

ThermoTub®

BATHTUB AND SHOWER ENCLOSURE SURFACE HEATING SYSTEM

FACTORY AND FIELD INSTALLATION AND OPERATING GUIDELINES

READ AND FOLLOW ALL INSTALLATION INSTRUCTIONS BEFORE INSTALLING.

CAUTION/WARNING: DANGER RISK OF ELECTRIC SHOCK

THIS EQUIPMENT SHALL BE INSTALLED ONLY BY QUALIFIED PERSONNEL WHO ARE FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THE APPARATUS AND THE RISKS INVOLVED.

THE INSTALLATION OF THIS HEATING PRODUCT SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND LOCAL AND NATIONAL CODES.

CAUTION: Connect only to circuit protected by CLASS A GROUND FAULT CIRCUIT INTERRUPTER.

CAUTION: Connect only to a branch circuit having overcurrent protection rated 15 AMPS or LESS.

DO NOT plug into 240V outlet.

DO NOT press keypad button with sharp objects.

DO NOT modify any part of the heating system including controller, heating blankets, connections or lead wires.

DO NOT cut or puncture heating blanket or install against sharp objects.

DO NOT open the controller. The controller does not contain any user serviceable components.

DO NOT install any components if any visible damage exists.

DO NOT install the control unit of this system in contact with any other heat generating components such as pumps, motors, inline heaters.

DO NOT substitute the control unit of this heating system with any other power supply or control unit.

WARNING: RISK OF BURNS TO THE USER or DAMAGE TO THE HEATING SYSTEM:

DO NOT operate the bathtub surface heating system with foreign objects such as cushions, pillows, towels or robes placed on the heated surface of the bathtub.

DISCONTINUE USE AND CONTACT YOUR BATHTUB DEALER IMMEDIATELY if the bathtub surface heating system does not automatically turn off after 30 minutes use.

Acceptable Substrates

Acceptable bathtubs/shower enclosures may be made from at least 2mm (5/64") thick acrylic or comparable materials including fiberglass, gel coated fiberglass, acrylic/fiberglass combinations or acrylic capped ABS.



Patent # US 6,563,094

ATTENTION / AVERTISSEMENT:

ATTENTION: Connecter uniquement a un circuit protege par un DETECTEUR-DISJONCTEUR DE FUITE A LA TERRE DE CLASS A.

ATTENTION: Connecter seulement a un circuit ayant une protection de surintensite de 15 AMPERES OU MOINS.

NE PAS brancher dans une prise 240V.

NE PAS appuyer sur la bouton avec des objets pointus.

NE PAS modifier les composants ou les connexions du système de chauffage.

NE PAS ouvrir le contrôleur. Le contrôleur ne contient pas de composants réparables par l'utilisateur.

DANGER RISQUE DE CHOC ELECTRIQUE

NE PAS faire fonctionner le système de chauffage de la surface de la baignoire avec des corps étrangers tels que des serviettes placées sur la surface chauffée de la baignoire.

CESSER utilisation et contactez votre revendeur immédiatement si l'BAIGNOIRE le système de chauffage de la surface de la baignoire ne s'éteint pas automatiquement après utilisation.

RISQUE DE BRULURES A LA BAIGNEUSE / USER

PRECAUCIÓN / ADVERTENCIA:

PRECAUCIÓN: Conecte únicamente a un circuito protegido por CLASS A interruptores de fallo.

PRECAUCIÓN: Conecte sólo a un circuito que tiene la protección de sobrecorriente tiene 15 amperios o menos.

NO enchufe en una toma de 240V.

NO presione el botón del teclado con objetos afilados.

NO modifique los componentes o conexiones del sistema de calefacción.

NO abra el controlador. El controlador no contiene componentes reparables por el usuario.

RIESGO PELIGRO DE DESCARGA ELÉCTRICA

NO opere la superficie de calentamiento de la bañera con objetos extraños tales como toallas colocadas sobre la superficie caliente de la bañera.

Suspenda su uso y consulte a su distribuidor INMEDIATAMENTE si la superficie de calentamiento de la bañera no se apagará automáticamente después de su uso.

PELIGRO DE QUEMADURAS PARA EL BAÑISTA / USUARIO

NOTE: The surface heating system includes one or more heating blankets, control and keypad.

HEATING SYSTEM INSTALLATION GUIDELINES

BEFORE INSTALLING:

Inspect heating system thoroughly.

1. Damage from shipping or delivery must be reported to the carrier and dealer immediately. Do not install damaged equipment. Manufacturer/dealer is not responsible for damage occurring in transit.
2. The heating system is tested by the factory prior to shipment. Although extremely rare, factory defects may happen and they must be reported to the place of purchase before the heating system is installed. Defects or damage claimed after installation will be excluded from warranty.

ATTENTION INSTALLER

THIS HEATING SYSTEM MUST BE TESTED BEFORE INSTALLATION AND PRIOR TO ENCLOSURE OF SURROUNDING AREAS. IT IS THE RESPONSIBILITY OF THE INSTALLER TO THOROUGHLY TEST THIS HEATING SYSTEM PRIOR TO INSTALLATION. THIS HEATING SYSTEM IS INTENDED AND WARRANTED ONLY FOR INDOOR USE IN A CLIMATE CONTROLLED ENVIRONMENT.

TEST PROCEDURES:

1. Heating blanket electrical resistance must be verified with an Ohmmeter to insure it is within $\pm 10\%$ of the factory marked resistance or the nominal resistance specified for the heating blanket's particular model number.
2. If the heating blanket resistance is more than $\pm 10\%$ of the factory marked resistance or if the heating blanket fails to heat in the final test, call customer technical support.

Electrical Specifications:

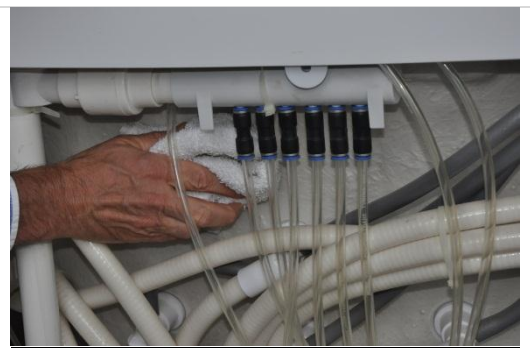
1. Check the electrical specifications marked on the heating blanket.
2. Two or more heating blankets may be connected as long as the total Watts of all heating blankets do not exceed 96 Watts (see example below) and the heating blankets do not overlap.
3. DO NOT alter the provided supply cords or any heating system components.

EXAMPLE

Control Voltage Input	Control/Transformer Voltage Output	Heating blanket(s)			
		Heating blankets	Voltage	Amps	Watts
110/120VAC	24V AC or DC	Heating blanket 1	24V AC or DC	2.71A	65W
		Heating blanket 2	24V AC or DC	1.25A	30W

Heating blanket Installation:

1. The heating blankets must be attached to the underside surface of the tub/shower enclosure. The surface of the tub/shower enclosure must be clean, dry and free of dust and grease. If dust or grease is present, remove it by wiping the tub surface with alcohol.
2. Make sure the tub/shower enclosure surface where the heating blanket is to be mounted is free from sharp objects or protrusions that could damage the heating elements or obstruct the placement of the heating blanket on the tub/shower enclosure. Determine the appropriate location of the heating blanket on the tub/shower enclosure and mark an outline for proper application. Abrade the surface of the tub/shower enclosure within the outline marked above with emery or sandpaper. Abrade a minimum of 1.5” beyond the perimeter of the outline drawn above.
3. Brush the surface clean with a medium fiber brush



Wipe surface clean with alcohol if needed.



Abrade surface with emery paper.

(gong type).

4. Remove the release paper from the peel & stick adhesive from the back of the heating blankets or from the adhesive strips provided with your heating blankets.
 - a. **Do not** touch or handle the adhesive side of the heating blankets or self-adhesive strips once the release paper is removed.
 - b. **Do not** remove the heating blankets or self-adhesive strips once applied because the adhesion will be diminished. See **NOTE** below.

TIP: in hard to reach or tight spaces, partially remove the release paper from one corner of the self-adhesive backing and position the heating blanket or self-adhesive strip in place. Continue removing release paper while pressing heating blanket or self-adhesive strip in place.

5. For heating blankets provided with self-adhesive strips:

Hold the heating blanket in place while pressing self-adhesive strips one at a time around the perimeter of the heating blanket. Make sure the heating blanket is flat, not folded or crumpled up. Make sure at least ½ of the self-adhesive strip width is on the tub or shower enclosure.

6. For heating blankets with peel & stick self-adhesive:

Position the heating blankets into place and firmly press the heating blankets to the surface of the tub/shower enclosure using hands or rubber coated roller. Make sure the heating blanket is flat, not folded or crumpled up. Press or roll from the center of the heating blankets out to the edges of the heating blankets in all directions.

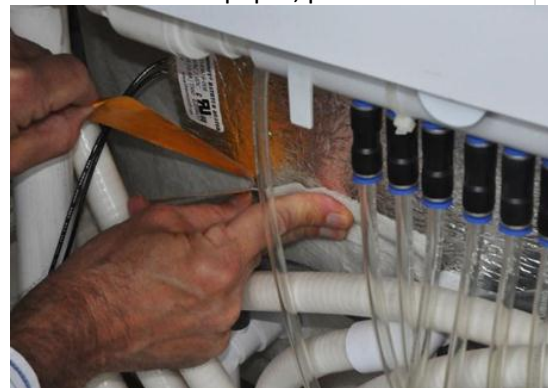
7. Optionally, double-sided tape (not provided) or heat resistant spray glue suitable for the acrylic or fiberglass substrate (not provided) may be used for



Brush surface free of dust.



Peel off release paper, position heater.



Optional – place tape around perimeter.



Optional - place tape around perimeter.

temporarily adhering the heating blanket in the appropriate location on the tub/shower enclosure before applying the provided peel & stick tape strips to permanently secure the perimeter of the heating blanket.

8. Obstacles:

- a. It is acceptable to place the heating blanket around and over metal support frames that may be in the way as long as there are no sharp surfaces on the frame that could puncture the heating blanket. Press the heater up to and as close to the metal frame as possible and wrap the heater over the top and down the opposite side of the metal frame while adhering the heating blanket to the tub.
- b. DO NOT wrap the heating blanket around plumbing pipes, electrical cords or other devices.

9. It is important to create a strong seal on the perimeter of the heating blankets. To do this, apply pressure along the entire perimeter of the heating blankets, creating a seal on the perimeter.

10. Allow the adhesive to cure. Peel & stick adhesive has only 60% of its adhesion strength upon application and will reach 100% strength within 24 hours.

11. NOTE: Once the heating blanket is affixed to the tub/shower enclosure, DO NOT attempt to reposition or remove the heating blankets. If the heating blanket is removed, the adhesive will be compromised. If this happens, contact your place of purchase to obtain additional self-adhesive strips.



Wrap heater over tub frame if needed.



Firmly adhere heater around frame.

CONTROL INSTALLATION GUIDELINES

BEFORE INSTALLING:

Inspect control thoroughly.

1. Damage from shipping or delivery must be reported to the carrier and place of purchase immediately. Do not install damaged equipment. Manufacturer/dealer is not responsible for damage occurring in transit.
2. The control is tested by the factory prior to shipment. Although extremely rare, factory defects may happen and they must be reported to the place of purchase before the control is installed. Defects or damage claimed after installation will be excluded from warranty.



ATTENTION INSTALLER

THIS CONTROL MUST BE TESTED BEFORE INSTALLATION AND PRIOR TO ENCLOSURE OF SURROUNDING AREAS. IT IS THE RESPONSIBILITY OF THE INSTALLER TO THOROUGHLY TEST THIS CONTROL PRIOR TO INSTALLATION. THIS CONTROL IS INTENDED AND WARRANTED ONLY FOR INDOOR USE IN A CLIMATE CONTROLLED ENVIRONMENT.

TEST PROCEDURES:

1. The control must be verified with a Voltmeter to insure it is within the factory marked Voltage.
2. To test the control, plug the keypad into the control; plug the control into a 120 Volt outlet. Press keypad button once to activate. Touch the Voltmeter probes to each output connector (one connector at a time) to verify the factory marked output. Call customer technical support if the output Voltage measured does not register within $\pm 10\%$ of the factory marked output Voltage.

Electrical Specifications:

1. Check the electrical specifications marked on the control.
2. Multiple heating blankets, up to (4), may be connected to the control as long as the total Watts of all heating blankets does not exceed 96 Watts (see examples 1 and 2 below) and the heating blankets do not overlap.

EXAMPLE 1

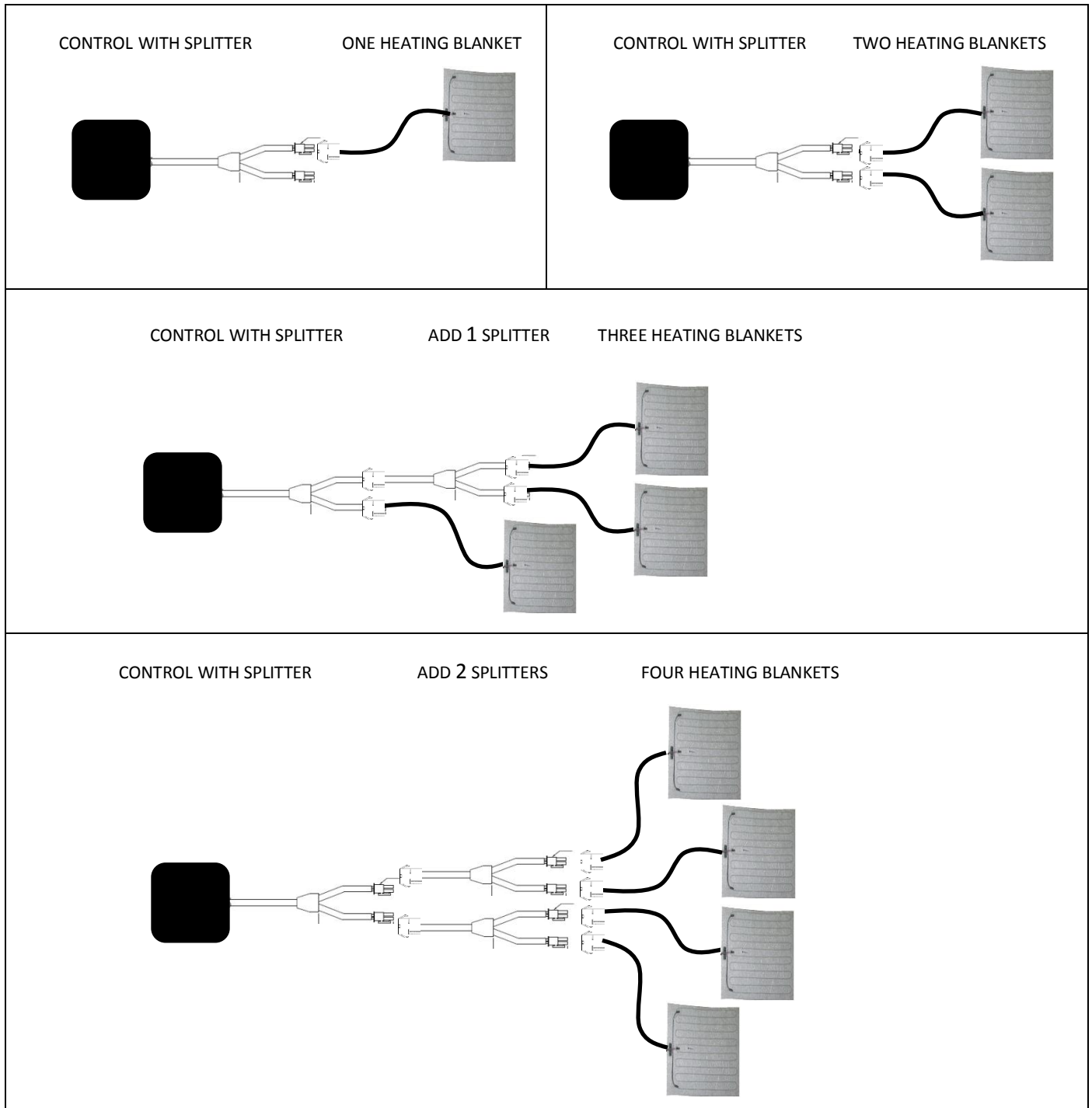
Control Voltage Input	Control Voltage Output	2 Heating blankets(s)			
		Heating blankets	Voltage	Amps	Watts
110/120VAC	24V AC or DC	Heating blanket 1	24V AC or DC	2.71A	65W
		Heating blanket 2	24V AC or DC	1.25A	30W

EXAMPLE 2

Control Voltage Input	Control Voltage Output	4 Heating blanket(s)			
		Heating blankets	Voltage	Amps	Watts
110/120VAC	24V AC or DC	Heating blanket 1	24V AC or DC	1.67A	40W
		Heating blanket 2	24V AC or DC	1.25A	30W
		Heating blanket 3	24V AC or DC	0.50A	12W
		Heating blanket 4	24V AC or DC	0.50A	12W

3. Use the appropriate splitter/adaptor (ThermoSplitter™, ThermAdaptor™) that is designed for the purpose of attaching multiple heating blankets (see illustrations below).

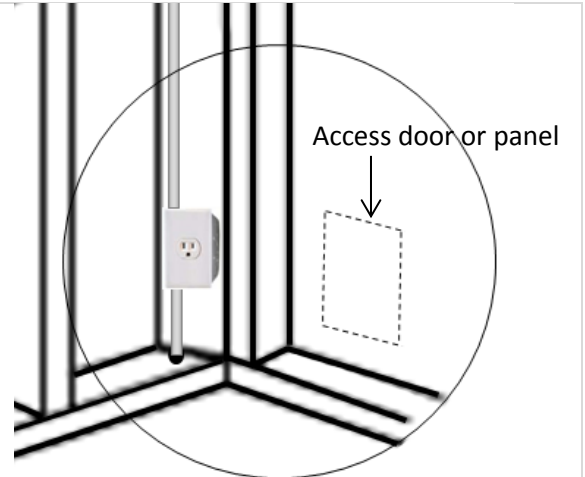
ILLUSTRATION – Connecting Multiple Heating systems



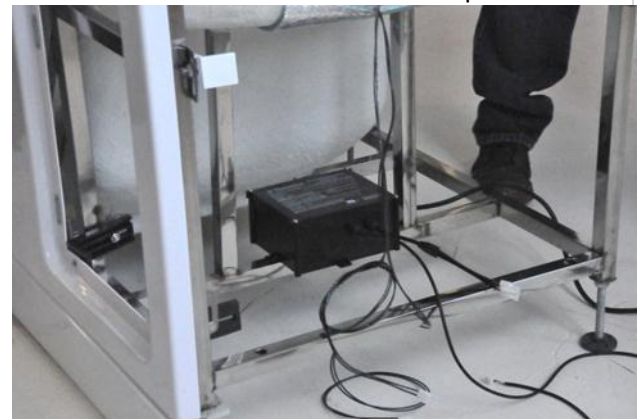
4. DO NOT alter the provided supply cords of the heating blanket(s) or the control.

Control Installation:

1. The standard installation locates the heating blanket control underneath and between the walls of the tub or shower enclosure alcove.
2. The heating blanket control must be connected to a 120 VAC, GFCI protected receptacle.
 - a. The installer is to confirm that the receptacle is GFCI protected and if one is not provided, to contact a qualified electrician to install one.
 - b. The GFCI protected receptacle should be at least 1-1/2 inches about the intended mounting surface.
3. The area under the tub/ shower enclosure must be enclosed with an access door or panel to allow for service and inspection of the heating blanket control plug and GFCI protected receptacle.
4. The heater blanket control needs to be mounted:
 - a. to the frame or support structure of the bathtub/shower stall,
 - b. or to the floor, or to the alcove studs within the tub/shower enclosure installation area, at least 1-1/2 inches



Provide 120V GFCI protected outlet within tub alcove. Provide access door or panel.



Attach control to tub frame if possible.



Use mounting tabs to screw control to frame.

above the surface (finished floor) where the bathtub will be mounted.

5. Position the heating blanket control into place and firmly secure control under the tub or shower enclosure using the mounting tabs provided with appropriate mounting hardware.
6. Make sure to route the power supply cord and all interconnection wiring away from hot or moving parts, sharp edges, or any other thing that could damage the wiring.



Or, mount control 1.5" above the intended tub/shower mounting surface (finished floor).



Or mount to bathtub alcove studs.

Key pad Installation:

The keypad can be mounted to surfaces within reach of the bather and the keypad cord length. Acceptable surfaces include the topside of the bathtub, the shower seat sidewall, the wall or the built-in tub extension shelf surrounding the bathtub.

1. Drill a 38mm (1.5 inch) diameter hole in the tub/shower enclosure, wall or built-in tub extension shelf where the keypad will be



Drill 1.5" (38mm) hole in tub; clean dust from surface & wipe with alcohol.

located.

2. Clean dust from around keypad hole and wipe surface with alcohol.
3. Insert keypad cord through hole from underneath.
4. Connect keypad cord to keypad.
5. Remove peel & stick backing from underside of keypad.
6. Insert keypad without decorative ring and press firmly into place.
7. Remove peel & stick backing from heat wave sticker and affix onto center of keypad surface.
8. Place one edge of keypad decorative ring onto keypad and press in circular motion to snap ring into place.
9. Apply appropriate waterproof seal such as silicone to the underside of keypad and smooth with finger to insure complete coverage around keypad.
10. Provide drip loop when routing keypad cord.



Pull keypad cord through hole.



Connect keypad cord to keypad.



Peel release paper from underside of keypad.



Insert and press keypad into hole.



Remove release paper, press sticker on keypad.



Snap keypad ring over keypad.



Apply silicone seal around underside of keypad.

Final Test

The heating system should be tested together after installation as follows:

1. Plug the heating blanket(s) into the control.
2. The keypad should already be connected to the heating blanket control (see keypad installation).
3. Plug the control into an appropriate 120VAC GFCI protected power supply.
4. Press the keypad button to activate. Verify the LED light is ON solid.
5. Allow heating blanket to heat for 5 minutes or more.
6. Feel surface of the tub where the heating blanket(s) are located for heat.
7. Press the keypad again to enter "MAINTAIN HEAT LEVEL" mode. Verify the LED is blinking.
8. Press again to enter "OFF" mode. Verify LED is OFF.
9. Press along perimeter of the heating blanket(s) to insure adhesion is secure.



Connect heater(s) to control.



Plug control into 120VAC GFCI outlet.

OPERATING GUIDELINES

Control System - Keypad Operation:

The ThermoTub bathtub and shower enclosure heating blanket control provides features that allow for customizing the bathing experience to individual preference. Users should familiarize themselves with the features and operating instructions to maximize the enjoyment received from the bath/shower. These operating instructions should be used in conjunction with the other instructions and warnings provided with the bathtub or shower enclosure to fully understand and safely utilize the bathtub/shower enclosure.

There are three (3) keypad operating modes: OFF, HEAT and MAINTAIN HEAT LEVEL.

The chart below summarizes the operating features of each mode.

When in this Mode:	Press Once to:	Press Again to:
OFF LED OFF	HEAT* 30 minutes LED ON	MAINTAIN HEAT LEVEL 30 minutes LED BLINKING

When in this Mode:	Press Once to:	Press Again to:
HEAT LED ON	MAINTAIN HEAT LEVEL 30 minutes LED BLINKING	OFF LED OFF

When in this Mode:	Press Once to:	Press Again to:
MAINTAIN HEAT LEVEL LED BLINKING	OFF LED OFF	HEAT 30 minutes LED ON



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MAINTAIN COMFORTABLE HEAT LEVEL

The first 15 minutes of “HEAT” mode is when the heating system is warming up. The remainder of the cycle, the system will maintain the achieved heat level.

At any time during “HEAT” mode, the user feels comfortable with the heat level that has been achieved, the user may press the keypad button to enter “MAINTAIN HEAT LEVEL” mode for 30 additional minutes during which time the LED will be blinking.

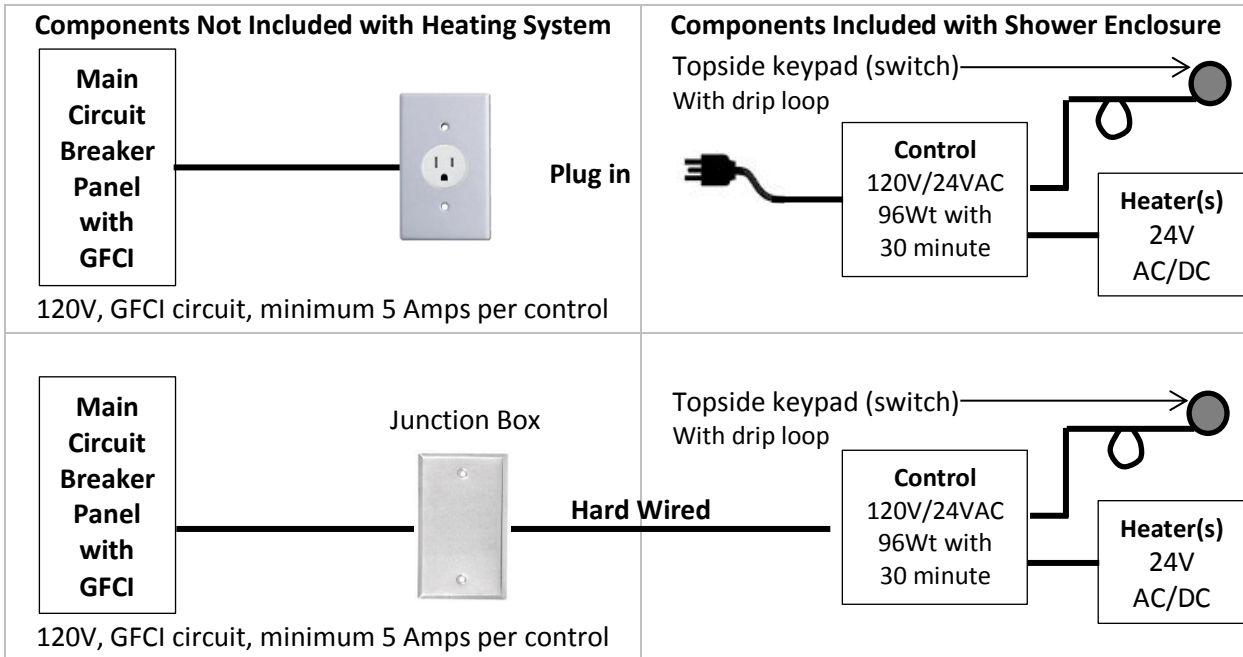
Pressing the keypad button again while in “MAINTAIN HEAT LEVEL” mode will enter “OFF” mode.

If at any time, the user feels that the heat level is too warm, simply press the keypad button until the LED light is OFF and let the system cool down to the desired heat level. Once the system has reached the desired heat level after cooling down, press the keypad button to resume heat (LED ON) and press the keypad button immediately again to MAINTAIN HEAT (LED blinking).

Keypad:



Wiring Diagram:



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