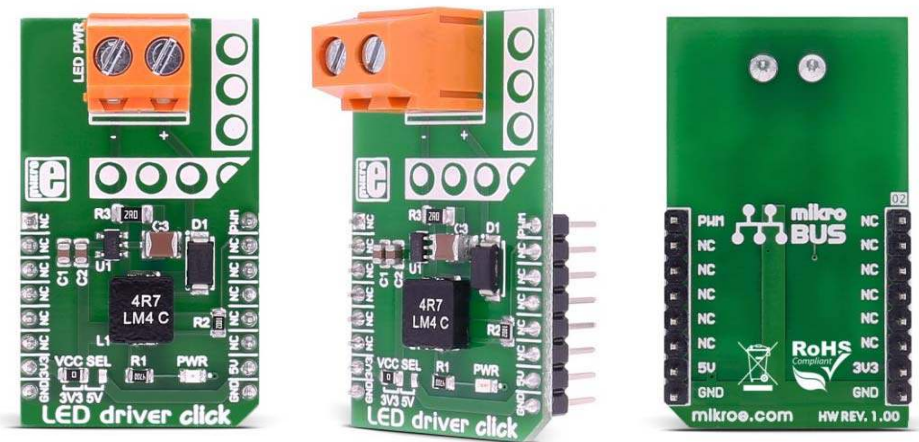
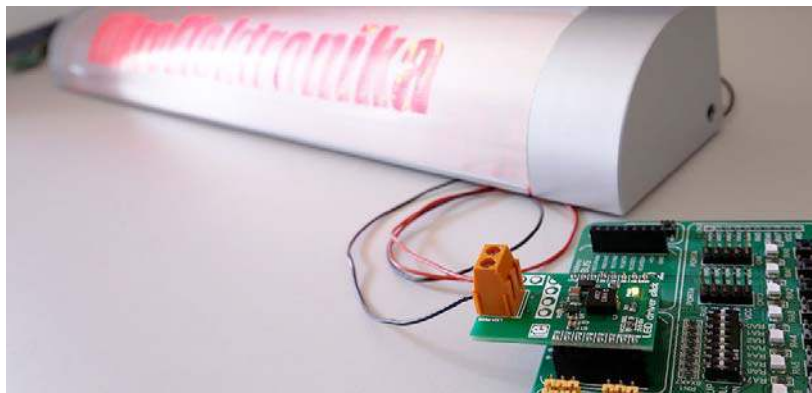


# LED driver click

PID: MIKROE-2676



**LED driver click** carries the MCP1662 high-voltage step-up voltage driver from Microchip. The click is designed to run on either 3.3V or 5V power supply. It communicates with the target microcontroller over PWM pin on the mikroBUS™ line.



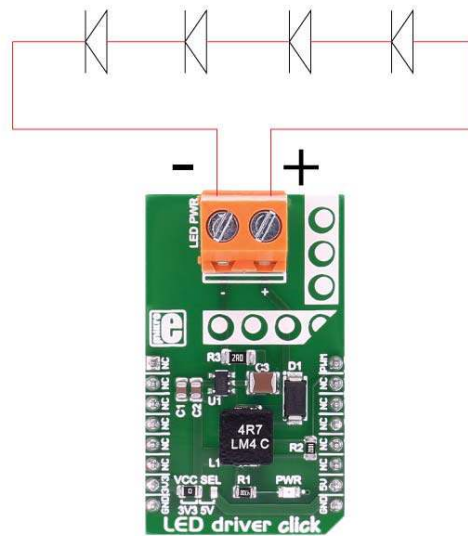
## MCP1662 MCU features

The MCP1662 device is a compact, space-efficient, fixed-frequency, non-synchronous step-up converter optimized to drive LED strings with a constant current from a two- or three-cell alkaline or lithium Energizer®, or NiMH/NiCd, or one-cell Lithium-Ion or Li-Polymer batteries.

The device integrates a 36V, 800 mW low-side switch, which is protected by the 1.3A cycle-by-cycle inductor peak current limit operation.

## How it works

LED driver click has a power input and a PWM input, so the LED lights can be dimmed. It's a great choice for driving LED strips.




## Specifications

Type	Boost
On-board modules	MCP1662 High-Voltage Step-Up LED Driver
Key Features	Open Load Protection, Overtemperature Protection, Input Voltage Range: 2.4V to 5.5V
Interface	PWM
Input Voltage	3.3V or 5V
Click board size	M (42.9 x 25.4 mm)

## Pinout diagram

This table shows how the pinout on **LED driver click** corresponds to the pinout on the mikroBUS™ socket (the latter shown in the two middle columns).

Notes	Pin					Pin	Notes
	NC	1	AN	PWM	16	<b>PWM</b>	PWM input
	NC	2	RST	INT	15	NC	
	NC	3	CS	TX	14	NC	
	NC	4	SCK	RX	13	NC	
	NC	5	MISO	SCL	12	NC	
	NC	6	MOSI	SDA	11	NC	
Power supply	<b>+3.3V</b>	7	3.3V	5V	10	<b>+5V</b>	Power supply
Ground	<b>GND</b>	8	GND	GND	9	<b>GND</b>	Ground

## Maximum ratings

Description	Min	Typ	Max	Unit
Supply Voltage	2.4		5.5	V
Max Out Voltage			32	V
Max Out Current 4.2V Vin 8 LEDs	100			mA
Max Out Current 3.3V Vin 4 LEDs	125			mA
Max Out Current 5.0V Vin 4 LEDs	200			mA

## Programming

Code examples for LED driver click, written for MikroElektronika hardware and compilers are available on Libstock.

### Code snippet

The following code snippet shows the LED driver click example, which initializes ADC and PWM and sets the PWM output depending on the potentiometer analog input.

```
01 void systemInit()
02 {
03     TRISC = 0;           // designate PORTC pins as output
04     LATC  = 0;           // set PORTC to 0
05     PWM2_Init( 5000 );  // Initialize PWM2 module at 5KHz
06 }
07
08 void main()
09 {
10     systemInit();
11     currentDuty = 0;
12     PWM2_Start();
13     PWM2_Set_Duty(currentDuty);
14
15     while ( 1 )         // Playing with Potentiometer P1
you can control current PWM duty cycle
16     {
17         currentDuty = ADC_Read(1) & 0x0000FFFF;    // Read 10 - bit
ADC value and set newly acquired 8 - bit PWM duty
18         currentDuty = currentDuty / 4;
19         PWM2_Set_Duty(currentDuty );              // Set newly acquired duty
20     }
21
22 }
```