TRU COMPONENTS

CE

Sensor Shield V2 for micro:bit
GB Operating instructions

Latest operating instructions

Download the latest operating instructions at www.conrad.com/downloads or scan the QR code shown. Follow the instructions on the website.

Delivery contents

- Sensor Shield V2 for micro:bit

Description

The micro:bit is a powerful, low-cost, fully programmable single board computer developed by the BBC. It was designed to encourage children to actively engage in technical activities such as programming and electronics.

It features a 5x5 LED matrix, two integrated buttons, a compass, an accelerometer and Bluetooth®.

It supports the graphical programming interface PXT (Make-Code). This can be used on Microsoft Windows®, MacOS, iOS, Android™ and many other operating systems without downloading an additional compiler.

The additional board has been specially developed for the micro:bit single board computer. The board guides all pins of the micro:bit onto 3-pin pin strips (GND, VCC, micro:bit pin).

In addition, connections for the serial interface (UART) and the SPI interface are also provided. This enables a quick and easy connection to a wide range of sensors and actuators.

The two 3-pin pin strips can be supplied with a voltage of 3.3 or 5 V/DC via two jumpers. Each pin strip can be configured separately via the jumpers!

The sensor board can be powered either via the DC socket (7 - 9 V/DC) or via the micro USB socket.

Bluetooth® is a registered trademark of Bluetooth SIG, Inc.

Product features

- 1x slot for micro:bit single board computer
- Power supply via DC socket
- Power supply via micro-USB socket
- 20x pin strips with 3 pins each (GND, VCC, micro:bit pin)
- 2x jumpers for voltage selection
- 1x pin strip for I2C interface
- 1x pin strip for SPI
- 1x socket strip for serial interface
- 5 V voltage regulator (NCP1117ST50T3G)
- 3.3 V voltage regulator (AMS1117-3.3V)
- Power ON LED
- 4x 2.8 mm holes for mounting

Requirements

The following components are required to use the board:

- 1 micro:bit, e.g. Conrad item no.: 2253828

Optional:

- Micro USB cable
- Mains adapter (7 - 9 V/DC, 500 - 800 mA).

Hardware

The assignment of the 3-pin pin strip is as follows:

G (black)	GND (ground)
V1 or V2 (red)	+3.3 or +5 V/DC (depending on the setting of the V1/V2 jumpers)
S (yellow)	micro:bit pin

The DC socket (coaxial plug) is assigned as follows:

Pin contact (centre)	positive (+)
Outer contact	negative (-)

The pin assignment of the remaining inputs/outputs corresponds to the markings on the circuit board.

> **Important:**
>
> Select the input voltage of the board as low as possible to minimize power loss!
>
> If the current drain is too high, the two voltage regulators will become very hot and may cause burn injuries if touched.

Operation

Insert the micro:bit into the slot provided on the circuit board. The 5x5 LED matrix must be aligned in such a way that you can read the markings on the circuit board.

When using this circuit board, the micro:bit can be supplied with power via USB or the battery holder.

Alternatively, the sensor board can be powered either via the DC socket (7 - 9 V/DC) or via the micro USB socket.

The voltage on the 3-pin pin strips is selected via jumpers V1 and V2. These are labelled accordingly with V1 and V2.

Example:

If you attach the V1 jumper to the side labelled "3.3V", this connects 3.3 V/DC to the V1 pin strip.

Disposal

Electronic devices are recyclable waste and must not be placed in household waste. At the end of its service life, dispose of the product in accordance with the applicable regulatory guidelines.

You thus fulfil your statutory obligations and contribute to protection of the environment.

Specifications

Operating voltage
Micro USB port ....5 V/DC

Operating voltage of DC socket......7 – 9 V/DC

Output voltage ....3.3 or 5 V/DC (depending on jumper setting of V1/V2)

Output current................................max. 800 mA (short term)

Pin spacing of pin strip (width)........2.54 mm

Dimensions (W x H x D) ....58 x 12 x 65 mm

Weight ....31 g