Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

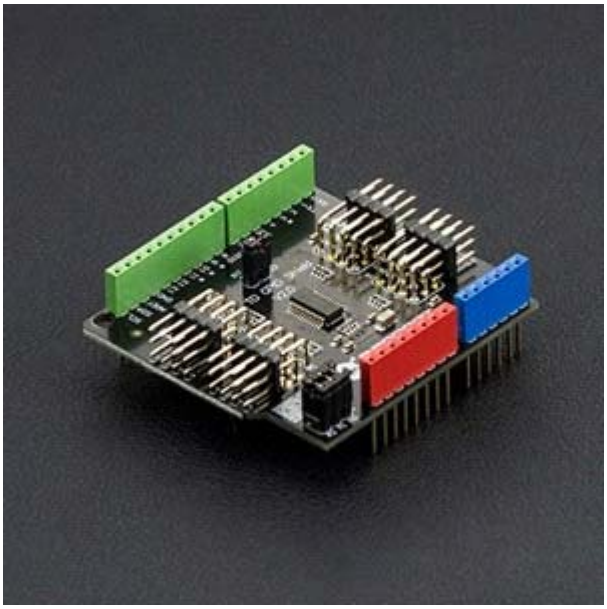
With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

IIC to GPIO Shield V2.0 SKU: DFR0013



Contents

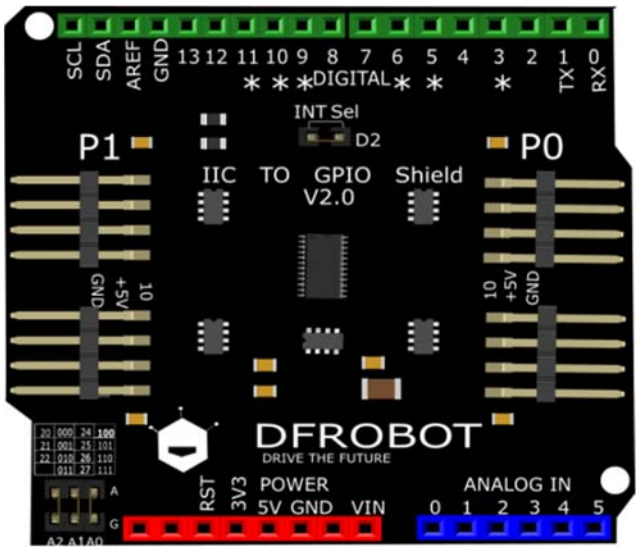
Introduction

Having troubles with inadequate digital I/O when using Arduino with robots or interactive media? This IIC to GPIO shield helps you solve the problem, Arduino has only two data lines (SCL-Analog PIN5, SDA-Analog PIN4) and IIC can transfer I / O module communication, to convert the 16 digital IO ports, read-write. 8 simultaneous parallel modules, each module can be set to address.

Specification

- Module power supply: +5 V
- 16 Digital I/O port comes with internal pull-up
- Can be set to eight addresses (address range of 0x20 ~ 0x27)
- 8 modules simultaneously in parallel (IIC bus need to pull together)
- Module Size: 56x53mm (2.21x2.08 in)

Board Overview



Plug = 0
Unplug = 1

A2	A1	A0	IIC Address
0	0	0	0x20 (Default)
0	0	1	0x21
0	1	0	0x22
0	1	1	0x23
1	0	0	0x24
1	0	1	0x25
1	1	1	0x26
1	1	1	0x27

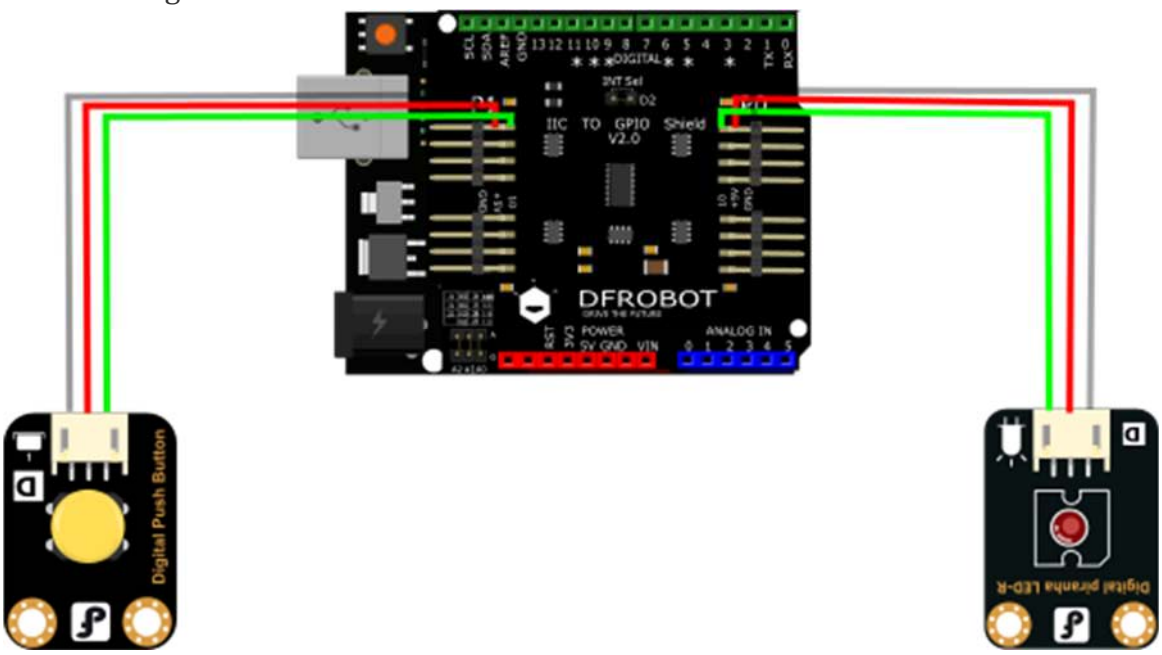
Tutorial

Requirements

- **Hardware**
  DFRduino UNO x1
  IIC to GPIO Shield V2.0 x1
  Button module
  LED module

- **Software**
  Arduino IDE V1.6.5 Click to Download Arduino IDE from Arduino®

Connection Diagram



Sample Code

In this section, we will use an Arduino library written by nicoverduin
Github Library. About Library installation.

```
1 #if defined(ARDUINO) && ARDUINO >= 100
2 #include "Arduino.h"
3 #else
4
```

```
 4 #include "WProgram.h"
 5 #endif
 6
 7 #include "clsPCA9555.h"
 8 #include "Wire.h"
 9
10
11 PCA9555 ioport(0x20);
12
13 void setup()
14 {
15   ioport.pinMode(7, OUTPUT); //Set GPIOs pinMode LED
16   ioport.pinMode(8, INPUT);  //Button
17 }
18
19 void loop()
20 {
21   if (ioport.digitalRead(ED8) == LOW) {
22     ioport.digitalWrite(7, LOW);                  //Turn off Led
23   }
24
25   if (ioport.digitalRead(ED8) == HIGH) {
26     ioport.digitalWrite(7, HIGH);                 //Turn on Led
27   }
28
29 }
```

Library Explanation

Library Functions

- **pinMode()** same as standard Arduino
- **digitalRead()** same as Arduino
- **digitalWrite()** same as Arduino

Pin map

P0.0~P0.7 map to GPIO 0 ~ 7 or ED0 - ED7
P1.0~P1.7 map to GPIO 8 ~ 15 or ED8 - ED15

FAQ

There are no questions about this product yet. If you have any problems or suggestions, you are welcome to email us or post on the DFRobot forum!

For any questions/advice/cool ideas to share, please visit the **DFRobot Forum**.