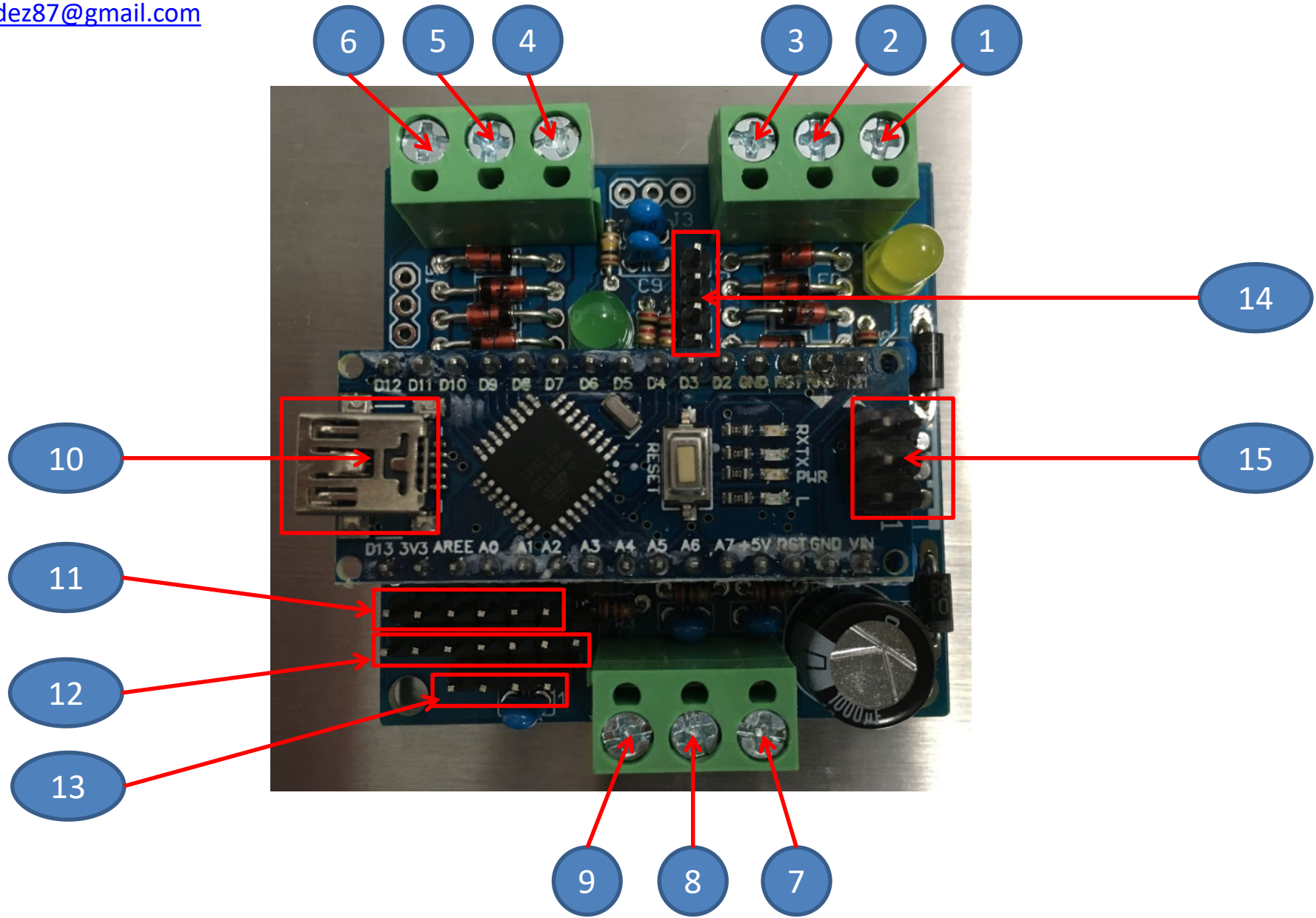


Fuelino Proto4  
Davide Cavaliere  
<http://www.monocilindro.com>  
[dadez87@gmail.com](mailto:dadez87@gmail.com)



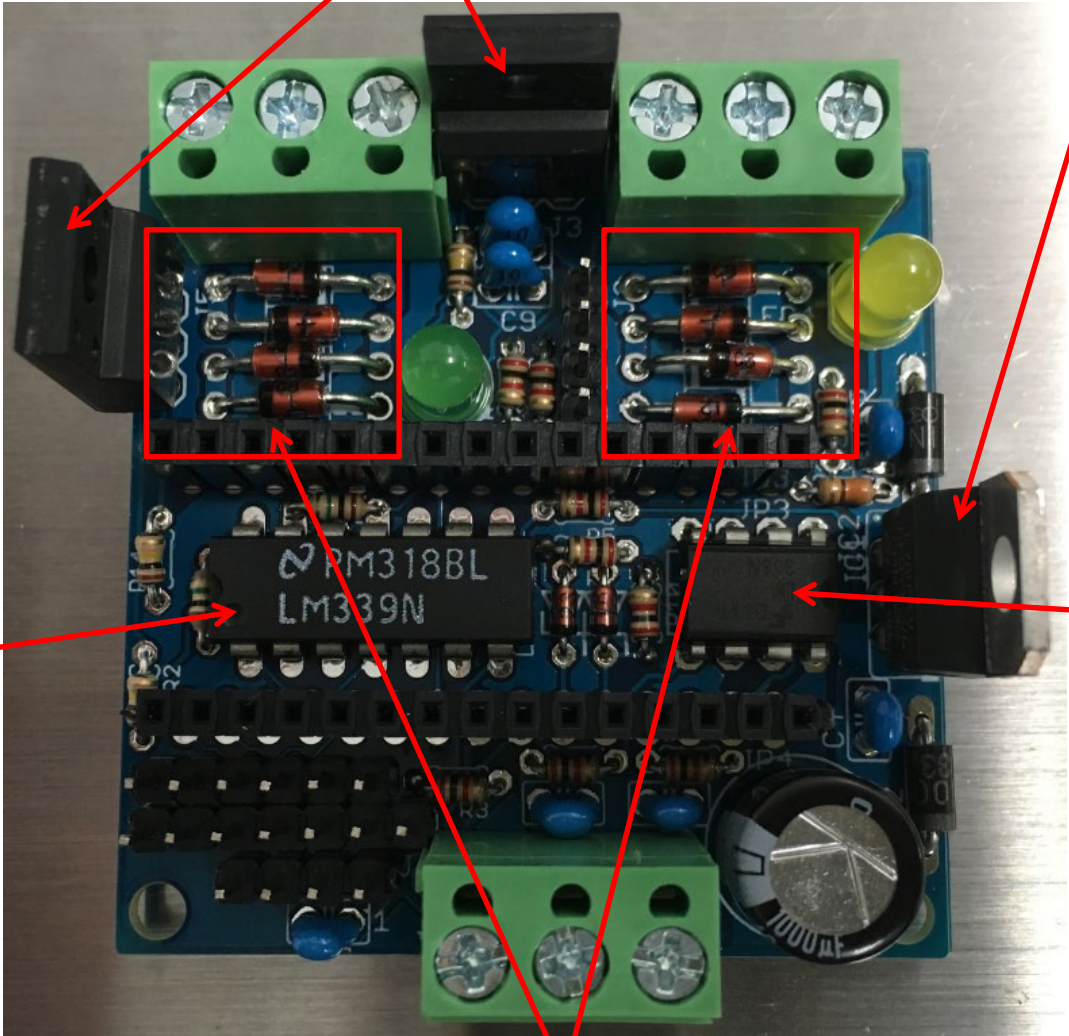
# Fuelino Proto4 Pinout

1. Power Supply (12V) – monitored by pin A3 (+9V\_NOT\_FIL, DI2)
2. Injector 1 (Cylinder 1) Input (hysteresis comparator input) – monitored by pin 6 (INJ2\_COM\_IN)
3. Injector 1 (Cylinder 1) Output (Low-Side Driver MOSFET) – driven by pin 8 (INJ\_COMMAND2)
4. Ground (0V)
5. Injector 2 (Cylinder 2) Output (Low-Side Driver MOSFET) – driven by pin 9 (INJ\_COMMAND)
6. Injector 2 (Cylinder 2) Input (hysteresis comparator input) – monitored by pin 7 (INJ1\_COM\_IN)
7. Analog Input (0V – 5V range), Throttle Position Sensor signal – monitored by pin A6 (THROTTLE)
8. Analog Input (0V – 5V range), Lambda Sensor signal – monitored by pin A7 (LAMBDA)
9. Digital Input (General purpose) – monitored by pin A0 (DI1)
10. USB port (serial communication with PC)
11. SPI communication port (6-pin)
12. SPI communication port (6-pin) + 1 interrupt/enable pin (ENABLE\_OR\_INT, connected to pin A2)
13. I2C (TWI) communication port (4-pin)
14. UART communication port (4-pin)
15. Arduino ICSP port, to program Atmel Atmega 328P microcontroller

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FKI10531 MOSFETs

LM7809 Voltage Regulator



LM339N  
Op-amp  
4 channels  
(comparator)

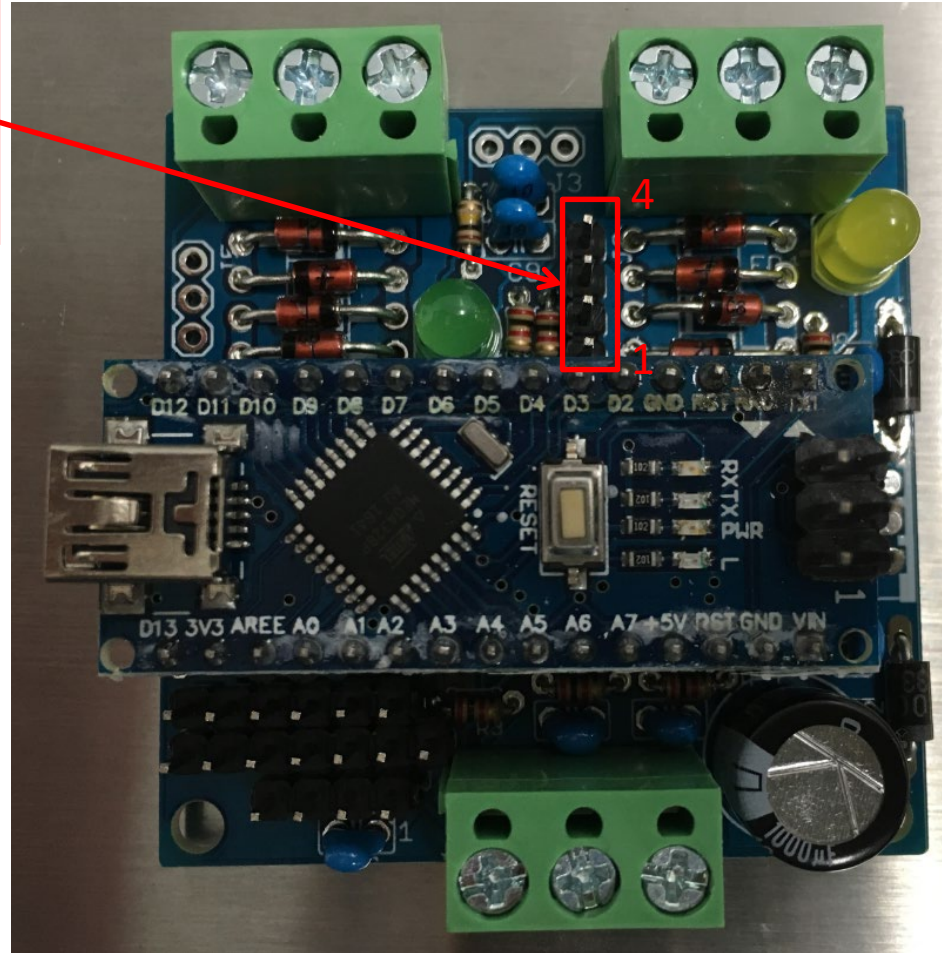
LM358N  
Op-amp  
2 channels  
(buffer)

12V Zener Diodes

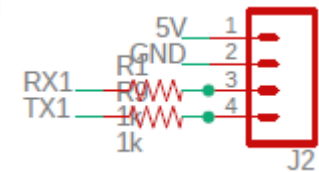
# UART communication

## UART communication port

- (1) TX (Fuelino TX) – pin 4
- (2) RX (Fuelino RX) – pin 2
- (3) GND
- (4) 5V



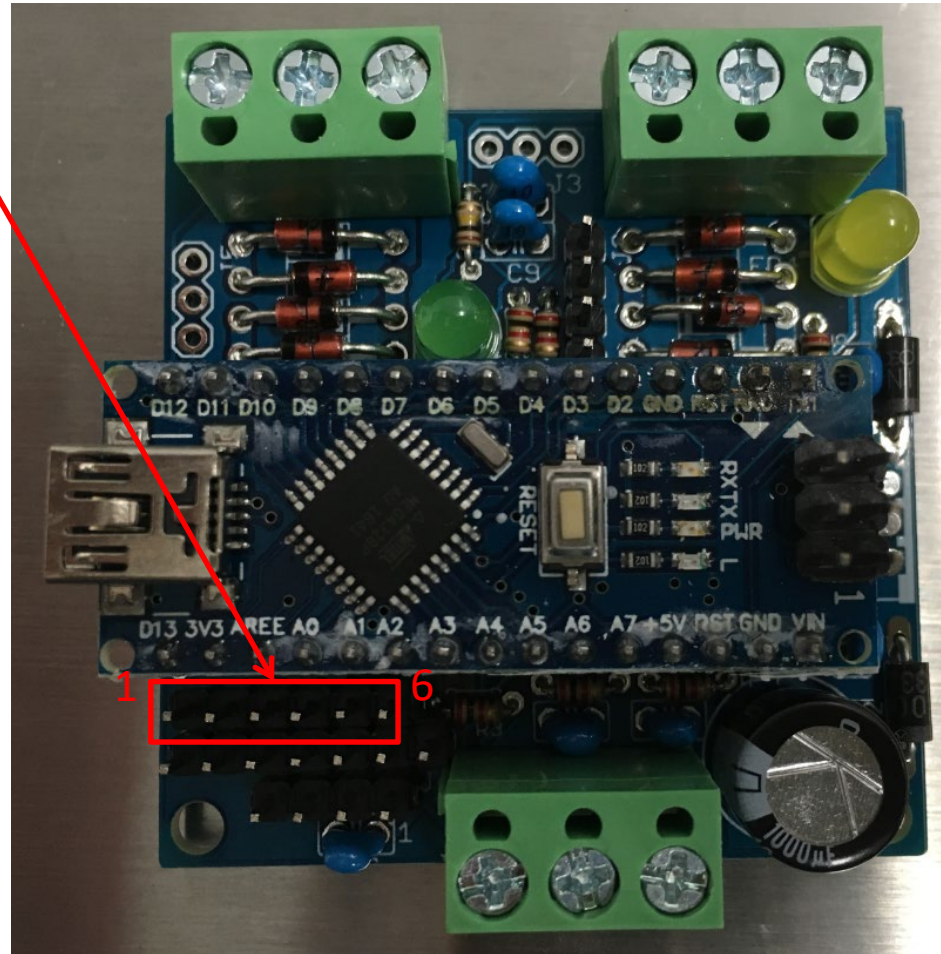
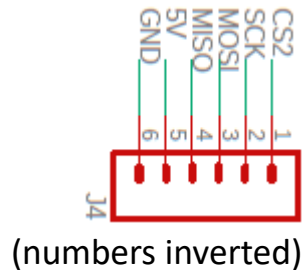
(numbers inverted)



# SPI communication #1

## SPI communication port

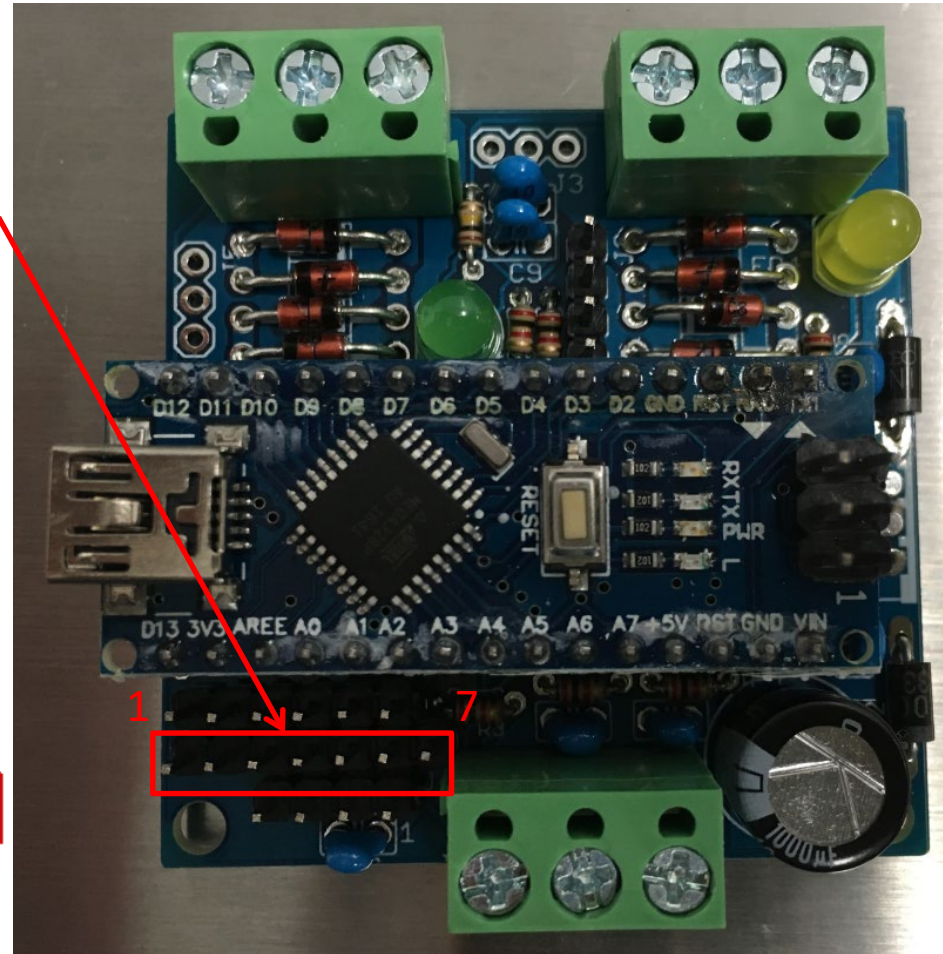
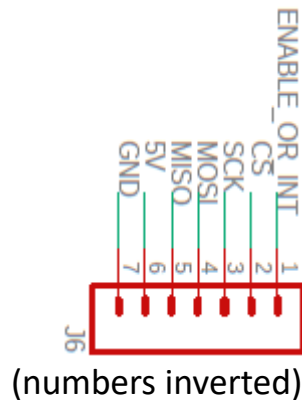
- (1) GND
- (2) 5V
- (3) MISO – pin D12
- (4) MOSI – pin D11
- (5) SCK – pin D13
- (6) CS2 (Chip Select) – pin A1



# SPI communication #2

## SPI communication port

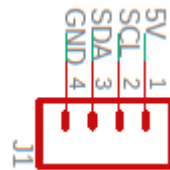
- (1) GND
- (2) 5V
- (3) MISO – pin D12
- (4) MOSI – pin D11
- (5) SCK – pin D13
- (6) CS (Chip Select) – pin D10
- (7) Interrupt/Enable – pin A2



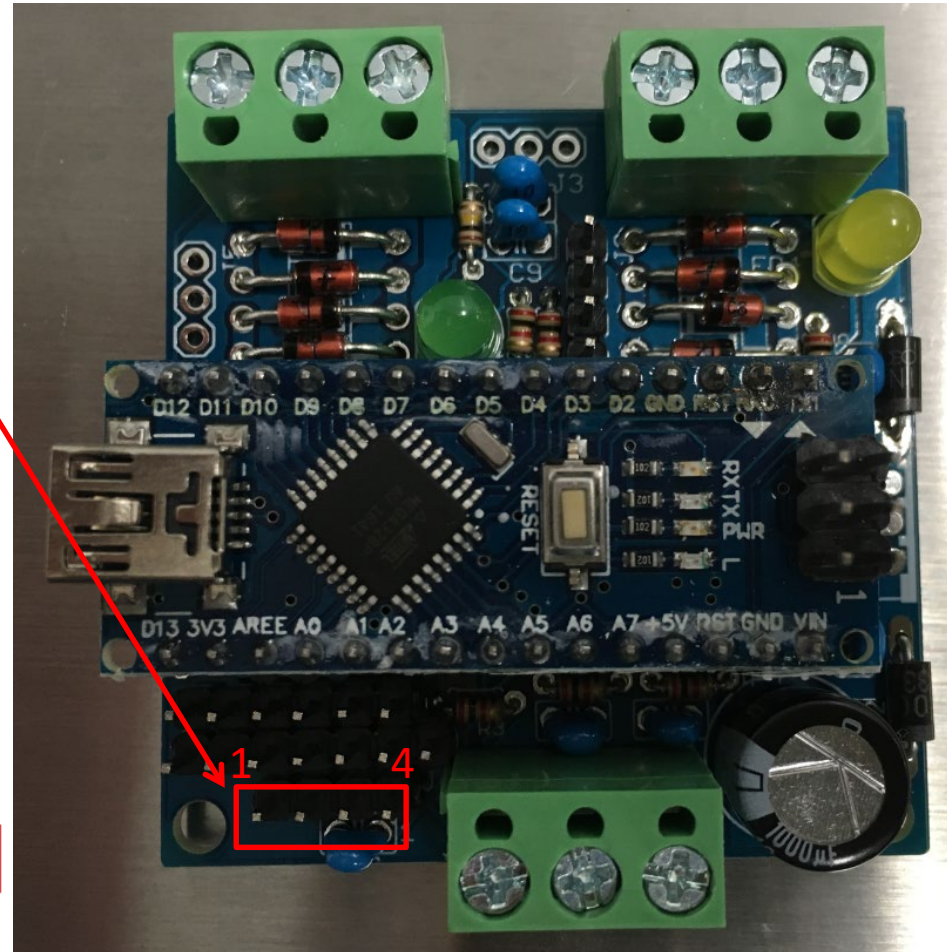
# I2C (TWI) communication

I2C communication port

- (1) GND
- (2) SDA – pin A4
- (3) SCL – pin A5
- (4) 5V

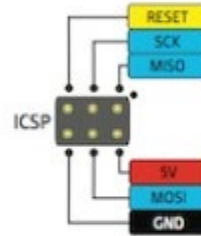


(numbers inverted)

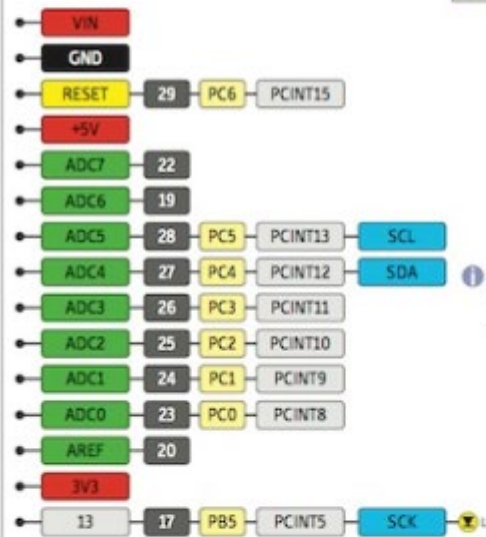
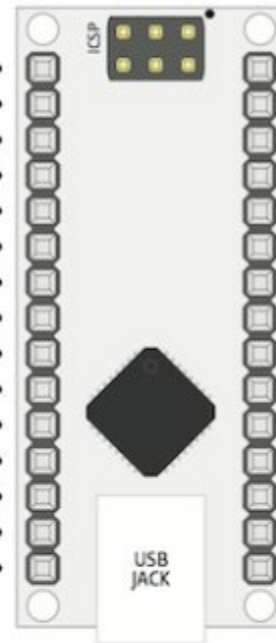
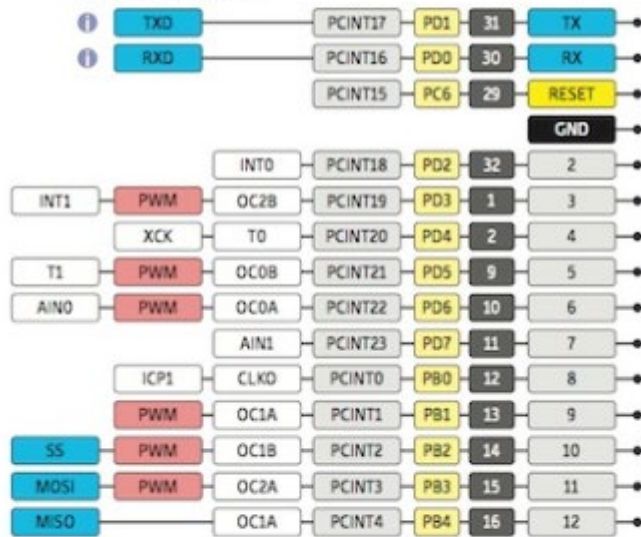


THE UNOFFICIAL  
**ARDUINO NANO**  
PINOUT DIAGRAM

- ⚠ Absolute max per pin 40mA recommended 20mA
- ⚡ Absolute max 200mA for entire package



Connected to the ATmega and used for USB program and communicating with it



**LEGEND**

- GND** (Black)
- POWER** (Red)
- CONTROL** (Yellow)
- PHYSICAL PIN** (Grey)
- PORT PIN** (Light Yellow)
- ATMEGA328 PIN FUNC** (White)
- DIGITAL PIN** (Light Blue)
- ANALOG-RELATED PIN** (Green)
- PWM PIN** (Pink)
- SERIAL PIN** (Blue)

ⓘ General Information  
 ⚠ Pay Attention  
 ⚡ No Really PAY ATTENTION  
 ⚡ LED

ⓘ On version 2 Analog Pins are reversed e.g. A0↔A7, A7↔A0



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07 FEB 2013



# Arduino Nano Rev3

