

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from, Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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MPU IMU click™

1. Introduction

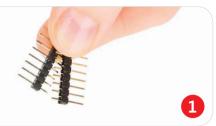


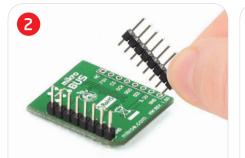


MPU IMU click is an add-on board in mikroBUSTM form factor. It carries the MPU-6000, the integrated 6-axis motion tracking device from InvenSense. The MPU-6000 is the world's first to combine a 3-axis gyroscope, a 3-axis accelerometer, and a Digital Motion Processor (DMP) into a single small chip. Together they constitute an Inertial Measurement Unit. The MPU IMU click communicates with the target board microcontroller through mikroBUSTM SPI, I2C, RST and INT lines. The board is designed to use a 3.3V power supply only. A LED diode serves as a power indicator.

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.

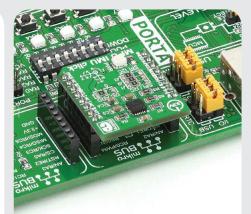




Turn the board upside down so that the bottom side is facing you upwards. Place shorter pins of the header into the appropriate soldering pads.

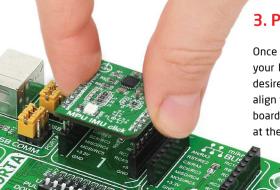


Turn the board upward again. Make sure to align the headers so that they are perpendicular to the board, then solder the pins carefully.



4. Essential features

The MPU IMU click offers a single solution for adding motion tracking to your design. The on-board MPU-6000 combines a DMP with a 3-axis gyro with a sensitivity up to 131 LSBs/dps and a full-scale range of ±250, ±500, ±1000, and ±2000dps; and a 3-axis accelerometer with a programmable full scale range of ±2g, ±4g, ±8g and ±16g. These features make this board ideal for applications like motion-based remote controls, wearable fitness and sports gadgets, toys etc.

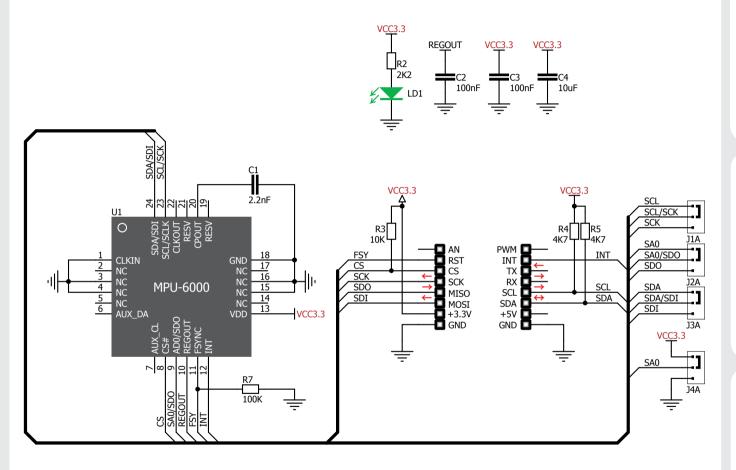


3. Plugging the board in

Once you have soldered the headers your board is ready to be placed into the desired mikroBUSTM socket. Make sure to align the cut in the lower-right part of the board with the markings on the silkscreen at the mikroBUSTM socket. If all the pins are aligned correctly, push the board all the way into the socket.



5. MPU IMU click™ Board Schematic



6. Motion Processing

The internal Digital Motion Processing engine supports 3D MotionProcessing and gesture recognition algorithms. Panning, zooming, scrolling, zero-motion detection, shake detection and tap detection are among the many features supported by programmable interrupt. There's also a low-power pedometer functionality that allows the target board's MCU to sleep while the DMP maintains the step count.

7. Code Examples

Once you have done all the necessary preparations, it's time to get your click¹⁰⁰ board up and running. We have provided examples for mikroC¹⁰⁰, mikroBasic¹⁰⁰ and mikroPascal¹⁰⁰ compilers on our **Libstock** website. Just download them and you are ready to start.



8. 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!

