D1R32 – 3 sensors Project  
  
An Arduino Uno / Wifi / Ble KIT

LcD / 3 sensors (Temp & Hum / Rain / Microphone)

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# 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 D1R32)

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 |  |



# D1R32 = Arduino Uno / Wifi / BLE

* ***Uses the pinout of Arduino Uno!***
* Download software from Arduino.cc; Install
* Install D1R32 board by installing the Esp32 library
* 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

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*