



instructables

PCF8574 (i2c Digital I/O Expander) Fast Easy Usage

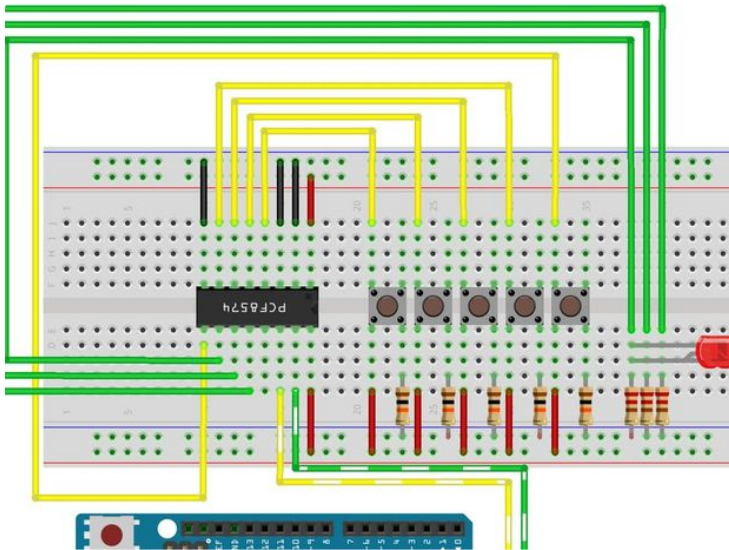


by xxreef

Library to use i2c analog IC with arduino and esp8266.

Can read and write digital value with only 2 wire (perfect for ESP-01).

I try to simplify the use of this IC, with a minimal set of operation.



Step 1: Library

You can find my library here.

To download.

Click the DOWNLOADS button in the top right corner, rename the uncompressed folder PCF8574.

Check that the PCF8574 folder contains PCF8574.cpp and PCF8574.h.

Place the PCF8574 library folder your /libraries/ folder.

You may need to create the libraries subfolder if its your first library.

Restart the IDE.

Step 2: Usage

Constructor: you must pas the address of i2c (to check the adress use this guide I2cScanner)

```
PCF8574(uint8_t address);
```

for esp8266 if you want specify SDA e SCL pin use this:

```
PCF8574(uint8_t address, uint8_t sda, uint8_t scl);
```

You must set input/output mode:

```
pcf8574.pinMode(P0, OUTPUT);  
pcf8574.pinMode(P1, INPUT);  
pcf8574.pinMode(P2, INPUT);
```

Step 3: Read Value

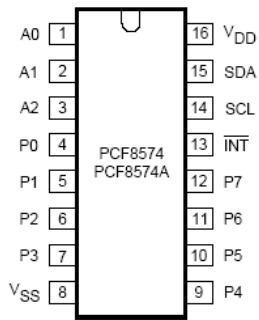
then IC as you can see in the image have 8 digital input/output:

So to read all analog input in one trasmission you can do (even if I use a 10millis debounce time to prevent too much read from i2c):

```
PCF8574::DigitalInput di = PCF8574.digitalReadAll(); Serial.print(di.p0);  
Serial.print(" - ");  
Serial.print(di.p1);  
Serial.print(" - ");  
Serial.print(di.p2);  
Serial.print(" - ");  
Serial.print(di.p3);  
Serial.println(di.p3);
```

if you want read a single input:

```
int p1Digital = PCF8574.digitalRead(P1); // read P1
```



Step 4: Write Value

If you want write a digital value you must do:

```
PCF8574.digitalWrite(P1, HIGH);
```

or:

```
PCF8574.digitalWrite(P1, LOW);
```

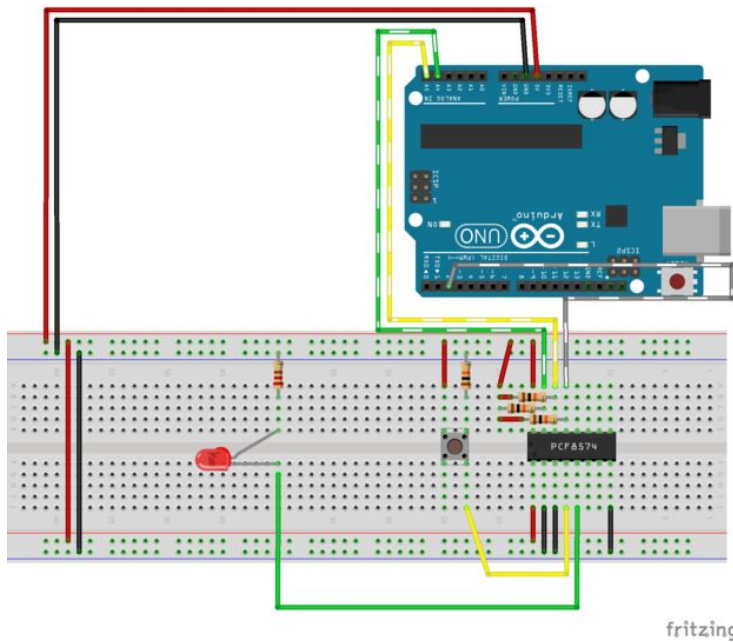
Step 5: Interrupt Pin

You can also use **interrupt pin**: You must initialize the pin and the function to call when interrupt raised from PCF8574.

```
// Function interrupt  
void keyPressedOnPCF8574();
```

```
// Set i2c address  
PCF8574 pcf8574(0x39, ARDUINO_UNO_INTERRUPT_PIN, keyPressedOnPCF8574);
```

Step 6: Examples Wiring Diagram



Step 7: Thanks