Uni-Kit Breakout Board - Sensor

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Uni-kit Breakout Sensor is a compact add-on board for accuracy, high reliability, and long-term stability in humidity, temperature and ambient light measurements. This board features the SHT40-AD1B-R2, a humidity and temperature sensor from Sensirion, VEML6030 and VEML6040 from Vishay. The SHT40-AD1B-R2 can measure the relative humidity in the range from 0 up to 100%. This board makes the perfect solution for developing humidity and thermal management of portable electronics and industrial, consumer and environmental applications along with light sensing applications.

Uni-Kit Breakout Board Sensor is supported by the uni-SDK library, which includes functions that simplify software development.

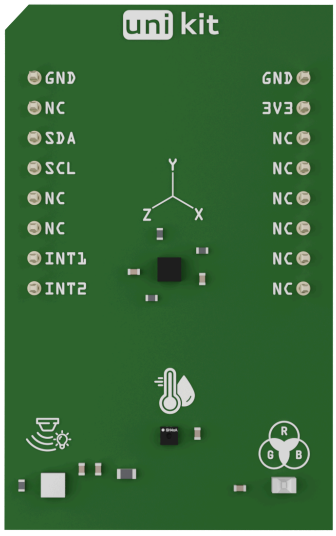

Figure: Uni-Kit Breakout Board Sensor

HOW DOES IT WORK?

Uni-kit Breakout Sensor has two sensors onboard - SHT40-AD1B-R2, a humidity and temperature sensor from Sensirion, VEML6030, an ambient light sensor, VEML6040, a color sensor and BMA400, an accelerometer.

The SHT40-AD1B-R2 is a robust and reliable sensor, and even when exposed to conditions outside its normal range, it can recalibrate itself once conditions stabilise.

All the sensors communicate with the host MCU using an I2C interface over the mikroBUS™ socket, with communication speeds of up to 1 MHz.

This Breakout Board can operate with 3.3 V logic voltage. However, the Breakout Board comes equipped with a library containing easy-to-use functions and an example code that can be used, as a reference, for further development.

SPECIFICATIONS

Type	Temperature & humidity, Ambient Light, Color and Accelerometer
Applications	Can be used for the development of humidity and thermal management of portable electronics and industrial, consumer, and environmental applications. Smart Home applications using ambient light and color sensor.
On-board modules	SHT40-AD1B-R2, a humidity and temperature sensor from Sensirion. VEML6030, an ambient light sensor. VEML6040, a color sensor and BMA400, accelerometer
Interface	I2C
Compatibility	mikroBUS™

Board size	M (42.9 x 25.4 mm)
Input Voltage	3.3V

PINOUT DIAGRAM

This table shows how the pinout on the Uni-Kit Breakout Board Sensor corresponds to the pinout on the mikroBUS™ socket (the latter shown in the two middle columns).

Notes	Pin	mikroBUS				Pin	Notes
	NC	1	AN	PWM	16	NC	
Reset	**RST**	2	RST	INT	15	**INT**	Interrupt
	NC	3	CS	RX	14	NC	
	NC	4	SCK	TX	13	NC	
	NC	5	MISO	SCL	12	**SCL**	I2C Clock
	NC	6	MOSI	SDA	11	**SDA**	I2C Data
Power Supply	**3.3V**	7	3.3V	5V	10	**5V**	Power Supply
Ground	**GND**	8	GND	GND	9	**GND**	Ground

ELECTRICAL SPECIFICATIONS

Description	Min	Typ	Max	Unit
Supply Voltage	-	3.3	-	V

SOFTWARE SUPPORT

A library for the Uni-Kit Breakout Board is available as a demo application (example). The demo can run on all the Uni-Kit development boards.