

Start Up Guide for

NEOTHERM[®]

Modulating Boilers and
Water Heaters with the
EMEA Display

Model NTH & NTV

Sizes 080–850 MBTU/h

System setpoint	182 °F
Operating temp	77 °F
Outlet temp	77 °F
Inlet temp	52 °F
Outdoor temp	20 °F
Boiler name	Boiler 1
State	Standby
Demand	Burner switch off
Access status	User
Alert 29 Burner switch was turned OFF	
Press OK to clear alert	

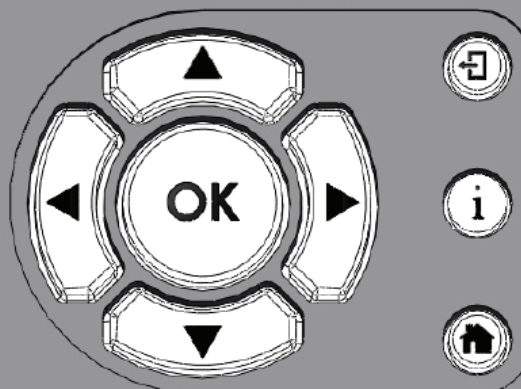


TABLE OF CONTENTS

Operating the Interface

Navigating the Operator Interface-----	3
Info/Install Display, Sub-Menu-----	4
Entering the password-----	5
Changing the setpoint-----	5

Navigating Set Up

Adjusting LCD contrast-----	6
Customizing the Home Screen-----	6
Changing from Fahrenheit to Celsius-----	6

Single boiler Set Up (using Quick Start)

Adjust Central Heat set point-----	7
Adjust DHW set point-----	7
Single boiler Outdoor reset-----	7
Low Water Temperature-----	8
Max Outdoor Temperature-----	8
Min Outdoor Temperature-----	8
Warm Weather Shut Down-----	8

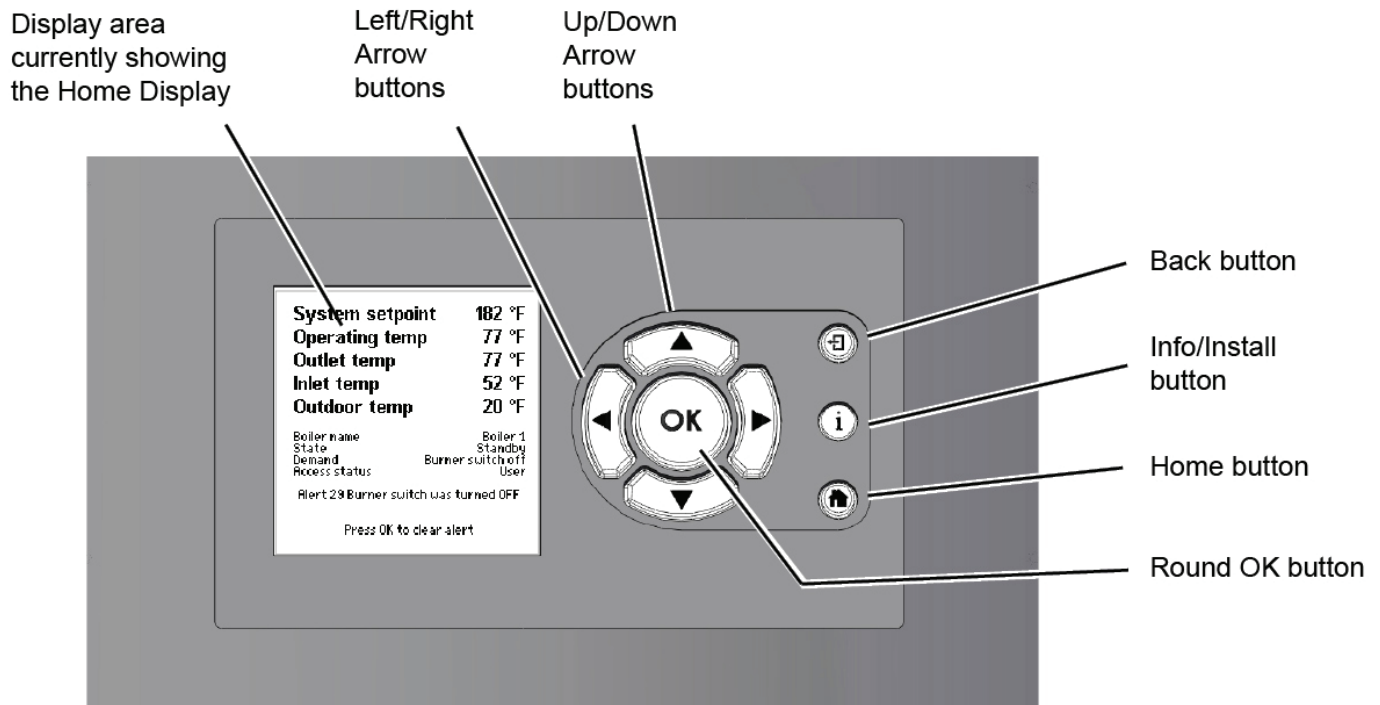
Cascading multiple boilers

Lead Lag Set Point-----	9
Lead Lag Outdoor Reset-----	9
Warm Weather Shut Down-----	9
DHW Set Point using Lead Lag-----	10
Enable Master Control Function-----	10
Enable Slave Control Function on Master Control-----	10
Naming each boiler-----	11
Adjust Base load-----	11
Modbus Address-----	12
Slave Boilers Set Up-----	12

Combustion Set Up

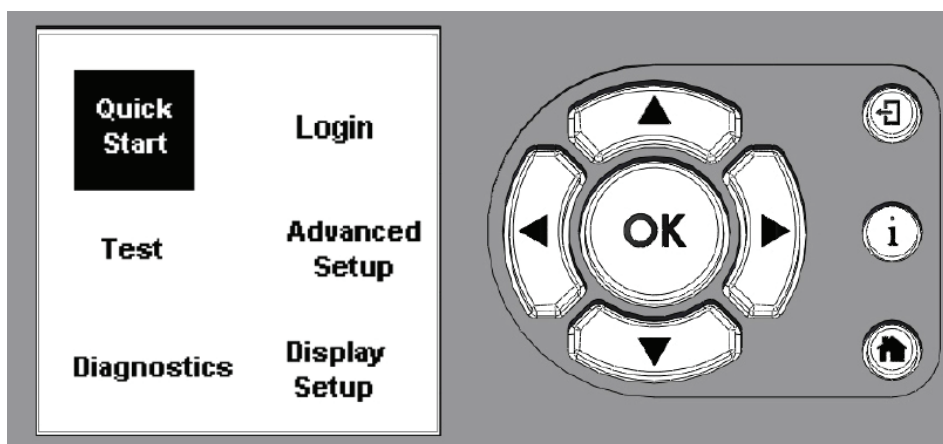
High Fire Navigation-----	13
Low Fire Navigation-----	13

INTERFACE



Display area	This area displays several different kinds of information, including current operating information, setup parameters, and messages from the SOLA controller.
Up/ Down Arrow buttons	Use these buttons to go to the choice you want to select in the display area.
Left/ Right Arrow buttons	Use these buttons to go to the choice you want to select in the display area.
Back button	Use this button to return to the previous display.
Info/ Install button	Press this button at any time to access the sub-menus that allow you to set up and monitor the controller.
Home button	Press this button at any time to return to the Home display.
Round OK button	Use the round OK button to confirm a value or action. Note – Sometimes the system will present the Keyboard display screen, which includes a separate “OK” area. This is not the same as the round OK button– the two have different functions.

Sub Menu Screen

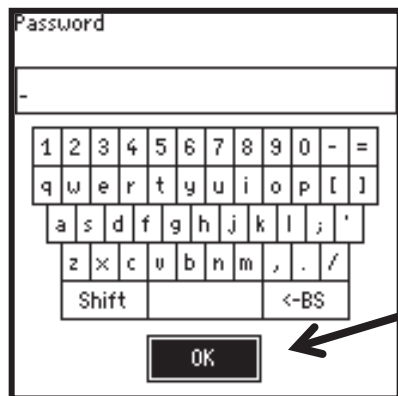


To move from one choice to another, use the Left and Right arrow buttons or the Up and Down arrow buttons. Once you have highlighted the choice you want, press the OK button.

Quick Start	<p>This menu gives you an easy way to check or change the most common settings on the unit</p> <ul style="list-style-type: none"> • CH set point • DHW set point • Outdoor reset • Low water temperature • Maximum outdoor temperature • Minimum outdoor temperature • Adjustable high limit • Adjustable Stack limit
Login	<p>If you want to change a setup value or function, and the system requires a password, enter it here. Password is LNT in lower case, (Int).</p>
Test	<p>Allows you to choose Forced Firing, Manual Burner or Manual Pump Operation.</p>
Advanced Setup	<p>Allows you to configure the system settings.</p>
Diagnostics	<p>Used to check the recorded Lock Out and Alert history, Sensors, and Digital IO.</p>
Display Setup	<p>Used to adjust the contrast of the display or change how the items are displayed on the Home screen.</p>

Navigating the Password and Setpoint Screens

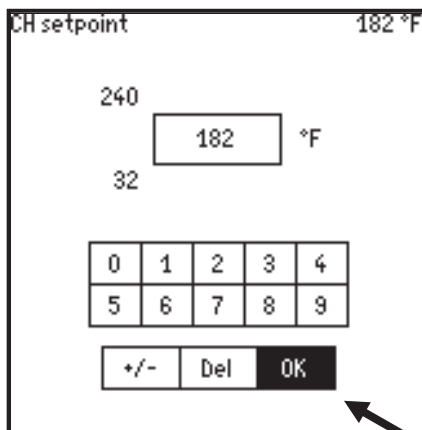
Password Screen



- **Navigation**
- Home Screen, Press "I" Info/Install button
- Use Arrow buttons to highlight "Login"
- Press OK
- Use the Left/Right and Up/Down arrow buttons to navigate through the screen.
- Highlight the desired letter, then press the **round OK** button, (on touch pad). Repeat the steps until the password is typed in.
- Next use the arrow buttons and scroll to highlight the (ok) button on the screen.
- Now press the round OK button, (on touch pad)

Password is LNT in lower case (Int)

Set Point Screen



- **Navigation**
- Home Screen, Press "I" Info/Install button
- Use Arrow buttons to highlight "Quick Start"
- Press OK
- Select "CH Setpoint"
- Press OK
- **You can use the UP or Down buttons to change the set point. Then press "OK".**
- Or use the left arrow button and scroll to highlight the +/- tab on the screen.
- With the +/- tab Highlighted use the Up or Down buttons to adjust the set point.
- Next, use the Right arrow button to scroll and highlight the (ok) button on the screen.
- Now press the round OK button, (on touch pad).

Adjusting LCD contrast

This feature is used to lighten or darken the display screen.

Navigation

- Home screen, press “I” Info/Install button
- Use the arrow buttons to highlight “Display Set Up”
- Press OK
- “LCD contrast” is highlighted, Press OK
- Use Left or Right arrow buttons to adjust the brightness, press OK

Customizing the Home Screen

The top five lines on the Home Screen can be customized. An example is if you wanted the “Delta T” or “Flame Signal” to appear on the Home Screen, you can change the parameters.

Navigation

- Home Screen, press “I” Info/Install button
- Scroll to highlight “Display Setup”, press OK
- Highlight the line you would like to change,(example “Line 2 Operating Temp”), press OK
- Scroll to highlight a new parameter, press OK

Change from Fahrenheit to Celsius

Navigation

- Home screen, press “I” Info/Install button
- Use the arrow buttons to highlight “Advanced Set Up”, Press OK
- Use the Down arrow button to highlight “System Config”, Press OK
- Scroll to highlight “System Config” again, then Press OK
- Screen should be highlighted for “Temperature Units”. If not, use Up/Down buttons to highlight and press OK.
- Use Down arrow button to select “Celsius”, press OK

Single Boiler Set Up

Note: When installing a single boiler, the system sensor supplied with the boiler is not needed. The system sensor will be needed when cascading multiple boilers together.

The Outdoor sensor supplied with the boiler must be installed. If not, the alarm light on the SOLA control will be on and the alarm contacts will close.

Single Boiler CH Set Point

Navigation

- Home screen Press “I” Info/Install
- “Quick Start” should be highlighted, press OK.
- CH Setpoint should be highlighted, press OK.
- Using the arrows and OK button, adjust the set point. (see the bottom of page 5).

After pressing the round OK button to confirm a set point, the display will go back to the “Quick Start” screen. You can now select and adjust other parameters from this screen. The screen will time out after 8 minutes of no activity, and return back to the Home Screen.

Single boiler DHW Set Point

Navigation

- Home screen, Press “I” Info/Install
- “Quick Start” should be highlighted, press OK
- Use the Down arrow button to Highlight “DHW set point”, press OK.
- Using the arrow and OK button, adjust the set point. (see the bottom of page 5).
- Press OK

Single boiler Outdoor reset

Note: The Outdoor reset is Enabled from the factory. (No further steps needed).

Single Boiler Set Up, continued

Low Water Temp

Navigation

- Starting at the “Quick Start” screen, use the Down arrow button to Highlight “Low Water Temp”
- Press OK
- Using the arrows and OK button, adjust the set point. (see the bottom of page 5).

Max Outdoor Temp

Navigation

- Starting at the “Quick Start” screen, use the Down arrow button to Highlight “ Max Outdoor Temp”
- Press OK and adjust the set point. (If needed, see the bottom of page 5).

Min Outdoor Temp

Navigation

- Starting at the “Quick Start” screen, use the Down arrow button to Highlight “ Min Outdoor Temp”
- Press OK and adjust the set point. (If needed, see the bottom of page 5).

Warm Weather Shut Down

Navigation

- Home Screen, press “I” Info/Install button
- Scroll to “Advanced Set Up”, press OK
- Scroll to CH Configure, press OK
- Scroll to “Warm Weather Shutdown”, press OK
- Scroll to highlight “Warm Weather Shutdown Setpoint”, press OK
- Adjust setpoint, press OK. (If needed, see bottom of page 5)

Cascading multiple boilers

You can cascade up to eight NeoTherm boilers together. One boiler becomes the Master and the other boilers become the Slaves.

Note: The system sensor and outdoor sensor will need to be wired to the Master boiler only. The input from these sensors is used by the Master control to control the modulation rate of all of the operating boilers it is connected to. If the Outdoor sensor is not used, the alarm light on the SOLA control will be on, and the alarm contacts will close.

Lead Lag Set Point

Navigation

- Home screen, press “I” Info/Install button
- Scroll to “Advanced Set Up”, press OK
- Scroll down to highlight “Lead Lag Configure”, press OK
- “Lead Lag Master Configure” is highlighted, press OK
- Scroll down to “Setpoint”, press OK
- Adjust the setpoint, press OK (see bottom of page 5)

Lead Lag Outdoor Reset

Navigation

- Home screen, press “I” Info/Install button
- Scroll to “Advanced Set Up”, press OK
- Scroll down to highlight “Lead Lag Configure”, press OK
- Scroll Down to highlight “Lead Lag Outdoor Reset”, press OK

Note: The Outdoor Reset is already Enabled. You may choose to adjust the other set points

- Use the Down button to highlight each parameter you wish to change
- Press OK, change the desired set point, press OK.
- Use the Down button to choose your next set point, make adjustments, press OK

Warm Weather Shut Down

Navigation

- Home screen, press “I” Info/Install button
- Scroll to “Advanced Set Up”, press OK
- CH Configure, Press OK
- Use the Down button to highlight “Warm Weather Shutdown”, press OK
- Highlight Warm Weather Shutdown Setpoint”, press OK
- Adjust the set point, press OK

Cascading multiple boilers, continued

DHW set point using Lead Lag (Master Boiler)

Navigation

- Home screen, press “I” Info/Install button
- Scroll to highlight “Advanced Setup”, press OK
- Highlight “DHW Configure”, press OK
- DHW setpoint will be highlighted, press OK
- Adjust setpoint, Press OK

Enable the Master control function

The Master control should be enabled from the factory. Check to confirm this function is enabled.

Navigation

- Home screen, press “I” Info/Install button
- Scroll to “Advanced Set Up”, press OK
- Scroll to highlight “Lead Lag Configuration”, press OK
- “Lead Lag Master Configure” will be highlighted, press OK
- “Master enable” should be highlighted, press OK
- Confirm that this function is enabled. If not highlight “Enable”, then press OK

Enable the Slave function on the Master control

When cascading boilers, **the Slave function must be turned on**. This is done on all of the controls, including the Master control.

Navigation

- Home screen, press “I” Info/Install button
- Scroll to “Advanced Set Up”, press OK
- Scroll down to highlight “Lead Lag Configure”, press OK
- Use the Down button to highlight “Lead Lag Slave Configure”, press OK.
- Press OK to “Enable” the Slave function
- Use the Down button to highlight “Enable via SOLA master”, press OK

Cascading multiple boilers, continued

Boiler Name

You can give each boiler a different name, but it is not necessary to change the name of the boilers to operate in cascade mode.

Example: NeoTherm 1, NeoTherm 2, NeoTherm 3, etc.

Navigation

- Home screen, Press “I” Info/Install button, press OK
- Use arrow buttons to highlight “Advanced Setup”, then press OK.
- Use arrow buttons to highlight “System Config”, then press OK.
- “System ID & Access” will be highlighted. Press OK.
- “Boiler name” will be highlighted. Press OK.
- The screen will now prompt you to Log in. (Password LNT in lower case).
- Press OK and Log in. (See the top of page 5 for instructions).
- With “Boiler name” highlighted again, press OK to advance to the boiler name keypad.
- Using the same steps to log in, type in a boiler name. Then press OK.

Complete the steps above on all of the boilers.

Adjust the Base Load Value on the Master boiler.

Navigation

- Home screen, press “I” Info/Install button
- Scroll to “Advanced Set Up”, press OK
- Scroll to highlight “Lead Lag Configuration”, press OK
- “Lead Lag Master Configure” will be highlighted, press OK
- Scroll down to highlight “Base Load Common Rate”, press OK
- Adjust the rate to the number of boilers in the system (shown in the chart to the right)
- Press OK

Number of Boilers	Base load value
1	65%
2	65%
3	50%
4	35%
5	35%
6	35%
7	35%
8	35%

Cascading multiple boilers, continued

Slave Boiler Set Up

Modbus Address

All of the boilers will each need their own Modbus address. On boilers two through eight you will need to change the “MB1 Modbus Address” and the “MB2 Modbus Address”.

Example: On the Master boiler leave the MB1 and MB2 address as **1**. On boiler two the MB1 and MB2 addresses will be **2**. On boiler three the MB1 and MB2 addresses will be **3**, etc..

Navigation

- Home screen, press “I Info/Install button, press OK.
- Highlight “Advanced Set Up”, press OK
- Highlight “System Configure”, press OK
- Choose “System ID & Access”, press OK.
- Scroll down to highlight “MB1 Modbus Address”, press OK
- Use the Up arrow buttons to change the number for boilers 2 through 8. Press OK
- Next, use the down arrow button to highlight “MB2 Modbus Address”, press OK
- Log in, the password is “LNT” in lower case.
- Change the MB2 address, then press OK

Note: It will take 5 seconds for the Modbus change to appear on the screen.

Disable the Master function and enable the Slave function on each of the slave controls.

Navigation

- Home screen, press “I” Info/Install button, press OK
 - Highlight “Advanced Set Up”, press OK
 - Use the Down button to highlight “Lead Lag Configure”, press OK
 - “Lead Lag Master Configure” is highlighted, press OK
 - “Master enabled” is highlighted, press OK
 - Use the Up button to highlight Disable, press OK
- Next, press the Back button to get back to the Lead Lag Configure screen
- Use the Down button to highlight “Lead Lag Slave Configure”
 - Press OK to Enable the Slave function
 - Use the Down button to highlight “Enable via **SOLA master**, press OK

Cascading multiple boilers, continued

Combustion Set Up

High Fire

Navigation

- Home screen
- Press “I” Info/Install button
- Scroll to highlight “Test”, press OK
- “Forced Rate” will be highlighted, press OK
- If the screen prompts you to Log in, press OK and Log in

Note: The boiler must be running to start High or Low fire test

- “Set High Fire” will be highlighted, press OK
- Scroll down to “Start Test” press OK

You will now have five minutes to complete the High fire CO2 adjustments

Low Fire

Navigation

- From the “Forced Rate” screen, highlight the option for “Set Low Fire”, press OK
- Scroll down to “Start Test”, press OK. Complete Low Fire CO2 adjustments.

CO2 Adjustment Range

Gas Type	High Fire CO2	Low Fire CO2
Natural	9.0 to 9.8 %	0.5% lower than High Fire
Propane	10.0 to 10.8 %	0.5% lower than High Fire

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This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

