

**208/240, 1 phase**  
**Accessory Electric Heaters**  
 for Package Air Conditioning and  
 Package Heat Pumps 2 thru 5 tons  
**To Fit: Unit Models**  
 PAD3 / PAD4 / PAD5 024-060  
 PAN3 / PAN4 / PAN5 024-060  
 PHN3 / PHN4 / PHN5 024-060  
 PHD3 / PHD4 / PHD5 024-060  
 WPA3 / WPH3 024-060

**INSTALLATION  
 INSTRUCTIONS**

**DATE: 09-15-2011**

**208/240/480, 3 phase**  
**Accessory Electric Heaters**  
 for Package Air Conditioning and  
 Package Heat Pumps  
 2½ thru 5 tons  
**To Fit: Unit Models**  
 PAD3 / PAD4 / PAD5 030-060  
 PAN3 / PAN4 / PAN5 030-060  
 PHN3 / PHN4 / PHN5 030-060  
 PHD3 / PHD4 / PHD5 030-060  
 WPA3 / WPH3 030-060

**GENERAL**

This electric heater series is engineered, designed, and listed to be installed in the **International Comfort Products** PAD3 / PAD4 / PAD5 024-060, PAN3 / PAN4 / PAN5 024-060, PHN3 / PHN4 / PHN5 024-060, PHD3 / PHD4 / PHD5 024-060, WPA3 / WPH3 024-060 208/240 volt, single phase as well as International Comfort Products PAD3 / PAD4 / PAD5 030-060, PAN3 / PAN4 / PAN5 030-060, PHN3 / PHN4 / PHN5 030-060, PHD3 / PHD4 / PHD5 030-060, WPA3 / WPH3 030-060 ; 208/240/480 volt, three phase series packaged air conditioners and heat pumps. Before proceeding, verify the heater label for correct voltage and KW requirements.

Installation and servicing of this equipment should only be performed by trained and qualified personnel. Before proceeding with the heater installation, inspect thoroughly for shipping damage. Notify the shipper immediately if any damage is found. Check all porcelain insulators for breakage and inspect heater element wire to see that none have been deformed. Clean all dirt, dust and moisture from equipment. Check for proper clearances of line parts, between phases, and to ground. Make sure that all required barriers are in place. Check conductors run in multiple to insure that they are properly wired. Refer to installation instructions for complete unit installation details. The minimum air quantity for safe electric heater operation is shown on Page 3.

**WARNING** ⚠

Before performing service or maintenance operations on system, turn off all main power switches. There may be more than one disconnect. Turn off accessory heater power switch if applicable. Electrical shock could cause serious injury or death.

**TAG DISCONNECT SWITCH(ES) WITH A SUITABLE WARNING LABEL.**

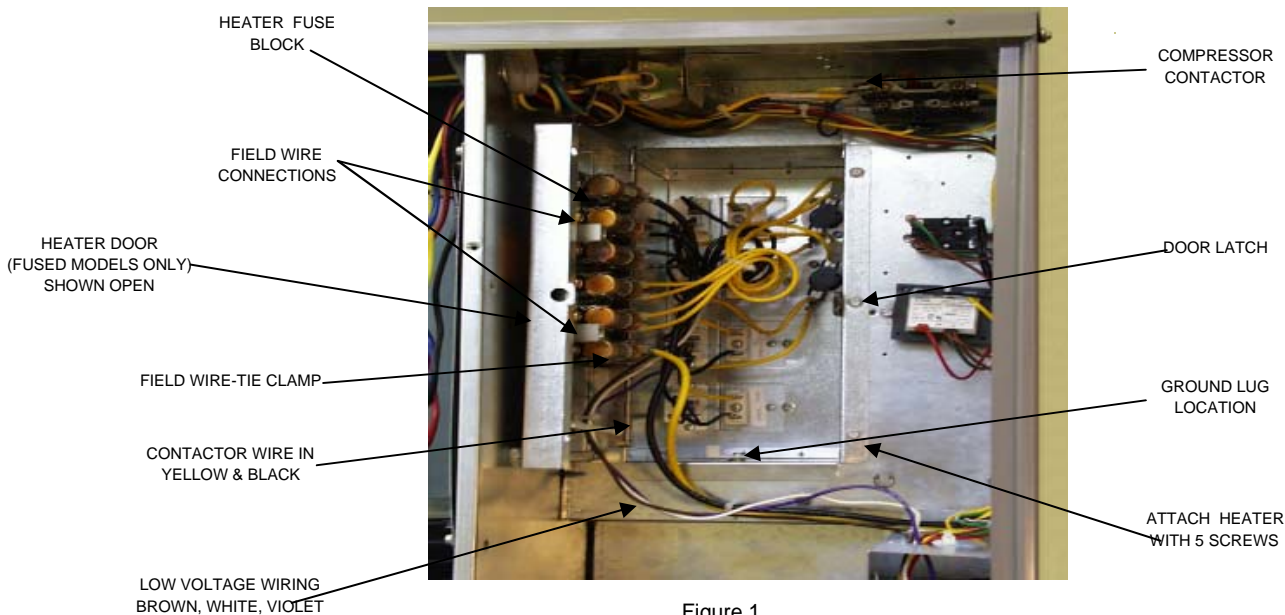


Figure 1

*Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.*



Fig. 2

**WARNING** 

Before performing service or maintenance operations on system, turn off all main power switches. There may be more than one disconnect. Turn off accessory heater power switch if applicable. Electrical shock could cause serious injury or death.

**TAG DISCONNECT SWITCH(ES) WITH A SUITABLE WARNING LABEL.**

**Important:** Use flexible connectors between ductwork and unit to prevent transmission of vibration. Use suitable gaskets to ensure weather tight and airtight seal. If flexible duct is used, insert a sheet metal sleeve inside the duct. Heat resistant duct connector (or sheet metal sleeve) must extend 24-in. from the unit connection flanges into the duct work.

**HEATER INSTALLATION**

1. Open all electrical disconnects before beginning any service work.
2. Ensure that unit duct work is installed per base unit installation instructions.
3. Remove access panel to heater compartment (See Fig. 1)
4. Check proper equipment model number from list.
5. Locate and remove heater access cover plate. Save screws. (See Fig. 1)
6. Remove electric heater from the packaging.
7. Install heater, sliding assembly carefully through access hole. Ensure that mounting holes of heater align with mounting holes on the unit. Secure heater assembly with screws provided. Check operation as described in Start-Up section.
8. Dress wires with wire ties provided.
9. When electric heat is installed, use fire protection canvas (or similar heat resistant material) connector between duct work and unit discharge connection.

**ELECTRICAL CONNECTIONS**

1. Open all electrical disconnects before beginning any service work.
2. All electrical connections, wire sizes and type of conduit sizes shall meet the National Electric Code, State and Local Codes. Main power supply, minimum wire sizes, circuits, fusing, etc., is shown on schematic wiring diagrams. **NOTE: Use minimum 75°C copper wire only.**
3. Refer to base unit instructions for recommended wiring procedures.
4. Connect low voltage wires as shown in heater schematic diagram (See Pg. 4). These connections must be made in the 24V barrier section inside unit panel (See Fig. 2). For 50CE, CR, DT, DU, XL, XT, 604C, 607B/D, 707B/D install the adaptor harness hit (provided with heater) to the low voltage wires of heater. Connect the harness plug to the mating 5 pin connector on the unit control board found at the bottom of the control box.
5. **Connect field power wiring as shown in heater wiring diagram. All connections should be made inside the air conditioning unit and comply with National Electric Codes, State and Local Codes. Heaters with factory installed fuses may be installed on a branch circuit protected by either a fuse or a circuit breaker. For all other heaters, the branch circuit must be protected by a fuse or circuit breaker supplied by others.**
6. Make all high voltage wire splice connections inside unit control box. Use splice connectors provided. Properly insulate connectors. Separate all wires from incoming power leads.
7. Check wiring diagram supplied with heater for specific connections and information.
8. Check operation as described in Start-Up section.

*Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.*

## WARNING

Before performing service or maintenance operations on system, turn off all main power switches. There may be more than one disconnect. Turn off accessory heater power switch if applicable. Electrical shock could cause serious injury or death.

**TAG DISCONNECT SWITCH(ES) WITH A SUITABLE WARNING LABEL.**

## START-UP and CHECK-OUT

**IMPORTANT:** Before proceeding, verify that all wiring is correct per factory approved schematic. Notify factory immediately of any discrepancies.

1. Refer to base unit installation instructions as required.
2. Check for loose terminal connections.
3. Check that all fuse and circuit breaker short circuit interrupting ratings are adequate.
4. Turn on unit and heater power.
5. Set thermostat to call for heat.
6. Check operation of heater.
7. Check that air flow across heater is at or above minimum recommended fan speed. Adjust as required.
8. Any modifications or repairs to this equipment without written permission from the factory will be done at the installer's own risk and expense.

### Maximum Duct Static Pressure (IN. H<sub>2</sub>O)

UNIT	Maximum Static Pressure						
	Unit Size						
	018	024	030	036	042	048	060
HEAT PUMP	N/A	.30	*.30	.30	** .50	** .50	.50
ELECTRIC COOLING	.30	.30	.30	.30	.50	.50	.50

\* 15 kw, 208 & 240 volt 1 phase 208/240/480 volt 3 phase size 030 heat pump cannot be used at less than medium speed.

\*\* 20 kw, 480 volt 3 phase size 042 & 048 heat pump cannot be used at less than medium speed.

## SERVICE

**Fuses** - Malfunction will interrupt power to the unit. *Check for cause of failure, replace fuses.*

**Limit Switch** - Malfunction prevents heating element(s) from being energized. *Replace switch if malfunction occurs.*

**Contactor** - Malfunction will not allow heater to come on or shut off. *Replace faulty contactor. Do not attempt to replace coil or dress contacts.*

## ELECTRIC HEATER PACKAGE CONTENTS

1. Heater assembly.
2. UPC labeled heater.
3. Installation Instructions.
4. Identification label.
5. Schematic on lid door for all fused units.
6. Schematic on sticker to be placed inside unit panel for non-fused units. (See Fig. 2).
7. Wire connectors (3).
8. Wire ties (5) 6" long (See Fig. 2)
9. Screws #10A (5)
10. Wire tie clamps (2). Fused models only.



# TYPICAL SCHEMATICS

### WGS-0381/0502

USE PLUG ADAPTOR ON 50CE/704C/50CR/604C

Model # WGS-0381/0502  
 Serial # \_\_\_\_\_  
 Tag - \_\_\_\_\_  
 Kilowatts 3.8/5.0  
 Volts-Ph-Hz 208/240/1/60  
 Control Volts 24.0  
 Steps 1  
 Heater Amps 18.1/20.8  
 Heater Fuses N/A

NOTE:  
 \* Power supply wiring per NEC & Local Codes. Suitable for at least 75° C  
 Use copper conductor wiring only. Field wire, NEC Class I  
 \*\* Replace Auto-Reset with Therm-O-Disc type 60TX01-L165  
 CAUTION-RELAYS UTILIZE 22VDC COILS WITH AC TO DC RECTIFIERS. DO NOT USE RELAY WITHOUT RECTIFIER. REPLACE WITH FACTORY AUTHORIZED PARTS ONLY.  
 -24VAC, Class 2 power source must not exceed 28.4VAC under any primary input voltage condition per U.L./NEC.

Control Wiring \_\_\_\_\_  
 Power Wiring \_\_\_\_\_  
 Field Wiring \_\_\_\_\_

WGS0502  
 Rev. by : M. REEVES  
 Date : 01/26/08 **WARREN TECHNOLOGY**

### WGS-0381H/0502H

USE PLUG ADAPTOR ON 50CE/704C/50CR/604C

Model # WGS-0381H/0502H  
 Serial # \_\_\_\_\_  
 Tag - \_\_\_\_\_  
 Kilowatts 3.8/5.0  
 Volts-Ph-Hz 208/240/1/60  
 Control Volts 24.0  
 Steps 1  
 Heater Amps 18.1/20.8  
 Heater Fuses See chart above

NOTE:  
 \* Power supply wiring per NEC & Local Codes. Suitable for at least 75° C  
 Use copper conductor wiring only. Field wire, NEC Class I  
 \*\* Replace Auto-Reset with Therm-O-Disc type 60TX01-L165  
 CAUTION-RELAYS UTILIZE 22VDC COILS WITH AC TO DC RECTIFIERS. DO NOT USE RELAY WITHOUT RECTIFIER. REPLACE WITH FACTORY AUTHORIZED PARTS ONLY.  
 -24VAC, Class 2 power source must not exceed 28.4VAC under any primary input voltage condition per U.L./NEC.

Replace with 250VAC type Slow Blow fuses SINGLE POINT CONNECTION

Control Wiring \_\_\_\_\_  
 Power Wiring \_\_\_\_\_  
 Field Wiring \_\_\_\_\_

WGS0502H  
 Rev. by : M. REEVES  
 Date : 01/26/08 **WARREN TECHNOLOGY**

### WGS-0383/0504

USE PLUG ADAPTOR ON 50CE/704C/50CR/604C

Model # WGS-0383/0504  
 Serial # \_\_\_\_\_  
 Tag - \_\_\_\_\_  
 Kilowatts 3.8/5.0  
 Volts-Ph-Hz 208/240/3/60  
 Control Volts 24.0  
 Steps 1  
 Heater Amps 10.4/12.0  
 Heater Fuses N/A

NOTE:  
 \* Power supply wiring per NEC & Local Codes. Suitable for at least 75° C  
 Use copper conductor wiring only. Field wire, NEC Class I  
 \*\* Replace Auto-Reset with Therm-O-Disc type 60TX01-L165  
 CAUTION-RELAYS UTILIZE 22VDC COILS WITH AC TO DC RECTIFIERS. DO NOT USE RELAY WITHOUT RECTIFIER. REPLACE WITH FACTORY AUTHORIZED PARTS ONLY.  
 -24VAC, Class 2 power source must not exceed 28.4VAC under any primary input voltage condition per U.L./NEC.

Control Wiring \_\_\_\_\_  
 Power Wiring \_\_\_\_\_  
 Field Wiring \_\_\_\_\_

WGS0504  
 Rev. by : M. REEVES  
 Date : 01/26/08 **WARREN TECHNOLOGY**

### WGS-0561/0752

USE PLUG ADAPTOR ON 50CE/704C/50CR/604C

Model # WGS-0561/0752  
 Serial # \_\_\_\_\_  
 Tag - \_\_\_\_\_  
 Kilowatts 5.4/7.2  
 Volts-Ph-Hz 208/240/1/60  
 Control Volts 24.0  
 Steps 2  
 Heater Amps 25.9/30.0  
 Heater Fuses N/A

NOTE:  
 \* Power supply wiring per NEC & Local Codes. Suitable for at least 75° C  
 Use copper conductor wiring only. Field wire, NEC Class I  
 \*\* Replace Auto-Reset with Therm-O-Disc type 60TX01-L165  
 CAUTION-RELAYS UTILIZE 22VDC COILS WITH AC TO DC RECTIFIERS. DO NOT USE RELAY WITHOUT RECTIFIER. REPLACE WITH FACTORY AUTHORIZED PARTS ONLY.  
 -24VAC, Class 2 power source must not exceed 28.4VAC under any primary input voltage condition per U.L./NEC.

Control Wiring \_\_\_\_\_  
 Power Wiring \_\_\_\_\_  
 Field Wiring \_\_\_\_\_

WGS0752  
 Rev. by : M. REEVES  
 Date : 01/26/08 **WARREN TECHNOLOGY**

### WGS 0751H/1002H

USE PLUG ADAPTOR ON 50CE/704C/50CR/604C

Model # WGS-0751H/1002H  
 Serial # \_\_\_\_\_  
 Tag - \_\_\_\_\_  
 Kilowatts 7.5/10.0  
 Volts-Ph-Hz 208/240/1/60  
 Control Volts 24.0  
 Steps 2  
 Heater Amps 38.1/41.7  
 Heater Fuses See chart above

NOTE:  
 \* Power supply wiring per NEC & Local Codes. Suitable for at least 75° C  
 Use copper conductor wiring only. Field wire, NEC Class I  
 \*\* Replace Auto-Reset with Therm-O-Disc type 60TX01-L165  
 Contactor utilizes 24 Vdc coil, replace with the same component.  
 CAUTION-RELAYS UTILIZE 22VDC COILS WITH AC TO DC RECTIFIERS. DO NOT USE RELAY WITHOUT RECTIFIER. REPLACE WITH FACTORY AUTHORIZED PARTS ONLY.  
 -24VAC, Class 2 power source must not exceed 28.4VAC under any primary input voltage condition per U.L./NEC. Replace with 250VAC type Slow Blow fuses SINGLE POINT CONNECTION

Control Wiring \_\_\_\_\_  
 Power Wiring \_\_\_\_\_  
 Field Wiring \_\_\_\_\_

WGS1002H  
 Rev. by : M. REEVES  
 Date : 01/26/08 **WARREN TECHNOLOGY**

### WGS-1131H/1502H

USE PLUG ADAPTOR ON 50CE/704C/50CR/604C

Model # WGS-1131H/1502H  
 Serial # \_\_\_\_\_  
 Tag - \_\_\_\_\_  
 Kilowatts 11.3/15.0  
 Volts-Ph-Hz 208/240/1/60  
 Control Volts 24.0  
 Steps 2  
 Heater Amps 54.2/62.5  
 Heater Fuses See chart above

NOTE:  
 \* Power supply wiring per NEC & Local Codes. Suitable for at least 75° C  
 Use copper conductor wiring only. Field wire, NEC Class I  
 \*\* Replace Auto-Reset with Therm-O-Disc type 60TX01-L165  
 CAUTION-RELAYS UTILIZE 22VDC COILS WITH AC TO DC RECTIFIERS. DO NOT USE RELAY WITHOUT RECTIFIER. REPLACE WITH FACTORY AUTHORIZED PARTS ONLY.  
 -24VAC, Class 2 power source must not exceed 28.4VAC under any primary input voltage condition per U.L./NEC. Replace with 250VAC type Slow Blow fuses SINGLE POINT CONNECTION

Control Wiring \_\_\_\_\_  
 Power Wiring \_\_\_\_\_  
 Field Wiring \_\_\_\_\_

WGS1502H  
 Rev. by : M. REEVES  
 Date : 01/25/08 **WARREN TECHNOLOGY**

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