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**HEATIZON**  
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# ROUGH-IN KIT

## Description

Heatizon Systems Rough-In Kit contains the following:

- 12" h X 17" w Control box and transformer mounting Back Plate (P1320)
- 50' Thermostat wire (M316)
- 50' to 200' Cold lead (E210)
- Installation Manual
- 4 Conductor Connectors
- 1 Plastic Conductor Bushing
- 4 Mounting Screws

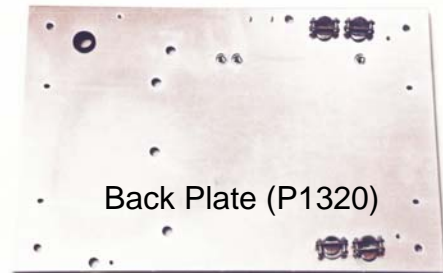
Each Rough-In Kit contains enough cold lead to extend twice the total vertical and horizontal distance between the control box location and the area where the heating element will be installed.

## Uses

Heatizon Rough-In Kit is used for mounting:

1– CBX6, CBX6T, CBX6F, CBX6TF, CBX23, CBX23T, CBX23F, or CBX23TF Control Boxes (Note: SLC 500 Control Box does not require a Rough-In Kit); and

1– S050, S101, S102, S103, S104, S105, S106, S202, or S203 Transformer



Thermostat Wire (M316)



Cold Lead (E210)

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4403 South 500 West  
Murray, UT 84123  
www.heatizon.com

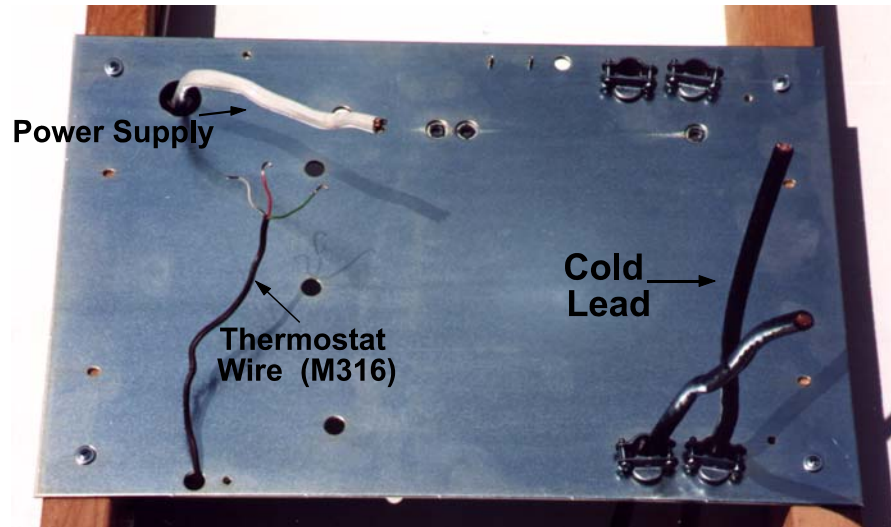


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## Available Sizes

Rough-in Kits are sized according to the total length of the Cold Lead. Rough-in Kits offered by Heatizon Systems include:

- Rough-In Kit 50
- Rough-In Kit 100
- Rough-In Kit 150
- Rough-In Kit 200



Note: Additional Cold Lead (Heatizon Part Number E210) is available from Heatizon Systems.

## Requirements

- One Control Box: CBX6, CBX6T, CBX6F, CBX6TF, CBX23, CBX23T, CBX23F, or CBX23TF.
- One Element Kit:
  - Tuff Cable Element Kit: CABKIT100, CABKIT200, CABKIT300, CABKIT400, CABKIT500, CABKIT600, CABKIT700, or CABKIT800.
  - Z Mesh Element Kit, 12": SCRKIT50, SCRKIT75, SCRKIT100, SCRKIT150, SCRKIT200, SCRKIT250, SCRKIT300, or SCRKIT350.
  - Z Mesh Element Kit, 9": SCRKIT50-9, SCRKIT100-9, or SCRKIT250-9.
- One Transformer:
  - S050-1/2kVA, S101-1kVA, S102-2kVA, S103-3kVA, S104-4kVA, S105-5kVA, S106-6kVA, S202-2X2kVA, or S203-2X3kVA.
- One of the many activation devices offered by Heatizon Systems and designed to satisfy your specific needs.

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## ELEMENT KITS

# TUFF CABLE ELEMENT KITS

## Description

Heatizon Systems Tuff Cable is durable 10 gauge coated copper cable that is chemical and gasoline resistant. Tuff Cable is designed to always be imbedded into a heatsink. Examples of heatsinks are asphalt, concrete, mortar, pavers, stone, Heatizon Systems Heatsink Kit (Heatizon Part Number CABSINKKIT), etc.

The heat density of the Tuff Cable heating element is dependent on the spacing between adjacent runs of the element and the length of the element used.



## Uses

Heatizon Systems Tuff Cable is capable of delivering 5 to 12 watts per linear foot. As a result, Tuff Cable is plenty robust to:

- Melt snow off of driveways, walk ways, helipads, handicap ramps, parking lots, entryways, and just about any other surface that needs to be free of snow and ice.
- Deliver the watts per square foot to radiant heat entire buildings and provide a nice warm floor as bonus.
- Warm floor surfaces like stone, ceramic tile, hard wood, etc. When your feet are nice and warm, you feel warm all over.
- Reduce the risk to life and buildings by melting snow and ice off of roof eaves and valleys.

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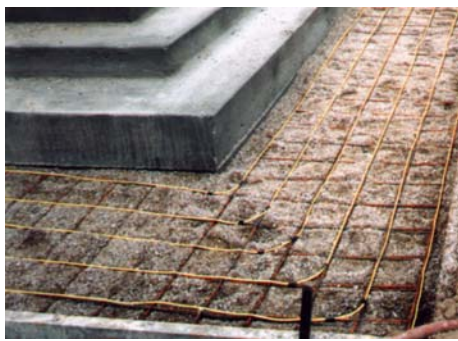
## Available Lengths

Tuff Cable is available in 100-foot increments in lengths ranging from 100 linear feet to 800 linear feet. Tuff Cable Kits offered by Heatizon Systems include:

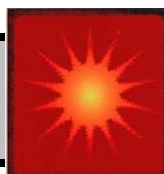
- CABKIT100
- CABKIT200
- CABKIT300
- CABKIT400
- CABKIT500
- CABKIT600
- CABKIT700
- CABKIT800

## Requirements

- One Control Box: SLC500, CBX6, CBX6T, CBX6F, CBX6TF, CBX23, CBX23T, CBX23F, or CBX23TF.
- One Rough-in Kit: RIKIT50, RIKIT100, RIKIT150, or RIKIT200.  
(Note: the SLC 500 Control Box does not require a rough-in kit).
- One Transformer:
  - S050-1/2kVA, or S101-1kVA for SLC500, CBX6, CBX6T, CBX6F, and CBX6TF Control Boxes
  - S102-2kVA, S103-3kVA, S104-4kVA, S105-5kVA, or S106-6kVA for CBX6, CBX6T, CBX6F, and CBX6TF Control Boxes.
  - S202-2X2kVA, S203-2X3kVA for CBX23, CBX23T, CBX23F, and CBX23TF Control Boxes.
- One of the many activation devices offered by Heatizon Systems and designed to satisfy your specific needs.



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## ELEMENT KITS

# Z MESH ELEMENT KITS

## Description

Heatizon Systems Z Mesh is a durable bright bronze woven metal fabric screen that comes in 9 inch and 12 inch widths. Z Mesh is approximately the same thickness as the screen fabric in a screen door or screen window. Z Mesh is designed to go on something like concrete or wood sub-floor, or a wood sub-roof. Unlike other heating elements Z Mesh does not need to be imbedded into a heatsink.



The heat density of Z Mesh heating element is dependent on the spacing between adjacent runs of the element and the length of the element.

## Uses

Heatizon Systems ZMesh is capable of delivering 5 to 12 watts per linear foot. As a result Z Mesh Element is plenty robust to:

- Deliver the watts per square foot necessary to radiant heat entire buildings and provide a nice warm floor as a free bonus.
- Warm floor surfaces like stone, ceramic tile, hard wood, etc. When your feet are nice and warm you feel warm all over.
- Reduce the risk to life and buildings by melting snow and ice off of roof eaves, and valleys.

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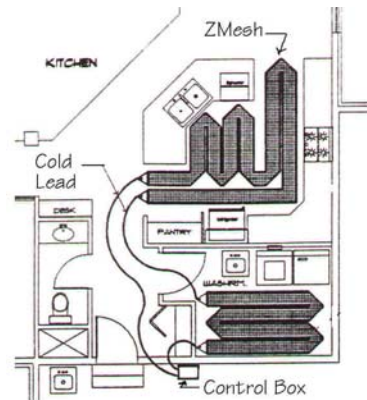
## Available Length

Nine-inch Z Mesh is available in 50, 100, and 250-foot lengths. Nine-inch Z Mesh kits offered by Heatizon Systems include:

- SCRKIT50-9
- SCRKIT100-9
- SCRKIT250-9

Twelve-inch Z Mesh is available in 50, 75, 100, 150, 200, 250, 300, and 350 linear foot lengths. Twelve-inch Z Mesh kits offered by Heatizon Systems include:

- SCRKIT50
- SCRKIT75
- SCRKIT100
- SCRKIT150
- SCRKIT200
- SCRKIT250
- SCRKIT300
- SCRKIT350



## Requirements

- One Control Box: SLC500, CBX6, CBX6T, CBX6F, CBX6TF, CBX23, CBX23T, CBX23F or CBX23TF.
- One Rough-in Kit: RIKIT50, RIKIT100, RIKIT150, or RIKIT200. (Note: the SLC 500 Control Box does not require a rough-in kit).
- One Transformer:
  - S050-1/2kVA, or S101-1kVA for SLC500, CBX6, CBX6T, CBX6F, and CBX6TF Control Boxes
  - S102-2kVA, S103-3kVA, S104-4kVA, S105-5kVA, or S106-6kVA for CBX6, CBX6T, CBX6F, and CBX6TF Control Boxes.
  - S202-2X2kVA, or S203-2X3kVA for CBX23, CBX23T, CBX23F and CBX23TF Control Boxes.
- One of the many activation devices offered by Heatizon Systems and designed to satisfy your specific needs.

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## CONTROL BOXES

# CBX6 CONTROL BOX

### Description

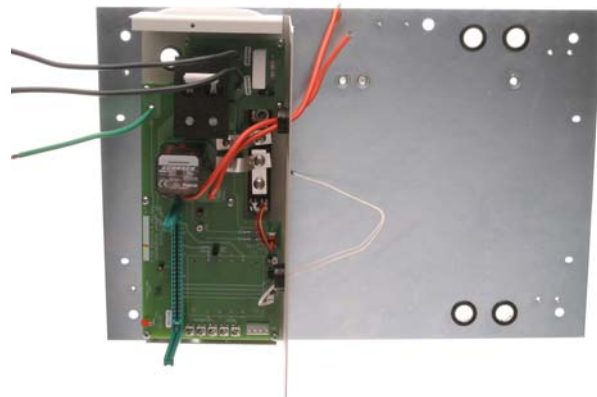
The Control Box houses the appropriate sized step-down transformer, and the other electronic components necessary to provide low-voltage electricity to the heating element. The Control Box continually monitors the system's operation, and is self-testing and problem diagnosing. It is engineered to provide simple and problem free operation.

The Control Box is 17" wide, 12" high, and 8" deep.

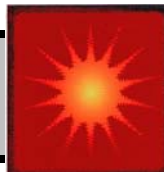


### Uses

One Control Box can energize one area, or multiple areas that have been "jumpered" (connected in series) together on the same system.



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## Available Models

CBX6—Control Box

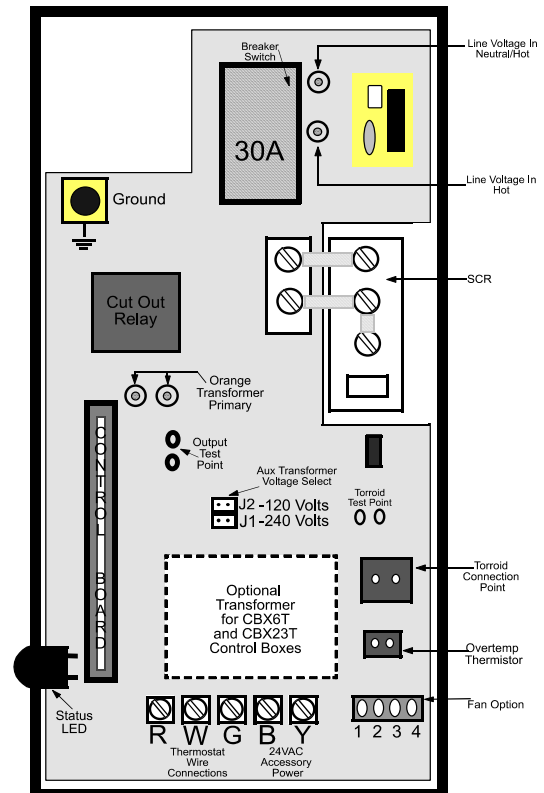
CBX6T—Control Box equipped with a 24 vac transformer to power an activation device if required.

CBX6F—Control Box equipped with a cooling fan.

CBX6TF—Control Box equipped with both a 24 VAC transformer and a cooling fan.

## Requirements

- One Rough-In Kit: RIKIT50, RIKIT100, RIKIT150, or RIKIT200
- One Element Kit:
  - Tuff Cable Element Kit: CABKIT100, CABKIT200, CABKIT300, CABKIT400, CABKIT500, CABKIT600, CABKIT700, or CABKIT800.
  - Z Mesh Element Kit, 12": SCRKIT50, SCRKIT75, SCRKIT100, SCRKIT150, SCRKIT200, SCRKIT250, SCRKIT300, or SCRKIT350.
  - Z Mesh Element Kit, 9": SCRKIT50-9, SCRKIT100-9, or SCRKIT250-9.
- One Transformer:
  - S050-1/2kVA, S101-1kVA, S102-2kVA, S103-3kVA, S104-4kVA, S105-5kVA, or S106-6kVA for CBX6, CBX6T, CBX6F, or CBX6TF Control Boxes.
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## CONTROL BOXES

# CBX23 CONTROL BOX

### Description

The Control Box houses the appropriate sized step-down transformer, and the other electronic components necessary to provide low-voltage electricity to the heating element. The Control Box continually monitors the system's operation, and is self-testing and problem diagnosing. It is engineered to provide simple and problem free operation.

The Control Box is 17" wide, 12" high, and 8" deep.



### Uses

One Control Box can energize two areas, or multiple areas that have been "jumped" (connected in series) together on the same system.



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## Available Models

CBX23—Control Box

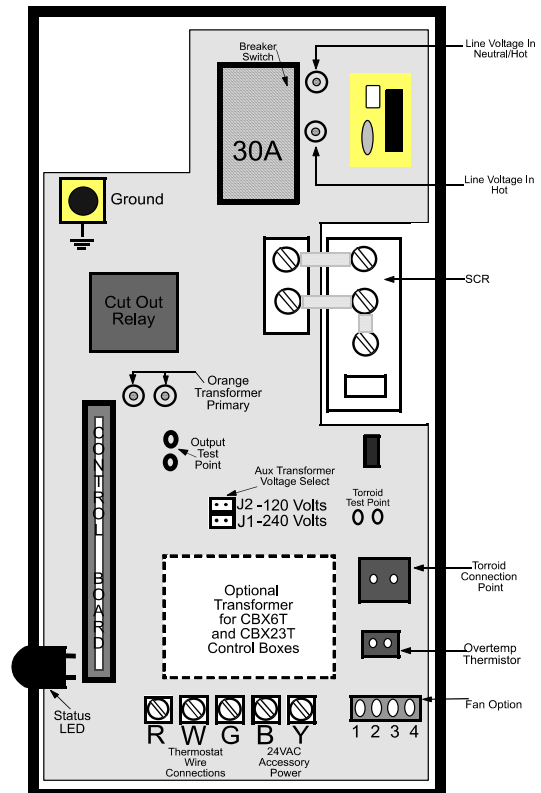
CBX23T—Control Box equipped with a 24 vac transformer to power an activation device if required.

CBX23F—Control Box equipped with a cooling fan.

CBX23TF—Control Box equipped with both a 24 VAC transformer and a cooling fan.

## Requirements

- One Rough-In Kit: RIKIT50, RIKIT100, RIKIT150, or RIKIT200
- Two Element Kits:
  - Tuff Cable Element Kit: CABKIT100, CABKIT200, CABKIT300, CABKIT400, CABKIT500, CABKIT600, CABKIT700, or CABKIT800.
  - Z Mesh Element Kit, 12": SCRKIT50, SCRKIT75, SCRKIT100, SCRKIT150, SCRKIT200, SCRKIT250, SCRKIT300, or SCRKIT350.
  - Z Mesh Element Kit, 9": SCRKIT50-9, SCRKIT100-9, or SCRKIT250-9.
- One Transformer:
  - S202-2X2kVA, or S203-2X3kVA for CBX23, CBX23T, CBX23F and CBX23TF Control Boxes.
- One of the many activation devices offered by Heatizon Systems and designed to satisfy your specific needs.



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## CONTROL BOXES

# SLC 500 CONTROL BOX

### Description

The SLC 500 houses the appropriate sized step-down transformer, and the other electronic components necessary to provide low-voltage electricity to the heating element. The SLC 500 continually monitors the system's operation, and is self-testing and problem diagnosing. It is engineered to provide simple and problem free operation.

The SLC 500 is 12.25" wide, 12.25" high, and 6" deep.

### Uses

One SLC 500 can energize one area, or can energize multiple areas that have been "jumped" (connected in series) together on the same system.

### Available Models

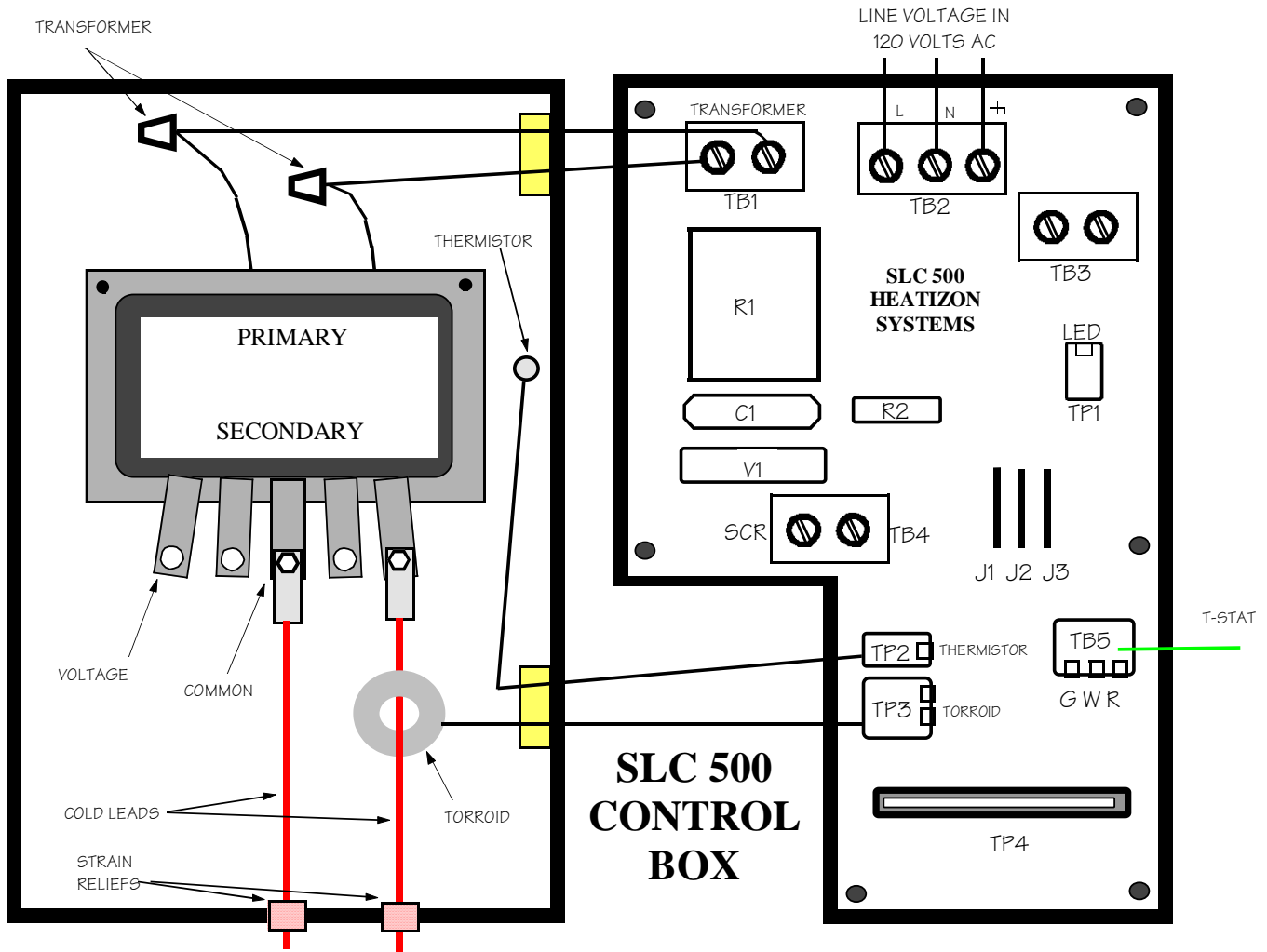
SLC500—Control Box



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## Requirements

- Does not require Rough-In Kit
- One Element Kit:
  - Tuff Cable Element Kit: CABKIT100 or CABKIT200.
  - Z Mesh Element Kit, 12": SCRKIT50, SCRKIT75, or SCRKIT100.
  - Z Mesh Element Kit, 9": SCRKIT50-9 or SCRKIT100-9.
- One Transformer:
  - S050-1/2kVA, or S101-1kVA Transformer.
- One of the many activation devices offered by Heatizon Systems and designed to satisfy your specific needs.

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## TRANSFORMERS

### Description

Heatizon Systems Transformers come in a variety of sizes, ranging from ½kVA to 6kVA. Transformers S050, S101, S102, S103, S202 and S203 may be matched with a **Z Mesh Screen Element**, and Transformers S050, S101, S102, S103, S104, S105, S106, S202 and S203 may be matched with **Tuff Cable Element**.

Heatizon Systems Transformers are made of the materials necessary to ensure years of trouble free operation and designed to be compatible with all other Heatizon Systems components.

### Uses

Provides the low-voltage power required to energize Z Mesh or Tuff Cable heating elements.

Transformer, 1kVA



Transformer, 2X2kVA



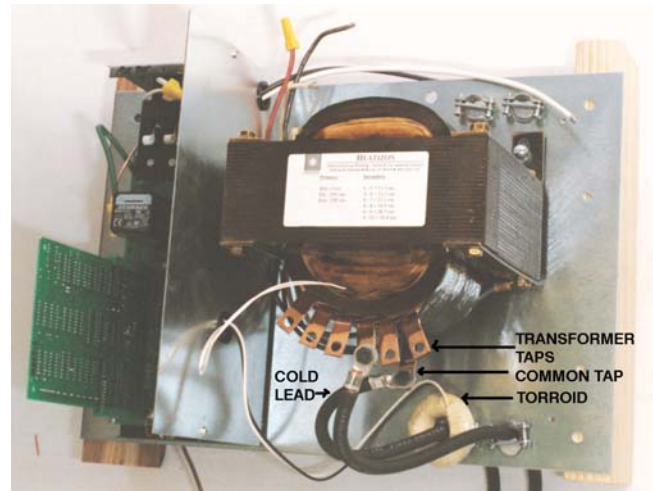
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## Available Sizes

- S050 1/2kVA Transformer
- S101 1kVA Transformer
- S102 2kVA Transformer
- S103 3kVA Transformer
- S104 4kVA Transformer
- S105 5kVA Transformer
- S106 6kVA Transformer
- S202 2X2kVA Transformer
- S203 2X3kVA Transformer



## Requirements

- One Rough-In Kit: RIKIT50, RIKIT100, RIKIT150, or RIKIT200.
- One Control Box: CBX6, CBX6T, CBX6F, CBX6TF, CBX23, CBX23T, CBX23F, or CBX23TF.
- One Element Kit:
  - Tuff Cable Element Kit: CABKIT100, CABKIT200, CABKIT300, CABKIT400, CABKIT500, CABKIT600, CABKIT700, or CABKIT800.
  - Z Mesh Element Kit, 12": SCRKIT50, SCRKIT75, SCRKIT100, SCRKIT150, SCRKIT200, SCRKIT250, SCRKIT300, or SCRKIT350.
  - Z Mesh Element Kit, 9": SCRKIT50-9, SCRKIT100-9, or SCRKIT250-9.
- One of the many activation devices offered by Heatizon Systems and designed to satisfy your specific needs.

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## FLOORIZWARM AC MODEL

### Description

Heatizon Systems presents its Floorizwarm AC Models as a solution for floor warming and space heating needs in areas 110 square feet and smaller. Floorizwarm systems are designed to deliver 7.5 to 15 watts per square foot and cover 15 to 110 square feet of floor area.



Each Floorizwarm AC model comes complete with the following materials:

- One Power Unit (12" x 10" x 6") -- requires 120 volts AC with 20 amp breaker
- One Programmable Thermostat with many programming options to fit your life style – requires 120 volts AC
- Cable Heating Element
- Cold Lead - 20'
- Hardware and Installation Manual

### Uses

All Floorizwarm AC Models warm cold floor surfaces and heat those spaces where the capabilities of the system can meet the heat loss calculation requirements. Floorizwarm has been designed to provide ease of installation and deliver years of trouble free service once installed correctly. Use the form on the back to properly select the Floorizwarm AC Model that will best suit your needs.

### Available Sizes

- FLZ1520AC – Floorizwarm 15 to 20 feet
- FLZ2030AC – Floorizwarm 20 to 30 feet
- FLZ2536AC – Floorizwarm 25 to 36 feet
- FLZ3650AC – Floorizwarm 36 to 50 feet
- FLZ5064AC – Floorizwarm 50 to 64 feet
- FLZ6475AC – Floorizwarm 64 to 75 feet
- FLZ75110AC – Floorizwarm 75 to 110 feet

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To select the  
Floorizwarm AC  
Model that will best  
suit your needs,  
simply follow these  
five steps:

# FLOORIZWARM AC MODEL

15-110 Square Feet

**Step 1: Calculate Square Footage.** Determine the square footage of the area to be warmed or snow melted. Enter the total square footage on line A.

Line A \_\_\_\_\_  
(Square Footage)

**Step 2: Determine Watts Per Square Foot.** Determine the watts per square foot that you will need for your application. Note: Heatizon Systems suggests the following watts per square foot:

*Floor-warming* — 7.5 to 15 watts per square foot.

*Space heating*— watts per square foot and spacing between element runs should be determined by a heat loss calculation.

*Snow-melting* — 18 watts per square foot or greater.

Enter the desired total watts per square foot on Line B.

Line B \_\_\_\_\_  
(Watts Per Square Ft.)

**Step 3: Calculate Total Watts.** Calculate Total Watts by multiplying Line A by Line B and enter the result on Line C.

Line C \_\_\_\_\_  
(Total Watts)

**Step 4: Select the Correct Floorizwarm Model.** Select the Floorizwarm unit that will deliver the total watts calculated in Step 3. Heatizon Systems recommends that you select the next larger Floorizwarm AC Model if the total watts calculated in Step 3 is between two models. Check the model number and write the corresponding “Length of Element” on Line D.

Floorizwarm Model	Total Watts	Length of Element
<input type="checkbox"/> Floorizwarm AC 15-20	228	50 feet
<input type="checkbox"/> Floorizwarm AC 20-30	324	80 feet
<input type="checkbox"/> Floorizwarm AC 25-36	360	70 feet
<input type="checkbox"/> Floorizwarm AC 36-50	528	160 feet
<input type="checkbox"/> Floorizwarm AC 50-64	688	125 feet
<input type="checkbox"/> Floorizwarm AC 64-75	980	260 feet
<input type="checkbox"/> Floorizwarm AC 75-110	1204	225 feet

Line D \_\_\_\_\_  
(Length of Element)

**Step 5: Calculate Element Spacing.** Calculate the amount of space between the runs of element for your application for the Floorizwarm AC Model you have chosen: (Note: spacing between element runs should not exceed 6 inches.)

$$\frac{\text{Square Footage from Line A Above}}{\text{Length of Element from Line D Above}} \times 12 = \text{Element Spacing Enter on Line E}$$

Line E \_\_\_\_\_ inches  
(Element Spacing)

Congratulations! You have chosen the finest floor-warming and snowmelting product available. Remember, please read the installation instructions completely before you begin installation.

Call (801) 293-1232 or (888) 239-1232 to order the Floorizwarm AC Model number checked above.



**HEATIZON**  
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## ACTIVATION DEVICES / CONTROLLERS

### M315H Thermostat - White

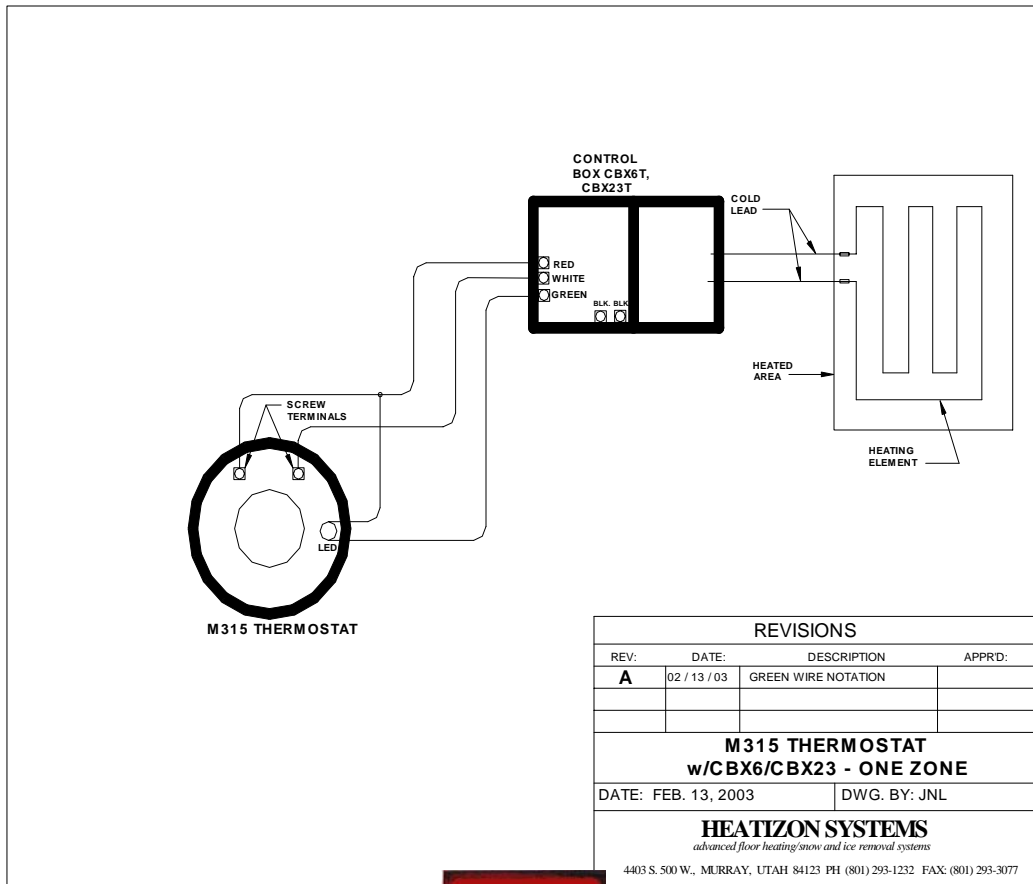


**Features:**

- Dial temperature setting
- Has LED indicator light
- Range 48EF to 85EF
- No power required

**Applications:**

- Space Heating



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# ACTIVATION DEVICES / CONTROLLERS

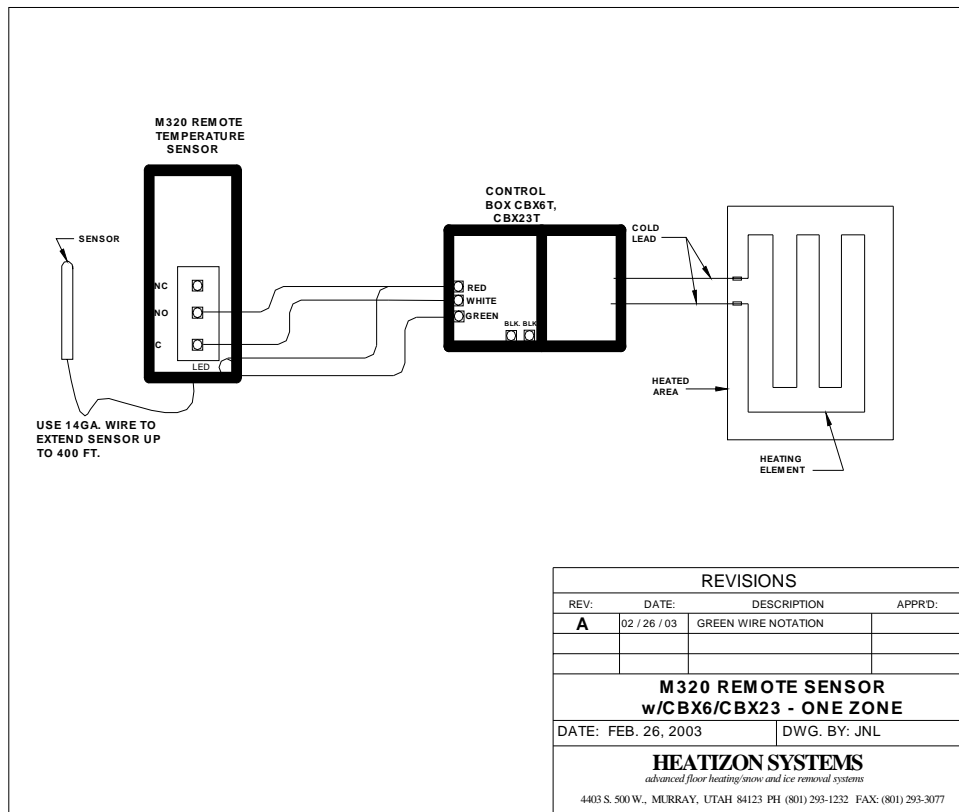
## M320 Remote Bulb Sensor

### Features:

- In floor bulb sensor with 8' long capillary
- Temperature adjust range -30E F to 100EF
- Adjustable differential
- No external power required

### Applications:

- Floor warming
- Snow melting
- Roof de-icing



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ACTIVATION DEVICES / CONTROLLERS

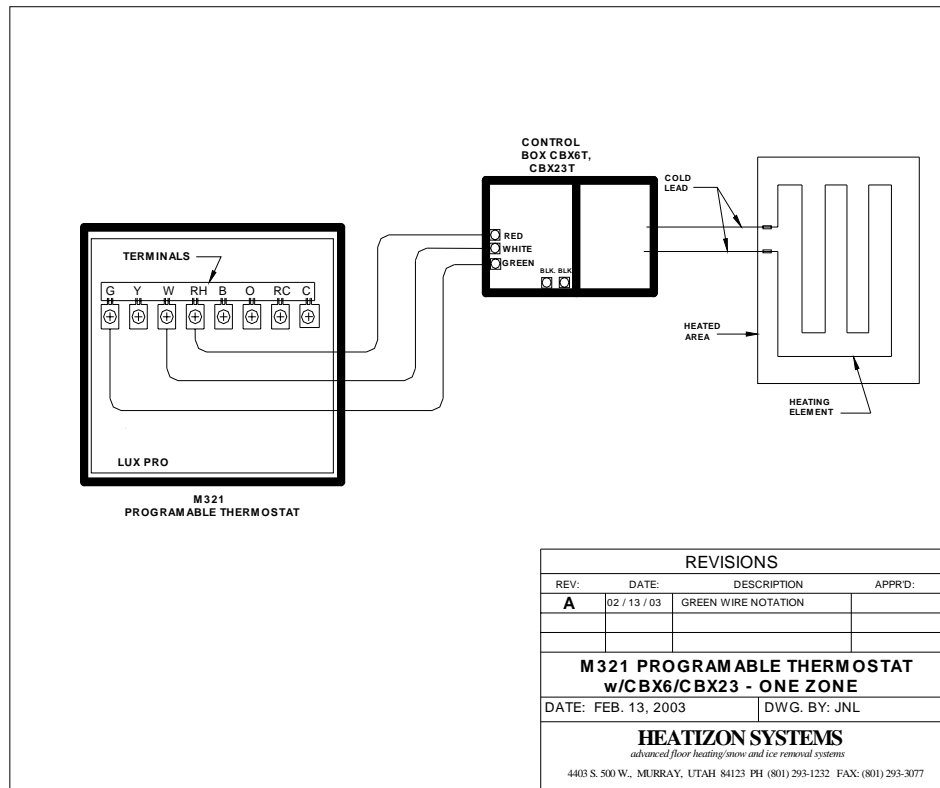
# M321 Programmable Thermostat

**Features:**

- LCD display
- Has LED indicator light
- Four programmable periods per day
- Separate programs for weekdays and weekends
- Battery powered

**Applications:**

- Space Heating
- Floor Warming



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ACTIVATION DEVICES / CONTROLLERS

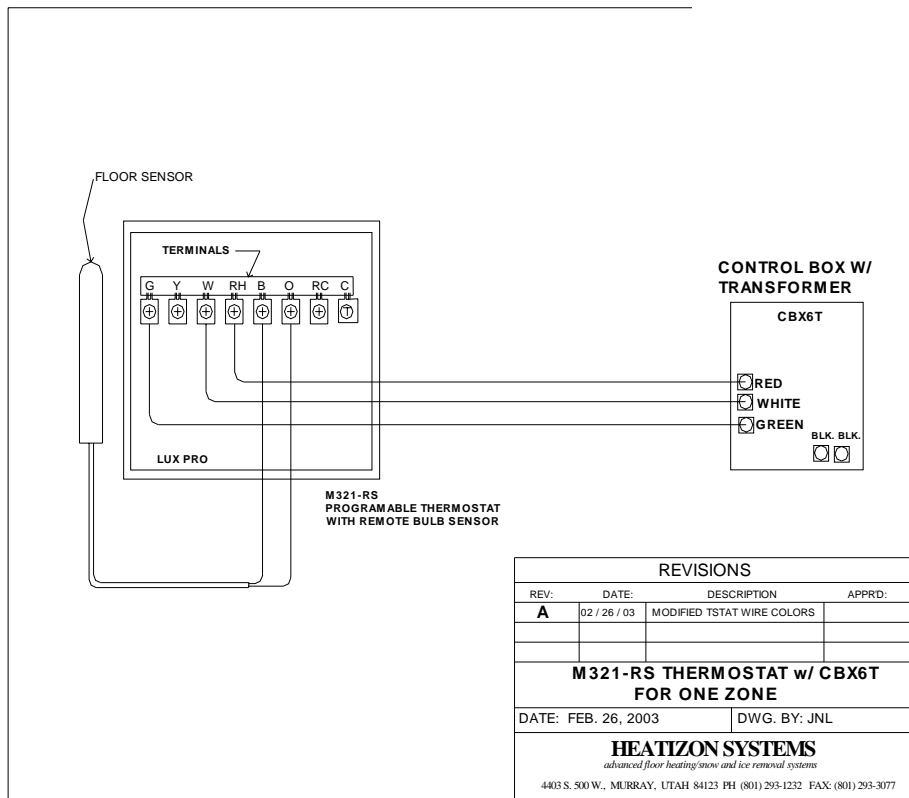
# M321RS Programmable Thermostat With Remote Sensor

**Features:**

- LCD display
- Four programmable periods per day
- Separate programs for weekdays and weekends
- Battery powered
- Comes with remote bulb sensor and 10' of cable

**Applications:**

- Space Heating
- Floor Warming



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**HEATIZON**  
SYSTEMS

## ACTIVATION DEVICES / CONTROLLERS

### M322

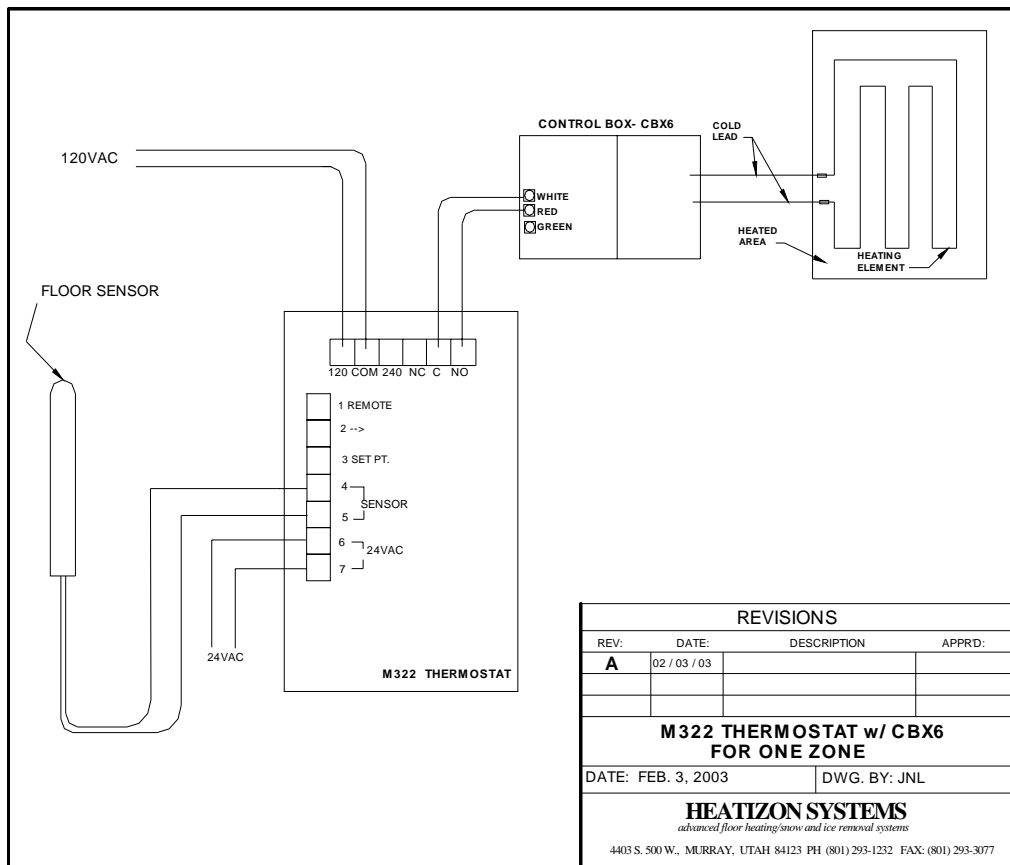
# Remote Temperature Controller

#### Features:

- Electronic floor temperature control
- Remote set-point capability
- Sensor lead lengths up to 1,000 feet
- Requires 120 VAC or 240 VAC to operate

#### Applications:

- Floor warming
- Snow melting
- Roof de-icing



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## ACTIVATION DEVICES / CONTROLLERS

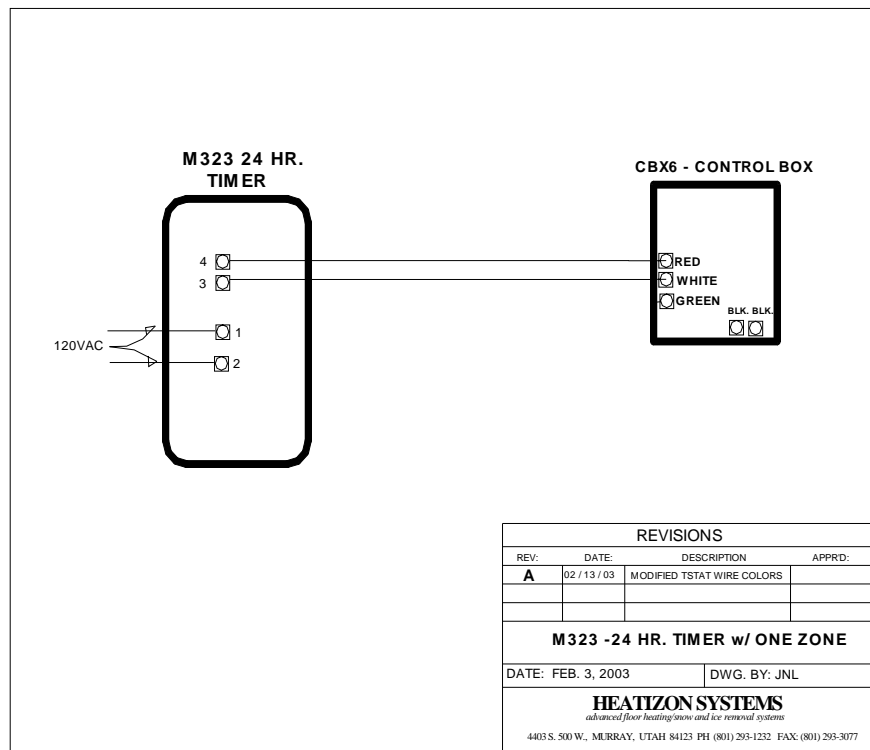
# M323 Timer - 24 Hour Programmable

### Features:

- Electronic 24-hour programmable period
- Eight set points (4 on/4off)
- Schedule repeats daily
- Manual override

### Applications:

- Floor warming
- Snow melting
- Roof de-icing



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ACTIVATION DEVICES / CONTROLLERS

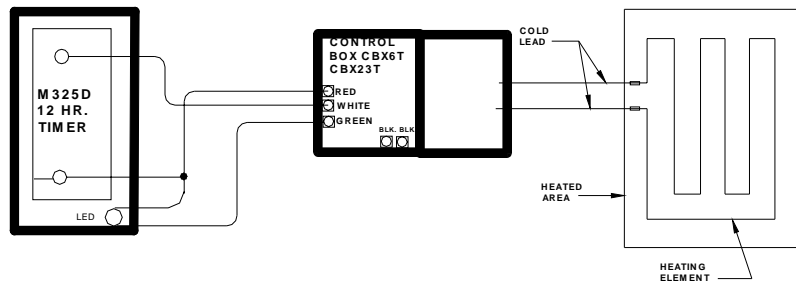
**M325D**  
**Timer - 12 Hour With LED**

**Features:**

- Operation of system from 0 to 12 hours
- Has LED indicator light
- Has "Hold" position
- No power required

**Applications:**

- Snow melting
- Roof de-icing
- Floor warming



REVISIONS			
REV:	DATE:	DESCRIPTION	APPRD:
<b>A</b>	02 / 13 / 03	GREEN WIRE NOTATION	
<b>M 3 2 5 D T I M E R w / C B X 6 / C B X 2 3</b>			
<b>- O N E Z O N E</b>			
DATE: FEB. 3, 2003		DWG. BY: JNL	
<b>HEATIZON SYSTEMS</b>			
<small>advanced floor heating/snow and ice removal systems</small>			
<small>4403 S. 500 W., MURRAY, UTAH 84123 PH (801) 293-1232 FAX: (801) 293-3077</small>			

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## ACTIVATION DEVICES / CONTROLLERS

# M326, M326-5 Aerial Snow Switch

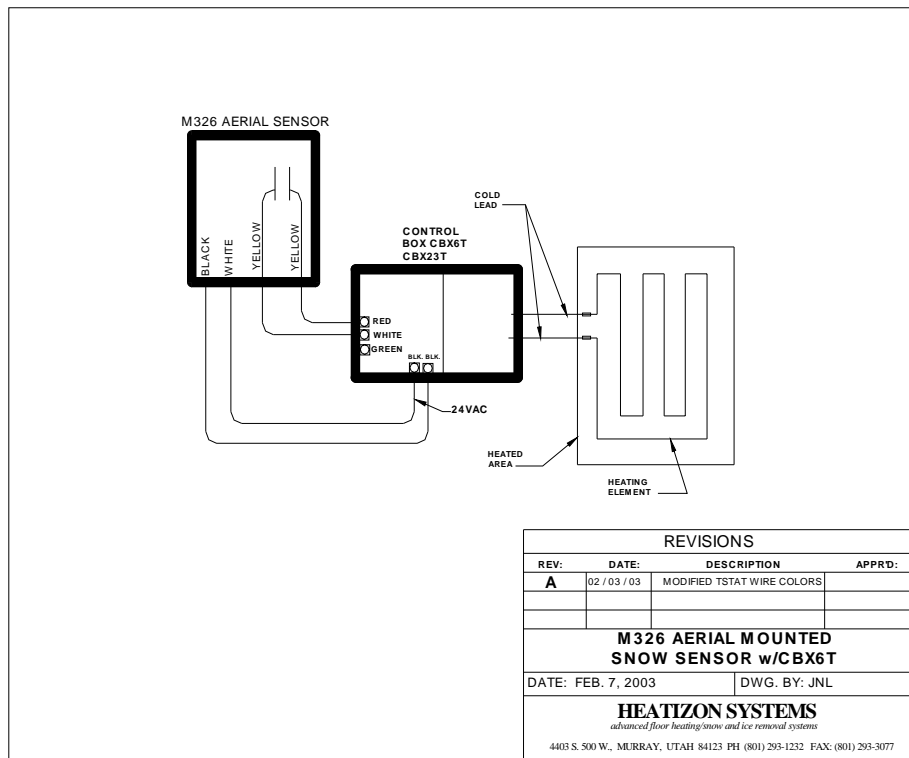


### Features:

- Activates system when moisture is detected and ambient temperature is below 38E
- Leaves system on for 1 to 5 hours (depending on model selected) after moisture is no longer detected
- Requires 24 VAC from CBX6T, CBX6TF, CBX23T, CBX23TF, or M329

### Applications:

- Snow melting
- Roof de-icing



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## ACTIVATION DEVICES / CONTROLLERS

# M329 Selector Box

### Features:

- For use with any activation device
- Will control up to 12 Control Boxes
- Manual/Off/Auto toggle switches
- 120VAC power required
- LED indicator light for each Control Box

### Applications:

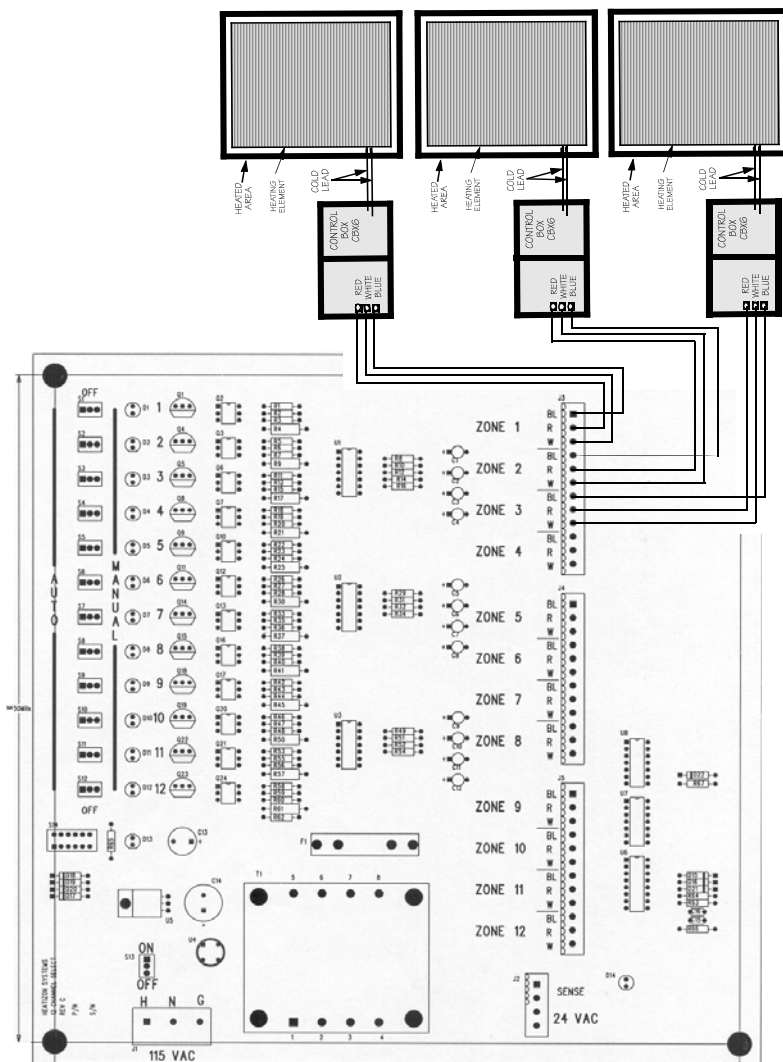
- Floor warming
- Space Heating
- Roof de-icing
- Snow melting



M329 Control Board



M329 Exterior



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## ACTIVATION DEVICES / CONTROLLERS

# M331 Pavement Mounted Snow Switch

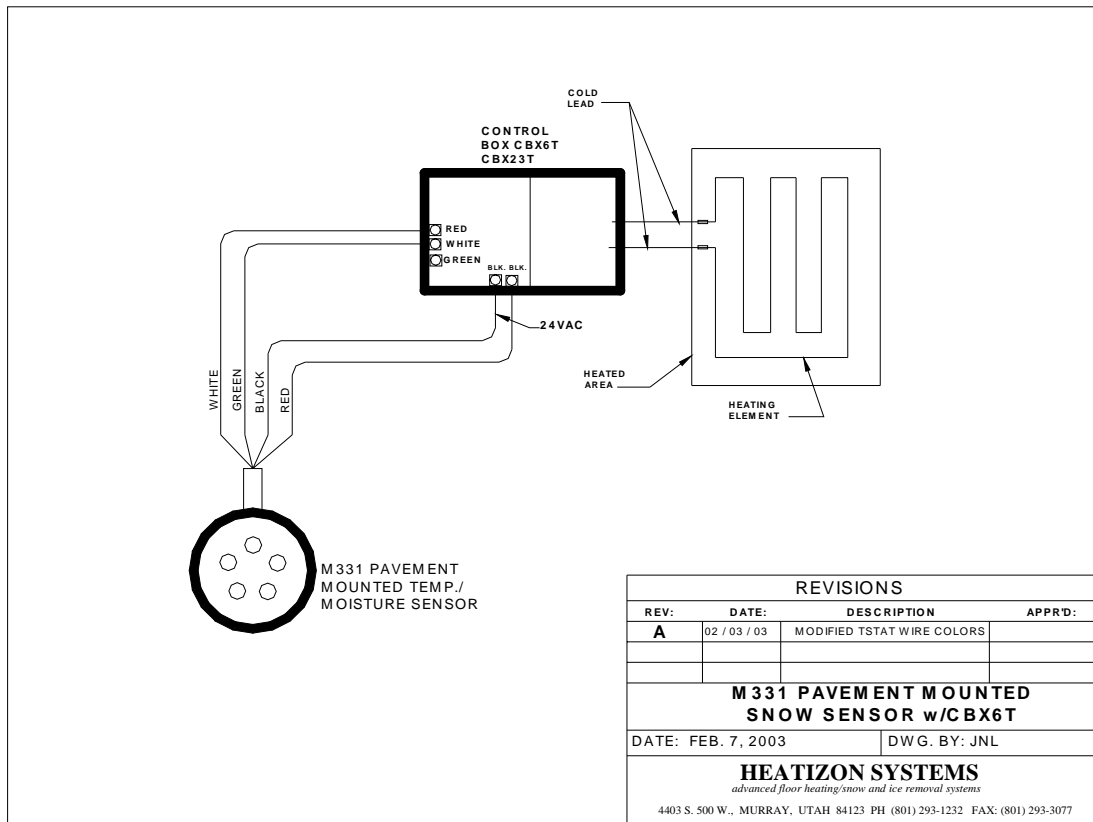
### Features:

- Activates system when moisture is present on slab and slab temperature is below 38°F
- System stays on for 6 hours after moisture is no longer detected
- Requires 24VAC from CBX6T, CBX6TF, CBX23T, CBX23TF, or M329



### Applications:

- Snow melting



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ACTIVATION DEVICES / CONTROLLERS

**M332**  
**Gutter Controller**

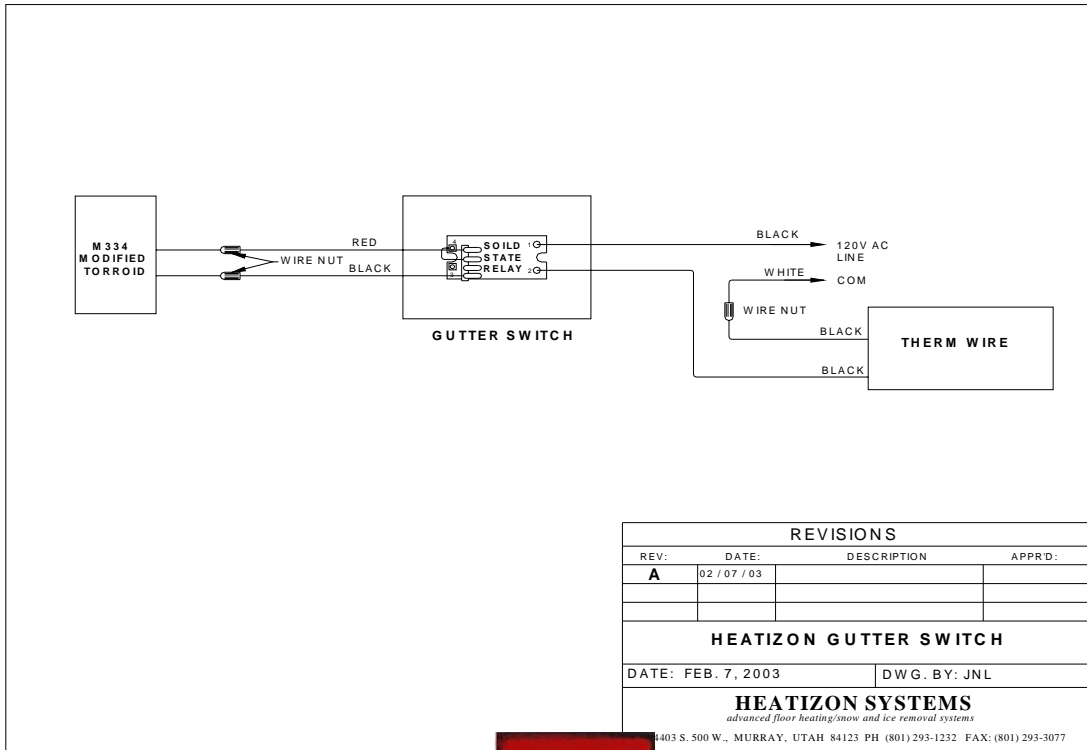
**Features:**

- Allows gutter and downspout cables to be turned on and off at the same time as your Heatizon Control Box
- Designed to fit over a standard electrical outlet box
- Avoids the expense of duplicating activators
- Eliminates human error from roof de-icing



**Applications:**

- Roof de-icing
- Snow melting



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## ACTIVATION DEVICES / CONTROLLERS

# M335 Snow Switch - Gutter

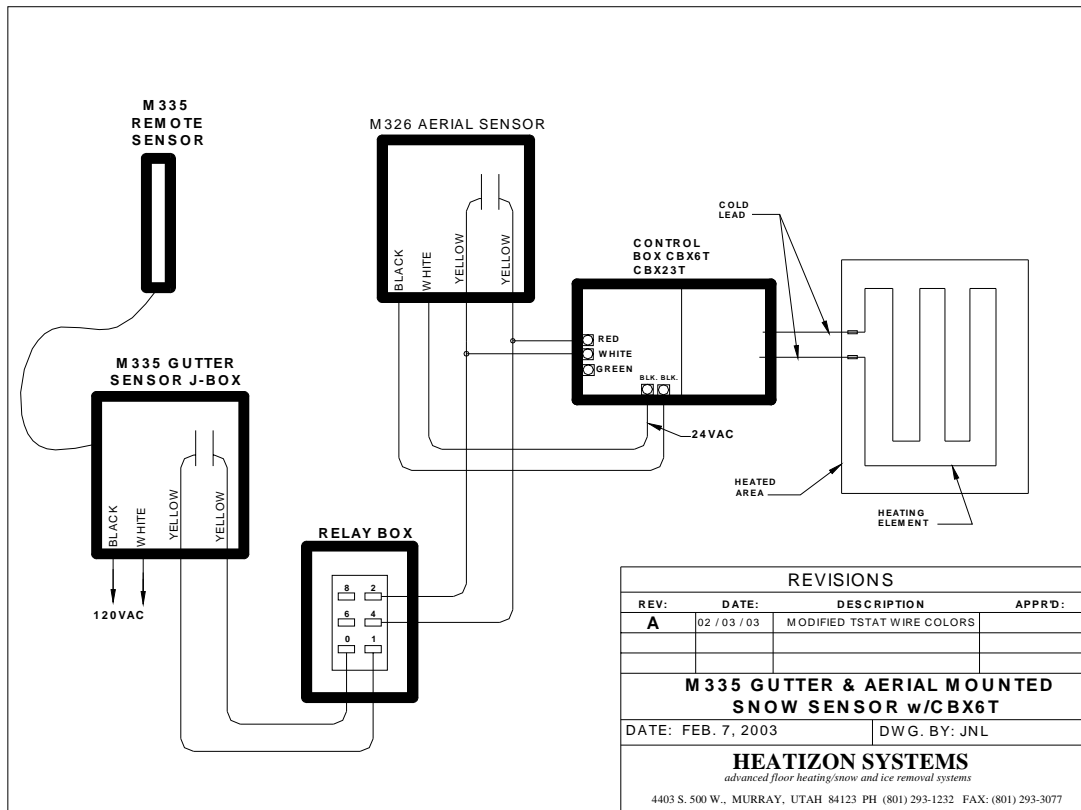
### Features:

- Automatic gutter ice melting control
- Senses moisture and temperature
- Activates system when moisture is detected and the temperature is below 38°F
- Requires 120 VAC, 208/240 VAC or 277 VAC to operate



### Applications:

- Gutter de-icing
- Roof de-icing



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## ACTIVATION DEVICES / CONTROLLERS

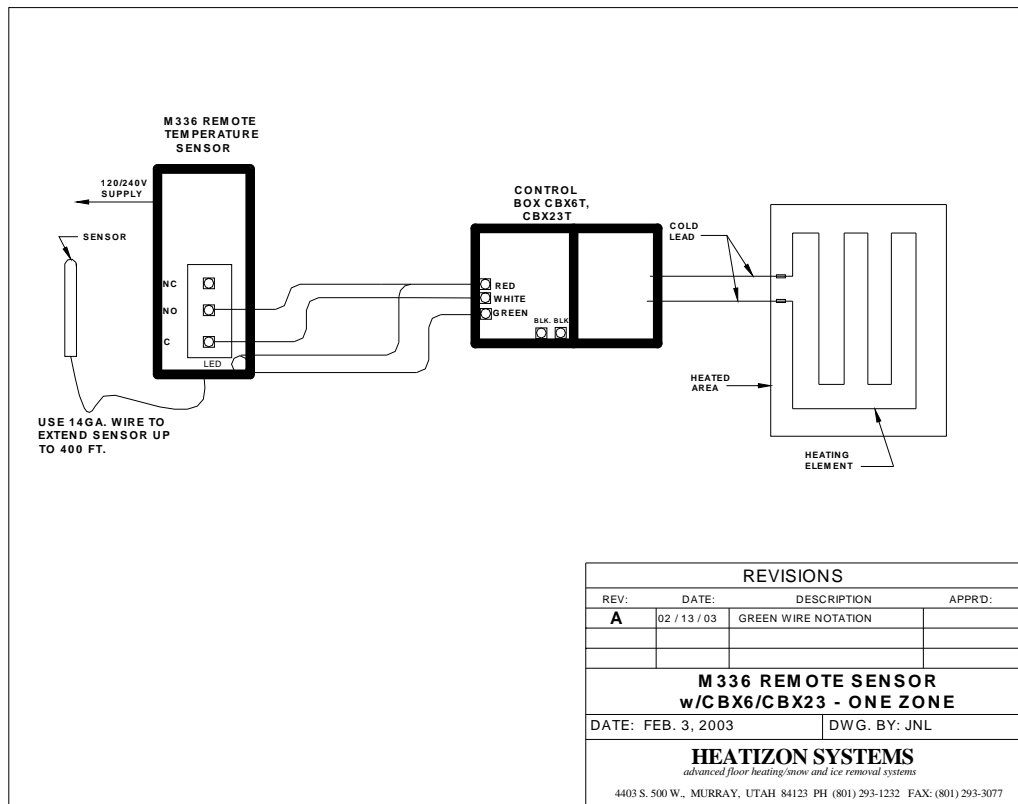
# M336 Electronic Temperature Control

### Features:

- Liquid crystal display produces constant readout
- Touch keypad
- Wide set point temperature range (-30EF to 220EF)
- Differential adjustment (1EF to 30EF)
- Remote temperature sensing up to 400 feet
- Power requirements 120VAC

### Applications:

- Snow melting
- Roof De-icing
- Floor warming



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# M337 Programmable Thermostat With Remote Bulb Sensor

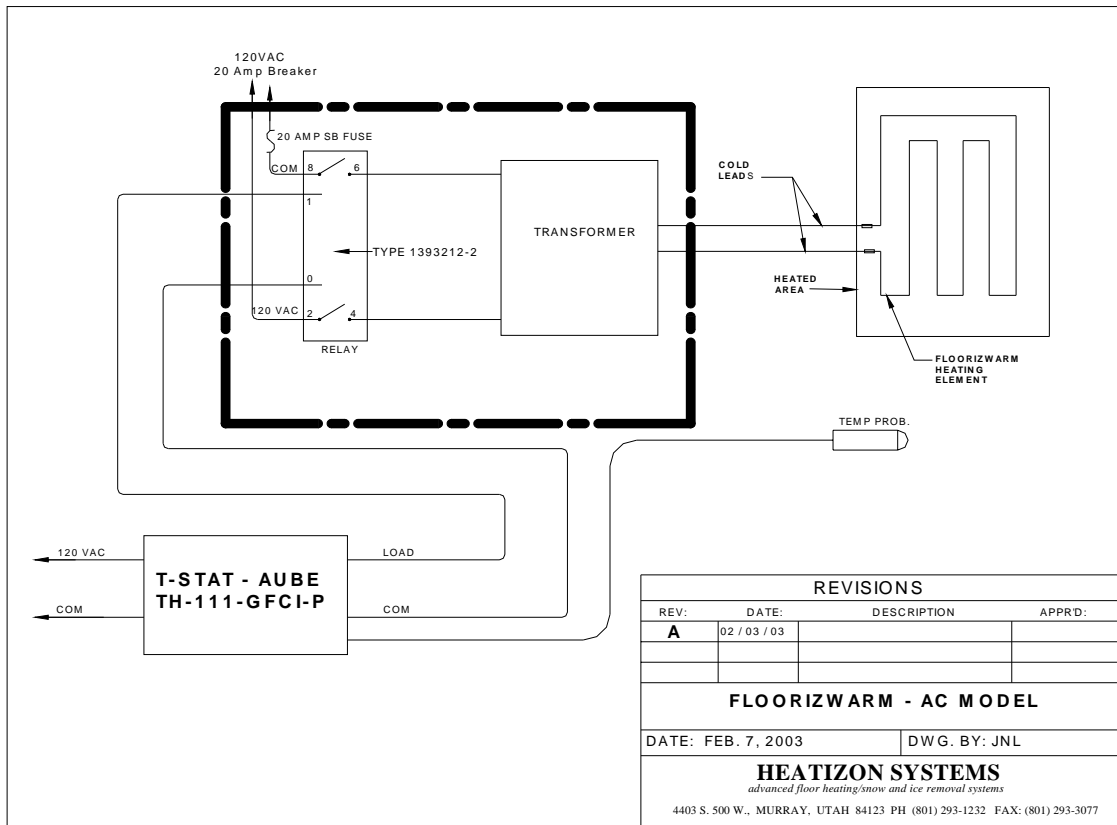
**Features:**

- Digital readout
- Auto mode shows temperature settings
- Manual mode maintains selected temperature
- 120VAC power required
- Comes with remote bulb sensor and 15' of cable



**Applications:**

- Floor warming
- Space Heating



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## HEATIZON SYSTEMS ALARM

### Description

Heatizon Systems Alarm is used to check for continuity between Heatizon Systems Cold Leads and Tuff Cable heating element or ZMesh heating element and any other electrically conductive material. Examples of electrically conductive material include, but are not limited to, metal drip edge, metal roof, or metal roofing, valley metal, metal reinforcement mesh used in concrete, metal lath used under tile and stone, metal door thresholds, etc.



### Uses

A continuity check should be conducted on the Cold Leads and Tuff Cable or ZMesh:

- During installation of the element
- Prior to and during the pouring of concrete or the attachment and installation of floor coverings or roofing materials
- Prior to energizing all Heatizon System products

The Heatizon Systems Alarm has a buzzer that will sound to warn whenever there is continuity between both leads of the Alarm.

Always test the Alarm before each use and as necessary once use has commenced. Test the Alarm by touching the two clip-ended leads from the Alarm to one another; the Alarm should sound if it is operating correctly. In the event the Heatizon Systems Alarm does not sound when the clip-ended leads from the Alarm are touched together, replace the battery. After replacing the battery, if the Alarm still does not sound when the two clip-ended leads are touched together, return the entire Heatizon Systems Alarm to Heatizon Systems, 4403 South 500 West, Murray, Utah 84123 for repair.

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## HEATIZON SYSTEMS ELEMENT TESTER (NI-113)

### Description

Heatizon Systems Element Tester is designed to help insure that the secondary voltage and amperage across the Cold Leads and Tuff Cable heating element or Colds Leads and Z Mesh heating element or the Floorizwarm heating element remains the same as they were immediately following installation. Conducting tests on the Cold Leads and Tuff Cable, Z Mesh, or Floorizwarm heating element will help insure that a third party or an unknown event has not adversely impacted or otherwise compromised the Cold Lead or heating element.



### Uses

The Element Tester should be used to record the voltage and amperage across the Cold Leads and Tuff Cable, Z Mesh, or Floorizwarm heating elements:

- Immediately after the Cold Lead and Tuff Cable, Z Mesh, or Floorizwarm heating element has been installed
- Immediately following the covering of the heating element and prior to installing the Control Box
- Immediately following the energizing of the system

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## MISCELLANEOUS KITS

- ENCLKIT**      **Enclosure Kit**, 2' x 2' x 1' –Weatherproof NEMA enclosure comes complete with a back plate customized to mount Heatizon Systems Control Units and Transformers.
- JSTSCRKIT**      **Joist Screen Kit** –Includes joist spacers and screws used to attach Z Mesh element to the underside of a sub-floor for retrofit Z Mesh applications. Available sizes: 100 feet, 250 feet, and 350 feet.
- CLDJNTKIT**      **Joint Jumper Kit** – For jumpering under joints of any kind. Tuff Cable must never be allowed to extend through any joint. Kit contains four E210BS butt splices, two feet of E210 Cold Lead, solder, four 6" heat shrink lengths, two lengths protective flex device, and four 2" sleeves.
- CABSPLKIT**      **Tuff Cable Splice Kit** – For splicing or repairing Tuff Cable that has been damaged or cut. Note: use a CABREPKIT when the break occurs within concrete or asphalt.
- CABREPKIT**      **Tuff Cable Repair Kit** – For splicing or repairing Tuff Cable breaks in concrete or asphalt. Kit contains two #10 Butt Splice Connectors, one foot of solder, two 2-1/2" heat shrink lengths, two 4" lengths of copper tubing, two feet of Tuff Cable, four foam end plugs, and two 1 ½" chairs.
- PLASCLIPKIT**      **Plastic Clip Kit** – For securing Tuff Cable in mortar bed. Kit will secure 100 feet of element.
- ANCHPLUGKIT**      **Tuff Cable Anchoring Plug Kit** – For securing Tuff Cable in a mortar bed when placed on concrete. Includes 70 Tuff Cable Anchoring Plugs.
- PAVERKIT**      **Paver Kit** – For securing Tuff Cable in a sand bed under pavers. Includes 50 7" wire ties and 50 3/8" x 10" spikes. Kit will secure 100 feet of element.
- CUTOUTKIT**      **Z Mesh Cut Out Kit** – Must be used any time Z Mesh is cut to accommodate an object. Includes two 12" splice plates and solder.

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## TUFF CABLE HEATSINK KITS

### CABSINKKIT Complete Tuff Cable Heatsink Kit

- 1 1" X 60" X 1/4" Heatsink Starting Strip
- 5 6" X 60" X 1/4" Heatsink Middle Strips
- 1 3" X 60" X 1/4" Heatsink Ending Strip
- 1 3" X 35.5" X 1/4" Heatsink Return Cap
- 1 3" X 29 3/4" X 1/4" Tuff Cable Origination Cap
- 1 3" X 2 7/8" X 1/4" Heatsink Large End Cap
- 1 3" X 7/8" X 1/4" Heatsink Small End Cap
- 6 1 1/2" X 60" Tuff Cable Protector
- 2 1 1/2" X 35 1/2" Tuff Cable End Protector
- 1 One Gallon (U.S) Premixed Thinset Mortar
- 60 7/8" Wood Screws
- 1 2 1/2" Putty Knife

**Note:** Always allow for the space for one 3" X 35 1/2" X 1/4" Heatsink Return Caps plus a 1/4" gap and one 3" x 29 3/4" x 1/4" Tuff Cable Origination Cap plus 1/4" for each Heatizon Tuff Cable System (see Illustration 2.25). Also, do not forget to always leave a 1/4" gap for the Tuff Cable between all Heatsink Strips.

### CABCENKIT Tuff Cable Heatsink Center Kit

- 1 1" X 60" X 1/4" Heatsink Starting Strip
- 5 6" X 60" X 1/4" Heatsink Middle Strips
- 1 3" X 60" X 1/4" Heatsink Ending Strip
- 1 One Gallon (U.S) Premixed Thinset Mortar
- 60 7/8" Wood Screws
- 1 2 1/2" Putty Knife

### CABO/EKIT Tuff Cable Heatsink Origination/End Kit

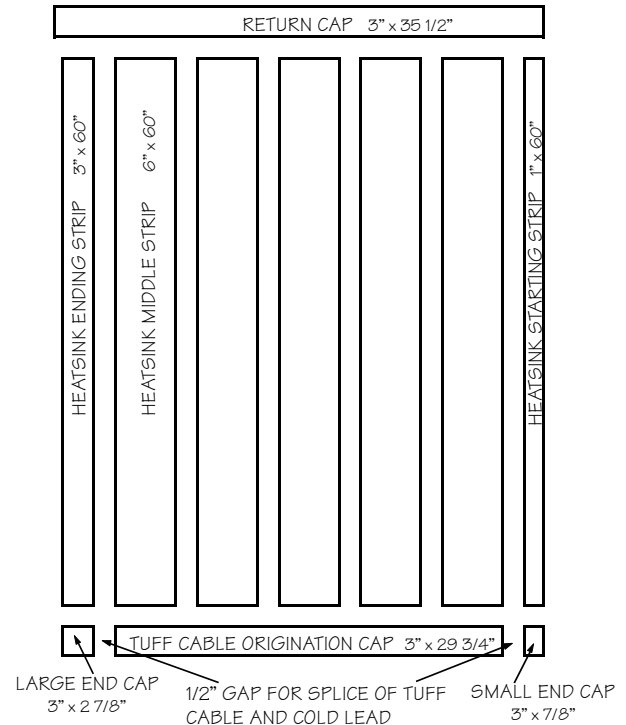
- 1 3" X 35.5" X 1/4" Heatsink Return Cap
- 1 3" X 29 3/4" X 1/4" Tuff Cable Origination Cap
- 1 3" X 2 7/8" X 1/4" Heatsink Large End Cap
- 1 3" X 7/8" X 1/4" Heatsink Small End Cap

### CABCENPROKIT Tuff Cable Heatsink Center Protector Kit

- 6 1 1/2" X 60" Tuff Cable Protector

### CABO/EPROKIT Tuff Cable Heatsink Origination/End Protector Kit

- 2 1 1/2" X 35 1/2" Tuff Cable End Protector



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## INSTALLATION TOOLS AND SUPPLIES

### Z Mesh and Tuff Cable Installation Supplies

NI-129	Solder, 40/60 rosin; Approximately 3 feet
NI-131	Z Mesh Staples, 5000 count
NI-130	Z Mesh Stapler
NI-140	Tuff Cable RB 59ES Clips, 400 count
NI-141	Tuff Cable RB -5 Clip Gun

### Tuff Cable New Pour Concrete Supplies

NI-117	Insulation - Concrete Barrier Foil, 500 square feet
NI-118	Insulation - Rigid 4' x 8' x 1" foam sheet
NI-119	Insulation - Slab Shield, 252 square feet
NI-112	Dobies - pkg. of 96
NI-136	Wire Ties, 8" - pkg. of 100
NI-120	Remesh, 4" x 4" 4ga. - 140 square feet
NI-121	Remesh 6" x 6" 4ga. - 140 square feet
NI-122	Remesh 6" x 6" 6ga. - 140 square feet
NI-103	3M33 Tape, 66' roll
NI-125	Remesh Cutters, 24"

### Tuff Cable Retrofit Supplies

NI-104	Acrylic Paint, Clear - 12 oz can
NI-105	Chalk String, 100' in steel case
NI-106	Chalk String, 100' in plastic case
NI-107	Chalk String, 100' replacement string
NI-108	Chalk, red - 2.5 lbs.
NI-109	Chalk, red - 8 oz
NI-127	Sikaflex Caulking - 10.5 oz tube
NI-128	Sikaflex Caulking - 30 oz tube (fills approx. 50 feet)
NI-137	Backer Rod, 3/8" - 100 feet
NI-138	Concrete Sealant Gun for Sikaflex Cartridge
NI-139	DAP Blacktop Sealant, 8 Tubes (fills approx. 100 feet)

### Roofing Supplies

NI-133	EPDM, 100 square feet
NI-114	Ice and Water Shield, 200 square feet

### Rough-In Supplies

P4184	Rough-In Surface Box with Clips and Label for mounting Back Plate on concrete wall
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## TOOLS

- NI-110      Fluke 333, Clamp Meter
  
- NI-111      Crimper
  
- NI-113      Element Tester
  
- NI-115      Infrared Thermometer, Raytec MT2
  
- NI-116      Infrared Thermometer, Westward
  
- NI-126      Heatizon Alarm
  
- NI-134      Wire Caddy, Cobra # CHC
  
- NI-135      Wire Caddy, Greenlee #9502

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