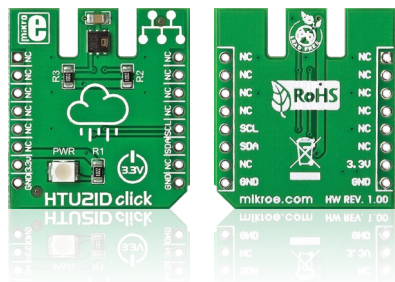# HTU21D click™

## 1. Introduction



HTU21D click™ carries a high-precision, easy-to-use relative humidity sensor with temperature output. The sensor is plug and play, requiring no calibration to use. The measurement range of HTU21D click™ is from 0 to 100 percents of relative humidity, and -40 to +125 degrees of Celsius. The board communicates with the target microcontroller through mikroBUS™ I2C lines: SCL and SDA (data). It uses a 3.3V power supply only.

## 2. Soldering the headers

Before using your click™ board, make sure to solder 1x8 male headers to both left and right side of the board. Two 1x8 male headers are included with the board in the package.
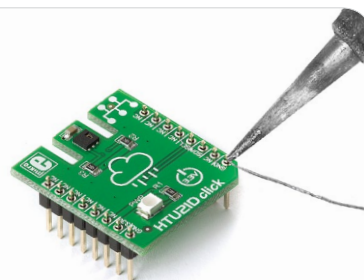
❶

❷
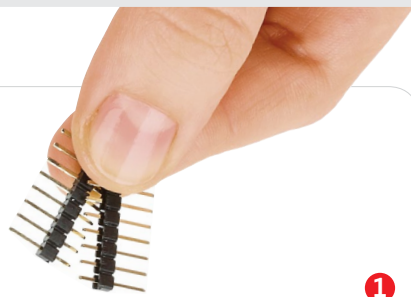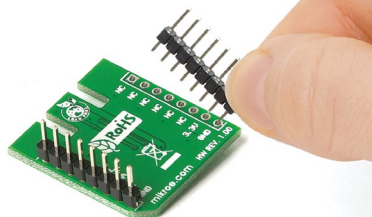
Turn the board upside down so that the bottom side is facing you upwards. Place shorter pins of the header into the appropriate soldering pads.

❸

Turn the board upward again. Make sure to align the headers so that they are perpendicular to the board, then solder the pins carefully.

## 3. Plugging the board in

Once you have soldered the headers your board is ready to be placed into the desired mikroBUS™ socket. Make sure to align the cut in the lower-right part of the board with the markings on the silkscreen at the mikroBUS™ socket. If all the pins are aligned correctly, push the board all the way into the socket.
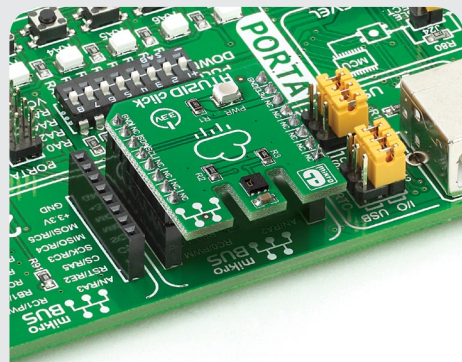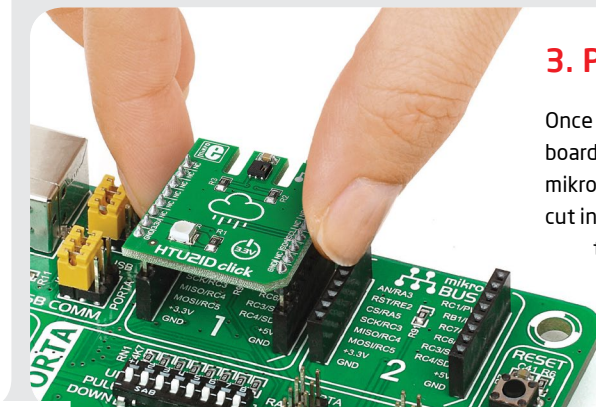
## 4. Essential features

Since it requires no calibration and uses only 2 communication lines, HTU21D click™ is great for quickly developing reliable environmental sensing nodes. Either for data logging (as in a weather station), or for humidity and temp. control in a HVAC system. The default resolution of the signal is set to 12-bit for relative humidity and 14-bit for temperature readings (you can change the resolution in the range of 8-12 bits for humidity, and 12-14 bits for temperature.)
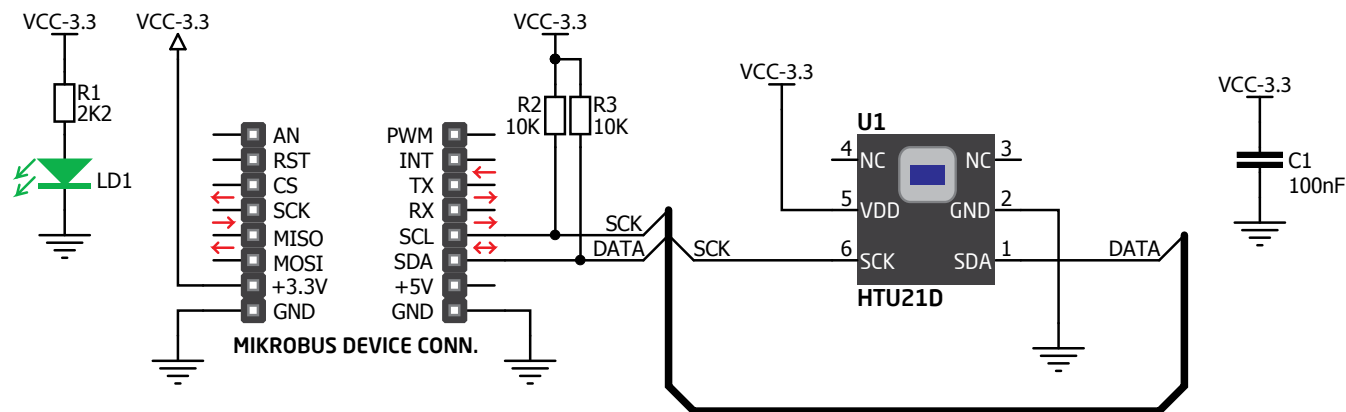
click™
BOARD
www.mikroe.com

0 100000 027271

# 5. HTU21D click™ board schematic

VCC-3.3  VCC-3.3

R1
2K2

LD1

| AN | PWM |
| RST | INT |
| CS | TX |
| SCK | RX |
| MISO | SCL |
| MOSI | SDA |
| +3.3V | +5V |
| GND | GND |

**MIKROBUS DEVICE CONN.**

VCC-3.3

R2    R3
10K   10K

SCK
DATA

SCK

VCC-3.3

**U1**

| 4 | NC | NC | 3 |
| 5 | VDD | GND | 2 |
| 6 | SCK | SDA | 1 |

SCK

DATA

**HTU21D**

VCC-3.3

C1
100nF

## 6. Tip on sensor placement

Relative humidity depends on temperature. To get the most accurate measurements from HTU21D click™, it's important to keep the sensor at the same temperature as the environment in which you want to measure the humidity.

## 7. Code examples

Once you have done all the necessary preparations, it's time to get your click™ board up and running. We have provided examples for mikroC™, mikroBasic™ and mikroPascal™ compilers on our **Libstock** website. Just download them and you are ready to start.

**LIBSTOCK**.com

## 8. Support

MikroElektronika offers **free tech support (www.mikroe.com/support)** until the end of the product's lifetime, so if something goes wrong, we're ready and willing to help!

**MikroElektronika**
DEVELOPMENT TOOLS | COMPILERS | BOOKS