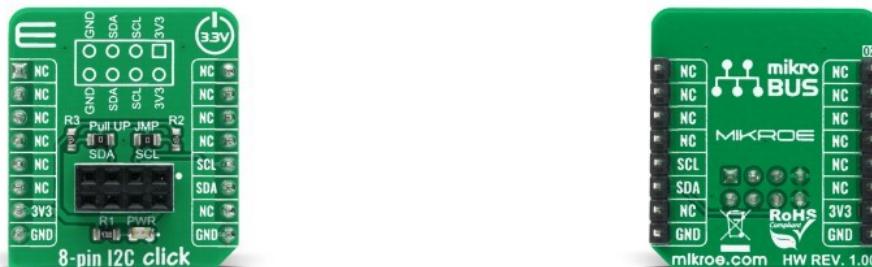


8-pin I2C Click



PID: MIKROE-4241

8-pin I2C Click is a compact add-on board that represents a breakout board that simplifies the connection of add-on boards with 8 pin Female Connector to mikroBUS™ socket. This board can be used as I2C Adapter with no main component on itself, with only an on-board connector for connection establishing. 8-pin I2C Click has no regional restrictions, no need for special permits, and it is possible to use this Click board™ worldwide. Being compatible with MFI (Made for iPod) is the most important feature of the 8-pin I2C Click board™ which ensures its proper operation with additional Apple accessories. This Click board™ is suitable for expanding the connectivity of the development system with the mikroBUS™, and ideal for communication with numerous devices that share the identical slave address on the same bus.

8-pin I2C 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?

8-pin I2C Click is a breakout board that simplifies the connection of add-on boards to the mikroBUS™ socket. This Click board™ represents a small-size PCB that can be connected to the mikroBUS™ socket like any other Click board™, with a 2x4 female header placed on itself. Each of the header pins is corresponding to a pin on the mikroBUS™ socket being used such as I2C lines (SCL, SDA) with two jumpers for I2C lines pull-up function selection, 3V3 power supply, and ground. This Click board™ allows easy pin access and manipulation while retaining a perfect connection quality at all times.

Mikroe produces entire development toolchains for all major microcontroller architectures.

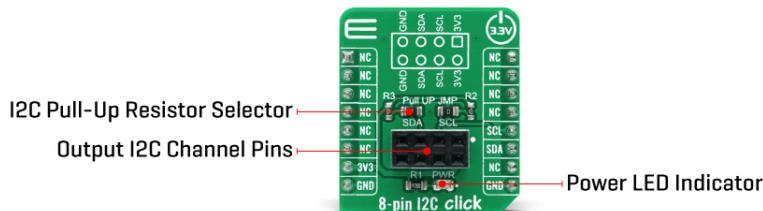
Committed to excellency, we are dedicated to helping engineers bring the project development up to speed and achieve outstanding results.



ISO 27001: 2013 certification of informational security management system.
 ISO 14001: 2015 certification of environmental management system.
 OHSAS 18001: 2008 certification of occupational health and safety management system.



ISO 9001: 2015 certification of quality management system (QMS).



Being compatible with Apple's MFI is the most important feature of the 8-pin I2C Click board™ which ensures its proper operation with additional Apple accessories. The name is a shortened version of the long-form Made for iPod, the original program that ultimately became MFI which refers to peripherals that work with Apple's iPod, iPad, and iPhone.

8-pin I2C Click communicates with MCU using the standard I2C 2-Wire interface. Lines of the mikroBUS™ to which this Click board™ is attached, are shared through the top 8-pin female header, which mirrors the pins of the connected mikroBUS™ socket. The 8-pin I2C Click also shares the 3V3 power rails, which makes it compatible with any other power compatible Click board™ and development systems.

This Click board™ is designed to be operated only with a 3.3V logic voltage level. A proper logic voltage level conversion should be performed before the Click board™ is used with MCUs with different logic voltage levels. However, the Click board™ comes equipped with a library that contains easy to use functions and a usage example that may be used as a reference for the development.

Specifications

| Type | Adapter |
|------------------|--|
| Applications | Can be used for expanding the connectivity of the development system with the mikroBUS™, and ideal for communication with numerous devices that share the identical slave address on the same bus. |
| On-board modules | 8-pin I2C Click is a compact add-on board that represents a breakout board that simplifies the connection of add-on boards with 8 pin Female Connector to mikroBUS™ socket. |
| Key Features | MFI compatibility, no regional restrictions, expanding connectivity, retaining a perfect connection quality at all times, and more. |
| Interface | I2C |
| Feature | No ClickID |
| Compatibility | mikroBUS™ |

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| | | |
|------------------|--------------------|--|
| Click board size | S (28.6 x 25.4 mm) | |
| Input Voltage | 3.3V | |

Pinout diagram

This table shows how the pinout on 8-pin I2C Click corresponds to the pinout on the mikroBUS™ socket (the latter shown in the two middle columns).

| Notes | Pin | mikro™ BUS | | | | Pin | Notes |
|--------------|-------------|---------------|------|-----|----|------------|-----------|
| | NC | 1 | AN | PWM | 16 | NC | |
| | NC | 2 | RST | INT | 15 | NC | |
| | 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 | NC | |
| Ground | GND | 8 | GND | GND | 9 | GND | Ground |

Onboard settings and indicators

| Label | Name | Default | Description |
|---------|--------|---------|-------------------------------|
| LD1 | PWR | - | Power LED Indicator |
| J1 | HF 2x4 | - | 8 pin Female Connector(MFI) |
| JP1-JP2 | - | - | I2C Pull-Up Resistor Selector |

Software Support

We provide a library for the 8-pin I2C Click on our [LibStock](#) page, as well as a demo application (example), developed using MikroElektronika [compilers](#). The demo can run on all the main MikroElektronika [development boards](#).

Library Description

The library contains a basic functions for using 8 pin I2C click.

Key functions:

- void c8pini2c_i2c_write(uint8_t slave_addr, uint8_t *data_buf,uint16_t len, uint8_t end_mode) - I2C Write function
- void c8pini2c_i2c_read(uint8_t slave_addr, uint8_t *data_buf,uint16_t len, uint8_t end_mode) - I2C Read function
- void c8pini2c_i2c_start (void) - I2C Start function

Examples description

The application is composed of three sections :

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- System Initialization - Initializes I2C module
- Application Initialization - Initializes driver init and set up another click for test
- Application Task - Reads temperature and logs on the USB UART
- NOTE: Surface temp click board used for demonstrating work 8 pin I2C click-a

The full application code, and ready to use projects can be found on our [LibStock](#) page.

Other mikroE Libraries used in the example:

- I2C Library
- UART Library
- Conversions library

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. The terminal available in all MikroElektronika [compilers](#), or any other terminal application of your choice, can be used to read the message.

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

[8-pin I2C click 2D and 3D files](#)

[8-pin I2C click example on Libstock](#)

[8-pin I2C click schematic](#)

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