

# Distanz Sensore Sharp 2Y0A Familie

see cpp code in Github <https://github.com/zoubworldArduino/ZSharpIR>

## Sharp 2Y0A710K0F 100-500cm

Formel

Model: „100500“ [100cm to 500cm]

Based on the SHARP datasheet we can calculate the linear function:

$$y = 137500x + 1125 \text{ which gives us: } 1 / ((\text{Volt} - 1125) / 137500) = \text{distance\_in\_cm} \text{ (For distance } > 100\text{cm)}$$

## Sharp 2Y0A21YK 10-80cm

Formel

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
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) :

$$\text{Distance} = 29.988 \times \text{POW}(\text{Volt}, -1.173)$$

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