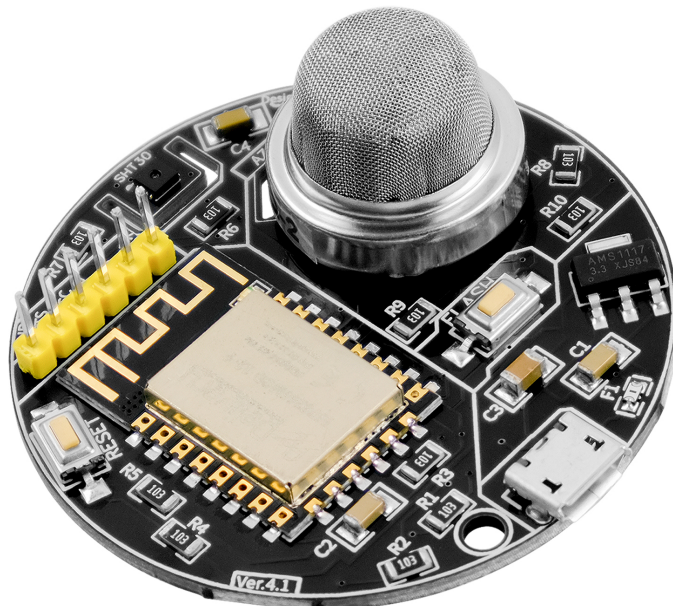
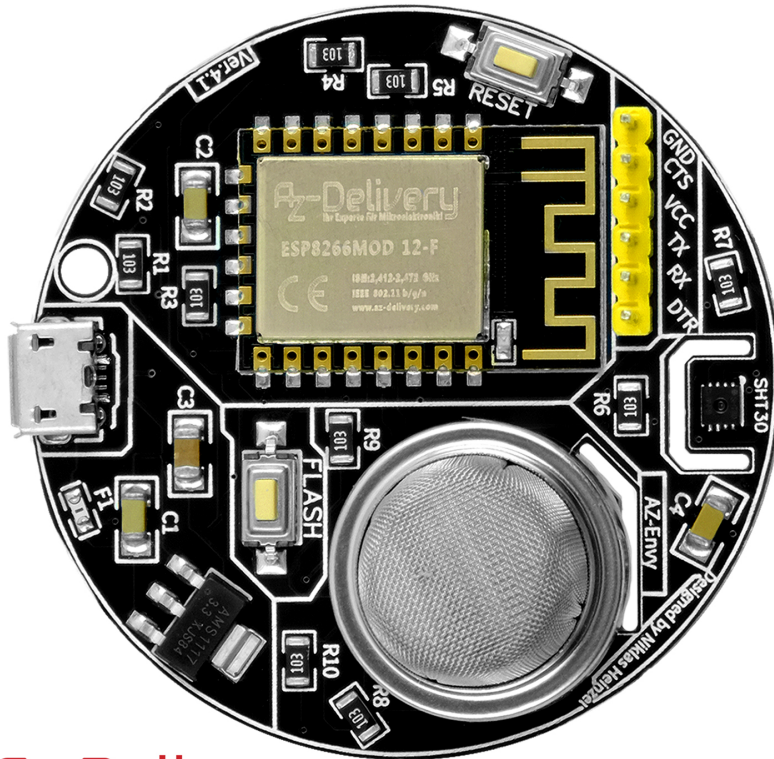


## AZ-Envy - Environmental development board

### Datasheet



## Contents:

1. General Overview
2. The microprocessor / Programming via FTDI
3. Power
4. Sensors
5. Pinout Diagram ESP12F / Library
6. Possible uses

## General Overview:

The AZ-Envy or ESPEnvi is an ESP12F based developer board, especially for the **easy entry into the world of IoT**.

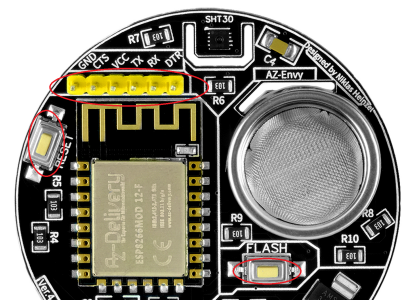
The board offers a wide range of possible uses for makers, hobbyists and engineers, such as use as a weather station, gas meter, mold preventer, garden shed monitoring and much more ...

It offers the following options in use:

- measurement of temperature (° C) and humidity (%)
- measurement of ambient gases in ppm
- setup and / or connection to a network
- variable voltage supply from 3V to 11V via Micro USB (cable not included)
- programming via FTDI chip (not included)

## The microprocessor (ESP12-F):

- smallest available 802.11b/g/n Wi-Fi SOC module
- very low power 32-bit CPU with up to 160MHz clock speed
- built-in 10bit high precision ADC
- deep sleep current as low as 0.02mA
- UART baud rate up to 4Mbps
- possibility to include AT commands
  - programmable via FTDI interface and push buttons on the surface (hold RESET and FLASH to program)



## Power:

- the board is operated via micro-USB
- voltages between 5V and max. 11V are possible (preferably 5V)
- voltage converter is the AMS1117 3.3 chip with a very high degree of efficiency
- low power modes can be programmed in the ESP12F

## Sensors:

### The included Gas Sensor - MQ-2:

- sensors conductivity is much higher when the gas concentration rises
- can be used as: (connected to Pin ADC)
  - \* Domestic gas leakage detector
  - \* Industrial Combustible gas detector
  - \* Portable gas detector
- Good sensitivity to combustible gas in wide range /high sensitivity to LPG, Propane and Hydrogen / long life and low cost

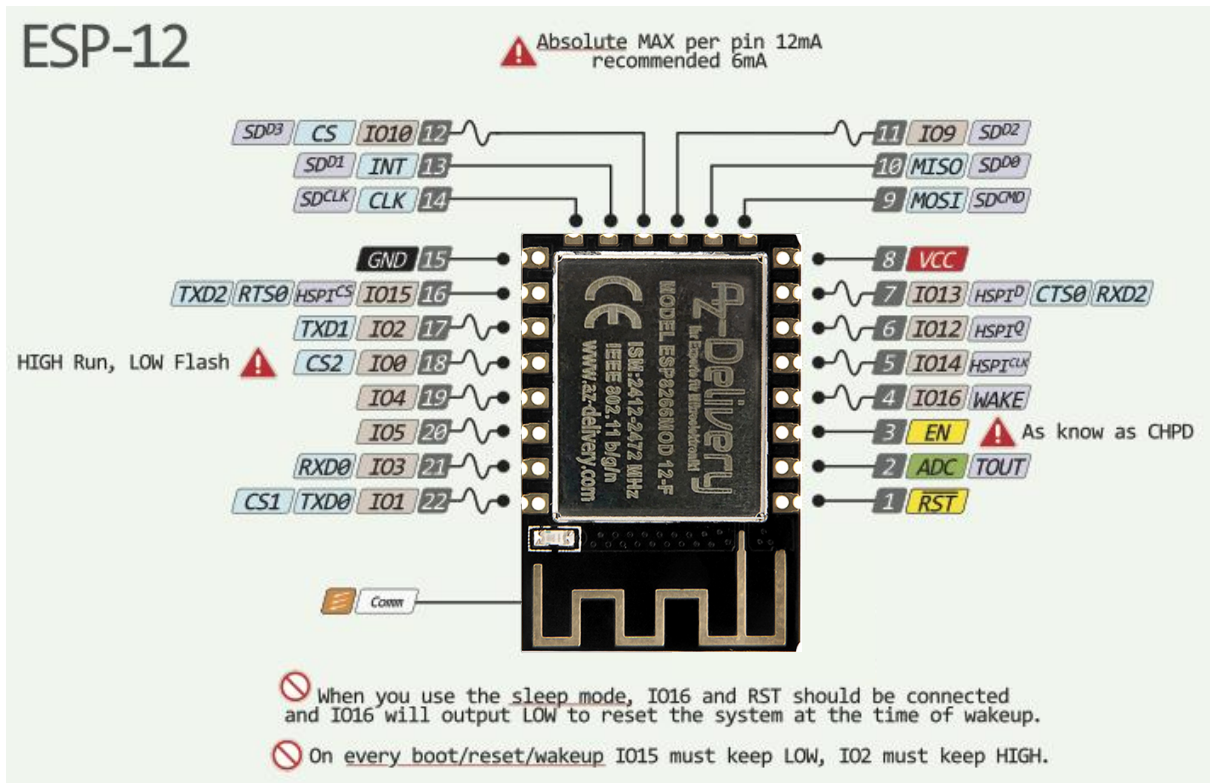


### The temperature and humidity sensor - SHT30:

- relative humidity accuracy  $\pm 2\%$
- temperature accuracy  $\pm 0.2^{\circ}\text{C}$
- 14 Bit measurement resolution
- 100nA sleep mode current
- I2C Interface (connected to SDA and SCL)



**Pinout Diagram ESP12F / Library:**



**Possible uses:**

- weather Station with data transfer to Google Firebase
- gas meter
- unit to measure temperature and relative humidity
  - prevent mold
- garden shed monitor