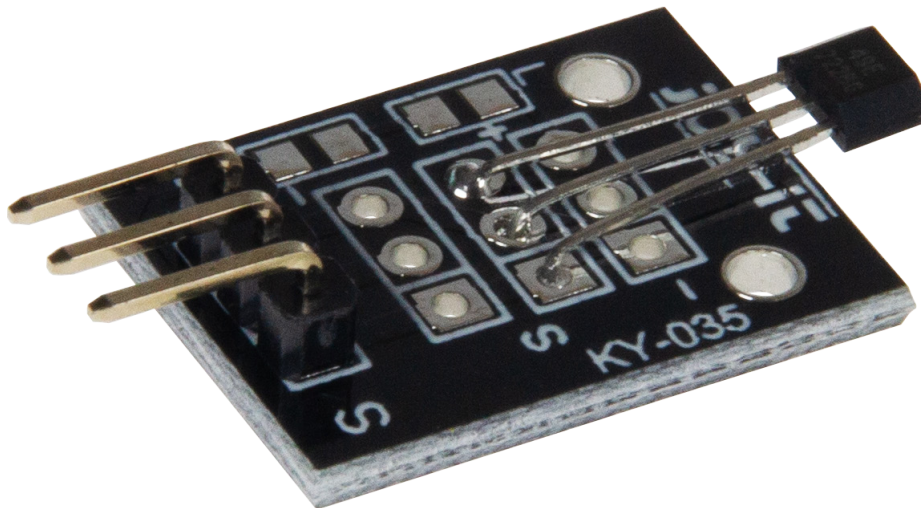


# MAGNETIC SENSOR

SEN-KY035BM

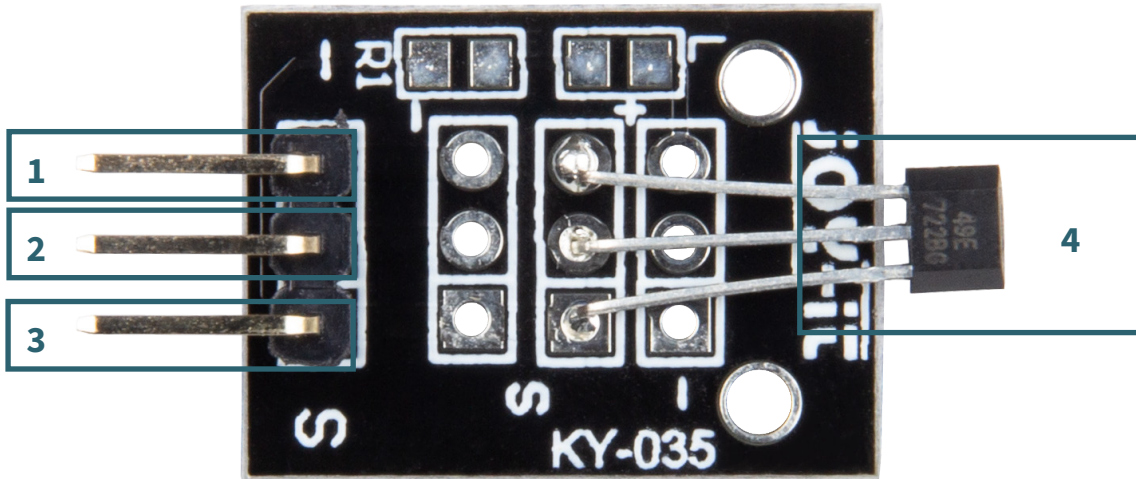


## 1. GENERAL INFORMATION

Dear customer,  
thank you for choosing our product. In the  
following, we will show you what to do during commissioning and  
Use must be observed.

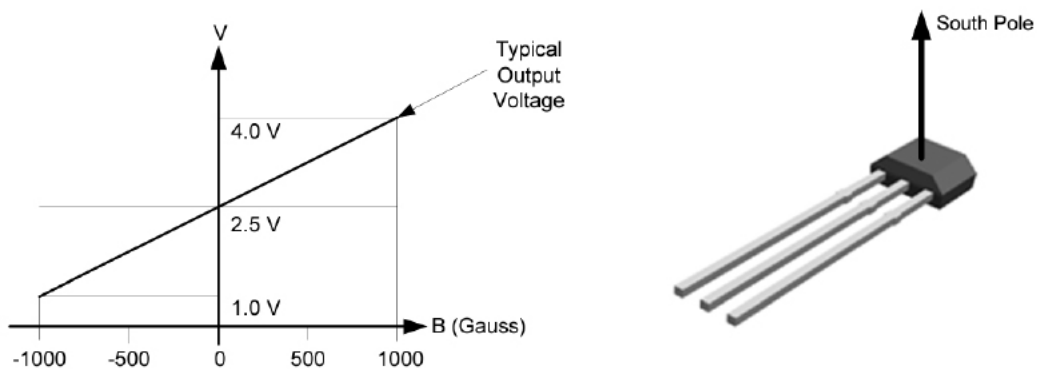
Should you encounter any unexpected problems during use, please do not  
hesitate to contact us.

## 2. DEVICE OVERVIEW

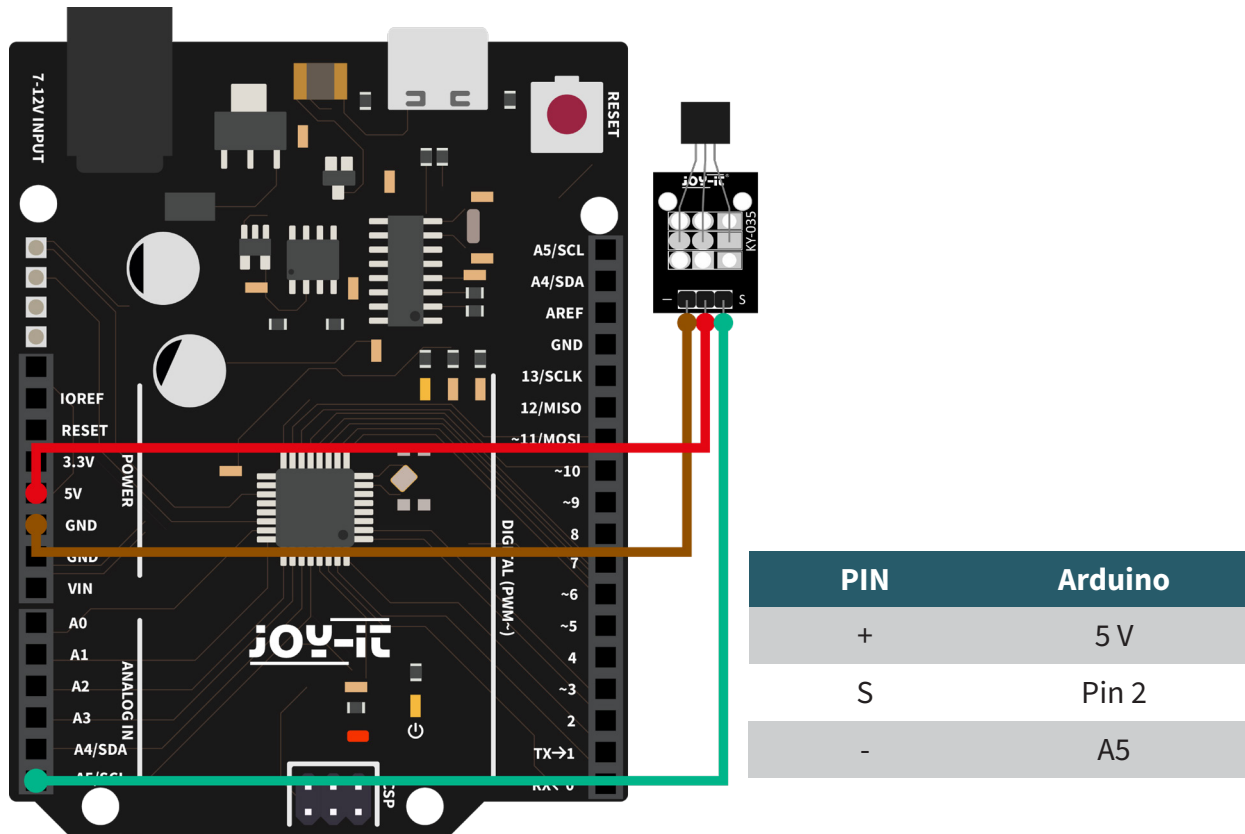


DIGIT	Arduino connection
1	- Ground Pin
2	+ power supply
3	S Sensor signal output
4	Magnetic sensor

If there is no external magnetic field ( $B=0\text{GS}$ ), the output voltage in the idle state is generally half the supply voltage. If a south magnetic pole approaches the front side (the side marked ID) of the Hall effect sensor, the circuit drives the output voltage higher. Conversely, a north magnetic pole leads to a lower output voltage. The fluctuations of the voltage level upwards or downwards are symmetrical.



### 3. USE WITH AN ARDUINO



Connect your sensor to your Arduino as shown in the schematic and the table.

You can then transfer the following code example to your Arduino.

```
int sensorPin = A5; // The input pin is declared here

// Serial output in 9600 baud
void setup()
{
  Serial.begin(9600);
}

// The program measures the current voltage value at the sensor,
// and outputs it via the serial monitor
void loop()
{
  // Current voltage value is measured...
  int rawValue = analogRead(sensorPin);
  float voltage = rawValue * (5.0/1023) * 1000;

  // ... and output here to the serial interface
  Serial.print("Voltage value:"); Serial.print(voltage);
  Serial.print("mV");

  Serial.println("-----");

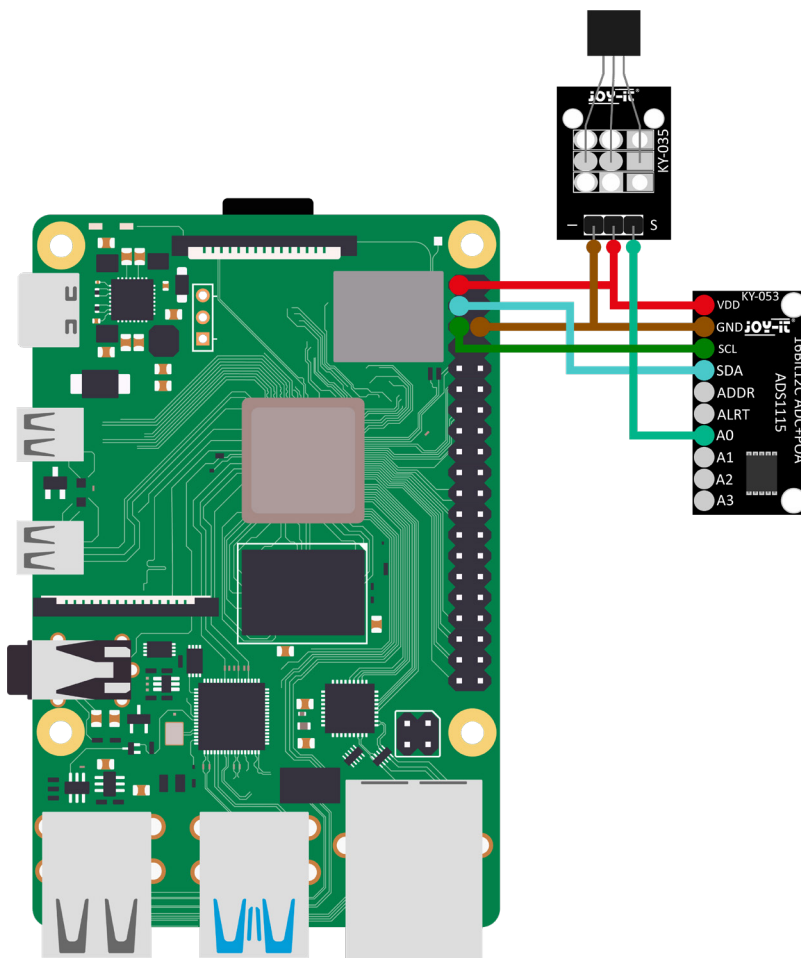
  delay(500);
}
```

## 4. USE WITH A RASPBERRY PI



This guide was written under Raspberry Pi OS Bookworm for the Raspberry Pi 4 and 5. No check was carried out with newer operating systems or hardware.

Since this is an analog sensor and the Raspberry Pi has no analog inputs, you will need to use an analog-to-digital converter. In this example we use the [COM-KY053ADC](#) from Joy-IT.



PIN	ADC	Raspberry Pi
+	VDD	3.3V (pin 1)
Out	A0	
-	GND	GND (pin 6)
	SCL	GPIO 3 (pin 5)
	SDA	GPIO 2 (pin 3)

## Installation:

First you need to enable I2C on your Raspberry Pi. To open the configuration, enter the following command:

```
sudo raspi-config
```

Select **3 Interface Options** → **I4 I2C** and activate the I2C interface.

Now install pip3 with the following command:

```
sudo apt-get install python3-pip
```

The next step is to set up the virtual environment. Enter  
To do this, enter the following commands:

```
mkdir project-name && cd project-name  
python -m venv --system-site-packages env  
source env/bin/activate
```

For our code example we use the [Adafruit\\_CircuitPython\\_ADS1x15](#) Library, which is licensed under the [MIT license](#) license. Use the following commands to download and install this library.

```
pip3 install adafruit-circuitpython-ads1x15
```

Now enter the following command to download the prepared code example:

```
wget https://joy-it.net/files/files/Produkte/SEN-KY035BM/SEN-KY035BM_RPI.zip
```

Use the following command to unzip and remove the .zip directory:

```
unzip SEN-KY035BM_RPI.zip && rm SEN-KY035BM_RPI.zip
```

You can now start the code example with this command:

```
python3 SEN-KY035BM_RPI.py
```

## 5. OTHER INFORMATION

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



#### Symbol on electrical and electronic equipment:

This crossed-out garbage can 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 them in, you must separate used batteries and accumulators that are not enclosed by the old appliance.

#### Return options:

As an end user, you can hand in your old appliance (which essentially fulfills 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 GmbH, Pascalstr. 8, D-47506 Neukirchen-Vluyn

#### Return option in your area:

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](mailto:Service@joy-it.net) or by telephone.

#### Packaging information:

Please pack your old appliance securely for transportation. 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.

## 6. SUPPORT

We are also there for you after your purchase. If you still have any questions or problems arise, we are also available by e-mail, telephone and ticket support system.

E-Mail: [service@joy-it.net](mailto:service@joy-it.net)

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

Phone: +49 (0)2845 9360 - 50 (Mon - Thur: 09:00 - 17:00 o'clock CET,  
Fri: 09:00 - 14:30 o'clock CET)

For further information, please visit our website:

[www.joy-it.net](http://www.joy-it.net)