

# Standard (Non-stocked) Heater/Sensors

150°C

## Overview

Integrated heater/sensors are the ideal solution for many temperature control problems. They provide a reliable system with a reduced parts count and simplified installation which saves time and integrates easily into your application.

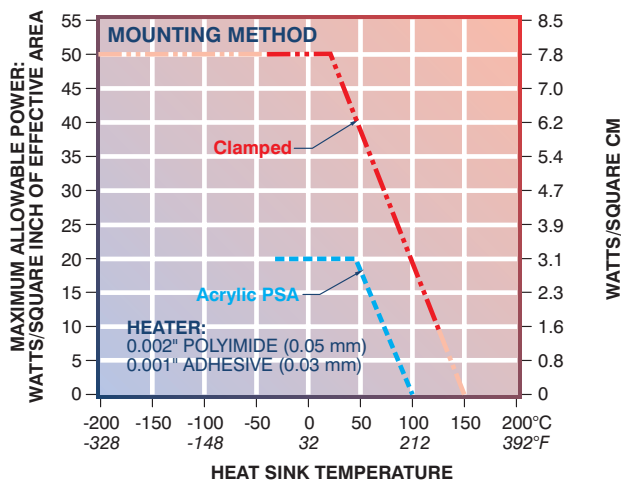
Minco standard heater/sensors have the sensor element located in a non-heating area to measure the heat sink temperature — not the heating element temperature. The result is a more accurate reading and better control. Precise location of the sensor ensures consistent readings every time.

These heaters are ideal for use with the [CT325 Miniature DC Controller](#).

## Typical applications

- Medical diagnostic equipment
- Telecommunication equipment: DWDM, fiberoptic component enclosures
- Prototyping, experimentation and research

## Maximum watt density, heater/sensors



Example: At 70°C, the maximum power of a heater/sensor mounted with acrylic PSA is 10 W/in<sup>2</sup>.



## Specifications for standard (non-stocked) models

**Temperature range:** -40 to 125°C (-40 to 257°F).

**"XS" option only:** -200 to 150°C (-328 to 302°F).

**"B" option only:** -32 to 100°C (-26 to 212°F).

**Material:** Polyimide/acrylic, 0.002/0.001" (0.05/0.03 mm).

**Resistance tolerance:** ±10% or ±0.5 Ω, whichever is greater.

**Sensor element:** 100 Ω or 1000 Ω platinum RTD, R(100°C)/R(0°C)=1.385 per IEC 751, or 50 kΩ NTC thermistor. Etched sensor leads add up to 0.4 Ω resistance to measured value.

**Minimum bend radius:** 0.030" (0.8 mm) except in sensor area 0.5" (12.7 mm).

**Connection:** Tinned solder pads. Four loose leadwires, AWG 26, PTFE insulated, 12" (305 mm) long, stripped and tinned, provided for optional attachment to solder pads (2 heater, 2 sensor).

**Sensor time response:** Less than 0.1 second in water at 3 ft/sec (sensor only); less than 0.5 second system time.

**Sensor stability:** Drift less than 0.1°C/year in normal use.

Minco's heater configurator and online ordering —

[www.minco.com/heater\\_config/](http://www.minco.com/heater_config/)

## Standard (Non-stocked) Heater/Sensors

### Specification options

ASI5900	Model number from table
R71.4	Heater resistance from table
PD	<b>Sensor element</b> PD = Platinum 100 $\Omega$ $\pm 0.12\%$ at 0°C PF = Platinum 1000 $\Omega$ $\pm 0.12\%$ at 0°C TF = NTC Thermistor 50 k $\Omega$ $\pm 1\%$ at 25°C XS = No sensor element installed Note: Etched sensor leads add up to 0.4 $\Omega$ resistance to measured value.
A	<b>Backing options</b> A = No adhesive B = Pressure sensitive adhesive (PSA)
ASI5900R71.4PDA = Sample part number	

### Rectangular heaters

Size (inches)		Size (mm)		Resistance options in ohms*	Effective area (in <sup>2</sup> )	Model number
X	Y	X	Y			
1.00	2.00	25.4	50.8	71.4 32.0 23.2 16.9	1.35	ASI5900
1.00	3.00	25.4	76.2	43.9 19.7 14.3 10.4	2.23	ASI5901
3.00	3.00	76.2	76.2	21.2 9.50 6.90 5.00	7.99	ASI5902
4.00	4.00	101.6	101.6	21.1 9.50 6.80 5.00	14.7	ASI5903
5.00	5.00	127.0	127.0	21.4 9.60 6.90 5.00	23.5	ASI5904

### Round heaters

Size (inches)	Size (mm)	Resistance options in ohms*				Effective area (in <sup>2</sup> )	Model number
1.50 diameter	38.1 diameter	73.1	32.8	23.7	17.3	1.25	ASI5905
3.00 diameter	76.2 diameter	21.1	9.50	6.80	5.00	6.93	ASI5906

\*Resistance tolerance is  $\pm 10\%$  or  $\pm 0.5 \Omega$ , whichever is greater

Specifications subject to change.

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