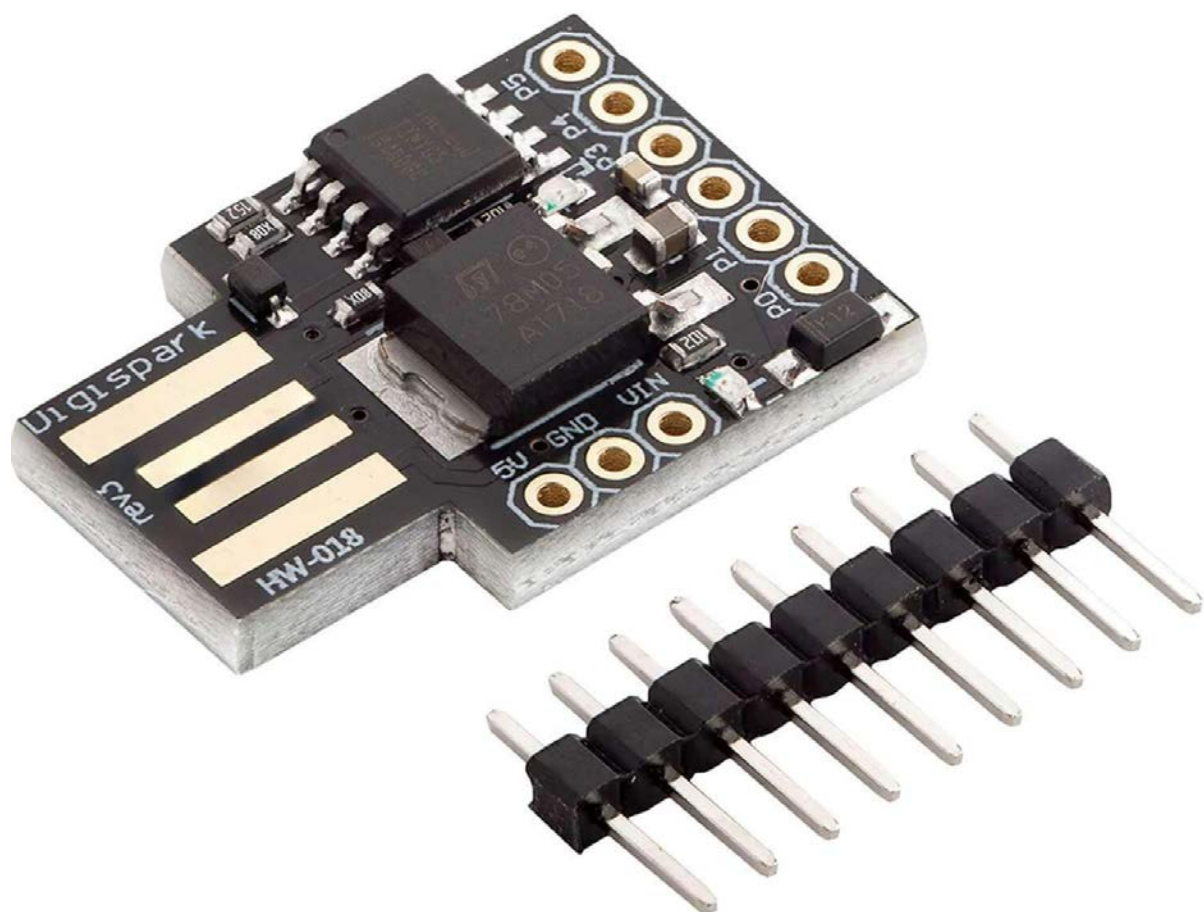


Digispark Rev.3

eBook for

# AZ-Delivery ATtiny85 - Digispark Rev.3



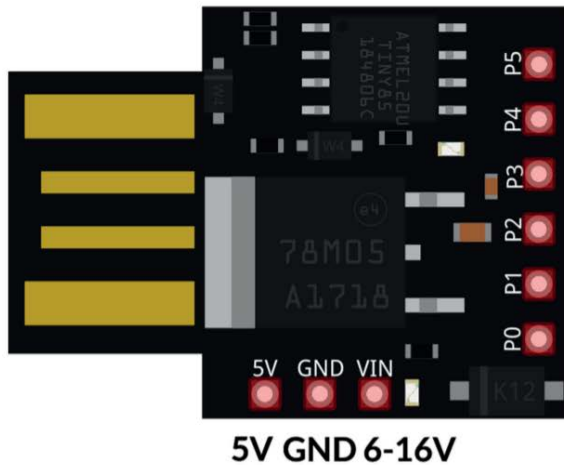
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### Introduction

The Digispark from Digistump is probably the most compact and smallest microcontroller currently available. The board measures just 17.5mm x 19mm (without USB connection) (27mmx19mm with USB). It has a USB connector directly onBoard and can be plugged directly into a USB port without any additional cable. The integrated ATtiny85 is supplied with power directly from the USB port. In addition, the Digispark has 6 freely programmable GPIO connections that can be programmed with the familiar Arduino programming environment. There is 6kB of memory available for your own programs. In addition to the 3 other pins on the board that can be used for an external power supply, the ATtiny85 supports full SPI and i2c interfaces. The microcontroller, which is the size of a 1 Euro coin, already has a lot to offer. Let's start right away with setting up and programming.

## Pinout



P5 PB5/PCINT5/ADC0/RESET  
P4 PB4/PCINT4/ADC2/USB - /PWM4  
P3 PB3/PCINT3/ADC3/USB +  
P2 PB2/PCINT2/ADC1/SCLK/SCL/INT0  
P1 PB1/PCINT1/PWM1/MISO  
P0 PB0/PCINT0/PWM0/MOSI/SDA

## Installing the Arduino IDE

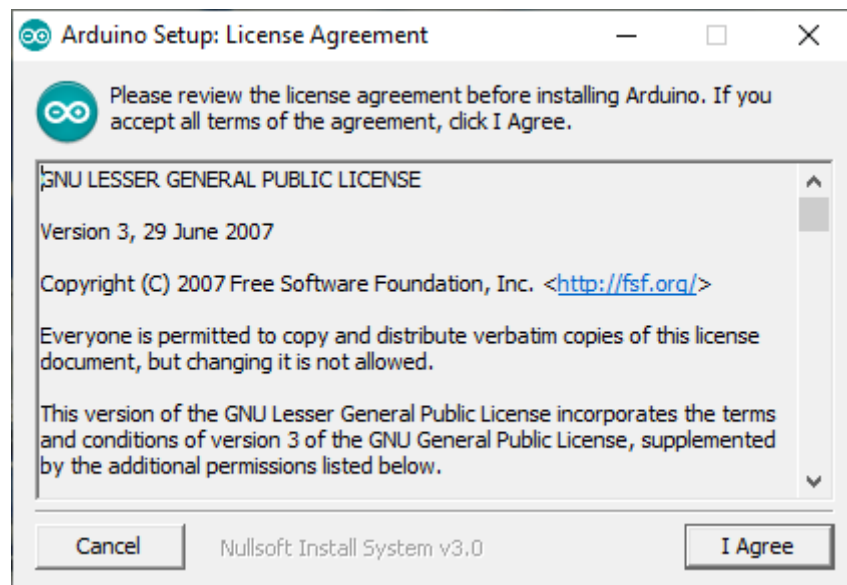
You can download the free Arduino IDE development environment from the following link: <https://www.arduino.cc/en/Main/Software>

Windows users should definitely use one of the first two download options for the Arduino IDE. The "Windows App" version from the Windows Store will cause connection problems especially when using third party board definitions.

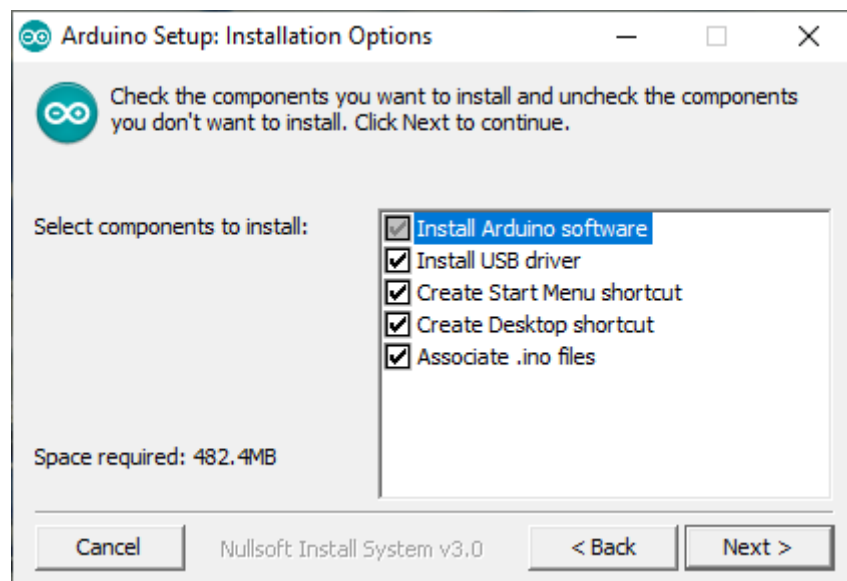
### Download the Arduino IDE



After starting the Arduino IDE installation file "arduino-1.X.X-windows.exe" the license conditions of the software must be read and accepted:



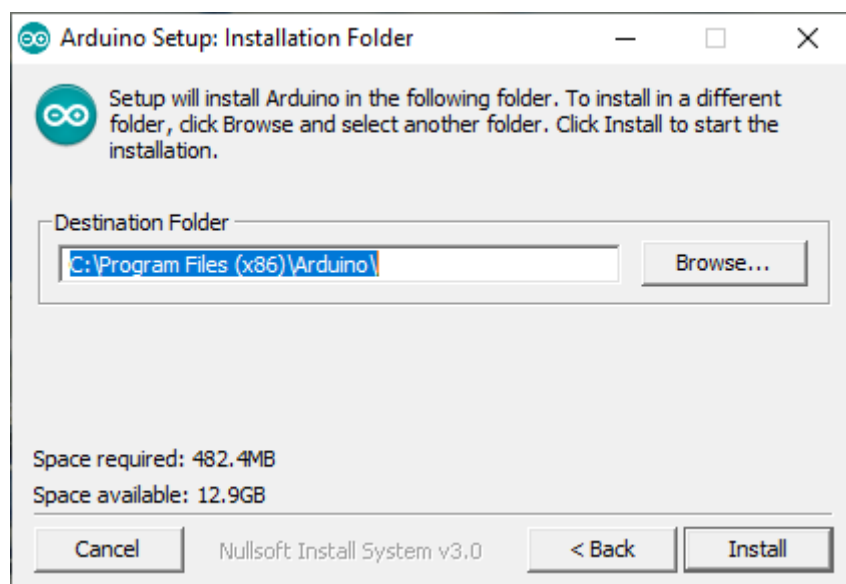
In the next step, different options can be selected for installation.



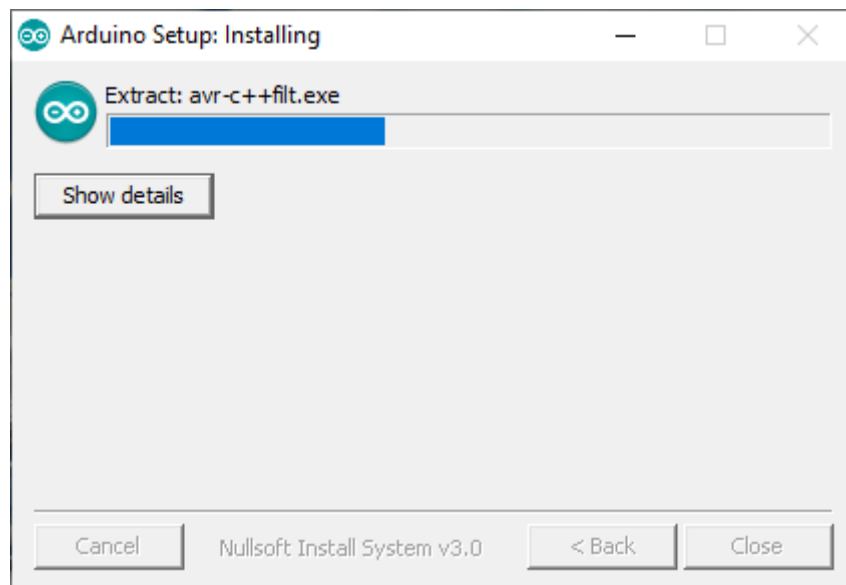
A brief overview of the different options follows, with a brief explanation of each option:

Option	Erklärung
Install Arduino Software	Installs the Arduino IDE - This option can not be deselected
Install USB Driver	Installs USB drivers for various other microcontrollers. These are not required to use the software with the D1 mini, but we strongly recommend installing them if you also use other microcontrollers
Create Start Menu shortcut	Creates a shortcut in the Windows Start menu (optional)
Create Desktop shortcut	Creates a shortcut on the workstation (Optional)
Associate .ino files	Creates a filename extension for files with the extension .ino and links it to the Arduino IDE

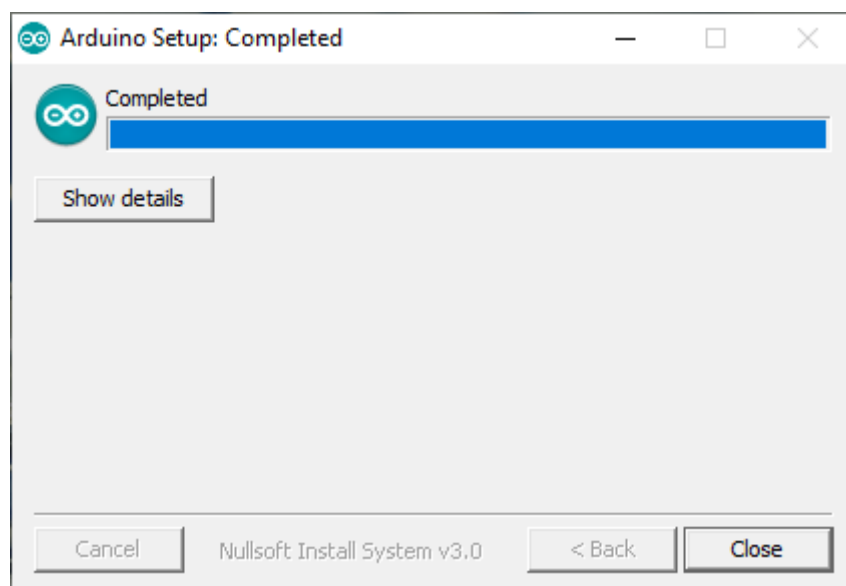
Finally, the destination folder must be specified. The installation requires about 500MB of free disk space.



Click "Install" to start the installation.



After successful installation, the installation program can be closed via the "Close" button:

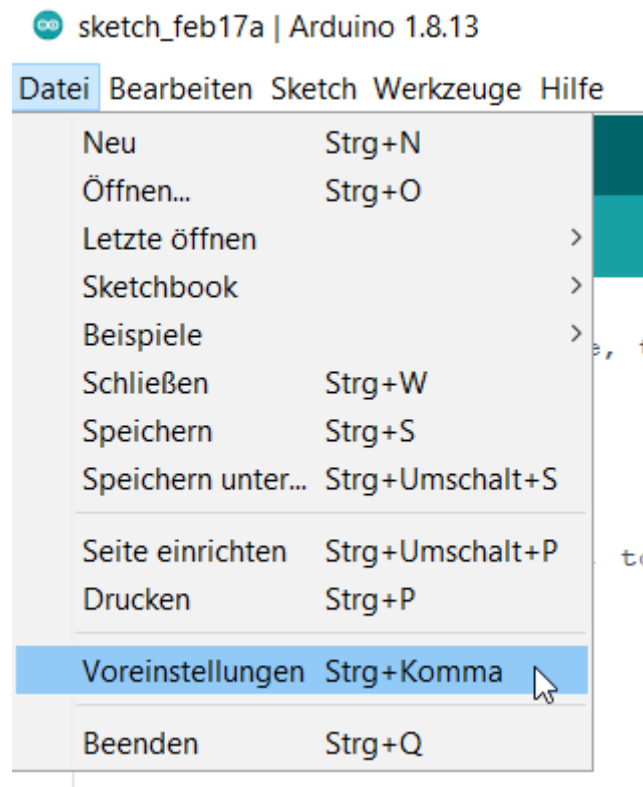




## Presets in the Arduino IDE

In order to be able to program the Digispark in the Arduino IDE, settings still have to be made.

First, we go to **File > Preferences** in the Arduino IDE.



## Digispark Rev.3

and add the Digistump URL under the item "Additional board manager URLs":

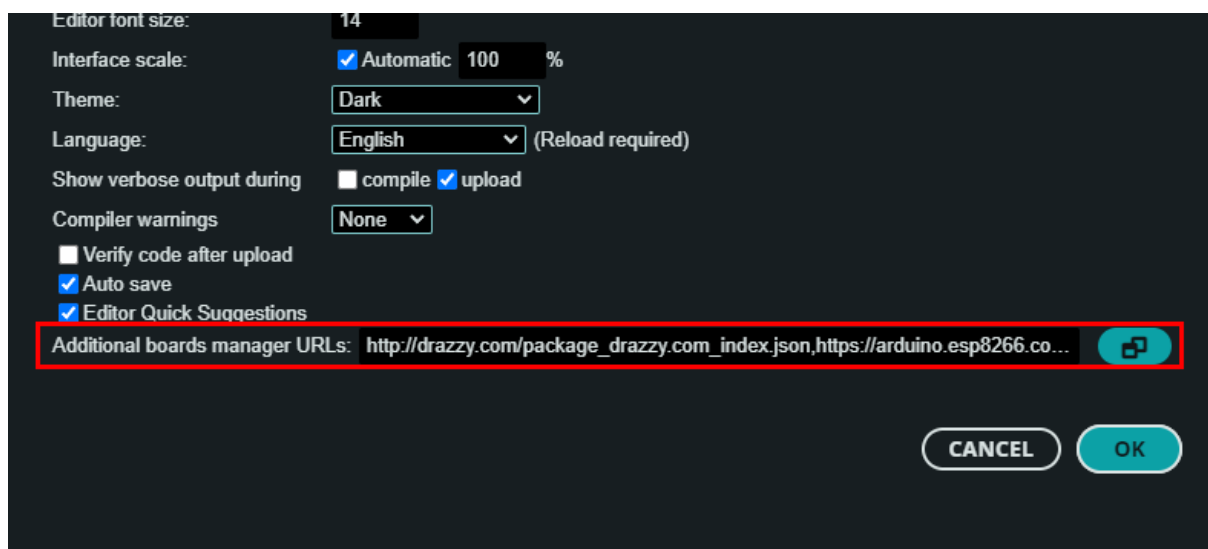
`http://drazzy.com/package_drazzy.com_index.json`

or:

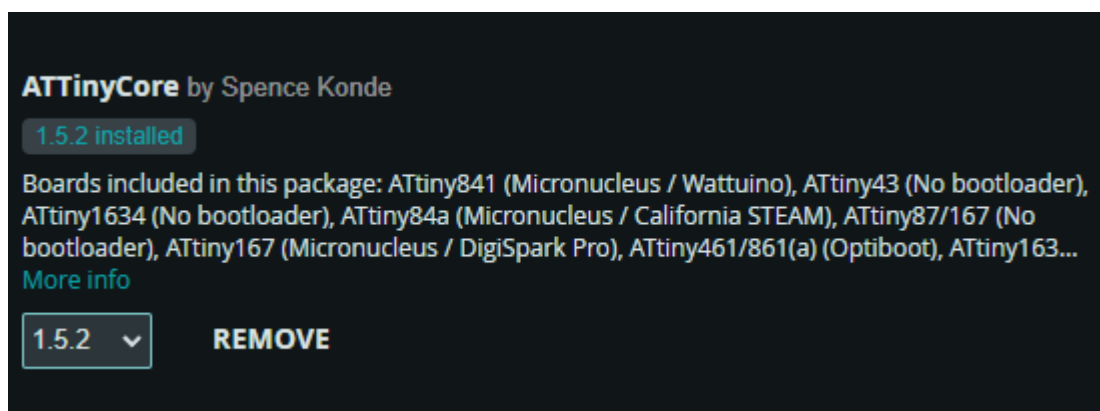
`https://raw.githubusercontent.com/digistump/arduino-boards-index/master/package_digistump_index.json`

or:

`https://raw.githubusercontent.com/damellis/attiny/ide-1.6.x-boards-manager/package_damellis_attiny_index.json`



Next we go to Tools > Board > Board Manager and enter "ATTinyCore" in the search bar and install it.



The necessary USB drivers are also installed, in some cases this is not done automatically and must be installed manually. To do this, you must go to AppData > Local > Arduino15 > packages > ATTinyCore > tools > micronucleus > 2.5-azd1b and execute the "post\_install.bat" with admin privileges.

## **Digispark Rev.3**

Now that the settings are complete, you can select **Tools > Boards > ATTinyCore > "ATtiny85 (Micronucleus / DigiSpark)"** for programming.

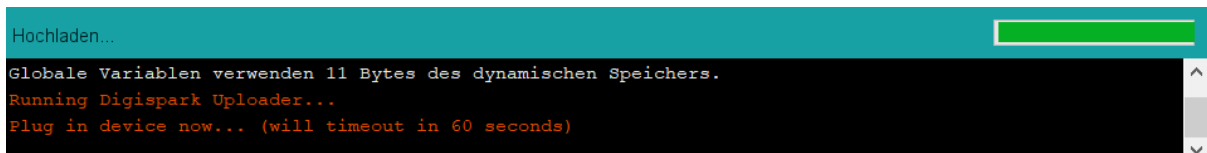
## Example Sketch

The Blink Sketch is a good quick example. The built-in LED in the Digispark is connected to pin 1.

```
int led = 1;
void setup() {
  pinMode(led, OUTPUT);
}

void loop() {
  digitalWrite(led, HIGH);
  delay(1000);
  digitalWrite(led, LOW);
  delay(1000);
}
```

The sketch can now be compiled and if everything is correct it can be uploaded. When uploading, this message appears:



Now you can plug the Digispark into the USB port. If it is already connected, you can disconnect and reconnect it. You have 60 seconds for this action.

After a successful upload, the following message appears at the end:



The LED on the Digispark now flashes every second.

Now it's time to learn and create your own projects. You can do that with the help of many sample scripts and other tutorials that you can find on the Internet.

**If you are looking for the high-quality products for Arduino and Raspberry Pi, AZ-Delivery Vertriebs GmbH is the right place for you. You will receive numerous application examples, complete installation instructions, eBooks, libraries and support from our technical experts.**

<https://az-delivery.de>

Have Fun!

Impressum

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