

Raspberry Pi 3B		
Pin Nr	Function	Description
1	3V3	
2	5V	5V power supply
3	SDA (I2C 1) GPIO2	
4	5V	5V power supply
5	SCL (I2C 1) GPIO3	
6	GND	GND
7	(GPCKL0) GPIO4	one wire DS18B20 temperature sensor line 1
8	TXD (UART) GPIO14	MODBUS interface (RS485 at 75176)
9	GND	GND
10	RXD (UART) GPIO15	MODBUS interface (RS485 at 75176)
11	GPIO17	MODBUS interface (data enable)
12	PWM0 GPIO18	external interrupt (ISR inputs monitoring) from GPIO extender 2
13	GPIO27	MODBUS interface (/data read enable)
14	GND	GND
15	GPIO22	Buzzer output
16	GPIO23	
17	3V3	
18	GPIO24	
19	MOSI (SPI0) GPIO10	GPIO expanders
20	GND	GND
21	MISO (SPI0) GPIO9	GPIO expanders
22	GPIO25	GPIO expanders reset
23	SCLK (SPI0) GPIO11	GPIO expanders
24	CE0 (SPI0) GPIO8	GPIO expander 1 selector
25	GND	GND
26	CE1 (SPI0) GPIO7	GPIO expander 2 selector
27	ID_SD (RESERVED)	NC (reserved)
28	ID_SC (RESERVED)	NC (reserved)
29	(GPCLK1) GPIO5	one wire DS18B20 temperature sensor line 2
30	GND	GND
31	(GPCLK2) GPIO6	
32	PWM0 GPIO12	
33	PWM1 GPIO13	
34	GND	GND
35	MISO (SPI1) GPIO19	display board 4-wire communication
36	GPIO16	
37	GPIO26	
38	MOSI (SPI1) GPIO20	display board 4-wire communication
39	GND	GND
40	SCLK (SPI1) GPIO21	

GPIO expanders		MCP23S17	
Exp nr	Ext pin	Function	Direction
1	GPA0	Relay K1	OUT
1	GPA1	Relay K2	OUT
1	GPA2	Relay K3	OUT
1	GPA3	Relay K4	OUT
1	GPA4	Relay K5	OUT
1	GPA5	Relay K6	OUT
1	GPA6	Relay K7	OUT

1	GPA7	Relay K8	OUT
1	GPB0	MOSFET T1	OUT
1	GPB1	MOSFET T2	OUT
1	GPB2	MOSFET T3	OUT
1	GPB3	MOSFET T4	OUT
1	GPB4	MOSFET T5	OUT
1	GPB5	MOSFET T6	OUT
1	GPB6	MOSFET T7	OUT
1	GPB7	MOSFET T8	OUT
2	GPA0	Door contact 1	IN
2	GPA1	Door contact 2	IN
2	GPA2	Door contact 3	IN
2	GPA3	Door contact 4	IN
2	GPA4	Flood sensor 1	IN
2	GPA5	Flood sensor 2	IN
2	GPA6	Digital in 1	IN
2	GPA7	Digital in 2	IN
2	GPB0	Configuration input DIP 1	IN
2	GPB1	Configuration input DIP 2	IN
2	GPB2	Configuration input DIP 3	IN
2	GPB3	Configuration input DIP 4	IN
2	GPB4	Configuration input DIP 5	IN
2	GPB5	Configuration input DIP 6	IN
2	GPB6	Configuration input DIP 7	IN
2	GPB7	Configuration input DIP 8	IN

#### Display board 4-wire communication

- Functions:
- microcontroller controls by communication:
    - 1.8inch TFT LCD RGB display
    - 1 x RGB LED
    - 1 x red alarm LED
    - TACT switches (UP, DOWN, ENTER, ESC)

#### Additional

- built-in Ethernet connection
- 8A 5V power supply