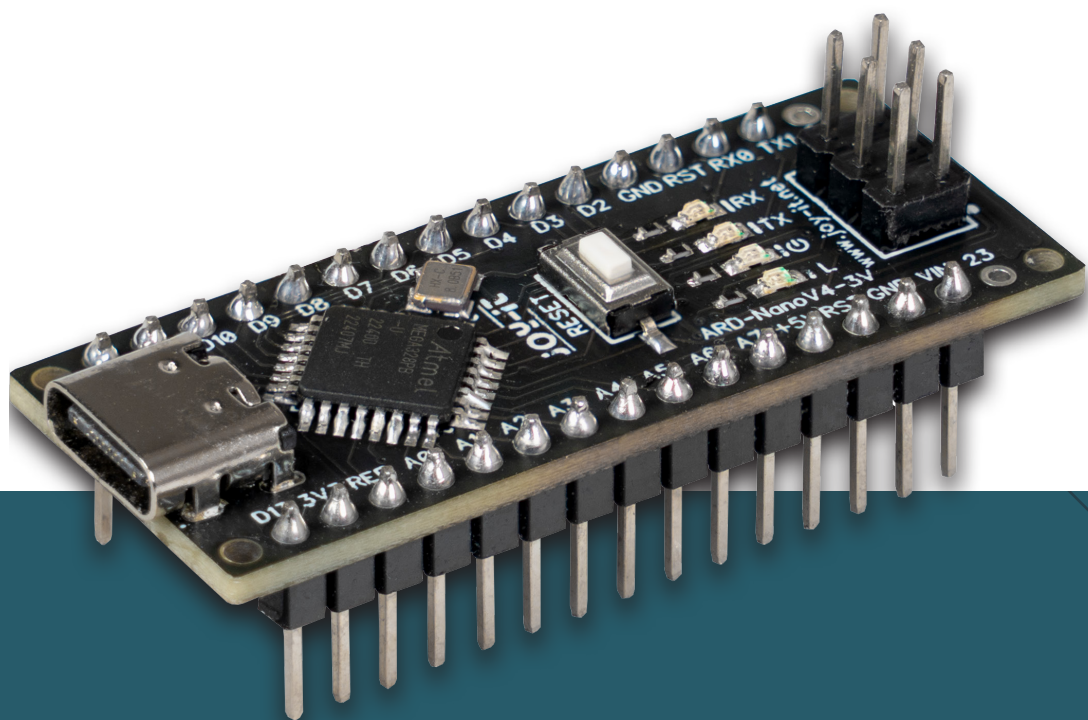




NANO V4 3V

ARD-NanoV4-3V

1. GENERAL INFORMATION

Dear customer,
thank you for choosing our product. In the following we will show you what you need to bear in mind when commissioning and using.

Should you encounter any unexpected problems during use, please do not hesitate to contact us.

The ARD-Nanov4-3V is a particularly small microcontroller that has been specially developed for working with plug-in boards, thanks to the pin header that leads out at the bottom.

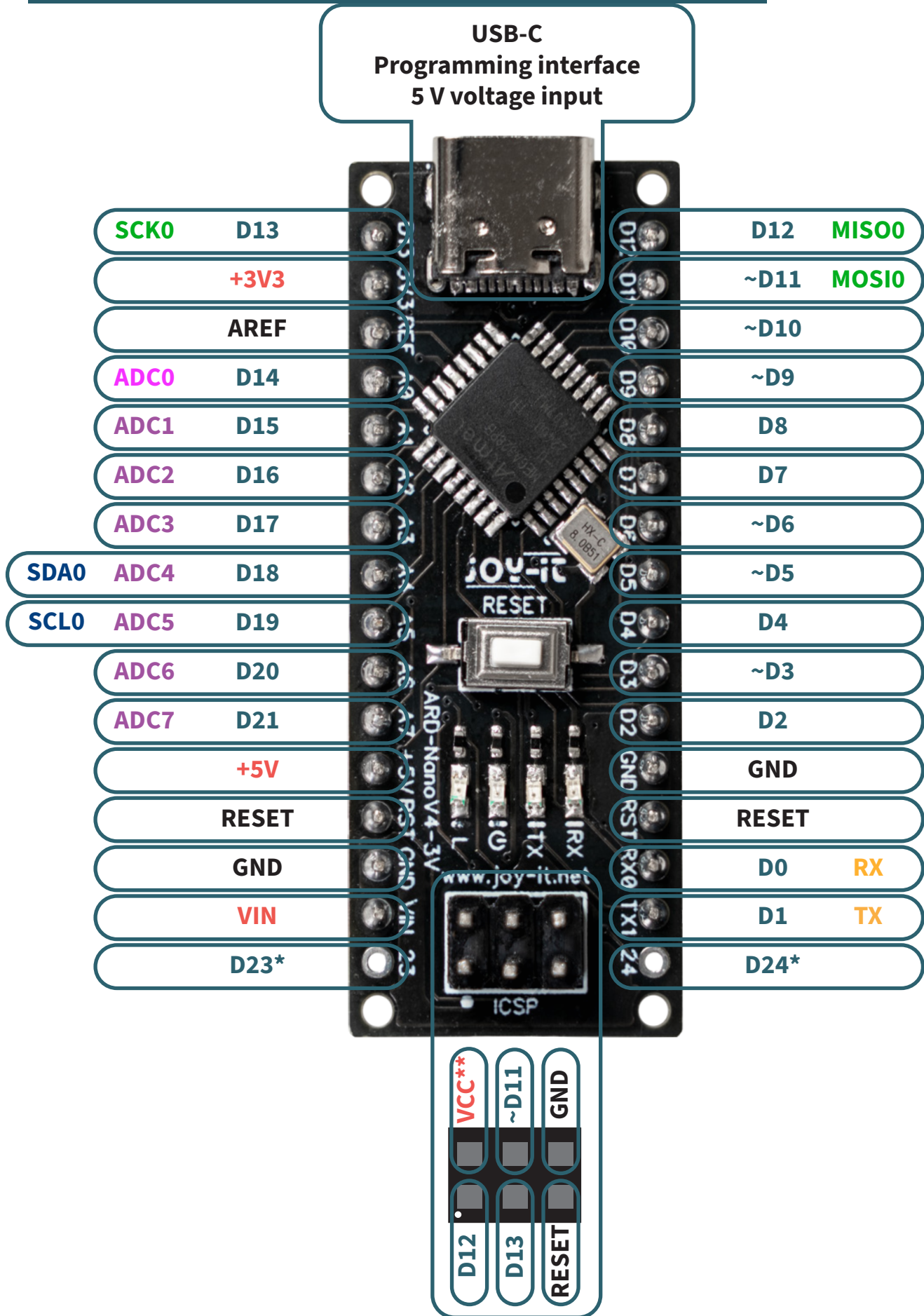
the integrated USB Type-C interface can be used to supply the circuit and board with power and to transfer programmes to the microcontroller.

The logic level, 3.3V as standard, can easily be switched to 5V via a solder bridge. The board also has a high-precision clock generator that is optimised for demanding applications and precise time measurements.



Please ensure that you use the appropriate instructions for your specific board - either ARD-NANOV4-3V or ARD-NANOV4-3V-MC. Both boards are very similar, but require different configurations of the development environment. Using the wrong instructions will result in the board not working properly.

2. DEVICE OVERVIEW



~ PWM pins

* Can only be used with minicore bootloader (ARD-NanoV4-3V-MC)

** 3.3V/ 5V depending on solder bridge

3. LOGIC LEVEL

You can change the logic level of the board from 3.3V to 5V by adjusting the solder bridge on the underside of the board accordingly. This solder bridge determines the supply voltage with which the microcontroller is operated - and therefore also its logic level.

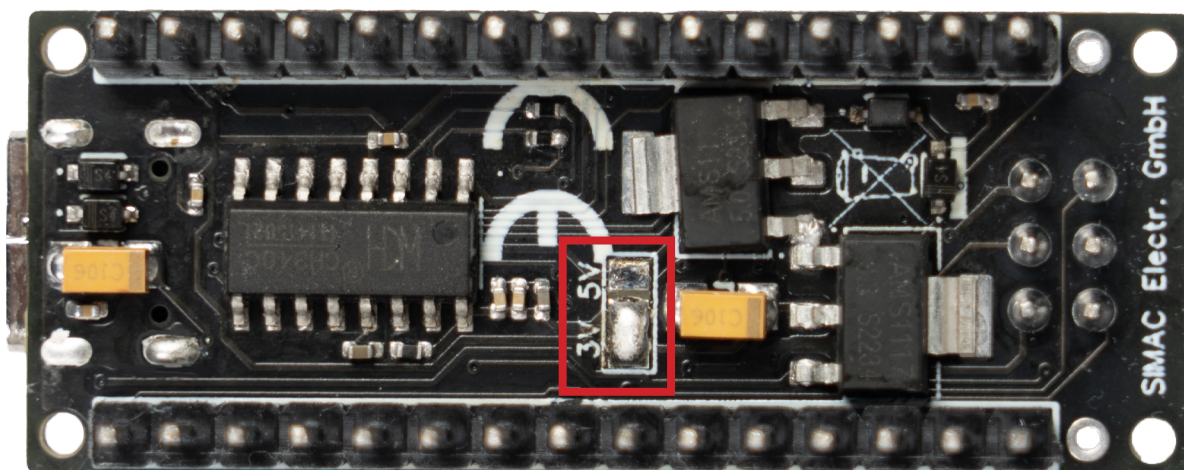
The board is set to 3.3V at the factory. This means that the microcontroller works with a supply voltage of 3.3V, and all input and output pins also use 3.3V as the logic level - ideal for many modern sensors and wireless modules.

However, if you want to work with 5V logic, you can change the voltage as follows:

- Turn the board over and look for the three-pole solder bridge labelled "3V 5V".
- Remove the existing solder that connects the centre pad to the left pad ("3V").
- Now connect the centre pad to the right-hand pad ("5V") using a new solder bridge.

This supplies the microcontroller directly with 5V and all digital I/O pins then also work with 5V logic levels.

Attention!!! After switching to 5V, you should not use any components that are designed exclusively for 3.3V, as their inputs or outputs may be damaged by the higher levels. It is therefore essential to ensure that all connected modules and sensors are 5V-tolerant.



4. SOFTWARE SETUP

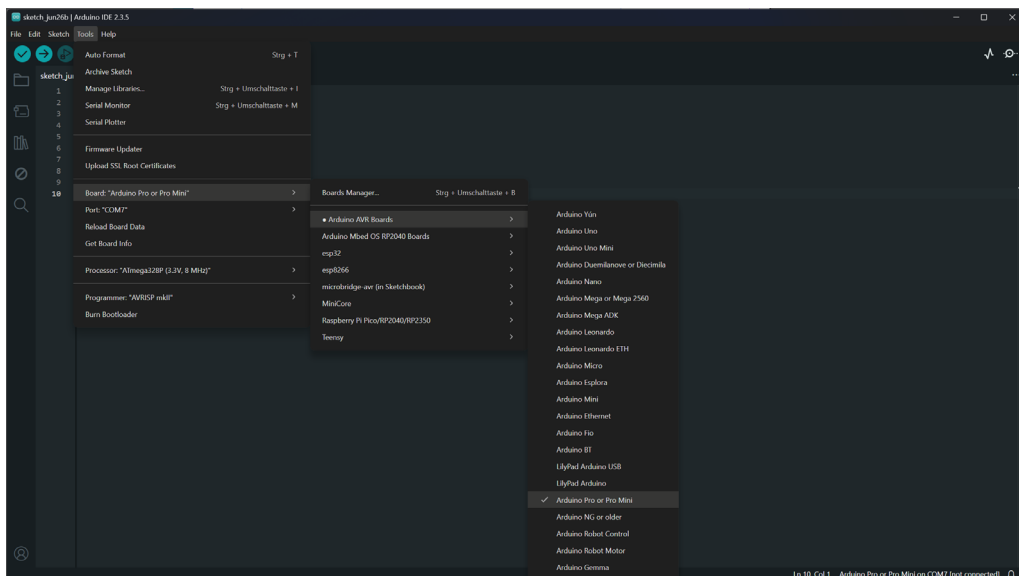
The Arduino IDE is usually used to programme the board.

You can download them here: <https://www.arduino.cc/en/software>

Once you have downloaded and installed the software, you can start it.

Before you can load a sketch, you need to make a few settings for the board.

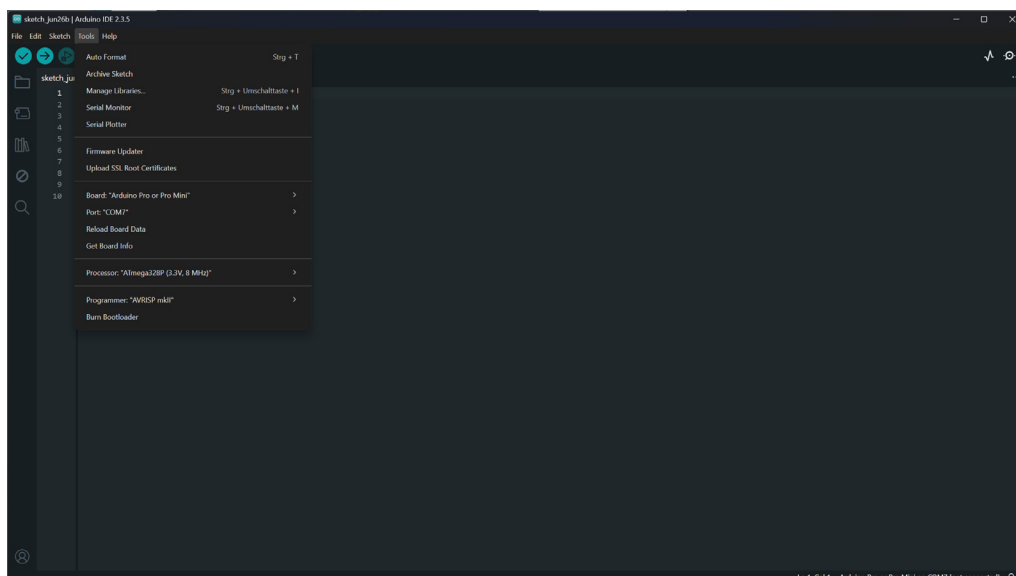
Select **Tools** → **Board** → **Arduino AVR Boards** → **Arduino Pro or Pro Mini**.



Also select **Tools** → **Processor** → **ATmega328P (3.3V, 8MHz)**

and at **Tools** → **Port** the port to which the device is connected.

Select **AVRISP mkII** as the **programmer**.

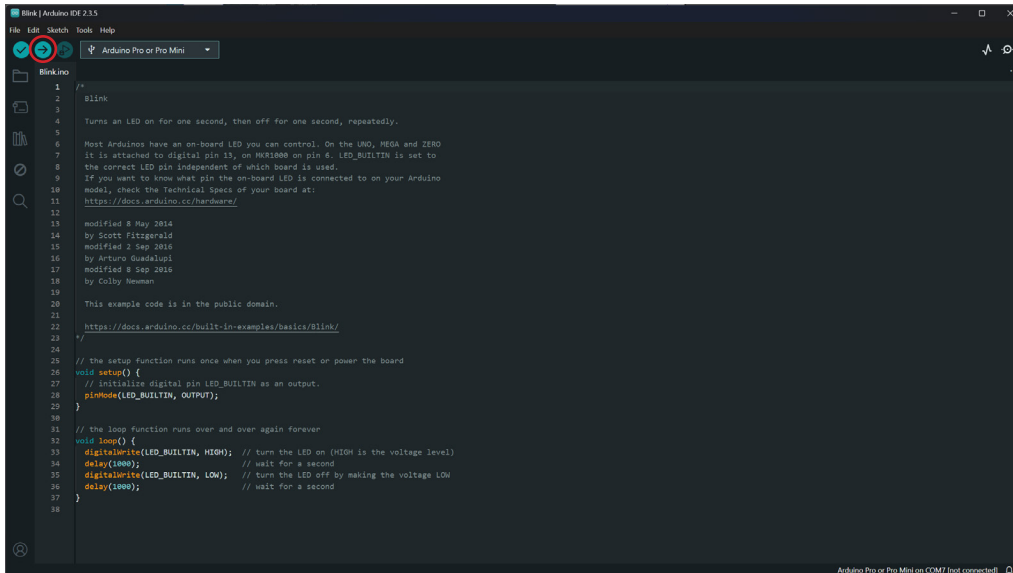


5. CODE EXAMPLE

To test your configuration, you can run a simple code example on your NanoV4-3V.

to do this, open the file under **File** → **Examples** → **01.Basics** → **Blink**

Now upload the example by clicking on **Upload**.



```
1  /*
2  3  Blink
4  5  Turns an LED on for one second, then off for one second, repeatedly.
6  7  Most Arduinos have an on-board LED you can control. On the UNO, MEGA and ZERO
8  9  it is attached to digital pin 13, on MK1000 on pin 6. LED_BUILTIN is set to
10 11 the correct LED pin independent of which board is used.
12 13 If you want to know what pin the on-board LED is connected to on your Arduino
14 15 model, check the Technical Specs of your board at:
16 17 https://docs.arduino.cc/hardware/
18 19
19 20 modified 8 May 2014
21 22 by Scott Fitzgerald
23 24 modified 2 Sep 2015
25 26 by Arturo Guadalupi
27 28 modified 8 Sep 2016
29 30 by Colby Newman
31 32
33 34 This example code is in the public domain.
35 36 https://docs.arduino.cc/built-in-examples/basics/Blink/
37 38 */
39
40 // The setup function runs once when you press reset or power the board
41 void setup() {
42   // initialize digital pin LED_BUILTIN as an output.
43   pinMode(LED_BUILTIN, OUTPUT);
44 }
45
46 // the loop function runs over and over again forever
47 void loop() {
48   digitalWrite(LED_BUILTIN, HIGH); // turn the LED on (HIGH is the voltage level)
49   delay(1000); // wait for a second
50   digitalWrite(LED_BUILTIN, LOW); // turn the LED off by making the voltage LOW
51   delay(1000); // wait for a second
52 }
```

This example code makes the LED on the board flash.

6. INFORMATION & TAKE-BACK OBLIGATIONS

Our information and take-back obligations under the German Electrical and Electronic Equipment Act (ElektroG)



Symbol on electrical and electronic equipment

This crossed-out wheellie bin means that electrical and electronic appliances do not belong in household waste. You must hand in the old appliances at a collection point. Before handing in old batteries and accumulators that are not enclosed by the old appliance must be separated from it.

Return options:

As an end user, you can return your old appliance (which essentially fulfils the same function as the new appliance purchased from us) for disposal free of charge when purchasing a new appliance. Small appliances with no external dimensions greater than 25 cm can be disposed of in normal household quantities regardless of whether you have purchased a new appliance.

Possibility of return at our company location during opening hours:

SIMAC Electronics GmbH, Pascalstr. 8, D-47506 Neukirchen-Vluyn

Return option in your neighbourhood:

We will send you a parcel stamp with which you can return the device to us free of charge. To do so, please contact us by e-mail at Service@joy-it.net or by telephone.

Packaging information:

Please pack your old appliance securely for transport. If you do not have suitable packaging material or do not wish to use your own, please contact us and we will send you suitable packaging.

7. SUPPORT

We are also there for you after your purchase. Should any questions remain unanswered or problems arise, we are also available to assist you by e-mail, telephone and ticket support system.

E-mail: service@joy-it.net

Ticket system: <https://support.joy-it.net>

Phone: +49 (0)2845 9360 - 50

For more information, please visit our website:

www.joy-it.net