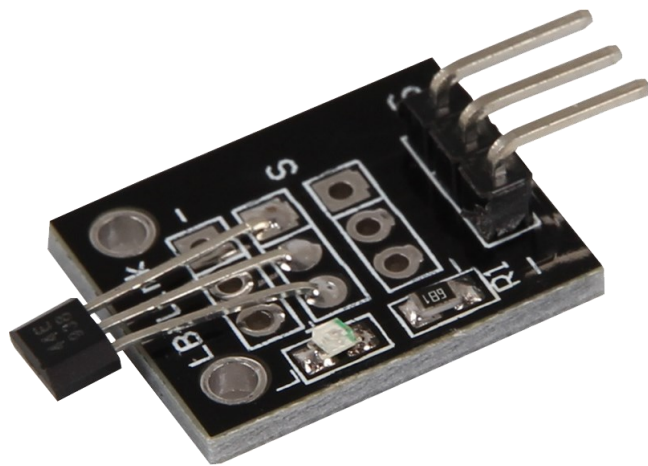


JOY-IT



Hall Magnetic Field Sensor
KY-003

TABLE OF CONTENTS

1. Overview
2. Pin-Assignment
3. Code Example Arduino
4. Code Example Raspberry Pi
5. Information and take-back obligations
6. Support

1. OVERVIEW

Dear customer,

Thank you for choosing our product.

In the following, we will show you what to observe during commissioning and use. Should you encounter any unexpected problems during use, please do not hesitate to contact us.

Chipset	A3141
Sensor Type	Hall Effect Transistor/Switch

The transistor switches through if the module is held in a magnetic field. This can then be read out at the signal output as an analog voltage value.

2. PIN-ASSIGNMENT



Pin Assignment Arduino	
LED +	Pin 13
LED -	Pin GND
Signal	Pin 10
+V	Pin 5V
GND	Pin GND

Pin Assignment Raspberry Pi	
Signal	GPIO24 [Pin 18]
+V	3,3V [Pin 1]
GND	Masse [Pin 6]

3. CODE EXAMPLE ARDUINO

This is an example program that lights up an LED when a signal is detected on the sensor. The KY-011, KY-016 or KY-029 modules can also be used as LEDs, for example.

You can download the code example [here](#), or copy the following example:

```
int Led = 13 ;// Declaration of the LED output pin
int Sensor = 10; // Declaration of the sensor input pin
int val; // Temporary Variable

void setup ()
{
  pinMode (Led, OUTPUT) ; // Initialization of output pin
  pinMode (Sensor, INPUT) ; // Sensor pin initialization
  digitalWrite(Sensor, HIGH); // Activation of internal pull-up resistor
}

void loop ()
{
  val = digitalRead (Sensor) ; // The current signal at the sensor is read out

  if (val == HIGH) // If a signal could be detected, the LED is switched on.
  {
    digitalWrite (Led, LOW);
  }
  else
  {
    digitalWrite (Led, HIGH);
  }
}
```

4. CODE EXAMPLE RASPBERRY PI

You can download the code example for Raspberry Pis [here](#) or copy and paste the following section.

```
# Required modules are imported and set up
import RPi.GPIO as GPIO
import time

GPIO.setmode(GPIO.BCM)

# The input pin to which the sensor is connected is declared here. In addition,
# the PullUP resistor at the input is also activated
GPIO_PIN = 24
GPIO.setup(GPIO_PIN, GPIO.IN, pull_up_down = GPIO.PUD_UP)

print "Sensor-Test [druecken Sie STRG+C, um den Test zu beenden]"

# This output function is executed on signal detection
def ausgabeFunktion(null):
    print("Signal erkannt")

# When a signal is detected (falling signal edge), the output function is
# triggered
GPIO.add_event_detect(GPIO_PIN, GPIO.FALLING, callback=ausgabeFunktion,
bouncetime=100)

# main loop
try:
    while True:
        time.sleep(1)

# Cleanup after the program is finished
except KeyboardInterrupt:
    GPIO.cleanup()
```

5. INFORMATION AND TAKE-BACK OBLIGATIONS

Symbol on electrical and electronic equipment



This crossed-out dustbin means that electrical and electronic equipment does not belong in household waste. You must return the old devices to a collection point. Before disposal, you must separate old batteries and accumulators which are not enclosed in the old device from it.

Return options

As an end user, you can dispose of your old device (which essentially fulfils the same function as the new one purchased from us) free of charge when purchasing a new device. Small appliances where no external dimensions are larger than 25 cm can be delivered in normal household quantities, irrespective of the purchase of a new appliance.

Possibility of return at our company location during opening hours

Simac Ltd, Pascalstr. 8, 47506 Neukirchen-Vluyn, Germany

Possibility of return in your area

We will send you a parcel stamp with which you can return the device to us free of charge. Please contact us by e-mail at Service@joy-it.net or by phone.

Information about packaging

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 also support you after your purchase. If there are any questions left or if you encounter any problems, please feel free to contact us by mail, phone or by our ticket-system on our website.

E-Mail: service@joy-it.net
Ticket-System: http://support.joy-it.net
Phone: +49 (0)2845 98469 – 66 (11- 18 o'clock)

For more information, please visit our website:

www.joy-it.net