BMduino-Shield
Slide+4-Key Capacitive Touch Shield Board

BMK54T004
Arduino Library V1.0.3 Description

Revision: V1.20 Date: May 09, 2025

www.bestmodulescorp.com

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Introduction

The Best Modules BMK54T004 is a shield board for Slide+4-key capacitive touch function, which uses an I²C interface for communication. This document describes the Arduino Lib function of the BMK54T004 and how to install the Arduino Lib. The example demonstrates how to obtain the touch value.

Part No.	Description
BMK54T004	Slide+4-Key Capacitive Touch Shield
BMK54T004A	Slide+4-Key Capacitive Touch Shield

Arduino Lib Functions

Arduino Lib Name: BMK54T004		Lib Version: V1.0.2
Constructors & Initialisation		
1	BMK54T004(uint8_t intPin,TwoWire *theWire = &Wire)	
	Description	Constructor
	Parameter	intPin: INT pin *theWire: wire parameter
	Return Value	—
	Note	—
2	void begin(uint8_t i2c_addr = BMK54T004_IICADDR)	
	Description	Shield initialisation
	Parameter	i2c_addr: I²C communication address, 0x72
	Return Value	void
	Note	—
Performance Functions		
3	uint16_t getFWVer()	
	Description	Obtain the version number
	Parameter	-
	Return Value	Version number, MSB first
	Note	For example, if the return value is 0x0101, the version is V1.1
4	uint8_t getINT()	
	Description	Obtain the INT pin status
	Parameter	—
	Return Value	INT pin status: 0: Low, key or slide pressed 1: High, no key or slide pressed
	Note	—
5	uint16_t readKeyValue()	
	Description	Read the key value
	Parameter	—
	Return Value	Key value: bit0~bit3 correspond to key1~key4 bit=0 indicates the corresponding key is not pressed bit=1 indicates the corresponding key is pressed
	Note	—

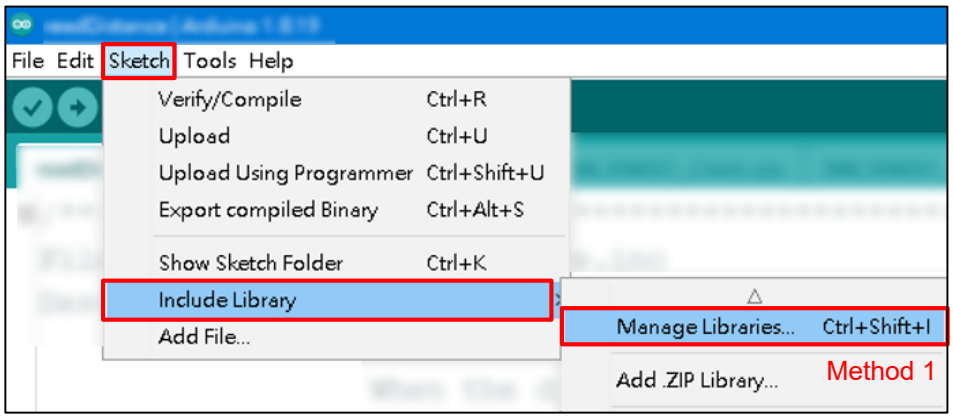
6	uint8_t readSlideValue()	
	Description	Read the slide value
	Parameter	—
	Return Value	Slide value: 0: No slide is pressed 1~8: Corresponding to slide position 1~8
	Note	—
7	void getThreshold(uint8_t buff[])	
	Description	Obtain 12 touch key sensitivity
	Parameter	buff[]: Store the obtained 12 touch key sensitivity buff[0]~buff[7]: Store the slide position 1~8 sensitivity buff[8]~buff[11]: Store the key1~key4 sensitivity
	Return Value	void
	Note	—
Parameter Configuration		
8	int setThreshold(uint8_t buff[])	
	Description	Set 12 key sensitivity
	Parameter	buff[]: 12 key sensitivity buff[0]~buff[7]: Slide position 1~8 sensitivity, range: 10~64 buff[8]~buff[11]: Store the key1~key4 sensitivity, range: 10~64
	Return Value	Execution result: 0: Succeeded 1: Failed
	Note	The smaller the threshold value, the higher the sensitivity
9	int setAllThresholdLevel(uint8_t level=2)	
	Description	Set the sensitivity level for all keys, default level=2
	Parameter	level: sensitivity level, range: 0~6
	Return Value	Execution result: 0: Succeeded 1: Failed
	Note	The smaller the level value, the higher the sensitivity

Arduino Lib Download and Installation

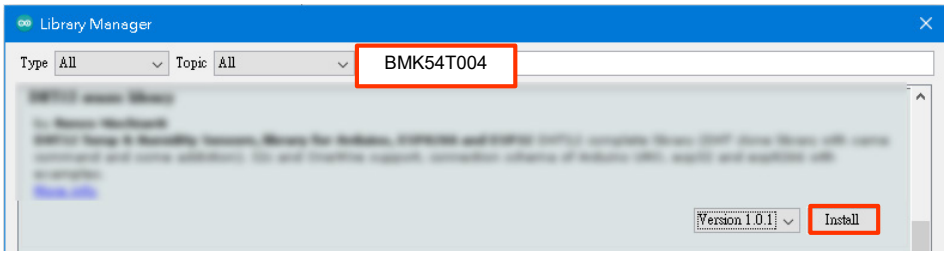
BMK54T004 Library: Refer to the following two methods to install the BMK54T004 Arduino Library.

Method 1: Search for installation

Arduino IDE → Sketch → Include Library → Manage Libraries... → Search BMK54T004 → Install



Search for Installation Step 1

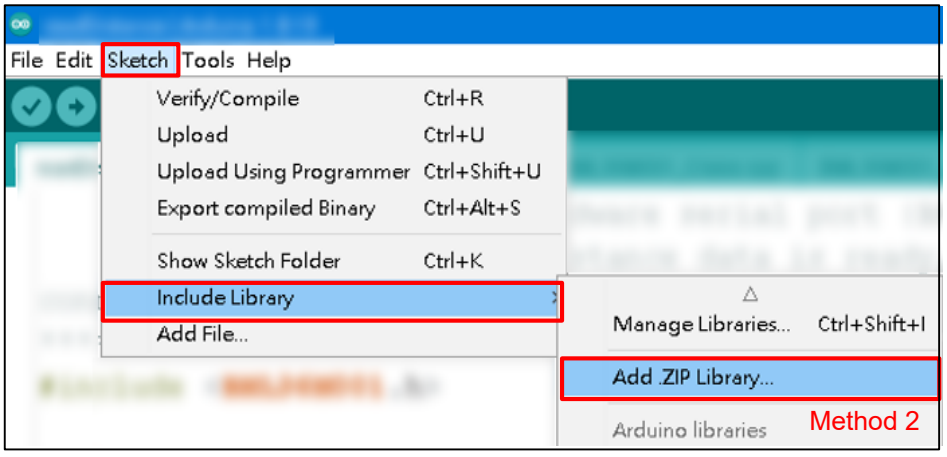


Search for Installation Step 2

Method 2: Download the .ZIP library before adding it

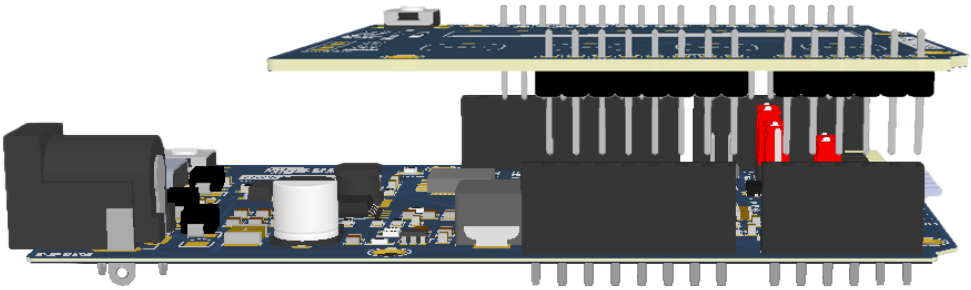
Download the Arduino example (BMK54T004 Library) under the DOCUMENTS menu from the Best Modules website (https://www.bestmodulescorp.com/bmk54t004.html).

Add .ZIP library: Arduino IDE → Sketch → Include Library → Add .ZIP Library....



Arduino Example

Example: readSlideAndKeyValue



Physical Connection Diagram

Function: Get the touch key value and Slide value. Then display them in the serial monitor.

1. Open the example: File → Examples → Select Lib (BMK54T004) → Select example (readSlideAndKeyValue)

2. Example Description:

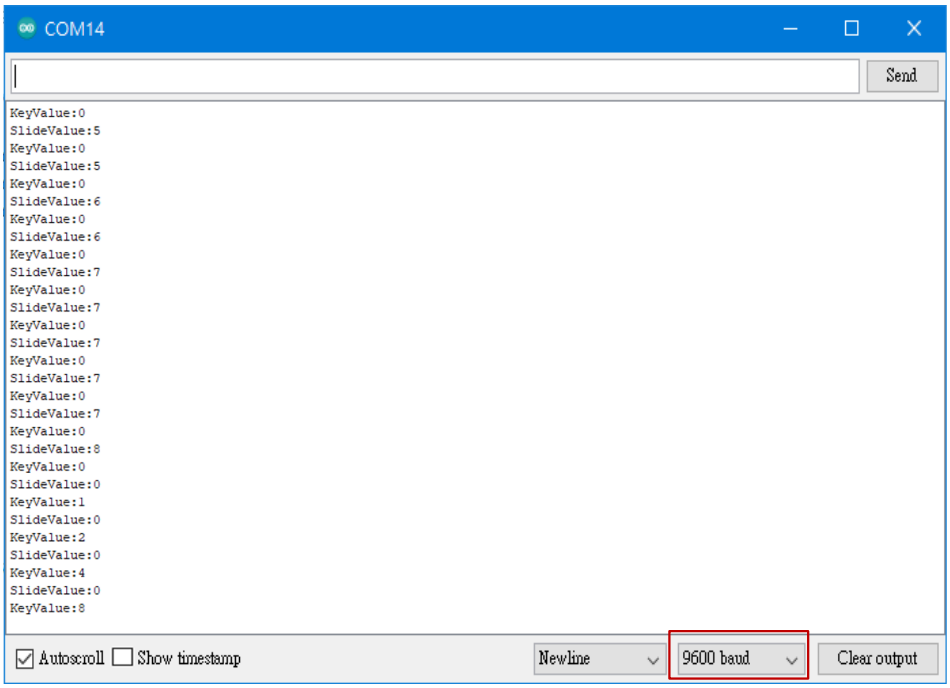
   a. Create object & initialise object

```
#include "BMK54T004.h"
BMK54T004     BMK54(2,&Wire); // Create object
void setup()
{
 BMK54.begin();          // Initialise shield
 Serial.begin(9600);     // Configure the serial monitor
}
```

   b. Obtain the key value and Slide value. Then display them in the serial monitor

```
void loop()
{
 if(BMK54.getINT() == 0)
 {
  Serial.print("SlideValue:");
  Serial.println(BMK54.readSlideValue());
  Serial.print("KeyValue:");
  Serial.println(BMK54.readKeyValue());
 }
}
```

3. Open the serial monitor and set the baud rate to be 9600. The serial monitor will display as follows.



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