

# SRF10 Library Manual

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Adapted from <http://www.robot-electronics.co.uk/htm/srf10tech.htm>

## Constructor

```
SRF10::SRF10(TwoWire * _bus, byte Addr)
```

The constructor function takes a pointer to the I2C bus that the sensor is on as well as the sensor's I2C address. A sample instantiation of the class as an object `myUS` with I2C address `0xEE` is as follows:

```
SRF10 myUS(&Wire, 0xEE);
```

## Initiate Ranging

```
void SRF10::startRanging(byte units)
```

The function takes the units command as a parameter. For example, to initiate a ranging on the object `myUS` in centimeters:

```
myUS.startRanging(0x51);
```

## Read Value

```
int SRF10::read()
```

Read only after waiting an appropriate amount of time. For example, to read the value from `myUS` in centimeters:

```
myUS.read();
```

## Asynchronous Ranging

```
int SRF10::asyncRead(byte units)
```

This method is a combination of read and initiate. It stores data from the last ranging session and is therefore able to provide data even when the sensor is unavailable. Every time it is run, it checks whether the sensor is available. If it is, it returns the value from it and initiates

a new ranging. If it isn't, the function returns the last measured value. The function takes the units command as a parameter. For example, to read from `myUS` in centimeters:

```
myDistance = myUS.asyncRead(0x51);
```

## Set Address

```
int SRF10::setAddress(byte newAddr)
```

This method sets the device address to the parameter `newAddr`. If it is successful, it also changes the address stored by the object and returns 1. Else it returns 0.

## Set Gain

```
void SRF10::setGain(int gain)
```

This method sets the sensor's gain to the parameter `gain`.

## Set Range

```
void SRF10::setRange(byte newRange)
```

This method sets the range (in meters) to the parameter `newRange`.