Erriez TTP229 touch sensitive 4x4 keypad library for Arduino

1.0.0

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Contents

Chapter 1

Erriez TTP229 touch sensitive keypad library for Arduino

This is an TTP229 touch sensitive library for Arduino.

Library features

- 3.3V and 5V
- Two wire interface (Not I2C compatible)
- Single 4x4 touch keypad
- Dual 4x4 touch keypads
- Interrupt based
- UNO/Mini/Micro/Mega2560/Leonardo, ESP8266, ESP32 and DUE

Design notes

- The PCB must be mounted floated, otherwise key presses don't work reliable.
- Connect pins 3 and 4 on connector P1 for 16-pin button mode.
- Smaller keypads with less pins may work, but are not tested.

Examples

- `ErriezTTP229DualTouchKeypad4x4` Two TTP229 4x4 keypads.
- `ErriezTTP229SingleTouchKeypad4x4` One TTP229 4x4 keypad.

Getting started

```
{c++}
#include <ErriezTTP229.h>

// TTP229 pin defines
#if defined(ARDUINO_ARCH_AVR)
#define TTP229_SDO_PIN     2  // SDO to interrupt pin 2 (INT0) or pin 3 (INT1)
#define TTP229_SCL_PIN     3  // SCL to any DIGITAL IO pin
#elif defined(ARDUINO_ARCH_ESP8266)
#define TTP229_SDO_PIN    D1  // Interrupt pin
#define TTP229_SCL_PIN    D2  // Any pin
#elif defined(ARDUINO_ARCH_ESP32)
#define TTP229_SDO_PIN     16  // Keep GPIO0 low during programming
#define TTP229_SCL_PIN     4
#else
#error "May work, but not tested on this target"
#endif

// Create keypad object
ErriezTTP229 ttp229;


#if defined(ARDUINO_ARCH_ESP8266) || defined(ARDUINO_ARCH_ESP32)
ICACHE_RAM_ATTR
#endif
void keyChange()
{
    // A key press changed
    ttp229.keyChange = true;
}

void setup()
{
    // Initialize serial
    Serial.begin(115200);
    while (!Serial) {
        ;
    }
    Serial.begin(115200);
    Serial.println(F("\nErriez TTP229 single 16-keys keypad example"));

    // Initialize keypad with interrupt
    ttp229.begin(TTP229_SCL_PIN, TTP229_SDO_PIN);

    // Initialize interrupt pin on SD0
    attachInterrupt(digitalPinToInterrupt(TTP229_SDO_PIN), keyChange, FALLING);
}

void loop()
{
    // Print key
    if (ttp229.keyChange) {
        Serial.println(ttp229.GetKey16());
        ttp229.keyChange = false;
    }
}
```

Library dependencies

- None

Hardware

Arduino UNO Arduino UNO

ESP8266 Arduino ESP8266

ESP32 Arduino ESP32

DUE Arduino DUE

Library installation

Please refer to the Wiki page.

Other Arduino Libraries and Sketches from Erriez

- Erriez Libraries and Sketches

Chapter 2

Class Index

2.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

Chapter 3

Class Documentation

3.1 ErriezTTP229 Class Reference

ErriezTTP229 class.

`#include <ErriezTTP229.h>`

Public Member Functions

- void **begin** (uint8_t sclPin, uint8_t sdoPin)
- uint8_t **GetKey16** ()

Public Attributes

- volatile bool **keyChange**

3.1.1 Detailed Description

ErriezTTP229 class.

Definition at line 31 of file ErriezTTP229.h.

The documentation for this class was generated from the following files:

- src/ErriezTTP229.h
- src/ErriezTTP229.cpp

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