Input Section (J1 INPUT4-7)

- R2 2K4, R4 2K4, OPTO1 PC814, R1 1K, D1, IN7, GP7, GND
- R6 2K4, R8 2K4, OPTO2 PC814, R5 1K, D4, IN6, GP6, GND
- R11 2K4, R13 2K4, OPTO3 PC814, R10 1K, D5, IN5, GP5, GND
- R15 2K4, R16 2K4, OPTO4 PC814, R14 1K, D8, IN4, GP4, GND

J1 INPUT4-7:
1 IN7
2 IN6
3 IN5
4 IN4
5 +VS
6 GND

+VS GND1

JP1 CM1-SEL:
NPN 1
COM1 2
PNP 3
+VS, GND1

Output / Relay Section (J2 OUTPUT0-3)

- VCC R3 1K, +VS, D3 Y3, D2, RFN1L6STE25, K1 RELAY3
- GP3 RELAY3, R7 1K, Q1 3904, R9 10K, GND
- VCC R12 1K, +VS, D7 Y2, D6, RFN1L6STE25, K2 RELAY2
- GP2 RELAY2, R17 1K, Q2 3904, R18 10K, GND
- VCC R19 1K, +VS, D10 Y1, D9, RFN1L6STE25, K3 RELAY1
- GP1 RELAY1, R27 1K, Q3 3904, R28 10K, GND
- VCC R29 1K, +VS, D12 Y0, D11, RFN1L6STE25, K4 RELAY0
- GP0 RELAY0, R30 1K, Q4 3904, R31 10K, GND

J2 OUTPUT0-3:
1 Y3
2 Y2
3 Y1
4 Y0
5 COM
6 COM

I2C / Pull up

SCL Pull up: R22 4K7, JP2, VCC
SDA Pull up: R26 4K7, JP4, VCC

J3 CN1-Link:
1
2
3
4
5
6

J4 CN2-Link:
1
2
3
4
5
6
VCC GND

SCL, SDA, RST, INT

U1 MCP23008-E/SO

VCC
R20 10K, R21 10K

- RST 6 RESET
- A0 5 A0
- A1 4 A1
- 7 NC
- SCL 1 SCL
- A2 3 A2
- GP0 10 GP0
- GP1 11 GP1
- GP2 12 GP2
- GP3 13 GP3
- SDA 2 SDA
- VDD 18
- INT 8 INT
- GP4 14 GP4
- GP5 15 GP5
- GP6 16 GP6
- GP7 17 GP7
- VSS 9 GND

Address

JP3 ADDRESS:
5 6
3 4
1 2
R23 10K, R24 10K, R25 10K
A0, A1, A2
GND CLOSE=0 , OPEN=1

VCC

JP5 GPIO

GP0 1 2 GP1
GP2 3 4 GP3
GP4 5 6 GP5
GP6 7 8 GP7
VCC 9 10 GND

Power Supply (U2 MC34063)

+VS
C1 0.1uF, GND
D13 SK14
R32 0.22
J5 POWER:
1
2
D14 SK14

U2 MC34063:
8 Driver C, Switch C 1
7 Ipk Sens, Switch E 2
6 VCC, Time C 3
5 Comparatoe, GND 4

[1]Vin
C2 470pF
D15 SK14
L1 220uH Regulator 500mA
R34 *1K
R35 *3K
R37 *820, R38 0R CLOSE=5V OPEN=3.3V
C4 1000uF/35V
[3]VCC
+ C3 10uF, C5 0.1uF, VCC
[2]GND, GND

Optional : Regulator 1A

U? BP5293-xx
[1]Vin 1 Vin +Vout 3 [3]VCC
GND 2 [2]GND

Decoupling

VCC
C6 0.1uF, C7 0.1uF, C8 0.1uF
R36 1K, D16 POWER
GND