

Reading the Built-In FraunchPad Thermometer

1.01

Generated by Doxygen 1.8.2

Mon Oct 8 2012 20:59:52

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Chapter 1

FraunchPad NTC Thermometer

Simple sketch for the built-in FraunchPad NTC

Developed with [embedXcode](http://embedxcode.com)

Author

Rei Vilo

<http://embedxcode.weebly.com>

Date

Oct 08, 2012

Version

101

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See Also

- Table algorithm by larsie — Tue Apr 03, 2012 1:18 pm
<http://www.43oh.com/forum/viewtopic.php?f=10&p=18608#p18608>
- NTC table generated with TDK / Epcos NTC R/T Calculation 5.0
<http://www.epcos.com/designtools/ntc/index.html>
Select B57560G1104 for NTC 100 k = 25 oC
with temperature scaling = 5 oC, lower limit = -25 oC and upper limit = + 75 oC

Chapter 2

Class Index

2.1 Class List

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

NTC_FR	Temperature NTC on FraunchPad	7
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Chapter 3

File Index

3.1 File List

Here is a list of all documented files with brief descriptions:

FraunchPad_NTC.h	
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Chapter 4

Class Documentation

4.1 NTC_FR Class Reference

Temperature NTC on FraunchPad.

```
#include <FraunchPad_NTC.h>
```

Public Member Functions

- [NTC_FR](#) ()
Constructor.
- void [begin](#) ()
Initialisation.
- String [WhoAml](#) ()
Who am I?
- void [get](#) ()
Acquire temperature.
- void [celsiusX10](#) (int32_t &t)
Return temperature in degrees celsius, X10 to avoid float.
- void [fahrenheitX10](#) (int32_t &t)
Return temperature in degrees fahrenheit, X10 to avoid float.

4.1.1 Detailed Description

Temperature NTC on FraunchPad.

4.1.2 Member Function Documentation

4.1.2.1 void NTC_FR::celsiusX10 (int32_t & t)

Return temperature in degrees celsius, X10 to avoid float.

```
Serial.print(x/10, DEC);    // integer part
Serial.print(".");          // decimal separator
Serial.print(x%10, DEC);    // decimal part
```

Parameters

<i>t</i>	temperature in degrees celsius
----------	--------------------------------

4.1.2.2 void NTC_FR::fahrenheitX10 (int32_t & t)

Return temperature in degrees fahrenheit, X10 to avoid float.

```
Serial.print(x/10, DEC);    // integer part
Serial.print(".");         // decimal separator
Serial.print(x%10, DEC);    // decimal part
```

Parameters

<i>t</i>	temperature in degrees celsius
----------	--------------------------------

4.1.2.3 void NTC_FR::get ()

Acquire temperature.

Note

Call this function prior to degreeX10 or fahrenheitX10

4.1.2.4 String NTC_FR::WhoAml ()

Who am I?

Returns

Who am I? string

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

- [FraunchPad_NTC.h](#)
- [FraunchPad_NTC.cpp](#)

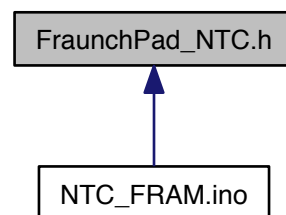
Chapter 5

File Documentation

5.1 FraunchPad_NTC.h File Reference

Library header.

This graph shows which files directly or indirectly include this file:



Classes

- class `NTC_FR`
Temperature NTC on FraunchPad.

5.1.1 Detailed Description

Library header.

Project FRAM_TEMP

Developed with `embedXcode`

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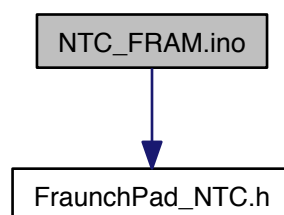
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Select B57560G1104 for NTC 100 k = 25 oC
with temperature scaling = 5 oC, lower limit = -25 oC and upper limit = + 75 oC

5.2 NTC_FRAM.ino File Reference

Main sketch.

```
#include "FraunchPad_NTC.h"
```

Include dependency graph for NTC_FRAM.ino:

**Functions**

- void `printX10` (int32_t i)
Print for value X10.
- void `setup` ()
Setup.
- void `loop` ()
Loop.

Variables

- `int32_t temperature`
temperature X10
- `NTC_FR myNTC`
NTC.

5.2.1 Detailed Description

Main sketch.

Developed with [embedXcode](http://embedxcode.weebly.com)

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See Also

ReadMe.txt for references

5.2.2 Function Documentation

5.2.2.1 `void printX10 (int32_t i)`

Print for value X10.

Parameters

<i>i</i>	value X10
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