D1R32 – 3 SENSORS PROJECT

AN ARDUINO UNO / WIFI / BLE
LcD / 3 sensors (Temp & Hum / Rain / Microphone)

Alba-Elektronica

Index

https://github.com/Alba-Elektronica

Required hardware & software

Connect D1R32 with computer / Raspberry Pi either by wired cable / Wifi / Ble

A phone / pad using an Arduino application (not all phones supports)

The Arduino app / software / IoT

Inside the box

Arduino Uno R3	D1R32 board with WiFi / Ble	
Charger Arduino	micro USB / USB	
Liquid Crystical Display	LCD 1602 / IIC I2C module	
Connectors	male-female / male-male	
Sensors	Temperatur & Humidity sensor (DHT11)	
	MH Rain sensor	
	Microphone KY 037 like	
Manual	Description / Tips	

https://github.com/Alba-Elektronica

D1R32 = Arduino Uno / Wifi / BLE

➔ ***Uses the pinout of Arduino Uno!***

➔ Download software from Arduino.cc; Install
➔ Install D1R32 board
➔ Select board *Esp32 Dev module*
➔ Select the port of the connection

A basic Liquid Crystal Display (LCD)

Connect the LDC 1602 IIC I2C display

➔ Turn around the LCD
➔ Connect the pins Arduino ←→ IIC I2C module with male / female connectors
➔ Run Examples / Wire / i2c_scanner to find the address of the display
➔ Install LiquidCrystal_I2C that is an Arduino libraries
➔ Run the HelloWorld application

Tips

➔ Pinout: SDA, ←→ SDA, SCL ← → SCL
➔ If the screen is too bright or too dark, then tune with screw the blue potentiometer of the MH module on the backside of LCD

Experiments with sensors

Temperature and humidity in one sensor

➔ Connect the Arduino with the sensor type DHT11 with three male / female connectors

  + ← → +5V / OUT ← → IO26 / - ←→ GND

➔ Install DHT library of the Arduino environment, including the additional libraries

https://github.com/Alba-Elektronica

Extra: Connect the LCD and combine codes for LCD and DHT11

Rain sensor

➔ Connection MH- RD sensor to Arduino
  Pinout: IO2 is (kind of) A0 / IO18 ⟵⟶ D0
➔ Connect the module to the MH sensor series with 2 x male, male connector

Extra: Connect the LCD and combine code for LCD and the sensors

Microphone

➔ Connection: Arduino ⟵ ⟶ MH Microphone (KY - 037)
  Pinout: IO2 is (kind of) A0 / IO18 ⟵⟶ D0

Extra: Connect the LCD and combine code for LCD and the sensors

Tips

➔ Amplify the analog number with a large number; Open Serial Plotter
➔ *If you need an extra 5V and GND, select two digital pins and set them on High and Low*