SW-420 Vibration Sensor

1.0

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1 Class Index 1

1.1 Class List . . . 1

2 File Index 3

2.1 File List . . . 3

3 Class Documentation 5

3.1 SW420 Class Reference . . . 5

3.1.1 Detailed Description . . . 5

3.1.2 Constructor & Destructor Documentation . . . 5

3.1.2.1 SW420() . . . 5

3.1.3 Member Function Documentation . . . 6

3.1.3.1 init() . . . 6

3.1.3.2 read() . . . 6

3.1.3.3 readRaw() . . . 6

3.1.4 Member Data Documentation . . . 6

3.1.4.1 iio_path_ . . . 6

3.1.4.2 threshold_ . . . 6

4 File Documentation 7

4.1 src/main.cpp File Reference . . . 7

4.1.1 Function Documentation . . . 7

4.1.1.1 main() . . . 7

4.2 src/sw420.cpp File Reference . . . 7

4.3 src/sw420.h File Reference . . . 7

4.4 sw420.h . . . 8

Index 9

Chapter 1

Class Index

1.1 Class List

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

SW420
SW420 vibration sensor driver 5

Chapter 2

File Index

2.1 File List

Here is a list of all files with brief descriptions:

src/main.cpp 7
src/sw420.cpp 7
src/sw420.h 7

Chapter 3

Class Documentation

3.1 SW420 Class Reference

SW420 vibration sensor driver.

`#include <sw420.h>`

Public Member Functions

- SW420 (const std::string &iio_path)
  Constructor.
- void init ()
  Initialize the sensor.
- int readRaw ()
  Read the raw analog value.
- bool read ()
  Read the current sensor state (digital interpretation)

Private Attributes

- std::string iio_path_
- int threshold_

3.1.1 Detailed Description

SW420 vibration sensor driver.

3.1.2 Constructor & Destructor Documentation

3.1.2.1 SW420()

```
SW420::SW420 (
            const std::string & iio_path )
```

Constructor.

Parameters

iio_path	Path to IIO channel file (e.g., "/sys/bus/iio/devices/iio:device0/in_voltage13_raw")

3.1.3 Member Function Documentation

3.1.3.1 init()

```
void SW420::init ( )
```

Initialize the sensor.

3.1.3.2 read()

```
bool SW420::read ( )
```

Read the current sensor state (digital interpretation)

Returns

true if vibration detected (value $>$ threshold), false otherwise

3.1.3.3 readRaw()

```
int SW420::readRaw ( )
```

Read the raw analog value.

Returns

Raw ADC value

3.1.4 Member Data Documentation

3.1.4.1 iio_path_

```
std::string SW420::iio_path_  [private]
```

3.1.4.2 threshold_

```
int SW420::threshold_  [private]
```

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

- src/sw420.h
- src/sw420.cpp

Chapter 4

File Documentation

4.1 src/main.cpp File Reference

```
#include "sw420.h"
#include <iostream>
#include <thread>
#include <chrono>
```

Functions

- int main ()

4.1.1 Function Documentation

4.1.1.1 main()

```
int main ( )
```

4.2 src/sw420.cpp File Reference

```
#include "sw420.h"
#include <iostream>
#include <stdexcept>
```

4.3 src/sw420.h File Reference

```
#include <string>
#include <fstream>
```

Classes

- class SW420

  SW420 vibration sensor driver.

4.4 sw420.h

Go to the documentation of this file.

```
00001 #ifndef SW420_H
00002 #define SW420_H
00003
00004 #include <string>
00005 #include <fstream>
00006
00010 class SW420 {
00011 public:
00016     SW420(const std::string &iio_path);
00017
00021     void init();
00022
00027     int readRaw();
00028
00033     bool read();
00034
00035 private:
00036     std::string iio_path_;
00037     int threshold_;
00038 };
00039
00040 #endif // SW420_H
```

Index

iio_path_
    SW420, 6
init
    SW420, 6

main
    main.cpp, 7
main.cpp
    main, 7

read
    SW420, 6
readRaw
    SW420, 6

src/main.cpp, 7
src/sw420.cpp, 7
src/sw420.h, 7, 8
SW420, 5
    iio_path_, 6
    init, 6
    read, 6
    readRaw, 6
    SW420, 5
    threshold_, 6

threshold_
    SW420, 6