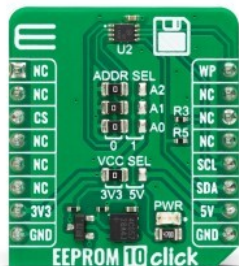


EEPROM 10 Click



PID: MIKROE-5735

EEPROM 10 Click is a compact add-on board that contains the highest-density memory solution. This board features the [N24C32](#), a 32Kb I2C CMOS Serial EEPROM from [ON Semiconductor](#). It is internally organized as 128 pages of 32 bytes each, with a 32-byte page write buffer and a fast write time of up to 4ms. It lasts one million full-memory read/writes/erase cycles with more than 100 years of data retention. This Click board™ makes the perfect solution for the development of consumer and industrial applications where dependable nonvolatile memory storage is essential.

EEPROM 10 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?

EEPROM 10 Click is based on the N24C32, a 32Kb I2C CMOS Serial EEPROM from ON Semiconductor. The EEPROM has excellent energy efficiency and can work in a wide power supply range. Data is written to the EEPROM by providing a starting address, then loading 1 to 32 contiguous bytes into a page write buffer, and then writing all data to non-volatile memory in just one internal write cycle. The same data can be read by providing a starting address and then shifting out data serially while automatically incrementing the internal address count.

Mikroe produces entire development toolchains for all major microcontroller architectures.

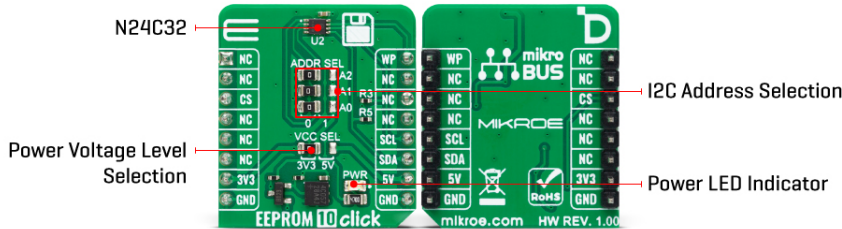
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ISO 27001: 2013 certification of informational security management system.
 ISO 14001: 2015 certification of environmental management system.
 OHSAS 18001: 2008 certification of occupational health and safety management system.



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



The EEPROM 10 Click communicates with MCU using the standard I2C 2-Wire interface that supports Standard (100 kHz), Fast (400 kHz), and Fast-Plus (1MHz) modes of operation. The address pins A0, A1, and A2 are programmed by the user and determine the value of the last three LSBs of the slave address, which can be selected by positioning onboard SMD jumpers labeled as ADDR SEL to an appropriate position marked as 0 or 1 (0 set by default). On the other side, the configurable Write Protection function, labeled WP routed to the default position of the PWM pin of the mikroBUS™ socket, allows the user to freeze the entire memory area, thus protecting it from Write instructions.

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. However, the 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	EEPROM
Applications	Can be used for the development of consumer and industrial applications where dependable nonvolatile memory storage is essential
On-board modules	N24C32 - a 32Kb I2C CMOS Serial EEPROM from ON Semiconductor
Key Features	Low power consumption, write protection, more than a million read/write/erase cycles, more than 100 years of data retention, high reliability, high density, and more
Interface	I2C
ClickID	Yes
Compatibility	mikroBUS™
Click board size	S (28.6 x 25.4 mm)
Input Voltage	3.3V or 5V

Pinout diagram

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This table shows how the pinout on EEPROM 10 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	WP	Write Protection
	NC	2	RST	INT	15	NC	
	NC	3	CS	RX	14	NC	
	NC	4	SCK	TX	13	NC	
	NC	5	MISO	SCL	12	SCL	I2C Clock
	NC	6	MOSI	SDA	11	SDA	I2C Data
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 5V
JP2-JP4	ADDR SEL	Left	I2C Address Selection 0/1: Left position 0, Right position 1

EEPROM 10 Click electrical specifications

Description	Min	Typ	Max	Unit
Supply Voltage	3.3	-	5	V
Memory Size	-	-	32	Kbit
Write Endurance	1.000.000	-	-	Cycles
Data Retention	100	-	-	Years

Software Support

We provide a library for the EEPROM 10 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 EEPROM 10 Click driver.

Key functions

- `eeprom10_write_enable` EEPROM 10 write enable function.
- `eeprom10_write_n_byte` EEPROM 10 write desired number of data function.

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- eeprom10_read_n_byte EEPROM 10 read desired number of data function.

Example Description

This example demonstrates the use of EEPROM 10 Click board™ by writing specified data to the memory and reading it back.

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.EEPROM10

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, that needs to be downloaded from the [LibStock](#) and installed for the compiler you are using to ensure proper operation of mikroSDK compliant Click board™ demo applications.

For more information about mikroSDK, visit the [official page](#).

Resources

[mikroBUS™](#)

[mikroSDK](#)

[Click board™ Catalog](#)

[Click boards™](#)

[ClickID](#)

Downloads

[EEPROM 10 click example on Libstock](#)

[N24C32 datasheet](#)

[EEPROM 10 click 2D and 3D files](#)

[EEPROM 10 click schematic](#)

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