



# STS & STT

By Heatrex

MADE IN THE  
USA  
SINCE 1967



# Discrete Radiant Heat

- 01 Research**
- 02 Heatrex Difference**
- 03 Suitable Locations For Use**
- 04 STS**
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- 07 What Do I Need?**

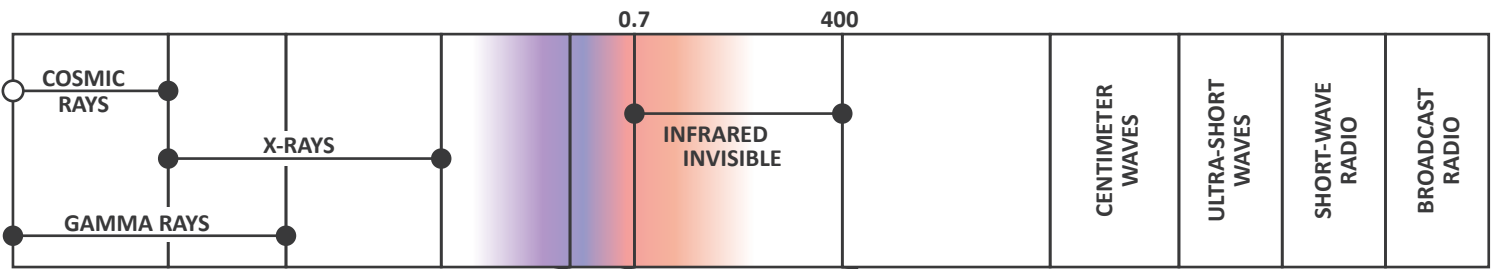
Heatrex has produced the best infrared heating element on the market. We manufacture elements perfectly suited for the comfort heat industry. Our tight wire construction, longevity, and selection separate us from the competition.

# RESEARCH SHOWS STS HEATERS PRODUCE IDEAL COMFORT HEAT

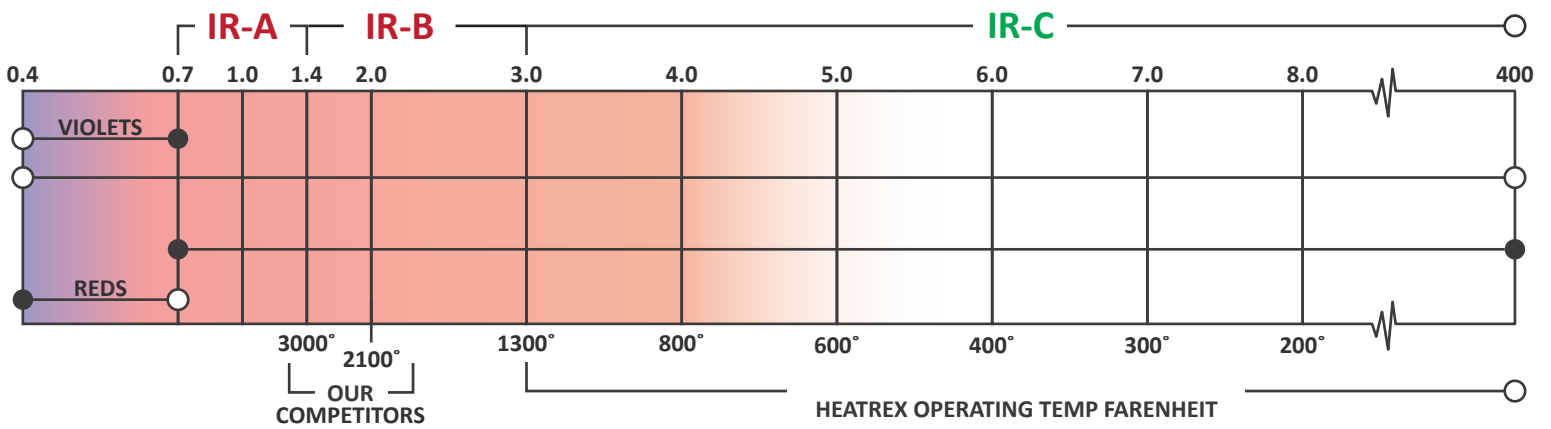
The infrared or IR waveband is often subdivided into three regions: IR-A (.7 - 1.4  $\mu\text{m}$ ), IR-B (1.4 - 3  $\mu\text{m}$ ), and IR-C (3 - 1000 $\mu\text{m}$ ). IR causes a heating effect when it strikes a surface, in the case of comfort heating this is normally the skin. However, not all IR is converted to heat. IR can be absorbed or reflected. In the comfort heating world, we want to fall into the absorption range as much as possible. Good absorption directly correlates to better comfort heat. Generally, the longer the IR wave, the more absorption will occur (IR-C) and the shorter the wave, the more IR is reflected off of the skin (IR-A & IR-B).

Heatrex heating elements fall right in the sweet spot of the IR waveband, IR-C. Nearly 100% of the waves that the STS and STT emits will be absorbed rather than reflected. Our competitors heating methods often land in the short-medium (IR-A and IR-B), which are ineffective for comfort heating applications. We're translating every penny you spend on energy into comfort heat rather than reflecting it around the room.

WAVELENGTH IN MICRONS



WAVELENGTH IN MICRONS



IR-A: SHORT WAVE



IR-B: MEDIUM WAVE



STS and STT OPERATES HERE  
IR-C: LONG WAVE





**MADE IN THE USA**

**Proudly manufactured  
and hand assembled  
in Missouri.**



**95% ENERGY EFFICIENT**

**Virtually all of the energy  
provided to the heater is  
converted into useful heat.**



**100% ELECTRIC**

**No flames or noxious gasses  
means STS and STT heaters  
are odor free and do not  
require ventilation.**



### **NO MOVING PARTS**

Nothing to break or wear out means the STS and STT is maintenance free.



### **NO REFLECTORS TO CLEAN**

No bulbs means no need for reflectors. Another reason STS and STT heaters require zero maintenance.



### **NO ORANGE GLOW**

Never worry about the eyesore of a glowing heater again. Every STS and STT has a clean, black face which does not give off any light, meaning it neatly blends into the background.



### **NO BULBS**

Save yourself money and frustration by never having to replace a bulb.

# SUITABLE LOCATIONS FOR USE

**Warehouses**

**Manufacturing Plants**

**Storage Facilities**

**Workshops and Garages**

**Autobody and Repair Shops**

**Fitness Studios**

**Hot Yoga**

**Ventilated Zoo and Animal Pens\***

**Ventilated Stables and Barns\***

**Transportation Terminals**

**Greenhouses**

**Airplane Hangers**

**Water and other Treatment Facilities**

**Restaurants**

**Outdoor Patios**

**Factories**

**Parking Garages**

**Indoor Pools**

**Hotel Entrances and Valet Stands**

**Stadiums and Arenas**

**Car Rental Stations**

**Retail Stores and Entry Foyers**

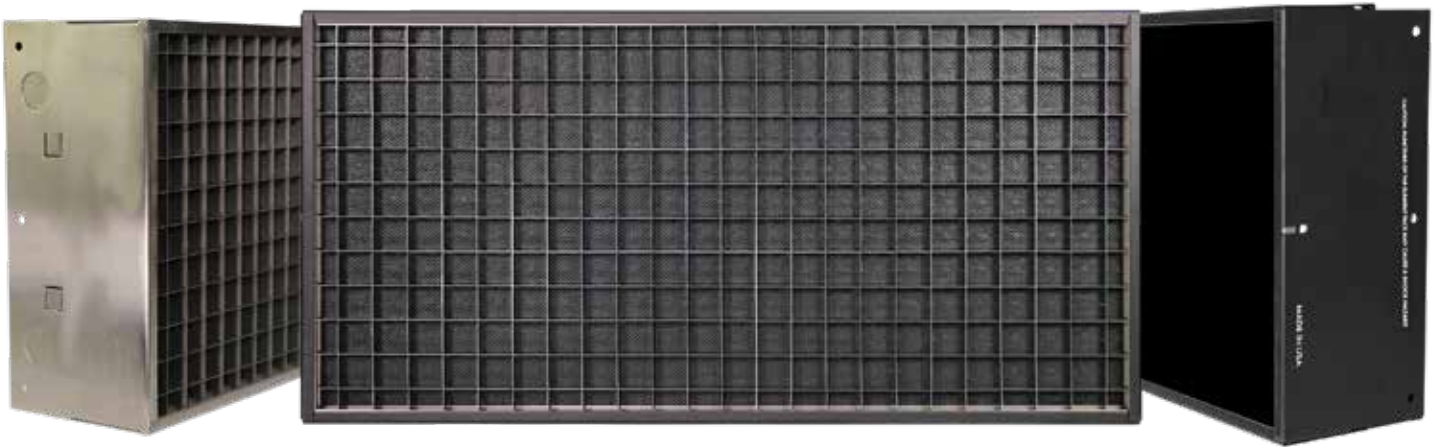
**Airports**

**Shipping and Receiving Docks**

\*STS and STT are not rated for environments requiring explosion proof certification



# STS



Whether you have a warehouse, dock, or workshop to keep heated, STS is the smart choice. Let the quartz era end and a revolution begin with a zero maintenance heater. You'll never worry about bulbs to replace or reflectors to clean.

With no moving parts to wear out, STS will last you for years to come, all the while giving you safe, clean, energy-efficient heat. There are no combustion products discharged, no flames, and no noxious gases emitted. Meaning there is no need to ventilate.

To top it all off, STS provides the most energy efficient heater in the comfort heat market, converting 95% of the used energy into useful heat.

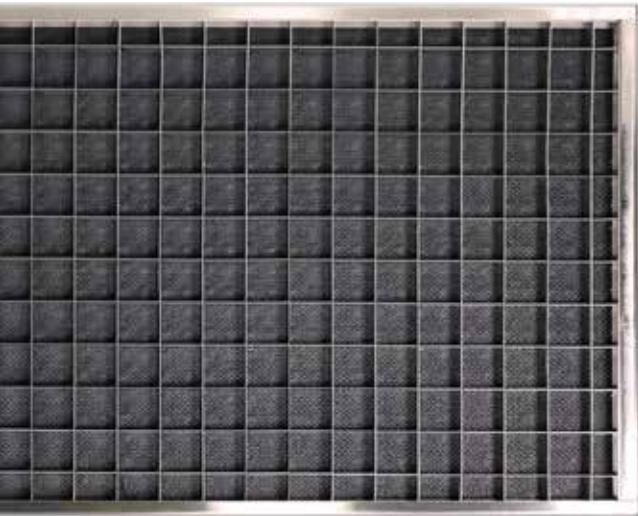
Optional stainless steel grid diffuser with 1" x 1" grid pattern helps control stray IR waves and directs them in a more uniform direction. The grid also creates small air pockets, which acts to insulate the face of the heater, thereby increasing the efficiency of the heater in drafty conditions.

95% ENERGY



EFFICIENT

# ORDER YOUR STS IN ANY OF OUR HIGH TEMP RESISTANT COLOR OPTIONS



STAINLESS STEEL (SS)



BLACK SATIN  
(BK Standard)



## STAINLESS STEEL GRID

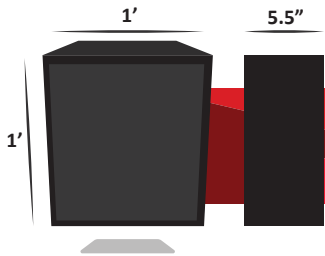
Model #	Description
03-105	12" x 12" SS Grid
03-106	12" x 16" SS Grid * For use with 43-XXX Only*
03-104	12" x 24" SS Grid

## ORDERING GUIDE

Model #  
+  
Desired Voltage  
+  
Color  
+  
Stainless Steel Grid

### Example:

HX-ST5-U12-0871B-120V-B  
HX-ST5-U24-2428V-240V-SS  
HX-ST5-U48-4838U-480V-B-G

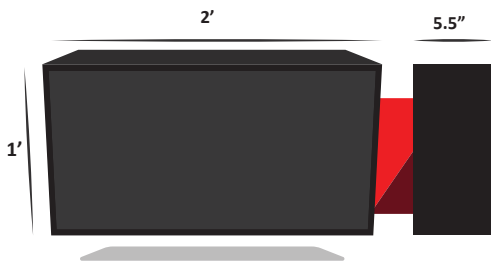


Shipping Weight 10 lbs

## 12" MODEL

### SINGLE PHASE

Model	Watts	120V	208V	240V
HX-ST5-U12-0871B	871	7.3	-	-
HX-ST5-U12-1081B	1081	9.0	-	-
HX-ST5-U12-1111B	1111	9.3	-	-
HX-ST5-U12-1681B	1681	14.0	-	-
HX-ST5-U12-1436V	1077 / 1436	-	5.2	6.0



Shipping Weight 20 lbs

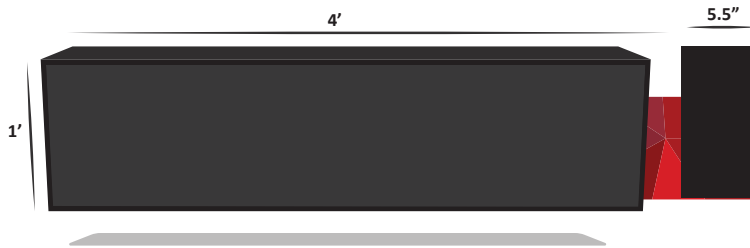
## 24" MODEL

### SINGLE PHASE

Model	Watts	120V	208V	240V	277V	347V
HX-ST5-U24-1015V	1015	-	-	4.3	-	-
HX-ST5-U24-1316B	1316	11.0	-	-	-	-
HX-ST5-U24-1297V	1297	-	-	5.4	-	-
HX-ST5-U24-1659B	1659	13.8	-	-	-	-
HX-ST5-U24-1701V	1276 / 1701	-	6.1	7.1	-	-
HX-ST5-U24-2192B	2192	18.3	-	-	-	-
HX-ST5-U24-2001V	1501 / 2001	-	7.2	8.3	-	-
HX-ST5-U24-1982N	1982	-	-	-	7.2	-
HX-ST5-U24-2060I	2060	-	-	-	-	6.0
HX-ST5-U24-2222B	2222	18.5	-	-	-	-
HX-ST5-U24-2428V	1821 / 2428	-	8.8	10.2	-	-
HX-ST5-U24-2388N	2388	-	-	-	8.6	-
HX-ST5-U24-2488I	2488	-	-	-	-	7.2
HX-ST5-U24-3363B	3363	28.0	-	-	-	-
HX-ST5-U24-3239V	2429 / 3239	-	11.7	13.5	-	-
HX-ST5-U24-3008N	3008	-	-	-	10.1	-
HX-ST5-U24-3176I	3176	-	-	-	-	9.2

### THREE PHASE

Model	Watts	208V	240V
HX-ST5-U24-1992P	1496 / 1992	4.2	4.8
HX-ST5-U24-2442P	1834 / 2442	5.1	5.9
HX-ST5-U24-3021P	2284 / 3041	6.4	7.3



# 48" MODEL

Shipping Weight 38 lbs

## SINGLE PHASE

Model	Watts	208V	240V	277V	347V	480V	600V
HX-STS-U48-2030V	2030	7.3	8.5	-	-	-	-
HX-STS-U48-2014I	2014	-	-	-	5.8	-	-
HX-STS-U48-2030T	2030	-	-	-	-	4.2	-
HX-STS-U48-2594V	2594	9.4	10.8	-	-	-	-
HX-STS-U48-2502I	2502	-	-	-	7.2	-	-
HX-STS-U48-2594T	2594	-	-	-	-	5.4	-
HX-STS-U48-3402V	3402	12.3	14.2	-	-	-	-
HX-STS-U48-3206I	3206	-	-	-	9.3	-	-
HX-STS-U48-3402T	3402	-	-	-	-	7.1	-
HX-STS-U48-4002V	4002	14.5	16.7	-	-	-	-
HX-STS-U48-3964N	3964	-	-	14.3	-	-	-
HX-STS-U48-4120I	4120	-	-	-	11.9	-	-
HX-STS-U48-4002T	4002	-	-	-	-	8.3	-
HX-STS-U48-4042Y	4042	-	-	-	-	-	6.7
HX-STS-U48-4856V	4856	17.5	20.2	-	-	-	-
HX-STS-U48-4776N	4776	-	-	17.2	-	-	-
HX-STS-U48-4976I	4976	-	-	-	14.4	-	-
HX-STS-U48-4856T	4856	-	-	-	-	10.1	-
HX-STS-U48-4878Y	4878	-	-	-	-	-	8.1
HX-STS-U48-6478V	6478	23.4	27.0	-	-	-	-
HX-STS-U48-6056N	6056	-	-	21.7	-	-	-
HX-STS-U48-6352I	6352	-	-	-	18.3	-	-
HX-STS-U48-6478T	6478	-	-	-	-	13.5	-
HX-STS-U48-6118Y	6118	-	-	-	-	-	10.2

## THREE PHASE


Model	Watts	208V	240V	347V	480V	600V
HX-STS-U48-3971P	3971	8.3	9.6	-	-	-
HX-STS-U48-3928U	3928	-	-	-	4.7	-
HX-STS-U48-3963Z	3963	-	-	-	-	3.8
HX-STS-U48-4794P	4794	10.0	11.6	-	-	-
HX-STS-U48-4838U	4838	-	-	-	5.8	-
HX-STS-U48-4797Z	4797	-	-	-	-	4.6
HX-STS-U48-5954P	5954	12.4	14.3	-	-	-
HX-STS-U48-6060U	6060	-	-	-	7.3	-
HX-STS-U48-5982Z	5982	-	-	-	-	5.8

# STT



STT includes all of the features and benefits of the STS, in a new, slimmer, modern design. Packed with more heat per square inch, the STT is still perfect for all of your heating needs. Ideal for restaurants, outdoor patios, and any other area that needs to keep people warm, the STT does so effectively and discretely.

Like its sister heater, the STT converts 95% of applied energy to useful heat, it contains no bulbs or moving parts to replace, and is maintenance free for the life of the heater. The slim cove design gives STT an attractive commercial or residential appeal, and with two colors to choose from, these heaters blend seamlessly into any space.



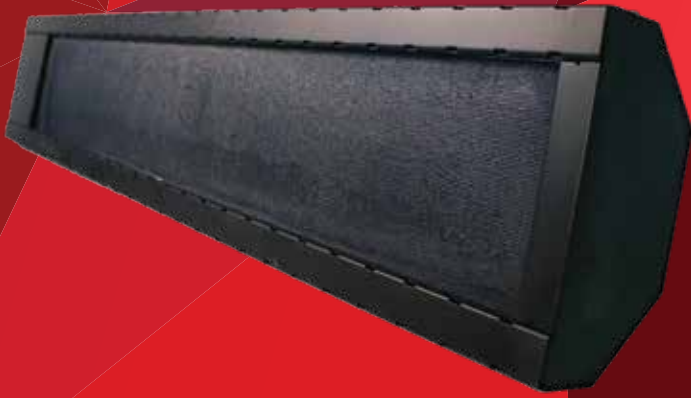
## CUSTOMIZE YOUR STT WITH AN ATTRACTIVE COLOR OPTION



**BLACK SATIN  
(BK Standard)**

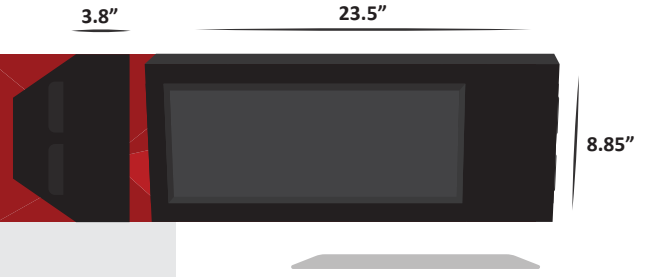


**STAINLESS (SS)**



STT is available with an 18" or 36" heating surface. The heating element is a flat panel IR emitter, which is able to be "cycled" for increased energy efficiency. All STT heaters are UL rated for outdoor use under cover, and come supplied with a rear mounted junction box. The mounting bracket, included, is designed for ceiling or wall mounted locations, and is predesigned for pivoting to safely hang at an angle.

## 18" MODEL

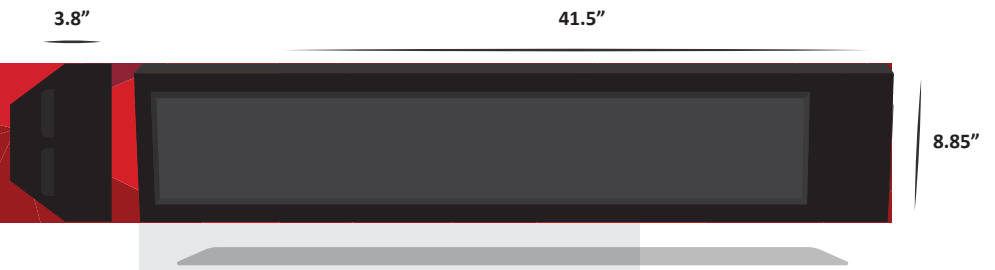


SINGLE PHASE

Shipping Weight 16 lbs

MODEL	BTUs*	WATTS	120v
HX-STT-U18-1091B	3723	1091	9.1
HX-STTU18-1330B	4712	1330	11.5
HX-STT-U18-1767B	6053	1767	14.8
HX-STT-U18-2161B	7373	2161	18.1

## 36" MODEL



SINGLE PHASE

Shipping Weight 21lbs

MODEL	BTUs*	WATTS	208v	240v
HX-STT-U36-2180V	7438	2180/1635	6.8	9.1
HX-STT-U36-2660V	9421	2660/2071	8.6	11.5
HX-STT-U36-3104V	10591	3104/2328	9.7	12.9
HX-STT-U36-3534V	12106	3534/2661	11.1	14.8
HX-STT-U36-4322	14747	4322/3242	13.6	18.1

Standard color - add BK for black satin finish to the end of the catalog number.

Optional color - SS for stainless steel to the end of catalog number.



# CONTROLS

All STS and STT heater models are capable of being regulated or “cycled” to control their heat output. Different methods of control offer varying levels of efficiency so each application should be examined to determine which control method is most suitable. The following pages discuss the Heatrex recommended methods of control in more detail, highlighting the benefits and function of each.

STS and STT heaters do not come with built in controls. The heaters may be installed and operated without controls, in which case a heater is either 100% on, or it is 100% off. This may be acceptable in many applications; however, when controls are needed to regulate temperature or follow a heating schedule, Heatrex offers a variety of manufacturer recommended control options which range from single unit control, all the way to full system commercial and industrial grade control panels. Please contact your STS supplier or a qualified electrician to determine if controls are needed for your heating application.

What is “Cycling” – Cycling your heater is a method to control the temperature by repeatedly turning the heater on and off in a given period of time. Heatrex flat panel IR emitters are capable of producing heat even when they are “off” for short periods of time, so in a comfort heat application, there is no noticeable loss of temperature. This does not harm the heater what-so-ever, and in fact, Heatrex uses this as a method of highly efficient energy control in many applications.

# EASILY CONTROLLED WITH YOUR SMART PHONE



Set up your Z-Wave HUB in a centralized Location.

Link your phone and all of the TZ Switches you plan to use.

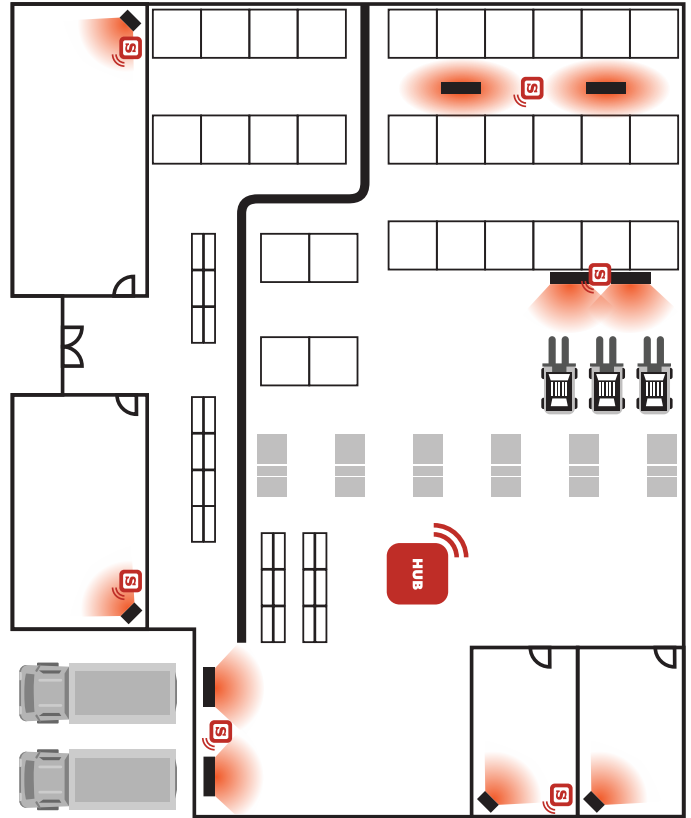


Set up all of your TZ Switches.

Each TZ Switch can control up to 40 Amps, so multiple STS or STT heaters can be attached to one TZ Switch.



With your Z-Wave HUB set up and your TZ Switches all connected, you can now control your STS and STT heaters from your phone. Easily create a routine for your heaters to turn on or off automatically, or enjoy turning them on and off as needed from the convenience of your phone.



## Z-WAVES CONTROLS

## RATING

MODEL	ITEM DESCRIPTION	AMP	VOLT	PHASE
HX-TZ-HUB	Wireless Connection Hub	NA	120	1
HX-TZ-SWITCH	Controller, Z-WAVE Switch	40	120/240	1
HX-TZ-REMOTE	Remote Mounted On/Off Wall Switch, battery operated	NA	Battery	NA
HX-TZ-QUAD	Remote Mounted Adaptive 4-Way Controller, battery operated	NA	Battery	NA



**PERCENT TIMER**



This 120V/240V 20 Amp Percent Timer offers simple control utilizing Heatrex’s preferred method of “cycling” to regulate heater output. The simple operation of this Percentage Timer makes this unit ideal for regulating your STS and STT heaters. Two dials give the user complete control of the heat output; one controls the cycle time of the heater, and the other controls the amount of time in which the heater is on during that given cycle. For example, if the cycle time is set to 1 minute, and the percent set to 75%; then the heater will be on for 45 seconds, off for 15 seconds, then repeat. This allows precise temperature control while offering optimal heater efficiency. This method of heat control is ideal for areas that need to regulate a consistent temperature.

**TIMER**



This 120V/240V 20 Amp In-Wall Timer gives the user precise control over the length of time a heater is on. Simply turn the dial to the desired time and it will be on for this period. At the end of this set time period, the heater will automatically shut off. This method of control is ideal for areas that are used frequently, but not for extended periods of time.

**LOCAL CONTROLS**

**RATING**

MODEL	ITEM DESCRIPTION	AMP	VOLT	PHASE
HX-TZ-PCT	Percent Timer	20	120/240	1
HX-TZ-TIMER	Heavy Duty Timer	28	120/240	1

**SSR CONTROL PANEL**



Heatrex offers a variety of UL listed control panels as the most efficient and effective way to control your STS and STT heaters. Suitable for 120V/240V and 480V heaters in both single and three phase design. Standard panels are equipped to handle up to 4 independently controlled heat zones. See below for a list of standard Heatrex control panel options.



## CONTACTOR PANELS



Heatrex's Contactor Panels are a simple and effective method of controlling your STS and STT heaters. Contactor Panels are suitable for all heater models, configurations, and voltages. Each Contactor Panel model is designed to allow for field designation of one or multiple zones, offering complete customization when controlling heaters individually or in groups. Each 30A or 60A contactor is able to carry one or several heaters. These contactor panels are often partnered with thermostats (simple and smart), but may also be controlled with on/off switches, timers, and other low voltage controllers. Heatrex's contactor panels are factory wired for quick and efficient installations and offer an affordable solution for every project.

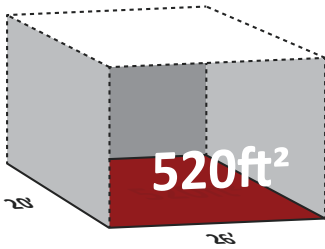
- Nema Type 1 and Type 4/12 enclosure available, cULus listed and labeled contactor panel.
- 24V and 120V Control Voltage available.
- Suitable for smart or standard wall thermostats.
- Single phase panels available with 30A contactors in 2, 5, 10 or 20 unit designs. Supply voltage from 120-600V.
- Three phase panels available with 30A or 60A contactors in 2, 5, 10 or 20 unit designs. Supply voltage from 208-600V.
- All contactors rated up to 600V.
- Single and multi-zone control capability.
- Nothing to program, all the intelligence is in the thermostat.



## CONTROL PANELS

MODEL	ITEM DESCRIPTION	CONTROL VOLTAGE	SUPPLY VOLTAGE	PHASE
HX-THZ-S30-2C-0	STS Contactor Panel - Variable Zone, 2 Contactors (30A/ea)	24VAC	120-600V	1
HX-THZ-S30-2C-1	STS Contactor Panel - Variable Zone, 2 Contactors (30A/ea)	120V	120-600V	1
HX-THZ-T30-2C-0	STS Contactor Panel - Variable Zone, 2 Contactors (30A/ea)	24VAC	120-600V	3
HX-THZ-T30-2C-1	STS Contactor Panel - Variable Zone, 2 Contactors (30A/ea)	120V	120-600V	3
HX-THZ-S30-5C-0	STS Contactor Panel - Variable Zone, 5 Contactors (30A/ea)	24VAC	120-600V	1
HX-THZ-S30-5C-1	STS Contactor Panel - Variable Zone, 5 Contactors (30A/ea)	120V	120-600V	1
HX-THZ-T30-5C-0	STS Contactor Panel - Variable Zone, 5 Contactors (30A/ea)	24VAC	208-600V	3
HX-THZ-T30-5C-1	STS Contactor Panel - Variable Zone, 5 Contactors (30A/ea)	120V	208-600V	3
HX-THZ-T60-5C-0	STS Contactor Panel - Variable Zone, 5 Contactors (60A/ea)	24VAC	208-600V	3
HX-THZ-T60-5C-1	STS Contactor Panel - Variable Zone, 5 Contactors (60A/ea)	120V	208-600V	3
HX-THZ-S30-10C-0	STS Contactor Panel - Variable Zone, 10 Contactors (30A/ea)	24VAC	120-600V	1
HX-THZ-S30-10C-1	STS Contactor Panel - Variable Zone, 10 Contactors (30A/ea)	120V	120-600V	1
HX-THZ-T30-10C-0	STS Contactor Panel - Variable Zone, 10 Contactors (30A/ea)	24VAC	208-600V	3
HX-THZ-T30-10C-1	STS Contactor Panel - Variable Zone, 10 Contactors (30A/ea)	120V	208-600V	3
HX-THZ-T60-10C-0	STS Contactor Panel - Variable Zone, 10 Contactors (60A/ea)	24VAC	208-600V	3
HX-THZ-T60-10C-1	STS Contactor Panel - Variable Zone, 10 Contactors (60A/ea)	120V	208-600V	3
HX-THZ-S30-20C-0	STS Contactor Panel - Variable Zone, 20 Contactors (30A/ea)	24VAC	120-600V	1
HX-THZ-S30-20C-1	STS Contactor Panel - Variable Zone, 20 Contactors (30A/ea)	120V	120-600V	1
HX-THZ-T30-20C-0	STS Contactor Panel - Variable Zone, 20 Contactors (30A/ea)	24VAC	208-600V	3
HX-THZ-T30-20C-1	STS Contactor Panel - Variable Zone, 20 Contactors (30A/ea)	120V	208-600V	3
HX-THZ-T60-20C-0	STS Contactor Panel - Variable Zone, 20 Contactors (60A/ea)	24VAC	208-600V	3
HX-THZ-T60-20C-1	STS Contactor Panel - Variable Zone, 20 Contactors (60A/ea)	120V	208-600V	3

# HOW TO DETERMINE THE NUMBER OF HEATERS YOU WILL NEED

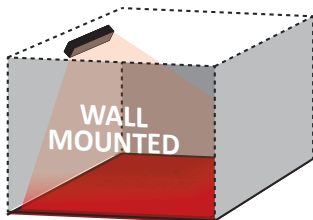
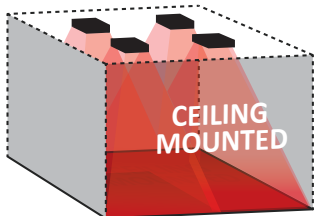
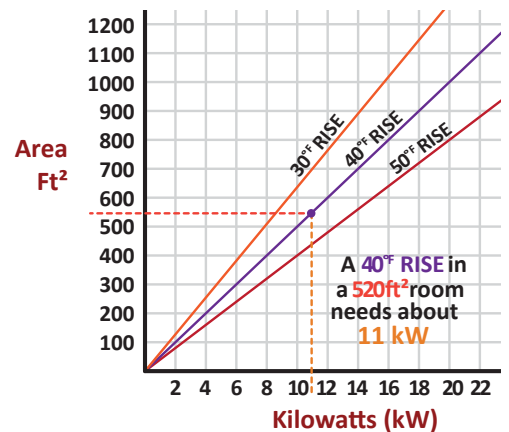


## FIRST.

You will need to find the approximate square footage of the area you wish to heat.

## SECOND.

Now that you know how large your space is, use this watts per square foot chart and reference the desired temperature rise. This will help determine the kW that is required to heat your space.



## THIRD.

After determining the total kW needed for your space, visit the product portion of this catalog to select appropriately sized heaters for your space; keeping in mind voltage, phase, and wattage suitable for your needs. When determining the heater model and quantity that you need for your space, note that both STS and STT can be ceiling or wall mounted. To achieve even heat distribution, we recommend smaller, more evenly spaced heaters throughout your space.

## FOURTH.

If heat control is needed for your area, reference the controls section of this catalog to determine what the best method of heat control is for your area. Note that not all heating control options mentioned in this catalog are suitable for every heater.

For more information on heater requirements or controls, contact your local distributor or call Heatrex directly to speak with a comfort heat professional.

Now that you see what we're capable of, visit us online or contact Heatrex directly to speak with a member of our team.



[www.Heatrex.com](http://www.Heatrex.com)



425 Hanley Industrial Ct.  
St. Louis, MO 63144  
800.394.6589

MKL- 3347- 05