Light To Frequency 2™

Manual

All Mikroelektronika's development systems feature a large number of peripheral modules expanding microcontroller's range of application and making the process of program testing easier. In addition to these modules, it is also possible to use numerous additional modules linked to the development system through the I/O port connectors. Some of these additional modules can operate as stand-alone devices without being connected to the microcontroller.

Additional board

MikroElektronika
SOFTWARE AND HARDWARE SOLUTIONS FOR EMBEDDED WORLD ...making it simple

Light To Frequency 2

The Light to Frequency 2 additional board is used to convert light into frequency.

Key features:

- Communicates directly with a microcontroller;
- Absolute output frequency tolerance of ±5%;
- Nonlinearity error typically 0.2% at 100 kHz;
- Power supply 3.3 or 5V DC.

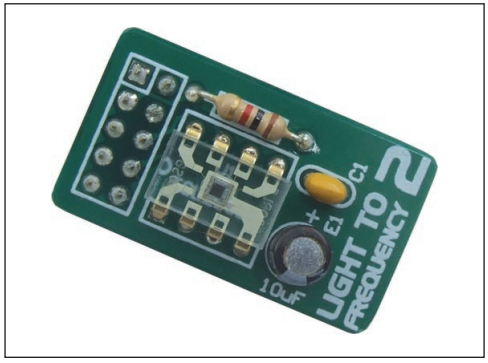

Figure 1: Light to Frequency 2 additional board

How to connect the board?

The Light to Frequency 2 board is connected to a development system via a 2x5 connector CN1 on the additional board and one of 2x5 port connectors on the development system.

How to use the board?

The operation of this additional board is based on converting light into square wave voltage pulses or pulse train. The frequency of voltage pulses obtained in this way is directly proportional to light intensity received by the on-board sensor. The higher light intensity on the sensor, the higher pulse frequency.

The sensitivity of the on-board sensor depends on the logic levels of pins S1 and S0, table 1. The pulse frequency may be reduced by dividing with numbers contained in table 2.

S1	S0	SENSITIVITY
L	L	Power down
L	H	1X
H	L	10X
H	H	100X

Table 1

S3	S2	f_O SCALING (divided by)
L	L	1
L	H	2
H	L	10
H	H	100

Table 2

The meaning of deisgnations used in the tables:

L - Logic 0
H - Logic 1

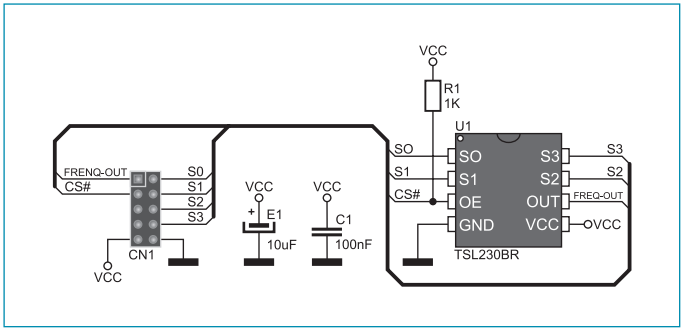

Figure 2: Additional board connection schematic

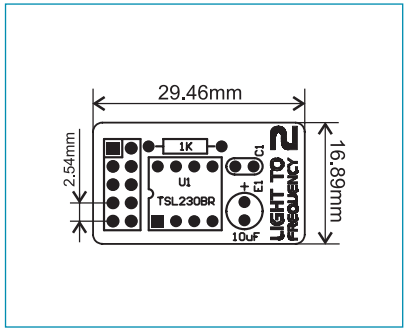

Figure 3: Dimensions of the board

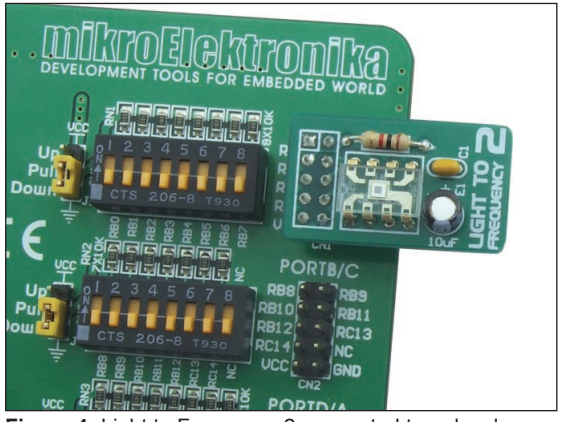

Figure 4: Light to Frequency 2 connected to a development system

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