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## Overview

This weather sensor xCHIP is equipped with a weather (<https://en.wikipedia.org/wiki/Weather>) sensor that is capable of measuring the temperature (<https://en.wikipedia.org/wiki/Temperature>), humidity (<https://en.wikipedia.org/wiki/Humidity>) and atmospheric pressure ([https://en.wikipedia.org/wiki/Atmospheric\\_pressure](https://en.wikipedia.org/wiki/Atmospheric_pressure)).

The humidity sensor provides an extremely fast response time for fast context awareness application and high overall accuracy over a wide temperature range.

The pressure sensor is an absolute barometric pressure sensor with extremely high accuracy and resolution.

The integrated temperature sensor has been optimized for lowest noise and highest resolution. Its output is used for temperature compensation of the pressure and humidity sensors and can also be used for estimation of the ambient temperature.

## Product Highlights

- Measures temperature (<https://en.wikipedia.org/wiki/Temperature>) (°C)
- Measures atmospheric pressure ([https://en.wikipedia.org/wiki/Atmospheric\\_pressure](https://en.wikipedia.org/wiki/Atmospheric_pressure)) (Pa) /altitude (m)
- Measures relative humidity ([https://en.wikipedia.org/wiki/Relative\\_humidity](https://en.wikipedia.org/wiki/Relative_humidity)) (%)

## Applications

- Context Awareness, e.g. Skin Detection, Room Change Detection.
- Fitness Monitoring.
- Home Automation Control.
- Weather Forecast.

## Specifications

- Based on the BME280 From Bosch Sensortec.
- Operating Range:
  1. Temperature: -40 to 85°C
  2. Relative Humidity: 0 to 100%
  3. Pressure: 300 to 1100 hPa
- Humidity Sensor and Pressure Sensor can be Independently Enabled/ Disabled.
- 3 Power Modes:
  1. Sleep Mode.
  2. Normal Mode.
  3. Forced Mode.

## External Links

### Documents

- BME280 From Bosch Sensortec ([https://ae-bst.resource.bosch.com/media/\\_tech/media/datasheets/BST-BME280\\_DS002-13.pdf](https://ae-bst.resource.bosch.com/media/_tech/media/datasheets/BST-BME280_DS002-13.pdf))

### Shop

- Buy SW01 (<https://xinabox.cc/collections/sensors/products/SW01>)

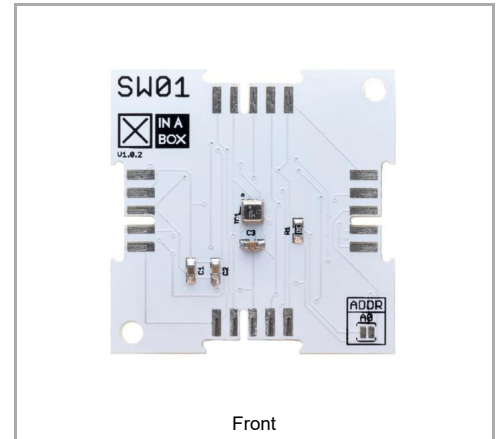
### GitHub

- SW01 on GitHub (<https://github.com/xinabox/xSW01>)

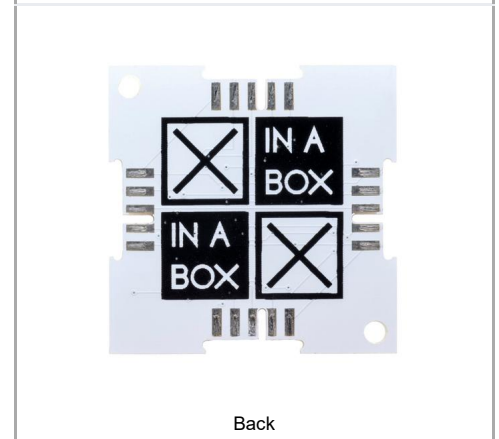
### Projects

- Hackster Thingspeak ([https://www.hackster.io/macsoost/bme280-thingspeak-particle-bridge-4d7dd4?ref=search&ref\\_id=bme280&offset=0](https://www.hackster.io/macsoost/bme280-thingspeak-particle-bridge-4d7dd4?ref=search&ref_id=bme280&offset=0))

## XinaBox Datasheet SW01 - Advanced Weather Sensor (BME280)



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<b>XCHIP</b>	
<b>Main Category</b>	Sensor
<b>Sub Category</b>	Weather
<b>Introduced</b>	1 January 2017
<b>Current version</b>	1.0.1
<b>Current version date</b>	1 January 2017
<b>Dimensions</b>	
<b>Size</b>	2x2U (32x32mm)
<b>Weight</b>	2.8 g
<b>Height</b>	2.4/1/0 mm
<b>Power</b>	
<b>V<sub>CC</sub> (3.3v) Power Consumption</b>	3.6 μA @ 1 Hz
<b>Main Chip Set</b>	
<b>Main Chip</b>	BME280
<b>I<sup>2</sup>C Configuration</b>	
<b>Default Address</b>	0x76