SECTION 23 83 33 – ELECTRIC RADIANT HEATERS

 GENERAL

 SUBMITTALS

 Action Submittals:

 Product Data: Manufacturer’s descriptive data and product attributes including heat output and heat distribution area, control components and connections, mounting hardware, and installation instructions.

 Closeout Submittals:

 Operation and Maintenance Data.

 Hand remote control units to the Owner at Substantial Performance of the work.

 QUALITY ASSURANCE

 Regulatory Requirements: Radiant heaters and installation are to be in accordance with requirements of:

 UL 2021 Fixed and Location-Dedicated Electric Room Heaters

 NFPA 70, National Electrical Code

 3. ANSI/IEC 60529, Degrees of Protection by Enclosures (IP Code)

 4. State or Municipal requirements

 WARRANTY

 Manufacturer’s standard warranty against parts failure for durations as specified with the heaters.

 PRODUCTS

 MANUFACTURERS

 Contract documents are based on Bromic Heating [www.bromic.com](http://www.bromic.com/)

 Substitutions: [Refer to Division 01.] [Not permitted.]

 INDOOR/OUTDOOR WALL OR CEILING MOUNTING RADIANT HEATERS AND CONTROLS

 Heater: Bromic “ECLIPSE SMART-HEAT”, ANSI/IEC 60529 IP54 rated, 28-inch diameter, 220-240 VAC, 2900 watt output matte black heaters for wall or ceiling pole mounting and equipped with:

 A premium coated type 304 stainless steel heater head with ceramic glass screen and adjustable 33/66/100% heat.

 A premium double coated steel 24-inch twin straight ceiling mounting pole, with bracket.

 Double coated steel [wall mount bracket.] [24-inch straight ceiling mount pole.] [24-inch curved ceiling mount pole.] [48-inch straight ceiling mount pole.] [8-inch straight ceiling mount pole.]

 A perimeter 13 watt, 24VDC, 216.6 lumen, 3000K, warm white, [dimmer control and wireless remote.]

 A 1 year parts warranty.

* + 1. Control Components:

 “Smart-Heat” 220-240V VAC wireless dimmer controllers, ANSI/IEC 60529 IP54 rated, with 7-channel remote supplied loose, each capable of wireless dimming and ON/OFF control, heat output adjustment, and LED fixture dimming within a 100-foot range.

 INDOOR/OUTDOOR PORTABLE RADIANT HEATERS AND CONTROLS

 Heater: Bromic “ECLIPSE SMART-HEAT PORTABLE", ANSI/IEC 60529 IP54 rated, 280-inch diameter, 220-240 VAC, 2900 watt output, matte black free-standing, plug-in portable heaters, each equipped with:

 A 79-inch high, premium coated type 304 stainless steel heater head with ceramic glass screen and adjustable 33/66/100% heat control.

 A premium double coated steel curved pole connecting the heater head and the 24 x 25-inch wheeled base

 A perimeter 13 watt, 24VDC, 216.6 lumen, 3000K, warm white, dimmable LED light fixture, full light dimming.

 A 1 year parts warranty

 A power cord with a NEMA 6-20P plug for connection to a 220-240V grounding outlet (NEMA 6-20R receptacle)

 INDOOR WALL/CEILING SURFACE/FLUSH MOUNT HEATERS AND CONTROL

 Heater: Bromic “PLATINUM SMART-HEAT” Series, ANSI/IEC 60529 IP54 rated, [208] [220-240] VAC, [4500 watt] [3400 watt] [2300 watt] output, [matte black] [white] weatherproof heaters equipped with

 A [type 304] [marine-grade version type 316] brushed stainless steel heater head enclosure with tinted glass ceramic screen

 Surface Mount: Double coated steel [4-foot straight ceiling mount pole] [2-foot straight ceiling mount pole] with mounting bracket.

 Ceiling Mount: [Ceiling recess kit] [Low clearance recess kit, stainless steel, ventilated insulated enclosure] with mounting bracket.

 ON/OFF control, ANSI/IEC 60529 IP54 rated, (separate accessory)

 A 1 year parts warranty

* + 1. Control Components:

 “Smart-Heat” 110/208/230 VAC wireless controllers remote supplied loose, each capable of wireless ON/OFF control within a 100-foot range.

 “Smart-Heat” 208/230 VAC wireless controllers remote supplied loose, each capable of wireless dimming control within a 100-foot range.

 OUTDOOR WALL/CEILING SURFACE/FLUSH MOUNT HEATERS AND CONTROL

 Heater: Bromic “PLATINUM SMART-HEAT MARINE” Series, ANSI/IEC 60529 IP55 rated, [208] [220-240] VAC, [4500 watt] [3400 watt] [2300 watt] output, [matte black] [white] weatherproof heaters equipped with:

 A type 316 brushed stainless steel sealed heater head enclosure with tinted glass ceramic screen

 Surface Mount: Double coated steel [4-foot straight ceiling mount pole] [2-foot straight ceiling mount pole] with mounting bracket.

 Ceiling Mount: [Ceiling recess kit] [Low clearance recess kit, stainless steel, ventilated insulated enclosure] with mounting bracket.

 ON/OFF control, ANSI/IEC 60529 IP54 rated, (separate accessory)

 A 5 year parts warranty

* + 1. Control Components:

 “Smart-Heat” 110/208/230 VAC wireless controllers remote supplied loose, each capable of wireless ON/OFF control within a 100-foot range.

 “Smart-Heat” 208/230 VAC wireless controllers remote supplied loose, each capable of wireless dimming control within a 100-foot range.

 OUTDOOR WALL/CEILING SURFACE/FLUSH MOUNT HEATERS AND CONTROL

 Heater: Bromic “TUNGSTEN SMART-HEAT” Series, ANSI/IEC 60529 IPX4 rated, [208] [240] [277] VAC, [2000 watt,] [3000 watt,] [4000 watt,] [6000 watts] output in [matte black] [white] weatherproof heaters for surface wall mounting or surface or recessed ceiling mounting and equipped with:

 A type 304 brushed stainless steel sealed heater head enclosure with partially open mesh; quartz heating elements

 [Double coated steel 36-inch straight ceiling mount pole with bracket.]

 [Ceiling flush mount recess kit with bracket.]

 [ON/OFF control, ANSI/IEC 60529 IP54 rated,]

 [DIMMER control, ANSI/IEC 60529 IP54 rated,]

 A 1 year parts warranty; 7-year heating element warranty

* + 1. Control Components:

 “Smart-Heat” 110/208/230 VAC wireless controllers remote supplied loose, each capable of wireless ON/OFF control within a 100-foot range.

 “Smart-Heat” 208/230 VAC wireless controllers remote supplied loose, each capable of wireless dimming control within a 100-foot range.

 EXECUTION

 INSTALLATION OF RADIANT HEATERS

 Supply electric radiant heaters where shown. Supply wireless controllers where indicated. Hand the components to the electrical trade at the locations where they are to be installed for installation as part of the electrical work. Confirm exact locations prior to installation.

 Ensure that installation personnel have copies of the heater manufacturer’s published installation instructions, including required clearances.

 Adjust heater angles to the Owner’s requirements. Ensure that all heaters are protected from the elements.

 Test and confirm proper operation of all control components.

 START-UP

* + 1. After heater and control installation is complete, start each heater and test and confirm proper operation of all phases of heater operation.

 Commissioning

* + 1. Commission the heaters in accordance with specified commissioning requirements.

 Demonstration and Training

* + 1. Include for 2 hours of on-site operation and maintenance demonstration and training for 2 groups of 4 people.

END OF SECTION