

NXT-11 ELECTRONIC SAUNA CONTROL

KEYPAD

Mount outside sauna
(2 gang box by others)

Control wire runs back to
Main Board.

Sensor runs into sauna



CONTROL MAIN BOARD

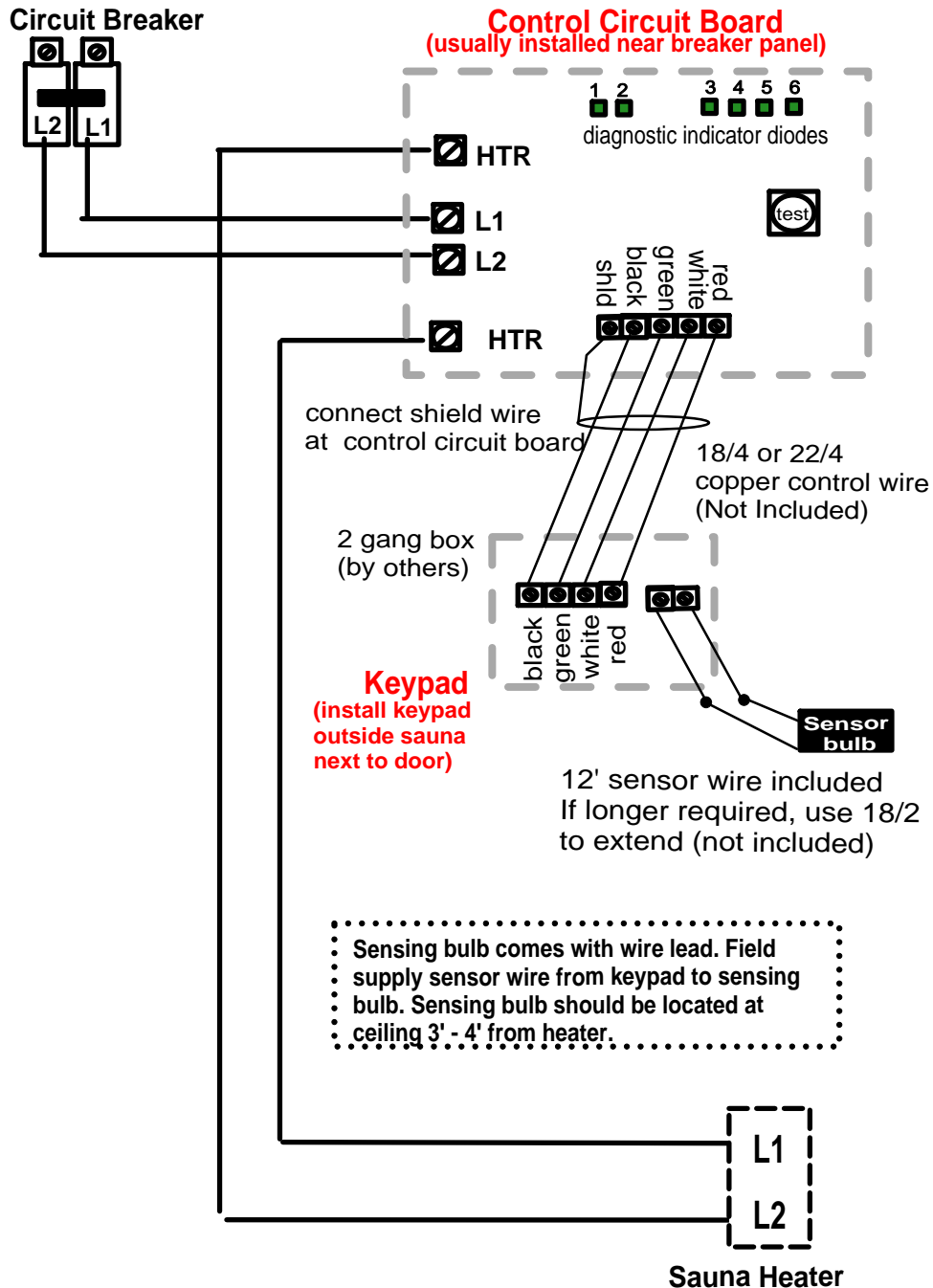
Installed between breaker
and heater. (Usually near
electrical panel)

Control wire runs to
Keypad



NXT-11 ELECTRONIC CONTROL

Wiring for heaters 4kw, 5kw & 6kw / 240 volt / 1 Phase



INSTALLATION & OPERATION

Watts	Volts	Phase	Wire Size	Circuit Breaker
4000	240	1	10	30
5000	240	1	10	30
6000	240	1	8	40

Operation

** See programming instruction sheet for set up of control

Installation Tips

1. Avoid static build up when control sensor bulb are handled.
2. Avoid running sensor bulb capillary wire too close to line power lines.
3. In order to install control in electrical box, front grounding screws may have to removed.

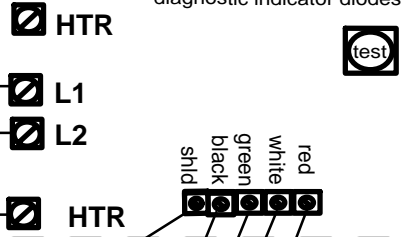
NXT-11 CONTROL with CONTACTOR

7.5 - 18KW / 1 - 3 PHASE (& 6KW / 208 Volt)

Ensure that correct voltage is applied to the contactor coil.

- Control Wire (#14)
- Supply Wire
- Dotted Line for 3 Phase Only

Control Circuit Board
(usually installed near breaker panel)

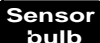


connect shield wire at control circuit board

2 gang box (by others) 18/4 or 22/4 copper wire

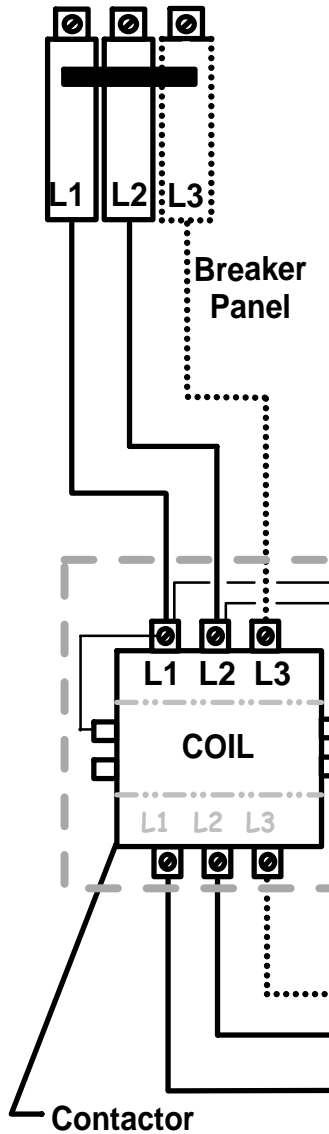
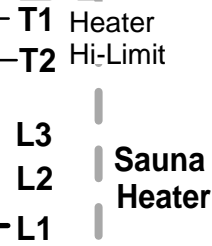


Keypad
(install keypad outside sauna next to door)



12' sensor wire included
If longer required, use 18/2 to extend (not included)

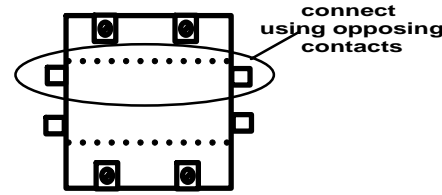
Sensing bulb comes with wire lead. Field supply sensor wire from keypad to sensing bulb. Sensing bulb should be located at ceiling 3' - 4' from heater.



CONTACTOR DETAIL

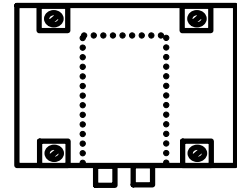
Here are some samples of the different types of contactors used depending upon wattage and phase of the heater. The broken lines represent the coil in the middle of the contactor.

For 7.5 - 9 KW single phase units.
40 Amp. Res. (7.5 kw, 240 v, 1 phase)
50 Amp. Res. (9 kw, 240 v, 1 phase)



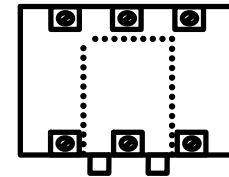
Coil connections at sides.

For 12 KW 1 phase units.
63 Amp. Res. (12 kw, 240 v, 1 phase)



Coil connections at bottom.

3 phase units.



Coil connections at bottom.

40 Amp. Res. (6kw to 12 kw, 208 v, 3 phase)
50 Amp. Res. (15 kw, 208 v, 3 phase)
63 Amp. Res. (18 kw, 208 v, 3 phase)

Watts	Volts	Phase	Wire Size	Circuit Breaker
6000	208	3	10	30
7500	240	1	8	40
7500	208	3	10	30
9000	240	1	8	50
9000	208	3	8	40
12000	240	1	6	60
12000	208	3	8	50
15000	208	3	6	60
18000	208	3	6	70

Electronic Control Operation Manual

Sleep mode: When control is inactive for 10 minutes, it goes in to “sleep” mode. In sleep mode a red dot cursors across the time and temperature display windows.

Off Mode: Pressing any button “wakes” the control, and puts it into “Off” mode. When in “Off” mode, the time window reads “OFF” and temperature window shows current room temperature.

Standby: Press “on/off” once. Control will enter “Standby” mode. Time window will show default time of 60 minutes. Temperature window will show current set point (defaults to set point of last use).

From “standby” you can access time and temperature controls and delay start features.

Quick Start: You can “**Quick Start**” the sauna by pressing “on/off” a second time. Sauna defaults to 60 minutes and last programmed temperature. Or change temperature and time, then push “on/off” second time.

On: When operational, a small dot will flash in the temperature window and the time window will flash between the word “on” and the remaining time.

Off: Pressing the “on/off” a third time will turn off the sauna.

Temperature: From standby or when sauna is in operation. Press and hold temperature button. Temperature display will switch to set point. Using the up and down icons, set the desired temperature.

Note: Sauna control will default to last set temperature.

Time: From standby or when sauna is in operation. Press and hold time button. Using the up and down icons, set the desired temperature.

Delay Start: Sauna control can be programmed to delay start up to 10 hours in advance. From “standby” mode, press and hold delay button. Using up and down icons, set delay duration. Press “on/off” button to engage delay. When in delay mode temperature window will display the word “dEL”. Time window will display delay duration. Delay will show countdown to zero one minute at a time.

Delay can be set for up to 10 hours. Delay start displays hours and minutes. For example: 5 = five minutes, 15 = 15 minutes 1.20 = one hour, twenty minutes;

Time Clock: The sauna control can be programmed to start at a specified time up to seven days in advance. In order for the time clock preset to work the control internal clock must first be set.

Setting the clock:

From Off mode: Press and hold “TIME” and “ON/OFF” buttons for 4 seconds. Time window will first show “dAY”. Temperature window will default to “1”. Use up/down buttons to program current day. 1=Sunday, 2=Monday, etc. Press “ON/OFF” button and time window display “hr” (hour). Use up/down buttons to program current hour. (Operates on military time; i.e. 2 = 2:00 a.m., 14 = 2:00 p.m.). Press “ON/OFF” again and time window will display “nIn” (minutes). Use up/down buttons to program current minutes (1-59). Press “ON/OFF” one last time to engage.

Programming the time clock start

From off mode: Press and hold up “DELAY” and “ON/OFF” buttons for 4 seconds Display will change to “dEL” “Srt” (for delay start). Press “ON/OFF” once. Display will show “dEL” “Off”. Press “up” arrow to turn on time clock..Display will read “dEL” “on”. Press on/off to begin programming. Display will read “dAY” “1”. Program day, hour & minutes as you did for setting up clock. Press “ON/OFF” one last time to engage time clock. Display will read “on” “tc”

Note: As a safety measure, the time clock start clears after use.

- Set Up:** The control has certain programmable features and lockouts. To access these features Push and hold the “up” and “down” button for about eight seconds. Time window will display “rev”. Pressing “set up” consecutively will give the following: Celsius vs. Fahrenheit, Lock 1, Lock 2, Lock 3, Lock 4. You must press the set button repeatedly to the end to get out of “setup” mode.
- C. vs. F.:** First set up option is temperature scale. The control defaults to Celsius. For Fahrenheit, press up or down button. Display in “time” window will change from “C” to “F”. Press set.
- Lock 1:** Lock 1 is a general lock out or “child safe” mode. When lock 1 is on, none of the control buttons will respond. Pressing any button will show the display “LOC 1”. To engage lock 1, use the up/down button to turn the lock on or off. To disengage, you must reenter the “set up” mode, go to lock 1 and turn it “off”.
- Lock 2:** Lock 2 only allows use of the “On/Off” button. The sauna can be turned on, but time and temperature cannot be changed. Lock 2 is generally intended for use with public saunas where management want public access limited to turning on the sauna. Pressing any buttons other than “On/Off” will show the display “LOC 2”. To engage lock 2, use the up/down button to turn the lock on or off. To disengage, you must reenter the “set up” mode, go to lock 2 and turn it “off”.
- Lock 3:** No current function.
- Lock 4:** No current function.

Diagnostic & Troubleshooting

The diagnostic that follows is only to determine if control is working properly. For troubleshooting of heater itself, see notes in Heater Manual.

Meaning of Indicator diodes on main board:

L6 = unit has power

L4 = communication is OK between keypad and main control

L1, L2 = relays on, calling for heater

L3 = test button has been pushed, heating in bypass mode for 5 minutes, control counts down from 5 minutes

L5 = error code

Sensor Open: L5 off seconds, on 1 second, sensor open (keypad reads Sen O):

This may indicate sensor wire connection is loose or not connected properly inside keypad. Or sensor bulb may have been pulled off.

Sensor Short: L5 on 2 seconds, off 1 second, sensor short (keypad reads Sen S):

This may indicate sensor wire or sensor is damaged and is causing short.

Test Button: Test button on main board is useful to determine if problem is sauna heater or control. Use test button If control appears to operated properly, but there no heat from heater, press test button. This effective by-passes controls and heater will run for 5 minute test cycle. If heater does not work, probable cause is that heater “hi-limit” has tripped. See Heater Manual Troubleshooting page for hi-limit issues

<p>CAUTION: Main circuit board has high voltage. Use non conductive material (i.e. pencil) to push test button</p>
