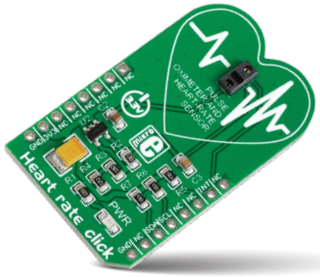
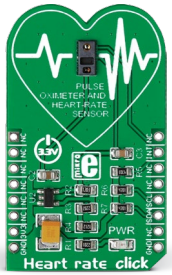
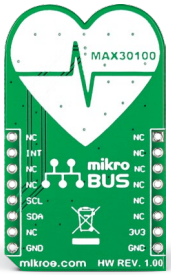


Heart rate click



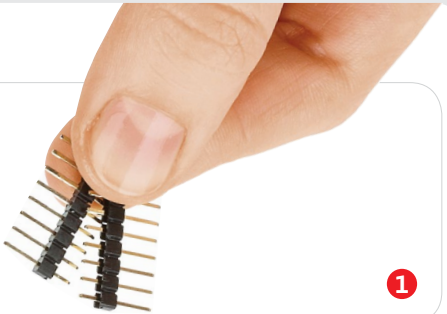


1. Introduction

Heart rate click carries a **MAX30100** integrated pulse oximetry and heart rate sensor. It's an optical sensor that derives its readings from emitting two wavelengths of light from two LEDs, then measuring the absorbance of pulsing blood through a photodetector. The signal is processed by a low-noise analog signal processing unit and communicated to the target MCU through the mikroBUS™ I2C interface. A programmable INT pin is also available. Uses 3.3V power supply.

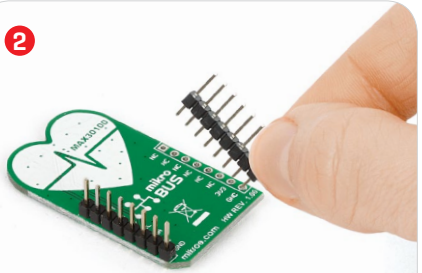
2. Soldering the headers

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.



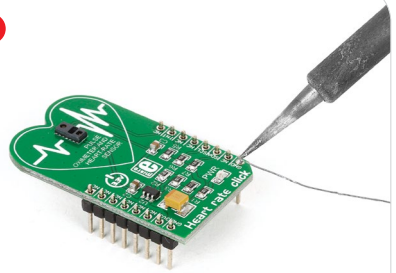
1

2

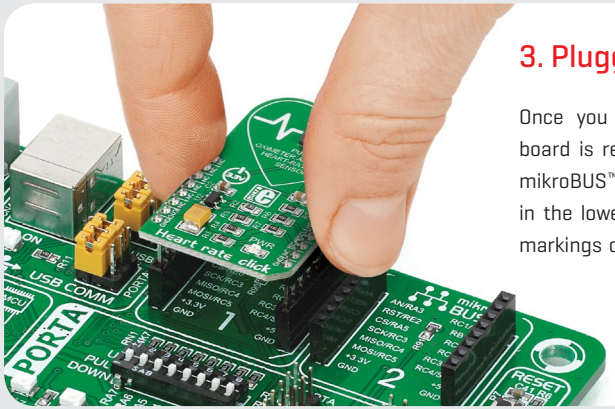


Turn the board upside down so that the bottom side is facing you upwards. Place shorter pins of the header into the appropriate soldering pads.

3

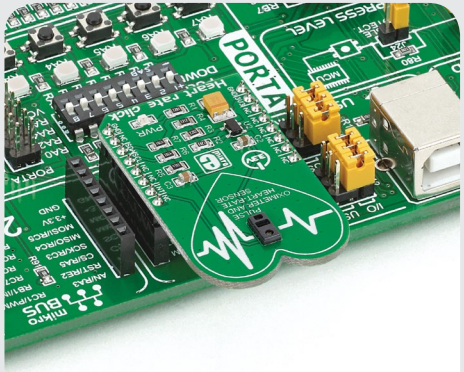


Turn the board upward again. Make sure to align the headers so that they are perpendicular to the board, then solder the pins carefully.



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

Heart rate click is suitable for prototyping wearable devices for fitness or medical applications. The MAX30100 is a low powered IC and it also incorporates ambient light cancellation and motion artefact resilence. For best results, the readings should be taken through the tip of one's finger (the red and IR LED combination is optimized for this application). The readings, however, can be negatively impacted by excess motion and temperature variations. Also, too much pressure can constrict capillary blood flow and diminish the reliability of the data.

click BOARDS™

www.mikroe.com

Heart rate click Manual v100

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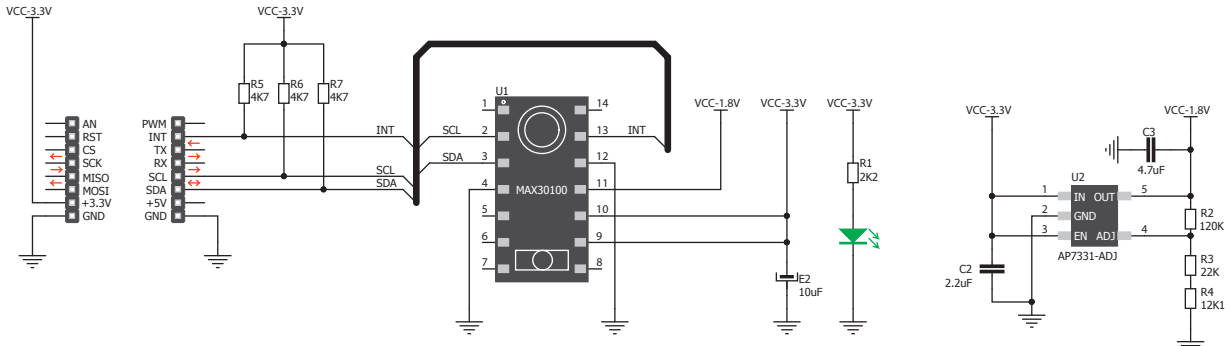
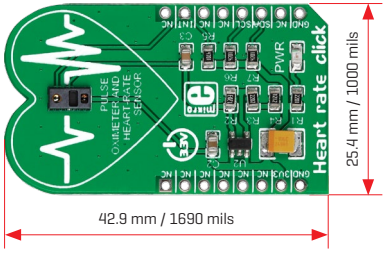
5. Schematic



6. Dimensions



	mm	mils
LENGTH	42.9	1690
WIDTH	25.4	1000
HEIGHT*	3.9	154

* without headers

7. Heart rate clicks

Reading oximeter and hear rate data from the tip of one's finger is one of several possible approaches. More Heart rate sensing solutions on click boards will be made available.

Check: www.mikroe.com/click

8. 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

9. 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!

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10. Disclaimer

MikroElektronika assumes no responsibility or liability for any errors or inaccuracies that may appear in the present document. Specification and information contained in the present schematic are subject to change at any time without notice.