

Raumsensoren

Zur Bestimmung von **Temperatur, Feuchtigkeit, Helligkeit, Präsenz** soll ein eigenes Modul entworfen werden.

Basis dafür wäre der [Olimex ESP32-POE](https://exp-tech.de/products/ethernet-dev-board) (Alternative: <https://exp-tech.de/products/ethernet-dev-board>). Dieser ist ein ESP32 mit einem POE Anschluss um diesen ohne externe Stromversorgung direkt am Netzwerk betreiben zu können.

In sämtlichen Räumen ist aktuelle in **Cat5.E** verlegt worden.

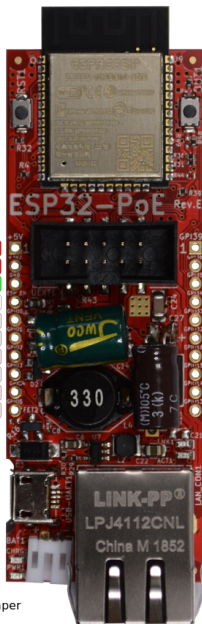
Pinout: [ESP32-POE-GPIO.png](#)

Pinout

ESP32-PoE pinout

POWER SUPPLY:
+5V - Input and output; don't use for input if you have micro USB connected when input and powering the board from this pin disconnect USB powering when output up to 0.5A at 3.3V (1.65W) or up to 0.8A at 5V (4W) but no more than 4W combined. This means that if you draw 0.8A at 5V line, you can't draw from the 3.3V line. It doesn't matter how you power the board the maximum is 4W combined draw (0.5A at 3.3V and/or 0.8A at 5V).

ESP_EN - reset
GPIO0, GPIO1 - are used during programming, after that they are free
GPIO2, GPIO14, GPIO15 - used by SD card connector, free if SD card is not used
GPIO2, GPIO4, GPIO5, GPIO13, GPIO14, GPIO15, GPIO16, GPIO36 are available on both UEXT and EXT1/2 connectors if you use on one connector do not use on the other
GPIO19 is connected to measure external power supply voltage
GPIO14 is connected to button and has 10K pullup
GPIO15 is free to use but may be connected to measure battery voltage with SENS_BAT_E1 jumper



UEXT connector

note it share same pins with EXT1 and EXT2

+5V	+3.3V	GND	U1RXD	U1TXD	GPI36
GPIO16	I2C-SCL	I2C-SDA	HS2_CMD	HS2_DATA0	GPI02
GPIO15	HS2_CMD	VSPIC50	HS2_CLK	GPI05	GPI05
GPIO14	HS2_CMD	VSPIC50	HS2_CLK	GPI05	GPI05

GPIO39	ADC1_CH3	RTC_GPIO3	ADC_H	SENSOR_VN	GPIO36
GPIO36	ADC1_CH0	RTC_GPIO0	ADC_H	SENSOR_VP	GPIO36
GPIO35	ADC1_CH7	RTC_GPIO5	GPIO34	ADC1_CH6	RTC_GPIO4
GPIO33	ADC1_CH5	RTC_GPIO8	GPIO32	ADC1_CH4	RTC_GPIO9
GPIO16	HS1_DATA4	U2RXD	GPIO15	ADC2_CH3	RTC_GPIO13
GPIO15	ADC2_CH3	RTC_GPIO13	GPIO14	ADC2_CH6	RTC_GPIO16
GPIO14	ADC2_CH6	RTC_GPIO16	GPIO13	ADC2_CH4	RTC_GPIO14

EMAC_TX_CLK	TOUCH1	RTC_GPIO11	CLK_OUT1	ADC2_CH1	GPIO0
EMAC_TX_CLK	TOUCH2	RTC_GPIO12	CLK_OUT3	U0TXD	GPIO1
EMAC_TX_ER	SD_DATA1	HS2_DATA1	TOUCH0	RTC_GPIO10	HSPID
EMAC_RX_CLK	HS1_DATA6	VSPIC50	GPIO3	ADC2_CH2	GPIO2
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EMAC_RX_ER	SD_DATA0	HS2_DATA0	TOUCH2	RTC_GPIO12	

- <https://github.com/OLIMEX/ESP32-POE/blob/master/DOCUMENTS/ESP32-POE-user-manual.pdf>
 - <https://github.com/letscontrolit/ESPEasy>
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Revision #5

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