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SUMMARY: NESTED | FIELD | CONSTR | METHOD   DETAIL: FIELD | CONSTR | METHOD

stamp.protocol

Class I2C

```
java.lang.Object
  |
  +--stamp.protocol.I2C
```

public class **I2C**
extends Object

This class defines a physical bus and provides essential I2C protocol routines. The bus pins should be pulled up to Vdd through 4.7K resistors.

This class can be used as-is, but will usually be referenced by a specific device class that uses the I2C bus. Direct use of this class requires the programmer to have some understanding of the I2C bus and protocol. Examples on how to use this class with I2C and I2C compatible devices are published in AN003 - I2C Primer available from the www.javelinstamp.com Applications page. For more information, consult Philips documentation for details:

http://www.semiconductors.philips.com/i2c/

Creating the bus requires two available pins: SDA (serial data) and SCL (serial clock).

```
I2C ioBus = new I2C(CPU.pin0, CPU.pin1); // SDA on pin 0; SCL on pin 1

 Revision History:
 07/15/02: v1.1: Initial release.
 10/14/02: v1.2: Read method overloaded and class moved to the protocol
 folder for release.
```

Field Summary

static int	**ACK** Acknowledgement condition can be detected by the write method or transmitted by the read method.
static int	**NAK** No acknowledgement condition can be detected by the write method or transmitted by the read method.
protected int	**sclPin**

protected int	**sdaPin**

Constructor Summary

I2C(int sdaPin, int sclPin)   Creates I2C bus object and intializes bus pins.

Method Summary

int	**read**(boolean ackBit) Read 8-bit value from I2C device.
int	**read**(int ackBit) Read 8-bit value from I2C device.
void	**start**() Send I2C Start sequence.
void	**stop**() Send I2C Stop sequence.
boolean	**write**(int i2cData) Write 8-bit value to I2C device.

Methods inherited from class java.lang.Object

equals

Field Detail

ACK

public static final int **ACK**

> Acknowledgement condition can be detected by the write method or transmitted by the read method.

> **See Also:**
> > Constant Field Values

NAK

public static final int **NAK**

> No acknowledgement condition can be detected by the write method or transmitted by the read method.

See Also:
[Constant Field Values](#)

---

sdaPin

```
protected int sdaPin
```

---

sclPin

```
protected int sclPin
```

Constructor Detail

I2C

```
public I2C(int sdaPin,
           int sclPin)
```

Creates I2C bus object and intializes bus pins.

Parameters:
sdaPin - I2C serial data pin (bi-directional).
sclPin - I2C serial clock pin.

Method Detail

start

```
public void start()
```

Send I2C Start sequence.

---

write

```
public boolean write(int i2cData)
```

Write 8-bit value to I2C device.

Parameters:
i2cData - Value to write to I2C device.
Returns:
True if device returned Ack; False if Nak.

read

```
public int read(boolean ackBit)
```

Read 8-bit value from I2C device.

Parameters:
ackBit - `true` to send Ack; `false` to send Nak after receipt of data.

Returns:
Value from I2C device.

read

```
public int read(int ackBit)
```

Read 8-bit value from I2C device.

Parameters:
ackBit - 0 to send Ack; 1 to send Nak after receipt of data.

Returns:
Value from I2C device.

stop

```
public void stop()
```

Send I2C Stop sequence.

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Javelin Stamp

PREV CLASS NEXT CLASS

FRAMES **NO FRAMES** **All Classes**

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