

## AlphaNum G 2 Click



PID: MIKROE-5903

AlphaNum G 2 Click is a compact add-on board that represents an easy solution for adding numeric or hexadecimal displays to your application. This board features the LTP-3862, a dual-digit 16-segment alphanumeric green display from Lite-ON. It is a 0.3" (7.62mm) display with black face and white segments. The LED segments use common anodes, and besides segments, the decimal point (DP) dot is also available. This Click board™ makes the perfect solution for the development of applications that require a visible display or others that display numerical/textual information.

AlphaNum G 2 Click is fully compatible with the mikroBUS™ socket and can be used on any host system supporting the [mikroBUS™](#) standard. It comes with the [mikroSDK](#) open-source libraries, offering unparalleled flexibility for evaluation and customization. What sets this Click board™ apart is the groundbreaking [ClickID](#) feature, enabling your host system to seamlessly and automatically detect and identify this add-on board.

### How does it work?

AlphaNum G 2 Click is based on the LTP-3862, a dual-digit 16-segment alphanumeric green display from Lite-ON. It has a 75mW of power dissipation per segment. The [TLC5947](#), a 24-channel 12-bit PWM LED driver from Texas Instruments, drives all these LED segments. It is a constant current sink LED driver with adjustable 4096 pulse width modulation (PWM) on each channel individually. The PWM control is repeated automatically with the programmed grayscale data. An external resistor sets the constant current to around 10mA. The LED driver features thermal shutdown, auto display repeat, noise reduction, and more.

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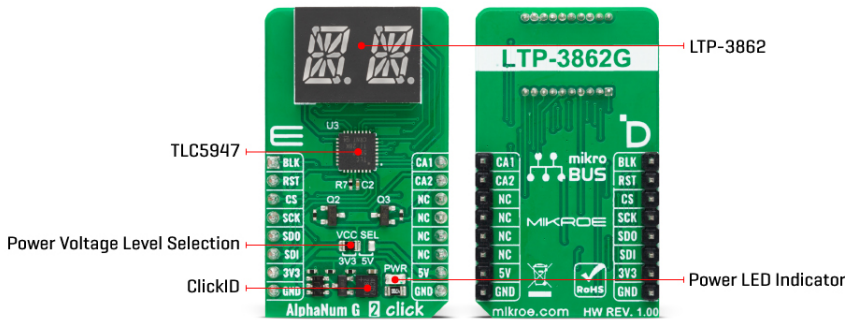
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ISO 9001: 2015 certification of quality management system (QMS).



AlphaNum G 2 Click uses a standard 4-Wire SPI serial interface to communicate with the host MCU, supporting a clock frequency of up to 30MHz. A Blank BLK pin can turn all constant current outputs to OFF while initializing the grayscale PWM timing. This can be achieved by writing the High logic state on the Blank pin. You can also turn off every display separately, no matter the LED driver IC, over the CA1 and CA2 pins. Those pins control the common anode pins of the displays.

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	LED Segment
Applications	Can be used for the development of applications that require a visible display or others that display numerical/textual information
On-board modules	LTP-3862 - dual-digit 16-segment alphanumeric green display from Lite-ON
Key Features	Double 16-segment green display with a decimal point, continuous uniform segments, low power requirement, excellent character appearance, wide viewing angle, categorized for luminous intensity, and more
Interface	SPI
ClickID	Yes
Compatibility	mikroBUS™
Click board size	M (42.9 x 25.4 mm)
Input Voltage	3.3V or 5V

## Pinout diagram

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This table shows how the pinout on AlphaNum G 2 Click corresponds to the pinout on the mikroBUS™ socket (the latter shown in the two middle columns).

Notes	Pin	mikroBUS				Pin	Notes
Blank Input	<b>BLK</b>	1	AN	PWM	16	<b>CA1</b>	Common Anode Enable 1
ID SEL	<b>RST</b>	2	RST	INT	15	<b>CA2</b>	Common Anode Enable 2
SPI Select / ID COMM	<b>CS</b>	3	CS	RX	14	NC	
SPI Clock	<b>SCK</b>	4	SCK	TX	13	NC	
SPI Data OUT	<b>SDO</b>	5	MISO	SCL	12	NC	
SPI Data IN	<b>SDI</b>	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

## Onboard settings and indicators

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

## AlphaNum G 2 Click electrical specifications

Description	Min	Typ	Max	Unit
Supply Voltage	3.3	-	5	V

## Software Support

We provide a library for the AlphaNum G 2 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 AlphaNum G 2 Click driver.

Key functions

- `alphanumg2_display_character` AlphaNum G 2 display character function.
- `alphanumg2_set_led_output` AlphaNum G 2 set LED output function.

## Example Description

This example demonstrates the use of the AlphaNum G 2 Click board™ by writing and

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displaying the desired alphanumeric characters.

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.AlphaNumG2

## 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

[AlphaNum G 2 click example on Libstock](#)

[AlphaNum G 2 click 2D and 3D files](#)

[LTP-3862G datasheet](#)

[TLC5947 datasheet](#)

[AlphaNum G 2 click schematic](#)

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