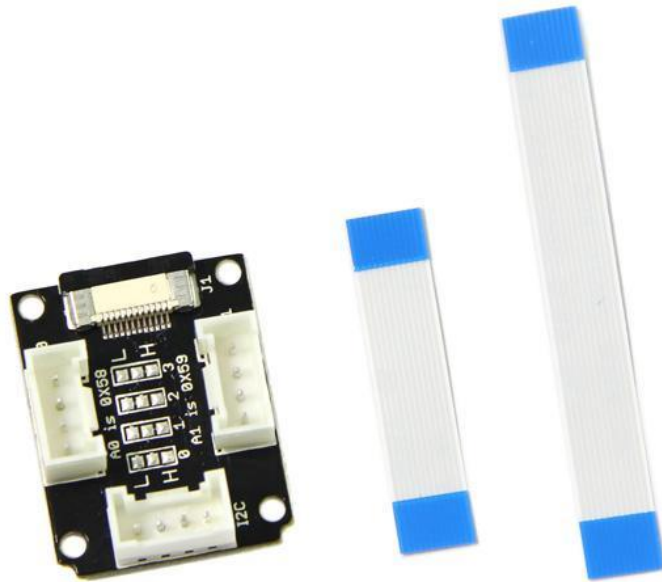


SEED-103040006

Xadow - Adaptor



PRODUCT DETAILS

Xadow Grove Adaptor is a device that converts Grove interface to Xadow Interface to compatible with Xadow System. It can achieve this function: analog signal from two analog Grove interface will output by Xadow I2C bus through ADC. The signal from Grove I2C Interface will directly lead to Xadow I2C bus without conversion. The A/D conversion based on ADCC121C021, a 12-bit precision ADC, create high precision.

Features:

- 13.56 MHz
- Support CharlieCards, ClipperCards, and other metropolitan cards
- Comes with an RFID card

Specification:

- Work Voltage : 3.3V
- A/D Resolution : 12 bit
- Sample Rate : 188.9 ksps
- I2C address variable
- Dimensions: 25.43mm x 20.35mm

The Hardware Installation should be:



Here Grove - Gas sensor outputs analog signal is connected to A0, so the I2C Address applied to the test code is 0x58(default). In other words, the I2C Address should be 0x59 when Grove - Gas Sensor connect to A1 interface.

The test code is:

```
1 <pre>
2 #include <Wire.h>;
3 #include <Streaming.h>;
4
5 #define ADDR_ADC121      0x58
6
7 #define V_REF 3.00
8
9 #define REG_ADDR_RESULT      0x80
10 #define REG_ADDR_ALERT      0x81
11 #define REG_ADDR_CONFIG     0x82
12 #define REG_ADDR_LIMITL     0x83
13 #define REG_ADDR_LIMITH     0x84
14 #define REG_ADDR_HYST       0x85
15 #define REG_ADDR_CONVL      0x86
16 #define REG_ADDR_CONVH      0x87
17
18 unsigned int getData;
19 float analogVal=0;          // convert
20 void init_adc()
21 {
22     Wire.beginTransmission(ADDR_ADC121);          // transmit to device
23     Wire.write(REG_ADDR_CONFIG);                  // Configuration Register
24     Wire.write(0x20);
25     Wire.endTransmission();
26 }
27
28 void read_adc()          //unsigned int *data
29 {
30
31     Wire.beginTransmission(ADDR_ADC121);          // transmit to device
32     Wire.write(REG_ADDR_RESULT);                  // get result
33     Wire.endTransmission();
34
35     Wire.requestFrom(ADDR_ADC121, 2);             // request 2byte from device
36     delay(1);
37     if(Wire.available()&lt;-2)
38     {
39         getData = (Wire.read()&0xf)&lt;&lt;8;
40         getData |= Wire.read();
41     }
42     Serial.print("getData:");
43     Serial.println(getData);
44     delay(5);
45     Serial.print("The analog value is:");
46     Serial.print(getData*V_REF*2/4096);
47     Serial.println("V");
48 }
49 void setup()
50 {
51     Serial.begin(9600);
52     Wire.begin();
53     init_adc();
54 }
55
56 void loop()
57 {
58     read_adc();//adcRead);
59     delay(50);
60 }</pre>
```

Measure I2C Signal:

You need to connect Grove module to I2C interface of Xadow Grove Adaptor when communication mode of Grove module is I2C. Now the sever of Xadow Grove Adaptor is delivering signal to Xadow I2C bus without ADC. Taking Grove - Digital Light Sensor as example, let's learn its usage.

Hardware Installation :

