

Klasse i2c.cpp zum direkten Ansteuern des I2C (TWI) – Bus ohne Library :

```
#include "i2c.h"
#include <util/twi.h>

i2c::i2c()
{
    TWBR = 72;           //neu : Bitrate 400 khz
    TWSR = 3;//0;       //Prescaler 64/ 0
}

void i2c::start()
{
    TWCR = _BV(TWINT) | _BV(TWSTA) | _BV(TWEN); //start, und warte bis angekommen
    while (!(TWCR & (1<<TWINT)))
    {
    }
}

void i2c::stop()
{
    TWCR = (1<<TWINT) | (1<<TWEN) | (1<<TWSTO); //stop
}

unsigned char i2c::read()
{
    TWCR = (1<<TWINT)|(1<<TWEN)|(1<<TWEA); //read mit ACK
    while ((TWCR & (1<<TWINT)) == 0)
    {
    }

    return TWDR;
}

unsigned char i2c::read_end()
{
    TWCR = (1<<TWINT)|(1<<TWEN); //read ohne ACK (NACK)
    while ((TWCR & (1<<TWINT)) == 0)
    {
    }
    return TWDR;
}

void i2c::write(unsigned char wert)
```

```
{
    TWDR = wert;
    TWCR = (1<<TWINT) | (1<<TWEN);
    while (!(TWCR & (1<<TWINT)))    //data und warte
    {
    }
}
```

Definitionsdatei der Klasse i2c.cpp:

```
class i2c
{
public:

    unsigned char data, twicount;

    i2c();

    void start();
    void stop();
    void test();
    void write(unsigned char schreiben);
    unsigned char read();
    unsigned char read_end();
};
```