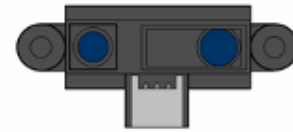


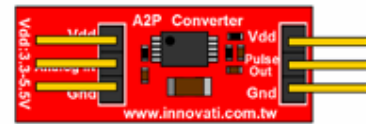
# IRF80 --- Infrared Range Finder

## Overview

IRF80 is an infrared range finder module consisting of a GP2Y0A21YK reflective optical sensor module, which emits infrared light to detect the reflective infrared intensity and an Analog-to-Pulse (A2P) Converter board. The A2P Converter board converts the analog output of GP2Y0A21YK into pulse width. By measuring the pulse width, the analog readings can be obtained with the PulseIn command. The analog output can also be read directly with the command GetADC command from the I/O Extender module. The recommended detection range is 10~80cm.



GP2Y0A21YK



Analog to Pulse (A2P) Converter

## Applications

- Short distance range finding
- Proximity detection for collision
- Contactless switch

## Features

- Measurement not affected by the color of object
- Analog to Pulse (A2P) converter module available
- Recommended detection range 10~80cm
- Input voltage 5V
- Compact size for tight space

## Connection

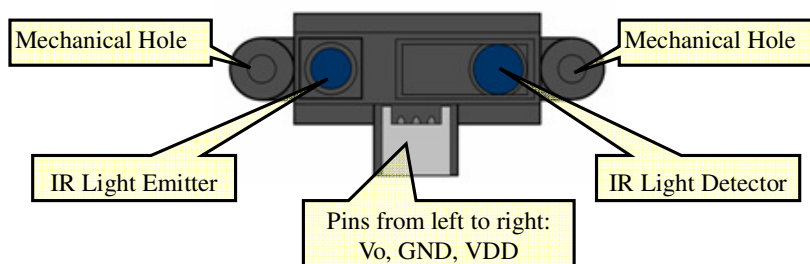


Figure 1 GP2Y0A21YK Description

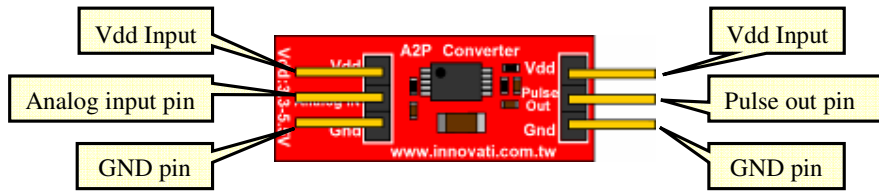


Figure 2 A2P Board Description

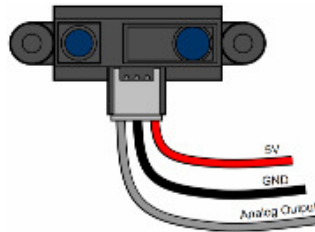


Figure 3 Connecting GP2Y0A21YK for analog output

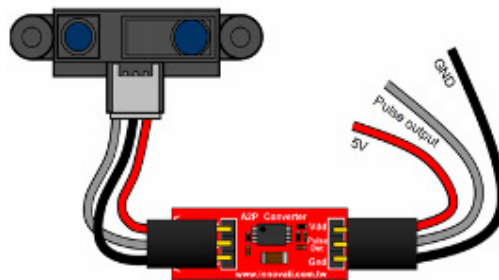


Figure 4 Connecting GP2Y0A21YK with A2P for pulse output

## Specifications

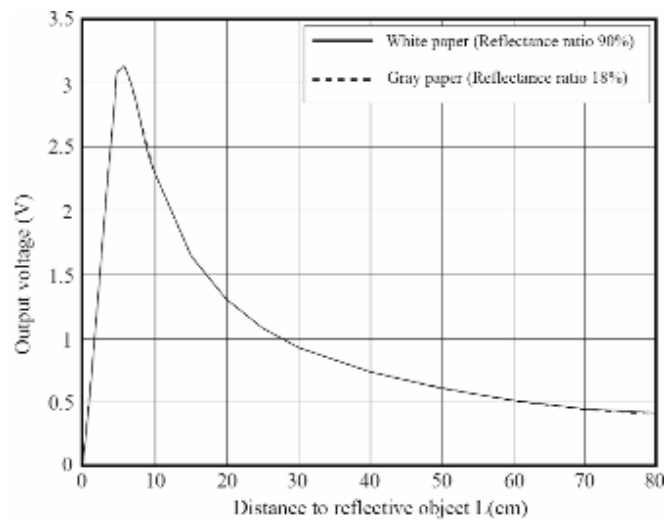


Figure 5 GP2Y0A21YK Voltage vs. Distance Characteristic Curve



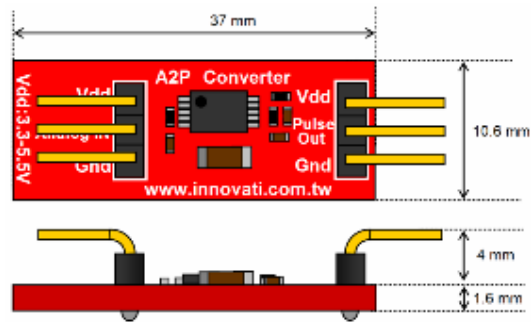


Figure 8 A2P Board Dimensions

## Example Program

### Example I

Use PULSEIN command to read GP2Y0A21YK analog output data through A2P module. Connect the GP2Y0A21YK to A2P board. Then connect the Pulse Output pin of A2P to BASIC Commander<sup>®</sup> pin 0 to measure the pulse width.

```

Sub main()
Dim temp As Word
  Do
    Pulsein 0,0,temp           'measure pulse width
    Debug "Input Signal =", Temp,CR  'display pulse width
    Pause 100                  'wait 100ms
  Loop
  'infinite loop
End Sub

```

### Example II

Use GETADC command of I/O Extender to measure GP2Y0A21YK analog output directly. Set the DIP switch of the I/O Extender module to 0 and connect it to the BASIC Commander<sup>®</sup>. Then connect the Analog Output pin of GP2Y0A21YK to I/O Extender pin PA0.

```

Peripheral MyIO As IOExtenderA @ 0  'declare module ID as 0
Sub main()
Dim temp As Word
  MyIO.SetADC 1                    'start pin PA0 AD conversion
  Do
    MyIO.GetADC 0,temp             'read AD value
    Debug "Input Signal =", Temp,CR  'display AD value
    Pause 100                      'wait 100ms
  Loop
  'infinite loop
End Sub

```