
INSTALLATION INSTRUCTIONS

Original Issue Date: 10/10

Model: **ModelK1**

Market: **ATS**

Subject: **Anti-Condensation Heater Kits GM71056-KP1 and -KP5**

Introduction

The anti-condensation heater is designed to raise the temperature inside the transfer switch enclosure above the dew point to prevent condensation. Figure 1 shows typical locations for the heater kit components inside the enclosure. Refer to the dimension drawing provided with the transfer switch for the heater kit location for your model.

Note: Because of space limitations in the smaller enclosures, the following models can include either an enclosure heater or a surge suppressor (TVSS), but not both:

- Model KCS 30-200 Amps
- Model KSS 40-225 Amps

A 120 VAC power source must be provided for the heater assembly. The installer must connect 120 VAC power to the terminal block near the hygrostat. The heater and hygrostat are connected to power through a 15-amp circuit breaker.

The relative humidity setting on the hygrostat is adjustable from 35% to 95%. A setting of 65% is recommended.

Read the entire installation procedure and compare the kit parts with the parts list at the end of this publication before beginning installation. Perform the steps in the order shown.

See Figure 1 for a typical installed kit.

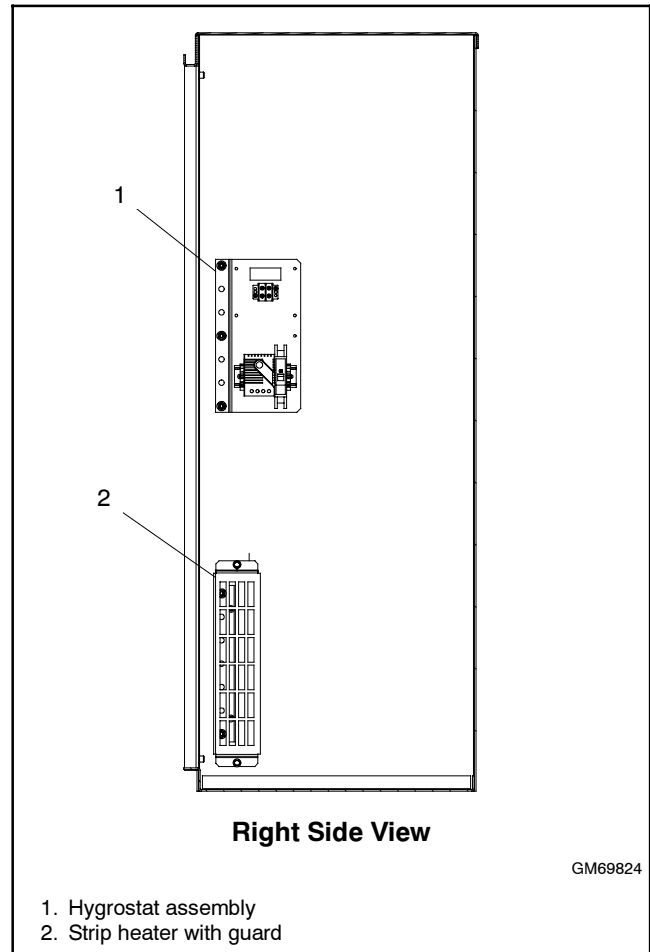
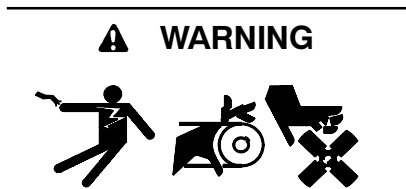


Figure 1 Heater Location, Typical

Safety Precautions

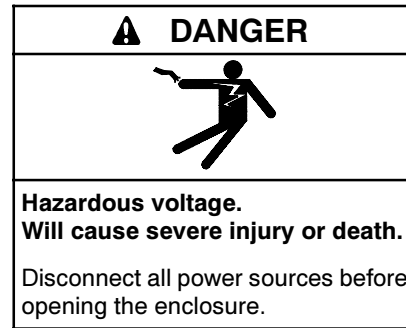
Observe the following safety precautions while installing the kit.



Accidental starting.
Can cause severe injury or death.

Disconnect the battery cables before working on the generator set. Remove the negative (-) lead first when disconnecting the battery. Reconnect the negative (-) lead last when reconnecting the battery.

Disabling the generator set. Accidental starting can cause severe injury or death. Before working on the generator set or connected equipment, disable the generator set as follows: (1) Move the generator set master switch to the OFF position. (2) Disconnect the power to the battery charger. (3) Remove the battery cables, negative (-) lead first. Reconnect the negative (-) lead last when reconnecting the battery. Follow these precautions to prevent starting of the generator set by an automatic transfer switch, remote start/stop switch, or engine start command from a remote computer.



Servicing the transfer switch. Hazardous voltage can cause severe injury or death. Deenergize all power sources before servicing. Turn off the main circuit breakers of all transfer switch power sources and disable all generator sets as follows: (1) Move all generator set master controller switches to the OFF position. (2) Disconnect power to all battery chargers. (3) Disconnect all battery cables, negative (-) leads first. Reconnect negative (-) leads last when reconnecting the battery cables after servicing. Follow these precautions to prevent the starting of generator sets by an automatic transfer switch, remote start/stop switch, or engine start command from a remote computer. Before servicing any components inside the enclosure: (1) Remove all jewelry. (2) Stand on a dry, approved electrically insulated mat. (3) Test circuits with a voltmeter to verify that they are deenergized.

Installation Procedure

1. Place the generator set master switch in the OFF position.
2. Disconnect power to the battery charger, if equipped.
3. Disconnect the generator set engine starting battery, negative lead first.
4. Disconnect power to ATS enclosure by opening upstream circuit breakers.

Hygrostat Assembly

5. Refer to the dimension drawing provided with your transfer switch for the specific heater kit location. Figure 6 and Figure 7 show typical heater kit locations.
6. Note the orientation of the hygrostat assembly (mounting screws on the left or the right) as shown

on the ATS dimension drawing. If the orientation on the dimension drawing does not match the subassembly, remove the hygrostat and circuit breaker from the DIN rail and rotate the parts as required. Reassemble the parts with the mounting bracket screw holes on the left or the right as required. See Figure 2.

7. Attach the hygrostat assembly to the enclosure as shown in the dimension drawing.
 - a. Welded enclosures: Use three nuts X-6210-2 to attach the mounting bracket to the studs provided in the enclosure.
 - b. Frame-style enclosures: Use three screws X-67-114 to attach the bracket to three holes in the frame.
8. Check the relative humidity setting on the hygrostat and adjust, if necessary. The setting is adjustable from 35% to 95%. A setting of 65% is recommended.

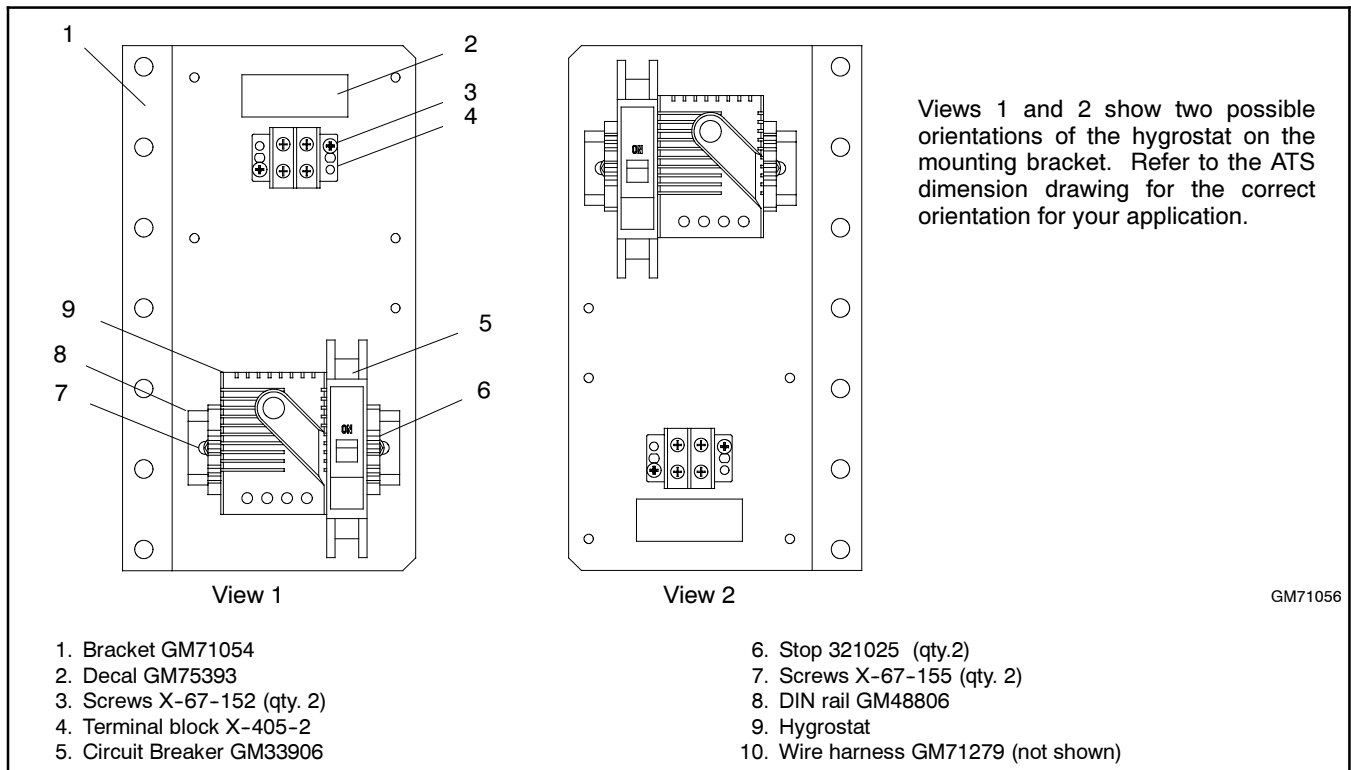


Figure 2 Hygrostat and Terminal Block Assembly

Strip Heater

9. Remove the guard from the strip heater assembly. See Figure 4.
10. Check that the insulating washers are installed on both sides of the strip heater as shown in Figure 3.
11. Attach the strip heater bracket to the enclosure as shown in the dimension drawing.
 - a. Welded enclosures: Use two nuts X-6210-2 to attach the strip heater bracket to the studs provided in the enclosure.
 - b. Frame-style enclosures: Use two screws X-67-114 to attach the bracket to two holes in the frame.
12. Reinstall the heater guard cover GM74945 (100 W) or GM74946 (250 W) using two screws X-67-115.

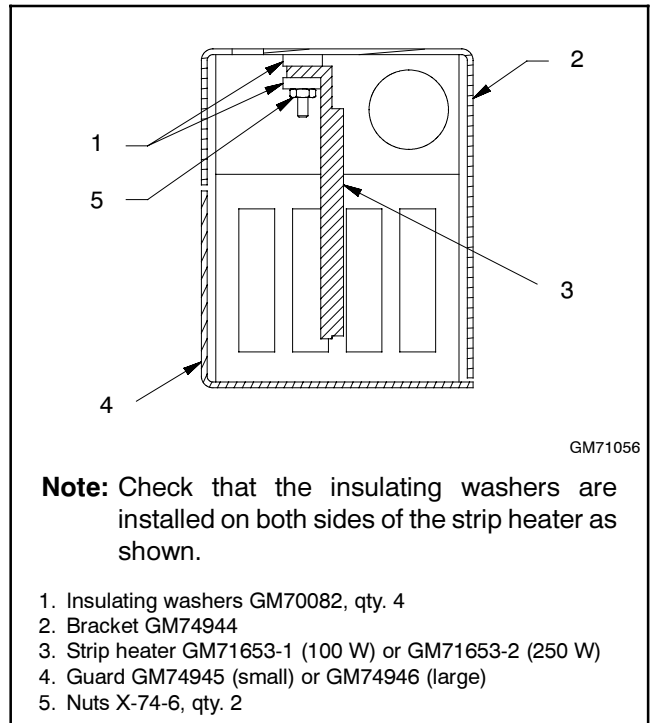


Figure 3 Strip Heater Detail with Insulating Washers

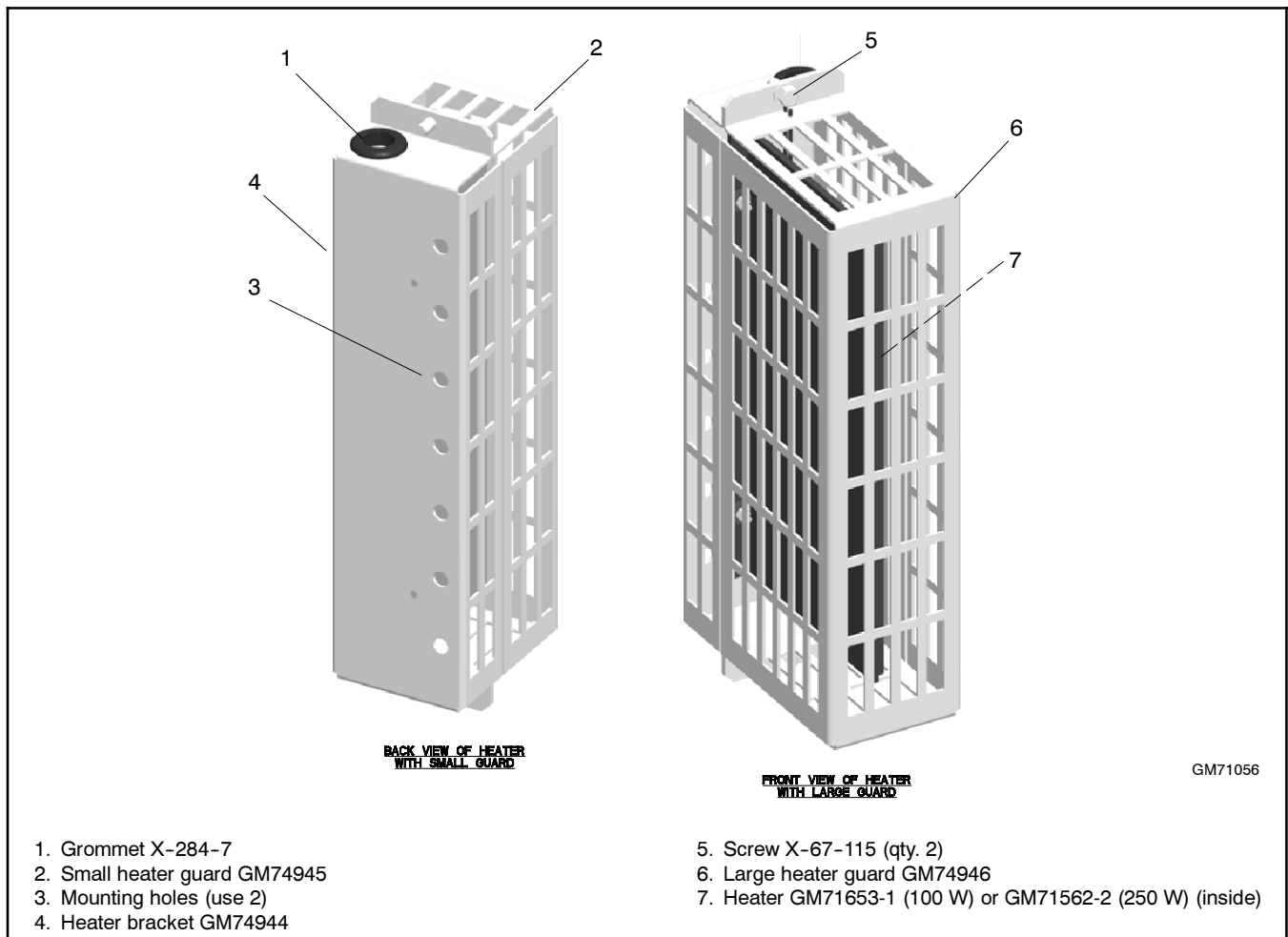


Figure 4 Heater and Guard Assembly

Wiring

13. Verify the wiring harness GM71279 connections. See Figure 5.
14. Use the cable ties provided with the kit to neatly secure the wiring.
15. Provide 120 VAC to power the heater assembly. Connect 120 VAC to terminals 1 and 2 on the terminal block.
16. Verify that the heater assembly circuit breaker is closed.
17. Close and secure the ATS enclosure door.
18. Reconnect power to ATS enclosure by closing upstream circuit breakers.
19. Check that the generator set master switch is in the OFF position.
20. Reconnect the generator set engine starting battery, negative (-) lead last.
21. Reconnect power to the battery charger, if equipped.

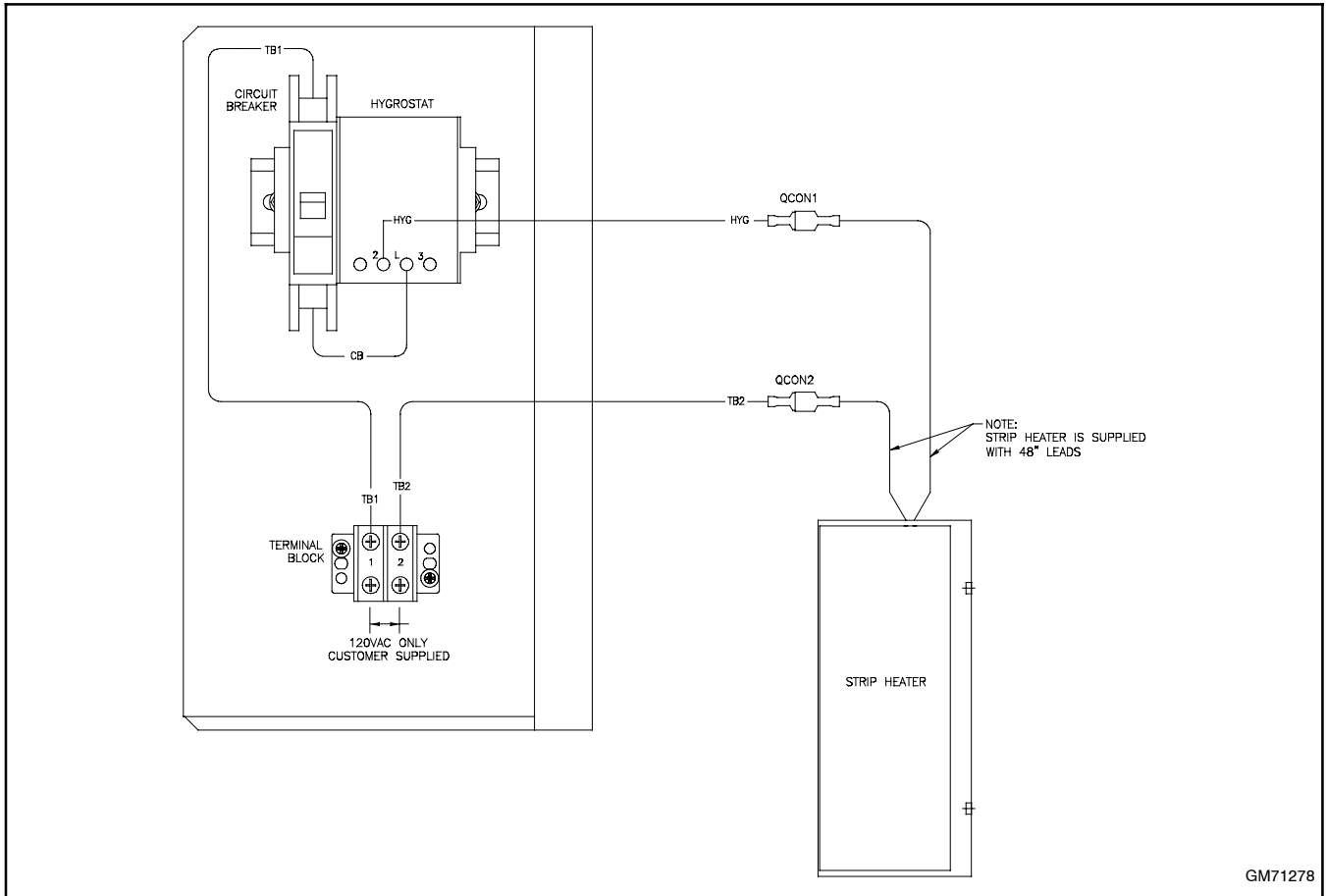
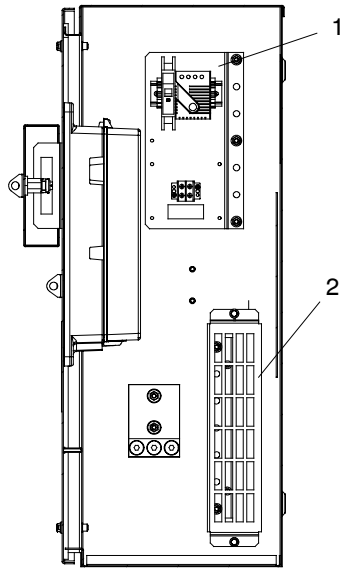
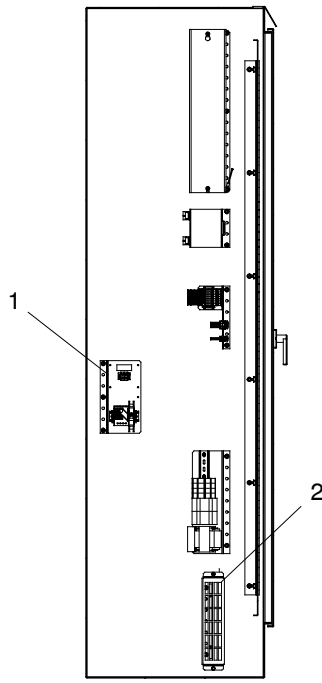


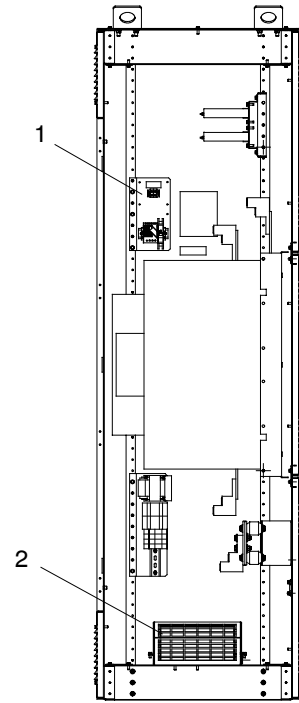
Figure 5 Heater Wiring Diagram



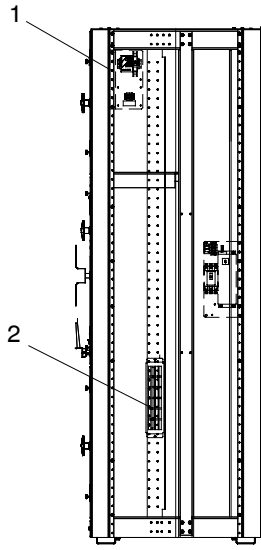
Side View
ADV-7167
30-200 Amp NEMA 1 and
NEMA 3R Model KCS



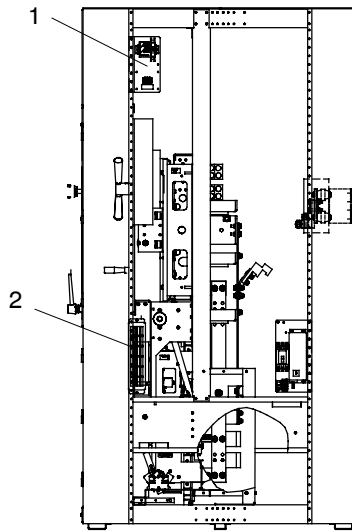
Side View
ADV-7177
1200 Amp NEMA 3R
Model KCS, KCP, or KCC



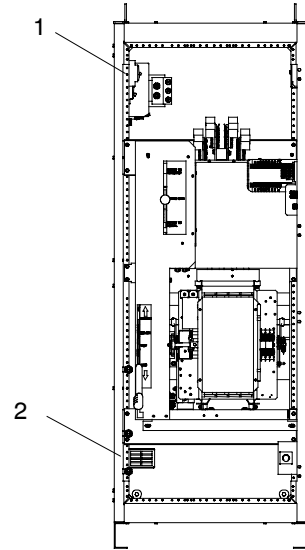
Side View
GM21298
1600 Amp NEMA 1
Framework Style Enclosure



RIGHT SIDE VIEW
(COVERS REMOVED)
ADV-7377
150-600 Amp NEMA 1
Model KBS, KBP, or KCP



RIGHT SIDE
(COVERS REMOVED)
ADV-6937
800-1200 Amp NEMA 1
Model KBS, KBP, or KCP



FRONT VIEW
(DOORS REMOVED)
ADV-7109
800-1200 Amp NEMA 1
Model KGS/KGP

Note: This drawing shows typical heater locations for selected models only. Refer to the dimension drawing shipped with the transfer switch for the heater location for your model.

- 1. Hygrostat assembly
- 2. Heater and guard assembly

Figure 6 Typical Heater Locations, Standard and Bypass Models

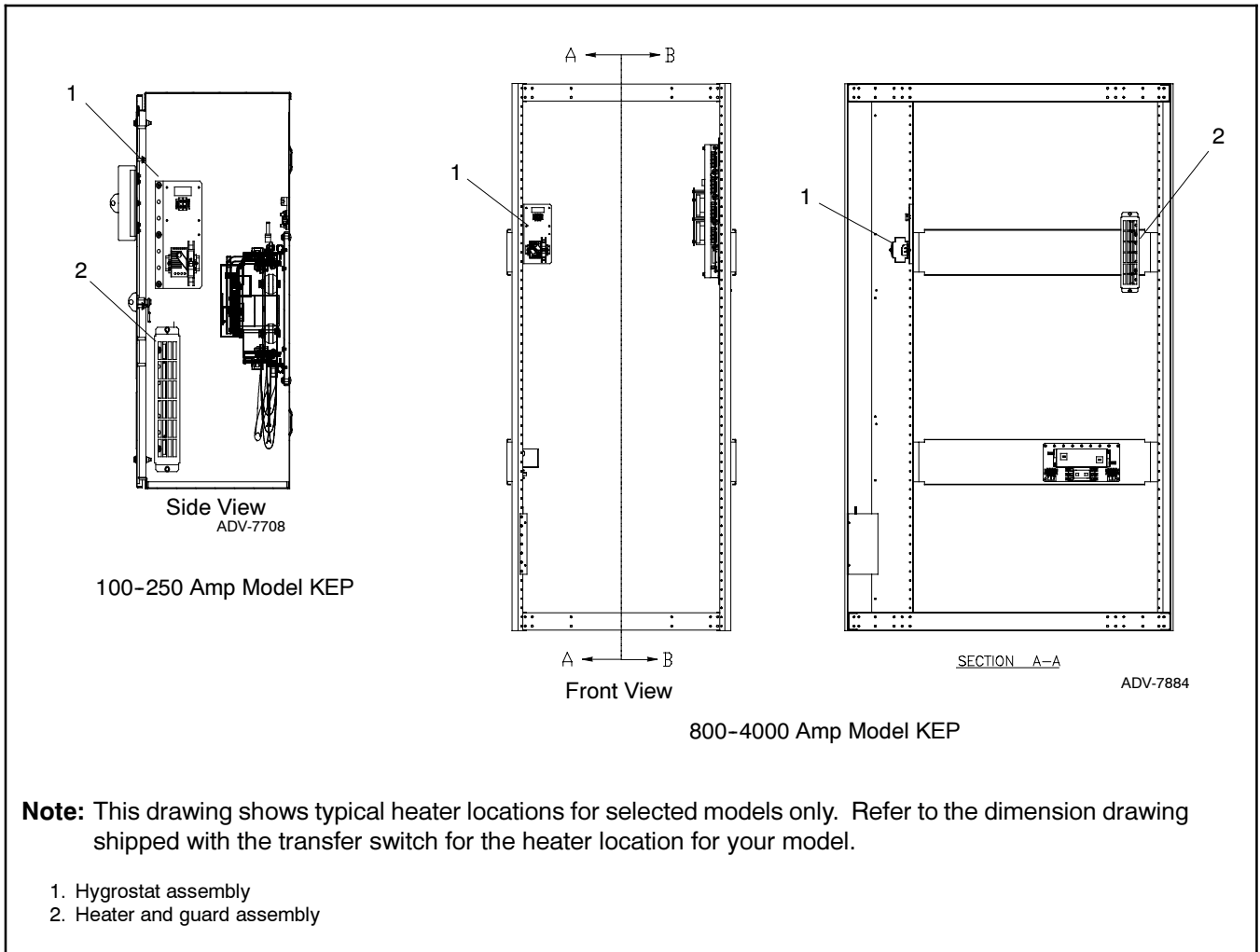


Figure 7 Typical Heater Locations, Service Entrance Model KEP

Parts Lists

Heater, ATS 100 W

Kit: GM71056-KP1		
Qty.	Description	Part Number
1	Heater Assembly, 100 W Includes the following items:	GM71056-1
2	Stop, end	321025
1	Breaker, Circuit 15A	GM33906
1	Rail, Din	GM48806
1	Hygrostat	GM64488
4	Washer, Insulating	GM70082
1	Bracket, Heater	GM71054
1	Harness, Strip Heater	GM71279
1	Heater, Strip	GM71653-1
1	Bracket, Heater	GM74944
1	Guard, Heater Small	GM74945
1	Decal, 120VAC Only	GM75393
1	Grommet, round	X-284-7
1	Terminal block	X-405-2
2	Cable tie	X-468-9
5	Nut, flange spirallock, 1/4-20	X-6210-2
2	Screw, hex washer, thread-forming	X-67-115
2	Screw, Tapping	X-67-152
2	Screw, Tapping	X-67-155
2	Nut, hex machine screw, 4-40	X-74-6
1	Drawing, Assembly ATS Heater	GM71056
1	Diagram, Wiring Strip Heater	GM71278
1	ATS Heater Installation Instructions	TT-1558

Heater ATS, 250W

Kit: GM71056-KP5		
Qty.	Description	Part Number
1	Heater Assembly, 250 W Includes the following items:	GM71056-2
2	Stop, end	321025
1	Breaker, Circuit 15A	GM33906
1	Rail, Din	GM48806
1	Hygrostat	GM64488
4	Washer, Insulating	GM70082
1	Bracket, Heater	GM71054
1	Harness, Strip Heater	GM71279
1	Heater, Strip	GM71653-2
1	Bracket, Heater	GM74944
1	Guard, Heater Large	GM74946
1	Decal, 120VAC Only	GM75393
1	Grommet, round	X-284-7
1	Terminal block	X-405-2
2	Cable tie	X-468-9
5	Screw, hex washer, thread-forming	X-67-114
2	Screw, hex washer, thread-forming	X-67-115
2	Screw, Tapping	X-67-152
2	Screw, Tapping	X-67-155
2	Nut, hex machine screw, 4-40	X-74-6
1	Drawing, Assembly ATS Heater	GM71056
1	Diagram, Wiring Strip Heater	GM71278
1	ATS Heater Installation Instructions	TT-1558