

Submittal Data

Series S – Standard Efficiency
High Intensity Infrared Heaters



SUPERIOR
RADIANT PRODUCTS

Project _____
 Engineer _____
 Contractor _____
 Model # _____

Date: _____
 Submitted by: _____
 Approved by: _____

General Specification

Fuel Type <i>(check one)</i> Natural Gas Propane	Gas Connection ½” NPT	Accessories Part# CH010 – Chain Kit (20ft of chain, 10 s-hooks) Part# CE014 – Thermostat, Line Volt Part# CE139 – Thermostat, Digital PSD158B Part# CG012 – S/S Gas Flex Connector, ½ x ½ x30” Part# CG052 – Type I-Rubber Gas Flex Connector, ½ x ½ x30” Part# CG011 – Gas Shut-Off Valve ½”
Inlet Gas Pressure Minimum Natural Gas @ 6.5” W.C. LPG @ 11” W.C. Maximum Natural Gas & LPG @ 14” W.C.		Transformers - (Line and Low Voltage ONLY) Part# SE004 – 120/24V, 20VA Hub Mount for 1 heater Part# SE009 – 120/24V, 40VA for up to 2 heaters Part# SE010 – 120/24V, 100VA for up to 5 heaters
Control Line Voltage Low Voltage Millivolt	Power Supply 120/24V	

MODEL	Quantity on Project	RATE BTUH	RADIATING SURFACE (Sq. In.)	DIMENSIONS			CLEARANCE to COMBUSTIBLES			
				Height	Length	Width	Top	Sides	Rear	Below
SD03N*		33,000	90	9.2”	16.3”	24.4”	35”	28”	20”	70”
SD03P*		30,000								
SD06N*		66,000	180	9.2”	23.1”	24.4”	40”	35”	20”	80”
SD06P*		60,000								
SD09N*		99,000	270	9.2”	30.0”	24.4”	50”	42”	28”	100”
SD09P*		90,000								
SD12N*		132,000	360	9.2”	36.9”	24.4”	54”	46”	28”	110”
SD12P*		120,000								
SD16N*		160,000					60”	48”	34”	134”

*Substitute “M” for “D” for Millivolt in Model Part#



INTRODUCTION

Superior Radiant Products is a company in the infrared heating industry founded on the principles of product quality and customer commitment.

For 20 years Superior Radiant Products Quality and Customer commitments are evidenced by our ready responses to market demands, never-ending training and support to our customers, superior design, a regard for design detail and an upgrade of materials wherever justifiable.

This material is for submittal purpose only and should not replace the S series Installation and Operation Manual.

Installation Codes

Installations must comply with all local building codes or in their absence; the latest edition of the national regulations and procedures applicable to gas fired and suspended heaters.

General Installation and Gas Codes/Electrical Codes

Heaters must be installed only for use with the type of gas appearing on the rating plate, and the installation must conform to the National Fuel Gas Code, ANSI Z.223.1 (NFPA 54) in the US and CAN/CGA B149.1 and B149.2 Installation Codes in Canada. For electrical requirements refer to the latest editions of the National Electrical Code ANSI/NFPA 70 or Canadian Electrical Code C22.1

LAYOUT RECOMMENDATIONS

Layout Considerations

1. Because high intensity heaters are un-vented, verify local codes for guidance on air supply and dilution air. Also see section on Ventilation.
2. Check local codes for mounting requirements and the requirement for flexible gas connectors or rigid mounting.
3. Do not locate heaters near windy locations such as door openings.
4. Do not locate heaters in very dusty environments
5. Avoid placing heaters below sprinkler heads or provide more than adequate clearance.

Spot Heating

High intensity heaters are ideal for spot heating applications. The following are key considerations to the success of the application:

1. Minimize any wind in order to maximize the effect of the radiant heat.
2. Placing two smaller heaters opposing each other will be more comfortable than placing one large heater.
3. Hang the heaters back and at an oblique angle (rather than directly overhead) in order to maximize the exposure of the peoples' bodies to radiant heat.

The following charts are intended for guidance only. Specific applications may require other parameters.

Suggested Minimum Mounting Heights				
<u>Heater Input Rate</u>	<u>Mounting Angle</u>			
BTU/hr	10°		35°	
	ft	m	ft	m
30,000-33,000	11 – 13	3.4 – 4.0	10 - 12	3.1 – 3.6
60,000-66,000	14.5 – 16.5	4.5 – 5.0	13 – 15	4.0 – 4.5
90,000-99,000	16 – 18.5	4.9 – 5.6	14.5 – 17	4.5 – 5.2
120,000-132,000	17.5 – 21	5.4 – 6.4	15.5 – 18.5	4.7 – 5.6
160,000	19 – 23	5.8 – 7.0	17 - 21	5.2 – 6.4

HEATER SPECIFICATIONS

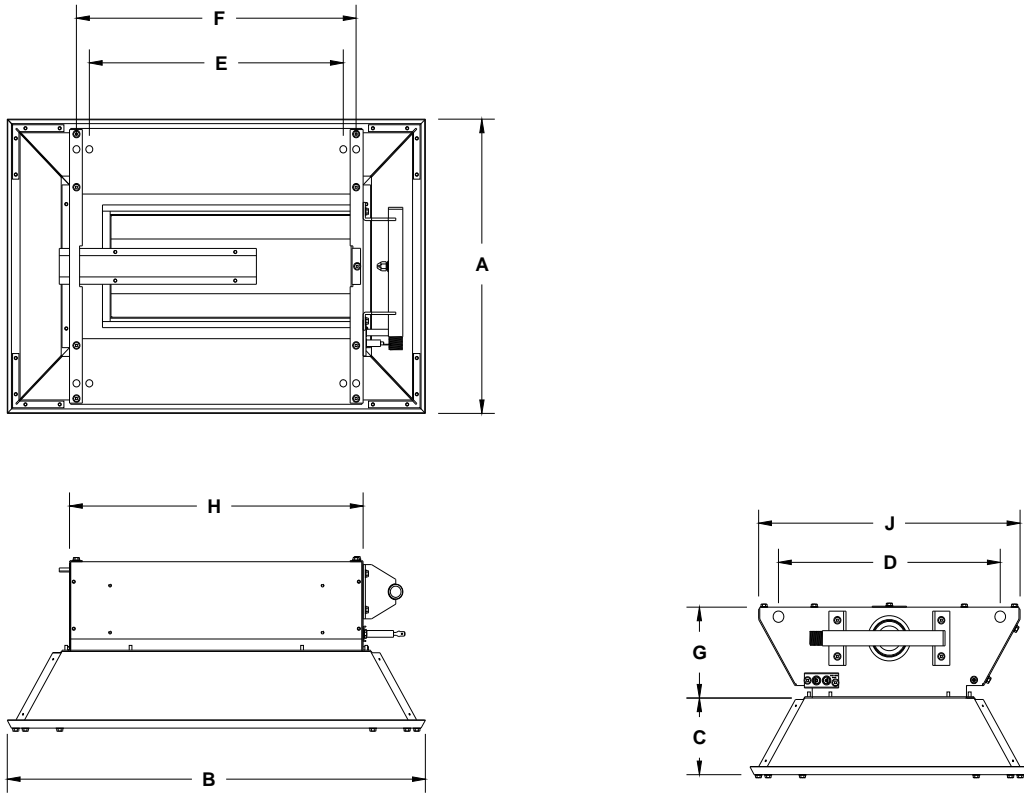


Figure 1: Overall Dimensional Information

Dimensional Chart

Model #		S3		S6		S9		S12		S16	
Input BTU/hr	Natural Gas	33,000		66,000		99,000		132,000		160,000	
	Propane Gas	30,000		60,000		90,000		120,000		N/A	
DIMENSION		in	cm	in	cm	in	cm	in	cm	in	cm
	A	16.3	41.4	23.1	58.7	30	76.2	36.9	93.7	36.9	93.7
	B	24.4	62	24.4	62	24.4	62	24.4	62	24.4	62
	C	4.2	10.7	4.2	10.7	4.2	10.7	4.2	10.7	4.2	10.7
	D	12.9	32.8	19.8	50.3	26.7	67.8	33.6	85.4	33.6	85.4
	E	14.8	37.6	14.8	37.6	14.8	37.6	14.8	37.6	14.8	37.6
	F	16.3	41.4	16.3	41.4	16.3	41.4	16.3	41.4	16.3	41.4
	G	5	12.7	5	12.7	5	12.7	5	12.7	5	12.7
	H	17.1	43.4	17.1	43.4	17.1	43.4	17.1	43.4	17.1	43.4
J	15.2	38.6	22.1	56.1	29	73.7	35.9	91.2	35.9	91.2	
Radiating Surface Area		in ²	cm ²	in ²	cm ²	in ²	cm ²	in ²	cm ²	in ²	cm ²
		90	581	180	1161	270	1742	360	2323	360	2323
Shipping Weight		lbs	Kg	lbs	Kg	lbs	Kg	lbs	Kg	lbs	Kg
		29	13.2	40	18.2	48	21.8	59	26.8	59	26.8

CLEARANCE TO COMBUSTIBLES

The stated clearance to combustibles represents a surface temperature of 90°F (50°C) above room temperature. Building materials with low heat tolerance (such as plastics, vinyl siding, canvas, tri-ply, etc...) maybe subject to degradation at lower temperatures. **It is the installer's responsibility to assure that adjacent materials are protected from degradation.**

WARNING

Clearances as marked on the heater body must be maintained from vehicles parked beneath. Signs should be posted identifying any possible violation of the clearance distances from the heater in all vehicle areas.

Clearance to combustibles must be maintained according to the following chart. In storages areas, signs must be posted to specify the maximum permissible stacking height.

Adequate clearance to sprinkler heads must be maintained.

Model Number	Top	Sides	Rear	Below
S3	35" (89 cm)	28" (71 cm)	20" (51cm)	70" (178 cm)
S6	40" (102 cm)	35" (89 cm)	20" (51 cm)	80" (203 cm)
S9	50" (127 cm)	42" (107 cm)	28" (71 cm)	100" (254 cm)
S12	54" (137 cm)	46" (117 cm)	28" (71 cm)	110" (280 cm)
S16	60" (153 cm)	48" (122 cm)	34" (87 cm)	134" (341 cm)

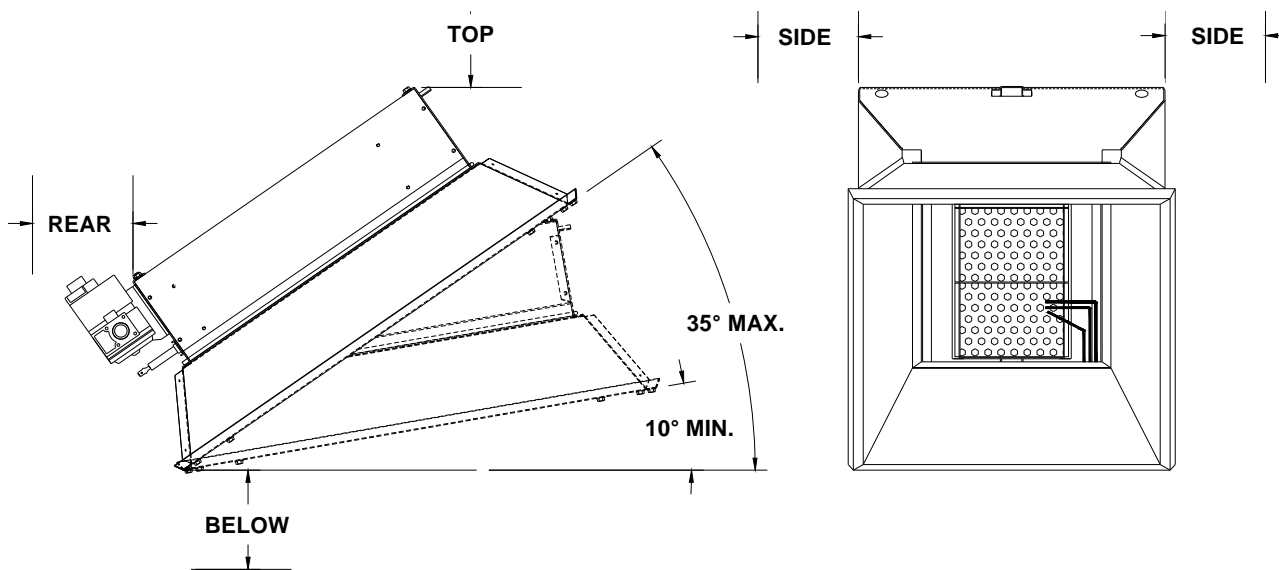


Figure 2: Clearance to Combustibles Diagram

Electric

Figure 4 illustrates typical wiring arrangements for the Series S heater. Two options are available; 230V and 24V supply. Up to six heaters may be operated from one thermostat. (Verify thermostat electrical capacity if non SRP product is used.)

CONTROL DESCRIPTION 24 VOLTS—DIRECT SPARK IGNITION 100% SHUT OFF APPLIES TO NATURAL GAS OR PROPANE GAS

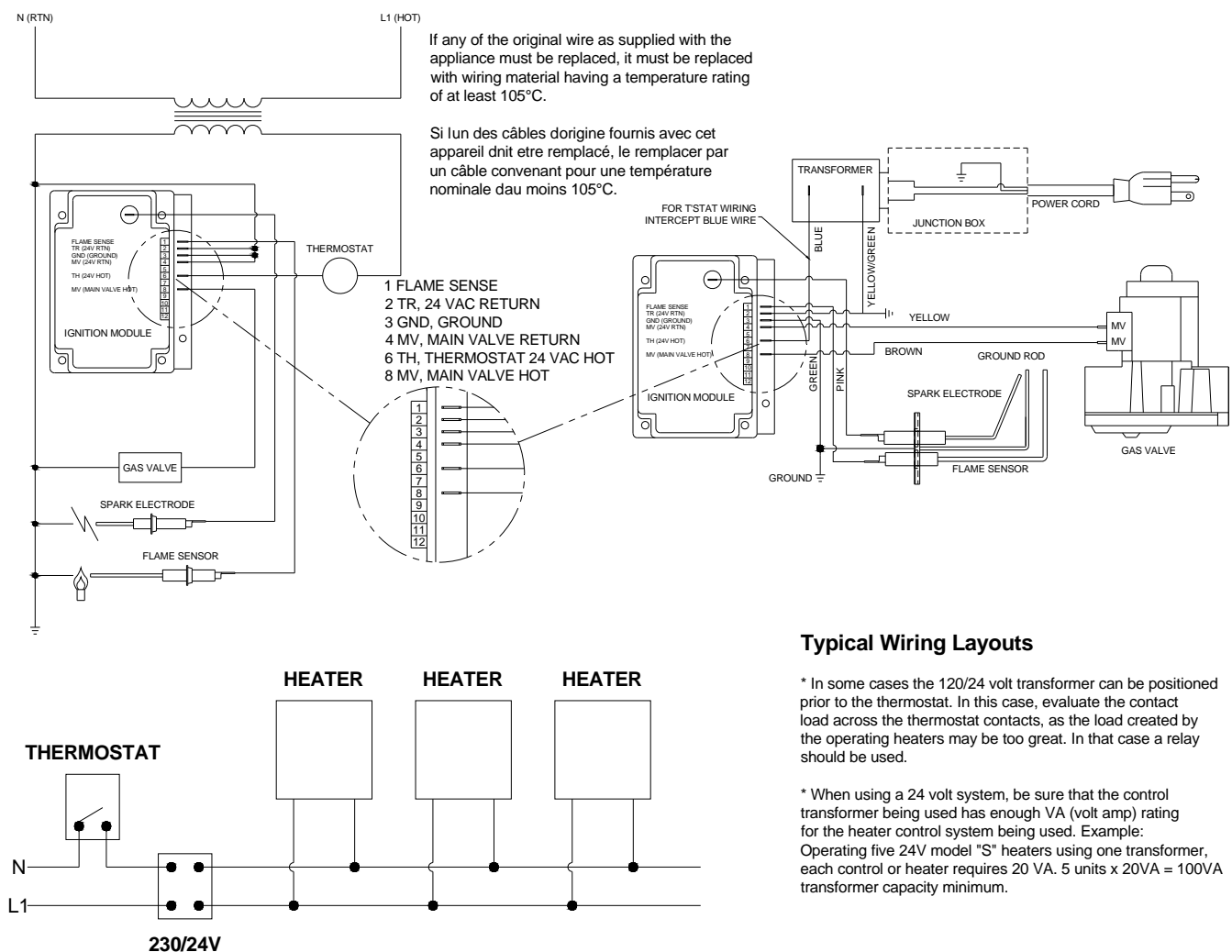


Figure 4: Wiring Diagram

Ventilation

Buildings using high intensity radiant heaters require ventilation. High Intensity type heaters are considered un-vented gas fired appliances, requiring ventilation to supply combustion air and dilute/remove the products of combustion.

In general, where heaters are installed without direct outside combustion air, fresh air ventilation must be provided to building space (3 cfm per 1000 BTU/Hr in Canada, 4 cfm per 1000 BTU/Hr in the USA),

- Mechanical exhaust should be electrically interconnected with the heaters and should always be installed in conjunction with inlet air openings. See “Block Diagram for Interconnecting Fan/Humidistat” above for details.
- Inlet air opening should be relatively small and distributed over the operating area of the heaters. They must always be located below the level of the heaters. One square inch of net free inlet area per 1000 BTUH is recommended.

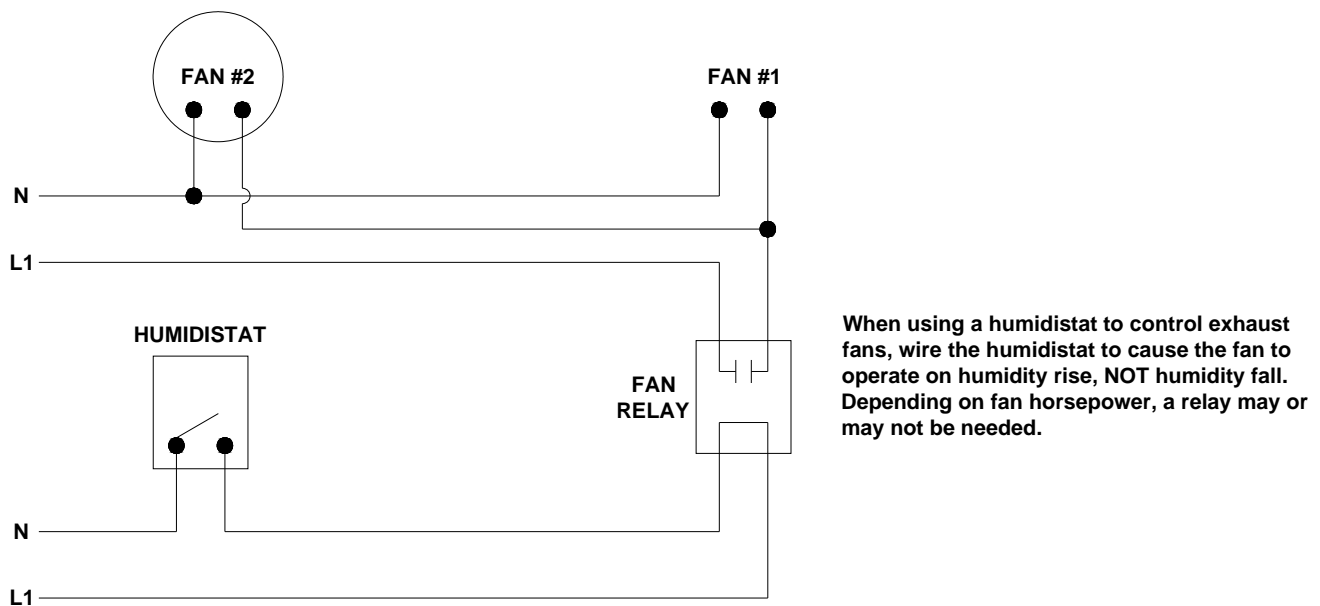


Figure 5: Block Diagram

Condensation

The products of combustion for natural gas contain up to 1 liter of water per 100,000 BTU consumed. This may add substantial amounts of moisture to the building air environment and may become a problem of condensation on cold surfaces within the building. This is particularly true for poorly insulated metal roof decks or structural steel framing.

- To decrease condensation, increase mechanical ventilation.
- Ensure that continuous waterproof barriers are used on the inside of all insulated surfaces.
- Ensure that exhausters pull air from the entire space and across the condensing surface.
- Humidistat controls may be integrated into the electrical control circuit of the heaters.