



AT150F, AT175F Universal Circuit Breaker Transformers

INSTALLATION INSTRUCTIONS

APPLICATION

These transformers provide power to 24 Vac circuits in heating/cooling control systems. Although the transformers are typically used in heating/cooling control systems, they can be used in any application that does not exceed the load ratings. They include a

button for manually resetting the circuit breaker. They meet National Electrical Code Class 2 "not wet" and Class 3 "wet" requirements and are Underwriters Laboratories (UL) Inc. listed under UL 1585. Transformers can be foot-mounted or conduit/panel mounted. See Table 1 for additional specifications.

Table 1. Model Specifications.

| Model Number | Primary | | Secondary | | | Output Rating at 100 Percent Power Factor |
|--------------|-----------------------|--------------------|--------------|-----------------------|--------------------|---|
| | Input Voltage (60 Hz) | Wiring Connections | Voltage | | Wiring Connections | |
| | | | Open Circuit | At Rated Power Output | | |
| AT150F | 120/208/240 | 9 in. leadwires | 27.0 | 24.0 | 9 in. leadwires | 50 VA |
| | 208/277/480 | | | | | |
| AT175F | 120/208/240 | 9 in. leadwires | 27.0 | 24.0 | 9 in. leadwires | 75 VA |
| | 208/277/480 | | | | | |

INSTALLATION

When Installing this Product...

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions.

CAUTION

Disconnect power supply before beginning installation to prevent electrical shock or equipment damage.

The transformer can be foot-mounted or conduit/panel mounted.

Mounting

Foot Mounting

Mount the transformer using screws (not included) through the four 3/16 in. x 3/8 in. holes in the mounting feet. See Fig. 1. Make line voltage primary connections within an approved enclosure.

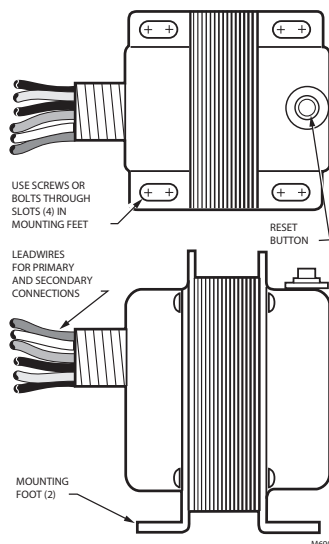


Fig. 1. Foot mounting.



Conduit/Panel Mounting

Mount the transformer on a plate or panel (not included) with a 7/8 in. knockout. The transformer has a 1/2-14 NPSM conduit connector and lock nut.

1. With the conduit connector side of the transformer facing the plate, thread the leadwires through the plate knockout.
2. Insert the connector in the knockout.
3. While holding the plate in place, assemble and tighten the lock nut to fasten the transformer securely. See Fig. 2. Avoid damaging the leadwires with the screwdriver.
4. Make line voltage primary connections within an approved enclosure.

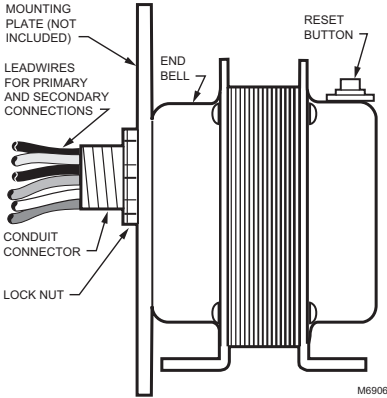
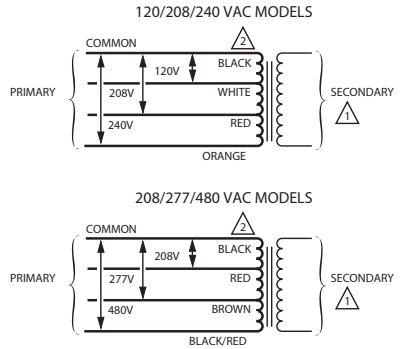


Fig. 2. Conduit/panel mounting (plate not included).

Wiring

1. All wiring must comply with local codes and ordinances. Disconnect power before making wiring connections to prevent electrical shock or equipment damage.
2. Make the primary connections to the line voltage power supply. Be sure to use the correct leadwires for the available power supply. See Fig. 3.
3. Insulate the ends of the unused leadwires using wire nuts or capping with a solderless connector.
4. Make the secondary connections to the 24 Vac control circuit.



△ SECONDARY LEADWIRES ARE BLUE AND YELLOW LEADWIRES.
 △ BLACK IS COMMON WITH RESPECT TO THE TRANSFORMER WINDING ONLY AND NOT THE EXTERNAL CIRCUIT.

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Fig. 3. Transformer schematics.

CHECKOUT

Voltage Check

After the installation is complete, turn on the power supply and perform a voltage check.

1. Place the controlled equipment in operation and observe through one complete cycle.
2. Using a voltmeter, verify the proper primary and secondary voltages.
3. If the voltage readings are incorrect, make sure the primary voltage connections are made properly.
4. Measure the voltage again.
 - a. If the proper primary voltage is measured and the secondary voltage is significantly less than the voltage shown in Table 1, the transformer winding is damaged. Replace the transformer and repeat the checkout procedures.
 - b. If the primary voltage is 0V, make sure the power supply is connected properly or repair if necessary. Repeat the checkout procedures.
5. Do not put the system into operation unless the correct primary and secondary voltages are measured.

Circuit Breaker

Overloading the transformer results in tripping the circuit breaker. If the secondary side of the transformer is short circuited, the circuit breaker trips in less than one minute.

Reset the circuit breaker by pressing the reset button on the side of the transformer. It can take up to one hour for the transformer to cool, allowing it to reset. If the circuit breaker continues to trip, thoroughly check the system for short circuits and the current draw.



Resideo Technologies, Inc.
 1985 Douglas Drive North, Golden Valley, MN 55422
 1-800-468-1502

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