

Physitemp

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NTE-3 **User Manual** **Version 1.4**

Document Number: **UM 001.4**

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1. Introduction & Overview

1.1 Introduction

This User Manual (UM) provides the information necessary for Physitemp Instruments customers to use the NTE-3 Thermal Sensitivity Tester program.

1.2 Conventions

This document provides screen prints and corresponding narrative to describe how to use the NTE-3 Thermal Sensitivity Test system.

When an action is required on the part of the reader, it is indicated by a line beginning with the word “Action.” For example:

Action: Click on OK.

Fields or buttons to be acted upon are indicated in bold italics in the Action statement; links to be acted upon are indicated as links in underlined blue text in the Action statement.

Note: The term ‘user’ is used throughout this document to refer to a person who requires and/or has acquired access to the NTE-3 Thermal Sensitivity Test system.

1.3 Cautions & Warnings

NTE-3 system can be operated in temperature range of 1-55C, exposure to temperatures above 45C for prolonged periods of time can cause skin burns. Please use caution when operating.

This software is not for distribution but is only for use for NTE-3 Thermal Sensitivity Test system.

2. Getting Started

2.1 Pre-Installation Checks

- NTE-3 Thermal Profiling Software Version 5.7u is a Microsoft Windows based program and should be installed on Windows 7, 8 or 10.
- Computer is running a 64bit windows operating system.
- To optimize your access to the NTE-3 system, ensure you are in the admin setup of the windows.
- When installing the program, close or disable any other programs that are running.
- After installing a new program, it is recommended that you restart Windows.

2.2 Installation from a USB flash drive

- Insert the USB drive into an open USB socket (2.0 or 3.0).
- Open Windows Explorer or My Computer and find the USB drive that is often the last drive letter.
- Once the drive is opened, find copy and save the Application folder named “NTE-3 (5.7u)” on the Desktop or in any other location on the computer connected to the NTE-3 device.

2.3 USB cables and starting Application:

- The NTE-3 USB cable is connected to the computer and NTE-3 device is powered ON.
- The USB Button cable is connected to the computer.
- NOTE: USB Button should **ALWAYS** be connected before starting the NTE-3 program.
- In the Application folder, find and open the Application file named “NTE-3 Thermal Sensitivity Tester” by double clicking, Unzip the files and extract all files for NTE-3 application. Once the file is opened, find NTE-3 Exec. File with System meter LOGO. Create shortcut and move to desk top for easy access.

3. The System

3.1 System Organization & Navigation

The system GUI is made up of 2 windows:

Window 1:

This window has following functions:

- Allows the administrator to select a previous Subject file to load previous data and settings for that patient. Almost all settings are modifiable if needed.
- Allows the administrator to select previous Test file settings to run the tests. Almost all settings are modifiable if needed.
- Allows the administrator to select which folder to save the data to.
- Takes Test, Administrator and Subject information and saves this information to the Test file (.csv) being generated.
- Number of tests being administered is also recorded in this window.

Window 2:

This window has following functions:

- Allows the administrator to select Ramp Directions (Up or down) and combination Ramp by clicking “Bi-direction” button in right top corner of the screen.
- Once the Ramp direction is selected or selected based on previous data, administrator now is able to change any settings for individual tests to be performed.
- When mouse hovers over a box, the HELP box guides the administrator in knowing what to do with that certain box.
- Once all settings are finalized, the administrator can click the “Start Test” button.
- Once the testing is started, administrator can SKIP the current test or CANCEL the whole test file.
- In each procedure the Subject can press the USB button anytime to record the Thermal Threshold.
- Once all the tests are completed, all test settings, all Thermal Thresholds including the average and all data collected in the window 1 will be saved in a file in the selected folder in the file format: Subject First Name Subject Last Name Todays Date Military time, for ex. John Smith_08292019_153245.csv.
- The screenshot of “Thermal Threshold Test” in “Microsoft Excel” format for review and print out hard copy for records.

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	A	B	C	D	E	F	G	H
1	Subject Information							
2	First Name	A J R						
3	Last Name	Rana		Gender	Male			
4	Subject ID	usbqn5		Age	40			
5								
6	Administrator Information							
7	First Name	ajr						
8	Last Name	rana						
9	Administrator ID	qn5usb						
10								
11	Research Detail							
12	Name	Sensitivity 101						
13	Facility	Physitemp						
14	Date	1/18/2021						
15								
16	Number of Ramp Procedures	2						
17	Ramp Direction	Up						
18								
19		Neutral Temperature (°C)	Maximum Ramp Rate	Delay (Min)	Thermal Threshold (°C)			
20	Thermal Ramp Test - 1	32	52	60	0.5	37.1		
21	Thermal Ramp Test - 2	32	52	60	0.5	39		
22								
23				Average T	38.1			

4. Using the System

Please find the system Application file from the Start menu, Desktop or the folder it was installed to and then double click to open the software UI (Section 3.3 for help). The following sub-sections provide detailed, step-by-step instructions on how to use the various functions or features of the NTE-3 Thermal Sensitivity Test system UI.

4.1 Window # 1

Once the UI opens, the download window appears which stays on for 3-5 seconds. After the download window disappears, Window 1 comes on, at this time follow the steps below to successfully setup the test.

4.1.1 Step # 1:

At this time only option available is to, “Browse” to the folder where you would like to store the test file, which will be stored in a “.csv” format. This step **MUST** be completed to proceed.

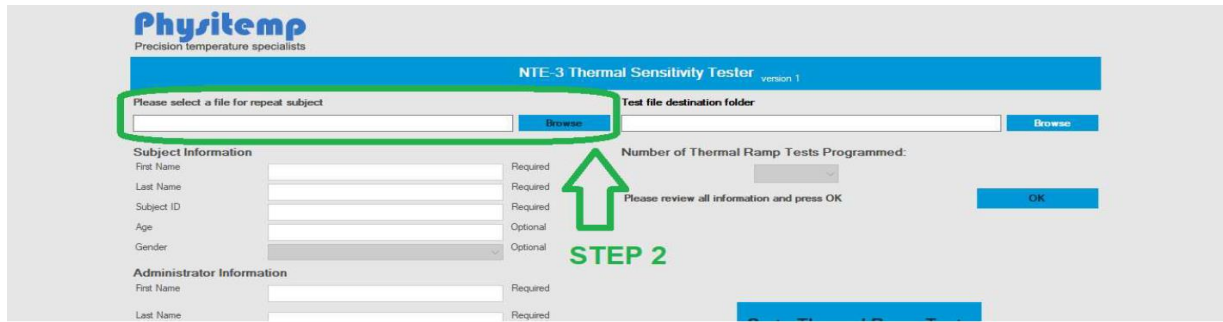
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4.1.2 Step # 2:

Skip this step, if the patient is a new patient.

If you would like to repeat the test on a previous patient, then click browse on the left side and select the patient file that you want the previous settings to transfer from. This will load all patient related data (that is required in step 3) and window 2 (if you selected to do so in step 4).

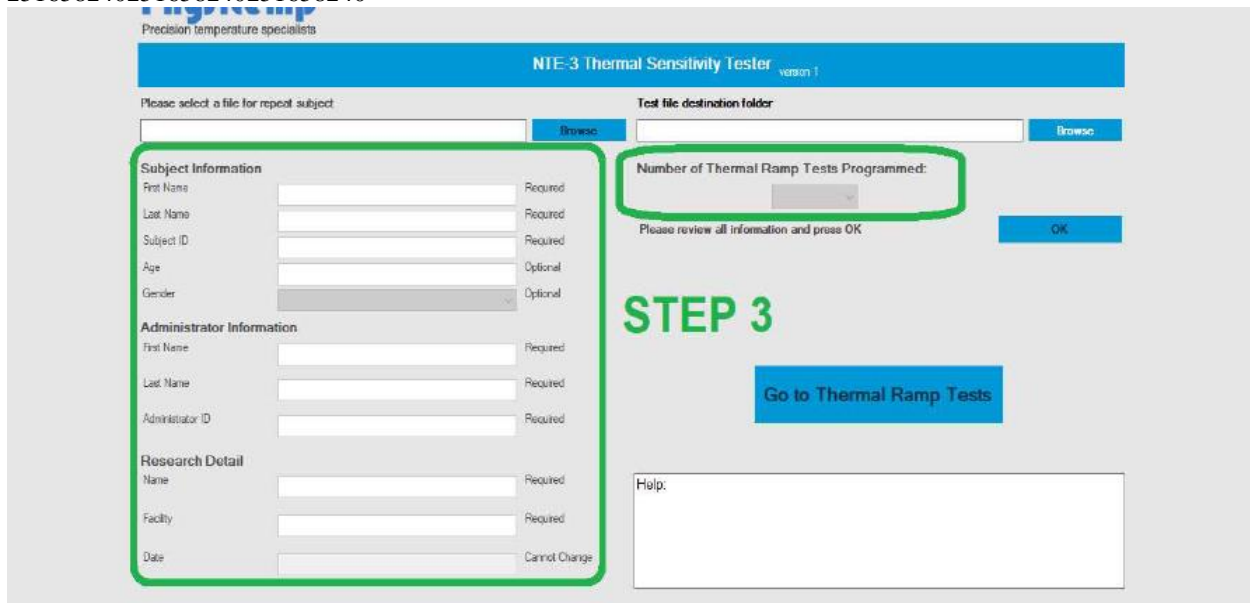
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4.1.3 Step # 3:

All Patients, Administrator, Research and # of tests related information is required to be entered in the boxes below. This information will be auto-populated from the selected subject file or from previous test administered. However the information can be modified if anything needs to be changed. The help box in the bottom right of the window shows help as soon as the cursor points to a specific box.

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4.1.4 Step # 4:

At this point, all information has been entered, file for the patient is selected (if applicable) and Destination folder for test data file is selected. Please check all the entered information and if correct, click “OK”.

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Precision temperature specialists

NTE-3 Thermal Sensitivity Tester version 1

Please select a file for repeat subject

Test file destination folder

Subject Information

First Name Required

Last Name Required

Subject ID Required

Age Optional

Gender Optional

Administrator Information

First Name Required

Last Name Required

Number of Thermal Ramp Tests Programmed:

Please review all information and press OK

Options:

Use same test parameters as previous subject?

STEP 4

4.1.5 Step # 5:

If a patient file is not selected then, in the Options section you will be asked if you want to “Use same test parameters as previous subject?” If you select “Yes”, then next window will load previous subject test settings. If you select “No”, then next window will load empty.

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Precision temperature specialists

NTE-3 Thermal Sensitivity Tester version 1

Please select a file for repeat subject

Test file destination folder

Subject Information

First Name Required

Last Name Required

Subject ID Required

Age Optional

Gender Optional

Administrator Information

First Name Required

Last Name Required

Number of Thermal Ramp Tests Programmed:

Please review all information and press OK

Options:

Use same test parameters as previous subject?

STEP 5

If a patient file is selected then, in the Options section you will be asked if you want to “Repeat original test parameters of this subject?” If you select “Yes”, then next window will load test settings from this subject from last test if you select “No”, then next window will load empty.

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NTE-3 Thermal Sensitivity Tester version 1

Please select a file for repeat subject:

Test file destination folder:

Subject Information

First Name: Required

Last Name: Required

Subject ID: Required

Age: Optional

Gender: Optional

Administrator Information

First Name: Required

Last Name: Required

Number of Thermal Ramp Tests Programmed:

Please review all information and press OK

Options:

Repeat original test parameters for this subject?

STEP 5

4.1.6 Step # 6:

Once you click “OK”, “Go to Thermal Ramp Tests” button is enabled. Please click “Go to Thermal Ramp Tests” to proceed to the next screen.

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NTE-3 Thermal Sensitivity Tester version 1

Please select a file for repeat subject:

Test file destination folder:

Subject Information

First Name: Required

Last Name: Required

Subject ID: Required

Age: Optional

Gender: Optional

Administrator Information

First Name: Required

Last Name: Required

Administrator ID: Required

Research Detail

Name: Required

Number of Thermal Ramp Tests Programmed:

Please review all information and press OK

Options:

Repeat original test parameters for this subject?

STEP 6

4.2 Window # 2

Once the Window # 2 opens, you have one of the 3 options; see what you need to do in each situation:

Option 1: You selected a subject file that you want to repeat the test on, and then you selected to forward his/her previous settings to window # 2 in section 4.1.5. Now all settings are populated according to the last test administered on this subject. You can still modify any settings.

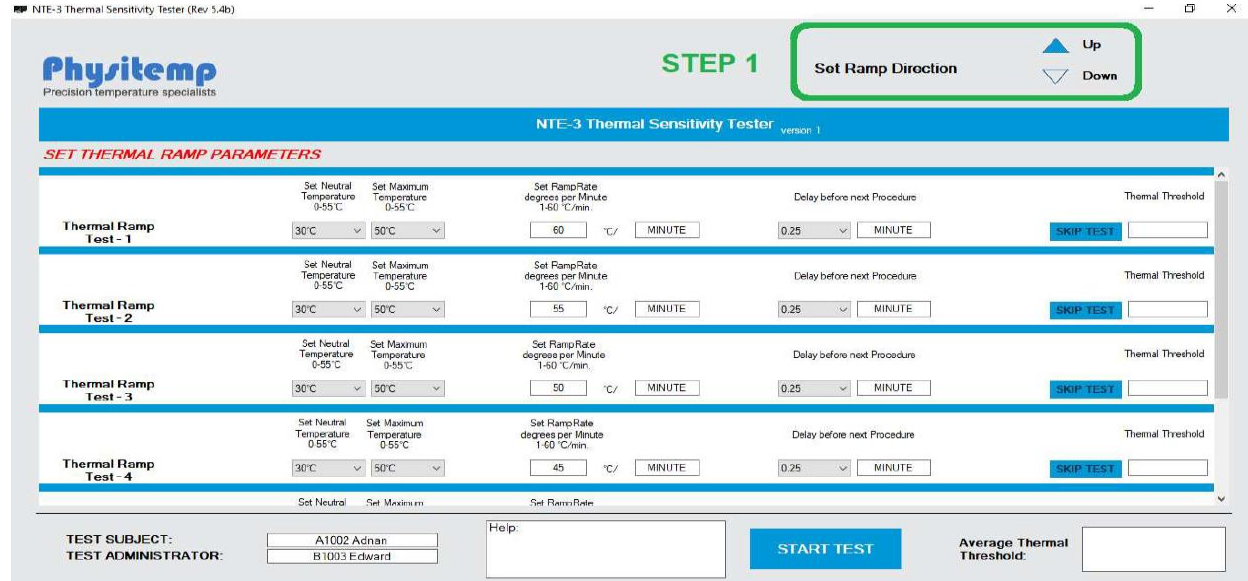
Option 2: You didn’t select a subject file but you ran a test on another subject then you selected to forward the previous test settings to window # 2 in section 4.1.5. Now all settings are populated according to the previous test administered on a subject. You can still modify any settings.

Option 3: This is a new installation and you are about to run your first test ever. Now all settings are unpopulated. You have to input all settings. Following are the steps to follow to populate the test settings.

4.2.1 Step # 1:

Please set the Ramp direction, select either Ramp UP or Down. Once selected, this will determine what the ramp direction will be for all the test procedures. If mixed Ramp up and down is set for thermal Ramp test by clicking “Bi-Directional” button, test will be carried out in both directions. Please see the screenshot below.

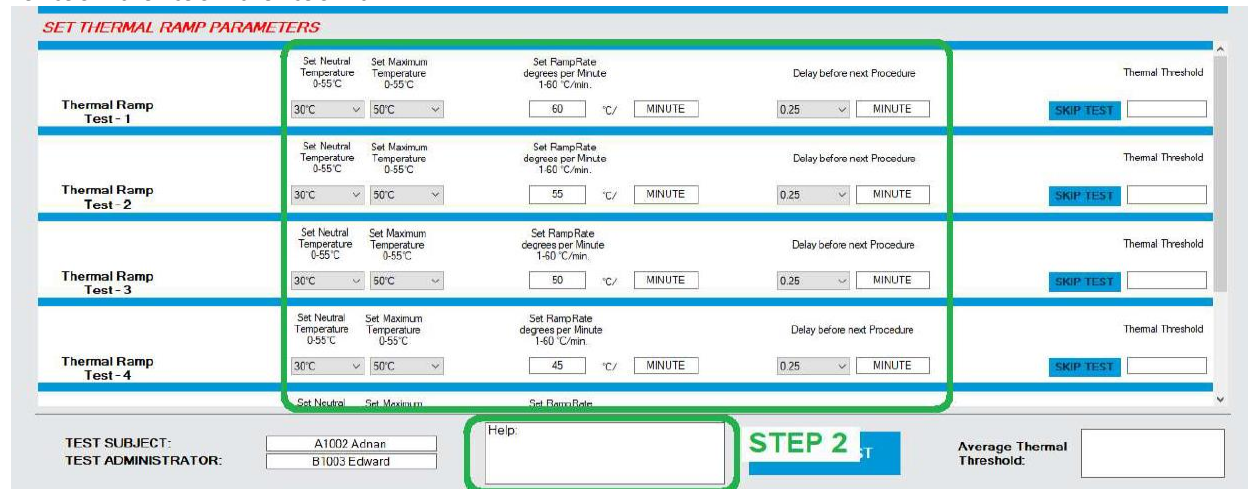
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4.2.2 Step # 2:

These are all the Ramp settings that need to be input or modified. The help box in the bottom of the window shows help as soon as the cursor points to a specific box.

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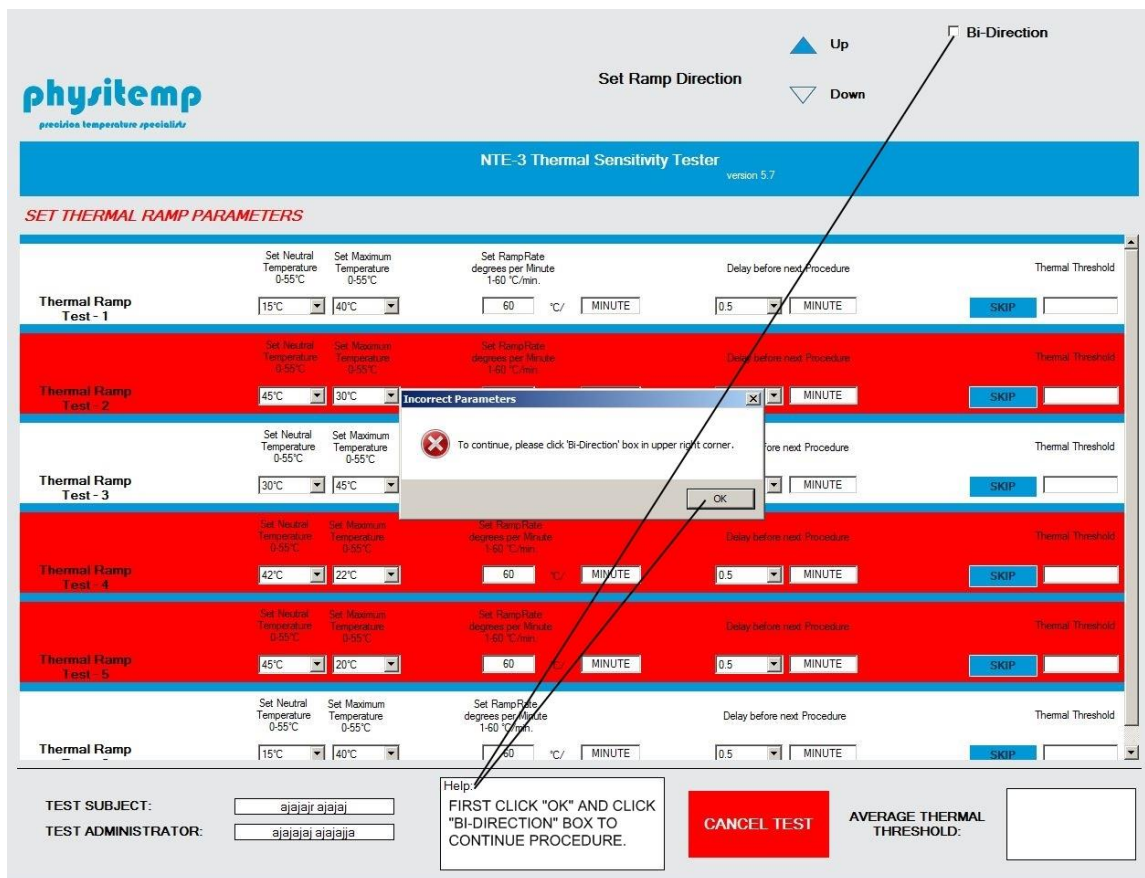
4.2.3 Step # 3:

Start Test: Once all the settings are verified and finalized, next step is to click on the “START TEST” button. This will pop up a “Start Procedures?” message, please read the message and click Ok; this message is for information purposes only.

Ramp Tests: Clicking Ok to the pop up message will start the Ramp tests. A pop up window will also show up that will change on every procedure and show the Neutral Temperature, Current Temperature, and Cutoff Temperature from the Ramp settings and Controller. This will also show the Average Temperature of last 5 seconds.

Cancel Test: Clicking Ok to the popup message will change the “START TEST” button to “CANCEL TEST”. If you press “CANCEL TEST”, it will pop up a warning message. Clicking “YES” to the warning message, the software will abort all tests and no data file will be saved. Clicking “NO” will resume the testing.

The parameters for six “Thermal Threshold Test” could be set for mixed of “UP” and “DOWN” test in the same test procedure. Please make sure to click “Bi-Direction” box in upper right corner, if warning appears as shown here to continue, Click “OK” button and click “Bi-Direction” box.



The next GUI window shows, the “Bi-Direction” procedure for mix set of parameters.

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Set Ramp Direction: Bi-Direction

▲ Up
▼ Down

NTE-3 Thermal Sensitivity Tester

version 1

SET THERMAL RAMP PARAMETERS

Test Name	Set Neutral Temperature (0-55°C)	Set Maximum Temperature (0-55°C)	Set Ramp Rate (degrees per Minute 1-60 °C/min)	Delay before next Procedure	Thermal Threshold
Thermal Ramp Test - 1	30°C	44°C	60 °C/ MINUTE	0.25 MINUTE	SKIP
Thermal Ramp Test - 2	44°C	30°C	60 °C/ MINUTE	0.25 MINUTE	SKIP
Thermal Ramp Test - 3	30°C	44°C	60 °C/ MINUTE	0.25 MINUTE	SKIP
Thermal Ramp Test - 4	44°C	32°C	60 °C/ MINUTE	0.25 MINUTE	SKIP
Thermal Ramp Test - 5	32°C	44°C	60 °C/ MINUTE	0.25 MINUTE	SKIP
Thermal Ramp	30°C	40°C	60 °C/ MINUTE	0.25 MINUTE	SKIP

TEST SUBJECT: ARANA RANA
TEST ADMINISTRATOR: AJR RANA

Help: []

START TEST

AVERAGE THERMAL THRESHOLD: []

Windows Taskbar: 04:08 PM 5/18/2022

This screenshot is as a sample for Bi-Directional Thermal Ramp Test. All the test procedure is explained is the same way as “Unidirectional - Thermal Ramp test” and how to set parameters. The setting of parameters in “Bi-directional” test allows administrator to carry out “Thermal Threshold Test” in both the direction. The test only runs after clicking “Bi-Direction” box in upper right corner of the screen.

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NTE-3 Thermal Sensitivity Tester (Rev 5.4b)

The screenshot displays the 'NTE-3 Thermal Sensitivity Tester' software interface. At the top, the 'Physitemp' logo and 'Precision temperature specialists' tagline are visible. The main title bar reads 'NTE-3 Thermal Sensitivity Tester version 1'. Below this, the section 'SET THERMAL RAMP PARAMETERS' is highlighted in red. The interface features a table for configuring four thermal ramp tests. A dialog box titled 'Start Procedures?' is open, providing instructions on how to start a ramp procedure and when to press the 'OK' button. The 'OK' button in the dialog is circled in green. A green arrow points from this 'OK' button to the 'START TEST' button at the bottom of the screen, which is also circled in green. The 'START TEST' button is labeled 'STEP 3'. Other elements include 'Set Ramp Direction' controls (Up/Down arrows), 'Set Neutral Temperature', 'Set Maximum Temperature', 'Set Ramp Rate', 'Delay before next Procedure', and 'Thermal Threshold' settings for each test. At the bottom, there are fields for 'TEST SUBJECT' (A1002 Adnan), 'TEST ADMINISTRATOR' (B1003 Edward), a 'Help' button, and an 'Average Thermal Threshold' field.

Test Name	Set Neutral Temperature (0-55°C)	Set Maximum Temperature (0-55°C)	Set Ramp Rate (degrees per Minute 1-60 °C/min.)	Delay before next Procedure	Thermal Threshold
Thermal Ramp Test - 1	30°C	50°C	50 °C / MINUTE	0.25 MINUTE	SKIP TEST
Thermal Ramp Test - 2	30°C	50°C	50 °C / MINUTE	0.25 MINUTE	SKIP TEST
Thermal Ramp Test - 3	30°C	50°C	50 °C / MINUTE	0.25 MINUTE	SKIP TEST
Thermal Ramp Test - 4	30°C	50°C	45 °C / MINUTE	0.25 MINUTE	SKIP TEST

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The screenshot displays the 'NTE-3 Thermal Sensitivity Tester' software interface. At the top, the 'Physitemp' logo and 'Precision temperature specialists' tagline are visible. The main window title is 'NTE-3 Thermal Sensitivity Tester version 1'. Below this, a section titled 'SET THERMAL RAMP PARAMETERS' contains a table with four rows for 'Thermal Ramp Test - 1' through 'Test - 4'. Each row includes fields for 'Set Neutral Temperature (0-55°C)', 'Set Maximum Temperature (0-55°C)', 'Set Ramp Rate (degrees per Minute 1-60 °C/min)', and 'Delay before next Procedure'. A large blue-bordered window titled 'Procedure # 01' is overlaid on the interface, showing 'Neutral Temperature: 30°C', 'Current Temperature: 29.4°C', 'Average Temperature: 29.2°C', and 'Cutoff Temperature: 50°C'. A large '00' is displayed with 'Count Down' below it. A red 'CANCEL TEST' button is located at the bottom right of the main interface. A 'Stop?' dialog box is open in the foreground, asking 'Are you sure you want to ABORT all the remaining procedures? If No, then click No and use the Skip button to only Skip the process that you want, one by one.' with 'Yes' and 'No' buttons. Green arrows and the text 'STEP 3' point to the 'CANCEL TEST' button and the 'Stop?' dialog box.

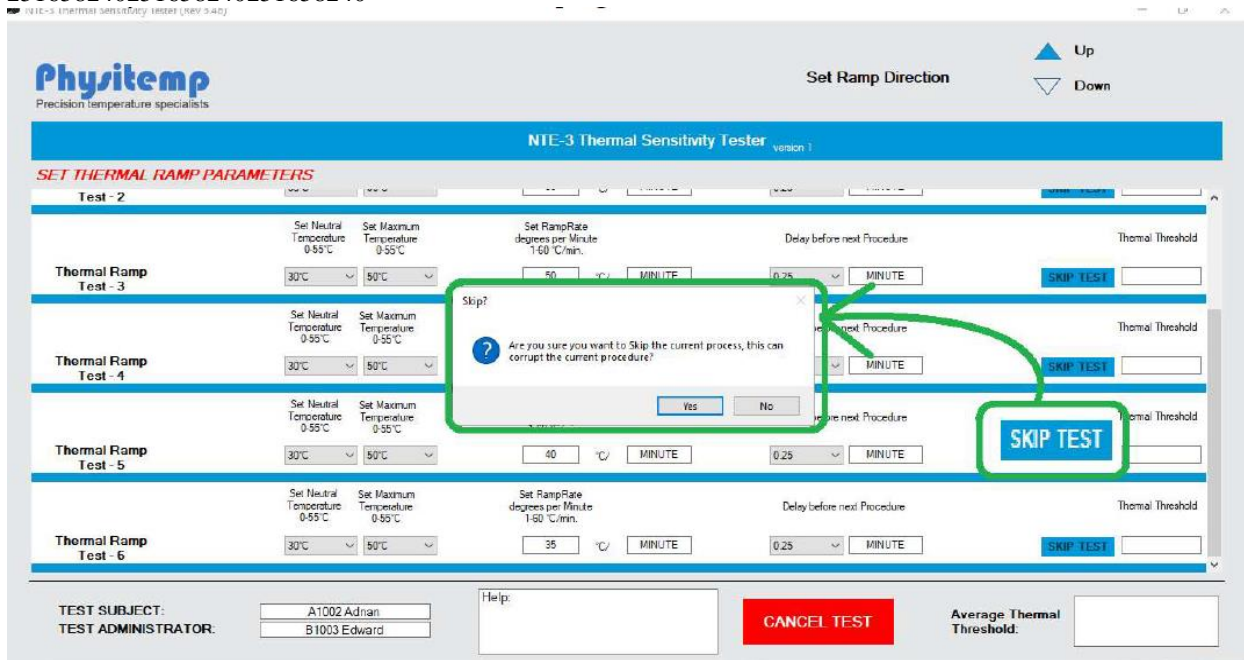
4.2.4 Step # 4:

“SKIP TEST” is there to give you capability to skip just 1 test and not abort all tests. If “SKIP TEST” is clicked, the warning message will pop up to abort the current process.

YES: If you click “Yes”, UI will stop the current test and move to reaching Neutral temperature of the next test and start next test.

NO: If you click “No”, UI will resume Ramping as normal.

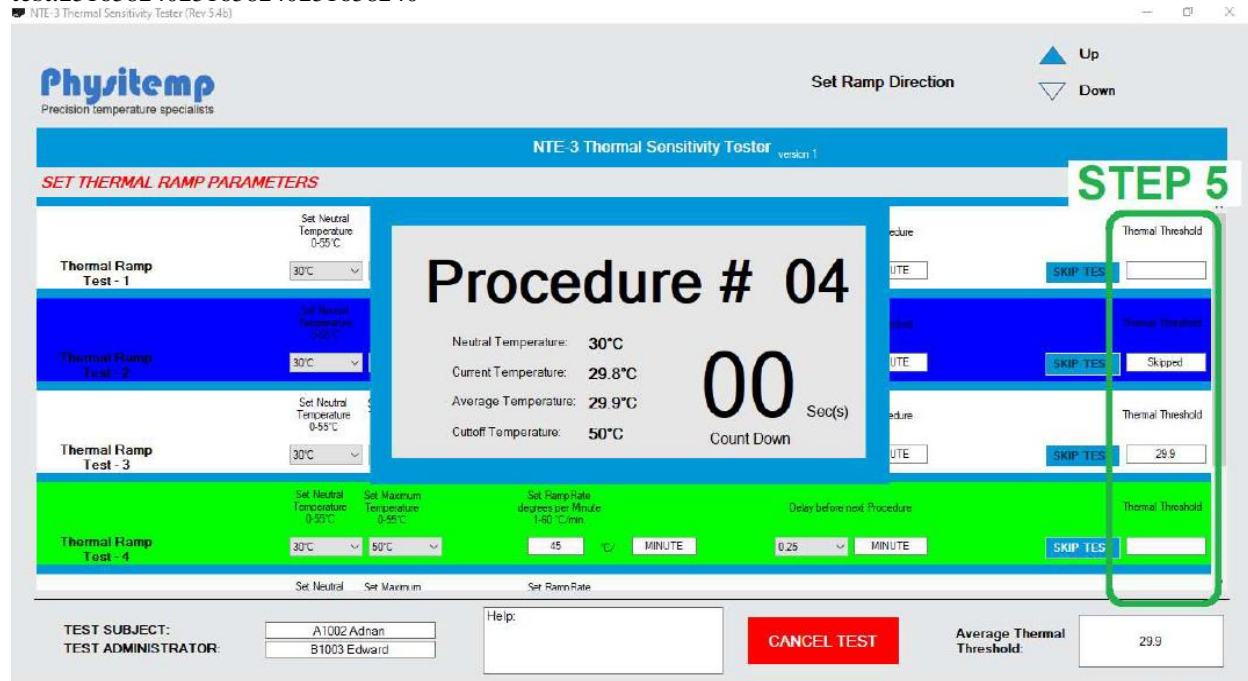
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4.2.5 Step # 5:

Once the Ramp test is in process, a mouse click is needed anywhere on the screen to register the Thermal Threshold of the subject. This value will appear in the box titled, Thermal Threshold in each test. Average Thermal Threshold box in the bottom right of the screen averages the Thermal Threshold values from all the tests. All these values will be saved in the .csv data file of the

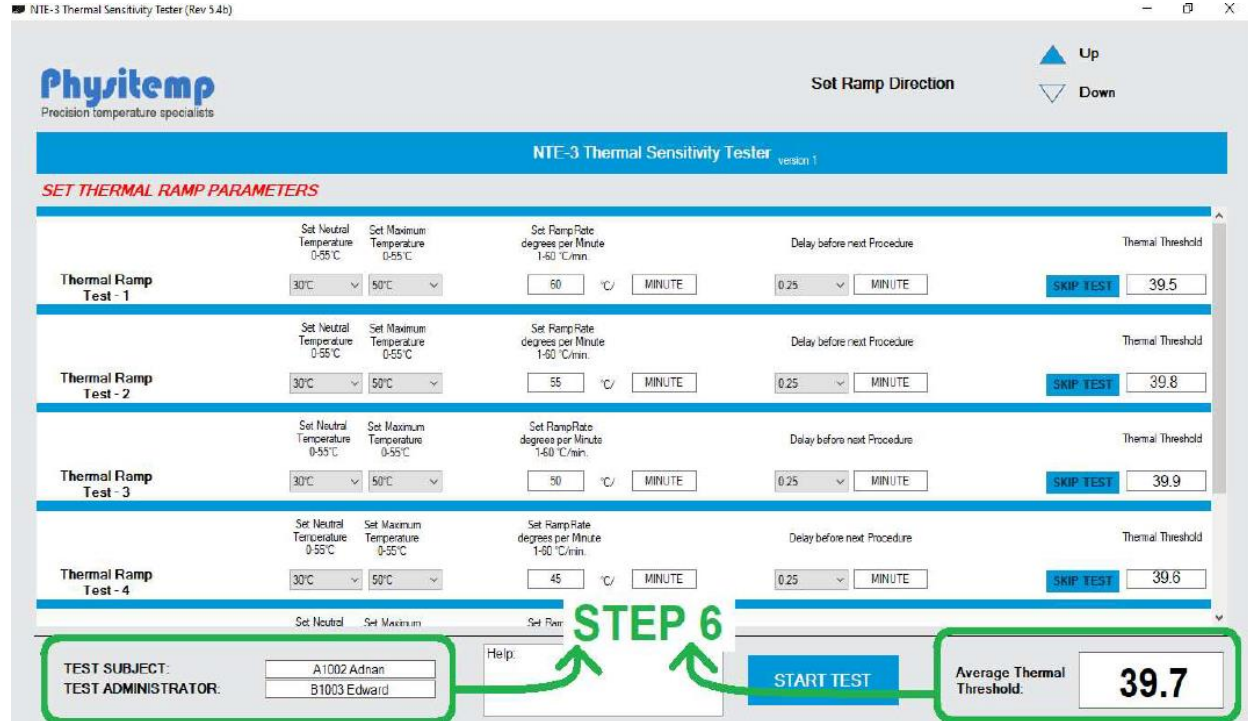
test.251658240251658240251658240



4.2.6 Step # 6:

Bottom left of the screen shows the Test subject, and Test administrator information for reference purposes.

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NOTE:

Please note all the above test procedure shown here in this users manual GUI windows are screen prints/screenshot for example only. The Ramp Rate 30/ minutes could be set for ideal stable reading with delay time set for 0.50/min (30 seconds).

All procedure in users manual is the same way for Bi-directional “Thermal Ramp Test” as it is for a single “UP or DOWN” uni- directional Ramp Test. The only difference in “Bi-Direction” is, it allows mix set of paramters by clicking “Bi-Direction” box in upper right corner of the screen.

Troubleshooting & Support

4.3 Support

Table 1 - Support Points of Contact

Contact	Organization	Phone	Email	Role	Responsibility
<i>AJ Rana</i>	<i>Physitemp Instruments</i>	<i>973-779-5577x118</i>	<i>arana@physitemp.com</i>	<i>Engineers</i>	<i>Technical Support and Service</i>
<i>V Patel</i>	<i>Physitemp Instruments</i>	<i>973-779-5577x111</i>	<i>vpatel@physitemp.com</i>		

4.3.1

Appendix A: Revision History

Table 2 - Revision History

Version Number	Date	Author/Owner	Description of Change
1.0	09/04/2019	Anees Rehman	Rough Draft
1.1	10/14/2019	Anees Rehman	Formatting and multiple words changed for more clarity. Software Rev. 4.7
1.2	02/06/2020	AJ Rana	Software revision V5.5b
1.3	12/14/2020	A J Rana	User's Manual
1.4	05/25/2022	A J Rana	User's Manual and Software Rev. 5.7u