

**P/N 19556 GIT-4 GUTTER SNOW AND ICE MELTING CONTROL**  
**INSTALLATION AND OPERATION MANUAL**

**Description**

The computerized UL and CUL Listed GIT-4 automatically controls gutter and down spout snow and ice melting heaters. It is safety tested to Standard 873 for Temperature Indicating and Regulating Equipment. The GIT-4 includes the GFEP (ground fault equipment protection) required by the NEC.

The GIT-4 consists of sensor and control assemblies connected by a 12' (3.6 M ) cable. The sensor meets the new NEC (National Electrical Code) low voltage Class 2 requirement for wet locations.

The GIT-4 requires an RCU-2 Remote Control Unit which is included. The RCU-2 provides remote control and monitoring of the GFEP function. It also permits operating the snow and ice melting heaters for a fixed time at temperatures below 38 °F (3.3 °C).

**Supply Voltage Options**

The GIT-4 provides jumper-selected supply voltage options of 120, 208 through 240, and 277 volts. Selecting the proper supply voltage is very important. An incorrect setting may destroy the GIT-4 or render it inoperative. The GIT-4 operates from the heater supply voltage.

**Relay (Contactor) Contact Ratings**

The relay (contactor) provides a Form B (DPST) contact rated for up to 26 amp AC heater loads at voltages at or below 277 volts.

## Safety

Make certain that the installation complies with applicable sections of the national and local electrical codes. Follow the installation instructions contained herein and those provided by the heater manufacturer. If you have questions concerning the installation, contact ETI Customer Service assistance.

Use a GFEP circuit breaker on each branch circuit connected to the snow and ice melting system. Clearly label each circuit breaker with its function. **This is vitally important when there is more than one point of disconnect. The GIT-4 can serve as a pilot duty relay for operating high current single or three-phase contactors in commercial applications.**

**Make certain that the heater shield is properly grounded as required by the NEC. Failure to do this could result in the danger of electrical shock and fire hazard.**

## Installing the Sensor

The sensor is normally mounted as low as possible in the gutter one or two feet upstream of the down spout using the plastic mounting straps supplied along with gasketed #10 fasteners. It is oriented with the temperature sensor facing upstream and the moisture sensor toward the down spout.

For proper operation, the heating cable must be close to but not touching the sensor. A separation of between ½ (1.3 CM) and 1 inch (2.5 CM) is ideal.

## Installing the Control

The control comes connected to the sensor with 12 feet (3.6 meter) of three conductor cable. Contact Customer Service if the cable is too short for your installation. The snow and ice melting heater leads, supply and safety ground leads and sensor leads terminate in the control enclosure. Locate the control outdoors at a place convenient for the wiring connections.

**Lethal voltages are present within the control enclosure during operation. Some installations may require two points of disconnect. Tag all circuit breakers off during installation or service.**

The GIT-4 comes set for 277 volt operation. A jumper located in the control must be changed for 120 or 208 through 240 volt operation. An incorrect setting may destroy the GIT-4 or render it inoperative.

The control housing cover specifies the wire sizes required for heater, safety ground and supply connections.

## **Installing the RCU-2**

The RCU-2 is an NEC Class 2 device. It can be located up to 150 feet (46 meters) from the control. Use customer supplied #18 extension wire. Two conductor jacketed cable is suggested for convenience.

Choose a convenient protected indoor location. The RCU-2 mounts in a single gang switch box. The wiring connections to the RCU-2 are not polarity sensitive. The extension wires to the RCU-2 connect to the two blue wires in the low voltage section of the control enclosure.

## **Post Installation Tests**

Operational problems are almost always the result of wiring or installation errors. Thus, thoroughly checking your work is a must.

The snow and ice melting system can be checked by using the RCU-2 along with a clamp-on AC ammeter.

Clamp the ammeter around a supply or heater wire carrying current to or from the GIT-4. Apply power to the snow and ice melting system. Depending upon the outside air temperature, use one of the two procedures given below:

### **At temperatures above 38 °F (3.3 °C)**

Press the Heater Cycle switch on the RCU-2. The heaters will operate for 30 seconds. The clamp-on ammeter should read the nominal heater current during this time interval. In order to prevent thermal damage, the GIT-4 prevents heaters from operating for more than 30 seconds in any 2 ½ minute period.

A GFEP trip indicates a ground fault problem. This must be corrected before the snow and ice melting system can be placed in service.

### **At temperatures below 38 °F**

Press the Heater Cycle switch on the RCU-2. The heaters will operate. The clamp-on ammeter should read the nominal heater current. Press the Heater Cycle switch on the RCU-2 to toggle the heaters off.

A GFEP trip indicates a ground fault problem. This must be corrected before the snow and ice melting system can be placed in service.

A GFEP condition or false tripping is more likely to occur if the heating cable is at or near the maximum length and operating above 200 volts. This is likely due to the current flowing through the capacitance between the heater conductor and its shield. The sensitivity of the GFEP can be changed in the field to accommodate most nuisance tripping problems. Contact Customer Service for additional information.

## **Operating instructions**

### **Normal operation**

Normally, the GIT-4 requires little attention. The green SUPPLY indicator operates to show that power is applied to the gutter and down spout snow and ice melting system. The yellow HEATER indicator operates while the heaters are operating or enabled to operate.

In some installations drifting and blowing snow may present a problem if this does not occur in the sensor area. In this case, press the HEATER CYCLE switch. This causes the heaters to operate for an hour which should be enough time to melt the snow. If this is not the case, press the HEATER CYCLE switch as required until the snow and ice are melted.

### **Semi-monthly routine tests**

Pressing the TEST/RESET switch checks the GIT-4 GFEP function. The SUPPLY and HEATER indicators flash alternately for a few seconds during the test. The RCU-2 flashes these indicators if the test fails. Pressing the TEST/RESET switch will not clear the problem. If the test fails, the GIT-4 will not operate the snow and ice melting heaters. You need to have a qualified electrician fix the problem.

If the snow and ice melting system is operating normally, there is no need for this test. Press the HEATER TOGGLE switch momentarily. The HEATER indicator should operate. After a few seconds, press the HEATER TOGGLE switch again. The HEATER indicator should turn off. If the SUPPLY and HEATER indicator flash alternatively, a GFEP failure exists. You need to have a qualified electrician fix the problem.

### **Maintenance**

Although the GIT-4 does not require routine maintenance, make certain that the gutters and down spouts are cleaned each fall to ensure efficient gutter and down spout snow and ice melting system efficiency.

## Contacting Customer Service

Customer Service is available between 8:00 AM and 5:00 PM EST at:

Environmental Technology, Inc.  
1302 High Street  
South Bend, IN 46601

Voice 800-234-4239 (USA and Canada)  
219-233-1202 (elsewhere)

Fax 888-234-4238 (USA and Canada)  
219-233-2152 (elsewhere)

Email [helpdesk@networketi.com](mailto:helpdesk@networketi.com)

Web [www.networketi.com](http://www.networketi.com)

## Disclaimer

Environmental Technology, Inc. makes no representations or warranties, either expressed or implied, with respect to the contents of this publication or the products that it describes, and specifically disclaims any implied warranties of merchantability or fitness for any particular purpose. Environmental Technology, Inc. reserves the right to revise this publication, and to make changes and improvements to the products described in this publication, without the obligation of Environmental Technology, Inc. to notify any person or organization of such revisions, changes or improvements.

GIT and RCU are registered Environmental Technology, Inc. trademarks.

# GIT-4 Line Voltage Connections

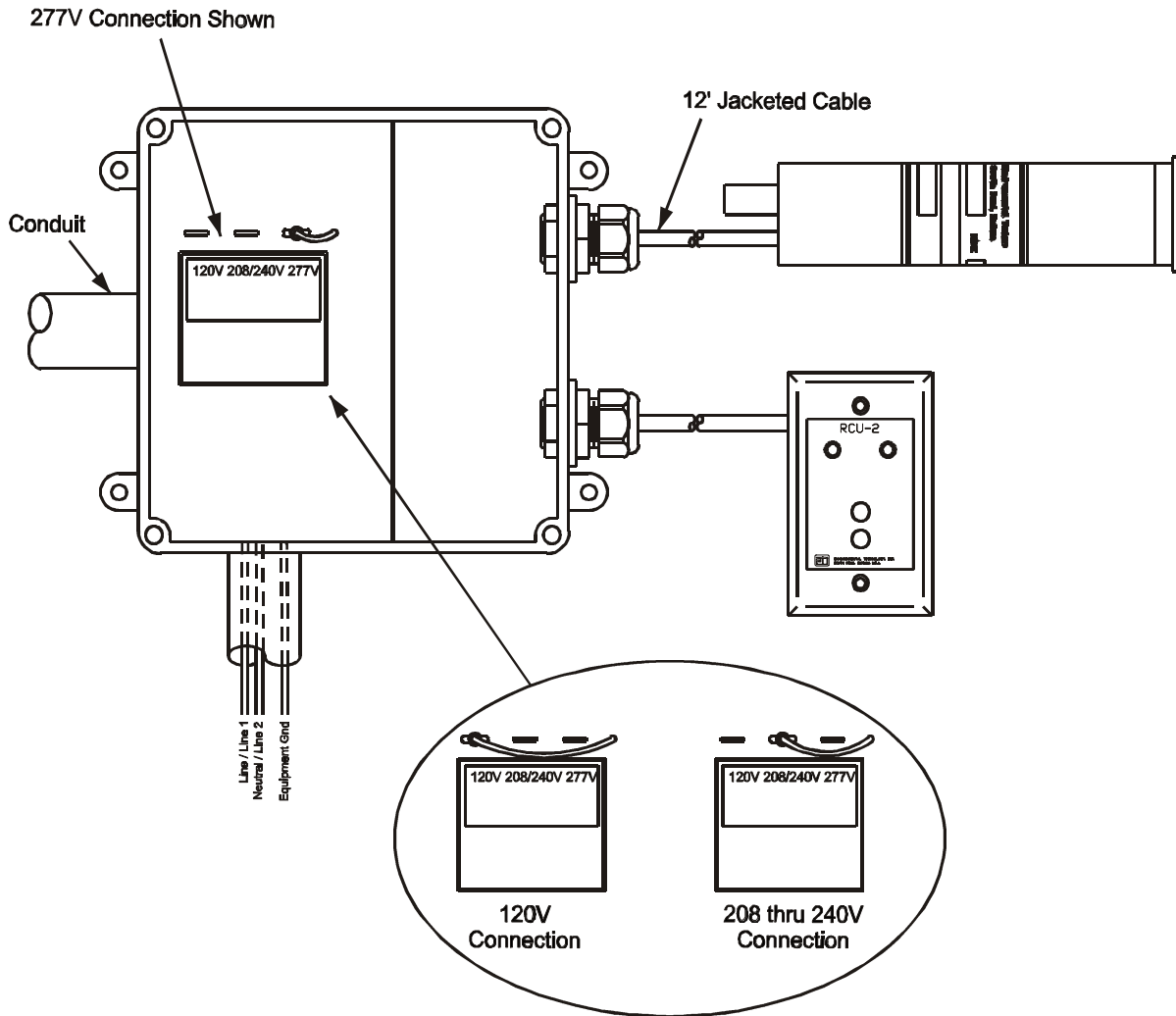


Figure - 1

# GIT-4 Mounting Outline

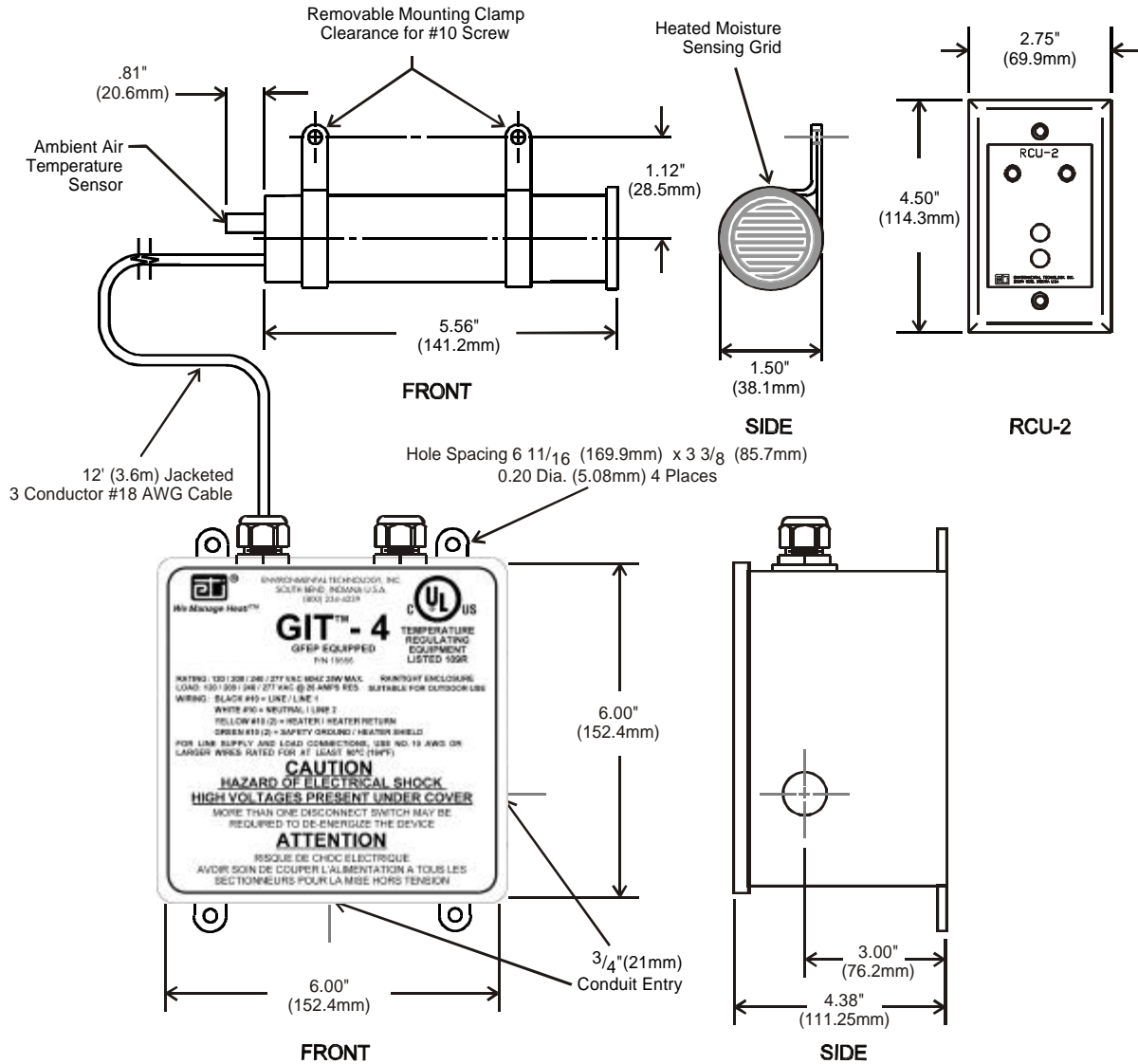


Figure - 2

## Typical Residential Applications

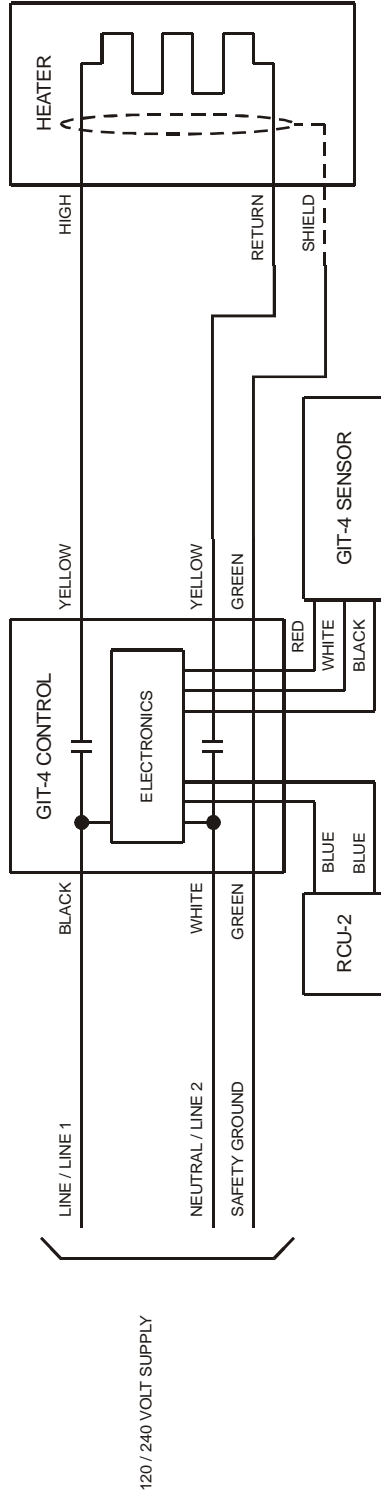


Figure - 3

## GIT-4 Unbalanced 3-Phase Applications

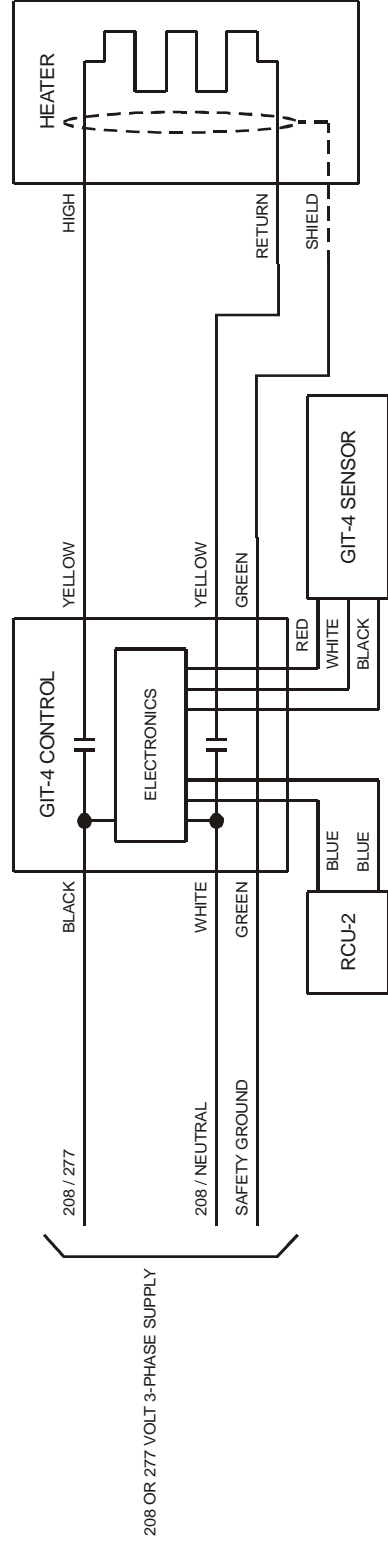


Figure - 4