BMduino-Shield
16-Key Capacitive Touch

BMK52T016
Arduino Library V1.0.2 Description

Revision: V1.10 Date: May 09, 2024

www.bestmodulescorp.com

Contents

Introduction

The Best Modules BMK52T016 is a shield board for 16-key capacitive touch function, which uses the I²C communication method. This document provides the description of the BMK52T016 Arduino Lib functions and how to install the Arduino Lib. The example demonstrates the function of obtaining the touch key value.

Arduino Lib Functions

Arduino Lib Name: BMK52T016		Lib Version: V1.0.2
Constructors & Initialisation		
1	BMK52T016(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=BMK52T016_IICADDR)	
	Description	Shield initialisation
	Parameter	i2c_addr: I²C communication address, 0x70
	Return Value	void
	Note	—
Performance Functions		
3	uint8_t getINT()	
	Description	Obtain the INT pin status
	Parameter	—
	Return Value	INT pin status: 0: Low, key pressed 1: High, no key pressed
	Note	—
4	uint16_t readKeyValue()	
	Description	Read the key value
	Parameter	—
	Return Value	Key value: bit0~bit15 correspond to key1~key16 bit=0 indicates the corresponding key is not pressed bit=1 indicates the corresponding key is pressed
	Note	—
5	void getThreshold(uint8_t buff[])	
	Description	Obtain 16 touch key sensitivity
	Parameter	buff[]: Store the obtained 16 touch key sensitivity buff[0]~buff[15]: Store the key1~key16 sensitivity
	Return Value	void
	Note	—

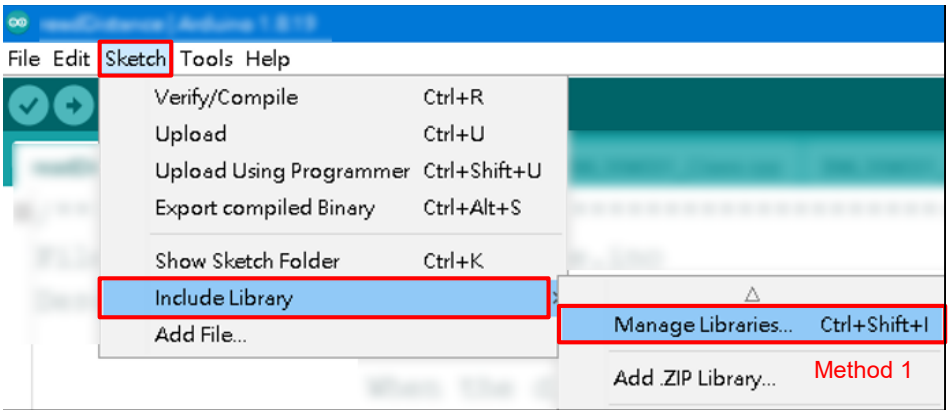
Parameter Configuration		
6	int setThreshold(uint8_t buff[])	
	Description	Set 16 key sensitivity
	Parameter	buff[]: 16 key sensitivity buff[0]~buff[15]: key1~key16 sensitivity, range: 10~64
	Return Value	Execution result: 0: Succeeded 1: Failed
	Note	The smaller the threshold value, the higher the sensitivity
7	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

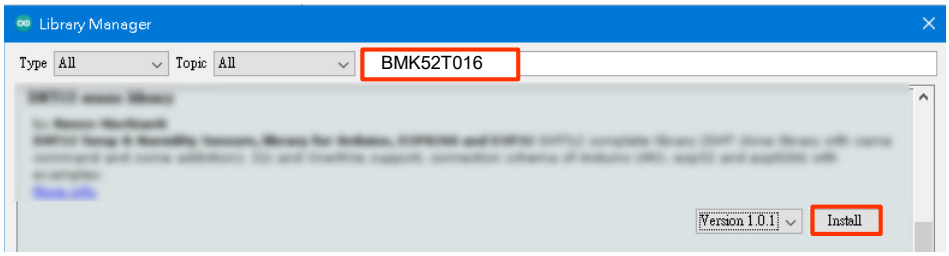
BMK52T016 Library: Refer to the following two methods to install the BMK52T016 Arduino Library.

Method 1: Search for installation

Arduino IDE→Sketch→Include Library→Manage Libraries...→Search BMK52T016→Install



Search for Installation Step 1

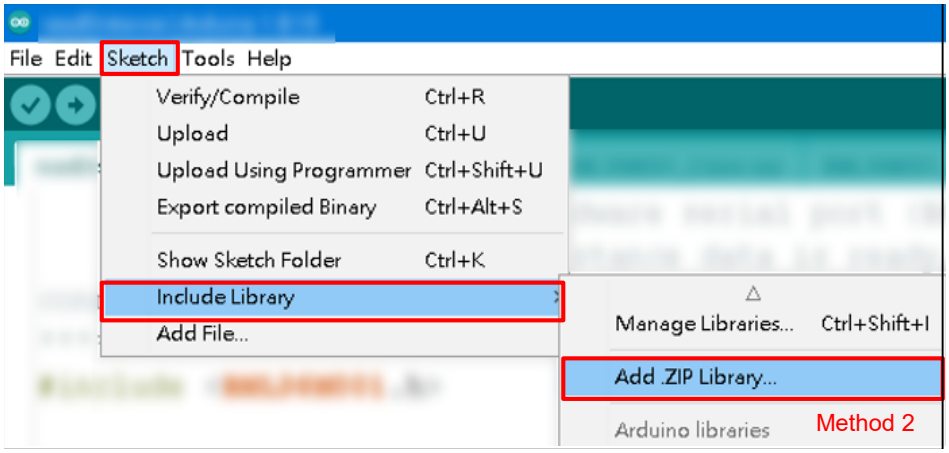


Search for Installation Step 2

Method 2: Download the .ZIP library before adding it

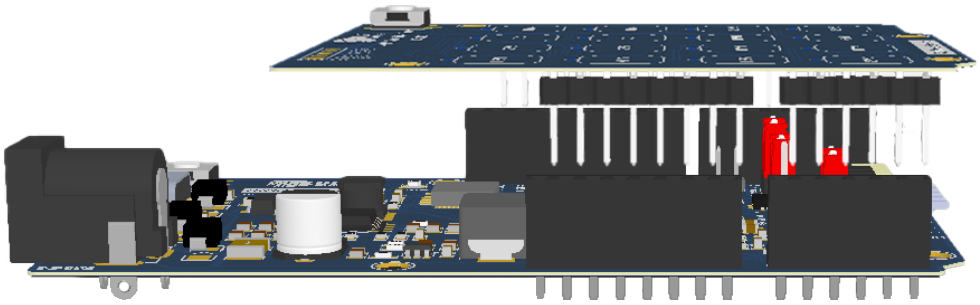
Download the Arduino example (BMK52T016 Library) under the DOCUMENTS menu from the Best Modules website (https://www.bestmodulescorp.com/bmk52t016.html).

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



Arduino Example

Example: readKeyValue



Physical Connection Diagram

Function: Get the touch key value and display it in the serial monitor.

1. Open the example: File→Examples→Select Lib (BMK52T016)→Select example (readKeyValue)

2. Example Description:

a. Create object & initialise object

```
#include "BMK52T016.h"
BMK52T016     BMK52(2,&Wire); // Create object
void setup()
{
  BMK52.begin();              // Initialise shield
  Serial.begin(9600);         // Configure the serial monitor
}
```

b. Obtain the key value and display it in the serial monitor

```
void loop()
{
  if(BMK52.getINT() == 0)
  {
    Serial.print("keyValue:");
    Serial.println(BMK52.readKeyValue(),BIN);
  }
}
```

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