



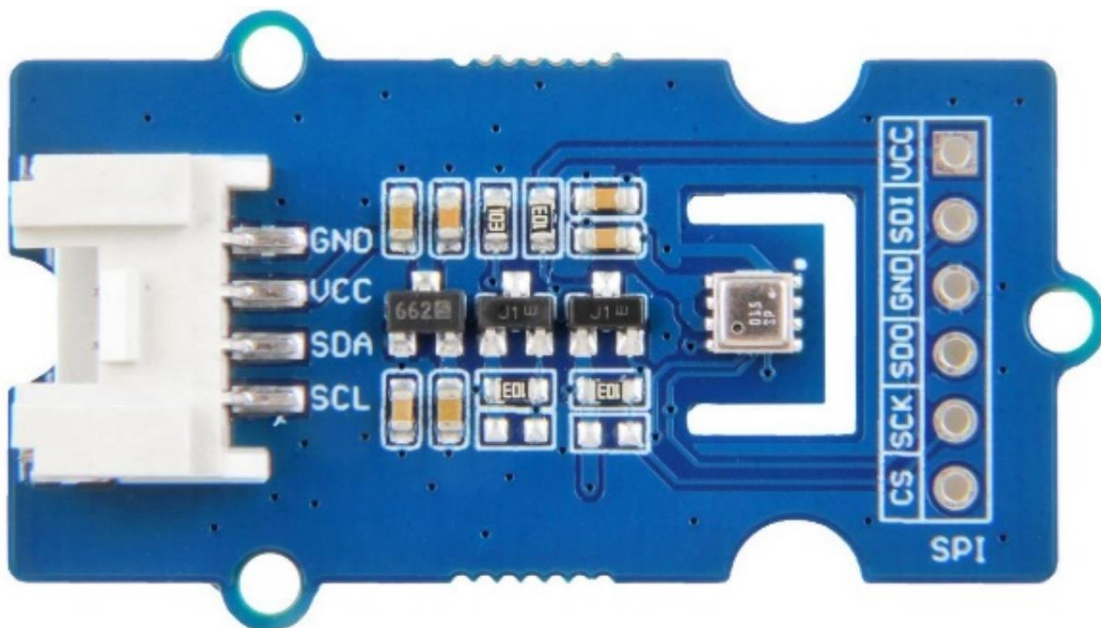
THE BME680: TEMPERATURE, HUMIDITY, PRESSURE AND VOC



THE BME680 IS HIGH-PRECISION, LOW-POWER COMBINED TEMPERATURE, HUMIDITY, PRESSURE, AND VOLATILE ORGANIC COMPOUND (VOC) SENSOR. AS THE ATMOSPHERIC PRESSURE CHANGES WITH ALTITUDE, IT CAN ALSO MEASURE APPROXIMATE ALTITUDE OF A PLACE.

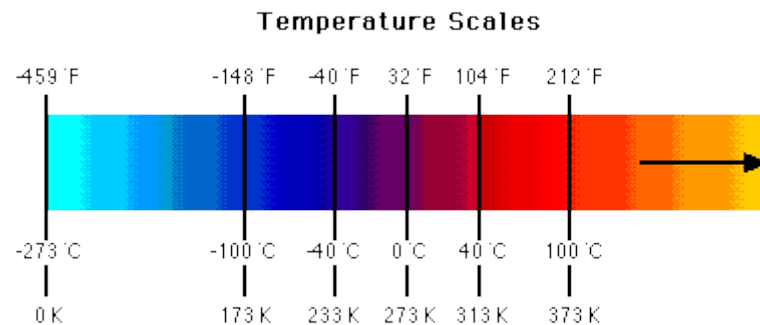
USAGES:

- INDOOR AIR QUALITY MONITOR
- HOME AUTOMATION AND CONTROL
- IOT DEVICE
- BAROMETER
- WEATHER FORECAST SYSTEM USING ARDUINO
- GPS ENHANCEMENT(E.G. TIME-TO-FIRST-FIX IMPROVEMENT, DEAD RECKONING, SLOPE DETECTION)
- INDOOR NAVIGATION(CHANGE OF FLOOR DETECTION, ELEVATOR DETECTION)
- VERTICAL VELOCITY INDICATION(RISE/SINK SPEED)

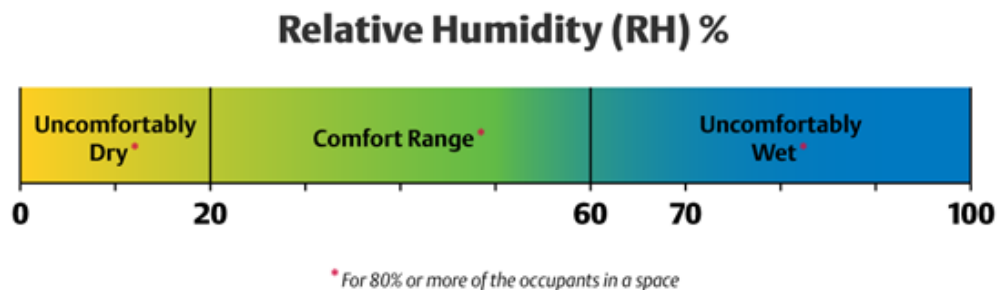




- TEMPERATURE SENSOR MEASUREMENT RANGE: -40°C TO 85°C , WITH $\pm 1.0^{\circ}\text{C}$ ACCURACY



- HUMIDITY SENSOR MEASUREMENTS RANGE: 0% TO 100% RELATIVE HUMIDITY , WITH $\pm 3\%$ ACCURACY



- ATMOSPHERIC PRESSURE SENSOR MEASUREMENT RANGE: 300 TO 1100 KPA WITH ± 1.0 KPA ACCURACY
- VOC MEASUREMENT RANGE: 1.000 TO 300.00 KOHMS. WITH CLEVER BIT OF MATHS WE CAN CONVERT THIS TO THE INDOOR AIR QUALITY (IAQ) INDEX 0 TO 351

IAQ Index	Air Quality	Impact (long-term exposure)	Suggested action
0 – 50	Excellent	Pure air; best for well-being	No measures needed
51 – 100	Good	No irritation or impact on well-being	No measures needed
101 – 150	Lightly polluted	Reduction of well-being possible	Ventilation suggested
151 – 200	Moderately polluted	More significant irritation possible	Increase ventilation with clean air
201 – 250 ⁹	Heavily polluted	Exposition might lead to effects like headache depending on type of VOCs	optimize ventilation
251 – 350	Severely polluted	More severe health issue possible if harmful VOC present	Contamination should be identified if level is reached even w/o presence of people; maximize ventilation & reduce attendance
> 351	Extremely polluted	Headaches, additional neurotoxic effects possible	Contamination needs to be identified; avoid presence in room and maximize ventilation