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

UART MUX 4 Click

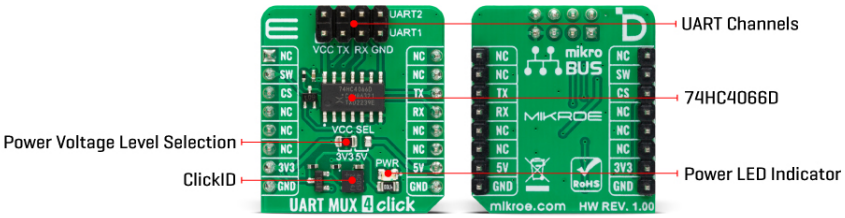
PID: MIKROE-5720

UART MUX 4 Click is a compact add-on board that switches the UART pins (RX and TX) from the mikroBUS™ socket to one of the two available outputs. This board features the 74HC4066D, a quad single-pole, single-throw analog switch from Nexperia. The UART MUX 4 Click allows you to switch from one multiplexed UART to another easily, but not both simultaneously. This Click board™ makes the perfect solution for the development of a wide range of applications, from industrial and instrumentation to consumer, communications, data-acquisition systems, and many more.

How does it work?

UART MUX 4 Click is based on the 74HC4066D, a quad single-pole, single-throw analog switch from Nexperia. The CMOS level inputs of the 74HC4066D include clamp diodes, which in turn allow the use of current limiting resistors to interface inputs to voltages exceeding VCC. This Click board™ has two multiplexed 4-pin UART headers labeled UART1 and UART2. The UART header lines are labeled for corresponding pins. It offers fast switching speeds with a turn-OFF time of 13ns and 11ns for turn-ON if powered with 5V.

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 UART MUX 2 Click uses a standard UART interface to communicate with the host MCU, with commonly used RX and TX lines. To switch between the two output UART interfaces, this Click board™ features a switch in the form of an NPN transistor circuit. This switch circuit allows using one of the outputs UART interfaces via the SW pin of the mikroBUS™ socket with a simple logic state.

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	Port expander,RS232
Applications	Can be used for the development of a wide range of applications, from industrial and instrumentation to consumer, communications, data-acquisition systems, and many more
On-board modules	74HC4066D - quad single-pole, single-throw analog switch from Nexperia
Key Features	Fast turn-ON and turn-OFF times, two output UART interfaces, 3.3V and 5V operation, clamp diodes included on inputs, CMOS level, ESD protection, and more
Interface	UART
Feature	ClickID
Compatibility	mikroBUS™
Click board size	S (28.6 x 25.4 mm)
Input Voltage	3.3V or 5V

Pinout diagram

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 table shows how the pinout on UART MUX 4 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	NC	
UART Output Switch	**SW**	2	RST	INT	15	NC	
ID COMM	**CS**	3	CS	RX	14	**TX**	UART TX
	NC	4	SCK	TX	13	**RX**	UART RX
	NC	5	MISO	SCL	12	NC	
	NC	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 Voltage Level Selection 3V3/5V: Left position 3V3, Right position 5V

UART MUX 4 Click electrical specifications

Description	Min	Typ	Max	Unit
Supply Voltage	3.3		5	V

Software Support

We provide a library for the UART MUX 4 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 UART MUX 4 Click driver.

Key functions

- uartmux4_enable_uart1 UART MUX 4 enable the UART 1 function.
- uartmux4_enable_uart2 UART MUX 4 enable the UART 2 function.

Example Description

This example demonstrates the use of UART MUX 4 Click board™ by processing the incoming data and displaying them on the USB UART.

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 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.UARTMUX4

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

UART MUX 4 click example on Libstock

UART MUX 4 click 2D and 3D files v100

74HC4066 datasheet

UART MUX 4 click schematic v100