

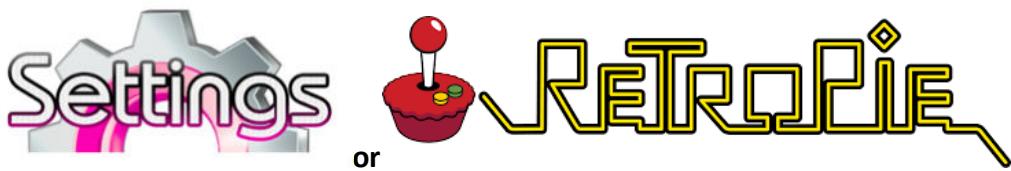
# microplay-hub

## WiringOP & GPIO Guide



## WiringOP (Install RetroPie Modul to use the GPIO-Scripts)

**1.) In the Console Overview of EmulationStation choose the System „RetroPie“ or „Settings“**



**2.) In the Menu scroll to „RETROPIE SETUP“ and open this**

# RETROPIE SETUP

## RetroPie-Setup Menu - Overview

**Choose „Manage Packages“**

 Manage packages

### **Choose „Driver“ Menu**

x x	core	Manage core packages	x x
x x	main	Manage main packages	x x
x x	opt	Manage optional packages	x x
x x	driver	Manage driver packages	x x
x x	exp	Manage experimental packages	x x
x x	depends	Manage dependency packages	x x

**Choose „wiringOP“ Modul**

x x 256 wiringOP (Installed - via source) x x

**Choose „Install/Update from Source“**

**S** Install from source      **H** Package help

## C) Configuration

- #### ▪ Show the Configuration Menu

C Configuration / Options

Choose an option.

0 Show my GPIO Pins (10sec)

XX [[ Set my Board - now: Orange Pi Zero2 (H616) ]]

XN [ 2 Active Buttons (change me) ]

XR [ reconfig all Active Buttons]

A // Button1 on PIN:8 [power-short-mod]

AE \*\*\*edit Button1 [Script]

AF \*\*change [Action:power]

AP \*\*change [WOP-PIN:8]

AM \*\*change [MOD:short]

B // Button2 on PIN:9 [reset-short-mod]

BE \*\*\*edit Button2 [Script]

BF \*\*change [Action:reset]

BP \*\*change [WOP-PIN:9]

BM \*\*change [MOD:short]

X Butontest (60sec)

Y Change Autostart Service [not-active]

(+) 84%

## 0) Show my GPIO Pins (10sec)

- Show the Boardtype
  - Show the PIN status

```
x x      0 Show my GPIO Pins (10sec) x x
+-----+-----+-----+-----+---+ H616 +---+-----+-----+-----+-----+
```

## **XX) Set my Board**

- Set your Boardtype
  - Set a predefined config

```
[[ Set my Board - now: choose-me ]]
```

Choose an option.

[current setting: choose-me]

- A Orange Pi Zero/R1 (H2+)
- B Orange Pi Zero Plus2 (H3)
- C Orange Pi PC/One/Lite (H3)
- D Orange Pi Zero Plus (H5)
- E Orange Pi Zero Plus2 (H5)
- F Orange Pi PC2/Prime (H5)
- G Orange Pi Win/Win+ (A64)
- H Orange Pi 3/3 LTS (H6)
- I Orange Pi Lite2/OnePlus (H6)
- J Orange Pi Zero2 (H616)
- K Orange Pi RK3399 (RK3399)
- L Orange Pi 4/B/LTS (RK3399)

# WiringOP

**XN) Set how many Active Buttons you need**

#### **A-AM) Set your Button Config for every Button**

- #### ■ Up to 8 Buttons

```
X X A // Button1 on PIN:8 [power-short-mod]
X X AE ***edit Button1 [Script]
X X AF **change [Action:power]
X X AP **change [WOP-PIN:8]
X X AM **change [MOD:short]
X X B // Button2 on PIN:9 [reset-short-mod]
X X BE ***edit Button2 [Script]
X X BF **change [Action:reset]
X X BP **change [WOP-PIN:9]
X X BM **change [MOD:short]
```

#### **AE) Edit the Button Script (Keyboard required)**

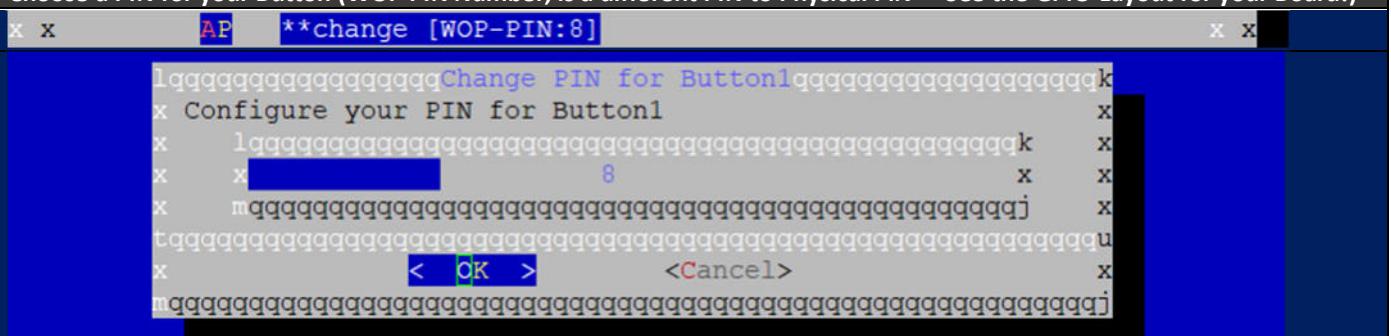
#### **AF) Change the „Button Action“**

### **Switch between many Actions scripts**

## WiringOP

### AP) Change the „Button PIN“

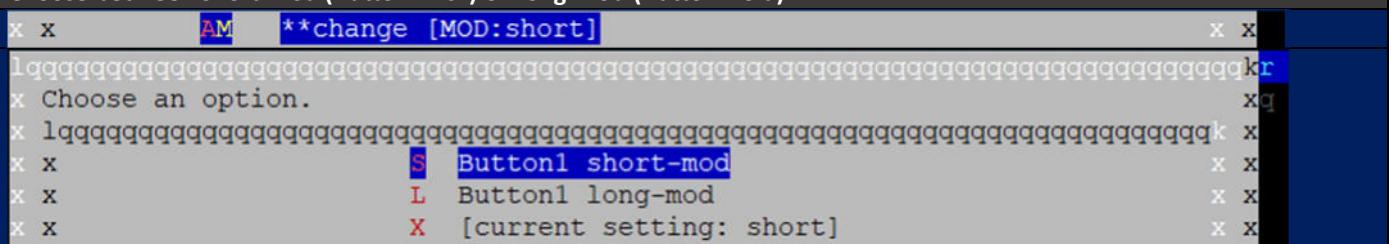
Choose a PIN for your Button (WOP PIN Number, is a different PIN to Physical PIN -> See the GPIO-Layout for your Board!)



## WiringOP

### AM) Change the „Button-MOD“

Choose between Short-Mod (Button-Klick) or Long-Mod (Button-Hold)



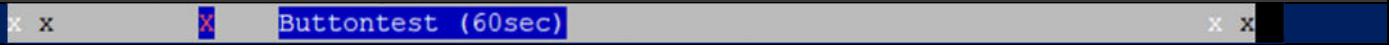
### XR) reconfig all Active Buttons

Recreate the new Configured Buttons with all your changes of Option AE-AM



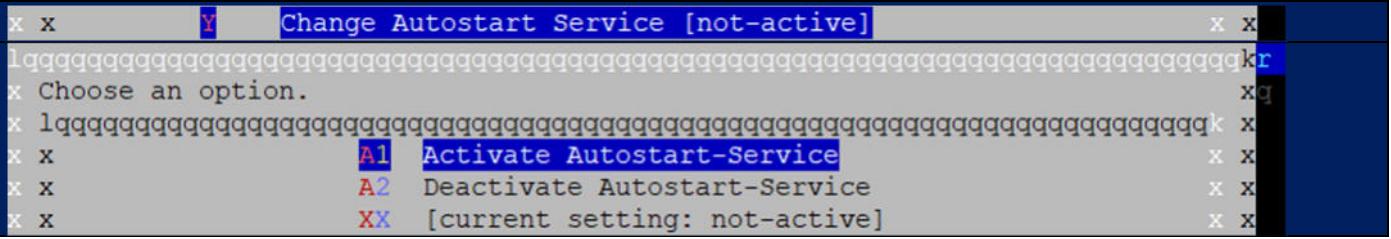
### X) Butontest

Start the Script to test the own configured Buttons



### Y) Autostart Service

Activate/Deactivate the configured Buttons on Autostart



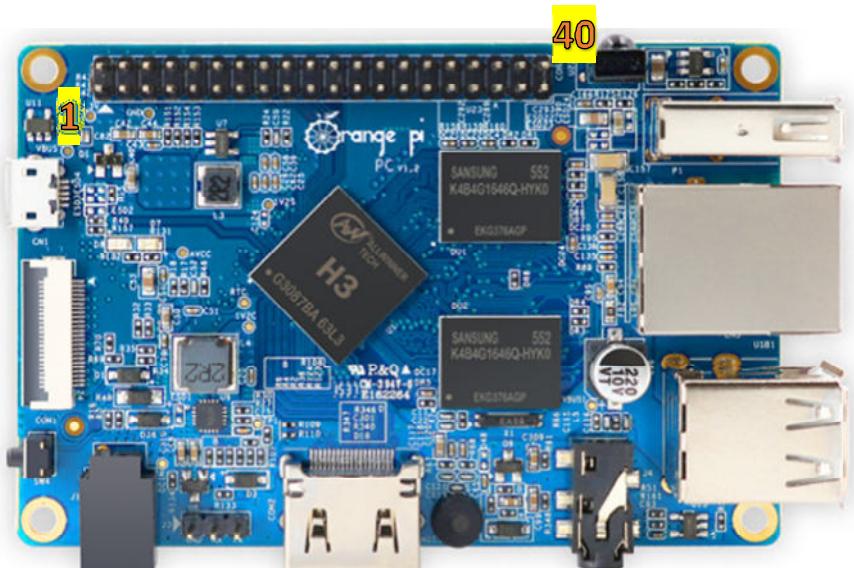
### ZZ) Reboot system

After configuration and Autostart settings restart the System and enjoy

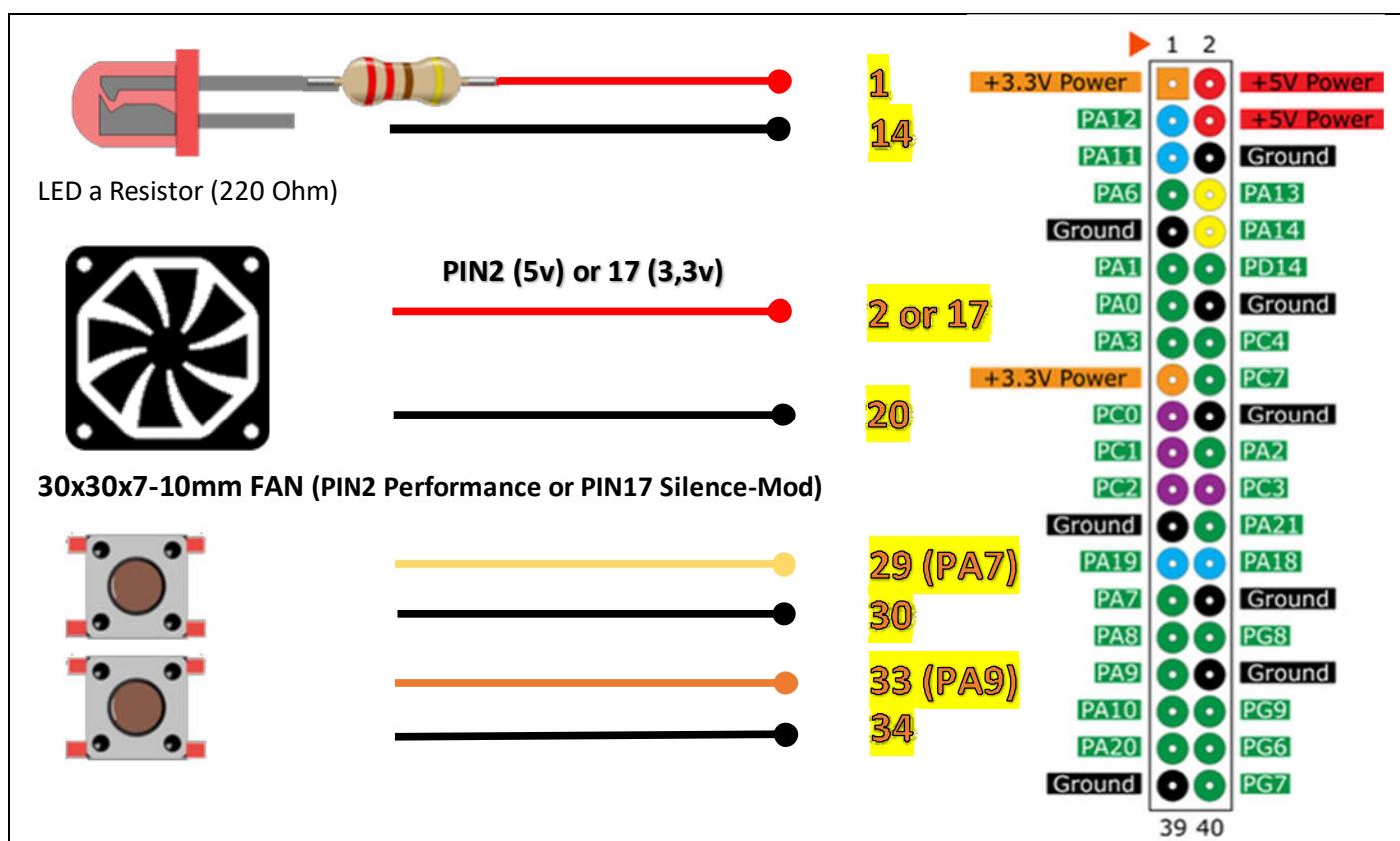


## GPIO – GUIDE (how use the GPIO-Pins)

- ❖ Use the right pattern for your SBC, you will find the right blueprints on the following pages



- ❖ Use the recommended predefined PINs for every Board Type for the right wiring (GPIO-Blueprint)

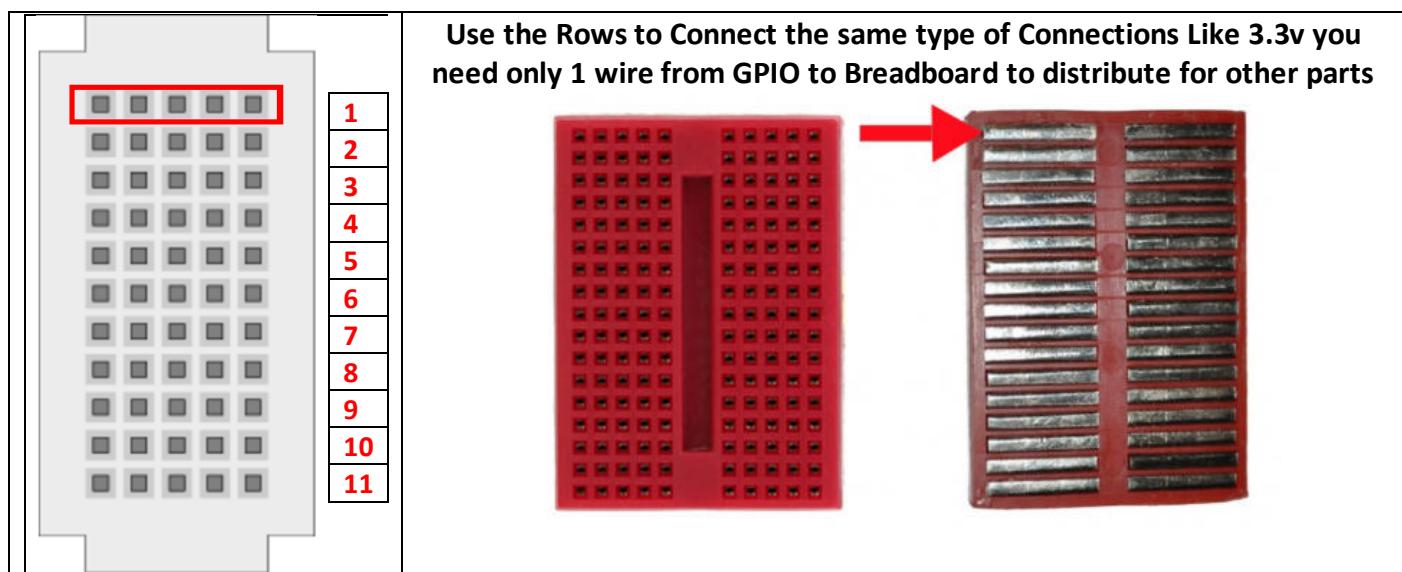


- ❖ Use the Conversion table to find the right PINs for use the GPIO-Pins with WiringOP in scripts

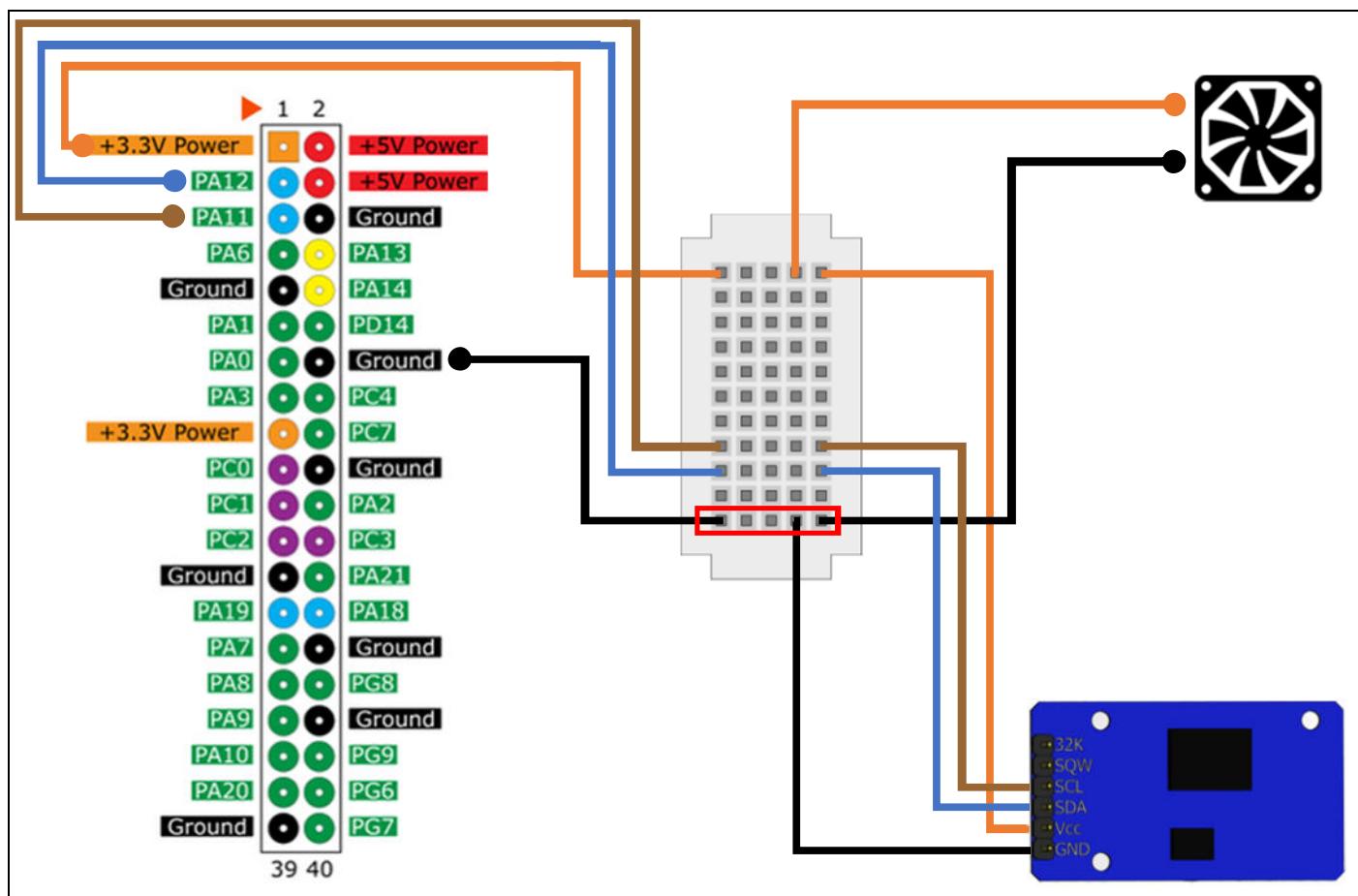
physical pins	3	5	7	8	10	11	12	13	15	16	18	19	21	22	23	24	26	27	28	29	31	32	33	35	36	37	38	40
wiringPi pins	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27

## BREADBOARD – GUIDE (how use the Breadboard in combination with GPIO)

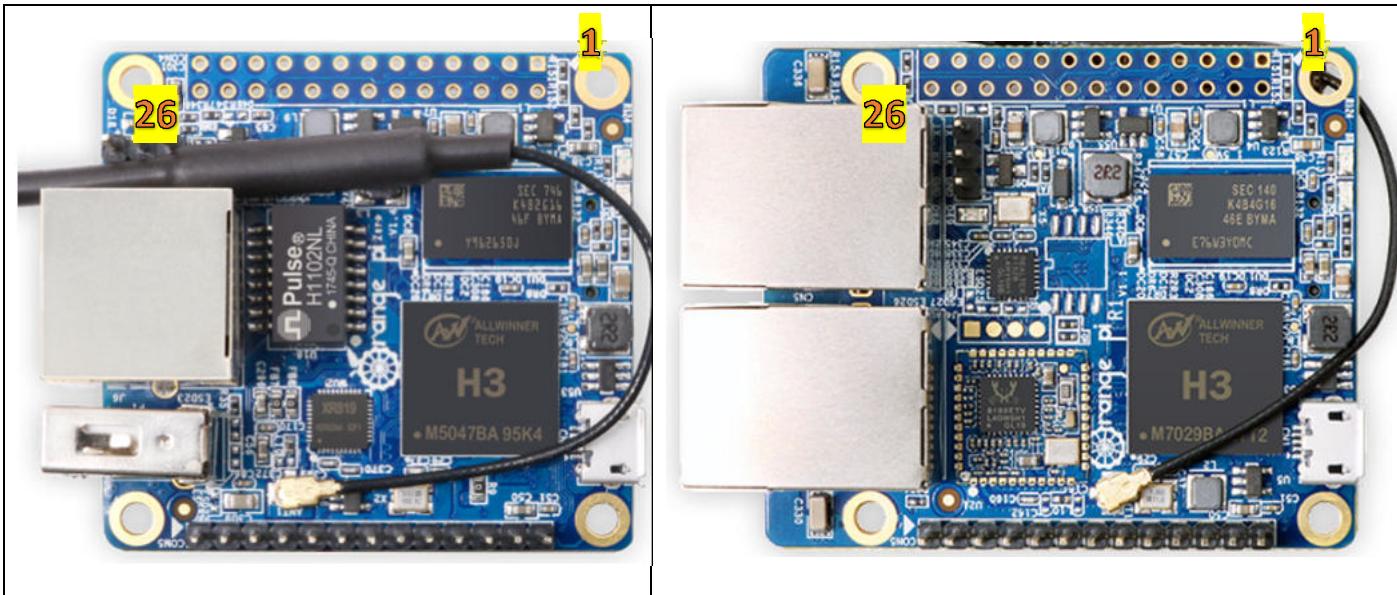
### ❖ Function of the Breadboard



### ❖ Template to demonstrate how it works the usage of breadboard



Improper use may damage the SBC or other Hardware, so imitate at your own risk



OPI H2											
GPIO	wPi	Name	Mode	V	Physical	V	Mode	Name	wPi	GPIO	
		3.3V			1    2			5V			
12	0	SDA.0	ALT2	0	3    4			5V			
11	1	SCL.0	ALT2	0	5    6			GND			
6	2	PWM.1	OFF	0	7    8	0	ALT2	TXD.1	3	198	
		GND			9    10	0	ALT2	RXD.1	4	199	
1	5	RXD.2	ALT2	0	11    12	0	OFF	PA07	6	7	
0	7	TXD.2	ALT2	0	13    14			GND			
3	8	CTS.2	OFF	0	15    16	0	ALT3	SDA.1	9	19	
		3.3V			17    18	0	ALT3	SCK.1	10	18	
15	11	MOSI.1	ALT2	1	19    20			GND			
16	12	MISO.1	ALT2	0	21    22	0	OFF	RTS.2	13	2	
14	14	SCLK.1	ALT2	0	23    24	0	ALT2	CE.1	15	13	
		GND			25    26	0	OFF	PA10	16	10	
OPI H2											
GPIO	wPi	Name	Mode	V	Physical	V	Mode	Name	wPi	GPIO	

Conversion-Table

physical pins	3	5	7	8	10	11	12	13	15	16	18	19	21	22	23	24	26
wiringPi pins	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

## Push-Button (Hard)

	Hard-Reset & Wakeup	Physical-PIN4	5V	Red-Wire	
		Physical-PIN6	Ground	Black-Wire	

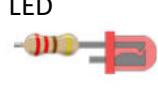
## Push-Button (Soft) - pre defined by WiringOP (microplay-hub Version)

	Safe-Shutdown	Physical-PIN12	PA07	Yellow-Wire	
		Physical-PIN9	Ground	Black or GreyWire	
	Safe-Rest	Physical-PIN26	PA10	Orange-Wire	
		Physical-PIN25	Ground	Black or GreyWire	

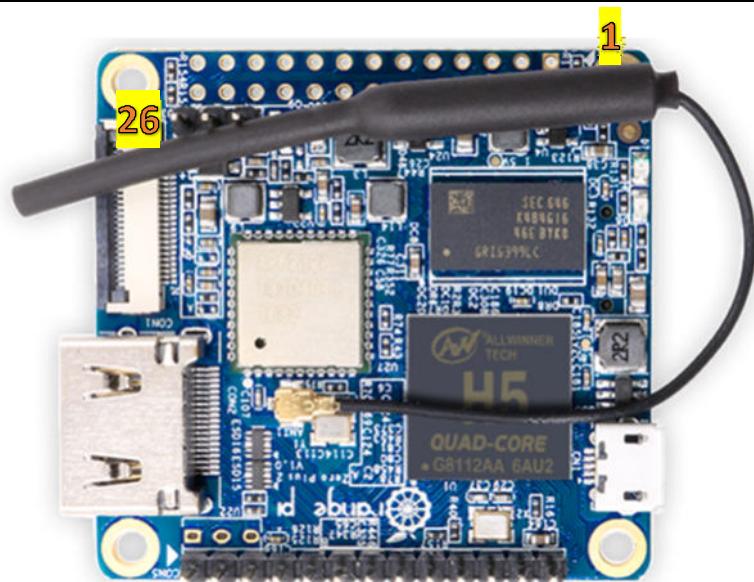
## FAN (Hard)

	FAN (Silence-Mod)	Physical-PIN17	3.3V	Red-Wire	
		Physical-PIN20	Ground	Black-Wire	
	FAN (Normal-Mod) Always On 5V!	Physical-PIN2	5V	Red-Wire	
		Physical-PIN20	Ground	Black-Wire	

LED (Hard) !need a 200-220Ohm Resistor! 

	LED (with Resistor)	Physical-PIN1	3.3V (R220Ohm)	Red-Wire	
		Physical-PIN14	Ground	Black-Wire	

\*cable color only recommendation



ZEROPLUS 2													
GPIO	wPi	Name	Mode	V	Physical	V	Mode	Name		wPi	GPIO		
		3.3V			1	2		5V					
12	0	SDA.0	ALT2	0	3	4		5V					
11	1	SCL.0	ALT2	0	5	6		GND					
6	2	PA6	OFF	0	7	8	0	ALT2	TXD.2	3	0		
		GND			9	10	0	ALT2	RXD.2	4	1		
352	5	S-SCL	ALT2	0	11	12	0	OFF	PD11	6	107		
353	7	S-SDA	ALT2	0	13	14		GND					
3	8	CTS.2	OFF	0	15	16	0	ALT3	SDA.1	9	19		
		3.3V			17	18	0	ALT3	SCL.1	10	18		
15	11	MOSI.1	ALT2	0	19	20		GND					
16	12	MISO.1	ALT2	0	21	22	0	OFF	RTS.2	13	2		
14	14	SCLK.1	ALT2	0	23	24	0	ALT2	CE.1	15	13		
		GND			25	26	0	OFF	PD14	16	110		

## Conversion-Table

physical pins	3	5	7	8	10	11	12	13	15	16	18	19	21	22	23	24	26
wiringPi pins	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

## Push-Button (Hard)

	Hard-Reset & Wakeup	Physical-PIN4	5V	Red-Wire	
		Physical-PIN6	Ground	Black-Wire	

## Push-Button (Soft) - pre defined by WiringOP (microplay-hub Version)

	Safe-Shutdown	Physical-PIN12	PA07	Yellow-Wire	
		Physical-PIN9	Ground	Black or GreyWire	
	Safe-Rest	Physical-PIN26	PA09	Orange-Wire	
		Physical-PIN25	Ground	Black or GreyWire	

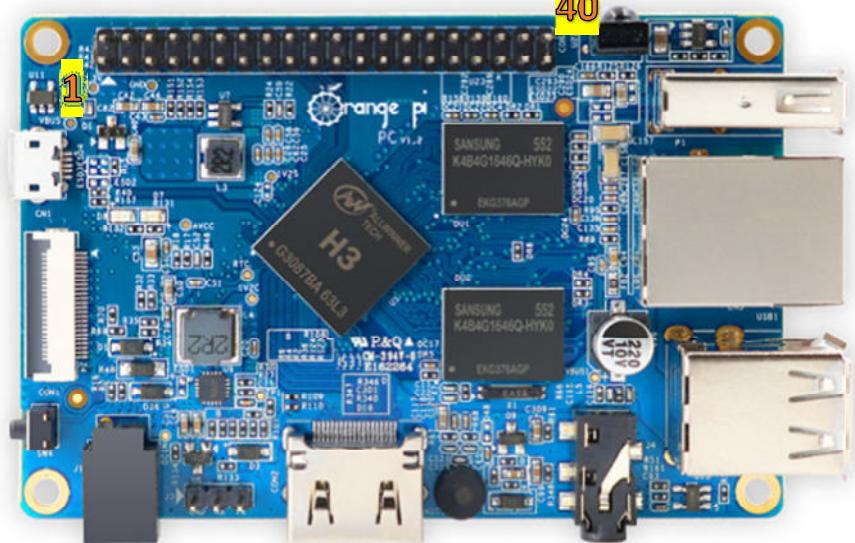
## FAN (Hard)

	FAN (Silence-Mod)	Physical-PIN17	3.3V	Red-Wire	
		Physical-PIN20	Ground	Black-Wire	
	FAN (Normal-Mod) Always On 5V!	Physical-PIN2	5V	Red-Wire	
		Physical-PIN20	Ground	Black-Wire	

LED (Hard) !need a 200-220Ohm Resistor! 

	LED (with Resistor)	Physical-PIN1	3.3V (R220Ohm)	Red-Wire	
		Physical-PIN14	Ground	Black-Wire	

\*cable color only recommendation



+-----+OrangePiH3+-----+													
GPIO	wPi	Name	Mode	V	Physical	V	Mode	Name		wPi	GPIO		
		3.3V			1	2		5V					
12	0	SDA.0	OUT	0	3	4		5V					
11	1	SCL.0	OUT	0	5	6		GND					
6	2	PA6	OUT	0	7	8	0	OUT	TXD.3	3	13		
		GND			9	10	0	OUT	RXD.3	4	14		
1	5	RXD.2	OUT	0	11	12	0	OUT	PD14	6	110		
0	7	TXD.2	OUT	0	13	14		GND					
3	8	CTS.2	OUT	0	15	16	0	OUT	PC04	9	68		
		3.3V			17	18	0	OUT	PC07	10	71		
64	11	MOSI.0	OUT	0	19	20		GND					
65	12	MISO.0	OUT	0	21	22	0	OUT	RTS.2	13	2		
66	14	SCLK.0	OUT	0	23	24	0	OUT	CE.0	15	67		
		GND			25	26	0	OUT	PA21	16	21		
19	17	SDA.1	OUT	0	27	28	0	OUT	SCL.1	18	18		
7	19	PA07	OUT	0	29	30		GND					
8	20	PA08	OUT	0	31	32	0	OUT	RTS.1	21	200		
9	22	PA09	OUT	0	33	34		GND					
10	23	PA10	OUT	0	35	36	0	OUT	CTS.1	24	201		
20	25	PA20	OUT	0	37	38	0	OUT	TXD.1	26	198		
		GND			39	40	0	OUT	RXD.1	27	199		

## Conversion-Table

Conversion Table																												
physical pins	3	5	7	8	10	11	12	13	15	16	18	19	21	22	23	24	26	27	28	29	31	32	33	35	36	37	38	40
wiringPi pins	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27

Push-Button (Hard)

Push-Button 	Hard-Reset & Wakeup	Physical-PIN4	5V	Red-Wire	
		Physical-PIN6	Ground	Black-Wire	

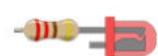
Push-Button (Soft) - pre defined by WiringOP (microplay-hub Version)

Push-Button 	Safe-Shutdown	Physical-PIN29	PA07	Yellow-Wire	
		Physical-PIN30	Ground	Black or GreyWire	
Push-Button 	Safe-Rest	Physical-PIN33	PA09	Orange-Wire	
		Physical-PIN34	Ground	Black or GreyWire	

FAN (Hard)

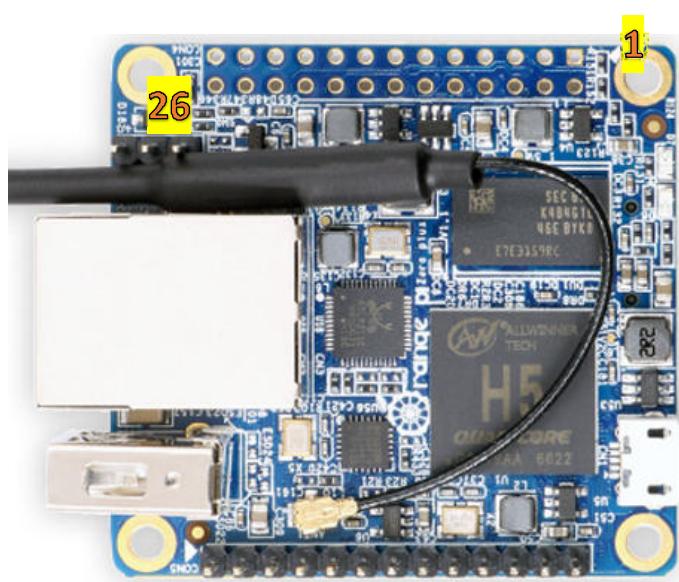
FAN 	FAN (Silence-Mod)	Physical-PIN17	3.3V	Red-Wire	
		Physical-PIN20	Ground	Black-Wire	
FAN 	FAN (Normal-Mod) Always On 5V!	Physical-PIN2	5V	Red-Wire	
		Physical-PIN20	Ground	Black-Wire	

LED (Hard) !need a 200-220Ohm Resistor!

LED 	LED (with Resistor)	Physical-PIN1	3.3V (R220Ohm)	Red-Wire	
		Physical-PIN14	Ground	Black-Wire	

\*cable color only recommendation

## Allwinner H5 (Orange Pi Zero Plus) [GPIO-Layout 1/2]



ZEROPLUS												
GPIO	wPi	Name	Mode	V	Physical	V	Mode	Name	wPi	GPIO		
		3.3V			1    2			5V				
12	0	SDA.0	ALT2	0	3    4			5V				
11	1	SCL.0	ALT2	0	5    6			GND				
6	2	PA6	OFF	0	7    8	0	ALT2	TXD.1	3	198		
		GND			9    10	0	ALT2	RXD.1	4	199		
1	5	RXD.2	ALT2	0	11    12	0	OFF	PA07	6	7		
0	7	TXD.2	ALT2	0	13    14			GND				
3	8	CTS.2	OFF	0	15    16	0	ALT3	SDA.1	9	19		
		3.3V			17    18	0	ALT3	SCL.1	10	18		
15	11	MOSI.1	ALT2	0	19    20			GND				
16	12	MISO.1	ALT2	0	21    22	0	OFF	RTS.2	13	2		
14	14	SCLK.1	ALT2	0	23    24	0	ALT2	CE.1	15	13		
		GND			25    26	0	OFF	PA10	16	10		

GPIO	wPi	Name	Mode	V	Physical	V	Mode	Name	wPi	GPIO
ZEROPLUS										

Conversion-Table

physical pins	3	5	7	8	10	11	12	13	15	16	18	19	21	22	23	24	26
wiringPi pins	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

## Allwinner H5 (Orange Pi Zero Plus) [GPIO-Blueprint 2/2]

### Push-Button (Hard)

Push-Button 	Hard-Reset & Wakeup	Physical-PIN4	5V	Red-Wire	
		Physical-PIN6	Ground	Black-Wire	

### Push-Button (Soft) - pre defined by WiringOP (microplay-hub Version)

Push-Button 	Safe-Shutdown	Physical-PIN12	PA07	Yellow-Wire	
		Physical-PIN9	Ground	Black or GreyWire	
Push-Button 	Safe-Rest	Physical-PIN26	PA10	Orange-Wire	
		Physical-PIN25	Ground	Black or GreyWire	

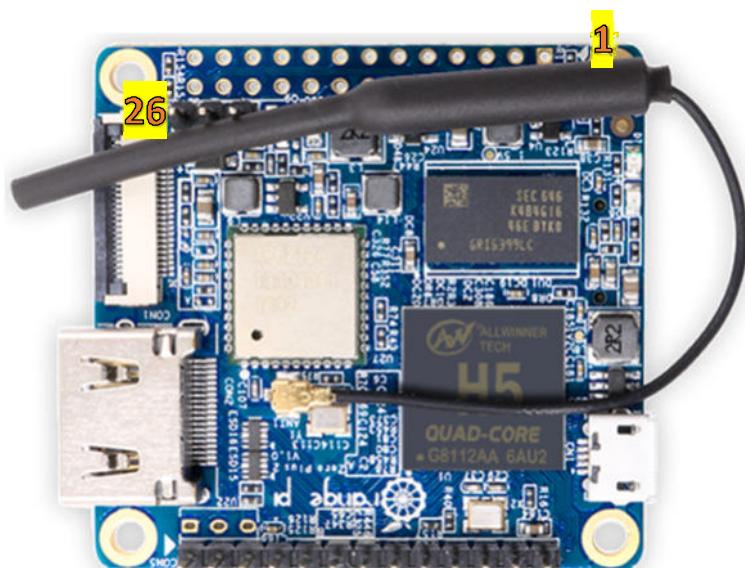
### FAN (Hard)

FAN 	FAN (Silence-Mod)	Physical-PIN17	3.3V	Red-Wire	
		Physical-PIN20	Ground	Black-Wire	
FAN 	FAN (Normal-Mod) Always On 5V!	Physical-PIN2	5V	Red-Wire	
		Physical-PIN20	Ground	Black-Wire	

### LED (Hard) !need a 200-220Ohm Resistor!

LED 	LED (with Resistor)	Physical-PIN1	3.3V (R220Ohm)	Red-Wire	
		Physical-PIN14	Ground	Black-Wire	

\*cable color only recommendation



ZEROPLUS 2												
GPIO	wPi	Name	Mode	V	Physical	V	Mode	Name	wPi	GPIO		
		3.3V			1	2		5V				
12	0	SDA.0	ALT2	0	3	4		5V				
11	1	SCL.0	ALT2	0	5	6		GND				
6	2	PA6	OFF	0	7	8	0	ALT2	TXD.2	3	0	
		GND			9	10	0	ALT2	RXD.2	4	1	
352	5	S-SCL	ALT2	0	11	12	0	OFF	PD11	6	107	
353	7	S-SDA	ALT2	0	13	14			GND			
3	8	CTS.2	OFF	0	15	16	0	ALT3	SDA.1	9	19	
		3.3V			17	18	0	ALT3	SCL.1	10	18	
15	11	MOSI.1	ALT2	0	19	20			GND			
16	12	MISO.1	ALT2	0	21	22	0	OFF	RTS.2	13	2	
14	14	SCLK.1	ALT2	0	23	24	0	ALT2	CE.1	15	13	
		GND			25	26	0	OFF	PD14	16	110	

GPIO	wPi	Name	Mode	V	Physical	V	Mode	Name	wPi	GPIO
ZEROPLUS 2										

Conversion-Table

physical pins	3	5	7	8	10	11	12	13	15	16	18	19	21	22	23	24	26
wiringPi pins	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

## Push-Button (Hard)

	Hard-Reset & Wakeup	Physical-PIN4	5V	Red-Wire	
		Physical-PIN6	Ground	Black-Wire	

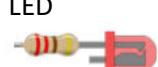
## Push-Button (Soft) - pre defined by WiringOP (microplay-hub Version)

	Safe-Shutdown	Physical-PIN12	PD11	Yellow-Wire	
		Physical-PIN9	Ground	Black or GreyWire	
	Safe-Rest	Physical-PIN26	PD14	Orange-Wire	
		Physical-PIN25	Ground	Black or GreyWire	

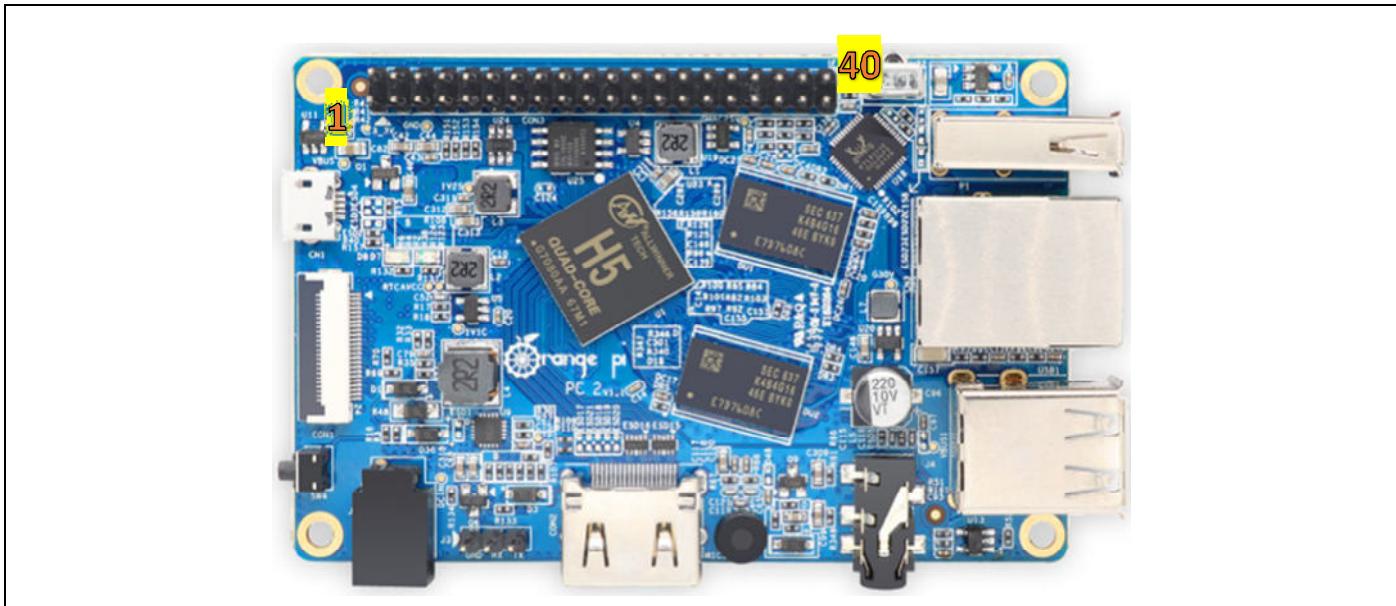
## FAN (Hard)

	FAN (Silence-Mod)	Physical-PIN17	3.3V	Red-Wire	
		Physical-PIN20	Ground	Black-Wire	
	FAN (Normal-Mod) Always On 5V!	Physical-PIN2	5V	Red-Wire	
		Physical-PIN20	Ground	Black-Wire	

LED (Hard) !need a 200-220Ohm Resistor! 

	LED (with Resistor)	Physical-PIN1	3.3V (R220Ohm)	Red-Wire	
		Physical-PIN14	Ground	Black-Wire	

\*cable color only recommendation



OPI PC2											
GPIO	wPi	Name	Mode	V	Physical	V	Mode	Name	wPi	GPIO	
		3.3V			1    2			5V			
12	0	SDA.0	ALT2	0	3    4			5V			
11	1	SCL.0	ALT2	0	5    6			GND			
6	2	PWM.1	OFF	0	7    8	0	OFF	PC05	3	69	
		GND			9    10	0	OFF	PC06	4	70	
1	5	RXD.2	ALT2	0	11    12	0	OFF	PD14	6	110	
0	7	TXD.2	ALT2	0	13    14			GND			
3	8	CTS.2	ALT2	0	15    16	0	OFF	PC04	9	68	
		3.3V			17    18	0	OFF	PC07	10	71	
15	11	MOSI.1	ALT2	0	19    20			GND			
16	12	MISO.1	ALT2	0	21    22	0	ALT2	RTS.2	13	2	
14	14	SCLK.1	ALT2	0	23    24	0	ALT2	CE.1	15	13	
		GND			25    26	0	OFF	PA21	16	21	
19	17	SDA.1	ALT3	0	27    28	0	ALT3	SCL.1	18	18	
7	19	PA07	OFF	0	29    30			GND			
8	20	PA08	OFF	0	31    32	0	ALT2	RTS.1	21	200	
9	22	PA09	OFF	0	33    34			GND			
10	23	PA10	OFF	0	35    36	0	ALT2	CTS.1	24	201	
107	25	PD11	OFF	0	37    38	0	ALT2	TXD.1	26	198	
		GND			39    40	0	ALT2	RXD.1	27	199	
OPI PC2											
GPIO	wPi	Name	Mode	V	Physical	V	Mode	Name	wPi	GPIO	

## Conversion-Table

physical pins	3	5	7	8	1 0	1 1	1 2	1 3	1 5	1 6	1 8	1 9	2 1	2 2	2 3	2 4	2 6	2 7	2 8	2 9	3 1	3 2	3 3	3 4	3 5	3 6	3 7	3 8	4 0
wiringPi pins	0	1	2	3	4	5	6	7	8	9	1 0	1 1	1 2	1 3	1 4	1 5	1 6	1 7	1 8	1 9	2 0	2 1	2 2	2 3	2 4	2 5	2 6	2 7	2 8

## Push-Button (Hard)

	Hard-Reset & Wakeup	Physical-PIN4	5V	Red-Wire	
		Physical-PIN6	Ground	Black-Wire	

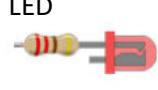
## Push-Button (Soft) - pre defined by WiringOP (microplay-hub Version)

	Safe-Shutdown	Physical-PIN29	PA07	Yellow-Wire	
		Physical-PIN30	Ground	Black or GreyWire	
	Safe-Rest	Physical-PIN33	PA09	Orange-Wire	
		Physical-PIN34	Ground	Black or GreyWire	

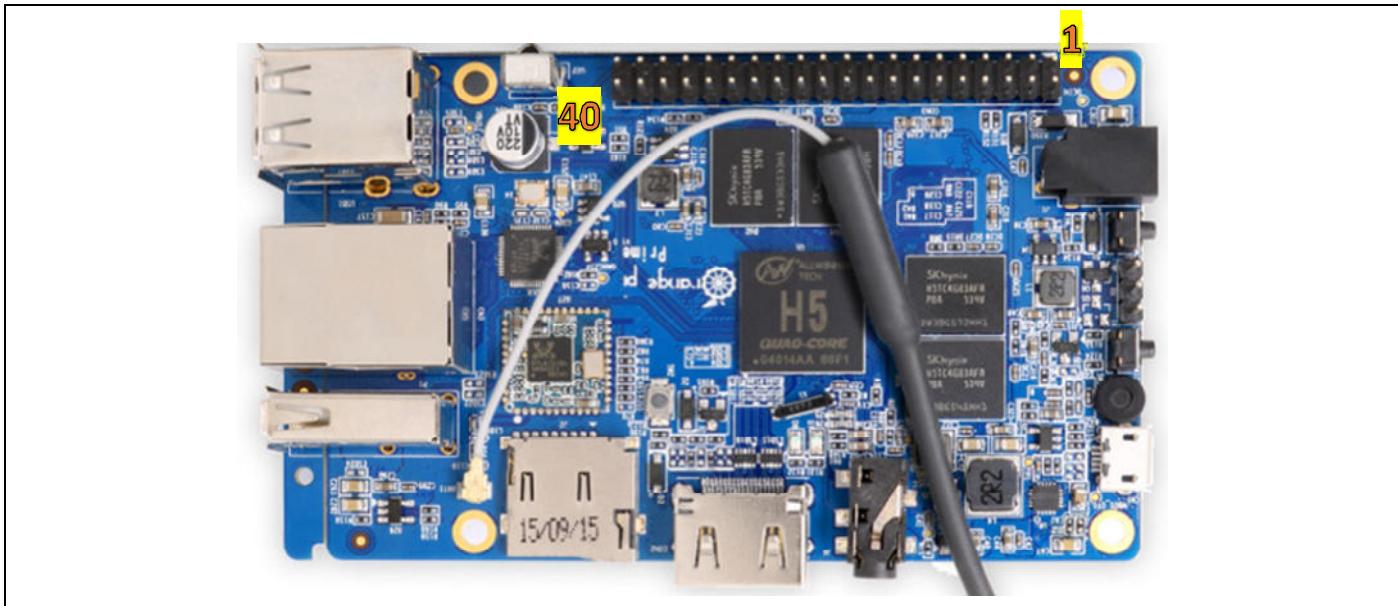
## FAN (Hard)

	FAN (Silence-Mod)	Physical-PIN17	3.3V	Red-Wire	
		Physical-PIN20	Ground	Black-Wire	
	FAN (Normal-Mod) Always On 5V!	Physical-PIN2	5V	Red-Wire	
		Physical-PIN20	Ground	Black-Wire	

LED (Hard) !need a 200-220Ohm Resistor! 

	LED (with Resistor)	Physical-PIN1	3.3V (R220Ohm)	Red-Wire	
		Physical-PIN14	Ground	Black-Wire	

\*cable color only recommendation



PRIME											
GPIO	wPi	Name	Mode	V	Physical	V	Mode	Name	wPi	GPIO	
		3.3V			1    2			5V			
12	0	SDA.0	ALT2	0	3    4			5V			
11	1	SCL.0	ALT2	0	5    6			GND			
6	2	PWM.1	OFF	0	7    8	0	OFF	PC05	3	69	
		GND			9    10	0	OFF	PC06	4	70	
1	5	RXD.2	ALT2	0	11    12	0	OFF	PD14	6	110	
0	7	TXD.2	ALT2	0	13    14			GND			
3	8	CTS.2	ALT2	0	15    16	0	OFF	PC04	9	68	
		3.3V			17    18	0	OFF	PC07	10	71	
15	11	MOSI.1	ALT2	0	19    20			GND			
16	12	MISO.1	ALT2	0	21    22	0	ALT2	RTS.2	13	2	
14	14	SCLK.1	ALT2	0	23    24	0	ALT2	CE.1	15	13	
		GND			25    26	0	OFF	PC08	16	72	
19	17	SDA.1	ALT3	0	27    28	0	ALT3	SCL.1	18	18	
7	19	PA07	OFF	0	29    30			GND			
8	20	PA08	OFF	0	31    32	0	OFF	PC09	21	73	
9	22	PA09	OFF	0	33    34			GND			
10	23	PA10	OFF	0	35    36	0	OFF	PC10	24	74	
107	25	PD11	OFF	0	37    38	0	OFF	PC11	26	75	
		GND			39    40	0	OFF	PC12	27	76	

GPIO	wPi	Name	Mode	V	Physical	V	Mode	Name	wPi	GPIO
PRIME										

## Conversion-Table

physical pins	3	5	7	8	10	11	12	13	15	16	18	19	11	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40							
wiringPi pins	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

## Push-Button (Hard)

	Hard-Reset & Wakeup	Physical-PIN4	5V	Red-Wire	
		Physical-PIN6	Ground	Black-Wire	

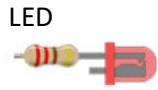
## Push-Button (Soft) - pre defined by WiringOP (microplay-hub Version)

	Safe-Shutdown	Physical-PIN29	PA07	Yellow-Wire	
		Physical-PIN30	Ground	Black or GreyWire	
	Safe-Rest	Physical-PIN33	PA09	Orange-Wire	
		Physical-PIN34	Ground	Black or GreyWire	

## FAN (Hard)

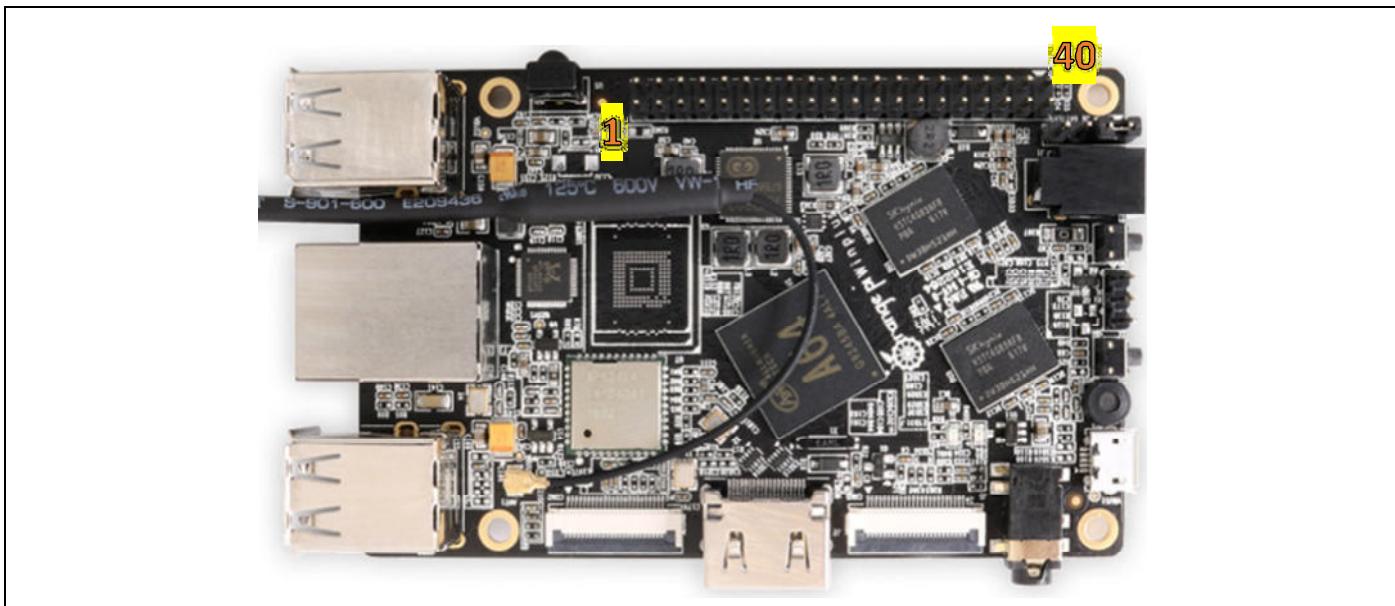
	FAN (Silence-Mod)	Physical-PIN17	3.3V	Red-Wire	
		Physical-PIN20	Ground	Black-Wire	
	FAN (Normal-Mod) Always On 5V!	Physical-PIN2	5V	Red-Wire	
		Physical-PIN20	Ground	Black-Wire	

LED (Hard) !need a 200-220Ohm Resistor! 

	LED (with Resistor)	Physical-PIN1	3.3V (R220Ohm)	Red-Wire	
		Physical-PIN14	Ground	Black-Wire	

\*cable color only recommendation

## Allwinner A64 (Orange Pi Win/Winplus) [GPIO-Layout 1/2]



OPi Win											
GPIO	wPi	Name	Mode	V	Physical	V	Mode	Name	wPi	GPIO	
		3.3V			1	2		5V			
227	0	SDA.1	ALT2	0	3	4		5V			
226	1	SCL.1	ALT2	0	5	6		GND			
362	2	PL10	OFF	0	7	8	0	ALT2	PL02	3	
		GND			9	10	0	ALT2	PL03	4	
229	5	RXD.3	ALT2	0	11	12	0	OFF	PD04	6	
228	7	TXD.3	ALT2	0	13	14		GND			
231	8	CTS.3	OUT	0	15	16	0	OFF	PL09	9	
		3.3V			17	18	0	OFF	PC04	10	
98	11	MOSI.1	ALT4	0	19	20		GND			
99	12	MISO.1	ALT4	0	21	22	0	OFF	RTS.3	13	
97	14	SCLK.1	ALT4	0	23	24	0	ALT4	CE.1	15	
		GND			25	26	0	OFF	PD06	16	
143	17	SDA.2	ALT3	0	27	28	0	ALT3	SCL.2	18	
36	19	PB04	OFF	0	29	30		GND			
37	20	PB05	OFF	0	31	32	0	ALT2	RTS.2	21	
38	22	PB06	OFF	0	33	34		GND			
39	23	PB07	OFF	0	35	36	0	ALT2	CTS.2	24	
101	25	PD05	OFF	0	37	38	0	ALT2	TXD.2	26	
		GND			39	40	0	ALT2	RXD.2	27	

Conversion-Table

physical pins	3	5	7	8	10	11	12	13	15	16	18	19	11	21	22	23	24	26	27	28	29	31	32	33	35	36	37	38	40	
wiringPi pins	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29

## Allwinner A64 (Orange Pi Win/Winplus) [GPIO-Blueprint 2/2]

### Push-Button (Hard)

Push-Button 	Hard-Reset & Wakeup	Physical-PIN4	5V	Red-Wire	
		Physical-PIN6	Ground	Black-Wire	

### Push-Button (Soft) - pre defined by WiringOP (microplay-hub Version)

Push-Button 	Safe-Shutdown	Physical-PIN29	PB05	Yellow-Wire	
		Physical-PIN30	Ground	Black or GreyWire	
Push-Button 	Safe-Rest	Physical-PIN33	PB06	Orange-Wire	
		Physical-PIN34	Ground	Black or GreyWire	

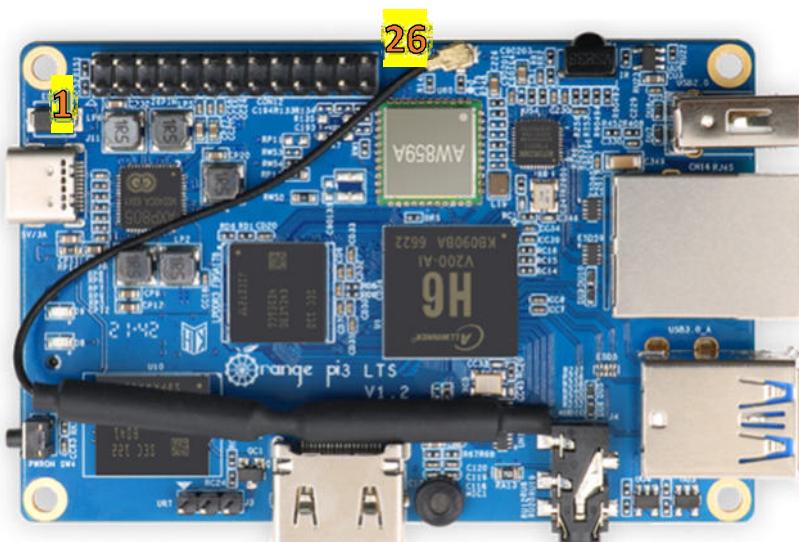
### FAN (Hard)

FAN 	FAN (Silence-Mod)	Physical-PIN17	3.3V	Red-Wire	
		Physical-PIN20	Ground	Black-Wire	
FAN 	FAN (Normal-Mod) Always On 5V!	Physical-PIN2	5V	Red-Wire	
		Physical-PIN20	Ground	Black-Wire	

### LED (Hard) !need a 200-220Ohm Resistor!

LED 	LED (with Resistor)	Physical-PIN1	3.3V (R220Ohm)	Red-Wire	
		Physical-PIN25	Ground	Black-Wire	

\*cable color only recommendation



OPi 3											
GPIO	wPi	Name	Mode	V	Physical	V	Mode	Name	wPi	GPIO	
		3.3V			1    2			5V			
122	0	SDA.0	OFF	0	3    4			5V			
121	1	SCL.0	OFF	0	5    6			GND			
118	2	PWM.0	OFF	0	7    8	0	OFF	PL02	3	354	
		GND			9    10	0	OFF	PL03	4	355	
120	5	RXD.3	ALT4	0	11    12	0	OFF	PD18	6	114	
119	7	TXD.3	ALT4	0	13    14			GND			
362	8	PL10	OFF	0	15    16	0	OFF	PD15	9	111	
		3.3V			17    18	0	OFF	PD16	10	112	
229	11	MOSI.1	ALT2	0	19    20			GND			
230	12	MISO.1	ALT2	0	21    22	0	OFF	PD21	13	117	
228	14	SCLK.1	ALT2	0	23    24	0	ALT2	CE.1	15	227	
		GND			25    26	0	OFF	PL08	16	360	
OPi 3											
GPIO	wPi	Name	Mode	V	Physical	V	Mode	Name	wPi	GPIO	

Conversion-Table

physical pins	3	5	7	8	10	11	12	13	15	16	18	19	21	22	23	24	26
wiringPi pins	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Push-Button (Hard)

Push-Button 	Hard-Reset & Wakeup	Physical-PIN4	5V	Red-Wire	
		Physical-PIN6	Ground	Black-Wire	

Push-Button (Soft) - pre defined by WiringOP (microplay-hub Version)

Push-Button 	Safe-Shutdown	Physical-PIN8	PL02	Yellow-Wire	
		Physical-PIN9	Ground	Black or GreyWire	
Push-Button 	Safe-Rest	Physical-PIN10	PL03	Orange-Wire	
		Physical-PIN14	Ground	Black or GreyWire	

FAN (Hard)

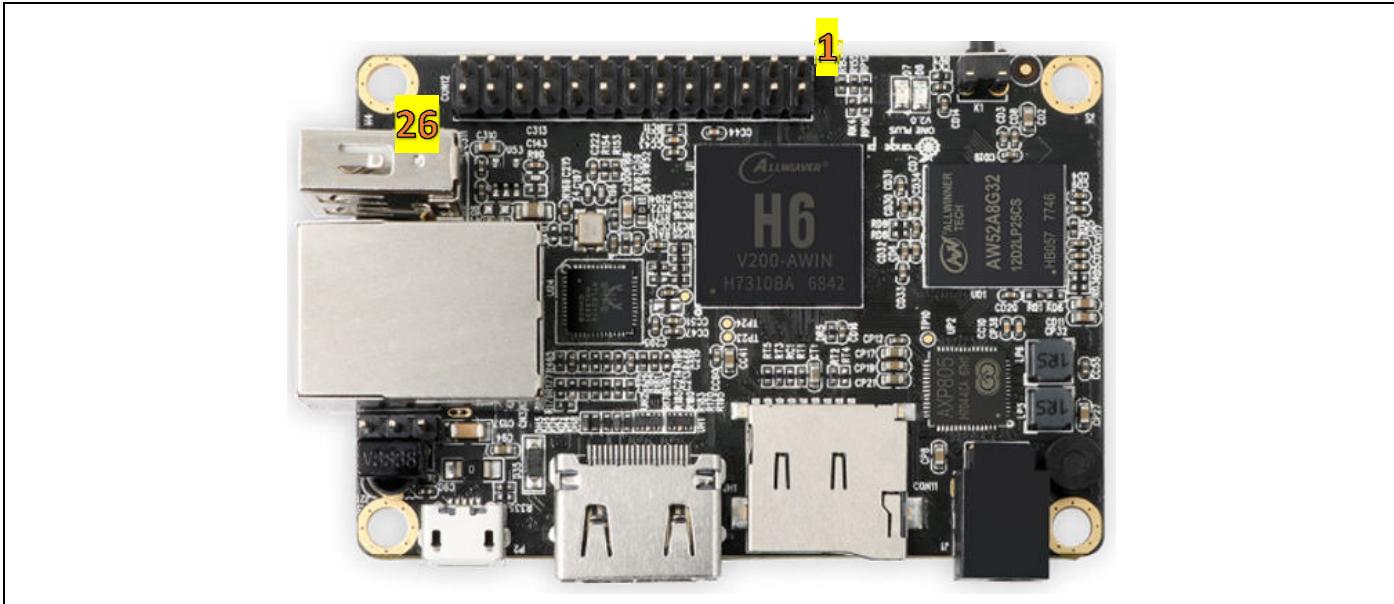
FAN 	FAN (Silence-Mod)	Physical-PIN17	3.3V	Red-Wire	
		Physical-PIN20	Ground	Black-Wire	
FAN 	FAN (Normal-Mod) Always On 5V!	Physical-PIN2	5V	Red-Wire	
		Physical-PIN20	Ground	Black-Wire	

LED (Hard) !need a 200-220Ohm Resistor! 

LED 	LED (with Resistor)	Physical-PIN1	3.3V (R220Ohm)	Red-Wire	
		Physical-PIN25	Ground	Black-Wire	

\*cable color only recommendation

## Allwinner H6 (Orange Pi Lite2/OnePlus) [GPIO-Layout 1/2]



Opi H6											
GPIO	wPi	Name	Mode	V	Physical	V	Mode	Name	wPi	GPIO	
		3.3V			1    2			5V			
230	0	SDA.1	OFF	0	3    4			5V			
229	1	SCL.1	OFF	0	5    6			GND			
228	2	PWM1	OFF	0	7    8	0	OFF	PD21	3	117	
		GND			9    10	0	OFF	PD22	4	118	
120	5	RXD.3	ALT4	0	11    12	0	OFF	PC09	6	73	
119	7	TXD.3	ALT4	0	13    14			GND			
122	8	CTS.3	OFF	0	15    16	0	OFF	PC08	9	72	
		3.3V			17    18	0	OFF	PC07	10	71	
66	11	MOSI.0	ALT4	0	19    20			GND			
67	12	MISO.0	ALT4	0	21    22	0	OFF	RTS.3	13	121	
64	14	SCLK.0	ALT4	0	23    24	0	ALT4	CE.0	15	69	
		GND			25    26	0	OFF	PH03	16	227	
Opi H6											
GPIO	wPi	Name	Mode	V	Physical	V	Mode	Name	wPi	GPIO	

Conversion-Table

physical pins	3	5	7	8	10	11	12	13	15	16	18	19	21	22	23	24	26
wiringPi pins	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

## Allwinner H6 (Orange Pi Lite2/OnePlus) [GPIO-Blueprint 2/2]

### Push-Button (Hard)

Push-Button 	Hard-Reset & Wakeup	Physical-PIN4	5V	Red-Wire	
		Physical-PIN6	Ground	Black-Wire	

### Push-Button (Soft) - pre defined by WiringOP (microplay-hub Version)

Push-Button 	Safe-Shutdown	Physical-PIN8	PD21	Yellow-Wire	
		Physical-PIN9	Ground	Black or GreyWire	
Push-Button 	Safe-Rest	Physical-PIN10	PD22	Orange-Wire	
		Physical-PIN14	Ground	Black or GreyWire	

### FAN (Hard)

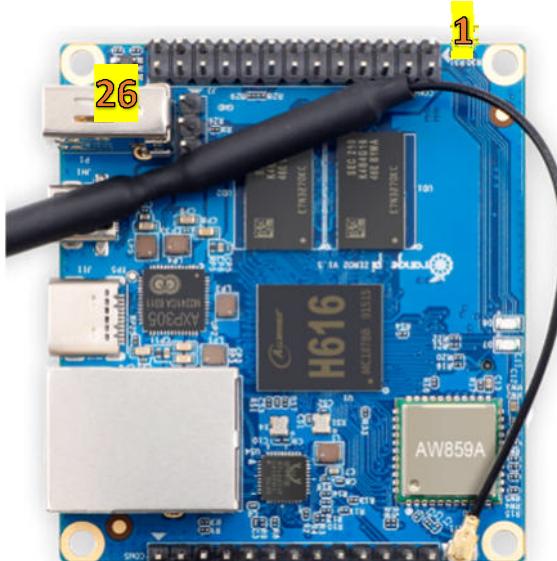
FAN 	FAN (Silence-Mod)	Physical-PIN17	3.3V	Red-Wire	
		Physical-PIN20	Ground	Black-Wire	
FAN 	FAN (Normal-Mod) Always On 5V!	Physical-PIN2	5V	Red-Wire	
		Physical-PIN20	Ground	Black-Wire	

### LED (Hard) !need a 200-220Ohm Resistor!

LED 	LED (with Resistor)	Physical-PIN1	3.3V (R220Ohm)	Red-Wire	
		Physical-PIN25	Ground	Black-Wire	

\*cable color only recommendation

## Allwinner H616 (Orange Pi Zero2/Zero2 LTS/Zero2 B) [GPIO-Layout 1/2]



Zero 2											
GPIO	wPi	Name	Mode	V	Physical	V	Mode	Name	wPi	GPIO	
		3.3V			1    2			5V			
229	0	SDA.3	OFF	0	3    4			5V			
228	1	SCL.3	OFF	0	5    6			GND			
73	2	PC9	OFF	0	7    8	0	ALT2	TXD.5	3	226	
		GND			9    10	0	ALT2	RXD.5	4	227	
70	5	PC6	ALT5	0	11    12	0	OFF	PC11	6	75	
69	7	PC5	ALT5	0	13    14			GND			
72	8	PC8	OFF	0	15    16	0	OFF	PC15	9	79	
		3.3V			17    18	0	OFF	PC14	10	78	
231	11	MOSI.1	ALT4	0	19    20			GND			
232	12	MISO.1	ALT4	0	21    22	0	OFF	PC7	13	71	
230	14	SCLK.1	ALT4	0	23    24	0	ALT4	CE.1	15	233	
		GND			25    26	0	OFF	PC10	16	74	
65	17	PC1	OFF	0	27    28						
272	18	PI16	OFF	0	29    30						
262	19	PI6	OFF	0	31    32						
234	20	PH10	ALT3	0	33    34						
Zero 2											
GPIO	wPi	Name	Mode	V	Physical	V	Mode	Name	wPi	GPIO	

Conversion-Table

physical pins	3	5	7	8	10	11	12	13	15	16	18	19	21	22	23	24	26	27	29	31	33
wiringPi pins	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

## Allwinner H616 (Orange Pi Zero2/Zero2 LTS/Zero2 B) [GPIO-Blueprint 2/2]

### Push-Button (Hard)

Push-Button 	Hard-Reset & Wakeup	Physical-PIN4	5V	Red-Wire	
		Physical-PIN6	Ground	Black-Wire	

### Push-Button (Soft) - pre defined by WiringOP (microplay-hub Version)

Push-Button 	Safe-Shutdown	Physical-PIN15	PC8	Yellow-Wire	
		Physical-PIN14	Ground	Black or GreyWire	
Push-Button 	Safe-Rest	Physical-PIN16	PC15	Orange-Wire	
		Physical-PIN20	Ground	Black or GreyWire	

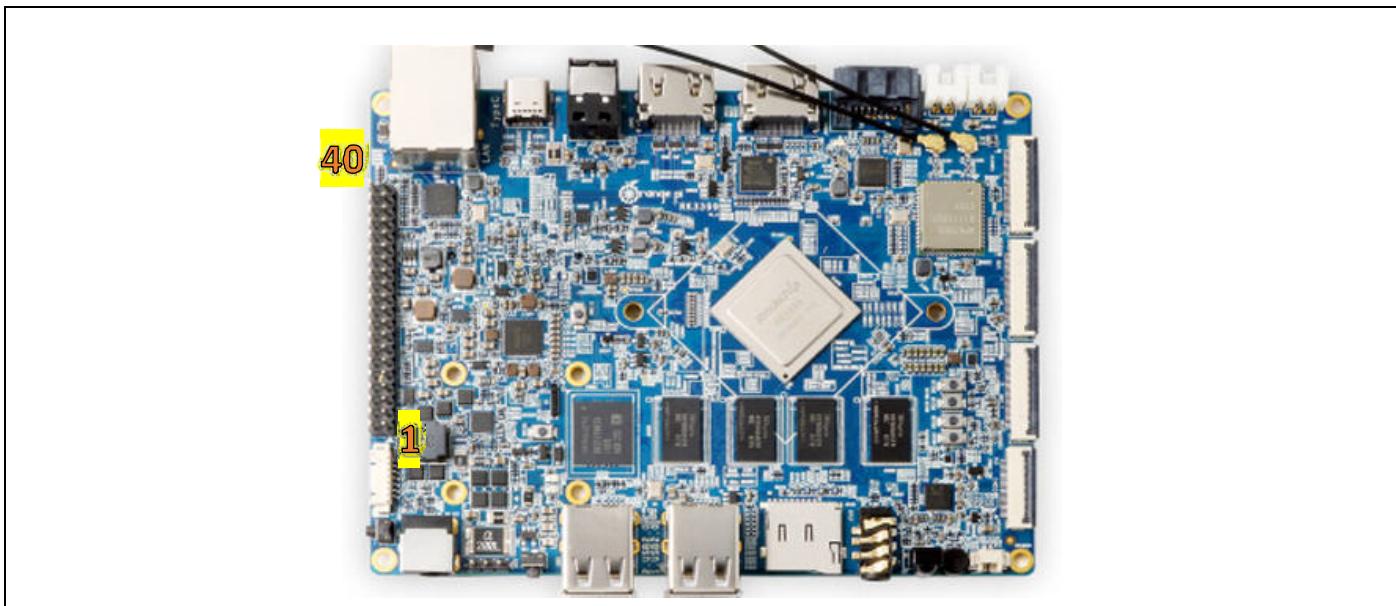
### FAN (Hard)

FAN 	FAN (Silence-Mod)	Physical-PIN17	3.3V	Red-Wire	
		Physical-PIN25	Ground	Black-Wire	
FAN 	FAN (Normal-Mod) Always On 5V!	Physical-PIN2	5V	Red-Wire	
		Physical-PIN25	Ground	Black-Wire	

### LED (Hard) !need a 200-220Ohm Resistor!

LED 	LED (with Resistor)	Physical-PIN1	3.3V (R220Ohm)	Red-Wire	
		Physical-PIN9	Ground	Black-Wire	

\*cable color only recommendation



OPi RK3399												
GPIO	wPi	Name	Mode	V	Physical	V	Mode	Name	wPi	GPIO		
		3.3V			1    2			5V				
43	0	SDA.0	ALT2	1	3    4			5V				
44	1	SCL.0	ALT2	1	5    6			GND				
64	2	GPIO4	ALT3	0	7    8	0	ALT2	Tx	3	148		
		GND			9    10	1	ALT2	Rx	4	147		
80	5	GPIO17	ALT2	0	11    12	0	ALT3	GPIO18	6	65		
81	7	GPIO27	ALT2	0	13    14			GND				
82	8	GPIO22	ALT2	0	15    16	0	IN	GPIO23	9	66		
		3.3V			17    18	0	IN	GPIO24	10	67		
39	11	MOSI	ALT2	1	19    20			GND				
40	12	MISO	ALT2	1	21    22	0	ALT2	GPIO25	13	83		
41	14	SCLK	ALT3	1	23    24	1	ALT3	CS0	15	42		
		GND			25    26	0	ALT2	CS1	16	133		
154	17	DNP1	IN	0	27    28	1	IN	DNP2	18	50		
68	19	GPIO5	OUT	1	29    30			GND				
69	20	GPIO6	OUT	1	31    32	1	OUT	GPIO12	21	76		
70	22	GPIO13	OUT	1	33    34			GND				
71	23	GPIO19	OUT	1	35    36	1	OUT	GPIO16	24	73		
72	25	GPIO26	OUT	1	37    38	0	IN	GPIO20	26	74		
		GND			39    40	0	ALT4	GPIO21	27	75		

Conversion-Table

physical pins	3	5	7	8	10	11	12	13	15	16	18	19	21	22	23	24	26	27	28	29	31	32	33	35	36	37	38	40
wiringPi pins	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27

## Push-Button (Hard)

	Hard-Reset & Wakeup	Physical-PIN4	5V	Red-Wire	
		Physical-PIN6	Ground	Black-Wire	

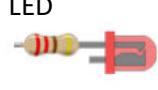
## Push-Button (Soft) - pre defined by WiringOP (microplay-hub Version)

	Safe-Shutdown	Physical-PIN16	GPIO23	Yellow-Wire	
		Physical-PIN14	Ground	Black or GreyWire	
	Safe-Rest	Physical-PIN18	GPIO24	Orange-Wire	
		Physical-PIN20	Ground	Black or GreyWire	

## FAN (Hard)

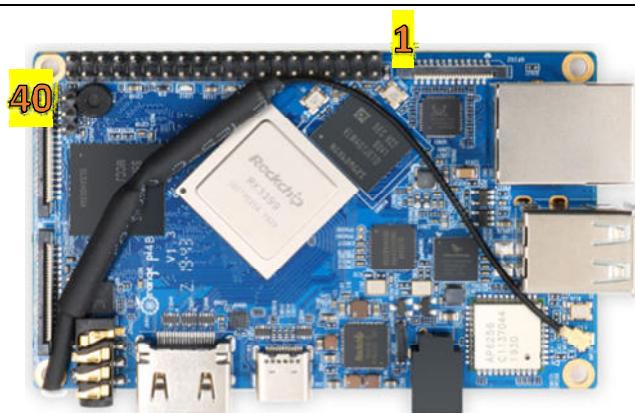
	FAN (Silence-Mod)	Physical-PIN17	3.3V	Red-Wire	
		Physical-PIN25	Ground	Black-Wire	
	FAN (Normal-Mod) Always On 5V!	Physical-PIN2	5V	Red-Wire	
		Physical-PIN25	Ground	Black-Wire	

LED (Hard) !need a 200-220Ohm Resistor! 

	LED (with Resistor)	Physical-PIN1	3.3V (R220Ohm)	Red-Wire	
		Physical-PIN9	Ground	Black-Wire	

\*cable color only recommendation

## RockChip RK3399 (Orange Pi 4/4B/4 LTS) [GPIO-Layout 1/2]



+-----+OrangePi 4+-----+												
GPIO	wPi	Name	Mode	V	Physical	V	Mode	Name	wPi	GPIO		
64	0	I2C2_SDA	ALT3	0	3    4			5V				
65	1	I2C2_SCL	ALT3	0	5    6			5V				
150	2	PWM1	IN	0	7    8	1	ALT2	I2C3_SCL	3	145		
		GND			9    10	1	ALT2	I2C3_SDA	4	144		
33	5	GPIO1_A1	IN	0	11    12	1	IN	GPIO1_C2	6	50		
35	7	GPIO1_A3	OUT	0	13    14			GND				
92	8	GPIO2_D4	OUT	1	15    16	0	IN	GPIO1_C6	9	54		
		3.3V			17    18	0	IN	GPIO1_C7	10	55		
40	11	SPI1_TXD	ALT2	1	19    20			GND				
39	12	SPI1_RXD	ALT2	1	21    22	0	IN	GPIO1_D0	13	56		
41	14	SPI1_CLK	ALT3	1	23    24	1	ALT3	SPI1_CS	15	42		
		GND			25    26	0	IN	GPIO4_C5	16	149		
64	17	I2C2_SDA	ALT3	0	27    28	0	ALT3	I2C2_SCL	18	65		
		I2S0_RX			29    30			GND				
		I2S0_TX			31    32			I2S_CLK				
		I2S0_SCK			33    34			GND				
		I2S0_SI0			35    36			I2S0_SO0				
		I2S0_SI1			37    38			I2S0_SI2				
		GND			39    40			I2S0_SI3				

Conversion-Table

physical pins	3	5	7	8	10	11	12	13	15	16	18	19	21	22	23	24	26	27	28
wiringPi pins	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

## RockChip RK3399 (Orange Pi 4/4B/4 LTS) [GPIO-Blueprint 2/2]

### Push-Button (Hard)

Push-Button 	Hard-Reset & Wakeup	Physical-PIN4	5V	Red-Wire	
		Physical-PIN6	Ground	Black-Wire	

### Push-Button (Soft) - pre defined by WiringOP (microplay-hub Version)

Push-Button 	Safe-Shutdown	Physical-PIN16	GPIO1_C6	Yellow-Wire	
		Physical-PIN14	Ground	Black or GreyWire	
Push-Button 	Safe-Rest	Physical-PIN18	GPIO1_C7	Orange-Wire	
		Physical-PIN20	Ground	Black or GreyWire	

### FAN (Hard)

FAN 	FAN (Silence-Mod)	Physical-PIN17	3.3V	Red-Wire	
		Physical-PIN25	Ground	Black-Wire	
FAN 	FAN (Normal-Mod) Always On 5V!	Physical-PIN2	5V	Red-Wire	
		Physical-PIN25	Ground	Black-Wire	

### LED (Hard) !need a 200-220Ohm Resistor!

LED 	LED (with Resistor)	Physical-PIN1	3.3V (R220Ohm)	Red-Wire	
		Physical-PIN9	Ground	Black-Wire	

\*cable color only recommendation

**! No liability is accepted for any damage, you act at your own risk !**