Power Interface

PS1
RAC03-05SK

Line1_in 1
VAC_IN(L)
+VOUT 3 +5VD

Neutral 4
VAC_IN(N)
-VOUT 2

D2
LL4150GS18

GND

+5VD
C1
100u
GND

+5VD
C2
100u
GND

Line1_in 1
Line1_out 2
J2
282856-2

Line2_in 1
Line2_out 2
J3
282856-2

Neutral 1
Neutral 2
J1
1935161

Raspberry Pi Zero W Interface

+3.3V +3.3V

R3 2k2
R4 2k2

+3.3V   +5VD
J4

GPIO2(SDA1) 3   4
GPIO3(SCL1) 5   6   GND
RLY_S 7   8
9   10
RTC_INT 11   12   RLY_R GND
GPIO27 R5 49.9 13   14
GPIO22 R6 49.9 15   16 R9 49.9 GPIO23
17   18 R10 49.9 GPIO24 GND
GPIO10(MOSI) R7 49.9 19   20
GPIO9(MISO) 21   22 GPIO25
GPIO11(SCLK) R8 49.9 23   24 R11 49.9 GPIO8(SS0)

GND

Expansion Ports (just in case)

+5VD
GPIO8(SS0) 2
GPIO10(MOSI) 3
GPIO11(SCLK) 4
GPIO9(MISO) R12 49.9 5
6
J5
B6B-PH-SM4-TBT(LF)(SN)
GND

+5VD
GPIO2(SDA1) 2
GPIO3(SCL1) 3
4
J6
B4B-PH-SM4-TBT(LF)(SN)

+5VD
GPIO22 2
GPIO23 3
GPIO24 4
GPIO27 5
6
J7
B6B-PH-SM4-TBT(LF)(SN)
GND

+5VD
1
+3.3V 2
3
GND 4
J8
B4B-PH-SM4-TBT(LF)(SN)
GND

Switching Circuit

+5VD
D1
BAV5004WS-7
Set

+5VD
D3
BAV5004WS-7
Reset

K1
ADW1205HLW
Set 1
+5VD 7
Reset 6
5 Line1_in
3 Line1_out

K2
ADW1205HLW
Set 1
+5VD 7
Reset 6
5 Line2_in
3 Line2_out

Set
RLY_S 1
R1 1k
Q1
DMN67D7L
GND

Reset
RLY_R 1
R2 1k
Q2
DMN67D7L
GND

Real-Time Clock

U1
RX8900UA

+5VD +BATT   +BATT

GPIO3(SCL1) 2 SCL
Vdd 6
GPIO2(SDA1) 13 SDA
VBAT 5
BT1
2032
7 FOE
INT 10 RTC_INT
Fout
GND
GND 11
GND
GND
GND