

Temp&Hum 20 Click



PID: MIKROE-4907

Temp&Hum 20 Click is a compact add-on board that represents temperature and humidity sensing solution. This board features the CC2D23, a highly accurate, fully-calibrated relative humidity and temperature sensor from Amphenol. This sensor, characterized by its high accuracy ($\pm 2\%$ from 20% to 80%RH ($\pm 3\%$ over entire humidity range)) and high resolution, provides factory-calibrated 14-bit data to the host controller with a configurable I2C interface. It also comes with alarm features for preset control at a minimum and maximum humidity. The long-term stability and reliability, alongside other features, make this Click board™ ideal for various temperature and humidity-related applications and a vast number of applications ranging from portable devices to products designed for harsh environments.

Temp&Hum 20 Click is supported by a [mikroSDK](#) compliant library, which includes functions that simplify software development. This [Click board™](#) comes as a fully tested product, ready to be used on a system equipped with the [mikroBUS™](#) socket.

How does it work?

Temp&Hum 20 Click as its foundation uses the CC2D23, a highly accurate, fully-calibrated relative humidity and temperature sensor from Amphenol. The humidity can be measured within a range of 0 to 100 %RH, while the temperature sensor is designed for a range of -40 to +125 °C. The typical accuracy for humidity is ± 2 %RH in the measuring range of 20 up to 80 %RH at ambient temperature, and ± 0.3 °C for its operating temperature range with very low power consumption.

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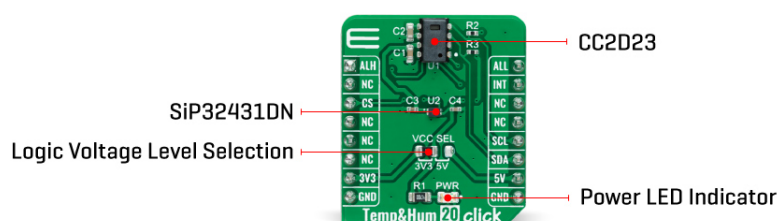
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ISO 27001: 2013 certification of informational security management system.
ISO 14001: 2015 certification of environmental management system.
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ISO 9001: 2015 certification of quality management system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



ClickID	No
Compatibility	mikroBUS™
Click board size	S (28.6 x 25.4 mm)
Input Voltage	3.3V or 5V

Pinout diagram

This table shows how the pinout on Temp&Hum 20 Click corresponds to the pinout on the mikroBUS™ socket (the latter shown in the two middle columns).

Notes	Pin	mikroBUS™				Pin	Notes
High Humidity Alarm	ALH	1	AN	PWM	16	ALL	Low Humidity Alarm
	NC	2	RST	INT	15	INT	Interrupt
Enable	EN	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

Onboard settings and indicators

Label	Name	Default	Description
LD1	PWR	-	Power LED Indicator
JP1	VCC SEL	Left	Logic Level Voltage Selection 3V3/5V: Left position 3V3, Right position 5V

Temp&Hum 20 Click electrical specifications

Description	Min	Typ	Max	Unit
Supply Voltage	3.3	-	5	V
Humidity Measurement Range	0	-	100	%RH
Humidity Accuracy	-	±2	-	%RH
Resolution	-	-	14	bits
Temperature Accuracy	-	±0.3	-	°C
Operating Temperature Range	-40	+25	+125	°C

Software Support

We provide a library for the Temp&Hum 20 Click as well as a demo application (example), developed using MikroElektronika [compilers](#). The demo can run on all the main MikroElektronika [development boards](#).

Package can be downloaded/installed directly from NECTO Studio Package Manager(recommended way), downloaded from our [LibStock™](#) or found on [Mikroe github account](#).

Library Description

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This library contains API for Temp&Hum 20 Click driver.

Key functions

- `temphum20_write_command` This function writes a desired command data to the selected command byte.
- `temphum20_get_measurement` This function waits for the data to be ready, and then reads the temperature and humidity data and converts them to Celsius and Percents, respectively.
- `temphum20_set_operating_mode` This function sets the device operating mode.

Example Description

This example demonstrates the use of Temp & Hum 20 Click board™.

The full application code, and ready to use projects can be installed directly from NECTO Studio Package Manager(recommended way), downloaded from our [LibStock™](#) or found on [Mikroe github account](#).

Other Mikroe Libraries used in the example:

- MikroSDK.Board
- MikroSDK.Log
- Click.TempHum20

Additional notes and informations

Depending on the development board you are using, you may need [USB UART click](#), [USB UART 2 Click](#) or [RS232 Click](#) to connect to your PC, for development systems with no UART to USB interface available on the board. UART terminal is available in all MikroElektronika [compilers](#).

mikroSDK

This Click board™ is supported with [mikroSDK](#) - MikroElektronika Software Development Kit. To ensure proper operation of mikroSDK compliant Click board™ demo applications, mikroSDK should be downloaded from the [LibStock](#) and installed for the compiler you are using.

For more information about mikroSDK, visit the [official page](#).

Resources

[mikroBUS™](#)

[mikroSDK](#)

[Click board™ Catalog](#)

[Click boards™](#)

Downloads

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[Temp&Hum 20 click example on Libstock](#)

[Temp&Hum 20 click 2D and 3D files](#)

[SiP32431DN datasheet](#)

[CC2D23 datasheet](#)

[Temp&Hum 20 click schematic](#)

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