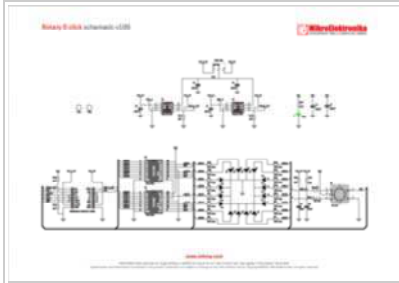


# ROTARY click

From MikroElektronika Documentation

**Rotary click** carries a 15-pulse incremental rotary encoder with detents, surrounded by a ring of 16 orange LEDs. The board is available in five different LED colors: red, green, blue, yellow and orange.

## Features and usage notes



Schematic also available in PDF ([http://cdn-docs.mikroe.com/images/a/a3/Rotary\\_O\\_click\\_schem](http://cdn-docs.mikroe.com/images/a/a3/Rotary_O_click_schem))

Rotary click with its LED ring is a perfect solution for implementing an input knob into your design (in contrast to a potentiometer, a rotary encoder can be spun round continuously). A single rotation is divided into 15 discrete steps. The encoder outputs A and B signals (out of phase to each other). The knob is also a push-button outputted through the interrupt line. The LED ring are controlled through the SPI interface.

In addition to the SPI lines (CS, SCK, MISO, MOSI), Rotary clicks have three additional lines for outputting the Encoder info: ENCB OUT, ENCA OUT and SW (in place of the standard AN, RST and INT pins, respectively).

All Rotary click boards can be used with either a 3.3V or 5V power supply. The configuration is set up with an onboard jumper (zero ohm resistor). By default, it's set to 3.3V

## Programming

The following code snippet demonstrates the write procedure of Rotary click.

```
1 void HC595_Write( int value )
2 {
3     char first_byte, second_byte;
4
5     second_byte = value;
6     value = value >> 8;
7     first_byte = value;
8     SPI1_write( first_byte );
9     SPI1_write( second_byte );
10
11     HC595_cs = 0;
12     asm( nop );
13     asm( nop );
14     asm( nop );
15     HC595_cs = 1;
16 }
```

Code examples that demonstrate the usage of Rotary click with MikroElektronika hardware, written for mikroC for ARM, AVR, dsPIC, FT90x, PIC and PIC32 are available on Libstock (<http://libstock.mikroe.com/projects/view/1227/rotary-click>).

## Resources

- Rotary click Libstock example (<http://libstock.mikroe.com/projects/view/1227/rotary-click>)
- mikroBUS™ standard specifications (<http://download.mikroe.com/documents/standards/mikrobus/mikrobus-standard-specification-v200.pdf>)
- LEDs and bit shifting: a shift register tutorial (<http://learn.mikroe.com/leds-bit-shifting-shift-register-tutorial/>)

## Rotary click



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**IC/Module** [Rotary encoder surrounded by ring of LEDs]

**Interface** SPI, ENCA, ENCB

**Power supply** 3.3V, 5V

**Website**

[www.mikroe.com/click/rotary-r](http://www.mikroe.com/click/rotary-r)  
(<http://www.mikroe.com/click/rotary-r>)  
[www.mikroe.com/click/rotary-g](http://www.mikroe.com/click/rotary-g)  
(<http://www.mikroe.com/click/rotary-g>)  
[www.mikroe.com/click/rotary-b](http://www.mikroe.com/click/rotary-b)  
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[www.mikroe.com/click/rotary-y](http://www.mikroe.com/click/rotary-y)  
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