



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!



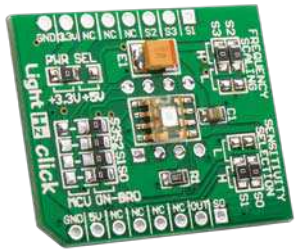
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LightHz click™

1. Introduction

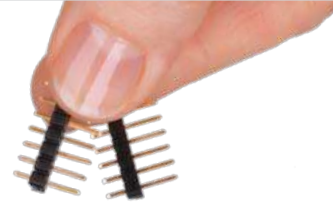


Front and back side appearance of the LightHz click Board

LightHz Click is an accessory board in mikroBus™ form factor. Board features TSL230BR programmable light-to-frequency converter. The output can be either a pulse train or a square wave (50% duty cycle) with frequency directly proportional to light intensity. Device sensitivity and frequency scaling can be determined by the MCU, or selected using available SMD jumpers if used in hardware selection configuration. Solder PWR SEL SMD jumper to 5V position if used with 5V systems.

2. Soldering the headers

Before using your click board, make sure to solder the provided 1x8 male headers to both sides of the board. Two 1x8 male headers are included with the board in the package.



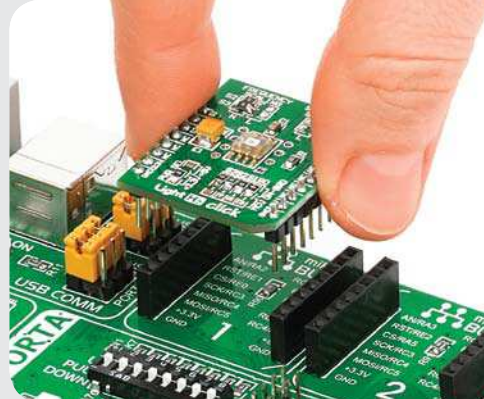
1



Turn the board upside down, so that bottom side is facing you upwards. Place shorter parts of the header pins in the both soldering pad locations.



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

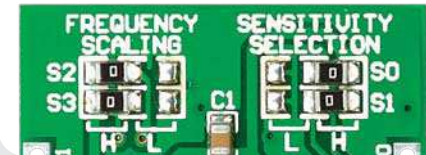
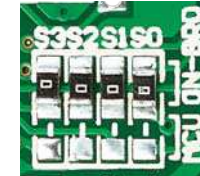


3. Plugging the board in

Once you have soldered the headers your board is ready to be placed into 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. SMD Jumpers

Frequency scaling and sensitivity selection of the sensor can be set by bringing the logic combination to S0 - S3 lines according to sensor specification. This can be done by soldering corresponding SMD jumpers to appropriate logic voltage levels, or they can be connected to your MCU and determined by software. Board comes with SMD jumpers which are set to ON-BOARD configuration of scaling and sensitivity. If you want those lines to be available to your MCU, just resolder SMD jumpers to MCU position. Default on-board configuration for scaling is (S2, S3) = (H, H), and for sensitivity is (S0, S1) = (H, H).



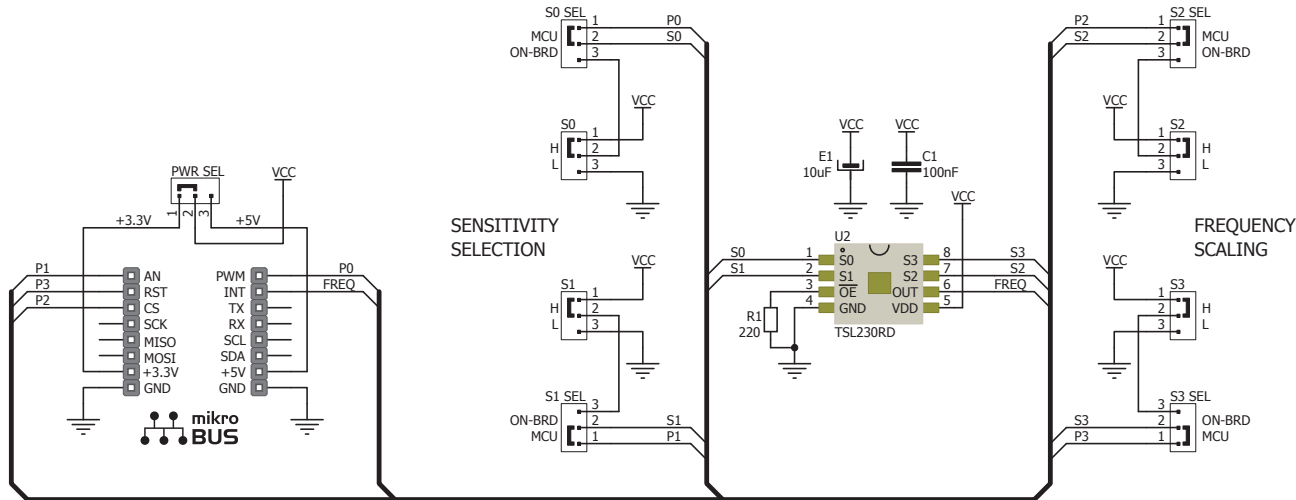
click™
BOARD
www.mikroe.com

LightHz click Manual
ver. 1.00



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5. LightHz click Board Schematics



6. Sensitivity and scaling

Hardware configuration of **frequency scaling** and **sensitivity selection** can be adjusted by resoldering **S0 - S3** SMD jumpers to **H** - logic high or **L** - logic low positions, according to the following table:

S0	S1	Sensitivity	S2	S3	f ₀ Scaling
L	L	Power down	L	L	1
L	H	1x	L	H	2
H	L	10x	H	L	10
H	H	100x	H	H	100

7. Code Examples

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



8. Support

MikroElektronika offers **Free Tech Support** (www.mikroe.com/esupport) until the end of product lifetime, so if something goes wrong, we are ready and willing to help!