



## Stepper 3 click

Stepper 3 click is a mikroBUS™ add-on board for driving unipolar stepper motors with precise controls (individual motor phases can be accessed separately).

The board carries a Texas Instruments ULN2003 High-Current Darlington transistor array for operating the motors.

Motors are connected through a 4-pin male connector on the top of the PCB. They can be driven by the click board's own power supply, or with an external power supply which can be brought through onboard screw terminals (up to 30V).

Stepper 3 click communicates with the target board MCU through mikroBUS™ PWM, AN, RST and CS pins (here used for individual motor phases, marked INA, INB, INC, IND).

The board is designed to use a 5V power supply only.

## Technical Specifications

### Applications

Board step motors in full-, half-, quarter-, eighth- and sixteenth-step modes.

### Key features

ULN2003 High-Current Darlington transistor array  
Connector for external power supply up to 30V  
Interface: INA-IND in place of AN, RST, CS, PWM  
5V power supply

## Key Benefits

Precise motor control: individual phases can be accessed separately  
Ready-to-use examples save development time  
Works in all MikroElektronika compilers



mikroBUS™ is specially designed pinout standard with SPI, I2C, Analog, UART, Interrupt, PWM, Reset and Power supply pins. See Standard Specification.

## Features and usage notes

The board carries a Texas Instruments ULN2003 High-Current Darlington transistor array for operating the motors.

Motors are connected through a 4-pin male connector on the top of the PCB. They can be driven by the click board's own power supply, or with an external power supply which can be brought through onboard screw terminals (up to 30V). An onboard jumper allows you to switch between the internal or external power supply.

Stepper 3 click communicates with the target board MCU through mikroBUS™ PWM, AN, RST and CS pins (here used for individual motor phases, marked INA, INB, INC, IND).

The board is designed to use a 5V power supply only.

## Programming

This snippet sets up and runs the stepper motor at 30 steps per second.

```
1 void main()
2 {
3   stepper_init( 0.72. false. false. true );
4   stepper_init_fp( forward, backward );
5   stepper_set_max_speed( 30.0 );
6   stepper_set_speed( 30.0 );
7
8   while( 1 )
9   {
10    stepper_run_speed();
11  }
12 }
```

Code examples that demonstrate the usage of Stepper 3 click with MikroElektronika hardware, written for mikroC for ARM, AVR, dsPIC, FT90x, PIC and PIC32 are available on Libstock.

MIKROE-2035 Stepper 3 click

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