Erriez HC-SR04 ultrasonic distance sensor library for Arduino

1.0.0

Generated by Doxygen 1.8.13

Contents

Chapter 1

HC-SR04 Ultrasonic Distance Sensor library for Arduino

This is a HC-SR04 I2C RTC library for Arduino.

Library features

- Measure distance between 2..2000 cm
- Accuracy around +/-1cm
- Optimized pin control for AVR

Hardware

Arduino UNO

- TRIG pin to Arduino Uno pin 2
- ECHO pin to Arduino Uno pin 3
- VCC pin to Arduino Uno pin VCC
- GND pin to Arduino Uno pin GND

Examples

Arduino IDE | Examples | Erriez HC-SR04:

- HC-SR04

Documentation

- Doxygen online HTML
- Doxygen PDF

Example

```
{c++}
#include <ErriezHCSR04.h>

// Pin defines
#define TRIG_PIN    2
#define ECHO_PIN    3

// Create sensor object
ErriezHCSR04 hcsr04(TRIG_PIN, ECHO_PIN);


void setup()
{
    // Initialize serial port
    delay(500);
    Serial.begin(115200);
    while (!Serial) {
        ;
    }
    Serial.println(F("\nErriez HC-SR04 ultrasonic distance sensor example\n"));

    // Initialize pins
    hcsr04.begin();
}

void loop()
{
    uint16_t distance;

    // Measure distance
    distance = hcsr04.getDistance();

    // Print distance
    Serial.print("Distance: ");
    Serial.print(distance);
    Serial.println(" cm");

    // Wait
    delay(250);
}
```

Library dependencies

- None

Library installation

Please refer to the Wiki page.

More Arduino Libraries from Erriez

- Erriez Libraries

Chapter 2

Class Index

2.1 Class List

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

Chapter 3

File Index

3.1 File List

Here is a list of all documented files with brief descriptions:

Chapter 4

Class Documentation

4.1 ErriezHCSR04 Class Reference

ErriezHCSR04 class.

```
#include <ErriezHCSR04.h>
```

Public Member Functions

- ErriezHCSR04 (uint8_t triggerPin, uint8_t echoPin)
  Constructor.
- void begin ()
  Initialize pins.
- uint16_t getDistance ()
  Get distance.

4.1.1 Detailed Description

ErriezHCSR04 class.

Definition at line 58 of file ErriezHCSR04.h.

4.1.2 Constructor & Destructor Documentation

4.1.2.1 ErriezHCSR04()

```
ErriezHCSR04::ErriezHCSR04 (
            uint8_t triggerPin,
            uint8_t echoPin )
```

Constructor.

Parameters

triggerPin	Trigger pin
echoPin	Echo pin

Definition at line 43 of file ErriezHCSR04.cpp.

4.1.3 Member Function Documentation

4.1.3.1 getDistance()

```
uint16_t ErriezHCSR04::getDistance ( )
```

Get distance.

Returns

Distance in cm

Definition at line 76 of file ErriezHCSR04.cpp.

The documentation for this class was generated from the following files:

- src/ErriezHCSR04.h
- src/ErriezHCSR04.cpp

Chapter 5

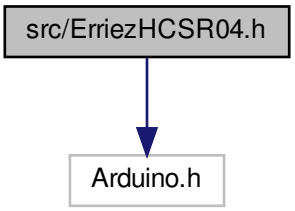
File Documentation

5.1 src/ErriezHCSR04.h File Reference

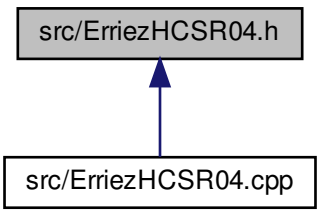
HC-SR04 ultrasonic distance sensor library for Arduino.

```
#include <Arduino.h>
```

Include dependency graph for ErriezHCSR04.h:



This graph shows which files directly or indirectly include this file:



Classes

- class ErriezHCSR04

  ErriezHCSR04 class.

Macros

- #define HCSR04_TRIG_LOW() { digitalWrite(_triggerPin, LOW); }

  Trigger pin low.
- #define HCSR04_TRIG_HIGH() { digitalWrite(_triggerPin, HIGH); }

  Trigger pin high.
- #define HCSR04_TRIG_OUTPUT() { pinMode(_triggerPin, OUTPUT); }

  Trigger pin output.
- #define HCSR04_ECHO_INPUT() { pinMode(_echoPin, INPUT); }

  Echo pin input.
- #define HCSR04_ECHO_READ() (digitalRead(_echoPin))

  Echo pin read.

5.1.1 Detailed Description

HC-SR04 ultrasonic distance sensor library for Arduino.

Source: https://github.com/Erriez/ErriezHCSR04 Documentation: https://erriez.↩
github.io/ErriezHCSR04

Index