

## Temp&Hum 26 Click



PID: MIKROE-6688

**Temp&Hum 26 Click** is a compact add-on board that provides precise digital temperature and humidity measurements, designed to ensure reliable environmental monitoring in a variety of embedded applications. It is based on the [ENS211](#) from [ScioSense](#), a high-performance temperature and humidity sensor that delivers a typical temperature accuracy of  $\pm 0.15^{\circ}\text{C}$  over a range from  $-40$  to  $100^{\circ}\text{C}$  and relative humidity accuracy of  $\pm 2.0\% \text{RH}$  across the full 0 to 100%RH span. The board also features the Click Snap concept, allowing the sensor portion to be detached and used autonomously with direct access to pins, while communication with the host MCU is performed via an I2C interface. Temp&Hum 26 Click is ideally suited for smart appliances, consumer electronics, and other systems requiring accurate and stable temperature and humidity sensing.

For more information about **Temp&Hum 26 Click** visit the official [product page](#).

### How does it work?

Temp&Hum 26 Click is based on the ENS211, a high-performance temperature and humidity sensor from ScioSense that provides high-precision digital temperature and humidity measurements for a wide range of consumer and appliance applications. The ENS211 offers a typical temperature accuracy of  $\pm 0.15^{\circ}\text{C}$  across a measurement range from  $-40$  up to  $100^{\circ}\text{C}$ , alongside relative humidity measurements with  $\pm 2.0\% \text{RH}$  accuracy across the full 0 to 100%RH range. With its 16-bit resolution digital output, the sensor delivers detailed and reliable environmental data, making it suitable for sensitive applications that demand consistent performance like smart appliances, consumer devices, and various other systems where accurate and stable temperature and humidity sensing is essential.

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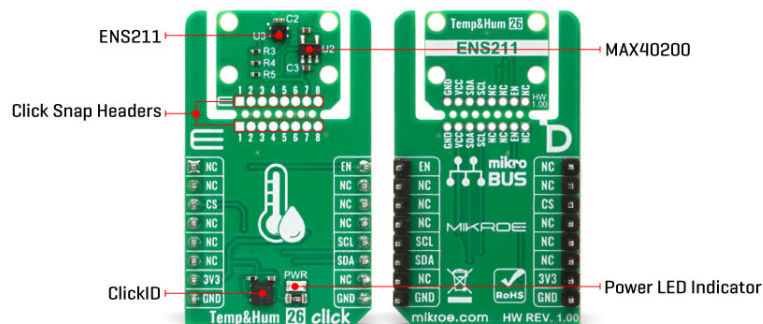
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ISO 27001: 2013 certification of informational security management system.  
 ISO 14001: 2015 certification of environmental management system.  
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ISO 9001: 2015 certification of quality management system (QMS).



This Click board™ is designed in a unique format supporting the newly introduced MIKROE feature called "Click Snap." Unlike the standardized version of Click boards, this feature allows the main sensor/IC/module area to become movable by breaking the PCB, opening up many new possibilities for implementation. Thanks to the Snap feature, the ENS211 can operate autonomously by accessing its signals directly on the pins marked 1-8. Additionally, the Snap part includes a specified and fixed screw hole position, enabling users to secure the Snap board in their desired location.

Communication with the host microcontroller is established over an I2C interface supporting clock speeds up to 400kHz, with a fixed address of 0x44 and defined read and write access frames. To optimize power control and operational management, the board integrates the MAX40200 from Analog Devices, which enables or disables the ENS211 through the dedicated EN pin.

This Click board™ can be operated only with a 3.3V logic voltage level. The board must perform appropriate logic voltage level conversion before using MCUs with different logic levels. It also comes equipped with a library containing functions and example code that can be used as a reference for further development.

## Click Snap

**Click Snap** is an innovative feature of our standardized Click add-on boards, designed to bring greater flexibility and optimize your prototypes. By simply snapping the PCB along predefined lines, you can easily detach the main sensor/IC/module area, reducing the overall size, weight, and power consumption - ideal for the final phase of prototyping. For more details about Click Snap, visit the [official page](#) dedicated to this feature.

## Specifications

Type	Temperature & humidity
Applications	Ideal for smart appliances, consumer electronics, and other systems requiring accurate and stable temperature and humidity sensing
On-board modules	ENS211 - high-performance digital humidity and temperature sensor from ScioSense

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Key Features	High-performance temperature and humidity sensor, typical temperature accuracy of $\pm 0.15^{\circ}\text{C}$ , relative humidity accuracy of $\pm 2.0\%\text{RH}$ , 16-bit resolution digital output, I2C interface, integrated MAX40200 for sensor enable control, Click Snap feature, and more
Interface	I2C
Feature	Click Snap, ClickID
Compatibility	mikroBUS™
Click board size	M (42.9 x 25.4 mm)
Input Voltage	3.3V

## Pinout diagram

This table shows how the pinout on Temp&Hum 26 Click 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	<b>EN</b>	Device Enable
	NC	2	RST	INT	15	NC	
ID COMM	<b>CS</b>	3	CS	RX	14	NC	
	NC	4	SCK	TX	13	NC	
	NC	5	MISO	SCL	12	<b>SCL</b>	I2C Clock
	NC	6	MOSI	SDA	11	<b>SDA</b>	I2C Data
Power Supply	<b>3.3V</b>	7	3.3V	5V	10	NC	
Ground	<b>GND</b>	8	GND	GND	9	<b>GND</b>	Ground

## Onboard settings and indicators

Label	Name	Default	Description
LD1	PWR	-	Power LED Indicator

## Temp&Hum 26 Click electrical specifications

Description	Min	Typ	Max	Unit
Supply Voltage	-	3.3	-	V
Temperature Range	-40	-	+100	$^{\circ}\text{C}$
Temperature Accuracy	-	$\pm 0.15$	-	$^{\circ}\text{C}$
Humidity Range	0	-	100	%RH
Humidity Accuracy	-	$\pm 2$	-	%RH

## Software Support

[TempHum 26 Click](#) demo application is developed using the [NECTO Studio](#), ensuring compatibility with [mikroSDK](#)'s open-source libraries and tools. Designed for plug-and-play implementation and testing, the demo is fully compatible with all development, starter, and mikromedia boards featuring a [mikroBUS™](#) socket.

## Example Description

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This example demonstrates the use of TempHum 26 Click board by reading the temperature and humidity values in periodic intervals. The device is initialized and placed into single-shot measurement mode, then both environmental values are read and logged to the USB UART. Data is updated every 200 ms.

## Key Functions

- `temphum26_cfg_setup` This function initializes Click configuration structure to initial values.
- `temphum26_init` This function initializes all necessary pins and peripherals used for this Click board.
- `temphum26_default_cfg` This function executes a default configuration of TempHum 26 Click board.
- `temphum26_start_measurement` This function starts the measurement for temperature, humidity, or both depending on the selected flag.
- `temphum26_read_data` This function reads temperature and humidity data from the device with CRC check and data validity.

## Application Init

Initializes the driver and performs the default configuration including device reset and communication check. It then logs the DIE revision number and unique ID.

## Application Task

Starts a new temperature and humidity measurement, waits for the results, and logs the readings to the terminal every 200 ms.

## Application Output

This Click board can be interfaced and monitored in two ways:

- Application Output - Use the "Application Output" window in Debug mode for real-time data monitoring. Set it up properly by following [this tutorial](#).
- UART Terminal - Monitor data via the UART Terminal using a [USB to UART converter](#). For detailed instructions, check out [this tutorial](#).

## Additional Notes and Information

The complete application code and a ready-to-use project are available through the NECTO Studio Package Manager for direct installation in the [NECTO Studio](#). The application code can also be found on the MIKROE [GitHub](#) account.

## Resources

[mikroBUS™](#)

[mikroSDK](#)

[Click board™ Catalog](#)

[Click boards™](#)

[ClickID](#)

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## Downloads

[Temp&Hum 26 click example package](#)

[ENS211 datasheet](#)

[Temp&Hum 26 click 2D and 3D files v100](#)

[Temp&Hum 26 click schematic v100](#)

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