



INVIZATHERM™

**Discrete
Radiant
Heat**

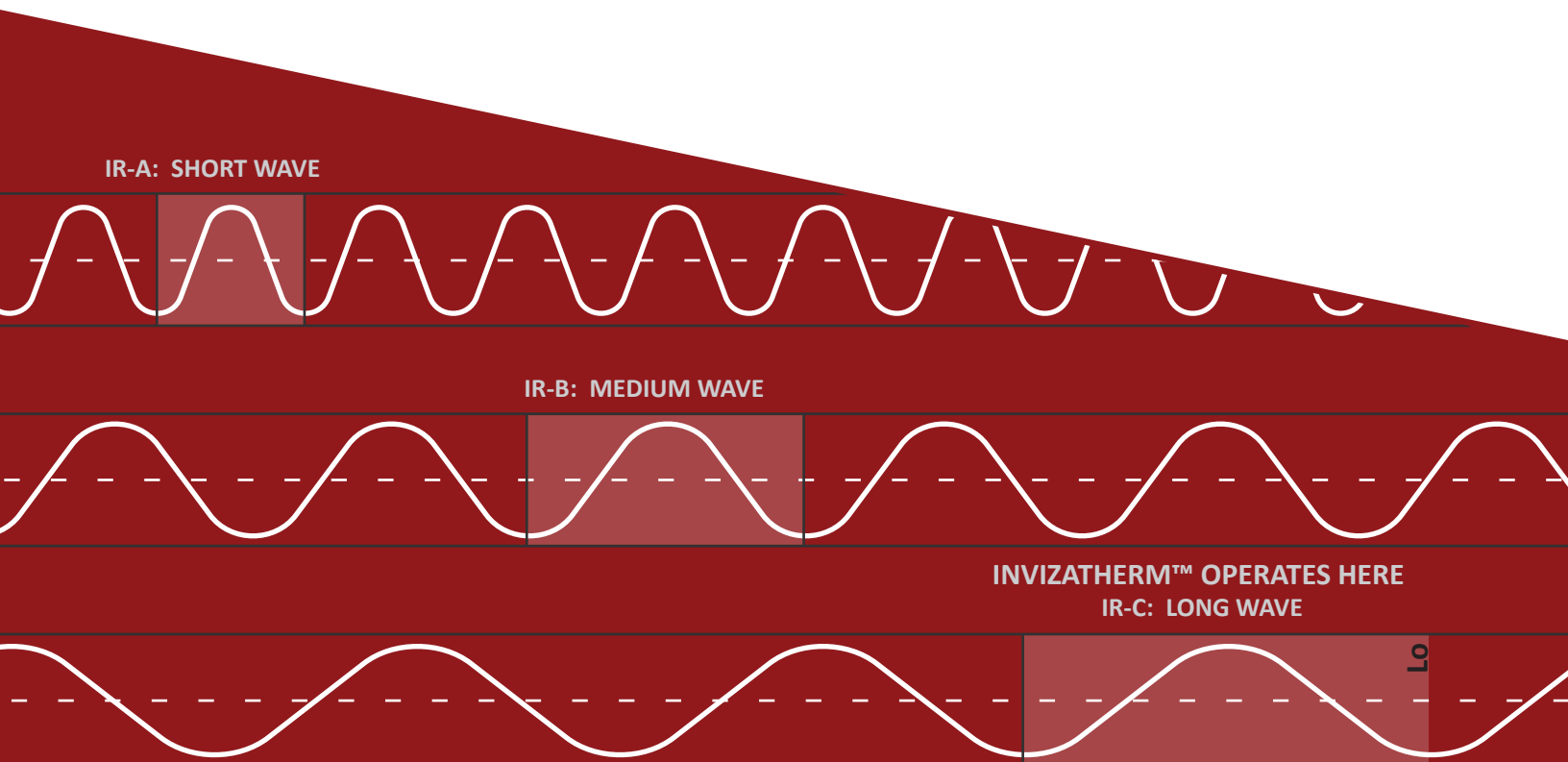
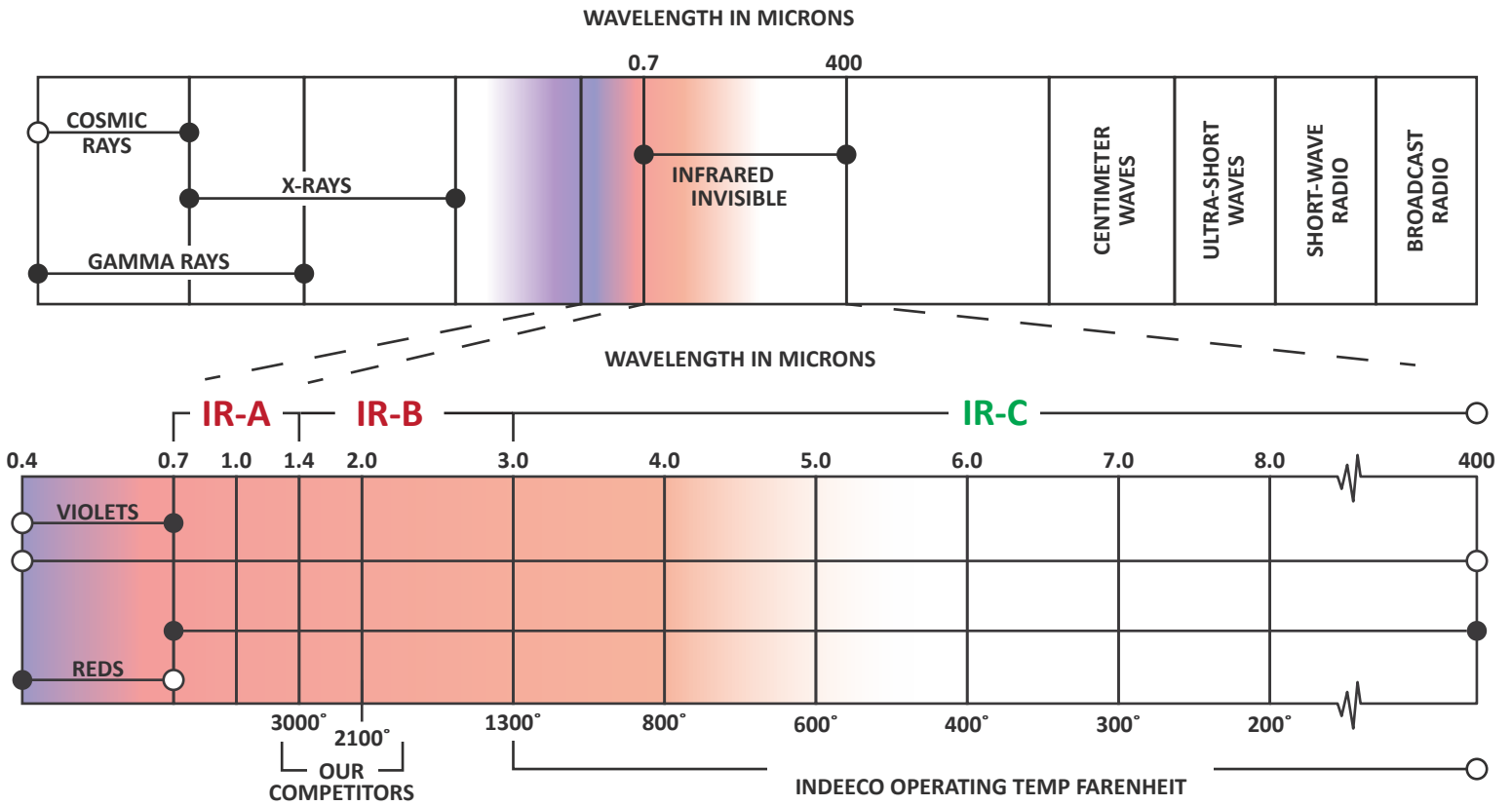
- 01 Research**
- 02 Indeeco[®] Difference**
- 03 Suitable Locations For Use**
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- 06 Controls**
- 07 What Do I Need?**

Indeeco 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 INVIZATHERM™ HEATERS PRODUCE IDEAL COMFORT HEAT

The infrared or IR waveband is often subdivided into three regions: IR-A (.7 - 1.4 μm), IR-B (1.4 - 3 μm), and IR-C (3 - 1000 μm). 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).

Indeeco heating elements fall right in the sweet spot of the IR waveband, IR-C. Nearly 100% of the waves that the Invizatherm™ 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.





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.**





NO MOVING PARTS

Nothing to break or wear out means the Invizatherm™ is maintenance free.



NO REFLECTORS TO CLEAN

No bulbs means no need for reflectors. Another reason Invizatherm™ heaters require zero maintenance.



NO ORANGE GLOW

Never worry about the eyesore of a glowing heater again. Every Invizatherm™ 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

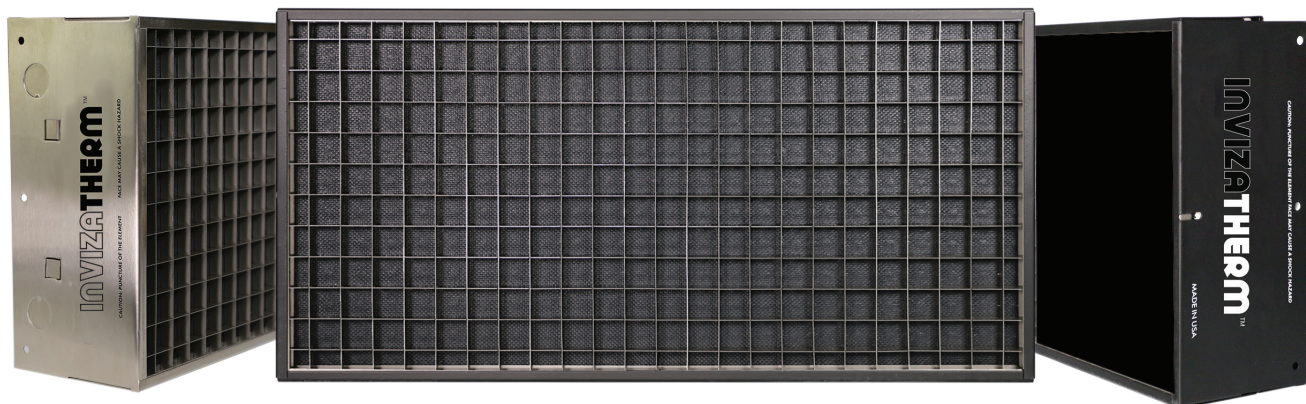
Airports

Shipping and Receiving Docks

*Invizatherm™ and Invizatherm™ Thin are not rated for environments requiring explosion proof certification



INVIZATHERM™



Whether you have a warehouse, dock, or workshop to keep heated, Invizatherm™ 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.

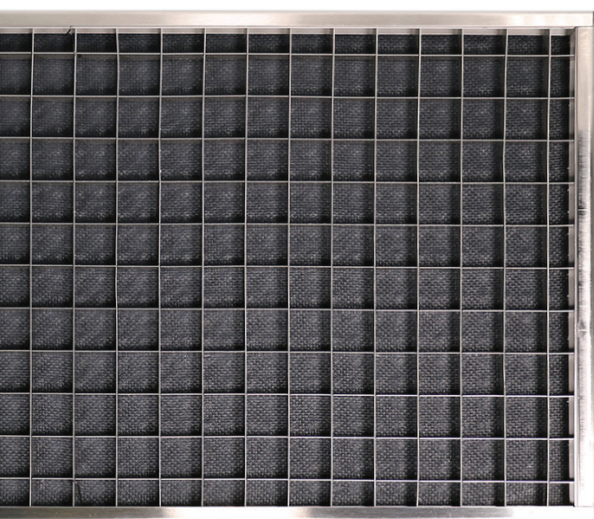
With no moving parts to wear out, Invizatherm™ will last you for years to come, all the while giving you safe, clean, energy-efficient heat. There are no combustion products discharged, no flames, and no noxious gases emitted. Meaning there is no need to ventilate.

To top it all off, Invizatherm™ 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.



ORDER YOUR INVIZATHERM™ IN ANY OF OUR HIGH TEMP RESISTANT COLOR OPTIONS



STAINLESS STEEL (SS)



BLACK SATIN
(BK Standard)



STAINLESS STEEL GRID

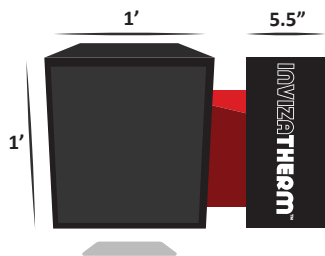
Model #	Description
03-105	12" x 12" SS Grid
03-106	12" x 16" SS Grid *For use with 43-XXX Only*
03-104	12" x 24" SS Grid

ORDERING GUIDE

Model #
+
Desired Voltage
+
Color
+
Stainless Steel Grid

Example
STS-U12-0871B-120V-B
STS-U24-2428V-240V-SS
STS-U48-4838U-480V-B-G



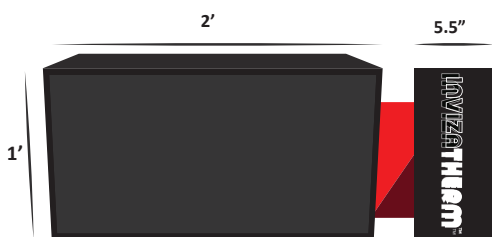


Shipping Weight 10 lbs

12" MODEL

SINGLE PHASE

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



Shipping Weight 20 lbs

24" MODEL

SINGLE PHASE

Model	Watts	120V	208V	240V	277V	347V
STS-U24-1015V	762/1015	-	3.7	4.2	-	-
STS-U24-1316B	1316	11.0	-	-	-	-
STS-U24-1297V	974/1297	-	4.7	5.4	-	-
STS-U24-1659B	1659	13.8	-	-	-	-
STS-U24-1701V	1276 / 1701	-	6.1	7.1	-	-
STS-U24-2192B	2192	18.3	-	-	-	-
STS-U24-2001V	1501 / 2001	-	7.2	8.3	-	-
STS-U24-1982N	1982	-	-	-	7.2	-
STS-U24-2060I	2060	-	-	-	-	6.0
STS-U24-2222B	2222	18.5	-	-	-	-
STS-U24-2428V	1821 / 2428	-	8.8	10.1	-	-
STS-U24-2388N	2388	-	-	-	8.6	-
STS-U24-2488I	2488	-	-	-	-	7.2
STS-U24-3363B	3363	28.0	-	-	-	-
STS-U24-3239V	2429 / 3239	-	11.7	13.5	-	-
STS-U24-3008N	3008	-	-	-	10.1	-
STS-U24-3176I	3176	-	-	-	-	9.2

THREE PHASE

Model	Watts	208V	240V
STS-U24-1992P	1496 / 1992	4.2	4.8
STS-U24-2442P	1834 / 2442	5.1	5.9
STS-U24-3041P	2284 / 3041	6.3	7.3



48" MODEL

Shipping Weight 38 lbs

SINGLE PHASE

Model	Watts	208V	240V	277V	347V	480V	600V
STS-U48-2030V	1523 / 2030	7.3	8.5	-	-	-	-
STS-U48-2014I	2014	-	-	-	5.8	-	-
STS-U48-2030T	2030	-	-	-	-	4.2	-
STS-U48-2594V	1946 / 2594	9.4	10.8	-	-	-	-
STS-U48-2502I	2502	-	-	-	7.2	-	-
STS-U48-2594T	2594	-	-	-	-	5.4	-
STS-U48-3402V	2552 / 3402	12.3	14.2	-	-	-	-
STS-U48-3206I	3206	-	-	-	9.3	-	-
STS-U48-3402T	3402	-	-	-	-	7.1	-
STS-U48-4002V	3002 / 4002	14.5	16.7	-	-	-	-
STS-U48-3964N	3964	-	-	14.3	-	-	-
STS-U48-4120I	4120	-	-	-	11.9	-	-
STS-U48-4002T	4002	-	-	-	-	8.3	-
STS-U48-4042Y	4042	-	-	-	-	-	6.7
STS-U48-4856V	3642 / 4856	17.5	20.2	-	-	-	-
STS-U48-4776N	4776	-	-	17.2	-	-	-
STS-U48-4976I	4976	-	-	-	14.4	-	-
STS-U48-4856T	4856	-	-	-	-	10.1	-
STS-U48-4878Y	4878	-	-	-	-	-	8.1
STS-U48-6478V	4859 / 6478	23.4	27.0	-	-	-	-
STS-U48-6056N	6056	-	-	21.7	-	-	-
STS-U48-6352I	6352	-	-	-	18.3	-	-
STS-U48-6478T	6478	-	-	-	-	13.5	-
STS-U48-6118Y	6118	-	-	-	-	-	10.2

THREE PHASE

Model	Watts	208V	240V	347V	480V	600V
STS-U48-3971P	2983/3971	8.3	9.6	-	-	-
STS-U48-3928U	3928	-	-	-	4.7	-
STS-U48-3963Z	3963	-	-	-	-	3.8
STS-U48-4794P	3601/4794	10.0	11.5	-	-	-
STS-U48-4838U	4838	-	-	-	5.8	-
STS-U48-4797Z	4797	-	-	-	-	4.6
STS-U48-5954P	4472/5954	12.4	14.3	-	-	-
STS-U48-6060U	6060	-	-	-	7.3	-
STS-U48-5982Z	5982	-	-	-	-	5.8

INVIZATHERM™

THIN SERIES



Invizatherm™ Thin includes all of the features and benefits of the Invizatherm™, in a new, slimmer, modern design. Packed with more heat per square inch, the Invizatherm™ Thin 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 Invizatherm™ Thin does so effectively and discretely.

Like its sister heater, the Invizatherm™ Thin 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 Invizatherm™ Thin an attractive commercial or residential appeal, and with two colors to choose from, these heaters blend seamlessly into any space.



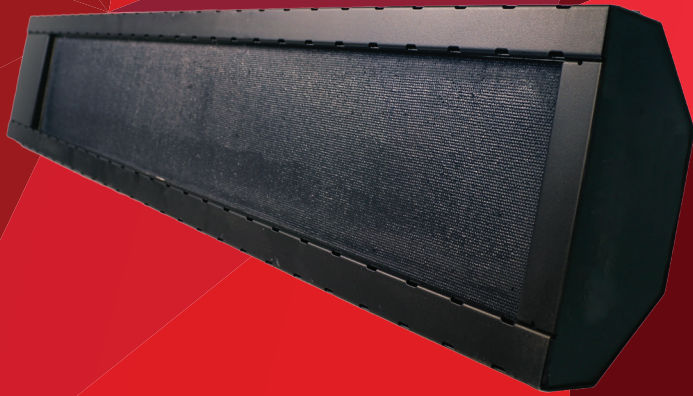
CUSTOMIZE YOUR INVIZATHERM™ THIN WITH AN ATTRACTIVE COLOR OPTION



**BLACK SATIN
(BK Standard)**



STAINLESS (SS)



Invizatherm™ Thin 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 Invizatherm™ Thin 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

3.8"

23.5"

8.85"

SINGLE PHASE

MODEL	WATTS	120v
STT-U18-1091B	1091	9.1
STT-U18-1330B	1330	11.1
STT-U18-1767B	1767	14.8
STT-U18-2161B	2161	18.0

Shipping Weight 16 lbs

36" MODEL

3.8"

41.5"

8.85"

SINGLE PHASE

MODEL	WATTS	208v	240v
STT-U36-2180V	1635/2180	7.9	9.1
STT-U36-2660V	2071/2660	9.6	11.1
STT-U36-3104V	2328/3104	11.2	12.9
STT-U36-3534V	2661/3534	12.8	14.8
STT-U36-4322V	3242/4322	15.6	18.0

Shipping Weight 21lbs

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 Invizatherm™ and Invizatherm™ Thin 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 Indeeco recommended methods of control in more detail, highlighting the benefits and function of each.

Invizatherm™ and Invizatherm™ Thin 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, Indeeco 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 Invizatherm™ supplier or a qualified electrician to determine if controls are needed for your heating application.

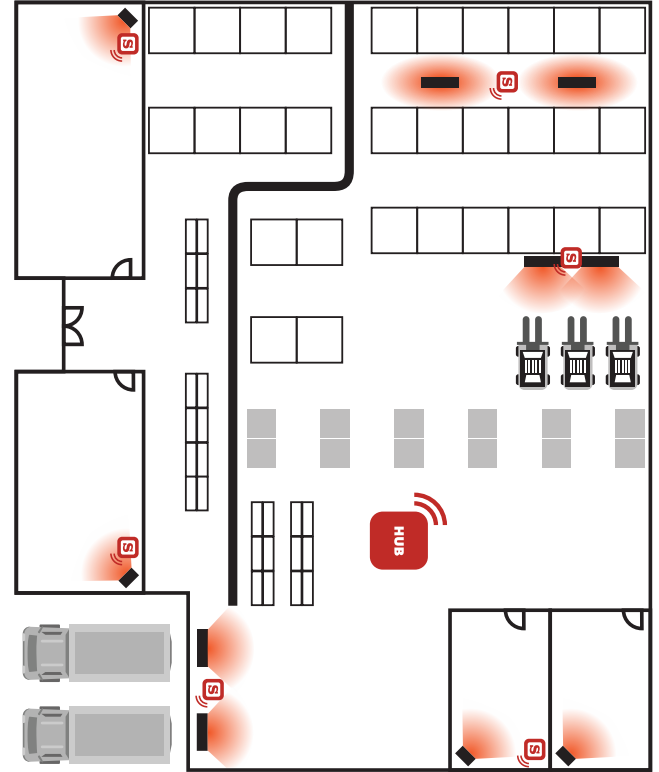
What is “Cycling” – Cycling your heater is a method to control the temperature by repeatedly turning the heater on and off in a given period of time. Indeeco flat panel IR emitters are capable of producing heat even when they are “off” for short periods of time, so in a comfort heat application, there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

EASILY CONTROLLED WITH YOUR SMART PHONE

1.  Set up your Z-Wave HUB in a centralized Location.
Link your phone and all of the TZ Switches you plan to use.

2.  Set up all of your TZ Switches.
Each TZ Switch can control up to 40 Amps, so multiple Invizatherm™ or Invizatherm™ Thin heaters can be attached to one TZ Switch.

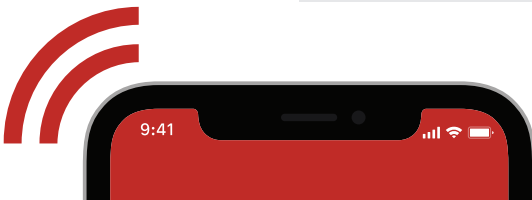
3.  With your Z-Wave HUB set up and your TZ Switches all connected, you can now control your Invizatherm™ and Invizatherm™ Thin heaters from your phone. Easily create a routine for your heaters to turn on or off automatically, or enjoy turning them on and off as needed from the convenience of your phone.



Z-WAVES CONTROLS

RATING

MODEL	ITEM DESCRIPTION	AMP	VOLT	PHASE
TZ-HUB	Wireless Connection Hub	NA	120	1
TZ-SWITCH	Controller, Z-WAVE Switch	40	120/240	1
TZ-REMOTE	Remote Mounted On/Off Wall Switch, battery operated	NA	Battery	NA
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 Indeeco preferred method of “cycling” to regulate heater output. The simple operation of this Percentage Timer makes this unit ideal for regulating your Invizatherm™ and Invizatherm Thin™ 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

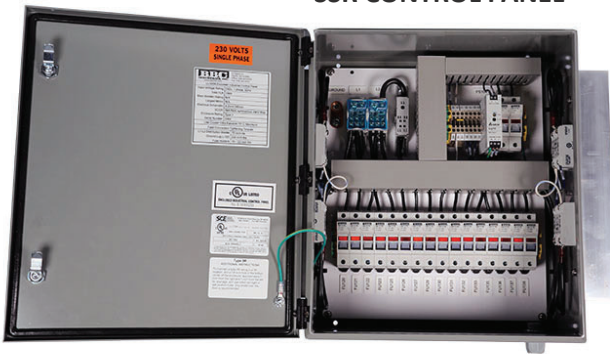


This 120V/240V 20 Amp In-Wall Timer gives the user precise control over the length of time a heater is on. Simply turn the dial to the desired time and it will be on for this period. At the end of this set time period, the heater will automatically shut off. This method of control is ideal for areas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

LOCAL CONTROLS

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

SSR CONTROL PANEL



Indeeco offers a variety of UL listed control panels as the most efficient and effective way to control your Invizatherm™ and Invizatherm Thin™ 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 Indeeco control panel options.

el model numbers and pricing.



CONTACTOR PANELS



Indeeco's Contactor Panels are a simple and effective method of controlling your Invizatherm™ and Invizatherm Thin™ 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. Indeeco's contactor panels are factory wired for quick and efficient installations and offer an affordable solution for every project.

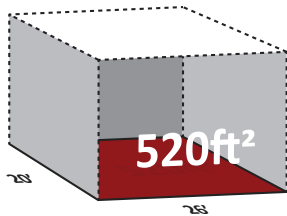
- Nema Type 1 and Type 4/12 enclosure available, cULus listed and labeled contactor panel.
- 24V and 120V Control Voltage available.
- Suitable for smart or standard wall thermostats.
- Single phase panels available with 30A contactors in 2, 5, 10 or 20 unit designs. Supply voltage from 120-600V.
- Three 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
THZ-S30-2C-0	Invizatherm Contactor Panel - Variable Zone, 2 Contactors (30A/ea)	24VAC	120-600V	1
THZ-S30-2C-1	Invizatherm Contactor Panel - Variable Zone, 2 Contactors (30A/ea)	120V	120-600V	1
THZ-T30-2C-0	Invizatherm Contactor Panel - Variable Zone, 2 Contactors (30A/ea)	24VAC	120-600V	3
THZ-T30-2C-1	Invizatherm Contactor Panel - Variable Zone, 2 Contactors (30A/ea)	120V	120-600V	3
THZ-S30-5C-0	Invizatherm Contactor Panel - Variable Zone, 5 Contactors (30A/ea)	24VAC	120-600V	1
THZ-S30-5C-1	Invizatherm Contactor Panel - Variable Zone, 5 Contactors (30A/ea)	120V	120-600V	1
THZ-T30-5C-0	Invizatherm Contactor Panel - Variable Zone, 5 Contactors (30A/ea)	24VAC	208-600V	3
THZ-T30-5C-1	Invizatherm Contactor Panel - Variable Zone, 5 Contactors (30A/ea)	120V	208-600V	3
THZ-T60-5C-0	Invizatherm Contactor Panel - Variable Zone, 5 Contactors (60A/ea)	24VAC	208-600V	3
THZ-T60-5C-1	Invizatherm Contactor Panel - Variable Zone, 5 Contactors (60A/ea)	120V	208-600V	3
THZ-S30-10C-0	Invizatherm Contactor Panel - Variable Zone, 10 Contactors (30A/ea)	24VAC	120-600V	1
THZ-S30-10C-1	Invizatherm Contactor Panel - Variable Zone, 10 Contactors (30A/ea)	120V	120-600V	1
THZ-T30-10C-0	Invizatherm Contactor Panel - Variable Zone, 10 Contactors (30A/ea)	24VAC	208-600V	3
THZ-T30-10C-1	Invizatherm Contactor Panel - Variable Zone, 10 Contactors (30A/ea)	120V	208-600V	3
THZ-T60-10C-0	Invizatherm Contactor Panel - Variable Zone, 10 Contactors (60A/ea)	24VAC	208-600V	3
THZ-T60-10C-1	Invizatherm Contactor Panel - Variable Zone, 10 Contactors (60A/ea)	120V	208-600V	3
THZ-S30-20C-0	Invizatherm Contactor Panel - Variable Zone, 20 Contactors (30A/ea)	24VAC	120-600V	1
THZ-S30-20C-1	Invizatherm Contactor Panel - Variable Zone, 20 Contactors (30A/ea)	120V	120-600V	1
THZ-T30-20C-0	Invizatherm Contactor Panel - Variable Zone, 20 Contactors (30A/ea)	24VAC	208-600V	3
THZ-T30-20C-1	Invizatherm Contactor Panel - Variable Zone, 20 Contactors (30A/ea)	120V	208-600V	3
THZ-T60-20C-0	Invizatherm Contactor Panel - Variable Zone, 20 Contactors (60A/ea)	24VAC	208-600V	3
THZ-T60-20C-1	Invizatherm Contactor Panel - Variable Zone, 20 Contactors (60A/ea)	120V	208-600V	3

HOW TO DETERMINE THE NUMBER OF HEATERS YOU WILL NEED

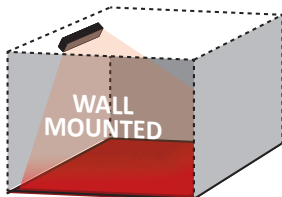
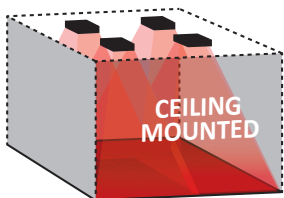
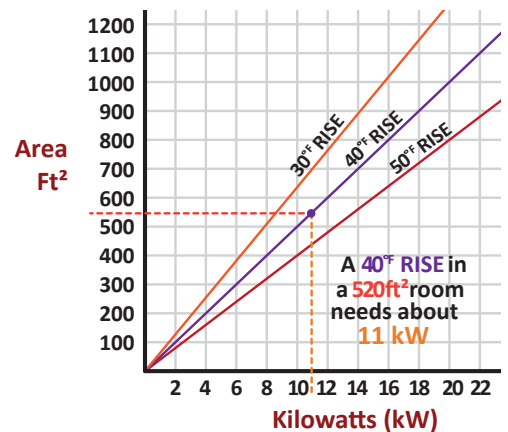


FIRST.

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.

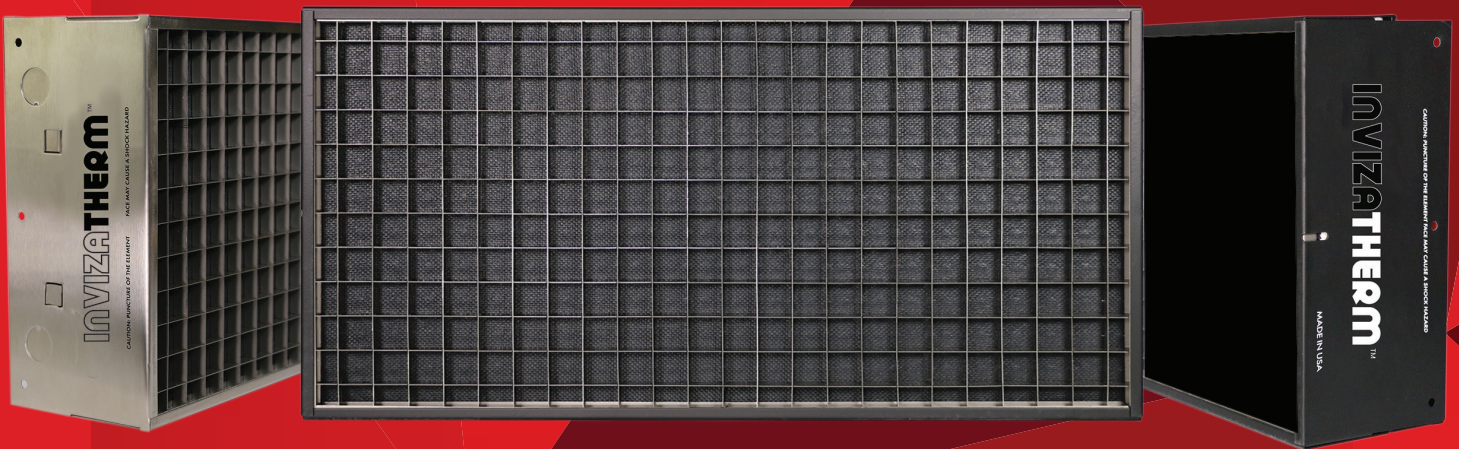
After determining the total kW needed for your space, visit the product portion of this catalog to select appropriately sized heaters for your space; keeping in mind voltage, phase, and wattage suitable for your needs. When determining the heater model and quantity that you need for your space, note that both Invizatherm™ and Invizatherm™ Thin 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 Indeeco directly to speak with a comfort heat professional.

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



www.Indeeco.com

INDEECO  [®] _{TM}

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