

# THUM Linux Shared Library and Software Interface

The Linux shared library allows the THUM to operate on a Linux system. We have included a C program and Perl program that can be used without modification to take readings or be called from another application. The source code for thumctl and thumchk.pl is included and can be modified to suit your needs.

## **What's Included:**

**libTHUM.so.1**—This is the shared library used by thumctl.

**thumctl**—This is the sample utility application. You can use it to take readings from the THUM device.

**thumchk.pl**—This is a wrapper for thumctl that adds the ability to poll, send email, write to syslog, and check output values against stored threshold values. Email server settings as well as hi and lo threshold values for various readings are all stored in the configuration file thumchk.conf (see below). When polling values from the THUM, hit ctrl-C to break out of the program.

**thumchk.conf**—This is a sample config file for thumchk.pl. You will need to edit this file to set the address and server settings for email alerts as well as the alarm thresholds for each reading.

**Install**—This script will install the libTHUM.so.1 into /usr/local/lib and install the sample applications into /usr/local/bin, and thumchk.conf into /etc. If necessary it will install the Net::SMTP\_auth Perl module via CPAN. This module is used by thumchk.pl to send email messages. If you have never installed Perl modules via CPAN before, your system will probably ask you several CPAN configuration questions. In most cases you can simply accept the default options.

**NOTE:** thumctl and thumchk.pl, as well as the install and uninstall scripts must be run as root.

**Uninstall**—This script will remove libTHUM.so.1, thumctl, and thumchk.pl. It will not remove /etc/thumchk.conf, which is preserved to save your configuration information. You may delete this thumchk.conf if you wish. This script does not remove the Net::SMTP\_auth Perl module.

## **System Requirements:**

- A Linux distribution running kernel version 2.6 or greater
- udev support is preferred, but not necessary. The install script will add appropriate entries to your udev configuration to allow the THUM device to be detected. It will also manually create device nodes in /dev if udev is not available.
- Supported Distributions—The shared library should work on recent releases of the following distributions:  
Fedora, SuSE, Mandriva, Debian (Ubuntu, etc)

## **Usage for thumctl is as follows:**

thumctl <options> where <options> is one or more of the following:

- H print this message
- V print THUM library version
- v use verbose output
- f display temperatures in degrees F
- c display temperatures in degrees C
- t take a temperature reading
- h take a relative humidity reading
- d take a dew point reading
- s take a switch reading
- 2 take a switch reading from switch 2
- 3 take a switch reading from switch 3
- x take an external temperature reading
- i take an IR proximity reading
- u take an ultrasonic reading

## **Usage for thumchk.pl is as follows:**

thumchk.pl <options> where <options> is one or more of the following:

- v use verbose output
- f display temperatures in degrees F
- c display temperatures in degrees C
- t take a temperature reading
- h take a relative humidity reading
- d take a dew point reading
- s take a switch reading
- 2 take a switch reading from switch 2
- 3 take a switch reading from switch 3
- x take an external temperature reading
- i take an IR proximity reading
- u take an ultrasonic reading
- p n specify the polling interval. Take a reading every n seconds.
- e email results using email settings from thumchk.conf
- a check results against alarm threshold values specified in thumchk.conf



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