

**FLIP**  **click**  
click boards™ meet Arduino

# To our valued customers

I want to express my thanks to you for being interested in our products and for having confidence in MikroElektronika.

The primary aim of our company is to design and produce high quality electronic products and to constantly improve the performance thereof in order to better suit your needs.

A white handwritten signature on a blue background, consisting of stylized, overlapping letters.

Nebojsa Matic  
General Manager

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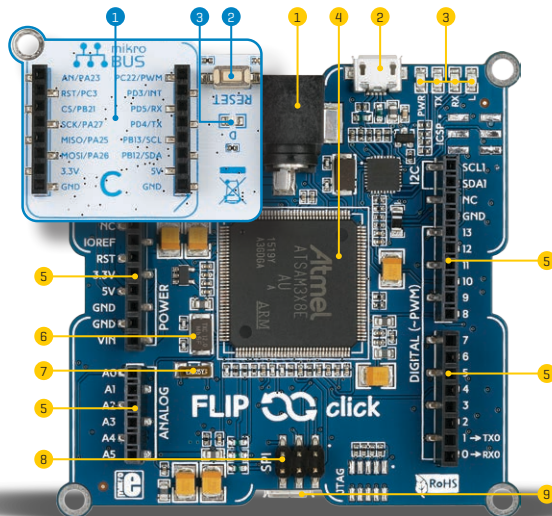
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# A maker's sidekick

Meet Flip & click, Arduino's close cousin. This board shares a lot of Arduino DNA — **Atmel's 32-bit AT91SAM3X8E** MCU, the familiar pinout, firmware to program it like a regular Arduino — but it has a tendency to flip. When it does, you'll get to see its other side — four mikroBUS™ sockets for connecting click boards™. With **more than 160** bite-sized clicks to pick from (and more coming out every week), anything goes. All sorts of sensors, transceivers, encoders, displays, connection ports are at your disposal. Separate communication lines allow for thousands of click board combinations, with no need for unsightly stacking or wire jumping. Flip & click is a perfect sidekick for your adventures in Maker land.



# 1. What's on board?



- 1 7-20V DC connector
- 2 Programming USB port
- 3 Signal LEDs
- 4 AT91SAM3X8E MCU
- 5 Arduino UNO pinout
- 6 12 MHz Crystal oscillator
- 7 32.768 MHz Crystal oscillator
- 8 SPI header
- 9 host/device USB port

- 1 mikroBUS™ socket (one of 4)
- 2 Reset button
- 3 LED (one of 4)

## System specification



power supply  
via USB cable  
(5V DC)



board dimensions  
73 x 73 mm  
(2.87 x 2.87 inch)



weight  
30 g (0.066 lbs)



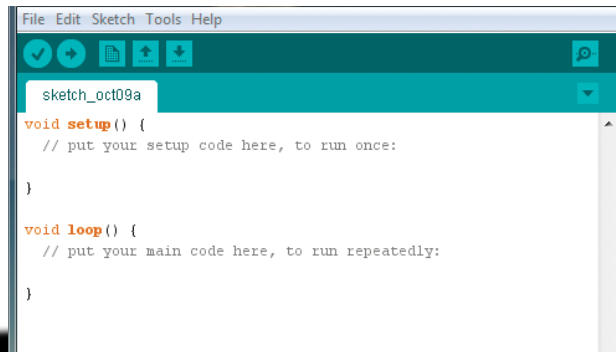
mikroBUS™  
4 sockets

## 2. Programming Flip & click

To program the Flip & click, download the latest version of the open-source Arduino IDE. The software is available for Windows, Mac, and Linux.

Once you connect the board to a PC (using the microUSB port next to the power connector) your system will recognize it as an Arduino Due. Just compile your sketch and you're good to go.

➦ [www.arduino.cc/en/Main/Software](http://www.arduino.cc/en/Main/Software)



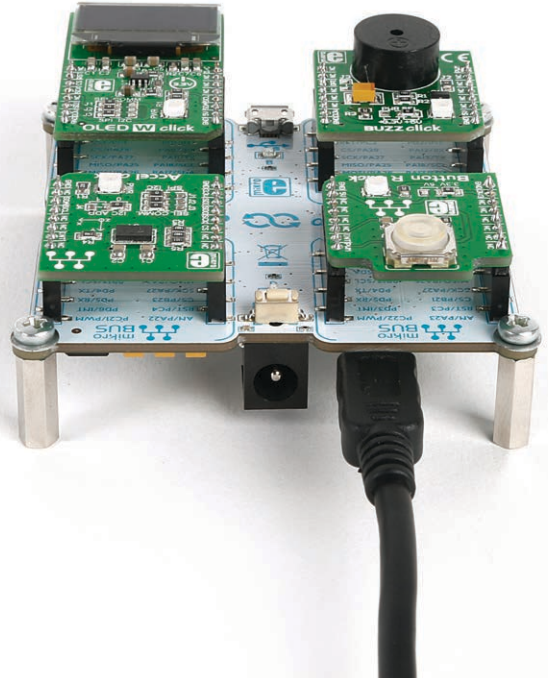
```
File Edit Sketch Tools Help
[Icons: Checkmark, Arrow, File, Upload, Download, Refresh]
sketch_oct09a
void setup() {
  // put your setup code here, to run once:
}

void loop() {
  // put your main code here, to run repeatedly:
}
```

# 3. Code examples

We made several examples to show off the potentials of Flip & click and click board™ combinations. All the code is available on MikroElektronika's GitHub channel. Keep visiting the link, as more code will be added in the future:

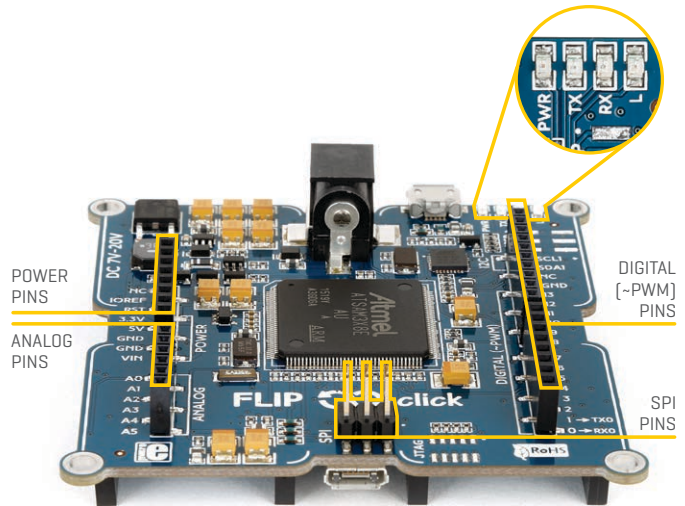
[www.github.com/mikroe/Flip\\_n\\_Click\\_Examples](http://www.github.com/mikroe/Flip_n_Click_Examples)



## 4. Blue side

On the blue side, Flip & click features a standard Arduino Uno pinout [with additional SPI pins] which makes it compatible with a range of Arduino shields. All the pins operate on 3.3V logic, just like with Arduino Due.

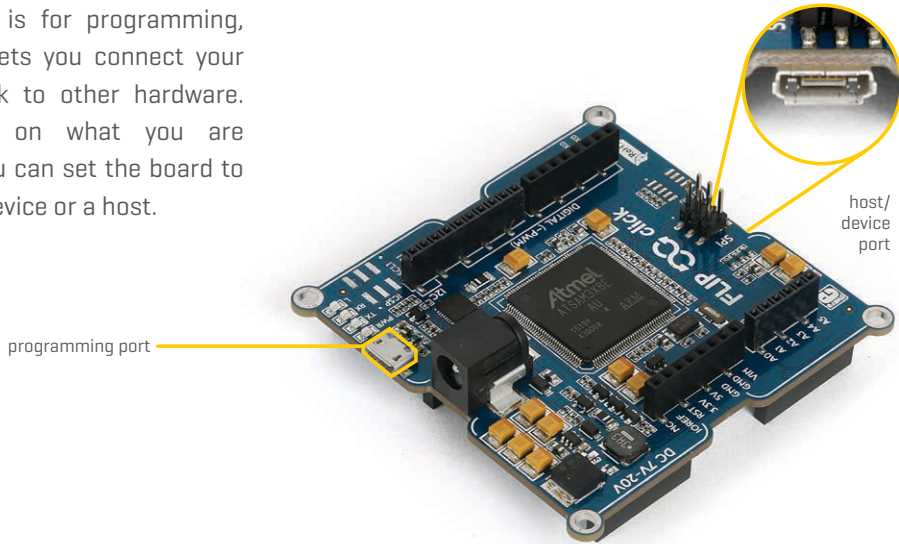
The four LEDs are the same as on Arduino Due. From left to right: indicating power supply [PWR], signaling programming is in progress [TX, RX], and one connected to MCU pin 13 [L].





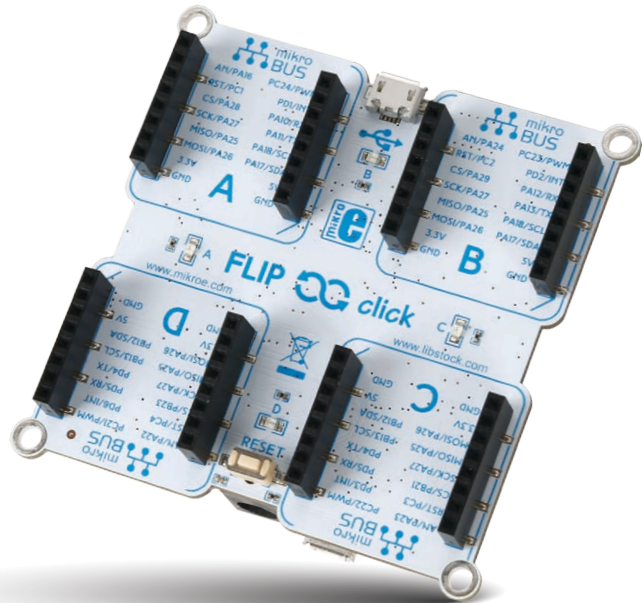
# 5. USB ports

The board has two micro-USB ports. One is for programming, the other lets you connect your Flip & click to other hardware. Depending on what you are making, you can set the board to be a USB device or a host.



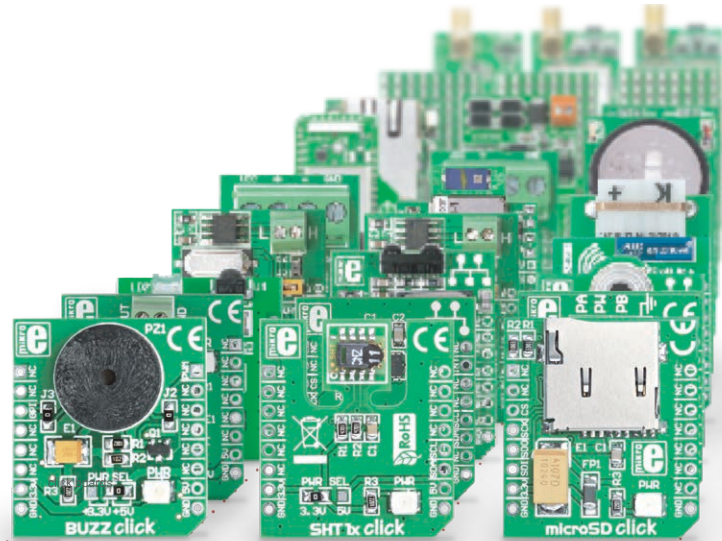
## 6. White side

On the white side, Flip & click has four mikroBUS™ sockets along with four LEDs and a reset button. The silkscreen markings clearly denote which microcontroller pins are used on each socket. The pinout provides both 3.3V and 5V power supplies.

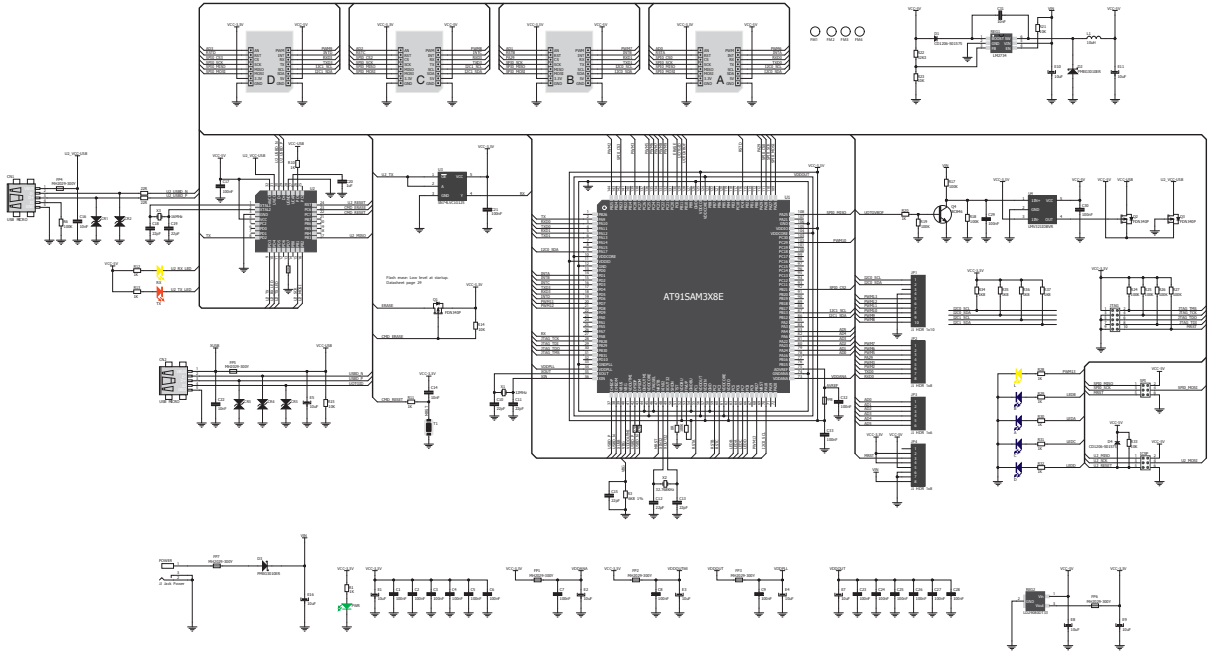


## 7. click boards™

Buzzer, Relays, WiFi, RFid, GSM, GPS, OLED, Speech recognition — you name it, we got it! There are more than 160 click boards™ available. Many of the chips on clicks already have their own Arduino libraries you can reuse. More and more will be coming out in the future. See them all, on: [www.mikroe.com/click](http://www.mikroe.com/click)



# 8. Schematic



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Flip & click Manual  
ver 1.00

