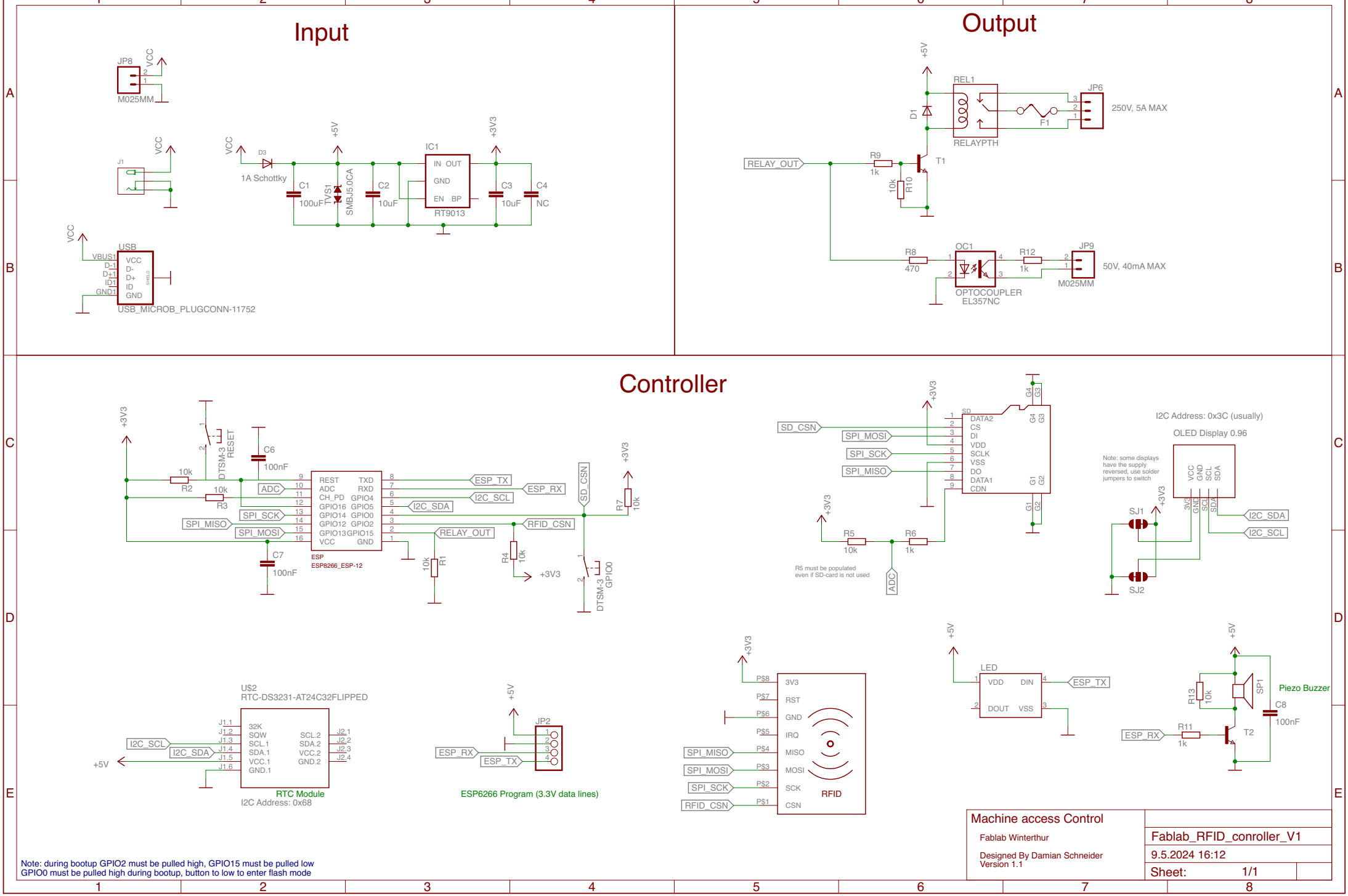
Input
JP8
M025MM
VCC
J1
D3
1A Schottky
C1
100uF
TVS1
SMBJ5.0CA
C2
10uF
+5V
IC1
IN OUT
GND
EN BP
RT9013
+3V3
C3
10uF
C4
NC
USB
VBUS1
D-1
D+1
ID1
GND1
VCC
D-
D+
ID
GND
USB_MICROB_PLUGCONN-11752
Output
REL1
RELAYPTH
D1
JP6
250V, 5A MAX
F1
RELAY_OUT
R9
1k
T1
10k
R10
R8
470
OC1
OPTOCOUPLER
EL357NC
R12
1k
JP9
50V, 40mA MAX
M025MM
Controller
+3V3
DTSM-3
RESET
C6
100nF
10k
R2
R3
ADC
SPI_SCK
SPI_MISO
SPI_MOSI
C7
100nF
REST
ADC
CH_PD
GPIO16
GPIO14
GPIO12
GPIO13
VCC
TXD
RXD
GPIO4
GPIO5
GPIO0
GPIO2
GPIO15
GND
ESP
ESP8266_ESP-12
ESP_TX
ESP_RX
I2C_SCL
I2C_SDA
RELAY_OUT
RFID_CSN
SD_CSN
R7
10k
R1
10k
R4
10k
+3V3
DTSM-3
GPIO0
SD_CSN
SPI_MOSI
SPI_SCK
SPI_MISO
DATA2
CS
DI
VDD
SCLK
VSS
DO
DATA1
CDN
R5
10k
R6
1k
R5 must be populated
even if SD-card is not used
ADC
I2C Address: 0x3C (usually)
OLED Display 0.96
Note: some displays
have the supply
reversed, use solder
jumpers to switch
VCC
GND
SCL
SDA
SJ1
SJ2
I2C_SDA
I2C_SCL
U$2
RTC-DS3231-AT24C32FLIPPED
32K
SQW
SCL.1
SDA.1
VCC.1
GND.1
SCL.2
SDA.2
VCC.2
GND.2
J1.1
J1.2
J1.3
J1.4
J1.5
J1.6
J2.1
J2.2
J2.3
J2.4
I2C_SCL
I2C_SDA
+5V
RTC Module
I2C Address: 0x68
JP2
ESP_RX
ESP_TX
ESP6266 Program (3.3V data lines)
3V3
RST
GND
IRQ
MISO
MOSI
SCK
CSN
RFID
P$8
P$7
P$6
P$5
P$4
P$3
P$2
P$1
SPI_MISO
SPI_MOSI
SPI_SCK
RFID_CSN
LED
VDD
DIN
DOUT
VSS
ESP_TX
R13
10k
SP1
Piezo Buzzer
C8
100nF
R11
1k
T2
ESP_RX
Note: during bootup GPIO2 must be pulled high, GPIO15 must be pulled low
GPIO0 must be pulled high during bootup, button to low to enter flash mode
Machine access Control
Fablab Winterthur
Designed By Damian Schneider
Version 1.1
Fablab_RFID_conroller_V1
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