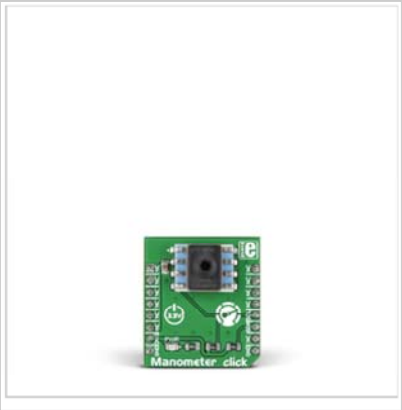
Manometer click

From MikroElektonika Documentation

Manometer click carries a piezoresistive silicon pressure sensor – a Honeywell HSCMAND060PA3A3 module with industry-leading, extremely high accuracy of ±0.25%FSS BFSL. An absolute pressure range from 0 to 60 PSI makes it suitable for a variety applications. Beyond the measurement range, the sensor has a high burst pressure threshold, resulting in increased reliability. . Manometer click communicates with the target board MCU through the mikroBUS™ I2C interface (SCL, SDA). Manometer click uses a 3.3V power supply.

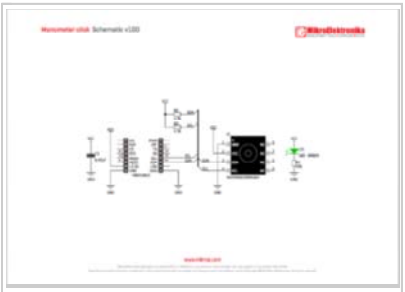
Manometer click



Manometer click

IC/Module	HSCMAND060PA3A3
	Honeywell HSCMAND060PA3A3 (http://sensing.honeywell.com/honeywell-sensing-trustability-hsc-series-high-accuracy-board-mount-pressure-sensors-50099148-a-en.pdf?name=HSCMAND060PA3A3)
Interface	I2C (SCL, SDA)
Power supply	3.3V
Website	www.mikroe.com/click/manometer (http://www.mikroe.com/click/manometer)

Features and usage notes



Schematic also available in PDF (http://cdn-docs.mikroe.com/images/6/62/Manometer_click_v10

The sensor on Manometer click is a highly reliable and robust unit. It's also fairly easy to use and implement. It requires no calibration and it compensates for environmental conditions by relying on its internal temperature sensor.

The HSC Series is calibrated over the temperature range of 0 °C to 50 °C (32 °F to 122 °F).

The temperature sensor can also be accessed independently through the I2C interface.

The barbed port accepts 4.93 mm (0.19”) tubing which connects directly (no special extensions required).

Programming

The following code snippet shows how our library simplifies the usage of Manometer click.

```
#include "manometer_hw.h"
void main()
{
    float pressure, temp;
    int count = 0;
    TWI_Init( 100000 );
    manometer_init( MANOMETER_ADDRESS_TYPE_3, 0, 60 );
    pressure = manometer_get_pressure();
    temp = manometer_get_temp( CELSIUS );
    if( pressure > 45 && temp > 35 )
        count++;
}
```

Code examples that demonstrate the usage of Manometer click with MikroElektronika hardware, written for mikroC for ARM, AVR, dsPIC, FT90x, PIC and PIC32 are available on Libstock (http://libstock.mikroe.com/projects/view/1781/manometer-click).

Resources

- learn.mikroe.com tutorial about Manometer click (http://learn.mikroe.com/industrial-solution-pressures/)

- HSCMAND060PA3A3 data sheet (http://sensing.honeywell.com/honeywell-sensing-trustability-hsc-series-high-accuracy-board-mount-pressure-sensors-50099148-a-en.pdf?name=HSCMAND060PA3A3)

- Manometer click examples on Libstock (http://libstock.mikroe.com/projects/view/1781/manometer-click)

- mikroBUS standard specifications (http://download.mikroe.com/documents/standards/mikrobus/mikrobus-standard-specification-v200.pdf)