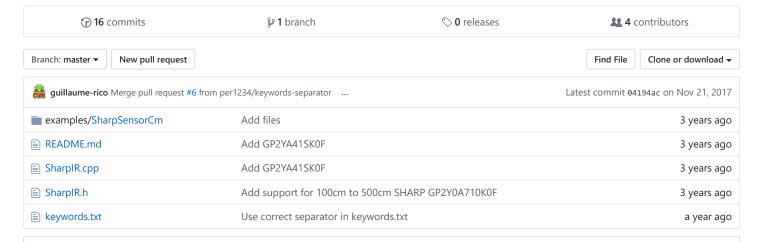
guillaume-rico / SharpIR

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Arduino Infra Red Sharp Lib



SharpIR

README.md

Arduino Infra Red Sharp Lib

Based on an original work of Dr. Marcal Casas-Cartagena.

- 1. Perform 25 reading of analog pin (Nb samples can be changed in .h)
- 2. Sort values
- 3. Convert median value to cm

Usage

- #include <SharpIR.h>
- SharpIR sharp(ir_analog_pin, model);
- int dist = sharp.distance();

Model:

- GP2Y0A02YK0F --> "20150"
- GP2Y0A21YK --> "1080"
- GP2Y0A710K0F --> "100500"
- GP2YA41SK0F --> "430"

Dismiss

Sharp IR Volt Centimeter conversion

GP2Y0A02YK0F

Model: "20150" [20cm to 150cm]

_
Distance
15
20
30
40
50
60
70
80
90
100
110
120
130
140
150

Using MS Excel, we can calculate function (For distance > 15cm):

Distance = 60.374 X POW(Volt , -1.16)

GP2Y0A21YK

Model: "1080" [10cm to 80cm]

Volt	Distance
2,6	10
2,1	12
1,85	14
1,65	15
1,5	18
1,39	20
1,15	25
0,98	30

Volt	Distance
0,85	35
0,75	40
0,67	45
0,61	50
0,59	55
0,55	60
0,5	65
0,48	70
0,45	75
0,42	80

Using MS Excel, we can calculate function (For distance > 10cm):

Distance = 29.988 X POW(Volt , -1.173)

GP2Y0A710K0F

Model: "100500" [100cm to 500cm]

Based on the SHARP datasheet we can calculate the linear function: y = 137500x + 1125 which gives us: 1 / ((Volt - 1125) / 137500) = distance_in_cm (For distance > 100cm)

GP2YA41SK0F (<=> GP2D120)

Model: "430" [4cm to 30cm]

Based on the SHARP datasheet we can calculate the function (For distance > 3cm):

Distance = 12.08 X POW(Volt , -1.058)