXL345 SDA/MOSI J9-6 PB3 adxl345.c PB4 LED 4 (shield) PB4 leds.c PB5 LED 3 (shield) PB5 leds.c PB6 LED 2 (shield) PB7 leds.c PB7 LED 1 (shield) J12-2 PC1 Digital I/O J12-1 PC2 Digital I/O J12-4) S	SS/PCINTO	ADXL345	SCL	J9-3	PB0	adxl345.c	
PB3 MISO/PCINT3 ADXL345 SDA/MOSI J9-6 PB3 adxl345.c PB4 LED 4 (shield) PB4 leds.c PB5 LED 3 (shield) PB5 leds.c PB6 LED 2 (shield) PB6 leds.c PB7 LED 1 (shield) PB7 leds.c PC0 Digital I/O J12-2 PC1 Digital I/O J12-1 PC2 Digital I/O J12-4	. S	SCK/PCINT1	ADXL345	CS	J9-8	PB1	adxl345.c	
PB4 LED 4 (shield) PB4 leds.c PB5 LED 3 (shield) PB5 leds.c PB6 LED 2 (shield) PB6 leds.c PB7 LED 1 (shield) PB7 leds.c PC0 Digital I/O J12-2 PC1 Digital I/O J12-1 PC2 Digital I/O J12-4	. N	MOSI/PCINT2	ADXL345	SDO/MISO	J9-7	PB2	adxl345.c	
PB5	<u> </u>	MISO/PCINT3	ADXL345	SDA/MOSI	J9-6	PB3	adxl345.c	
PB6 LED 2 (shield) PB6 leds.c PB7 LED 1 (shield) PB7 leds.c PC0 Digital I/O J12-2 PC1 Digital I/O J12-1 PC2 Digital I/O J12-4		· · · · · ·						
PB7 LED 1 (shield) PB7 leds.c PC0 Digital I/O J12-2 PC1 Digital I/O J12-1 PC2 Digital I/O J12-4		LED 3 (shield)						
PC0 Digital I/O J12-2 PC1 Digital I/O J12-1 PC2 Digital I/O J12-4								
PC1 Digital I/O J12-1 PC2 Digital I/O J12-4	' L	LED 1 (shield)				PB7	leds.c	
PC1 Digital I/O J12-1 PC2 Digital I/O J12-4		D: :: 11/0			14.2.2		1	
PC2 Digital I/O J12-4		_						
		_						
DC2 Disital I/O 113.3		_						
PC3 Digital I/O J12-3		_						
PC4 Digital I/O J12-6 PC5 Digital I/O J12-5		_						
PC6 Digital I/O J12-8		_						
PC7 Digital I/O J12-7 GND J12-9		Digital I/O						

+5V				J12-10			
						_	
PD0	SCL/INT0			J13-4			
PD1	SDA/INT1			J13-3			
PD2	RXD1/INT2	HC-SR50	1 Dout	J6-2	INT2_vect	pir.c	
PD3	TXD1/INT3			J14			
550	DVD 0			LICE	LICADTO	20.0	
PEO	RXD0			USB	USARTO	PC_Comm.c	Programming/PC communication
PE1	TXD0			USB	USARTO	PC_Comm.c	Programming/PC communication
PE3	OC3A			~5	PE3	servo.c	
PE4 PE5	?				PE5	huzzor o	
PES	Buzzer (shield)				PES	buzzer.c	
PF0	Potentiometer						
PF1	Button 1 (shield)				PF1	Buttons.c	
PF2	Button 2 (shield)				PF2	Buttons.c	
PF3	Button 3 (shield)				PF3	Buttons.c	
PF4	DS1820						Temperature sensor (onboard)
PF5	TMS			A5			,
PF6							
PF7							
PG5	Display latch				Timer1	display.c	
						1	
PH0	RXD2	ESP-01	TX	J5-3	USART2	wifi.c	
PH1	TXD2	ESP-01	RX	J5-4	USART2	wifi.c	
PH3	OC4A			~6	Time a m1	diamlassa	
PH4	Display clock				Timer1	display.c	
PH5	Display data			~9	Timer1	display.c	
PH6	OC2B			·-9			
PJ0	RXD3/PCINT9			J13-2	USART3	Juart.c	
PJ1	TXD3/PCINT10			J13-1	USART3	uart.c	

PK0	ADC8/PCINT16	Soil Moist	AOUT	J10-1	ADC8	soil.c
PK1	ADC9/PCINT17			J10-2		
PK2	ADC10/PCINT18			J10-3		
PK3	ADC11/PCINT19			J10-4		
PK4	ADC12/PCINT20			J10-5		
PK5	ADC13/PCINT21	ADXL345	INT1	J9-4, J10-6	PK5	
PK6	ADC14/PCINT22	ADXL345	INT2	J9-5, J10-7	PK6	
PK7	ADC15/PCINT23	KY-018	S	J4-1/J10-8	ADC15	light.c
GND		Soil Moist	GND	J10-9		
+5V		Soil Moist	VCC	J10-10		

PL0	ICP4			J8-2		
PL1	ICP5	DHT11	Data	J14	PL1	dht11.c
PL2	T5			J14		
PL3	OC5A			J14		
PL4	OC5B			J14		
PL5	OC5C			J14		
PL6		HC-SR04	Echo	J7-2	PL6	hc_sr04.c
PL7		HC-SR04	Trig	J7-3	PL7	hc_sr04.c

GND +5V

J4-3, J5-1, J6-3, J7-4, J8-3, J9-1, J10-9, J11-9, J12-9 J4-2, J5-2, J6-1, J7-1, J8-1, J9-2, J10-10, J11-10, J12-10

Colours

Arduino board

Multi Function Shield

Sensor extension board

Sensor/module

Other features

Timer3 periodic_task.c

HC-SR501 KY-018 ESP-01 HC-SR04

DHT11

ADXL345