



ELECTRIC UNIT HEATER REGULAR DUTY

Installation Form RGM 428 (MI500 Revision 0)

REZNOR *Thomas & Betts*

APPLIES TO:

Model EGE

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WARNING: Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury, or death. Read the installation instructions thoroughly before installing this equipment.

FOR YOUR SAFETY
The use and storage of gasoline or other flammable vapors and liquids in open containers in the vicinity of this appliance is hazardous.

1. General

The instructions in this manual apply to installation and operation of Reznor Model EGE electric unit heaters. These electric unit heaters are ^CCSA_{US} listed and meet USA & Canadian requirements for electric air heaters. Read all of these instructions before beginning installation. Specifications are subject to change without notice.

HAZARD INTENSITY LEVELS

- 1. Danger:** Failure to comply will result in severe personal injury, death, and/or property damage.
- 2. Warning:** Failure to comply could result in severe personal injury, death, and/or property damage.
- 3. Caution:** Failure to comply could result in minor personal injury and/or property damage.

2. Installation Codes

Reznor Model Series EGE Electric Unit heaters should be installed by a qualified service person in accordance with the standards of the National Board of Fire Underwriters for electric unit heaters. Consult local authorities having jurisdiction to verify local codes and installation

procedures. Follow carefully both the national standards and the local codes.

Specific Installations -- Installation in aircraft hangars should be in accordance with ANSI/NFPA No. 409 (latest edition), Standard on Aircraft Hangars. Installations in public garages should be in accordance with ANSI/NFPA No. 88A (latest edition), Standard for Parking Garages. ANSI/NFPA No. 88A (latest edition) specifies heaters must be installed at least eight feet above the floor.

Aircraft Hangars -- ANSI/NFPA No. 409 specifies a clearance of ten feet to the bottom of the heater from the highest surface of the top of the wings or engine enclosures of whatever aircraft would be the highest to be housed in the hangar. Maintain a minimum clearance of eight feet from the floor in other sections of aircraft hangars such as offices and shop which communicate with areas used for servicing or storage. The heaters must be located so as to be protected from damage by aircraft or other objects such as cranes and movable scaffolding. In addition, the heater must be located so as to be accessible for servicing, adjustment, etc.

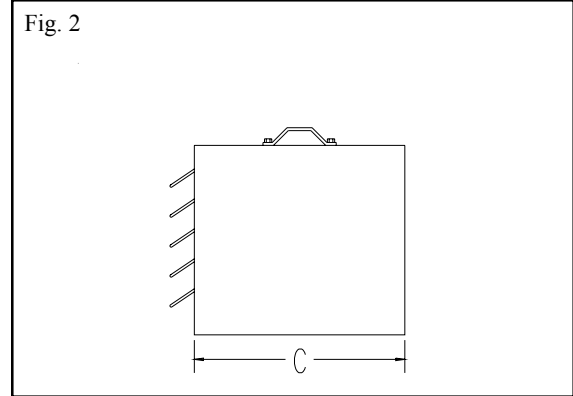
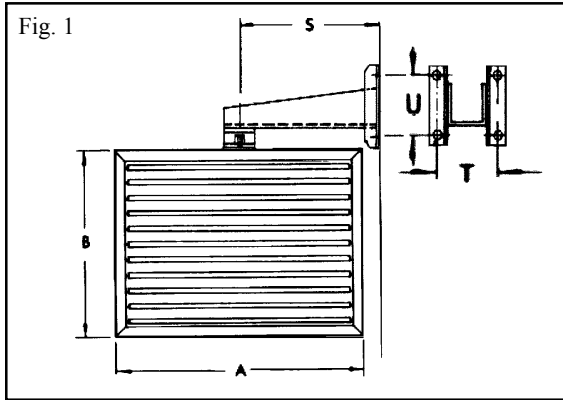
All Installations -- Clearances from the heater to combustible construction or material in storage must conform with ANSI/NFPA standards, and such material must not attain a temperature over 160°F by continued operation of the heater.

3. Sizing of Equipment

To determine total required kilowatt heating capacity of electric unit heaters, calculate room heat losses by following methods and reference data from the ASHRAE Guide and DATA Book or the NEMA formula for residential or office type applications.

It is important not to oversize equipment heating capacity, otherwise temperature control will be poor and both initial installation and operating costs will be increased.

4. Dimensions



Dimensions - Inches (mm)

Heater Rating kW	A	B	C Depth	Bolt Size	Hole Dia.	S	T	U
2 to 10	17 (432)	14 (356)	15 1/2 (394)	1/2 - 13 N.C.	9/16 (14)	12 1/2 (318)	4 1/2 (114)	4 1/2 (114)
15 to 40	24 (610)	19 1/2 (495)	22 (559)	3/4 - 10 N.C.	7/8 (22)	17 1/2 (445)	6 (152)	6 (152)

Mounting Height and Weight

Heater Rating kW	Normal Mounting Height Feet (Meters)	Shipping Weight Lbs. (kg)
2 to 10	6 to 8 (1.8 to 2.4)	59 (24)
15 to 40	8 to 12 (2.4 to 3.0)	104 (47)

5. Warranty

Refer to limited warranty information on the Warranty Card attached.

THE WARRANTY IS VOID if wiring is not in accordance with the diagram furnished with the heater and with both local and national electrical codes.

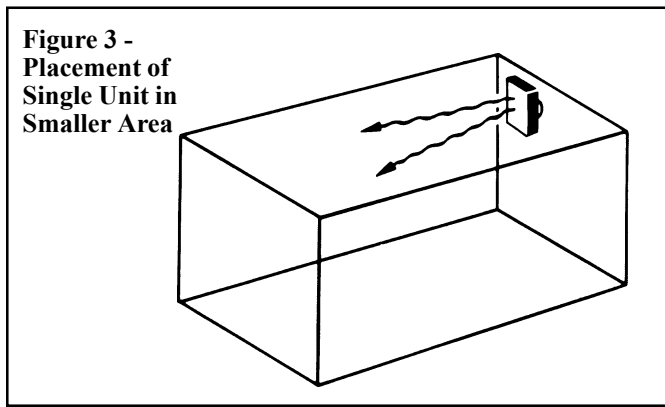
WARNING
Turn off power supply when servicing this heater.

6. Unit Heater Location

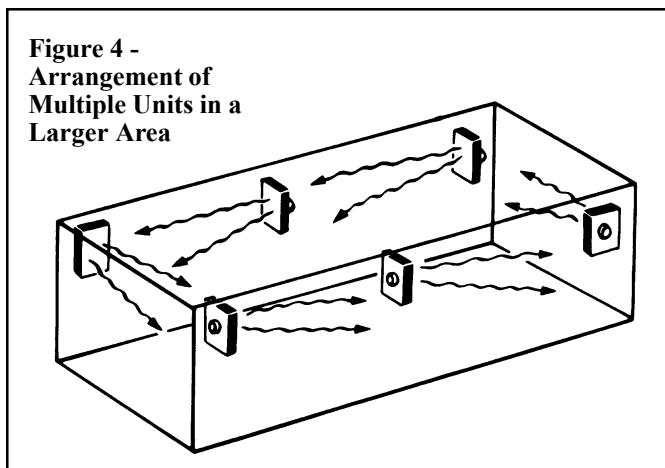
For best results, the heater should be placed according to these general guidelines. A unit should be located from 6 to 12 feet above the floor. Heaters should always be arranged to blow toward or along exposed wall surfaces, if possible. Where two or more units are installed in the same room, a general scheme of air circulation should be maintained for best results.

Suspended heaters are most effective when located as close to the working zone as possible, and this fact should be kept in mind when determining the mounting heights to be used. However, care should be exercised to avoid directing the discharged air directly on the room occupants. Partitions, columns, counters, or other obstructions should be taken into consideration when locating the unit heater. The heater should be located so that a minimum quantity of air will be deflected by any obstacles.

In smaller building areas with one or two outside walls, a single unit as illustrated in Figure 3 may be sufficient.



Larger building areas may require multiple units installed as illustrated in Figure 4, especially where three or four walls are exposed to the outside environment. Units should be arranged for providing perimeter air circulation where the airstream of one supports that of another.



Care should be taken to prevent the hot delivered air from one unit from entering the inlet of adjacent units.

When units are located in the center of the space to be heated, the air should be discharged toward the exposed walls.

In large areas, units should be located to discharge air along exposed walls with extra units provided to discharge air in toward the center of the area.

At those points where infiltration of cold air is excessive, such as at entrance doors and shipping doors, it is desirable to locate the heater so that it will discharge directly toward the source of cold air from a distance of 15 to 20 feet.

7. Uncrating/Shipping Damage

The electric heater is shipped completely assembled. **Immediately upon uncrating, check the specifications and electric characteristics of the unit to be sure that the electric supply at the installation site is compatible with the heater.** Check the unit for any damage that may have been incurred in shipment, and if any damage is found, file a claim with the transporting agency. The heater was inspected at the factory immediately prior to crating.

Be sure any shipped-separate, field-installed optional components are at the installation site.

8. Field-Installed Option Kits

Installation of these options should be done by a qualified service person in accordance with these instructions and in compliance with all codes and requirements having jurisdiction. Failure to follow instructions could result in death serious injury, and/or property damage. The qualified agency performing this work assumes responsibility for this installation.

9. Clearance to Combustibles

Clearances from Combustibles					
Model		Top	Bottom	Sides	Back
EGE	Inches	6	6	6	6
	mm	152	152	152	152

10. Suspension

Before installing this heater, check the supporting structure to be used to verify that it has sufficient load-carrying capacity to support the weight. See Section 4 for weights of all sizes of Model EGE heaters.

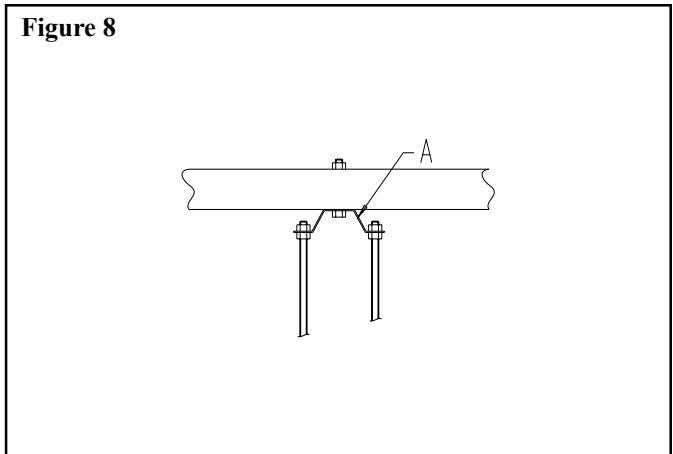
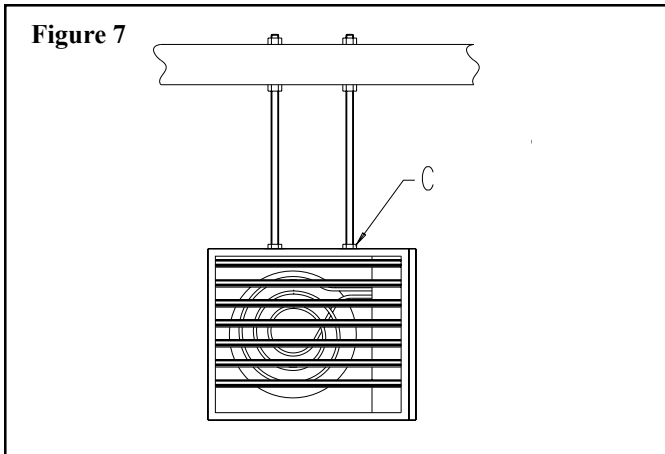
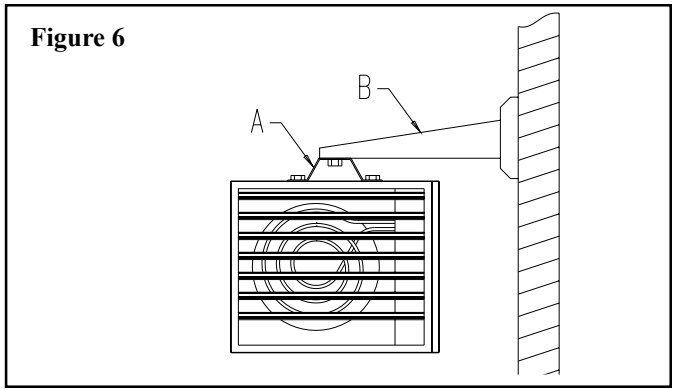
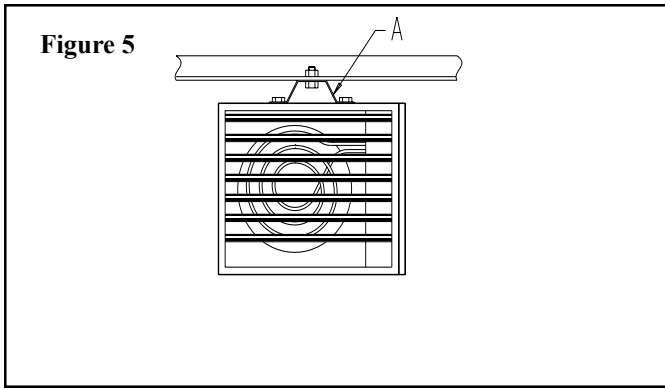
Model EGE heaters have single-point suspension and may be suspended from a truss by a bolt through the supplied swivel bracket (A), Fig. 5 or may be bolted to an optional wall bracket (B), Fig.6 and swiveled to face any direction.

The heater may be suspended by two tie bolts with jam nuts (C), Fig. 7 which should be tightened down against the top of the case.

The tie bolts may be fastened to the supplied bracket (A) Fig. 8, allowing the heater to swivel.

Heaters must be installed at least six inches from any vertical or horizontal surface and at least six feet from the floor. Do not install the heater in such a way that the inlet and/or outlet airflow could be restricted. Heater must be level. Do not place or add additional weight to the suspended unit.

WARNING: If heater is installed, disconnect power before installing internal thermostat or other kits or options.



11. Electrical

All wiring must be done by a qualified electrician in compliance with all local codes and the National Electric Code (latest edition). Follow the wiring diagram furnished with your equipment. Field wiring is required. Typical wiring diagrams for all models are shown in Section 17.

Electrical Connections

1. After the heater is suspended, remove the side access panel from the heater.
2. Remove the electrical entrance knockout from the heater.
3. Follow the schematic attached to the access panel and make connections inside the heater. All wiring must be done in accordance with the latest edition of the National Electric Code and all state and local electrical codes.
4. A ground screw with a cup washer is located beside the terminal block.
5. Replace the side access panel.

12. Thermostat

Model EGE electric heaters are designed for automatic control from a thermostat. The thermostat is not standard equipment.

If using an optional internal thermostat follow the instructions included with the thermostat kit.

If installing an external thermostat, whether using a thermostat option from Reznor or a field-supplied thermostat, install the thermostat according to the manufacturer's instructions. Locate an external thermostat on an inside wall, five feet above the floor. Do not locate a thermostat in the path of warm or cold air currents, nor in corners where air may be pocketed. Do not install on a cold outside wall.

When more than one unit is cycled from one thermostat, check factory.

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13. High Temperature Limit Switch

All electric heaters are equipped with a high temperature safety limit switch which shuts off the power to the unit if normal operating temperatures are exceeded. If the limit switch should activate, check if anything is preventing the air from flowing through the heater.

Models without a built-in contactor should have the limit switch wired in the control circuit of an external contactor, and for three phase supply, this control circuit should be connected to lines 2 and 3 which feed the center heating element, as shown on the wiring diagrams.

The limit is rated 600 volts, 10 amps resistive.

14. Fan Motor

Motors are equipped with thermal overload protection of the automatic reset type. Make certain that the correct voltage is available at the motor. Lubricate, if provided with oil cups or grease fittings.

15. Louvered Grill

All units are equipped with individually adjustable louvers as standard.

CAUTION: To avoid getting burned, adjust louvers while the heater is not in operation. If louvers are adjusted while heater is in operation, wear protective gloves.

16. Replacement Parts List

Parts common to all EGE heaters

DESCRIPTION	2 TO 10 kW		15 to 40 kW	
	QTY	PART NO.	QTY	PART NO.
Fan Guard	1	B11024-01	1	B11023-01
Louvres	5	B12352-04	7	B12352-03
Control Door	1	A11050-01	1	A11049-01
Thermostat	1	B11031-01	1	B11031-01
Hi-Limit	1	B11035-03	1	B11035-03
Thermostat Knob	1	B11037-01	1	B11037-01

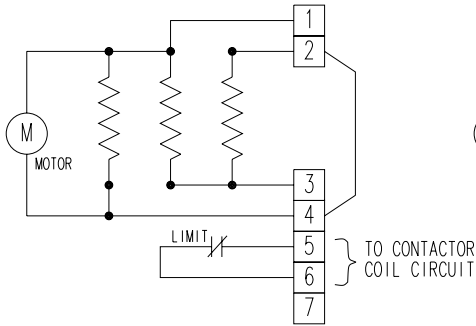
Specific parts based on heater catalog number

CAT NO.	VOLTS/ PHASE	ELEMENT (3 Required)	MOTOR / MOTOR BRACKET	TRANSFORMER (240V Secondary)	(C) CONTACTOR (240V Coil)	FANBLADE
EGE02	208/3 240/1	IXS-11011-01 IXS-11011-02	B11041-02 / B11026-01 B11041-02 / B11026-01	NONE NONE	C11055-01 C11055-01	C11028-02
EGE03	208/3 240/1	IXS-11011-05 IXS-11011-06	B11041-02 / B11026-01 B11041-02 / B11026-01	NONE NONE	C11055-01 C11055-01	C11028-02
EGE04	208/3 240/1 480/3 600/3	IXS-11011-09 IXS-11011-05 IXS-11006-37 IXS-11006-38	B11041-02 / B11026-01 B11041-02 / B11026-01 B11041-02 / B11026-01 B11041-02 / B11026-01	NONE NONE B11033-02 (200VA) B11033-03 (200VA)	C11055-01 C11055-01 C11055-01 C11055-01	C11028-02
EGE05	208/3 240/1 480/3 600/3	IXS-11011-13 IXS-11011-14 IXS-11006-16 IXS-11006-17	B11041-02 / B11026-01 B11041-02 / B11026-01 B11041-02 / B11026-01 B11041-02 / B11026-01	NONE NONE B11033-02 (200VA) B11033-03 (200VA)	C11055-01 C11055-01 C11055-01 C11055-01	C11028-02
EGE07	208/3 240/1 480/3 600/3	IXS-11011-18 IXS-11011-19 IXS-11006-21 IXS-11006-22	B11041-02 / B11026-01 B11041-02 / B11026-01 B11041-02 / B11026-01 B11041-02 / B11026-01	NONE NONE B11033-02 (200VA) B11033-03 (200VA)	C11055-01 C11055-01 C11055-01 C11055-01	C11028-03
EGE10	208/3 240/1 480/3 600/3	IXS-11011-23 IXS-11011-24 IXS-11006-26 IXS-11006-27	B11041-02 / B11026-01 B11041-02 / B11026-01 B11041-02 / B11026-01 B11041-02 / B11026-01	NONE NONE B11033-02 (200VA) B11033-03 (200VA)	C11055-01 C11055-01 C11055-01 C11055-01	C11028-04
EGE15	208/3 240/1 480/3 600/3	KXF11008-01 KXF11008-02 KXF11008-03 KXF11008-04	B11059-01 / B11027-01 B11059-02 / B11027-01 B11059-03 / B11027-01 B11059-04 / B11027-01	NONE NONE B11033-04 (50VA) B11033-05 (50VA)	C11055-01 C11055-01 C11055-01 C11055-01	C11028-05
EGE20	480/3 600/3	KXF11008-18 KXF11008-19	B11059-03 / B11027-01 B11059-04 / B11027-01	B11033-04 (50VA) B11033-05 (50VA)	C11055-01 C11055-01	C11028-06
EGE25	480/3 600/3	KXF11008-21 KXF11008-22	B11059-03 / B11027-01 B11059-04 / B11027-01	B11033-04 (50VA) B11033-05 (50VA)	C11055-01 C11055-01	C11028-07
EGE30 EGE30	480/3 600/3	KXF11008-23 KXF1000-24	B11059-03 / B11027-01 B11059-04 / B11027-01	B11033-04 (50VA) B11033-05 (50VA)	C11055-01 C11055-01	C11028-07
EGE40 EGE40	480/3 600/3	KXF11008-14 KXF11008-15	B11059-03 / B11027-01 B11059-04 / B11027-01	B11033-04 (50VA) B11033-05 (50VA)	C11055-02 C11055-01	C11028-07

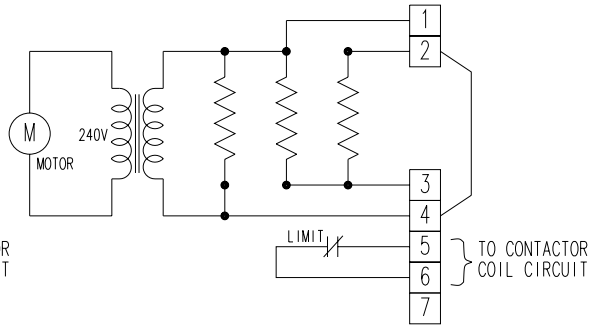
NOTE: Above catalog numbers are for basic units without controls. Units with built-in contactors and/or thermostats use identical components.

17. Typical Wiring Diagrams

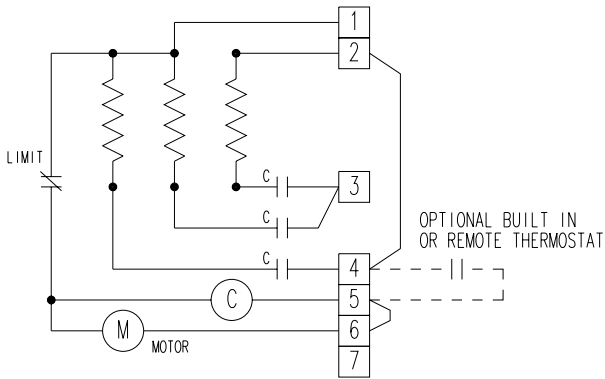
EGE - 2 to 10 kW



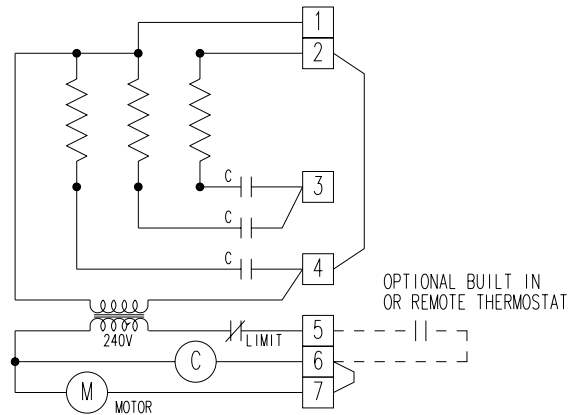
BASIC UNIT - 208 & 240V



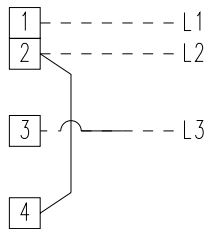
BASIC UNIT - 347, 480 & 600V



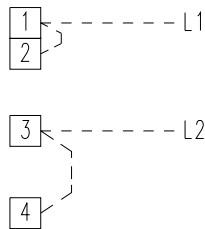
UNIT WITH CONTACTOR - 208 & 240V



UNIT WITH CONTACTOR - 347, 480 & 600V



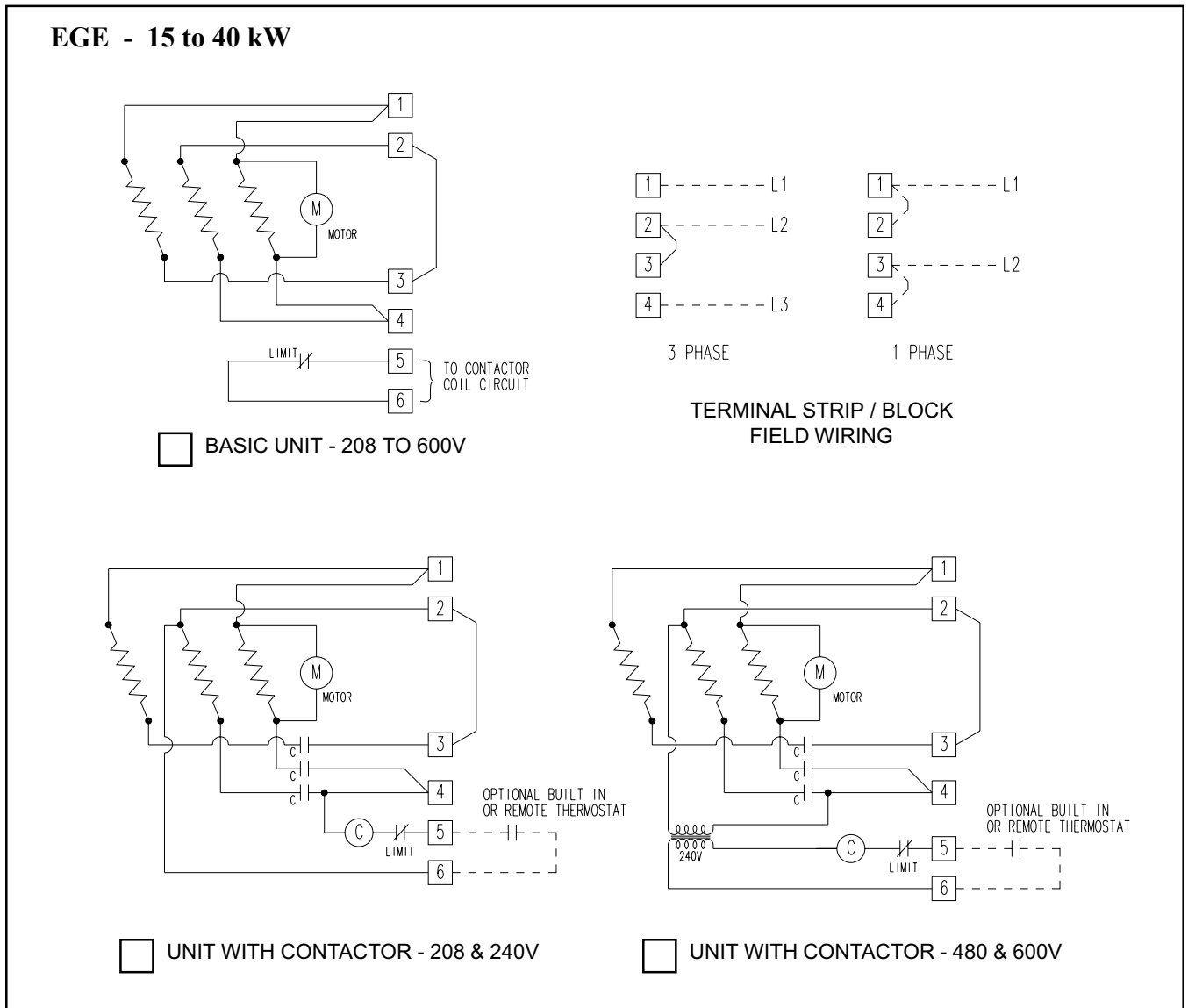
3 PHASE



1 PHASE

TERMINAL STRIP / BLOCK
FIELD WIRING

17. Typical Wiring Diagrams (cont'd)



18. Maintenance

Like all quality equipment, this unit will operate with a minimum of maintenance. However, to ensure long life and satisfactory performance, the following service regime is recommended.

WARNING: Turn off the power when servicing heaters.

○ **Every 4 Months** -- Heaters should be inspected every four months where the equipment is operating under normal conditions. If the heaters are located in areas where an unusual amount of dust, soot, or other impurities are contained in the air, more frequent inspection is recommended.

Keep front and rear air openings of the unit free of grease and dirt. Check motor for cleanliness. Remove dirt and grease from the fan, the outside of the motor, and especially around the shaft. Check fan to be

sure it is secure to the motor shaft. Lubricate the motor if it is provided with oil cups or grease fittings.

○ **Annually** -- The heating element should be checked once a year, more often in areas where air is heavily sooted or dust laden. To clean the heating element, remove the louver frame. Using steel wool or similar material, carefully clean all dust and dirt from the heating element fins. With an air hose or brush, clean the inside of the cabinet, especially the bottom and sides where dirt and dust might accumulate.

CAUTION: Wearing eye protection is recommended when cleaning the heating element and cabinet.

FOR SERVICE OR REPAIR, FOLLOW THESE STEPS IN ORDER:

FIRST: Contact the installer:

NAME _____

ADDRESS _____

PHONE _____

SECOND: Contact the nearest distributor (See telephone yellow pages.)

THIRD: Contact: REZNOR®/Thomas & Betts Corporation
150 McKinley Avenue
Mercer, PA 16137
Phone: (724) 662-4400

Model No. _____

Unit Serial No. _____

Date of Installation _____

Thomas & Betts

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11/00 Form 428