INVIZATHERM™

Discrete
Radiant
Heat

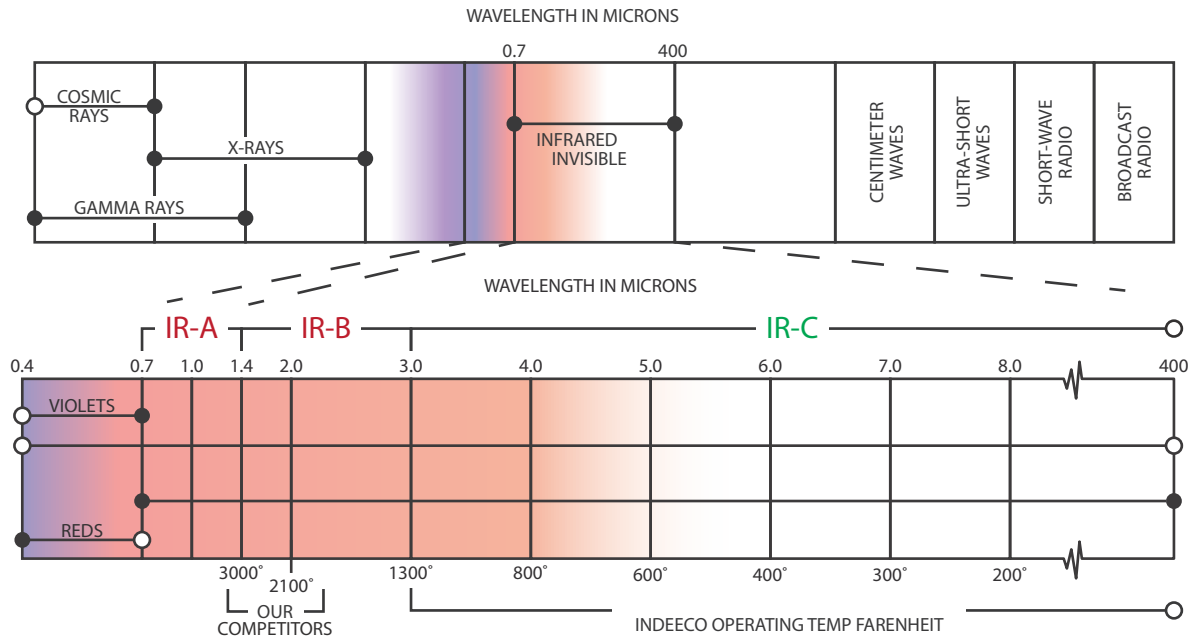Indeeco has produced the best infrared heating element on the market. We manufacture elements perfectly suited for the comfort heat industry. Our tight wire construction, longevity, and selection separate us from the competition.

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 - 1000µm). 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 IRA 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

COSMIC RAYS

X-RAYS

GAMMA RAYS

0.7   400

INFRARED
INVISIBLE

CENTIMETER WAVES

ULTRA-SHORT WAVES

SHORT-WAVE RADIO

BROADCAST RADIO

WAVELENGTH IN MICRONS

IR-A   IR-B   IR-C

0.4   0.7   1.0   1.4   2.0   3.0   4.0   5.0   6.0   7.0   8.0   400

VIOLETS

REDS

3000°   2100°   1300°   800°   600°   400°   300°   200°

OUR COMPETITORS

INDEECO OPERATING TEMP FARENHEIT

IR-A: SHORT WAVE

IR-B: MEDIUM WAVE

INVIZATHERM™ OPERATES HERE
IR-C: LONG WAVE

Lo

INDEECO

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 Invizatherm™ heaters are odor free and do not require ventilation.

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

Factories

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

Restaurants

Outdoor Patios

Water and other Treatment Facilities

Parking Garages

Indoor Pools

Hotel Entrances and Valet Stands

Stadiums and Arenas
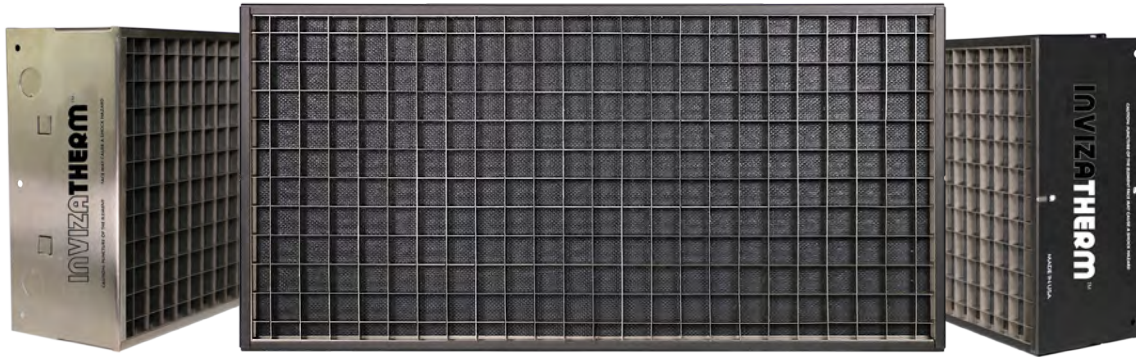
Car Rental Stations

Retail Stores and Entry Foyers

Airports

Shipping and Receiving Docks

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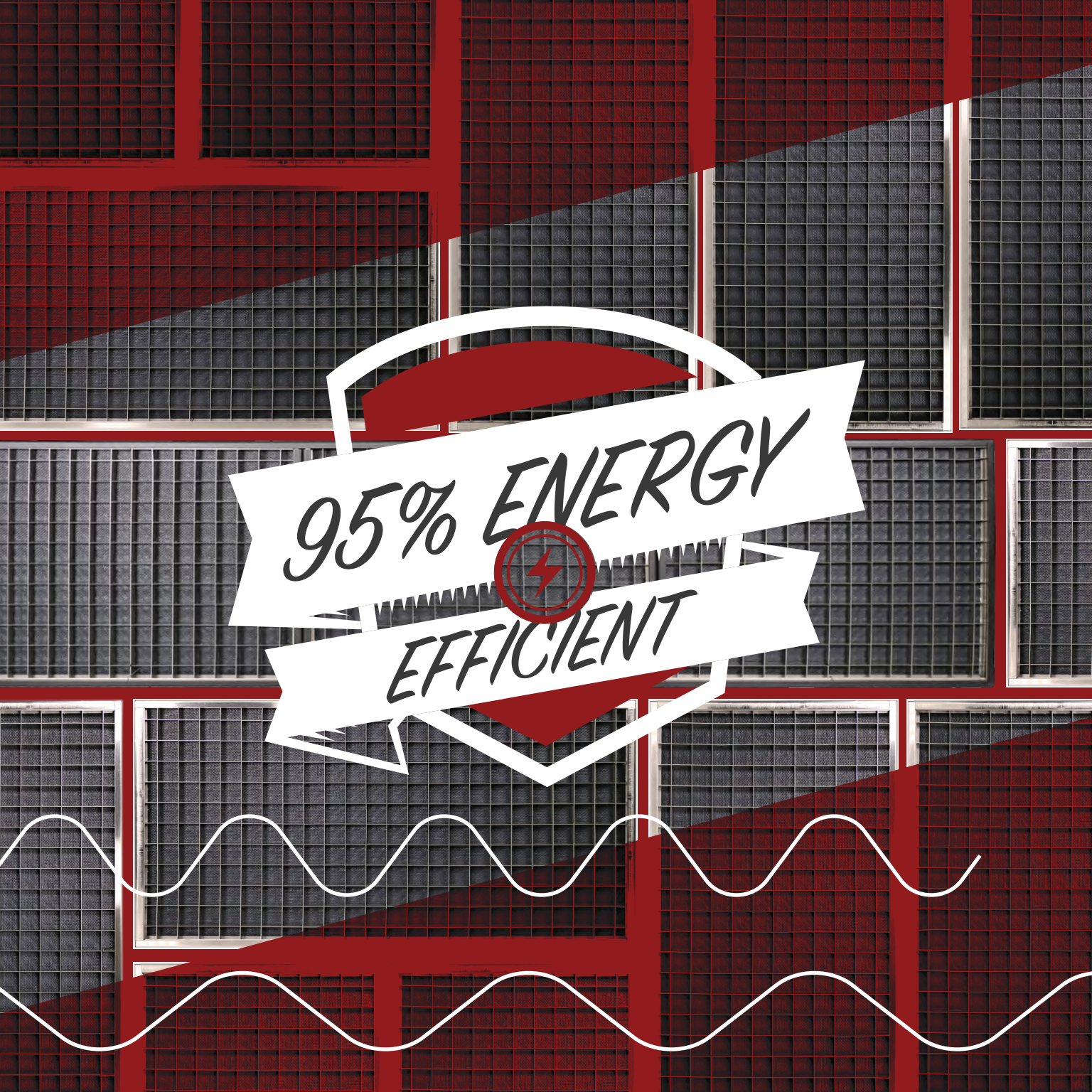
INVIZA**THERM**™

Shown with optional grid diffuser

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

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.
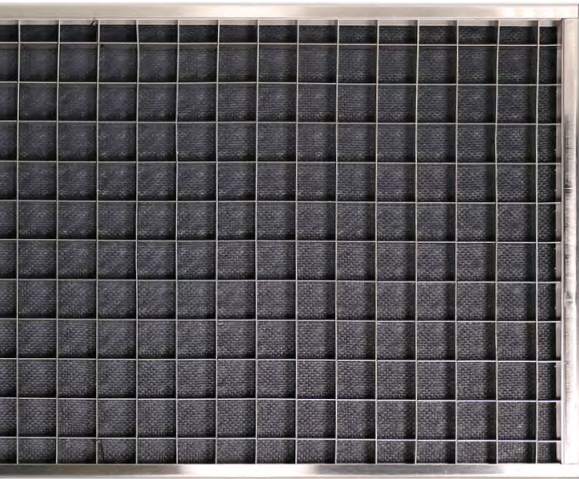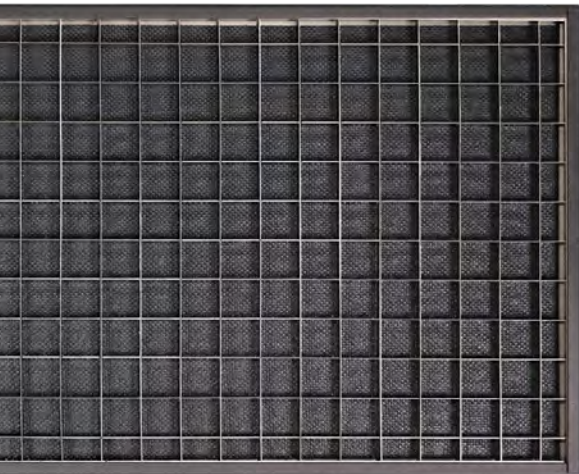
95% ENERGY EFFICIENT

ORDER YOUR INVIZATHERM™ IN ANY OF OUR HIGH TEMP RESISTANT COLOR OPTIONS
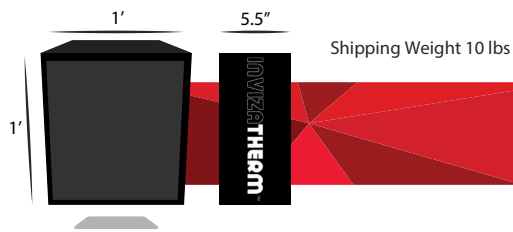
STAINLESS STEEL (SS)

Shown with optional grid diffuser
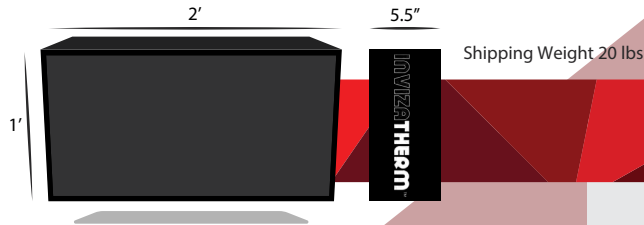
BLACK SATIN (BK Standard)

WHITE (W)

MODEL 1x - 1x1

1'   5.5"

Shipping Weight 10 lbs

1'

MODEL	BTUs*	WATTs	SINGLE PHASE	
			120v	240v
STS-U12-0871B	2972	871	7.3	--
STS-U12-1081B	3707	1081	9.0	--
STS-U12-1111B	3789	1111	9.3	--
STS-U12-1681B	5927	1681	14.2	
STS-U12-1436J	5573	1436	6.8	

MODEL 2x - 2x1

2'   5.5"

Shipping Weight 20 lbs

1'

MODEL	BTUs*	WATTs	SINGLE PHASE			THREE PHASE
			120v	208v	240v	240v
STS-U24-1015V	3559	783/1015	--	3.8	4.3	--
STS-U24-1316B	4490	1316	11.0	--	--	--
STS-U24-1297V	4426	974/1297	--	4.7	5.4	--
STS-U24-1659B	5662	1659	13.8	--	--	--
STS-U24-1701V	5804	1278/1701	--	6.1	7.1	--
STS-U24-2192B	7479	2192	18.3	--	--	--
STS-U24-2001V	6827	1503/2001	--	7.2	8.3	--
STS-U24-2222B	7578	2222	18.5	--	--	--
STS-U24-2428V	8285	1824/2428	--	8.8	10.2	--
STS-U24-3363B	11614	3363	28.4	--	--	--
STS-U24-3239V	11052	2433/3239	--	11.7	13.5	--
STS-U24-1992P	6811	1992	--	--	--	4.8
STS-U24-2442P	8351	2442	--	--	--	5.9
STS-U24-3041P	10400	3041	--	--	--	7.3

Standard color - add BK for black satin finish to the end of the catalog number.
Optional color - add W for white finish or SS for stainless steel to the end of catalog number.
Optional Grid Diffuser - add code G to end of catalog number.

*BTUs shown is based on maximum wattage.

MODEL 4x - 4x1

4' | 5.5" | 1'
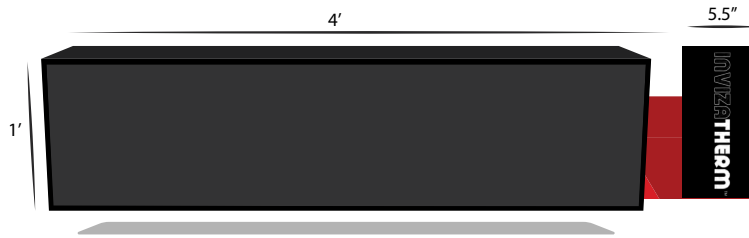
Shipping Weight 38 lbs

MODEL	BTUs*	WATTs	SINGLE PHASE					THREE PHASE	
			120v	208v	240v	277v	480v	240v	480v
STS-U48-2030T	7118	2030	--	--	--	--	4.3	--	--
STS-U48-2030V	7118	1567/2030	--	7.5	8.7	--	--	--	--
STS-U48-2594T	8851	2594	--	--	--	--	5.4	--	--
STS-U48-2594V	8851	1948/2594	--	9.4	10.8	--	--	--	--
STS-U48-3402T	11608	3402	--	--	--	--	7.1	--	--
STS-U48-3402V	11608	2555/3402	--	12.3	14.2	--	--	--	--
STS-U48-4002T	13654	4002	--	--	--	--	8.3	--	--
STS-U48-4002V	13654	3006/4002	--	14.5	16.7	--	--	--	--
STS-U48-3964N	13526	3964	--	--	--	14.3	--	--	--
STS-U48-4856T	16570	4856	--	--	--	--	10.1	--	--
STS-U48-4856V	16570	3647/4856	--	17.5	20.2	--	--	--	--
STS-U48-4776N	16296	4776	--	--	--	17.2	--	--	--
STS-U48-6478T	22104	6478	--	--	--	--	13.5	--	--
STS-U48-6478V	22104	4866/6478	--	23.4	27.0	--	--	--	--
STS-U48-6056N	20516	6056	--	--	--	21.7	--	--	--
STS-U48-3971P	13582	3971	--	--	--	--	--	9.6	--
STS-U48-3928U	13803	3928	--	--	--	--	--	--	4.9
STS-U48-4794P	16396	4797	--	--	--	--	--	11.6	--
STS-U48-4838U	16545	4838	--	--	--	--	--	--	5.8
STS-U48-5954P	20933	5954	--	--	--	--	--	14.8	--
STS-U48-6060U	20729	6060	--	--	--	--	--	--	7.3

Standard color - add BK for black satin finish to the end of the catalog number.
Optional color - add W for white finish or SS for stainless steel to the end of catalog number.
Optional Grid Diffuser - add code G to end of catalog number.
*BTUs shown is based on maximum wattage.

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 three colors to choose from, these heaters blend seamlessly into any space.

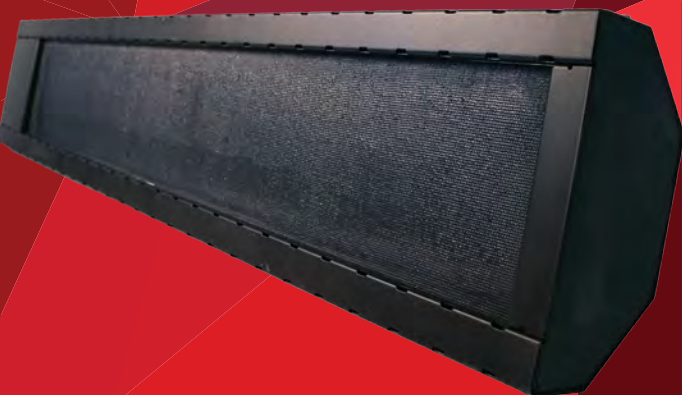# CUSTOMIZE YOUR INVIZATHERM™ THIN WITH AN ATTRACTIVE COLOR OPTION

BLACK SATIN (BK Standard)

STAINLESS (SS)

WHITE (W)

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.
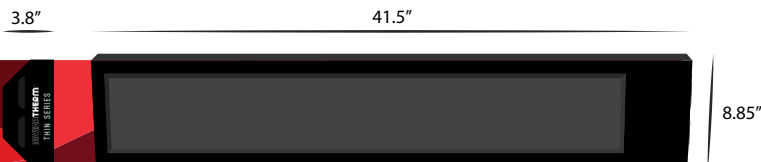
18" MODEL

3.8"   23.5"   8.85"

Shipping Weight 16 lbs
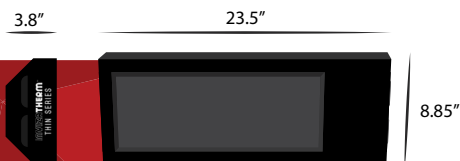
MODEL	BTUs*	WATTs	SINGLE PHASE 120v
STT-U18-1091B	3723	1091	9.1
STTU18-1330B	4712	1330	11.5
STT-U18-1767B	6053	1767	14.8
STT-U18-2161B	7373	2161	18.1

36" MODEL

3.8"   41.5"   8.85"

Shipping Weight 21lbs

MODEL	BTUs*	WATTs	SINGLE PHASE 240v	208v
STT-U36-2180V	7438	1635/2180	9.1	6.8
STT-U36-2660V	9421	2071/2660	11.5	8.6
STT-U36-3104V	10591	2328/3104	12.9	9.7
STT-U36-3534V	12106	2661/3534	14.8	11.1
STT-U36-4322	14747	3242/4322	18.1	15.6

Standard color - add BK for black satin finish to the end of the catalog number.
Optional color - add W for white finish or SS for stainless steel to the end of catalog number.
*BTUs shown is based on maximum wattage.

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.
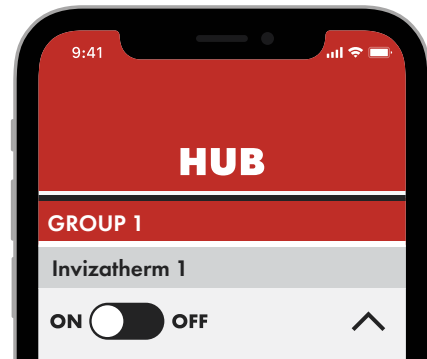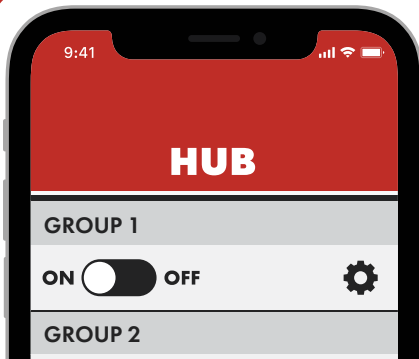
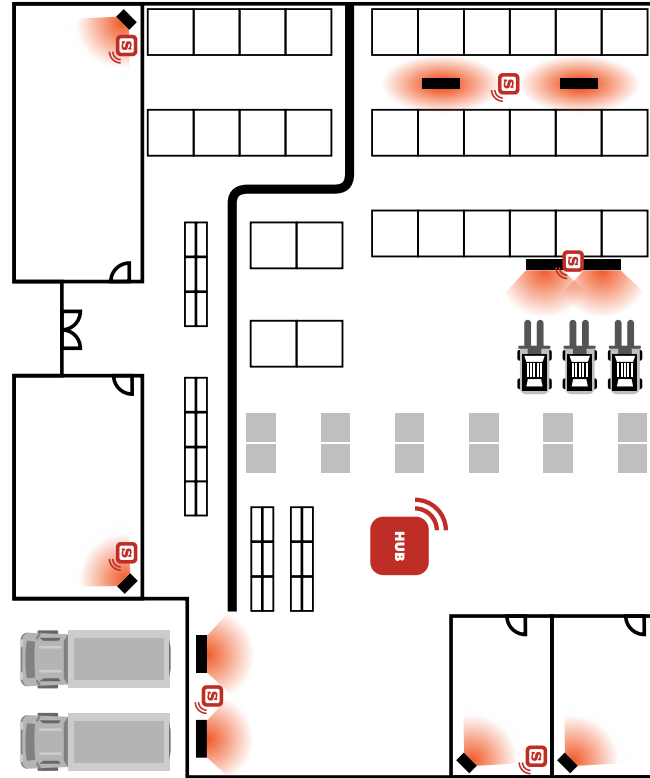# EASILY CONTROLLED WITH
YOUR SMART PHONE

1. **HUB**

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

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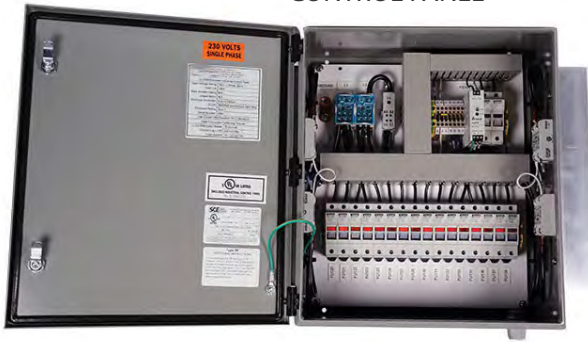
2. **S S S S**

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.

9:41

HUB

GROUP 1

ON ⬤ OFF ⚙

GROUP 2

9:41

HUB

GROUP 1

Invizatherm 1

ON ⬤ OFF ⚙

9:41

HUB

GROUP 1

Invizatherm 1

ON ⬤ OFF ⌄

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.

Contact you local sales representative for assistance in sizing your panel.

We will need the following information to size your panel:

- Number of heating zones
- Which model number and the quantity of each heater per zone
- Voltage/phase
- How do you want to control the heaters (built-in or remote color touch screen (specify), line voltage potentiometer on the panel door, or remote low voltage thermostat)

TOUCH SCREEN

Indeeco's remote mounted Touch Screen allows users to access control of the heaters at a convenient location. A 4" color screen allows access to each zone for independent temperature control. All Indeeco remote mounted touch screens are rated for indoor or outdoor use.

PERCENT TIMER

This 120V/240V 20 Amp Percent Timer offers simple control utilizing Indeeco's 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.
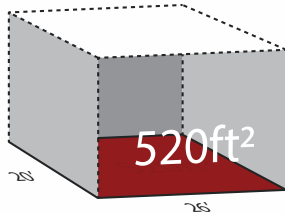
Z-WAVE

MODEL	ITEM DESCRIPTION	RATING AMP	VOLT	PHASE
TZ-HUB	Wireless Connection Hub	ANY	ANY	1
TZ-SWITCH	Wireless Controller, Z-WAVE Switch	40	120/240	1

UNIT 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

# HOW TO DETERMINE THE NUMBER OF HEATERS YOU WILL NEED

520ft²

FIRST.

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

Graph: Area Ft² (y-axis: 100–1200) vs. Kilowatts (kW) (x-axis: 2–22)

Lines: 30°F RISE, 40°F RISE, 50°F RISE

A 40°F RISE in a 520ft² room needs about 11 kW

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.

CEILING MOUNTED

WALL MOUNTED
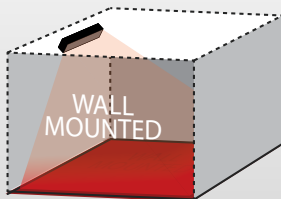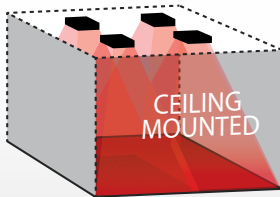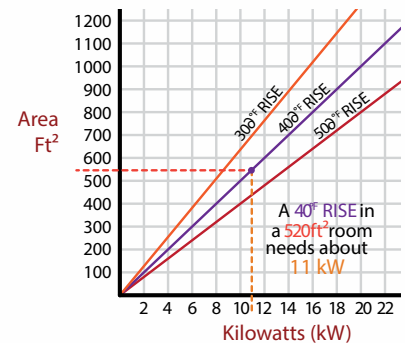
THIRD.

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.

INVIZATHERM CONTACTOR PANELS

Indeeco's contactor panels are designed to control Invizatherm electric infrared heaters. These contactor panels are often partnered with thermostats, but may also be controlled with on/off switches, timers, and other low voltage controllers. These panels are suitable for any arrangement of heaters, including single zone control, or field wired for multiple zones of control. Each contactor is able to carry one or several heaters. Indeeco's contactor panels are factory wired for quick and efficient installations and offer an affordable solution for every project.

Model Number	Number of Contactors	Contactor Size	Phase	Supply Voltage	Control Voltage	Size	Weight
THZ-S30-2C-0	2	30A	1	120-600	24VAC	12"x20"x6"	35 lbs
THZ-S30-2C-1	2	30A	1	120-600	120V	12"x20"x6"	35 lbs
THZ-T30-2C-0	2	30A	3	120-600	24VAC	12"x20"x6"	40 lbs
THZ-T30-2C-1	2	30A	3	120-600	120V	12"x20"x6"	40 lbs
THZ-S30-5C-0	5	30A	1	120-600	24VAC	16"x24"x6"	50 lbs
THZ-S30-5C-1	5	30A	1	120-600	120V	16"x24"x6"	50 lbs
THZ-T30-5C-0	5	30A	3	208-600	24VAC	16"x30"x6"	55 lbs
THZ-T30-5C-1	5	30A	3	208-600	120V	16"x30"x6"	55 lbs
THZ-T60-5C-0	5	60A	3	208-600	24VAC	20"x30"x6"	60 lbs
THZ-T60-5C-1	5	60A	3	208-600	120V	20"x30"x6"	60 lbs
THZ-S30-10C-0	10	30A	1	120-600	24VAC	20"x24"x6"	60 lbs
THZ-S30-10C-1	10	30A	1	120-600	120V	20"x24"x6"	60 lbs
THZ-T30-10C-0	10	30A	3	208-600	24VAC	20"x30"x6"	65 lbs
THZ-T30-10C-1	10	30A	3	208-600	120V	20"x30"x6"	65 lbs
THZ-T60-10C-0	10	60A	3	208-600	24VAC	24"x30"x6"	75 lbs
THZ-T60-10C-1	10	60A	3	208-600	120V	24"x30"x6"	75 lbs
THZ-S30-20C-0	20	30A	1	120-600	24VAC	24"x36"x6"	80 lbs
THZ-S30-20C-1	20	30A	1	120-600	120V	24"x36"x6"	80 lbs
THZ-T30-20C-0	20	30A	3	208-600	24VAC	30"x42"x6"	90 lbs
THZ-T30-20C-1	20	30A	3	208-600	120V	30"x42"x6"	90 lbs
THZ-T60-20C-0	20	60a	3	208-600	24VAC	30"x42"x6"	100 lbs
THZ-T60-20C-1	20	60a	3	208-600	120V	30"x42"x6"	100 lbs

- Nema 4 enclosure, 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.

Notes:
Customer to field wire low voltage controls (thermostat) to terminal blocks.
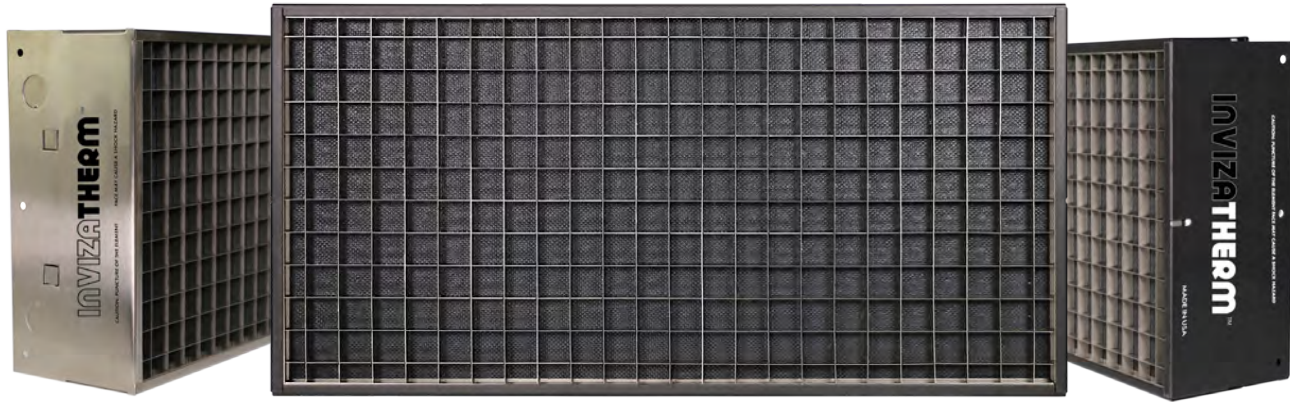Customer to field wire power to contacts.
Customer to provide means of disconnect (if required).
Contact factory for additional NEMA rated enclosures.
NEC recommended amp load for each contactor is 75%.

Shown with optional grid diffuser

WE REACH EVERY CORNER OF THE GLOBE.

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
314.644.4300