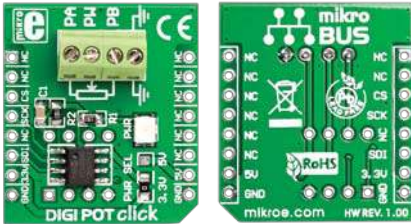# DIGIPOT click™

1. Introduction

Front and back side appearance of the DIGIPOT click Board

DIGIPOT Click is an accessory board in **mikroBus™** form factor. It features **MCP4161** - a single-channel digital potentiometer with 8-bit resolution (256 wiper steps) and industry-standard SPI serial interface. The resistance value of the digital potentiometer goes up to 10kΩ. It features outstanding AC/DC characteristics and low power consumption. It can be used in audio equipment, servo-motor control, battery charging and control, LCD contrast control, programmable filters etc.

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.
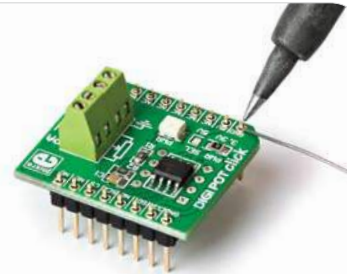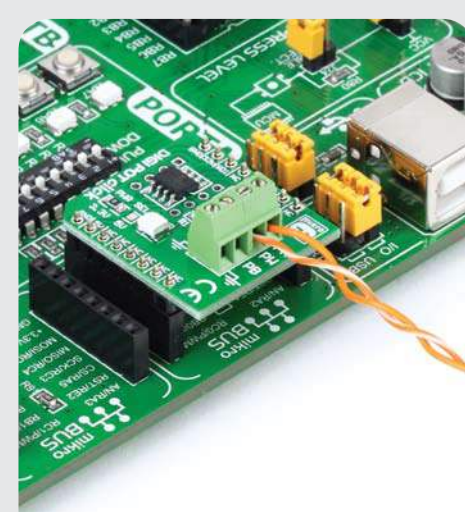
1

2 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.

3 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.
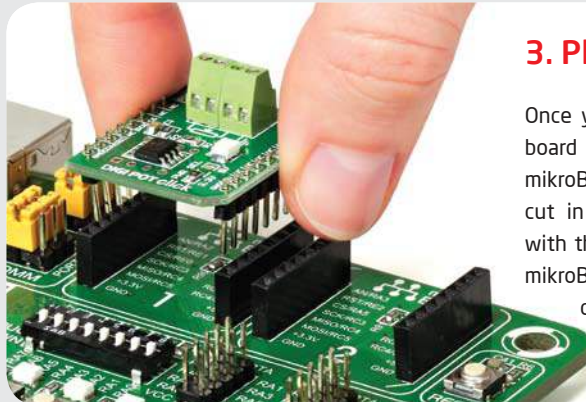
4. Driving the board

There are four screw terminals available for further connections: PA, PB, PW and GND. Data is sent to the board using industry standard SPI communication interface. On-board controller converts the received digital value to the appropriate linearly proportional resistance value.

click™
BOARD
www.mikroe.com

DIGIPOT click Manual
ver. 1.00

0 100000 020067

5. DIGIPOT click Board Schematics

VCC

J1
PWR SEL

+3V3   +5V

AN   PWM
CS#   RST   INT
SCK   CS   RX
      SCK   TX
      MISO   SCL
SDI   MOSI   SDA
      +3.3V   +5V
      GND   GND

mikroBUS

VCC

R1
2K2

PWR

VCC   VCC   VCC

R2
100K

C1
100nF

U2

			MCP4161		
CS#	1	CS	VDD	8	
SCK	2	SCK	P0B	7	PB
SDI	3	SDI	P0W	6	PW
	4	VSS	P0A	5	PA

CN2

Terminal B

Terminal W

Terminal A

GND

CN3
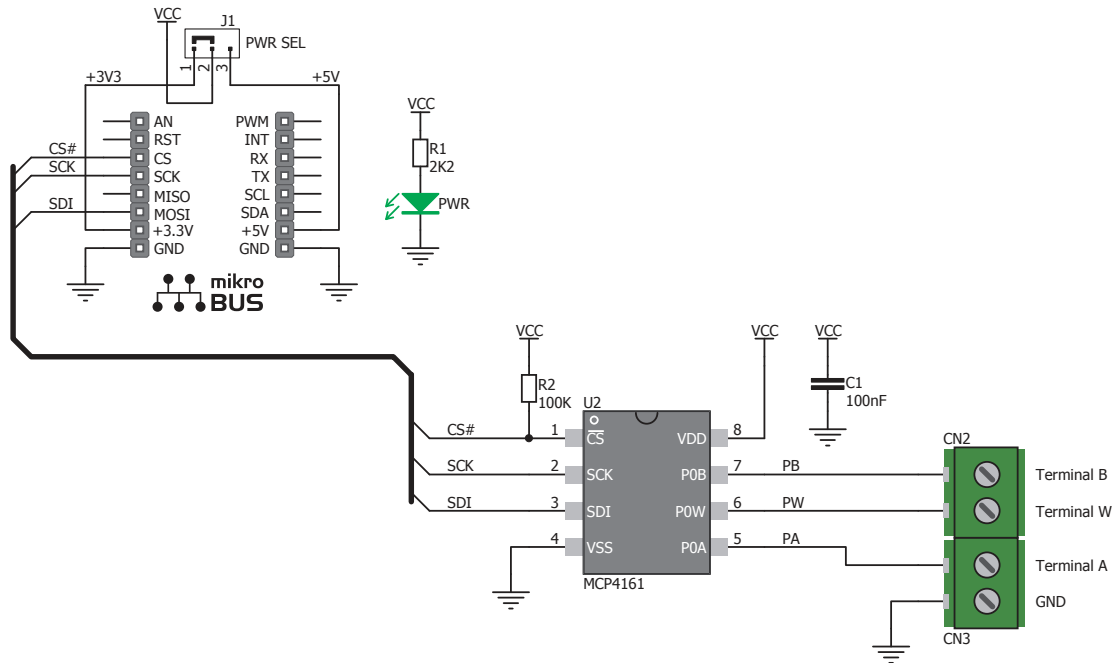
6. Power supply selection
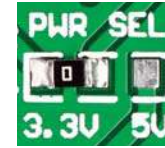
On-board **PWR SEL** zero-ohm resistor (SMD jumper) is used to determine whether 5V or 3.3V power supply is used. This resistor is provided in 3.3V position by default. In order to use DIGIPOT click with 5V development system, it is necessary to resolder this jumper to 5V position.

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.

LIBSTOCK.com

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!

MikroElektronika
DEVELOPMENT TOOLS | COMPILERS | BOOKS