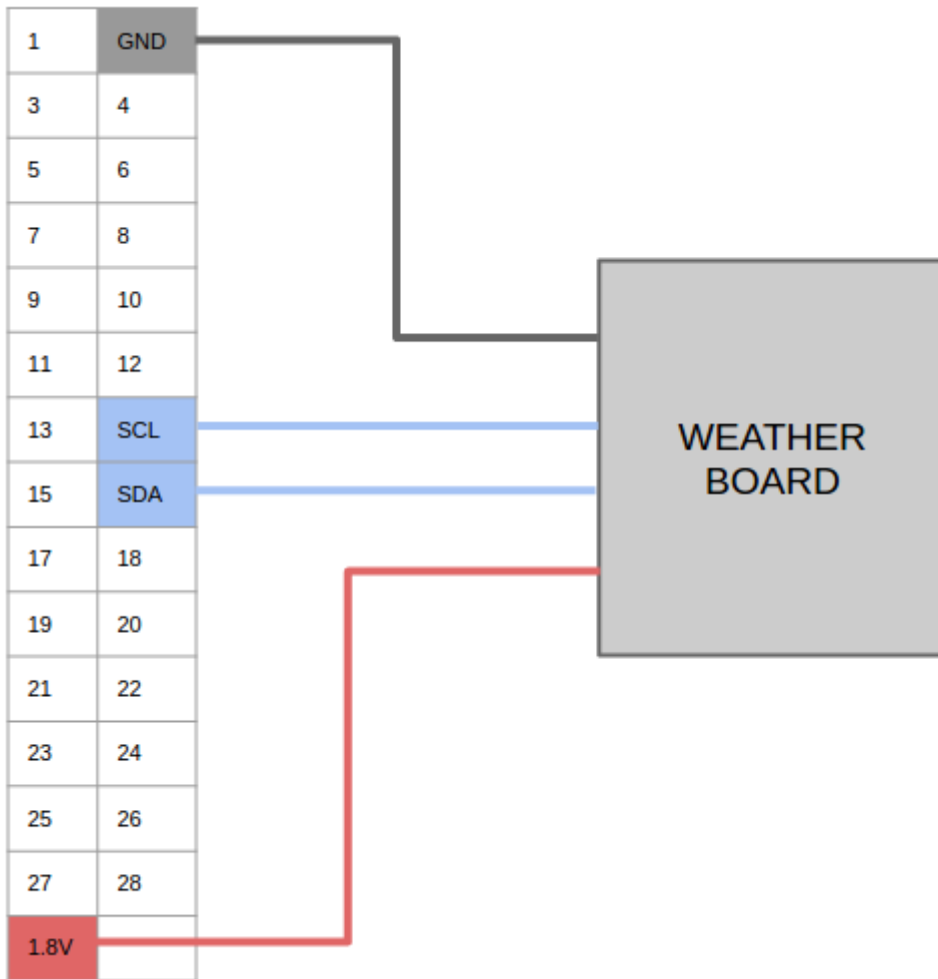


# Using the temperature & humidity sensor with H/W I2C

We tested to read si702x sensor with H/W I2C.





Open /etc/modprobe.d/blacklist.conf file and add drivename using following syntax:

```
blacklist ioboard_bh1780
blacklist ioboard_bmp180
blacklist ioboard_keyled
```

Reboot

```
sudo reboot
```

Compile & Run

```
gcc -o ex_si702x ex_si702x.c
```

```
odroid@odroid:~$ sudo ./ex_si702x
Temperature : 28.64 °C
Humidity : 43.62 %
```

ex\_si702x.c

```
#include <stdio.h>
#include <fcntl.h>
```

```
#include <linux/i2c-dev.h>

#define CMD_MEASURE_TEMPERATURE_HOLD    0XE3
#define CMD_MEASURE_HUMIDITY_HOLD      0xE5
#define SI702X_ADDRESS                  0x40

int main(void)
{
    unsigned char rbuf[2];
    unsigned char wbuf[1];
    double temperature = ;
    double humidity = ;
    int status = ;

    // Net name I2C_1 Physical address : 0x12C70000
    int fd = open("/dev/i2c-4", O_RDWR);
    if (fd < ) {
        printf("ERROR: open failed\n");
        return -1;
    }

    status = ioctl(fd, I2C_SLAVE, SI702X_ADDRESS);
    if (status < ) {
        printf("ERROR: ioctl error\n");
        close(fd);
        return -1;
    }

    wbuf[] = CMD_MEASURE_TEMPERATURE_HOLD;
    write(fd, wbuf, 1);
    if (read(fd, rbuf, 2) != 2)
        printf("Failed to read from the i2c bus.\n");

    temperature = rbuf[1] | rbuf[] << 8;
    printf("Temperature : %.2lf *C\n", (temperature*175.72/65536) -
46.85) ;

    wbuf[] = CMD_MEASURE_HUMIDITY_HOLD;
    write(fd, wbuf, 1);
    if (read(fd, rbuf, 2) != 2)
        printf("Failed to read from the i2c bus.\n");

    humidity = rbuf[1] | rbuf[] << 8;
    printf("Humidity : %.2lf %%\n", (humidity*125.0/65536) - 6);

    close(fd);
}
```

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