Security box

1.0

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Contents

Chapter 1

File Index

1.1 File List

Here is a list of all files with brief descriptions:

security_box.c . . . . . ??

Chapter 2

File Documentation

2.1 security_box.c File Reference

```
#include <avr/io.h>
#include "C:\Users\Diana\Desktop\LIBRERIAS\Macro_lcd.h"
#include <util/delay.h>
#include <stdlib.h>
```

Macros

- #define F_CPU 1000000UL
- #define sbi(port, bit) (port |= (1<<bit))
- #define cbi(port, bit) (port &= ~(1<<bit))

Functions

- int password_value (void)
- int temperature (void)
- void block_system (void)
- int counter (int z)
- int ADC_read (void)
- int main (void)

2.1.1 Macro Definition Documentation

2.1.1.1 #define cbi(*port, bit*) (port &= ~(1<<bit))

Clear bit in port

Definition at line 14 of file security_box.c.

2.1.1.2 #define F_CPU 1000000UL

Definition at line 1 of file security_box.c.

2.1.1.3 #define sbi(*port, bit*) (port |= (1<<bit))

Set bit in port

Definition at line 12 of file security_box.c.

2.1.2 Function Documentation

2.1.2.1 int ADC_read (void)

Function to read the ADC Enable the ADC

Do single conversion

Wait for conversion done

Definition at line 16 of file security_box.c.

2.1.2.2 void block_system (void)

Block function Wait until 7 is activated

Turn alarm off

Definition at line 197 of file security_box.c.

2.1.2.3 int counter (int *z*)

Function to count people Count people

Counting people in the entrace

Counting people in the exit

Definition at line 225 of file security_box.c.

2.1.2.4 int main (void)

Function Start Define PortB as an output

Define PortE as an output

Start LCD

Declares an array of 3 int values

Declares int variables

First value of the password

Second value of the password

Third value of the password

Declare three double password

No se

Welcome message

Delay

CLear the LCD

Introduce your password

Nose

Password data loop

Call the function pasword_value to obtain the data

Store data in value array

Check the password values introduced

Obtain the first temperature value

Turn the light on, open the door PORTB0

Call the function counter

Check the counter

Obtain the actual temperature in the security box

Conditional to control temperature

Temperature to high Turn cooler on

Temperature ok the cooler is off

Conditional to activate the alarm

Turn alarm on

Call the function block systen

Turn off light and close the door

Sum of failed attempts

For more than three attempts the system clack the block_system

Definition at line 35 of file security_box.c.

2.1.2.5 int password_value (void)

Function to introduce and convert password values Declares an int variable

Declares a 16 bit unsigned variable

Activate voltaje ADC

Conversion executed and store in the variable mv

Store and calculate the variable value1

Definition at line 181 of file security_box.c.

2.1.2.6 int temperature (void)

Function to calculate the temperature Declares a 16 bit unsigned variable

Activate temperature ADC

The AD conversion is executed and store in the variable T

Conversion of temperature

Definition at line 206 of file security_box.c.