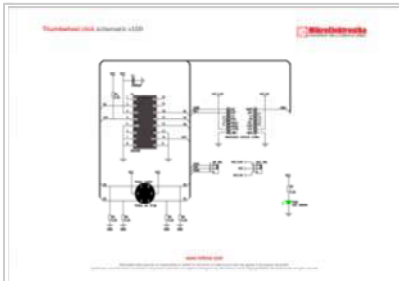


Thumbwheel click

From MikroElektronika Documentation

Thumbwheel click is a mikroBUS™ 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)

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>)
- MikroBUS™ standard specifications (<http://download.mikroe.com/documents/standards/mikrobus/mikrobus-standard-specification-v200.pdf>)

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

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