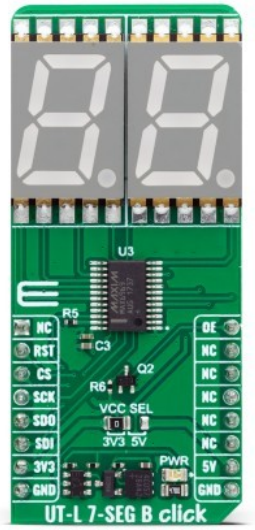
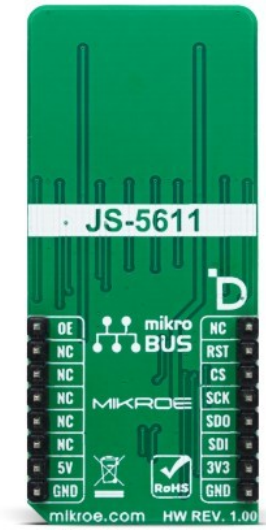
MIKROELEKTRONIKA D.O.O, Batajnički drum 23, 11000 Belgrade, Serbia
VAT: SR105917343 Registration No. 20490918
Phone: + 381 11 78 57 600 Fax: + 381 11 63 09 644 E-mail: office@mikroe.com
www.mikroe.com

UT-L 7-SEG B Click





PID: MIKROE-5824

UT-L 7-SEG B Click is a compact add-on board that presents an easy solution for adding a numeric or hexadecimal display to your application. This board features two blue JSS-5611BUB-21s, ultra-thin single-digit numeric displays from Ningbo Junsheng Electronics. The displays are medium (0.56 inches in height) and can display letters, numbers, and symbols in a highly readable form. The host MCU can control the light intensity of the red segments of the display. This Click board™ makes the perfect solution for the development of many applications requiring a visible display or others that display numerical/textual information.

UT-L 7-SEG B Click is supported by a mikroSDK compliant library, which includes functions that simplify software development. This Click board™ comes as a fully tested product, ready to be used on a system equipped with the mikroBUS™ socket.

How does it work?

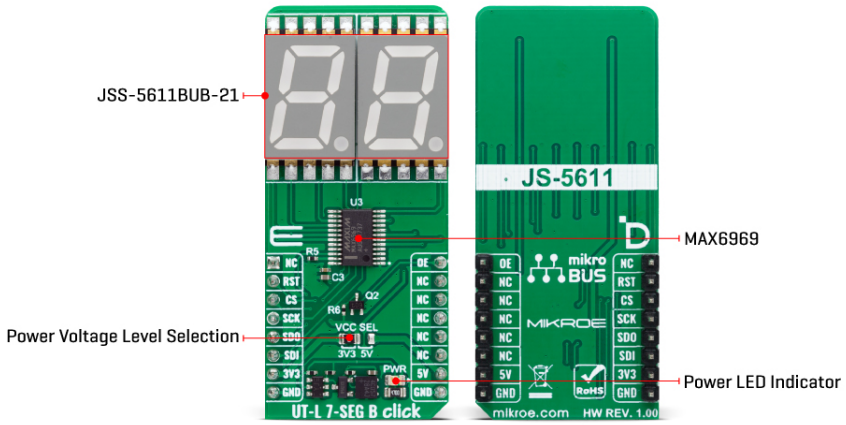
UT-L 7-SEG B Click is based on two blue JSS-5611BUB-21s, ultra-thin single-digit numeric displays from Ningbo Junsheng Electronics. This high-intensity and reliable blue source color device is made with Indium-Gallium-Nitride light-emitting diode conducting material. It features low current operation, high light output, excellent character appearance, and is mechanically rugged. The display can work on 5V and 3.3V and has a common anode as its internal design. It consists of seven blue LED segments that form an 8 number and the eighth segment as a decimal point, or DP.

Mikroe produces entire development toolchains for all major microcontroller architectures.
Committed to excellency, we are dedicated to helping engineers bring the project development up to speed and achieve outstanding results.

ISO 27001: 2013 certification of informational security management system.
ISO 14001: 2015 certification of environmental management system.
OHSAS 18001: 2008 certification of occupational health and safety management system.

ISO 9001: 2015 certification of quality management system (QMS).

MIKROELEKTRONIKA D.O.O, Batajnički drum 23, 11000 Belgrade, Serbia
VAT: SR105917343 Registration No. 20490918
Phone: + 381 11 78 57 600 Fax: + 381 11 63 09 644 E-mail: office@mikroe.com
www.mikroe.com



The communication between the host MCU and the UT-L 7-SEG B Click is established via an industry-standard shift-register-plus-latch-type serial interface and the MAX6969, 16-port constant-current LED driver from Analog Devices. This driver has a 4-wire serial interface using four inputs and a data output. The output-enable input (OE) gates to all 16 outputs ON and OFF and is fast enough to be used as a PWM input for LED intensity control. The constant-current outputs are programmed together to around 15mA using a single external resistor.

This Click board™ can operate with either 3.3V or 5V logic voltage levels selected via the VCC SEL jumper. This way, both 3.3V and 5V capable MCUs can use the communication lines properly. Also, this Click board™ comes equipped with a library containing easy-to-use functions and an example code that can be used as a reference for further development.

Specifications

Type	7-segment,LED Segment
Applications	Can be used for the development of many applications requiring a visible display or others that display numerical/textual information
On-board modules	JSS-5611BUB-21 - ultra-thin single-digit numeric display from Ningbo Junsheng Electronics
Key Features	0.56-inch digit height, 7 blue segments, and eighth decimal point, light intensity control, low current operation, excellent character appearance, displays letters, numbers, and symbols, and more
Interface	SPI
Feature	ClickID
Compatibility	mikroBUS™
Click board size	L (57.15 x 25.4 mm)
Input Voltage	3.3V or 5V

Mikroe produces entire development toolchains for all major microcontroller architectures.
Committed to excellency, we are dedicated to helping engineers bring the project development up to speed and achieve outstanding results.

ISOQAR REGISTERED
UKAS MANAGEMENT SYSTEMS
ISO 27001: 2013 certification of informational security management system.
ISO 14001: 2015 certification of environmental management system.
OHSAS 18001: 2008 certification of occupational health and safety management system.

TÜV SÜD ISO 9001
ISO 9001: 2015 certification of quality management system (QMS).

MIKROELEKTRONIKA D.O.O, Batajnički drum 23, 11000 Belgrade, Serbia
VAT: SR105917343 Registration No. 20490918
Phone: + 381 11 78 57 600 Fax: + 381 11 63 09 644 E-mail: office@mikroe.com
www.mikroe.com

Pinout diagram

This table shows how the pinout on UT-L 7-SEG B Click corresponds to the pinout on the mikroBUS™ socket (the latter shown in the two middle columns).

Notes	Pin	mikroBUS				Pin	Notes
	NC	1	AN	PWM	16	**OE**	Output Enable
	NC	2	RST	INT	15	NC	
SPI Chip Select	**CS**	3	CS	RX	14	NC	
SPI Clock	**SCK**	4	SCK	TX	13	NC	
SPI Data OUT	**SDO**	5	MISO	SCL	12	NC	
SPI Data IN	**SDI**	6	MOSI	SDA	11	NC	
Power Supply	**3.3V**	7	3.3V	5V	10	**5V**	Power Supply
Ground	**GND**	8	GND	GND	9	**GND**	Ground

Onboard settings and indicators

Label	Name	Default	Description
LD1	PWR	-	Power LED Indicator
JP1	VCC SEL	Left	Power/Logic Level Voltage Selection 3V3/5V: Left position 3V3, Right position 5

UT-L 7-SEG B Click electrical specifications

Description	Min	Typ	Max	Unit
Supply Voltage	3.3	-	5	V
Operating Current	-	15	-	mA

Software Support

We provide a library for the UT-L 7-SEG B Click as well as a demo application (example), developed using MIKROE compilers. The demo can run on all the main MIKROE development boards.

Package can be downloaded/installed directly from NECTO Studio Package Manager (recommended), downloaded from our LibStock™ or found on Mikroe github account.

Library Description

This library contains API for UT-L 7-SEG B Click driver.

Key functions

- utl7segb_display_number UT-L 7-SEG B display number function.
- utl7segb_enable UT-L 7-SEG B enable function.

Example Description

Mikroe produces entire development toolchains for all major microcontroller architectures.
Committed to excellency, we are dedicated to helping engineers bring the project development up to speed and achieve outstanding results.

ISO 27001: 2013 certification of informational security management system.
ISO 14001: 2015 certification of environmental management system.
OHSAS 18001: 2008 certification of occupational health and safety management system.

ISO 9001: 2015 certification of quality management system (QMS).

MIKROELEKTRONIKA D.O.O, Batajnički drum 23, 11000 Belgrade, Serbia
VAT: SR105917343 Registration No. 20490918
Phone: + 381 11 78 57 600 Fax: + 381 11 63 09 644 E-mail: office@mikroe.com
www.mikroe.com

This example demonstrates the use of the UT-L 7-SEG B Click board™ by writing and displaying the desired numbers on the screen.

The full application code, and ready to use projects can be installed directly from NECTO Studio Package Manager (recommended), downloaded from our LibStock™ or found on Mikroe github account.

Other Mikroe Libraries used in the example:

- MikroSDK.Board
- MikroSDK.Log
- Click.UTL7SEGB

Additional notes and informations

Depending on the development board you are using, you may need USB UART click, USB UART 2 Click or RS232 Click to connect to your PC, for development systems with no UART to USB interface available on the board. UART terminal is available in all MIKROE compilers.

mikroSDK

This Click board™ is supported with mikroSDK - MIKROE Software Development Kit. To ensure proper operation of mikroSDK compliant Click board™ demo applications, mikroSDK should be downloaded from the LibStock and installed for the compiler you are using.

For more information about mikroSDK, visit the official page.

Resources

mikroBUS™

mikroSDK

Click board™ Catalog

Click boards™

ClickID

Downloads

UT-L 7-SEG B click example on Libstock

UT-L 7-SEG B click schematic

MAX6969 datasheet

JSS-5611BUB-21 datasheet

UT-L 7-SEG B click 2D and 3D files

Mikroe produces entire development toolchains for all major microcontroller architectures.
Committed to excellency, we are dedicated to helping engineers bring the project development up to speed and achieve outstanding results.

ISO 27001: 2013 certification of informational security management system.
ISO 14001: 2015 certification of environmental management system.
OHSAS 18001: 2008 certification of occupational health and safety management system.

ISO 9001: 2015 certification of quality management system (QMS).