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Click shield for Teensy 4.0



PID: MIKROE-6234

Click Shield for Teensy 4.0

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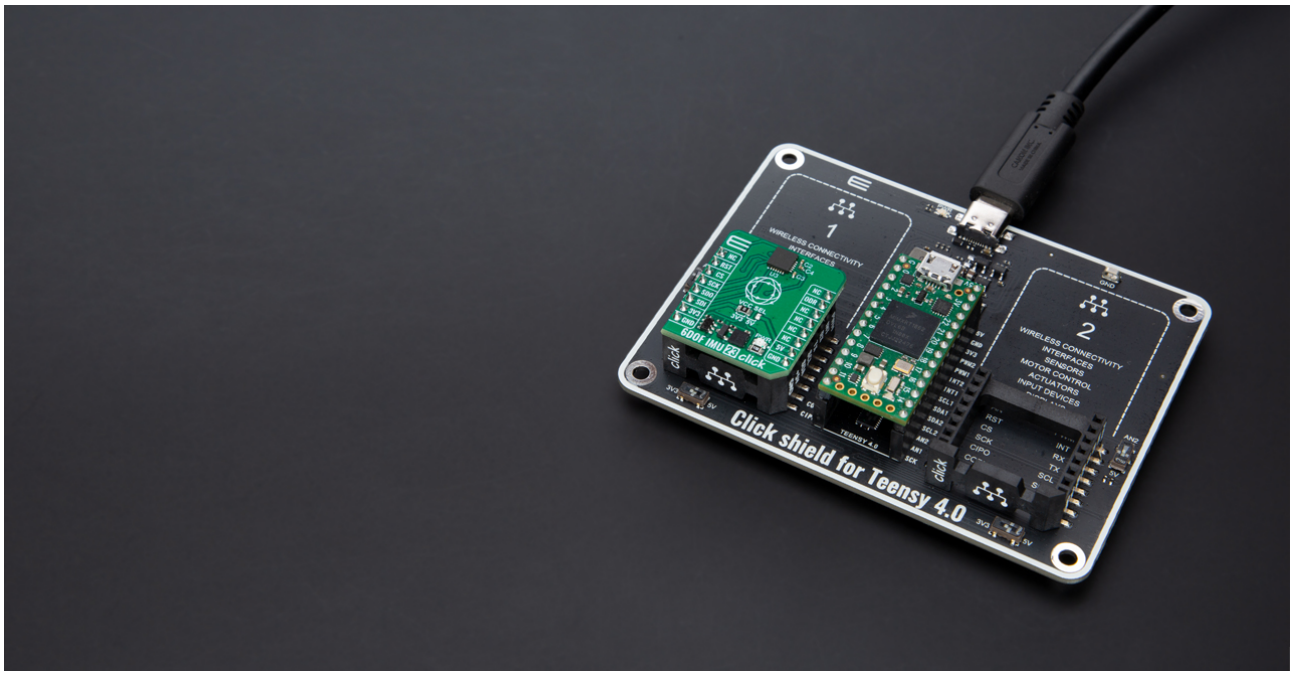

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Overview

Click Shield for Teensy 4.0 is the perfect solution for quickly and easily expanding the capabilities of the Teensy 4.0 host board with many Click boards™, enabling the creation of complex and unique projects. The Click Shield for Teensy 4.0 provides three mikroBUS™ sockets to add any functionality from our ever-growing range of Click boards™. We are fully stocked with everything, from sensors and WiFi transceivers to motor control and audio amplifiers.

Teensy 4.0 is a high-performance development board featuring a 600MHz ARM Cortex-M7 processor that brings many powerful CPU features to a true real-time microcontroller platform. The Cortex-M7 is a dual-issue superscalar processor, meaning the M7 can execute two instructions per clock cycle. Tightly Coupled Memory is a special feature that allows Cortex-M7 fast single-cycle access to memory using a pair of 64-bit wide buses. Teensy 4.0's Cortex-M7 processor includes a floating point unit (FPU) that supports both 64-bit "double" and 32-bit "float".

This extension board allows users to combine the Teensy 4.0 footprint-compatible board with their favorite Click boards™ in their upcoming projects.

NOTE: The Teensy 4.0 board is not included in the package.

CLICK BOARD
COMBINATIONS

Main features

Click Shield for Teensy 4.0 comes equipped with two mikroBUS™ sockets, allowing all the Click boards™ to be interfaced with the Teensy 4.0 host board with no effort. This way, MIKROE

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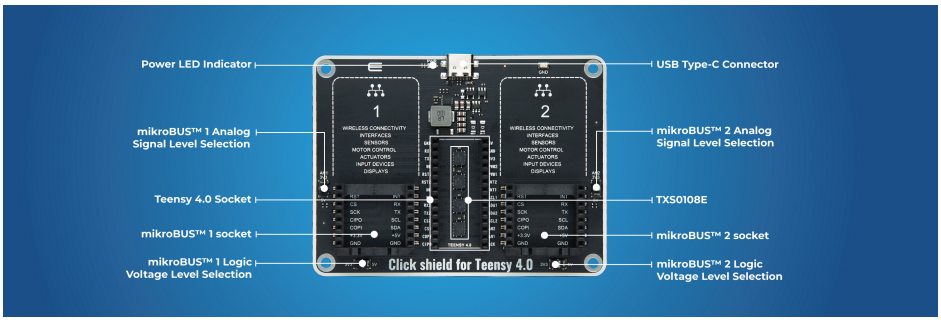
allows its users to add any functionality from our ever-growing range of Click boards™, such as WiFi, GSM, GPS, Bluetooth, ZigBee, environmental sensors, LEDs, speech recognition, motor control, movement sensors, and many more. More than 1600 Click boards™, which can be stacked and integrated, are now available.



The Teensy 4.0 is a powerful microcontroller board featuring a 600MHz ARM Cortex-M7 processor with the NXP iMXRT1062 chip, recognized as the fastest microcontroller available. It supports dynamic clock scaling, allowing speed adjustments without disrupting critical functions like serial communication and timing. This board is also capable of overclocking beyond 600MHz. The Cortex-M7 processor brings advanced features like dual-issue superscalar architecture, enabling the execution of two instructions per clock cycle and branch prediction for efficient looping. Additionally, the tightly coupled memory provides fast single-cycle access to instructions and data, optimizing performance for demanding applications. Teensy 4.0 also includes a floating-point unit (FPU) that supports both 64-bit and 32-bit operations, ensuring rapid and accurate mathematical computations.

This Click Shield also has several switches that perform functions such as selecting the logic levels of analog signals on mikroBUS™ sockets and selecting logic voltage levels of the mikroBUS™ sockets themselves. Besides, the user is offered the possibility of using any Click board™ with the help of existing bidirectional level-shifting voltage translators, regardless of whether the Click board™ operates at a 3.3V or 5V logic voltage level.

Once you connect the Teensy 4.0 host board with our Click Shield for Teensy 4.0, you can access hundreds of Click boards™, working with 3.3V or 5V logic voltage levels. Our Click boards™ are also equipped with a library containing functions and example codes for MIKROE compilers available on LibStock, which can be used as a reference for further development.

Power your inventions

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When the USB type C is connected to the Click Shield, the PWR diode will glow Blue, and at this setup, the connected Teensy 4.0 host board and all mikroBUS™ sockets will be powered from it.

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When the USB is connected to the Teensy 4.0 board, the PWR diode will glow Green, and at this setup, the Teensy 4.0 host board itself will be supplied, and it will provide power to the Click Shield, including all mikroBUS™ sockets.

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When the USB type C is connected to the Click Shield and the other USB is connected to the Teensy 4.0 board, the PWR diode will glow Cyan, and at this setup, the mikroBUS™ sockets are powered from the Click Shield.

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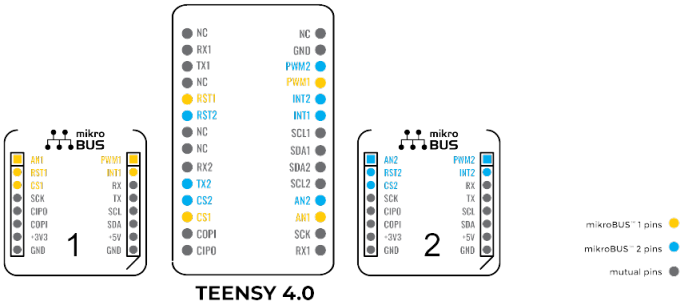
TEENSY 4.0 TO MIKROBUS™ PINOUT



Specifications

Type	Shield
Applications	Click Shield for Teensy 4.0 allows you to use Click boards™ on your Teensy 4.0 board
Key Features	2x mikroBUS™ sockets, connector for connecting compatible Teensy 4.0 board, four TXS0108E level-shifting voltage translators, power part for converting 5V USB to the 3.3V, GND hook for testing purposes, and more
Interface	Analog,GPIO,I2C,PWM,SPI,UART
Compatibility	mikroBUS™,Teensy 4.0
Input Voltage	3.3V,5V,External

Resources

mikroBUS™

mikroSDK

Click board™ Catalog

Click boards™

Downloads

Click shield for Teensy 4.0 2D and 3D files v100

Click shield for Teensy 4.0 schematic v100

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