

## ArduinoDistanceSensorLibrary

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## 1 Class Index

### 1.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

<b>DistanceSensor</b>	<b>6</b>
<b>DistanceGP2Y0A21YK</b>	<b>2</b>
<b>DistanceSRF04</b>	<b>8</b>

## 2 Class Index

### 2.1 Class List

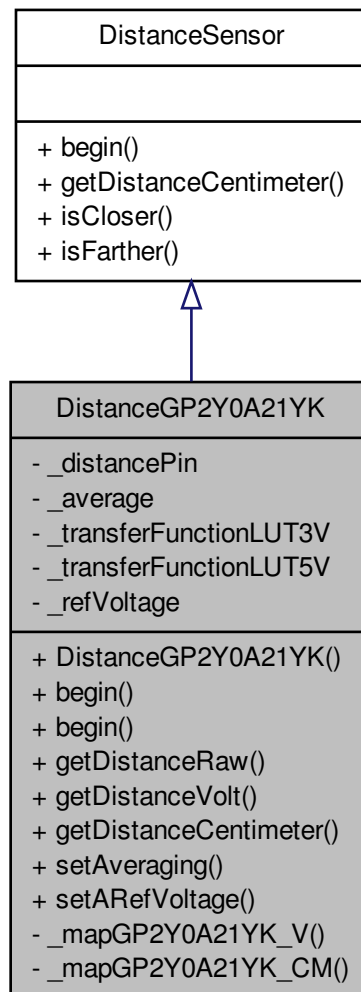
Here are the classes, structs, unions and interfaces with brief descriptions:

<b>DistanceGP2Y0A21YK</b>	<b>2</b>
<b>DistanceSensor</b>	<b>6</b>
<b>DistanceSRF04</b>	<b>8</b>

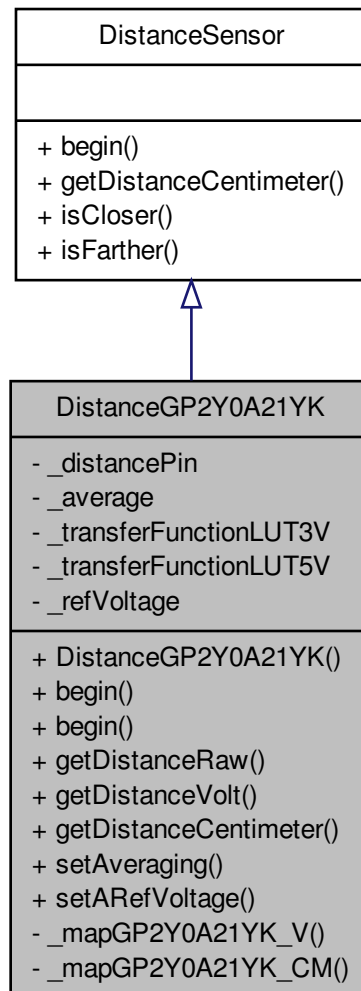
### 3 Class Documentation

#### 3.1 DistanceGP2Y0A21YK Class Reference

Inheritance diagram for DistanceGP2Y0A21YK:



Collaboration diagram for DistanceGP2Y0A21YK:



#### Public Member Functions

- [DistanceGP2Y0A21YK \(\)](#)

*DistanceGP2Y0A21YK.cpp* - Library for retrieving data from the GP2Y0A21YK IR Distance sensor. For more information: variable declaration, changelog,... see [DistanceGP2Y0A21YK.h](#).

- void [begin \(\)](#)

*Begin function to set pins: distancePin = A0.*

- void [begin](#) (int distancePin)

*Begin variables.*

- int [getDistanceRaw](#) ()

*[getDistanceRaw\(\)](#): Returns the distance as a raw value: ADC output: 0 -> 1023*

- int [getDistanceVolt](#) ()

*[getDistanceVolt\(\)](#): Returns the distance as a Voltage: ADC Input: 0V -> 5V (or 0V -> 3.3V)*

- int [getDistanceCentimeter](#) ()

*[getDistanceCentimeter\(\)](#): Returns the distance in centimeters*

- void [setAveraging](#) (int avg)

*[setAveraging\(int avg\)](#): Sets how many samples have to be averaged in [getDistanceCentimeter](#), default value is 1.*

- void [setARefVoltage](#) (int \_refV)

*[setARefVoltage](#):set the ADC reference voltage: (default value: 5V, set to 3 for external reference value, typically 3.3 on Arduino boards)*

### 3.1.1 Constructor & Destructor Documentation

#### 3.1.1.1 DistanceGP2Y0A21YK::DistanceGP2Y0A21YK ( )

DistanceGP2Y0A21YK.cpp - Library for retrieving data from the GP2Y0A21YK IR Distance sensor. For more information: variable declaration, changelog,... see [DistanceGP2Y0A21YK.h](#).

Constructor

### 3.1.2 Member Function Documentation

#### 3.1.2.1 void DistanceGP2Y0A21YK::begin ( ) [virtual]

Begin function to set pins: distancePin = A0.

Reimplemented from [DistanceSensor](#).

#### 3.1.2.2 void DistanceGP2Y0A21YK::begin ( int distancePin )

Begin variables.

- int \_distancePin: number indicating the distance to an object: ANALOG IN When you use [begin\(\)](#) without variables standard values are loaded: A0

#### 3.1.2.3 int DistanceGP2Y0A21YK::getDistanceCentimeter ( ) [virtual]

[getDistanceCentimeter\(\)](#): Returns the distance in centimeters

Implements [DistanceSensor](#).

#### 3.1.2.4 int DistanceGP2Y0A21YK::getDistanceRaw ( )

[getDistanceRaw\(\)](#): Returns the distance as a raw value: ADC output: 0 -> 1023

#### 3.1.2.5 int DistanceGP2Y0A21YK::getDistanceVolt ( )

[getDistanceVolt\(\)](#): Returns the distance as a Voltage: ADC Input: 0V -> 5V (or 0V -> 3.3V)

#### 3.1.2.6 void DistanceGP2Y0A21YK::setARefVoltage ( int *refV* )

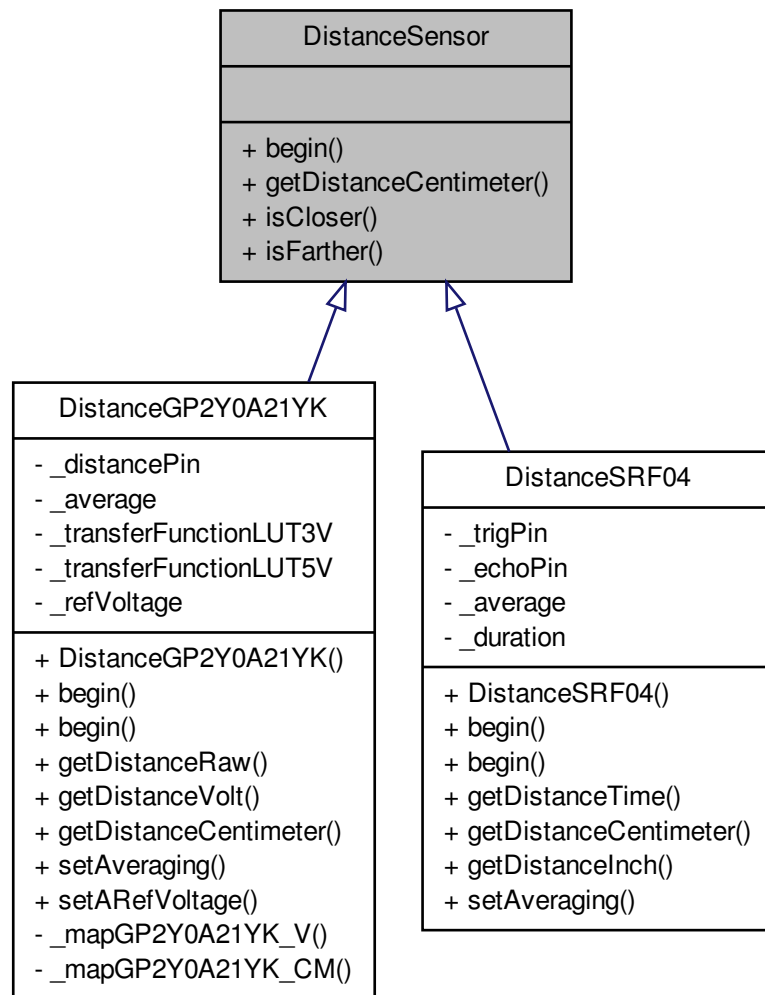
[setARefVoltage](#): set the ADC reference voltage: (default value: 5V, set to 3 for external reference value, typically 3.3 on Arduino boards)

#### 3.1.2.7 void DistanceGP2Y0A21YK::setAveraging ( int *avg* )

[setAveraging\(int avg\)](#): Sets how many samples have to be averaged in [getDistanceCentimeter](#), default value is 1.

## 3.2 DistanceSensor Class Reference

Inheritance diagram for DistanceSensor:



## Public Member Functions

- virtual void **begin** ()
- virtual int **getDistanceCentimeter** ()=0
- boolean **isCloser** (int threshold)

*DistanceSensor.cpp - Library for,...*

- boolean `isFarther` (int threshold)

*isFarther: check whether the distance to the detected object is smaller than a given threshold*

### 3.2.1 Member Function Documentation

#### 3.2.1.1 boolean DistanceSensor::isCloser ( int *threshold* )

*DistanceSensor.cpp - Library for,...*

*isCloser: check whether the distance to the detected object is smaller than a given threshold*

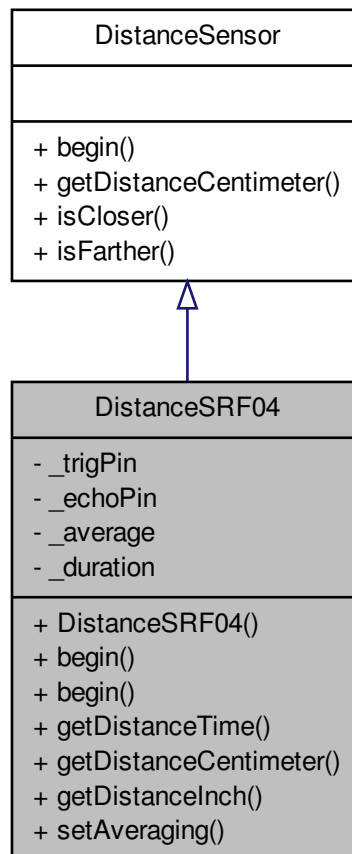
#### 3.2.1.2 boolean DistanceSensor::isFarther ( int *threshold* )

*isFarther: check whether the distance to the detected object is smaller than a given threshold*

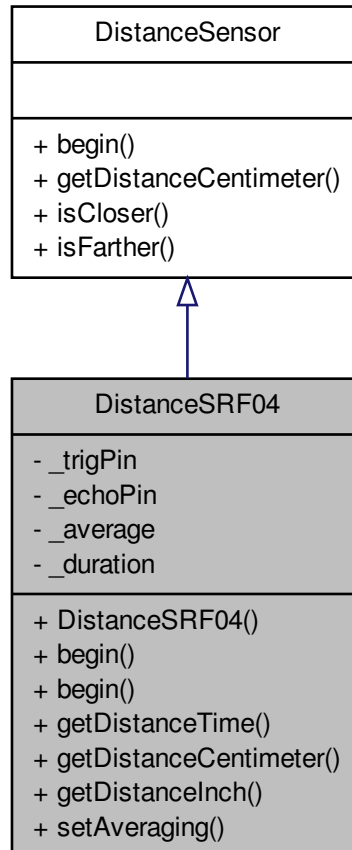


### 3.3 DistanceSRF04 Class Reference

Inheritance diagram for DistanceSRF04:



Collaboration diagram for DistanceSRF04:



#### Public Member Functions

- [DistanceSRF04](#) ()  
*DistanceSRF04.cpp* - Library for retrieving data from the GP2Y0A21YK IR Distance sensor. For more information: variable declaration, changelog,... see [DistanceSRF04.h](#).
- void [begin](#) ()  
*Begin function to set default pins.*
- void [begin](#) (int echoPin, int trigPin)  
*Begin variables.*
- int [getDistanceTime](#) ()  
*[getDistanceTime\(\)](#): Returns the time between transmission and echo receive*

- int [getDistanceCentimeter](#) ()  
*[getDistanceCentimeter\(\)](#): Returns the distance in centimeters*
- int [getDistanceInch](#) ()  
*[getDistanceInch\(\)](#): Returns the distance in inches*
- void [setAveraging](#) (int avg)  
*[setAveraging\(int avg\)](#): Sets how many samples have to be averaged in [getDistanceCentimeter](#), default value is 100.*

### 3.3.1 Constructor & Destructor Documentation

#### 3.3.1.1 DistanceSRF04::DistanceSRF04 ( )

DistanceSRF04.cpp - Library for retrieving data from the GP2Y0A21YK IR Distance sensor. For more information: variable declaration, changelog,... see [DistanceSRF04.h](#).

Constructor

### 3.3.2 Member Function Documentation

#### 3.3.2.1 void DistanceSRF04::begin ( ) [virtual]

Begin function to set default pins.

Reimplemented from [DistanceSensor](#).

#### 3.3.2.2 void DistanceSRF04::begin ( int echoPin, int trigPin )

Begin variables.

- int trigPin: pin used to activate the sensor
- int echoPin: pin used to read the reflection

#### 3.3.2.3 int DistanceSRF04::getDistanceCentimeter ( ) [virtual]

[getDistanceCentimeter\(\)](#): Returns the distance in centimeters

Implements [DistanceSensor](#).

#### 3.3.2.4 int DistanceSRF04::getDistanceInch ( )

[getDistanceInch\(\)](#): Returns the distance in inches

#### 3.3.2.5 int DistanceSRF04::getDistanceTime ( )

[getDistanceTime\(\)](#): Returns the time between transmission and echo receive

#### 3.3.2.6 void DistanceSRF04::setAveraging ( int avg )

[setAveraging\(int avg\)](#): Sets how many samples have to be averaged in [getDistanceCentimeter](#), default value is 100.

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