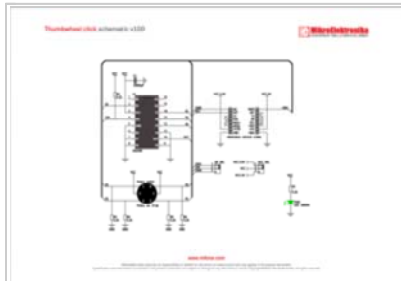


# Thumbwheel click

From MikroElektronika Documentation

Thumbwheel click is a mikroBUSTM add-on board with a 10-position rotary sprocket connected to a 1-Wire 8-Channel Addressable Switch.

## Features and usage notes



Schematic also available in PDF ([http://cdn-docs.mikroe.com/images/1/1c/Thumbwheel\\_click\\_sc](http://cdn-docs.mikroe.com/images/1/1c/Thumbwheel_click_sc)

The starting position of the switch is marked with a small notch on the PCB above the wheel. Printed numerals from 1 to 10 clearly mark each position. The thumbwheel has a crown with small incisions for better finger traction. The board can use both a 3.3V or a 5V power supply. The One-Wire signal can be sent either through the mikroBUS AN or PWM pins. You choose which one by soldering the GP\_SEL jumper into the right position.

Thumbwheel click is controlled through a simple Dallas One-Wire protocol with only three functions. There is a function

for configuring the registers, a function for reading the current position of the thumbwheel, and a function for software reset. Hardware reset can be executed using the RST pin.

MikroElektronika compilers contain a One-Wire library that works with this click.

## Programming

The following code snippet reads the current position of the thumbwheel

```
1 char DS2408_ChannelRead()
2 {
3     int state;
4
5     while( Ow_Reset( %GPIOA_BASE, 0 ) );
6
7     Ow_Write( %GPIOA_BASE, 0, DS2408_SKIP_ROM_CMD );
8     Ow_Write( %GPIOA_BASE, 0, DS2408_CHANNEL_READ_CMD );
9     state = Ow_Read( %GPIOA_BASE, 0 );
10    return state;
11 }
```

Code examples that demonstrate the usage of Thumbwheel click with MikroElektronika hardware, written for mikroC, mikroBasic and mikroPascal for ARM, AVR, dsPIC, and PIC are available on [Libstock].

## Resources

- DS2408 8-channel addressable switch (<http://datasheets.maximintegrated.com/en/ds/DS2408.pdf>)
- Code example on Libstock (<http://libstock.mikroe.com/projects/view/1869/thumbwheel-click>)
- mikroBUSTM standard specifications (<http://download.mikroe.com/documents/standards/mikrobus/mikrobus-standard-specification-v200.pdf>)

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<b>IC/Module</b>	Thumbwheel, DS2408 8-channel addressable switch ( <a href="http://datasheets.maximintegrated.com/en/ds/DS2408.pdf">http://datasheets.maximintegrated.com/en/ds/DS2408.pdf</a> )
<b>Interface</b>	1-Wire (OW1 or OW2)
<b>Power supply</b>	3.3V, 5V
<b>Website</b>	<a href="http://www.mikroe.com/click/thumbwheel">www.mikroe.com/click/thumbwheel</a> ( <a href="http://www.mikroe.com/click/thumbwheel">http://www.mikroe.com/click/thumbwheel</a> )

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