



celmec®
INTERNATIONAL

HEATRAY® IRH-E INFRARED RADIANT HEATING - ELECTRIC SERIES

PUBLICATION IRH-E 010111-2US

PRODUCT MANUAL IRH-E HEATERS FOR INDOOR AND OUTDOOR PERMANENT STRUCTURES

This appliance shall be installed in accordance with:

- Manufacturer's Installation Instructions
- Local Requirements for Electrical Equipment
- Municipal Building Codes
- Any other relevant Regulatory Regulations

This appliance must be installed by an authorised person and all electrical work must be carried out by a qualified electrician to validate the warranty.

IMPORTANT

- a. The appliance is not intended for use by young children or infirm persons without supervision. Young children should be supervised to ensure that they do not play with the appliance.
- b. The heater must not be located immediately below a socket outlet.
- c. The fixed wiring shall incorporate all means for disconnection from the supply, having an air gap contact separation in all active (phase) conductors, all done in accordance with local wiring rules.

PRODUCT MANUAL

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WARNING

Installation must only be carried out by an authorised person

CELMEC INTERNATIONAL PTY. LTD.

ABN 66514 732 689

STANDARD WARRANTY

Celmecc International warrants to the original owner-user that all Celmecc products will be free from defects in materials and workmanship. This warranty is limited to twelve (12) months from the date of dispatch.

Limitations and Exclusions

Celmecc's obligation under this warranty is limited to repair or replacement at Celmecc's factory, Moorabbin, of any parts of the product identified by model and serial number which shall be returned to Celmecc with transportation charges prepaid and which Celmecc's examination shall disclose to its satisfaction to be defective.

No parts will be supplied (in exchange for those defective or requiring repair) in advance of receipt and examination of the returned parts.

The manufacturer does not participate in any site related costs or labour expenses incidental to the replacement of parts, repairing, installing, servicing, or handling of parts or complete products and assumes no liability on parts repaired or replaced without consent.

All warranty requests for repairs or replacements must be accompanied by an installation commissioning report and a written explanation, giving model, serial number of unit and details of fault.

There is no warranty expressed or implied with regard to capacity requirements. The selection of the appropriate unit or units depends entirely upon the system design and capacities as determined and specified by the purchaser.

This warranty does not apply to any unit or parts thereof which become inoperative due to accident, misapplication, abuse, misuse, unauthorized alterations, or operation contrary to Celmecc's wiring diagrams and printed instructions, or if the serial number has been altered, defaced or removed.

Celmecc shall not be liable for any default or delay in performance of its warranty obligations hereunder caused by any circumstances beyond its control, including but not limited to judicial or government restrictions or restraints, strikes, fires, floods, or delayed supplies of raw materials or parts.

All goods are thoroughly inspected and tested before dispatch and are at the risk of the purchaser after shipment leaves Celmecc's factory. Should the goods arrive damaged, make the transport company aware of their condition and have this noted on the freight bill. If damage is discovered after unpacking, demand immediate inspection by the transportation company and insist that a notation is made of the damage on the freight bill.

When using electrical appliances, basic safety precautions should always be followed to reduce the risk of fire, electric shock and personal injury.

Read through the operating and assembly instructions before operating the appliance.

- Check if the voltage indicated on the appliance corresponds to the local mains voltage before you connect the appliance.
- The power supply to the appliance should correspond with the relevant power supply standards and local regulations.
- Extension cords may be used only if care is exercised in their use. The marked electrical rating of the extension cord and power socket should have adequate current carrying capacity and correspond to the relevant regulations of the power supply and local regulations. Check if the voltage indicated on the appliance corresponds to the marked electrical rating of the extension cord or power socket before you connect the appliance.
- The appliance is not to be located immediately above or below a socket-outlet.
- Never install this appliance close to anything flammable, such as furniture, curtains, etc.
- Never install this appliance in the immediate surroundings of a bath, a washbasin, a swimming pool or other wet areas.
- In order to avoid overheating and fire hazard, do not cover or obstruct the appliance. Do not place any materials over the appliance such as; clothes, blankets etc. The minimum distance of 60" (1.5m) between the appliance and flammable materials must be maintained at all times.
- The casing and front grill of the appliance become hot during operation. Ensure that no combustible materials such as; curtains, marquees, flags, plastics etc. can accidentally cover or obstruct the appliance.
- Do not touch the appliance (risk of scalding injury).
- Do not allow the cord to hang over the edge of a table or counter, or touch hot surfaces.
- If the supply cord is damaged, only the manufacturer, its service agent or a qualified electrician must replace it in order to avoid a hazard.
- Operation of the appliance must be discontinued and the mains plug removed immediately (unless hard wired) if improper use results in damage to the aluminium casing and/or the cord or plug, which could result in electrical shock and/or a fire hazard.
- Do not try to repair this appliance. Contact the manufacturer, its service agent or a qualified electrician for repairs.
- Do not store flammable liquid, paint, gas cylinders etc. in the immediate vicinity of the appliance.
- This appliance is not intended for use by young children or infirm persons without supervision. Young children should be supervised to ensure that they do not play with the appliance.
- Keep out of reach of children. In order to keep children from the dangers of electrical appliances, never leave them unsupervised with the appliance. Consequently, when selecting the location of the heater, ensure that children do not have access to the heater.
- This appliance must be installed by an authorised person and all electrical work must be carried out by a qualified electrician.

For additional protection, the installation of a Residual Current Device (RCD) is recommended.

1. Remove all packaging material and check the appliance, power supply cord and plug (if applicable) for signs of damage.
2. **IMPORTANT:** DO NOT REMOVE FOAM CUSHION STRIP FROM THE GRILL UNTIL AFTER INSTALLATION IS COMPLETE. This is to protect the element during transport and installation. MUST REMOVE BEFORE SWITCHING THE POWER ON.
3. Ensure correct mounting location and check for suitable mounting brackets and fasteners.
4. Before mounting, the minimum safe mounting height, clearances and tilt angles shown must be followed:
 - The minimum distance between the bottom edge of the appliance and the floor must be no less than 85" (2.1m) [refer figure 4, page 9].
 - There must be a distance of at least 20" (0.5m) between the appliance and the ceiling or roof [refer figure 4, page 9].
 - There must be a distance of at least 60" (1.5m) at each side between the appliance and the walls or the like [refer figure 4, page 9].
 - Minimum clearance from flammable materials to be 60" (1.5m)
 - Adjust tilt angle of unit to suit the application within $\pm 45^\circ$ [refer figures 5 & 6, page 10].
5. Ensure the appliance is not exposed to excessive wind loads.
6. Fix the mounting bracket to the wall/ceiling first. Ensure that the wall/ceiling is secure and structurally sound.
7. Assemble the heater onto the mounting bracket.
8. Adjust the desired angle of the face of the heater and fasten all screws (refer figures 5 & 6, page 10). Check the screws regularly as unforeseen mechanical disturbance due to wind etc could loosen the fixing over time.
9. **REMOVE FOAM CUSHION STRIP FROM THE GRILL**
10. Switch on the power supply to ensure the appliance works correctly.

- This appliance consists of a robust and maintenance-free aluminium casing with a Stainless Steel grill and bracket arrangement.
- Before cleaning, turn the appliance off and wait until the appliance cools off prior to cleaning.
- Wipe the appliance with a clean and lint-free cloth or soft brush.
- Never use abrasive cleaners, scrubbing brushes or chemical cleaners.
- Never use flammable cleaners such as benzine or spirits.
- Do not immerse cord, plug, or any part of the appliance in water or other liquid.
- For any service enquiries contact the manufacturer, its service agent or a qualified electrician.

CUSTOMER SERVICE

- Repairs must be carried out by the manufacturer, its service agent or a qualified electrician to ensure electrical safety.
- Improper repairs could lead to a safety hazard.
- This warranty does not cover damage or failure, as a result of: unauthorized installation, tampering, alteration, accident, misuse, abuse, neglect or improper maintenance.

CEILING SUSPENSION BRACKET STANDARD ARRANGEMENT

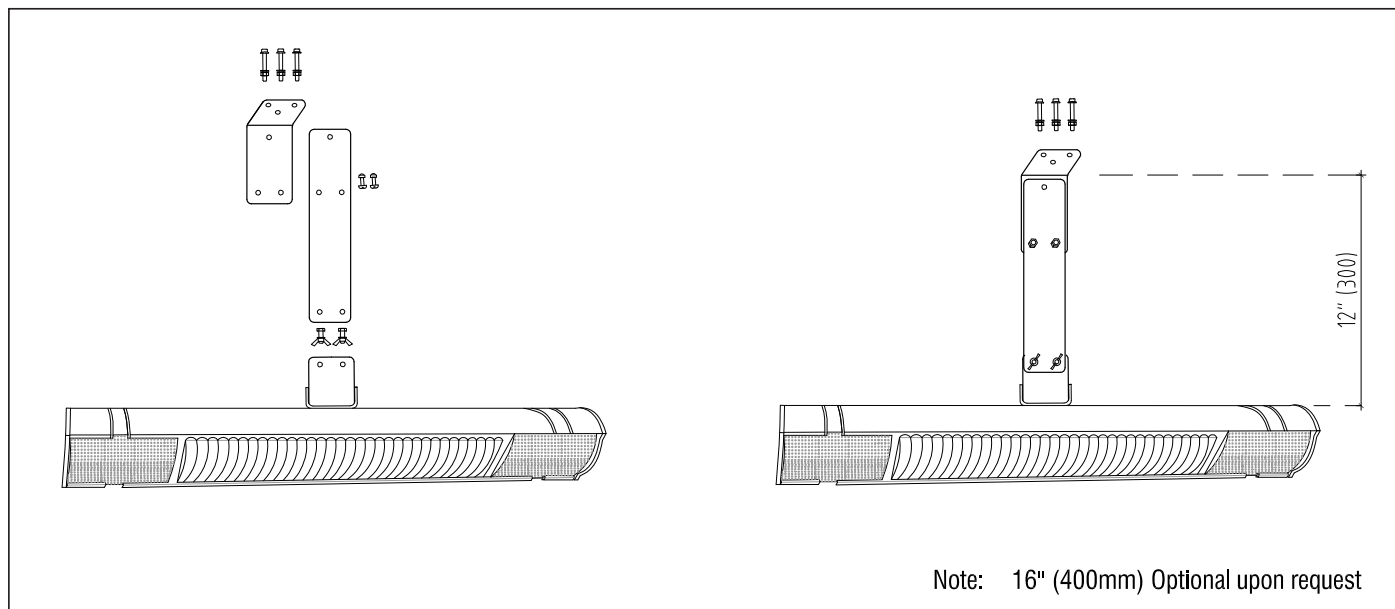


Figure 1.

WALL MOUNT BRACKET STANDARD ARRANGEMENT

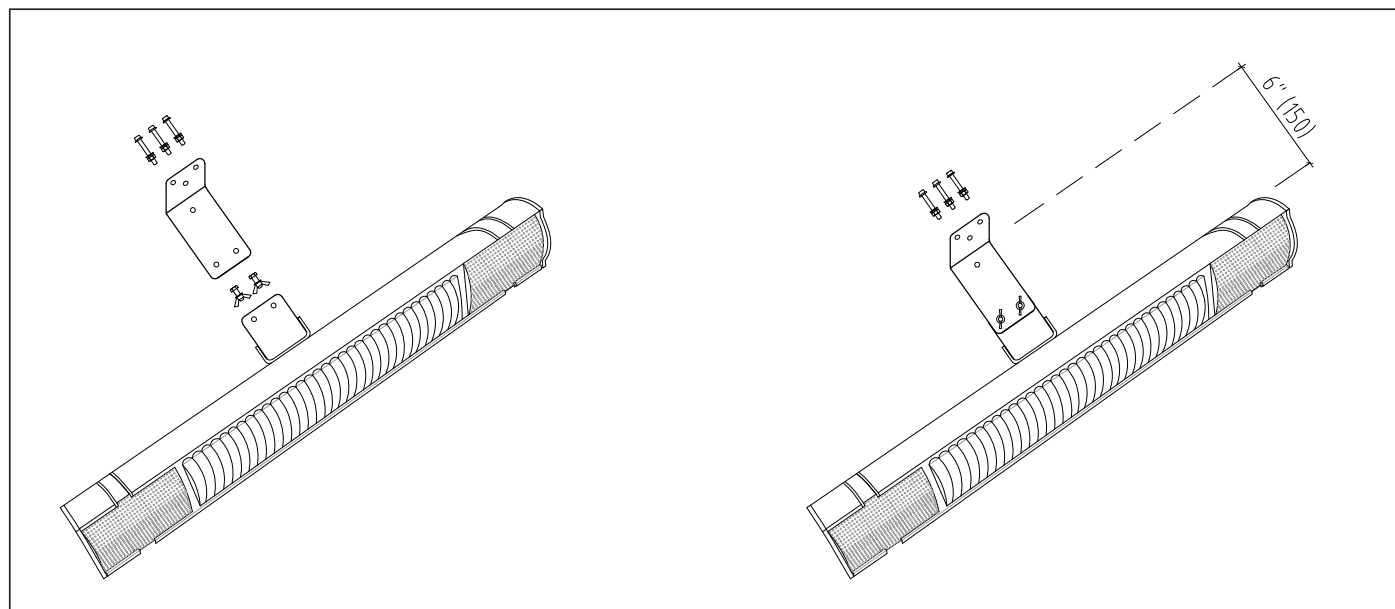


Figure 2.

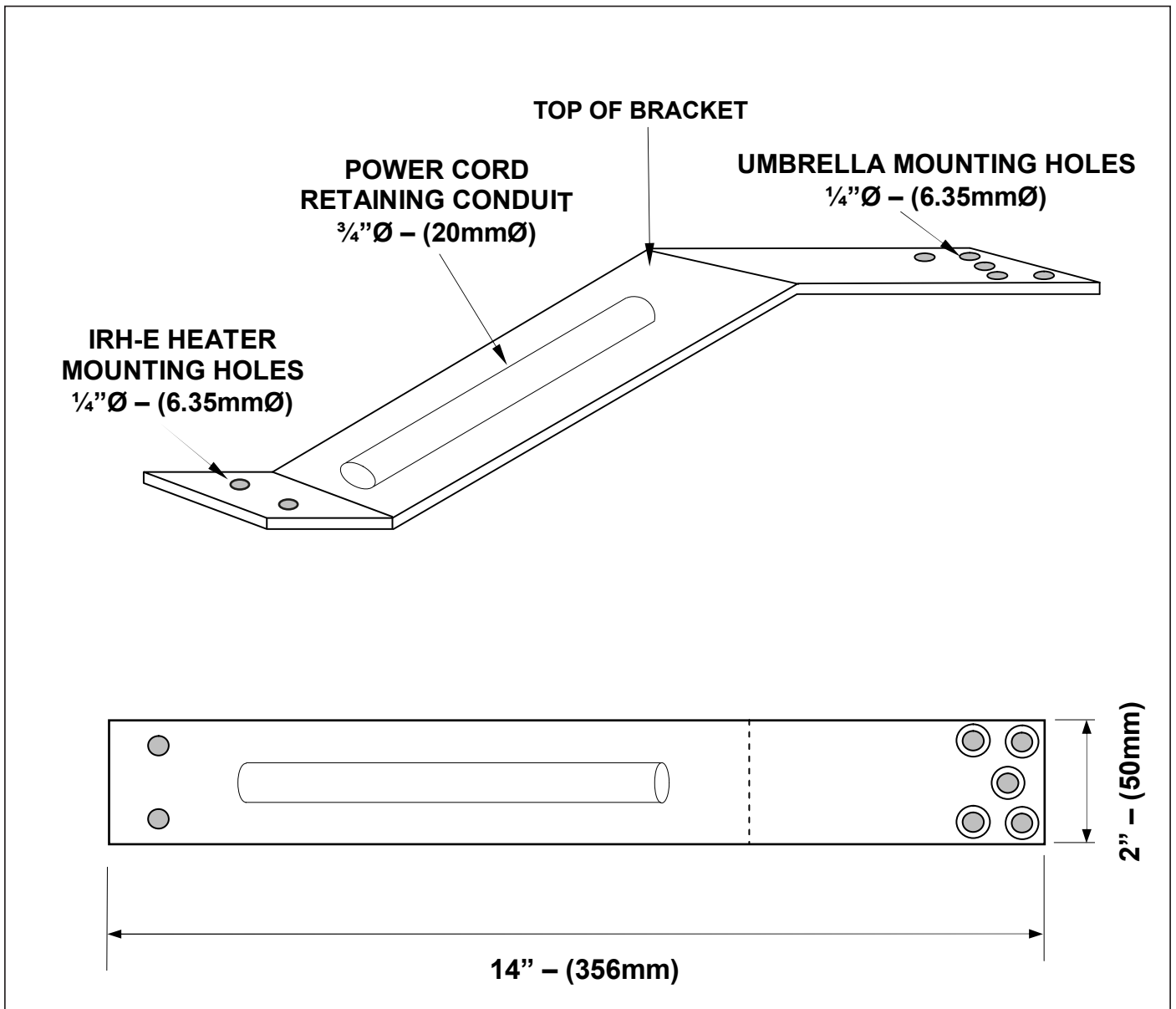
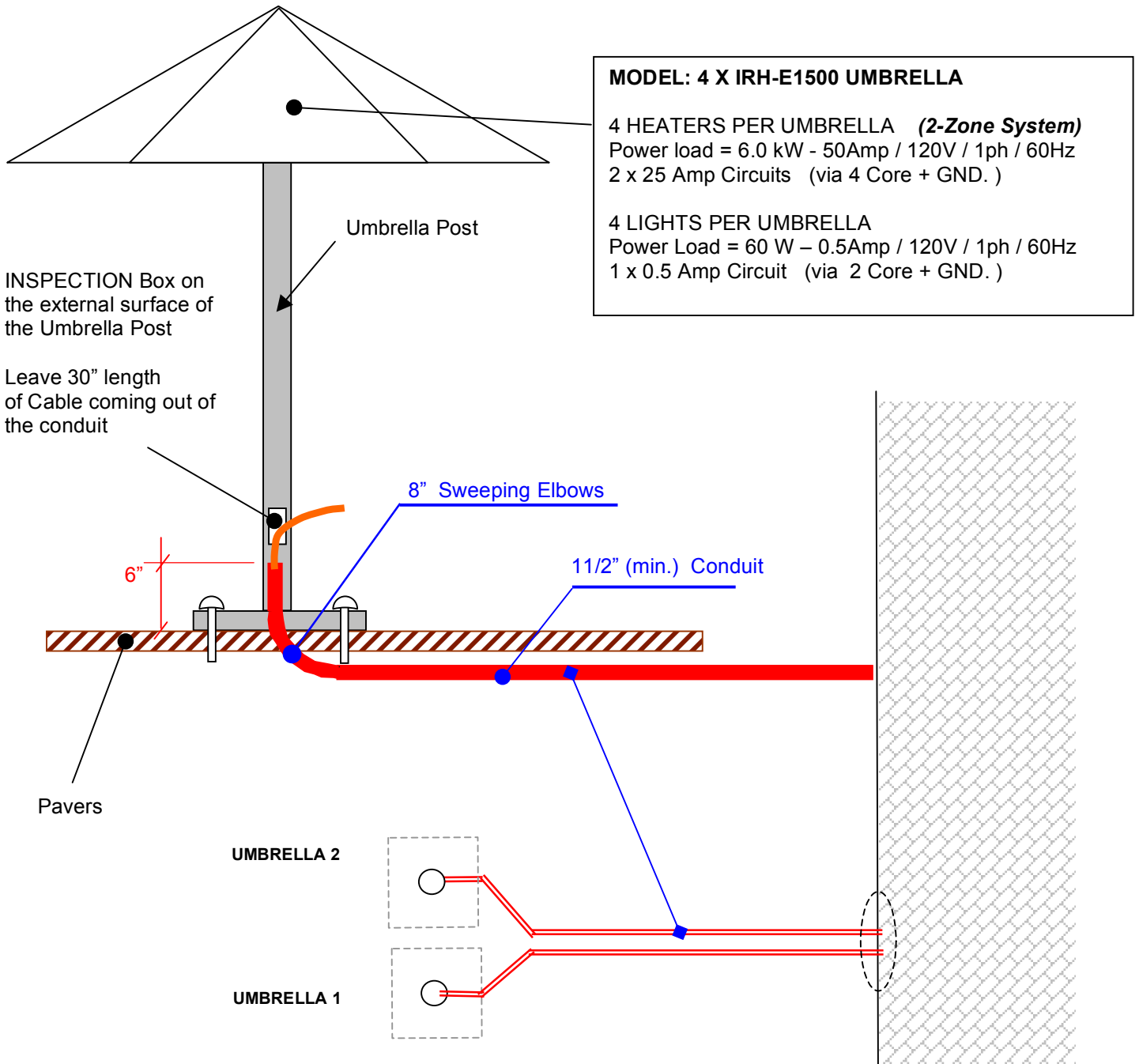


Figure 3.

(Refer Project Specific Diagrams)

**ELECTRICAL CONDUITS AND EXTERNAL WIRING REQUIREMENTS
FOR 4 x 1500watt HEATER UMBRELLA STRUCTURES -USA
HEATER MODEL: IRH-E1500**



CONDUITS

Heavy duty Conduit under the pavers, min. 1 1/2" diameter to each Umbrella (to be confirmed depending on cables used)
 Use sweeping elbows min. 8" radius

REF. US IRH-E1500 X4

CABLES

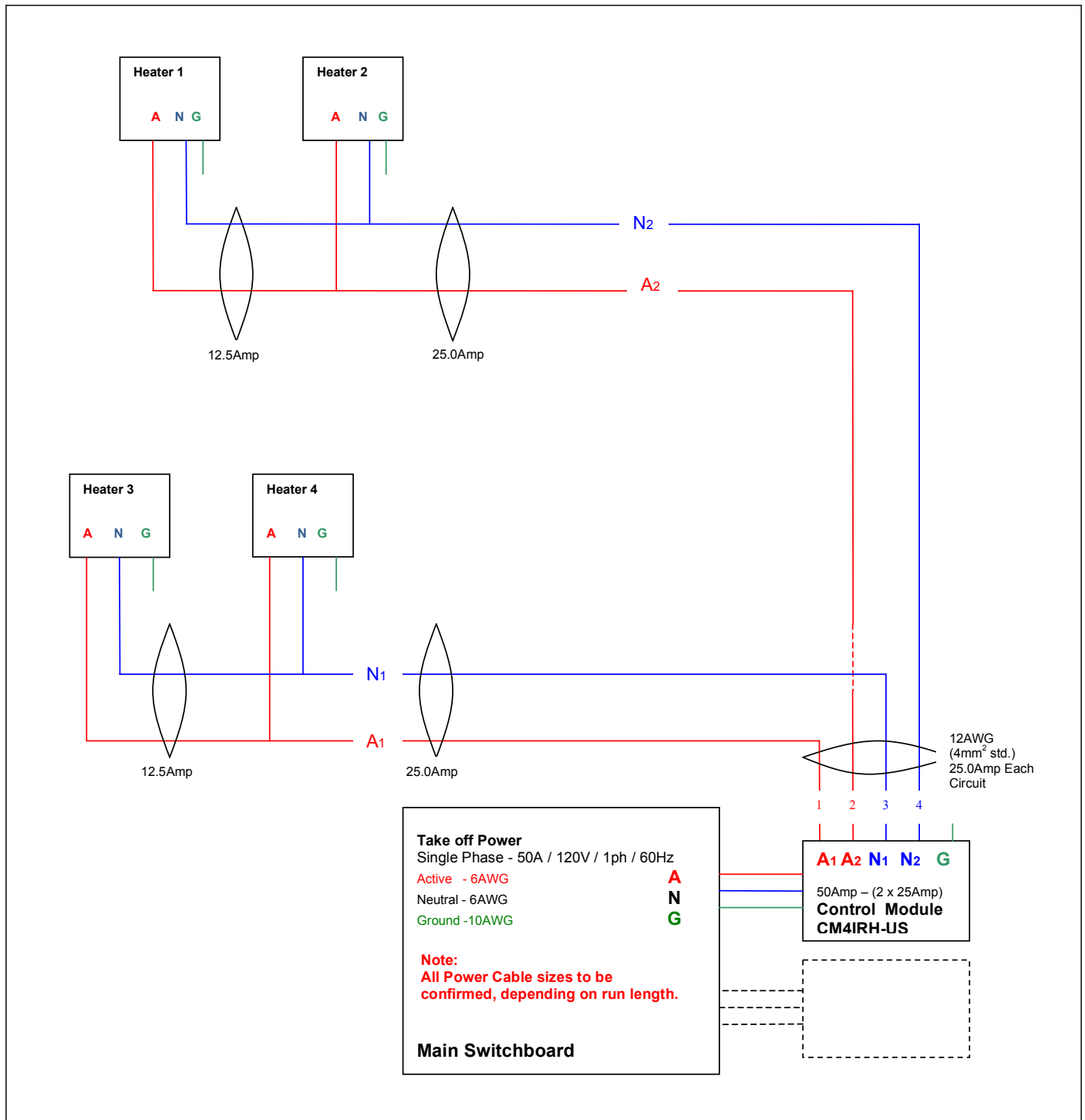
HEATING: 4 core + GND.
 12AWG - 10AWG Conductors for 2-zone heating
 (To be confirmed depending on run length)

LIGHTING: 2 core + GND.
 16AWG Conductors for lighting

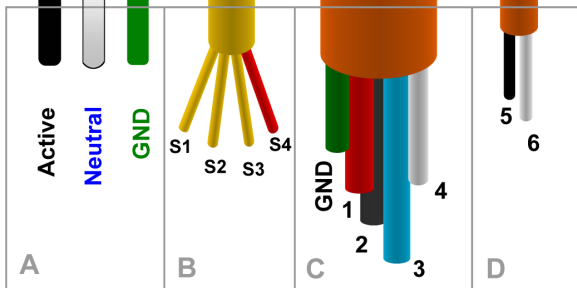
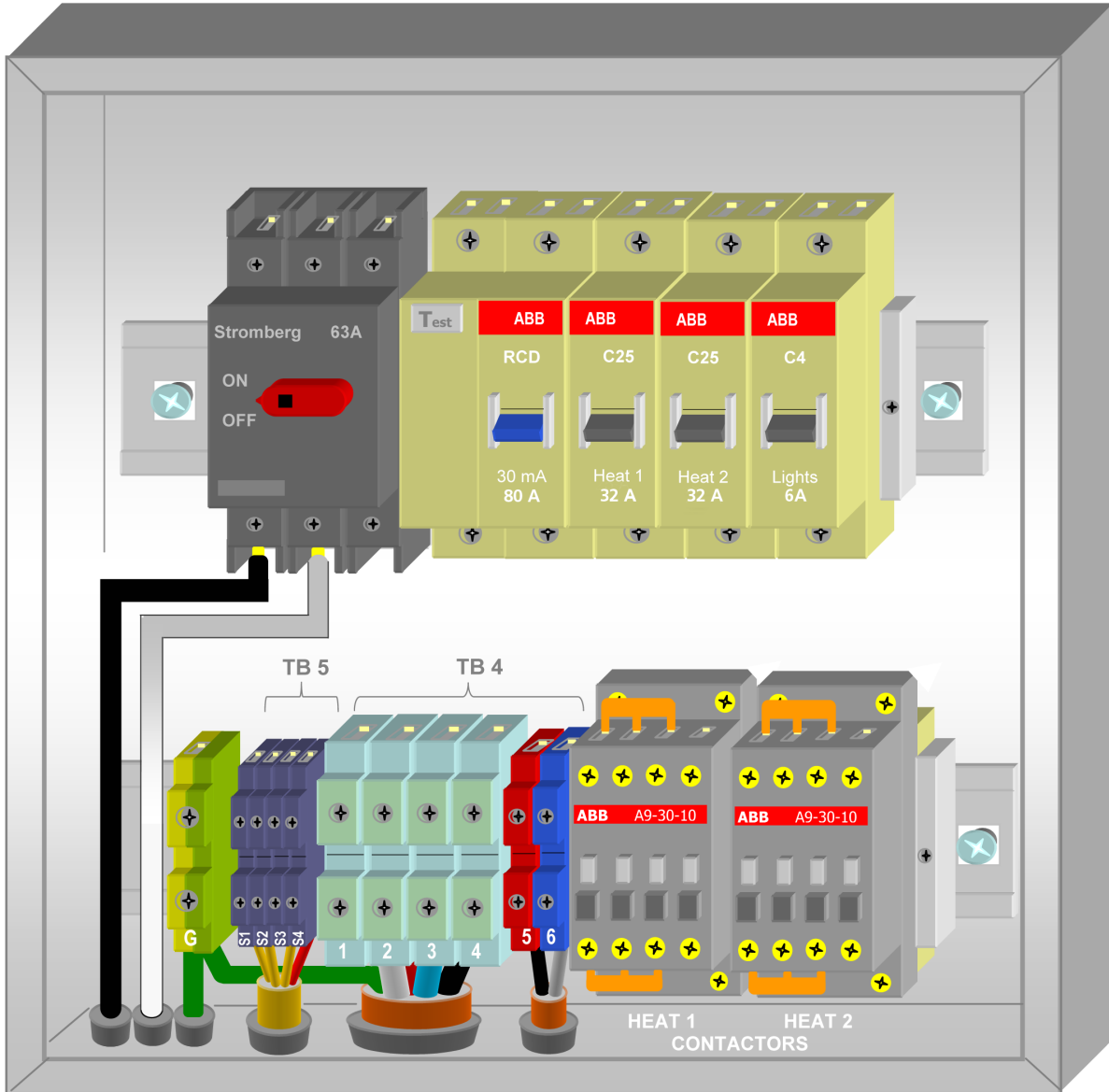
(Refer Project Specific Wiring Diagrams)

IRH-E HEATRAY - 1 Umbrellas System

4 Heater field wiring example - 50A / 120V / 1ph Total Power
 (2 X 1500Watt Heaters x 2 Zones)



CONTROL MODULE Model CM4IRH-US (120 V only)
1-Phase x 50Amp



DIMENSIONS OF ENCLOSURE

Model	CM4IRH-US
Width =	12"
Height =	12"
Depth =	6"

SITE WIRING - A	SITE WIRING - B	SITE WIRING - C	SITE WIRING - D
<p>SUPPLY CONDUCTORS FROM THE MAIN'S SWITCHBOARD</p> <p>Active = 6 AWG Neutral = 6 AWG Ground = 10 AWG</p>	<p>TB 5</p> <p>CABLE TO WALL REMOTE CONTROL SWITCH (4 Core - 16 AWG)</p> <p>S1. Return from Wall Switch "Heat 1" S2. Return from Wall Switch "Heat 2" S3. Return from Wall Switch "Lights" S4. Common Active</p>	<p>TB4</p> <p>CABLE TO "HeatRay" HEATERS (4 Core plus Ground - 10 AWG)</p> <p>1. Ah1 - ACTIVE heat stage 1 2. Ah2 - ACTIVE heat stage 2 3. Nh1 - NEUTRAL heat stage 1 4. Nh2 - NEUTRAL heat stage 2</p>	<p>TB 4</p> <p>CABLE TO "Celights" (2 Core - 16 AWG)</p> <p>5. AL - ACTIVE Lights 6. NL - NEUTRAL Lights</p>

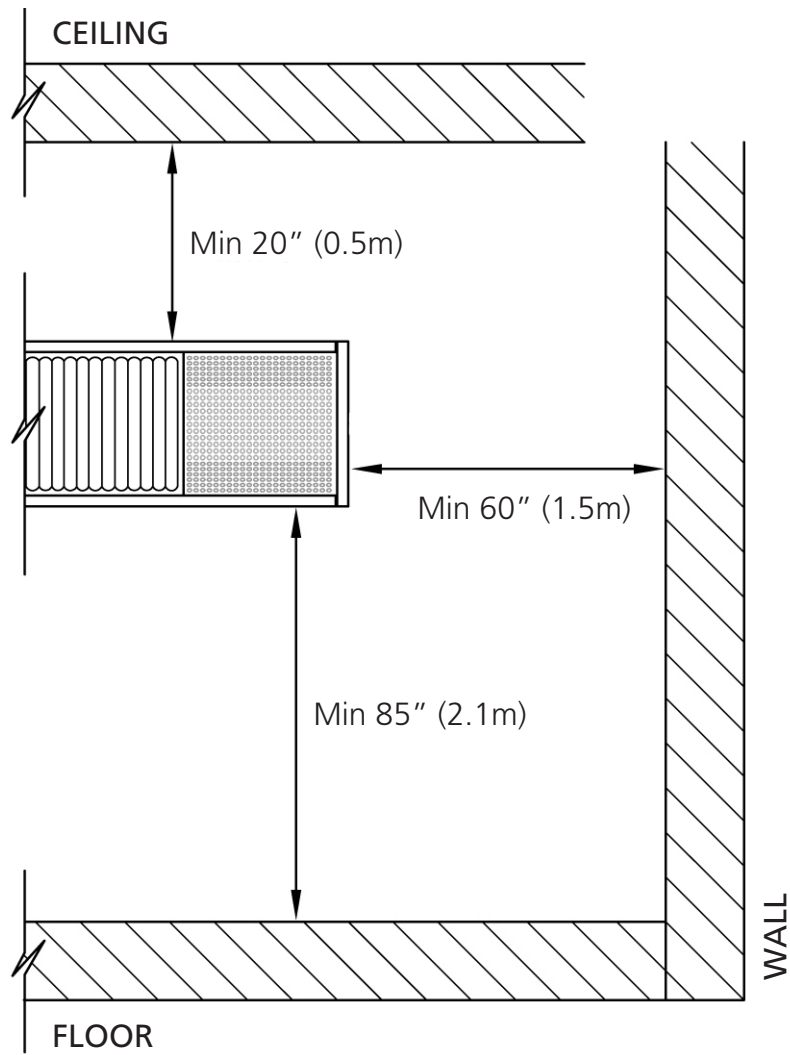


Figure 4.

IMPORTANT
Minimum clearance from flammable materials to be 60" (1.5m)
All recommended clearances are subject to confirming specific adjoining surroundings.

WALL MOUNTED

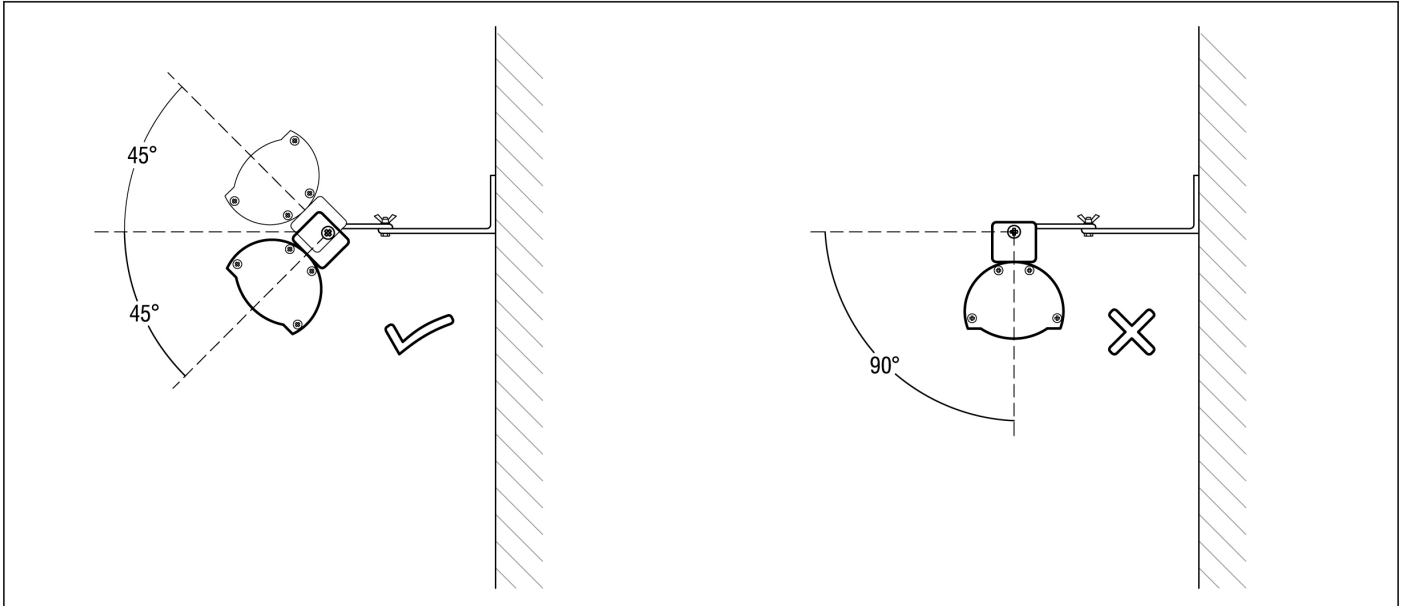


Figure 5.

CEILING MOUNTED

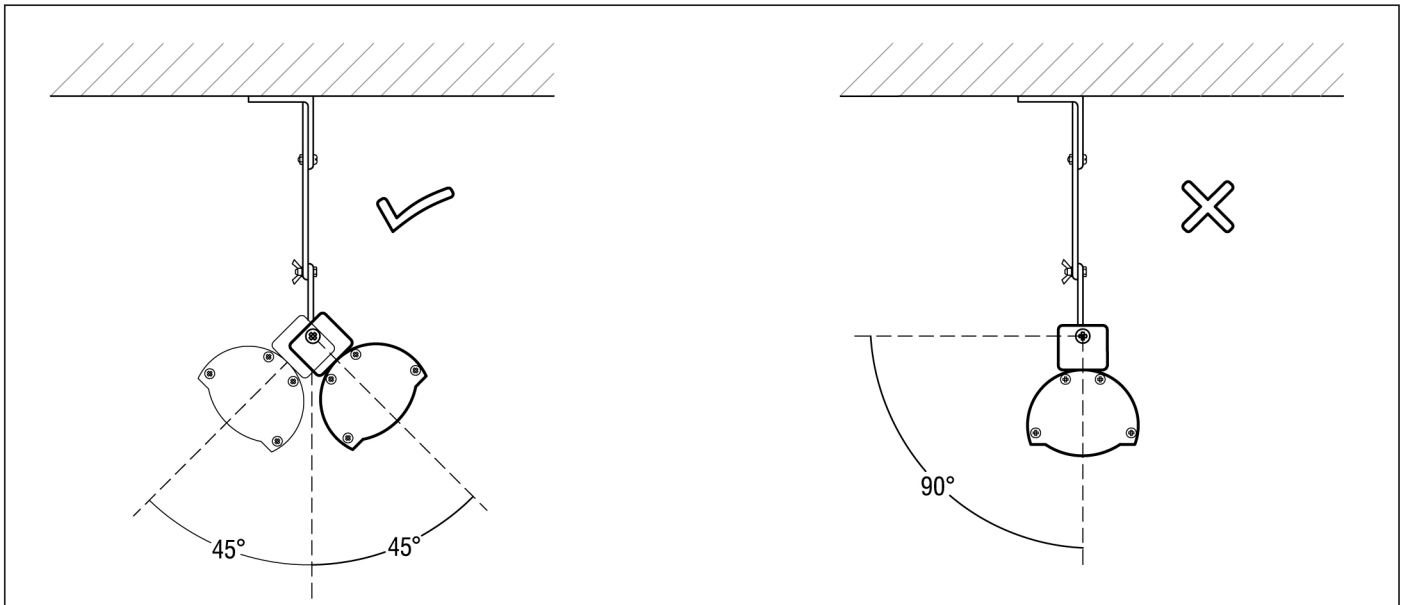


Figure 6.

Electric Infrared Radiant Heater

PRODUCT	- Heatray IRH-E
APPLICATION	- Overhead radiant heating for under cover outdoor and indoor use.
DESCRIPTION	- Curved faced non-corrosive aluminum construction, silver in appearance.
IP RATING	- IP65 waterproof rating.
LENGTH	- 26 ½" (670mm)
WIDTH	- 4" (100mm)
DEPTH	- 3" (75mm)
RANGE	- 3' (1m) to 7' (2.2m) forward radius
SPAN	- 120°
POWER	- IRH-E 1500 - 1.5 KW / 12.5A - 120V / 1ph / 60Hz
WEIGHT	- 6.8 lb (3.1kg)
CONTROL	- ON/OFF
OPERATION	- Approx. 1sec. to reach 98% operating capacity.
MOUNTS	- To suit umbrella (permanent type), ceiling and wall mounting.

Heatray IRH-E (Infrared Heating Electric Series) COMMISSIONING AND SERVICE SHEET Under Installed Conditions									
CLIENT:	PROJECT:								
CONTACT NAME:	CONTACT TEL NO.								
SITE ADDRESS:	COUNTRY/STATE:								
DATE:									
Number of IRH-E units									
Voltage System:	120V <input type="checkbox"/> Other _____								
Amp - Reading at Control Module (Switch Board)									
Volt - Reading at Control Module (Switch Board)									
UNIT NO.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 12.5%; height: 20px;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> </tr> </table>								
Amp - Reading at unit	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 12.5%; height: 20px;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> </tr> </table>								
Volt - Reading at unit	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 12.5%; height: 20px;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> </tr> </table>								
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Ambient Temp.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 12.5%; height: 20px;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> </tr> </table>								
<i>COMMENTS:</i>									
CHECKED/COMMISSIONED AND APPROVED BY:									
THE ABOVE COMMISSIONING REPORT MUST BE SUBMITTED TO CELMEC INTERNATIONAL TO REGISTER AND VALIDATE THE WARRANTY.									



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