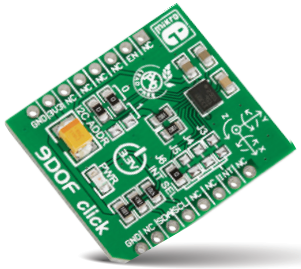
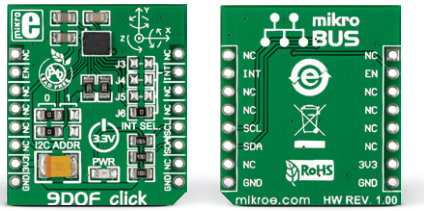


9DOF click



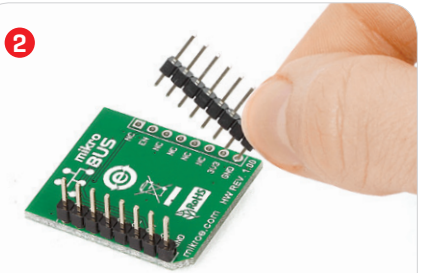
1. Introduction

9DOF click carries ST's LSM9DS1 inertial measurement module that combines a 3D accelerometer, a 3D gyroscope and a 3D magnetometer into a single device outputting so called nine degrees of freedom data (3-axis acceleration, angular velocity and heading) 9DOF click communicates with the target MCU through the mikroBUS™ I2C interface (SCL and SDA) with additional functionality provided by the programmable Interrupt (INT) pin, as well as the Enable (EN) pin. The board uses a 3.3 power supply only.

2. Soldering the headers

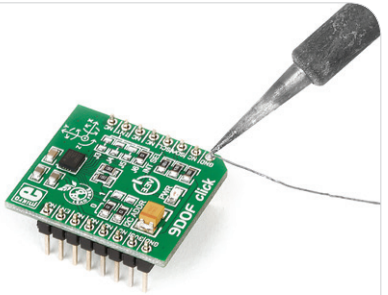
Before using your click board™, make sure to solder 1x8 male headers to both left and right side of the board. Two 1x8 male headers are included with the board in the package.

1



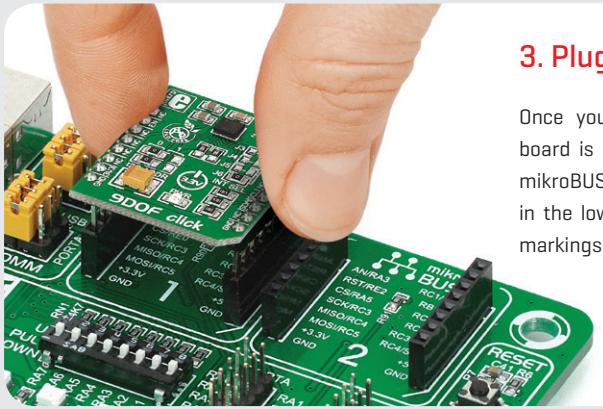
2

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.



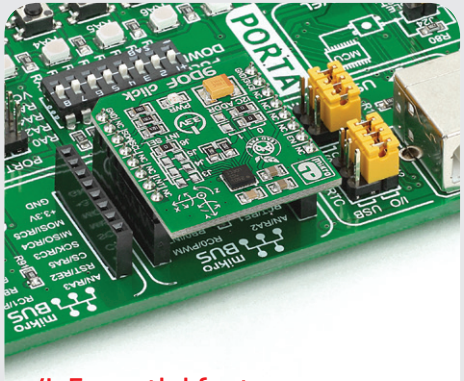
3

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

The output from 9DOF click is in 16-bit resolution. If you don't need 9DOF data, individual sensors can be powered down for conserving energy. Their specs are as follows. The accelerometer measures full scale ±2/±4/±8/±16 g acceleration. The magnetometer has ±4/±8/±12/±16 gauss magnetic, also full scale. The angular rate of the gyroscope is ±245/±500/±2000 dps, full scale. The LSM9DS1 also integrates a FIFO buffer for all three channels of the accelerometer and gyroscope.

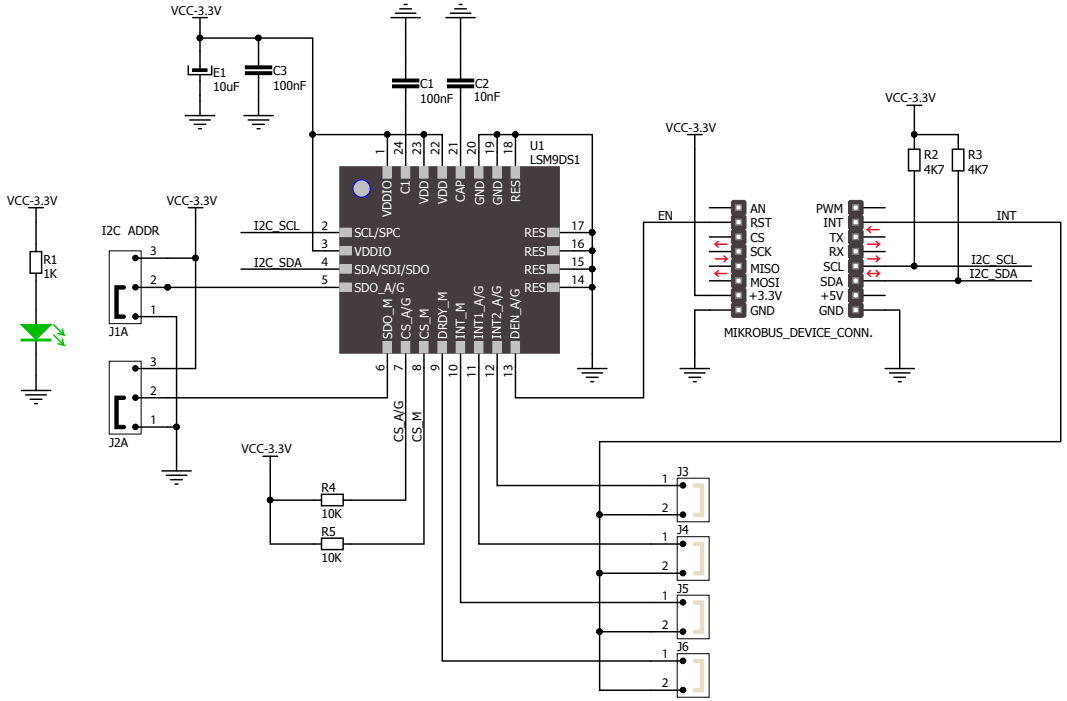
click BOARD™

www.mikroe.com

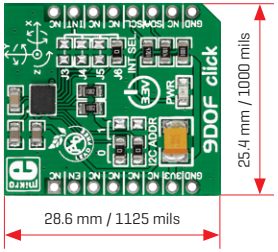
9DOF click Manual v100

0100000089750

5. Schematic



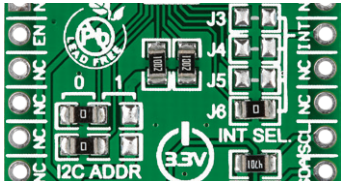
6. Dimensions



	mm	mils
LENGTH	28.6	1125
WIDTH	25.4	1000
HEIGHT*	3.3	130

* without headers

7. SMD jumpers



The LSM9DSI chip has multiple INT lines. The four INT SEL jumpers allow you to specify which one you'll use. I2C ADDR jumpers are for specifying the I2C address.

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.

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