

Proposta Projeto PSI2613: “Tellerventil-2015”

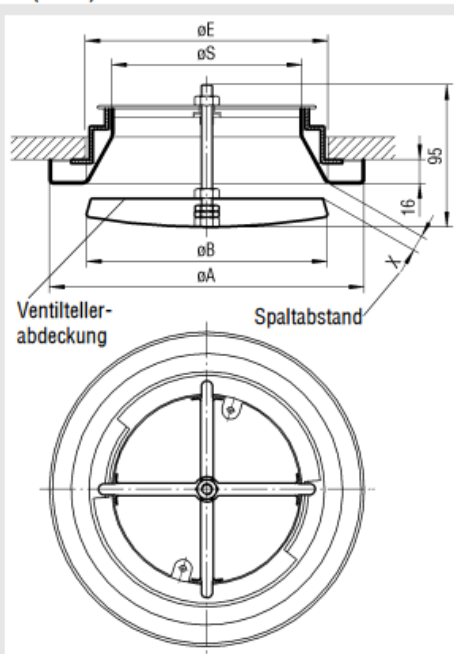
Aplicação



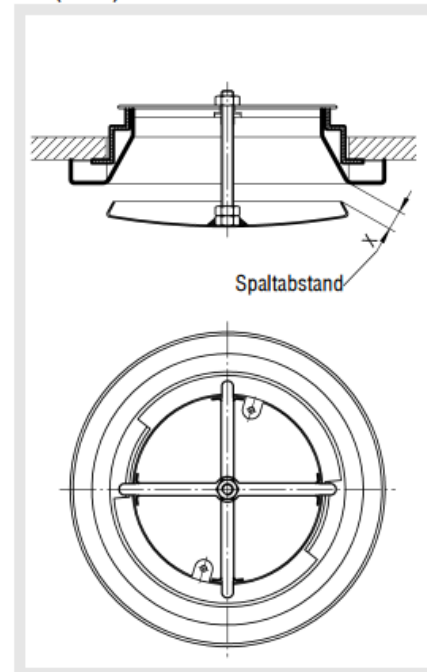
Tellerventil SVZ / SVA

Ausführungen und Abmessungen

Abmessungen
SVZ (Zuluft)



SVA (Abluft)

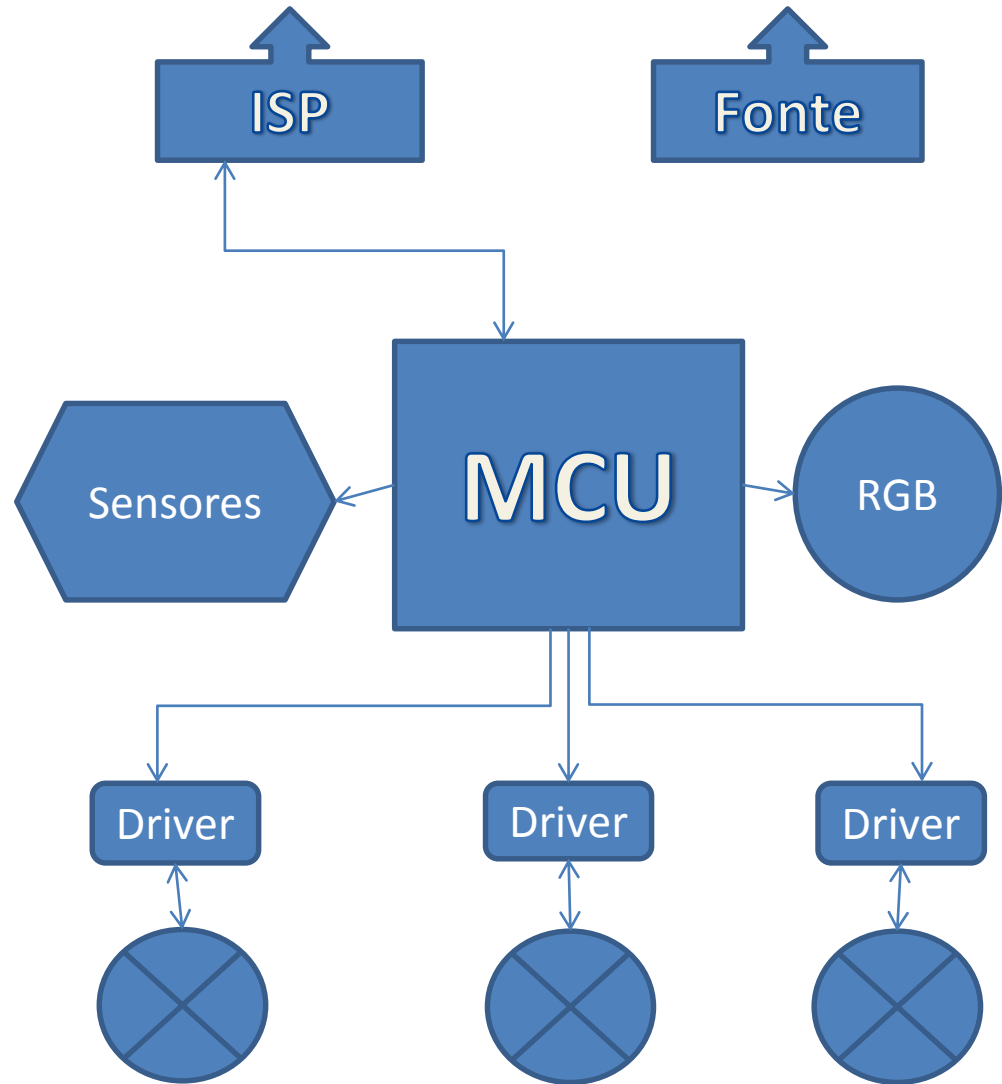


Blocos Funcionais

+

Requisitos

1. **ISP:** Interface para programação
2. **Fonte:** Conversão de tensão externa para alimentação dos blocos funcionais
3. **Sensores:** BME680 (temperatura, umidade relativa, pressão e VOC) + TSL2561 (Luminosidade)
4. **MCU:** ATMEGA32U4
5. **RGB:** Harvatek
6. **Driver:** DRV8838
7. **Fases:** Espiras de trilhas na PCB

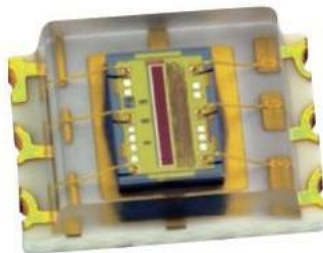


Sensores

BME680

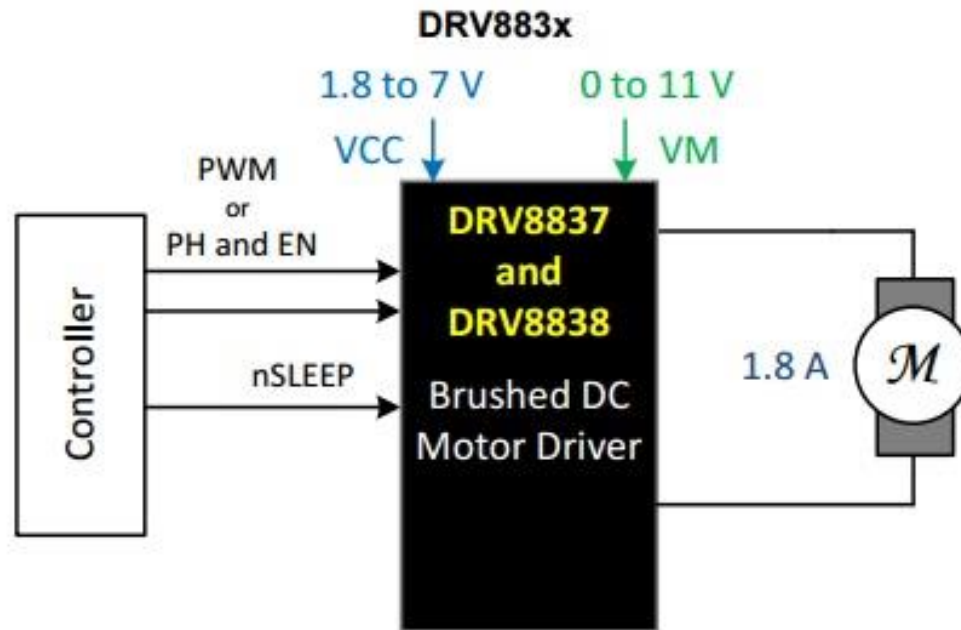


TSL2561



Interface: I2C
Alimentação: 3V3

Driver e Espiras



Espiras serão trilhas na PCB distribuidas em 3 fases a serem controladas pelo microcontrolador

RGB

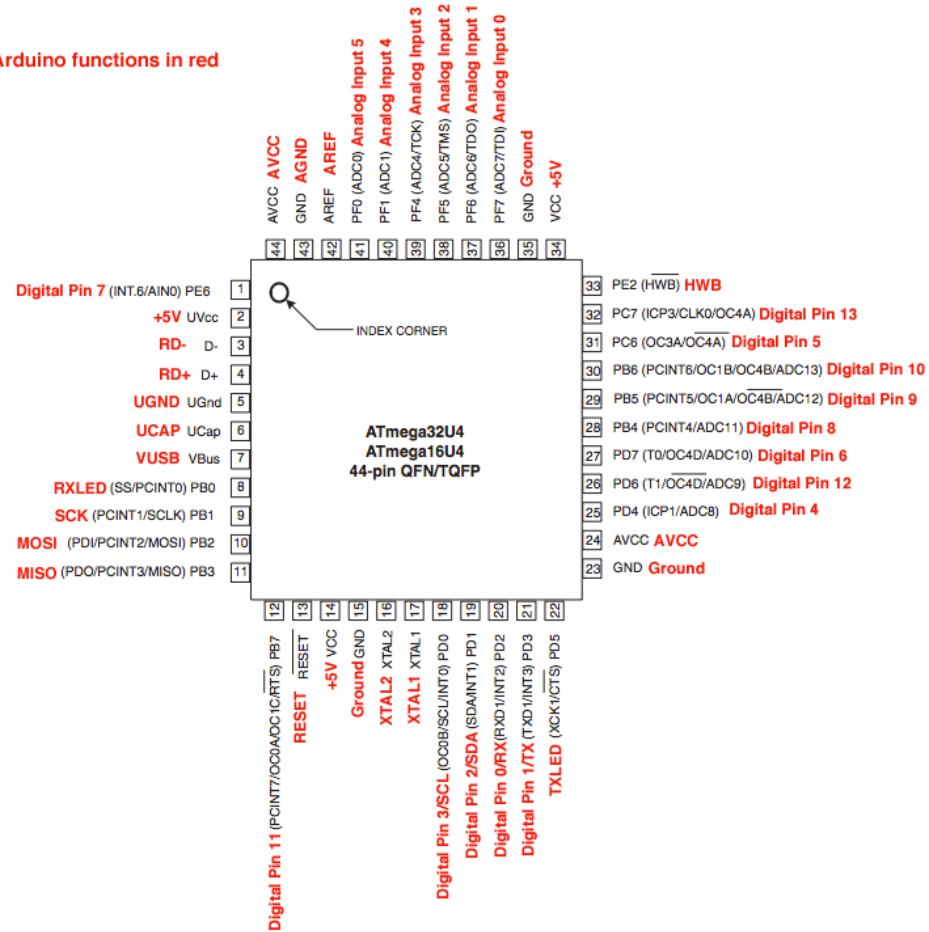
Outline Dim.	Soldering Pattern
Technical drawing of the package outline showing top, side, and bottom views with dimensions and labels. Top View Dimensions: Pin1 to Pin4 width is 1.30, Pin1 to Pin3 width is 2.00, Pin1 to Pin4 height is 0.50, Pin1 to Pin3 height is 0.55, Pin1 to Pin4 height is 0.03. Side View Dimensions: Pin4 to Pin3 height is 1.40, Resin to PCB height is 0.50. Bottom View Dimensions: Pin4 to Pin3 width is 1.30, Pin4 to Pin3 height is 0.50, Pin1 to Pin4 width is 0.50, Pin1 to Pin3 width is 0.55, Pin1 to Pin4 width is 0.03. Labels: Die1 R, Die2 G, Die3 B, Die4 : Zener die, Anode Mark, Pin1, Pin2, Pin3, Pin4, Resin, PCB, Common Anode Pin2.	Soldering pattern diagram showing the layout of the package with dimensions and labels. Dimensions: Pin1 to Pin4 width is 1.00, Pin1 to Pin3 width is 0.85, Pin1 to Pin4 height is 1.00, Pin1 to Pin3 height is 1.00, Pin1 to Pin4 height is 0.25. Labels: Pin 3 B Die 3, Pin 4 G Die 4, Pin 1 R Die 1, Pin 2, Polarity.

Soldering terminals may shift in the x, y direction.

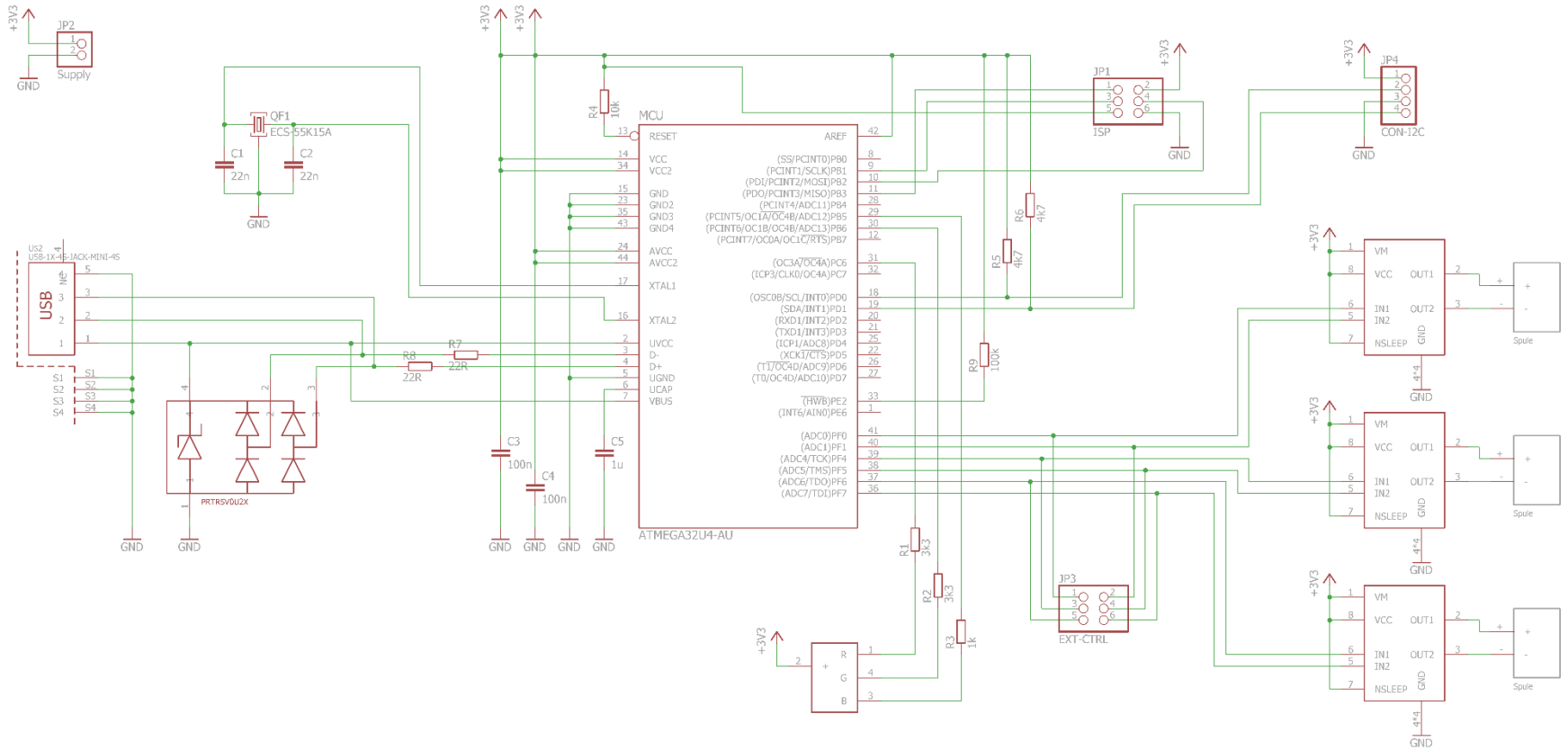
Cores compostas por três sinais de PWM gerados pelo MCU.

MCU: ATMEGA32U4

Arduino functions in red



Schematic



BOM

Partlist exported from

C:/Users/Imag/Documents/eagle/arthur-motor/motor-v2.sch
at 19/10/2015 12:19

Part Value Device Package Description MF MPN OC_FARNELL
OC_NEWARK

A SPULE-20-0.28 SPULE-20-0.28 SPULE-DOUBLE-20U

B SPULE-20-0.28 SPULE-20-0.28 SPULE-DOUBLE-20U

B-B DRV8838 DRV8838 WSON8

C SPULE-20-0.28 SPULE-20-0.28 SPULE-DOUBLE-20U

C1 22n C-EUC0805 C0805 CAPACITOR, European symbol

C2 22n C-EUC0805 C0805 CAPACITOR, European symbol

C3 100n C-EUC0805 C0805 CAPACITOR, European symbol

C4 100n C-EUC0805 C0805 CAPACITOR, European symbol

C5 1u C-EUC0805 C0805 CAPACITOR, European symbol

D-A DRV8838 DRV8838 WSON8

D-C DRV8838 DRV8838 WSON8

JP1 ISP PINHD-2X3 2X03 PIN HEADER

JP2 Supply PINHD-1X2/90 1X02/90 PIN HEADER

JP3 EXT-CTRL PINHD-2X3 2X03 PIN HEADER

JP4 CON-I2C PINHD-1X4 1X04 PIN HEADER

MCU ATMEGA32U4-AU ATMEGA32U4-AU TQFP44 ATMEga32U4-AU

QF1 ECS-55K15A ECS-55K15A UM1 MONOLITHIC CRYSTAL
FILTERS unknown unknown

R1 3k3 R-EU_R0805 R0805 RESISTOR, European symbol

R2 3k3 R-EU_R0805 R0805 RESISTOR, European symbol

R3 1k R-EU_R0805 R0805 RESISTOR, European symbol

R4 10k R-EU_R0805 R0805 RESISTOR, European symbol

R5 4k7 R-EU_R0805 R0805 RESISTOR, European symbol

R6 4k7 R-EU_R0805 R0805 RESISTOR, European symbol

R7 22R R-EU_R0805 R0805 RESISTOR, European symbol

R8 22R R-EU_R0805 R0805 RESISTOR, European symbol

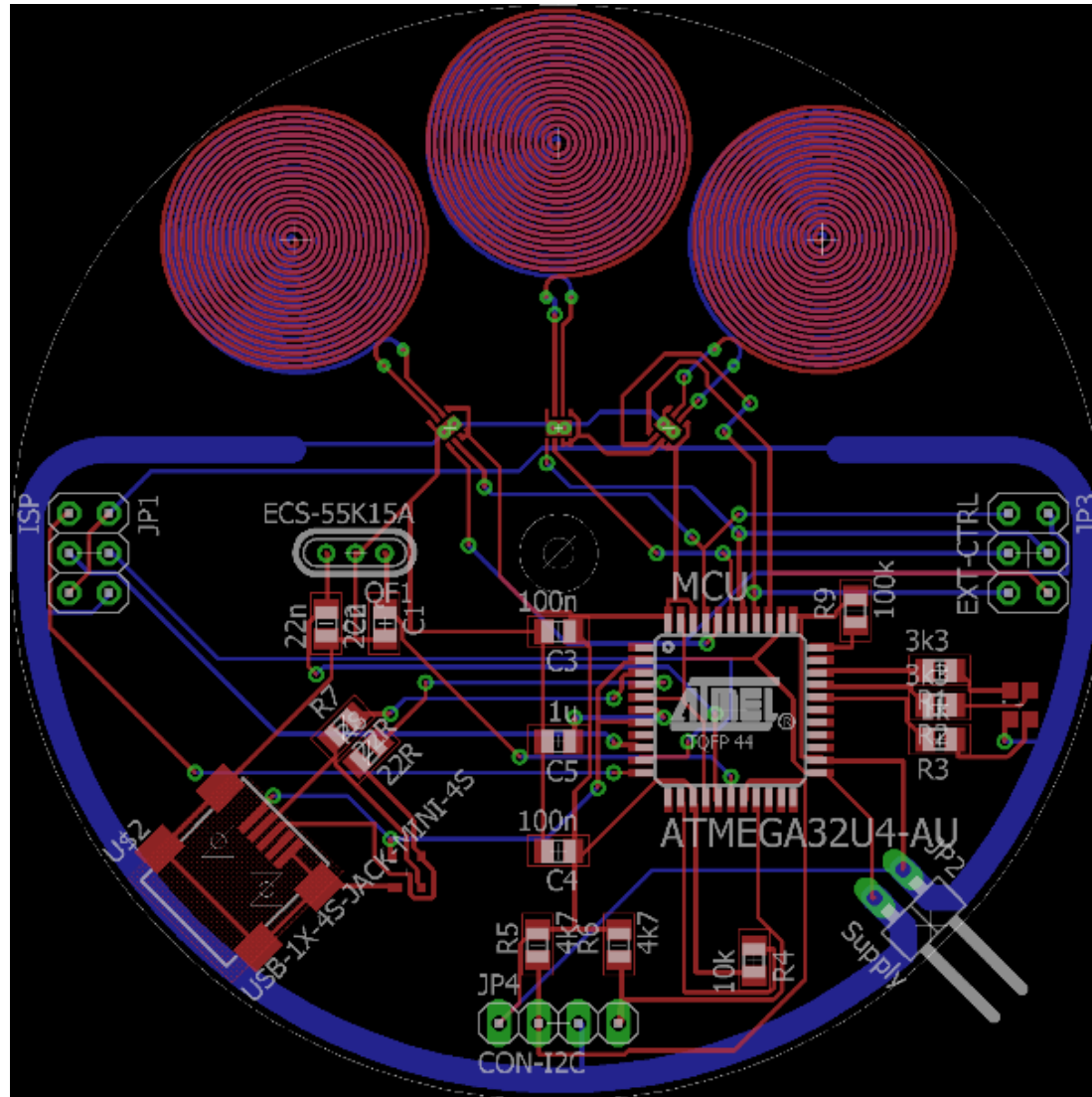
R9 100k R-EU_R0805 R0805 RESISTOR, European symbol

RGB RGB-HARVATEK RGB-HARVATEK RGB-0805

U\$1 PRTR5V0U2X SOT143B

U\$2 USB-1X-4S-JACK-MINI-4S USB-1X-4S-JACK-MINI-4S USB-
JACK-MINI-SMD-4S

Board



Board

