

## MULTIPLE WIRING OF SINGLE BURNER LOW INTENSITY INFRARED HEATERS

### Models TLP, RLP, MV & RV

#### **WARNING**

1. Disconnect power supply before making wiring connections to prevent electrical shock and equipment damage.
2. All units must be wired strictly in accordance with wiring diagram furnished with the unit. Any wiring different from the wiring diagram could result in a hazard to persons and property.
3. All wiring must be done with a wiring material having a temperature rating of at least 105°.
4. Ensure that the supply voltage to the appliance, as indicated on the serial plate, is not 5% greater than rated voltage.

#### **CAUTION**

1. Installation must conform with local building codes or in the absence of local codes, with Part 7, Venting of Equipment, or the National Fuel Gas Code, ANSI Z223.1 (NFPA 54) – latest edition. In Canada installation must be in accordance with CAN/CGA-B149.1 for natural gas units, and CAN/CGA-B149.2 for propane units.
2. Ensure that the supply voltage to the appliance, as indicated on the serial plate, is not 5% less than the rated voltage.

#### **IMPORTANT**

The use of this manual is specifically intended for a qualified installation and service agency. All installation and service of these units must be performed by a qualified installation and service agency. Manuals may contain excerpts from components supplier literature adapted for products manufactured by Modine Manufacturing Company. Any accompanying component supplier literature is for general information.

Ensure that the installation of units are in accordance with applicable Installation and Service Manuals (latest revision) 9-506 (TLP), AIR9-506 (RLP), 9-501 (MV), or AIR9-501 (RV).

All field installed wiring must be done in accordance with the National Electrical Code ANSI/NFPA 70 – latest edition or Canadian Electrical Code CSA C22.1 Part 1 or local codes. Unit must be electrically grounded according to these codes. If any of the original wire supplied with the heater must be replaced, replace it with wiring material having a temperature rating of at least 105°C.

The power to these unit heaters should be protected with a circuit breaker.

Location of thermostat should be determined by heating requirements and be mounted on an inside wall about 5' above floor level where it will not be affected by heat from the unit or other sources, or drafts from frequently opened doors. See instructions packed with thermostat.

When two or more infrared heaters are controlled by one thermostat, the National Electric Code requires that the secondary side, or low voltage side of control transformers be wired such that they are not wired in parallel. This requires the use of relays. If relays are not used, operational problems or damage to electrical components may occur.

#### **OPERATION**

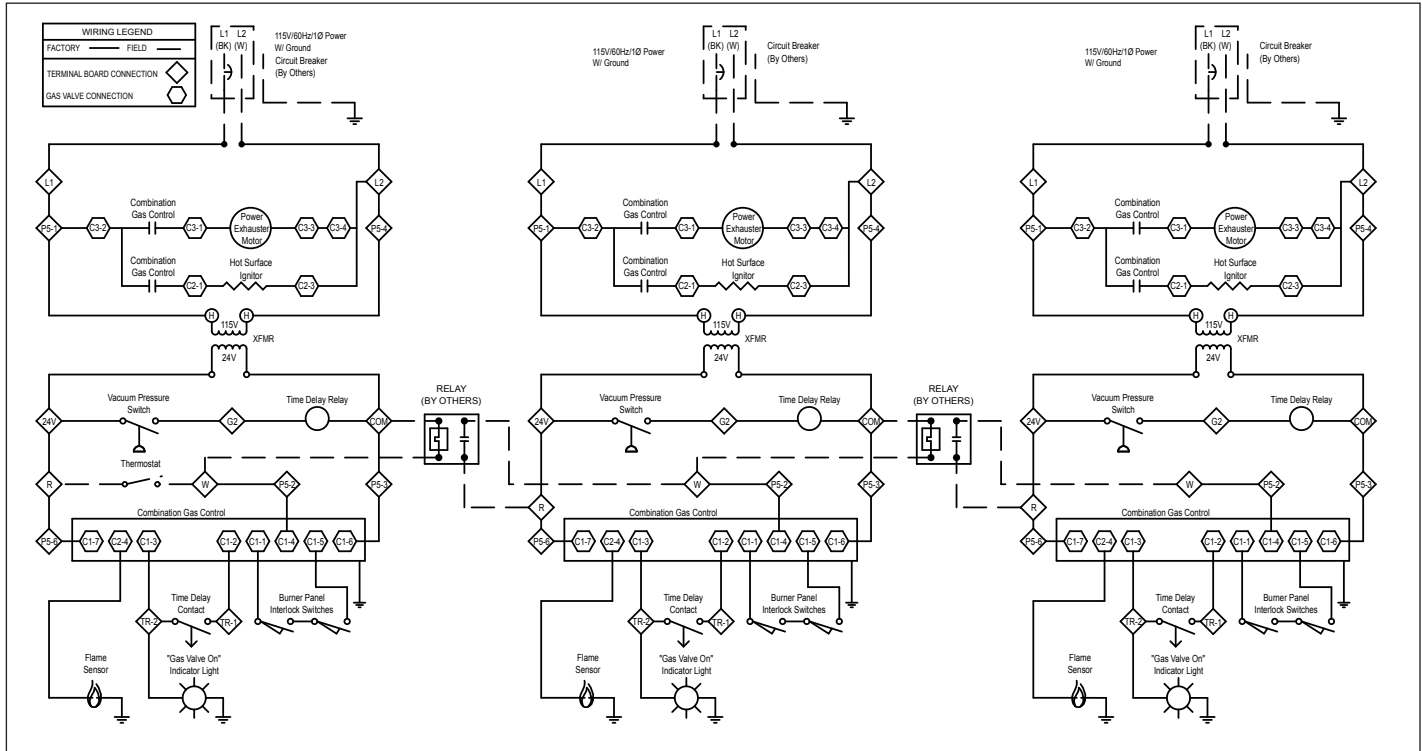
The first burner is controlled directly by the thermostat. In addition, a relay coil is placed electrically in parallel with the gas controls of the first burner and this relay coil is also energized through the thermostat. (See Figure 2.1 and 2.2) When the first relay coil is energized, the contacts of that relay close and activate the gas controls of the second burner.

If a third burner is to be controlled from the same thermostat, a second relay coil is wired in parallel with the gas controls of the second burner. When energized the contacts of the second relay will activate the gas controls of the third. This procedure is used for each additional burner which is to be controlled by the thermostat.

**Additionally, when common venting two infrared systems of identical model, Btu/hr input, and radiant tube length, the two systems must be operated by one thermostat. The specified wiring scheme must be followed to ensure proper infrared heater operation. Common venting instructions must be followed as shown in the unit Installation and Service Manual.**

# 9-410.3

**Figure 2.1**  
**Multiple Wiring of Single Burner Low Intensity Pressurized Infrared Unit Heaters - Models TLP & RLP**



**Figure 2.2**  
**Multiple Wiring of Single Burner Low Intensity Vacuum Infrared Heaters - Models MV & RV**

