

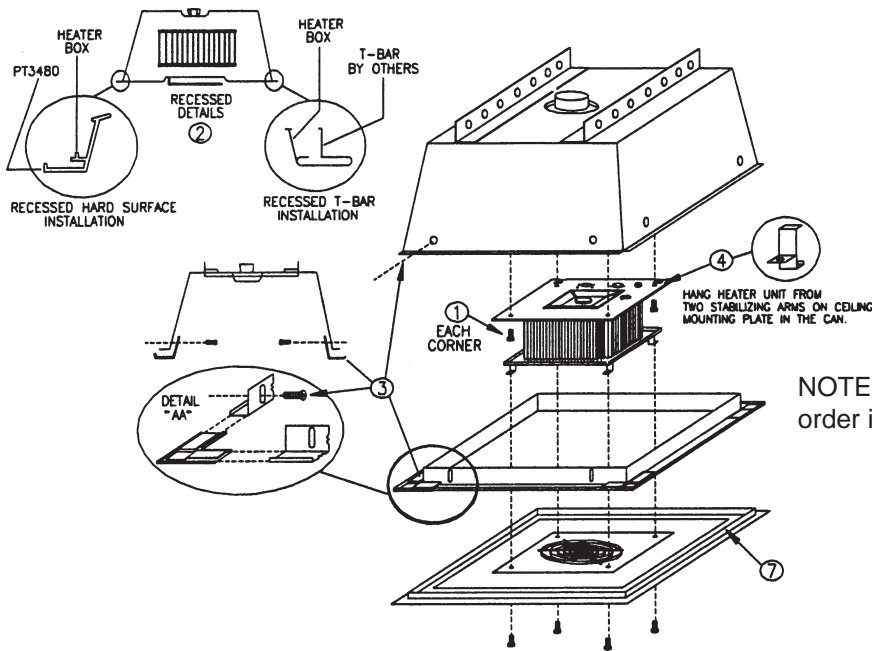
# 3480/RCH SERIES

## INSTALLATION INSTRUCTIONS



TPI Corporation  
P.O. Box 4973  
Johnson City, TN  
37602-4973

America's Comfort Conditioning Company



NOTE: If plaster frame is required for installation order it as an option.

**ATTENTION: Read carefully before attempting to install or operate the heater.**

### GENERAL INFORMATION

MOUNT HORIZONTAL POSITION ONLY.

DO NOT INSTALL ANY CLOSER THAN 12" TO NEAREST WALL

CHECK TO SEE THAT SERVICE VOLTAGE IS THE SAME AS HEATER VOLTAGE.

ALL WIRING MUST CONFORM TO THE NATIONAL ELECTRIC CODE AND EXISTING LOCAL CODE REQUIREMENTS.

**WARNING:** To avoid the risk of fire, shock or personal injury; make sure that the power source is disconnected before attempting to install, service, clean or disassemble the heater or any of its components. If the power disconnect is out of the line of sight, lock in in the open position and tag it to prevent the application of power.

#### INSTALLATION INSTRUCTIONS:

1. Detach heater unit from the ceiling mounting plate in the recessed can by disengaging the stabilizing arms on ceiling plate from the heater unit.  
4 - **#8 drive screws**.
2. For a dropped or suspended ceiling, anchor the recessed can using either threaded rod, or wire in an approved method that is sufficient to support the heater assembly such that the bottom edge of the recessed can just rest on the T-bar frame. For plaster or similar finished ceilings, the can should be installed so the flanges (of the can) are even with the interior finish or ceiling line.
3. For plaster or other similar finish ceilings attach the PT3480 accessory plaster frame to the recessed can using 8 - **#8 x 3/4 drive screws**. (detail "AA")
4. Hang heater unit from two stabilizing arms on the ceiling mounting plate in the can. Be sure to engage the two arms with the hooked ends on the ceiling plate with the slots in the heater plate.
5. Connect the heater leads with their corresponding supply leads in the outlet box (75°C wire must be used). The outlet box is permanently attached to the top of the can. After this is complete, install the ceiling plate access hole cover with 2 - **#8 drive screws** which have been provided.
6. Swing the heater unit up to the ceiling mounting plate and secure with 4 - **#8 drive screws** that have been provided. Do this by placing one screw in each of the four stabilizing arms on the ceiling plate.
7. Install heater exterior grille by attaching it directly to the heater unit. Rotate the exterior grille so that the two 1/4" dia. holes in the exterior grille align with the manual reset limit control located on the bottom of the venturi of the heater assembly, also make alignments so that the venturi of the heater assembly is on the outside the venturi of the exterior grille. Secure to the four bracket arms on the heater case with 4 - **10/32 x 3/4 button head machine screws** provided.

FORM: 9480  
ECO 1-5917

**IMPORTANT: OWNER SHOULD RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE**

## 3480 / RCH SERIES CEILING HEATER

**CAUTION:** To avoid the risk of fire, shock or personal injury; do not insert or allow any foreign objects or hands to enter any ventilation or exhaust openings.

### THERMAL CUTOUT IDENTIFICATION

All 480V Models employ a automatic limit control. 208, 240 and 277V models may employ zero-volt or capillary manual reset limit control. Models with capillary type manual reset limit control. This device is located on the heater venturi (bottom of unit as installed) with the capillary routed around the outside of the element assembly.

### THERMAL CUTOUT OPERATION (WITH ZERO-VOLT RESET)

To reset thermal cutout disconnect all power for 5 minutes then energize unit. If fault continues disconnect power and check for causes.

### THERMAL CUTOUT OPERATION (WITH CAPILLARY MANUAL RESET)

To reset thermal cutout, first disconnect power from the unit allowing time to cool, locate the two 1/4" dia. openings in the front grille. Using a small screwdriver or pencil press the reset button (with minimal amount of force) through the 1/4" opening, then restore power to the unit. If fault continues disconnect power and check for causes.

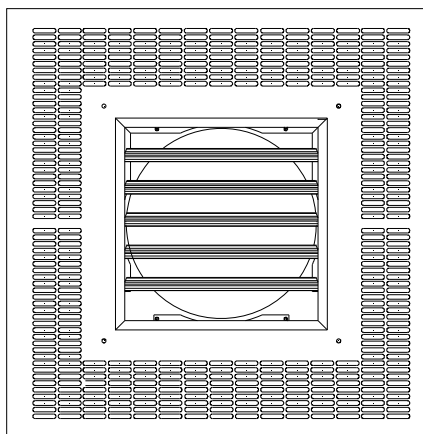
### THERMAL CUTOUT (480 volt models)

If for any reason temperatures increase beyond normal limits, safety thermal limit will open de-energizing heating element and fan motor. Check entire installation to determine cause of overheating and take corrective measures. The limit control is the automatic reset type and after cooling will reset, allowing heater to resume operation.

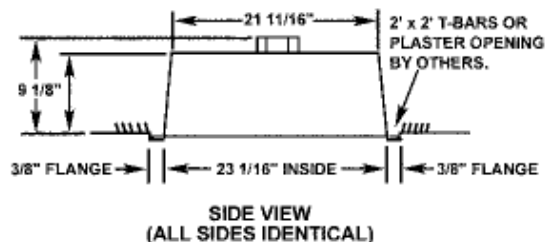
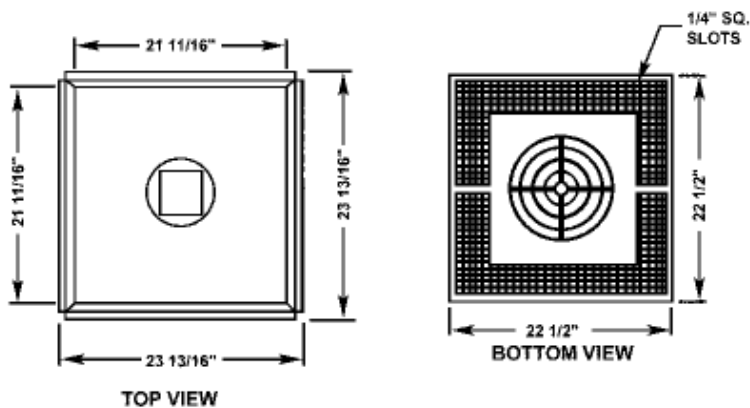
**WIRING DIAGRAMS:** Shown on pages 4, 5, 6 and 7 WD-1, -3, -5, -7, -9, -11, -13, -15, -17 and -19 are diagrams of units that employ (zero-volt) manual reset limit control devices.

WD-2, -4, -6, -8, -10, -12, -14, -16, -18 and -20 are diagrams of units that employ (capillary) manual reset limit control devices.

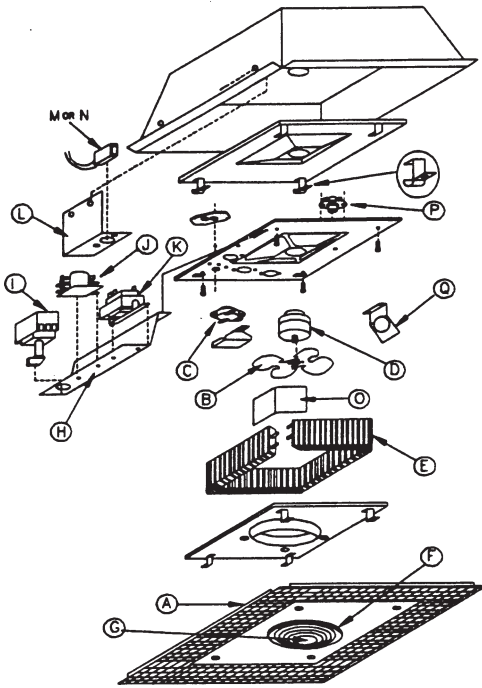
### OPTIONAL LOUVERED DIFFUSER



The factory installed louvered diffuser can be adjusted to direct air flow as desired. If necessary the louvered diffuser can be rotated 90 degrees by removing the four mounting screws and turning the louvered diffuser to the desired position and attaching to the grille. Care must be taken to align the notched corners of the diffuser frame with the reset holes in the grille. The louvered diffuser cannot be used in conjunction with the standard circular outlet.



## 3480 / RCH SERIES CEILING HEATER REPLACEMENT PARTS

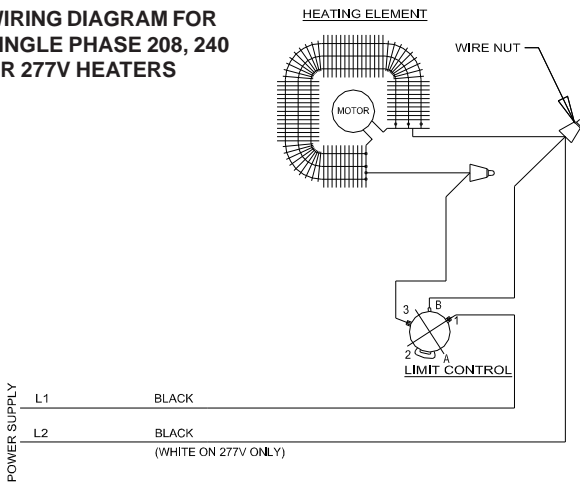


REF	DESCRIPTION	CODE / PART NO.	QTY.
A	Bottom Grille	3480COMPGRLL	1
B	Fan Blade	51554-002	1
F	Circular Louver	56561-101	1
G	Hole Plug	57882-001	1
H	ACC Mtg. Bracket	54871-001	1
I	Disconnect Switch	51617-003	1
J	Control Relay	See Variations Below 41274-001 24 V COIL 28163-004 120 V COIL 28163-006 208/277 V COIL	1
K	Class 2 Transformer	60719-001 - 208 240/24 V SEC. 60719-005 - 277/24 V SEC. 60719-006 - 480/24 V SEC.	1
L	Thermostat Mtg. Bracket	54870-001	1
M	Single Pole Thermostat	60074-003	1
N	Double Pole Thermostat	56291-001	1
O	Wire Barrier	52948-001	2
P	Purge Control	43560-001	1
Q	Purge Baffle	52949-001	1

RCH Model	3480 Model	Volts - Phase	Wattage	Reference Letter			
				E Element assy.	D Motor P/N	C Disc Type Limit Control	C (Capillary) Manual Reset Limit Control
81RCH2	F3482	208-1	2000	73042-026	56562-011	-	58530-001
21RCH2	H3482	240-1	2000	73042-027	56562-013	-	58530-001
71RCH2	G3482	277-1	2000	73042-028	56562-015	-	58530-001
81RCH3	F3483	208-1	3000	73042-030	56562-011	-	58530-001
21RCH3	H3483	240-1	3000	73042-031	56562-013	-	58530-001
71RCH3	G3483	277-1	3000	73042-032	56562-015	-	58530-001
81RVH4	F3484	208-1	4000	73042-034	56562-011	-	58530-002
21RCH4	H3484	240-1	4000	73042-035	56562-013	-	58530-002
71RCH4	G3484	277-1	4000	73042-036	56562-015	-	58530-002
81RCH5	F3485	208-1	5000	73042-038	56562-011	-	58530-002
21RCH5	H3485	240-1	5000	73042-039	56562-013	-	58530-002
71RCH5	G3485	277-1	5000	73042-040	56562-015	-	58530-002
83RCH4	J3484	208-3	4000	73042-034	56562-011	-	58530-002
23RCH4	K3484	240-3	4000	73042-035	56562-013	-	58530-002
83RCH5	J3485	208-3	5000	73042-038	56562-011	-	58530-002
23RCH5	K3485	240-3	5000	73042-039	56562-013	-	58530-002
41RCH2	P3482	480-1	2000	73042-029	56562-018	51139-001	-
41RCH3	P3483	480-1	3000	73042-033	56562-018	51139-001	-
41RCH4	P3484	480-1	4000	73042-037	56562-018	51139-002	-
41RCH5	P3485	480-1	5000	73042-041	56562-018	51139-002	-
43RCH4	Y3484	480-3	4000	73042-036	56562-018	51139-002	-
43RCH5	Y3485	480-3	5000	73042-040	56562-018	51139-002	-

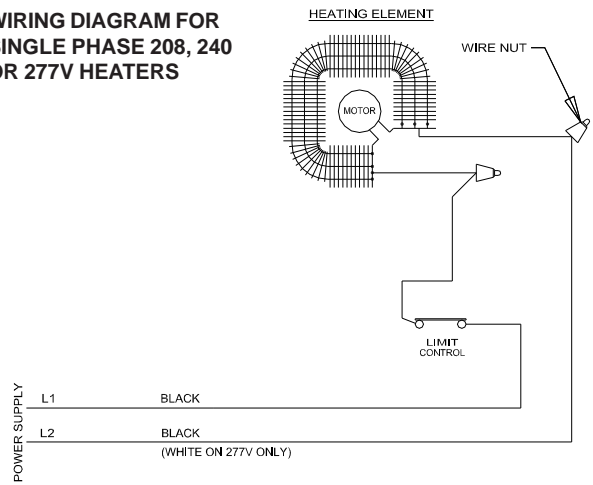
# 3480 / RCH SERIES CEILING HEATER WIRING DIAGRAM

**WIRING DIAGRAM FOR SINGLE PHASE 208, 240 OR 277V HEATERS**



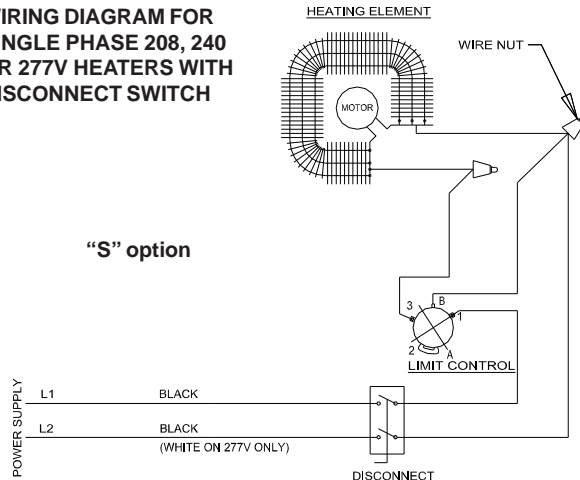
**WD-1**

**WIRING DIAGRAM FOR SINGLE PHASE 208, 240 OR 277V HEATERS**



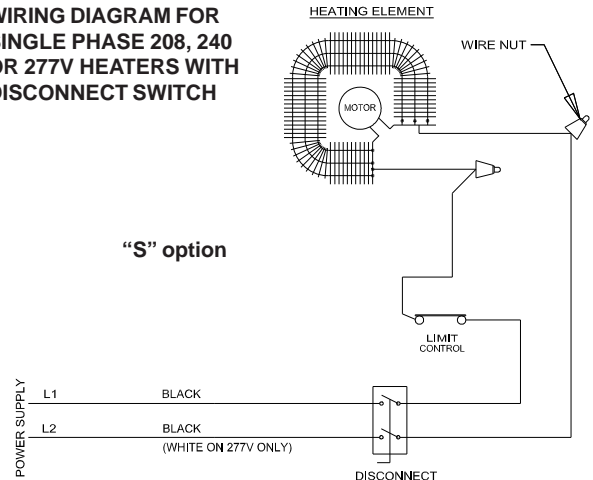
**WD-2**

**WIRING DIAGRAM FOR SINGLE PHASE 208, 240 OR 277V HEATERS WITH DISCONNECT SWITCH**



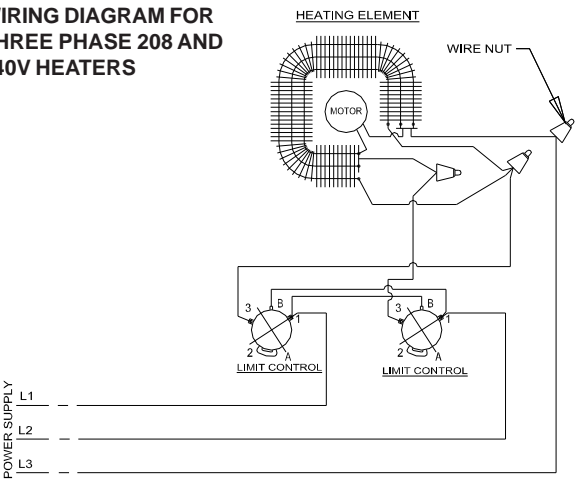
**WD-3**

**WIRING DIAGRAM FOR SINGLE PHASE 208, 240 OR 277V HEATERS WITH DISCONNECT SWITCH**



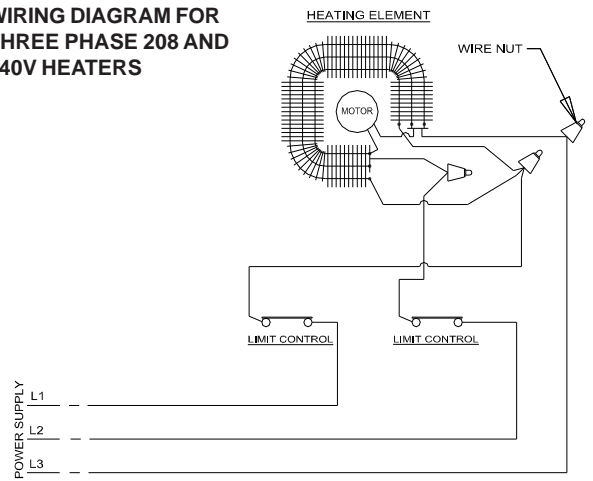
**WD-4**

**WIRING DIAGRAM FOR THREE PHASE 208 AND 240V HEATERS**



**WD-5**

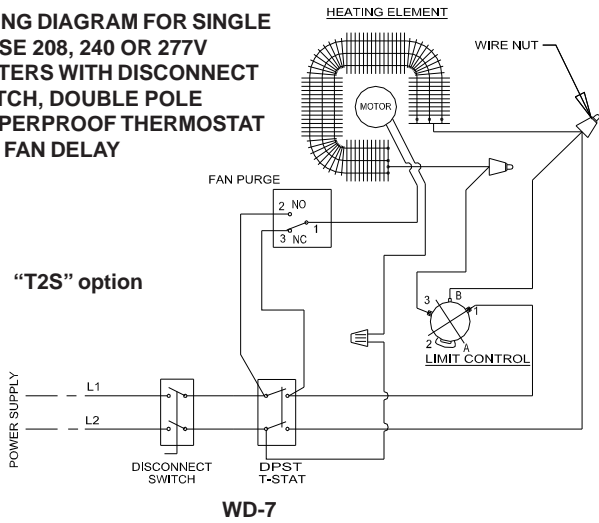
**WIRING DIAGRAM FOR THREE PHASE 208 AND 240V HEATERS**



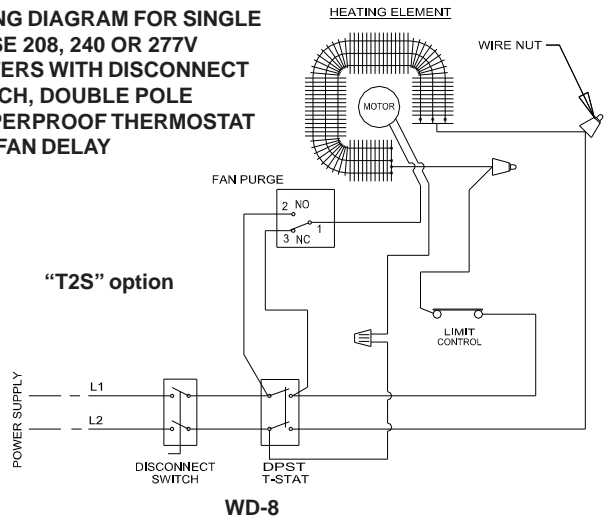
**WD-6**

# 3480 / RCH SERIES CEILING HEATER WIRING DIAGRAM

**WIRING DIAGRAM FOR SINGLE PHASE 208, 240 OR 277V HEATERS WITH DISCONNECT SWITCH, DOUBLE POLE TAMPERPROOF THERMOSTAT AND FAN DELAY**



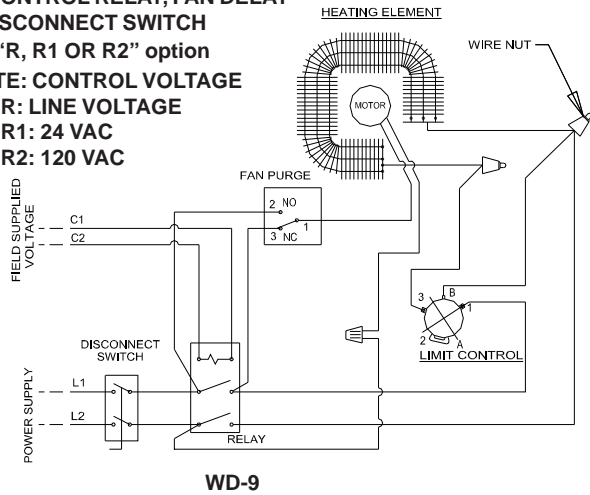
**WIRING DIAGRAM FOR SINGLE PHASE 208, 240 OR 277V HEATERS WITH DISCONNECT SWITCH, DOUBLE POLE TAMPERPROOF THERMOSTAT AND FAN DELAY**



**WIRING DIAGRAM FOR SINGLE PHASE 208, 240 OR 277V HEATERS WITH CONTROL RELAY, FAN DELAY AND DISCONNECT SWITCH**

**"R, R1 OR R2" option**

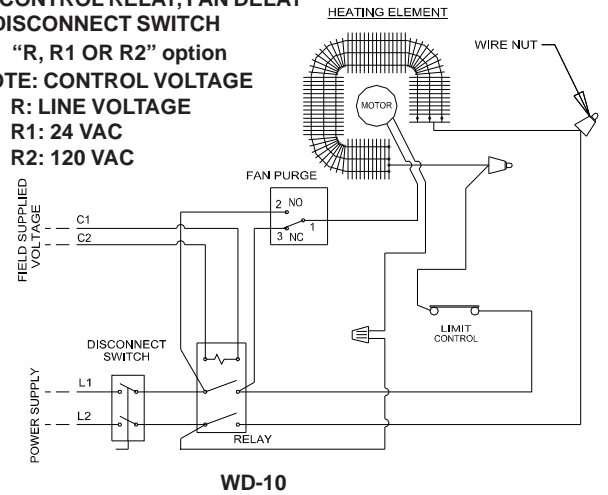
**\*NOTE: CONTROL VOLTAGE  
R: LINE VOLTAGE  
R1: 24 VAC  
R2: 120 VAC**



**WIRING DIAGRAM FOR SINGLE PHASE 208, 240 OR 277V HEATERS WITH CONTROL RELAY, FAN DELAY AND DISCONNECT SWITCH**

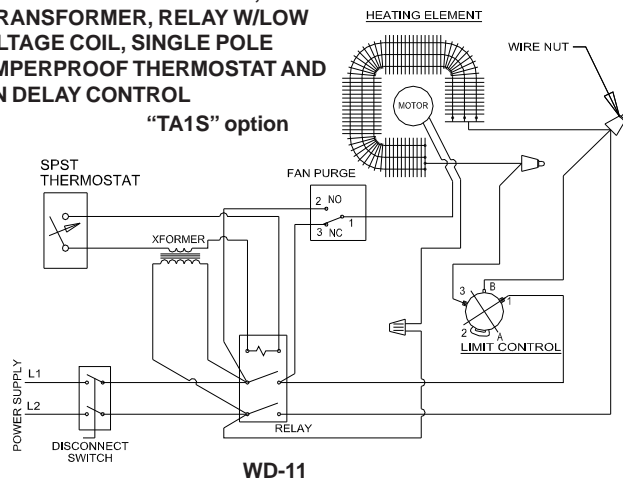
**"R, R1 OR R2" option**

**\*NOTE: CONTROL VOLTAGE  
R: LINE VOLTAGE  
R1: 24 VAC  
R2: 120 VAC**



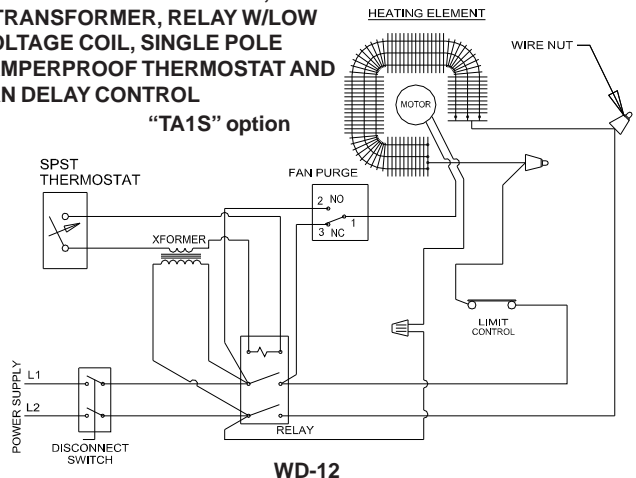
**WIRING DIAGRAM FOR SINGLE PHASE 208, 240 OR 277V HEATERS WITH DISCONNECT SWITCH, CLASS 2 TRANSFORMER, RELAY W/LOW VOLTAGE COIL, SINGLE POLE TAMPERPROOF THERMOSTAT AND FAN DELAY CONTROL**

**"TA1S" option**



**WIRING DIAGRAM FOR SINGLE PHASE 208, 240 OR 277V HEATERS WITH DISCONNECT SWITCH, CLASS 2 TRANSFORMER, RELAY W/LOW VOLTAGE COIL, SINGLE POLE TAMPERPROOF THERMOSTAT AND FAN DELAY CONTROL**

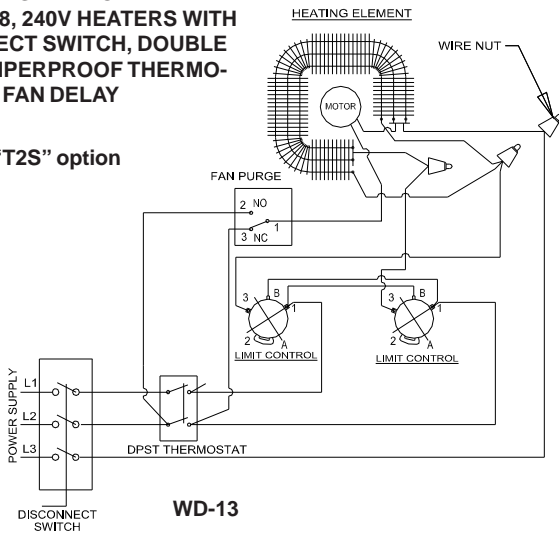
**"TA1S" option**



# 3480 / RCH SERIES CEILING HEATER WIRING DIAGRAM

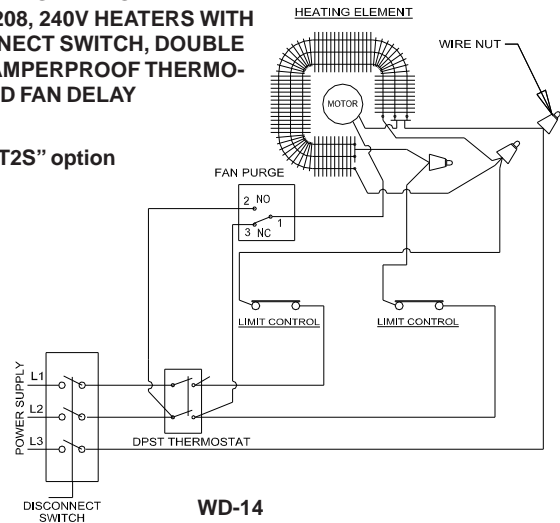
**WIRING DIAGRAM FOR THREE PHASE 208, 240V HEATERS WITH DISCONNECT SWITCH, DOUBLE POLE TAMPERPROOF THERMOSTAT AND FAN DELAY**

**3-"T2S" option**



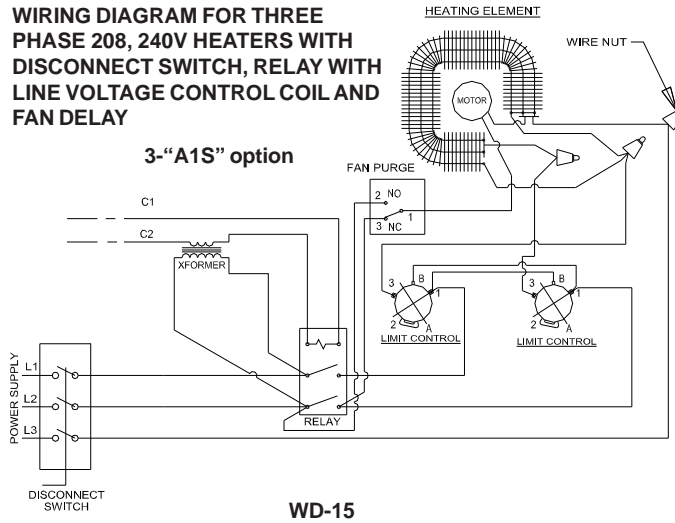
**WIRING DIAGRAM FOR THREE PHASE 208, 240V HEATERS WITH DISCONNECT SWITCH, DOUBLE POLE TAMPERPROOF THERMOSTAT AND FAN DELAY**

**3-"T2S" option**



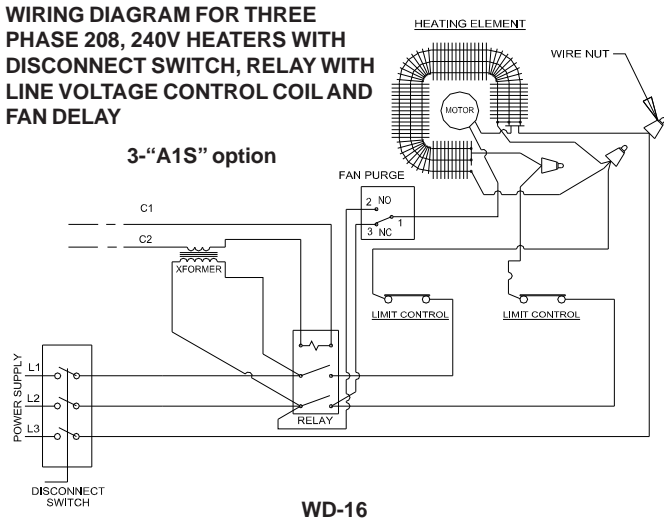
**WIRING DIAGRAM FOR THREE PHASE 208, 240V HEATERS WITH DISCONNECT SWITCH, RELAY WITH LINE VOLTAGE CONTROL COIL AND FAN DELAY**

**3-"A1S" option**



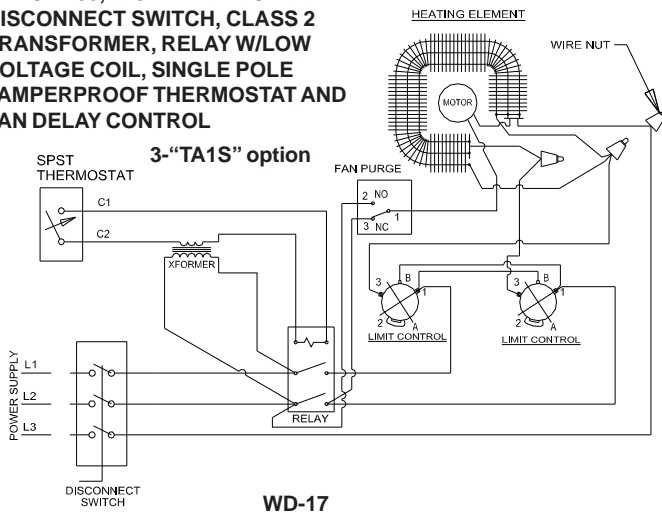
**WIRING DIAGRAM FOR THREE PHASE 208, 240V HEATERS WITH DISCONNECT SWITCH, RELAY WITH LINE VOLTAGE CONTROL COIL AND FAN DELAY**

**3-"A1S" option**



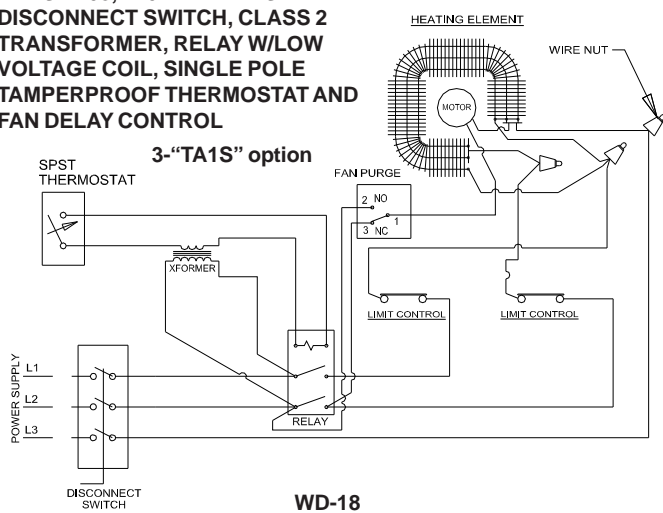
**WIRING DIAGRAM FOR THREE PHASE 208, 240V HEATERS WITH DISCONNECT SWITCH, CLASS 2 TRANSFORMER, RELAY W/LOW VOLTAGE COIL, SINGLE POLE TAMPERPROOF THERMOSTAT AND FAN DELAY CONTROL**

**3-"TA1S" option**

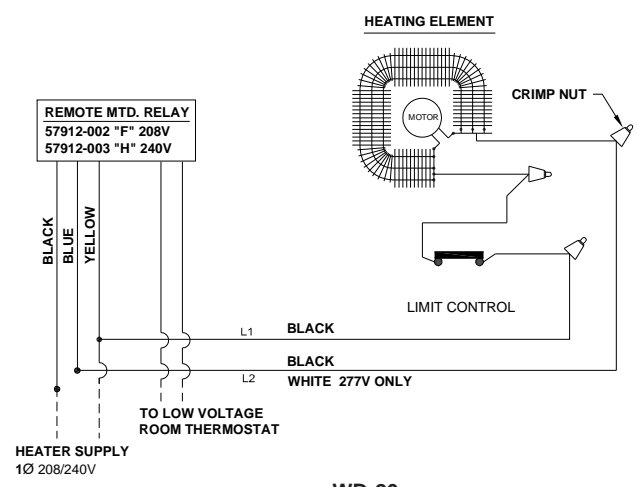
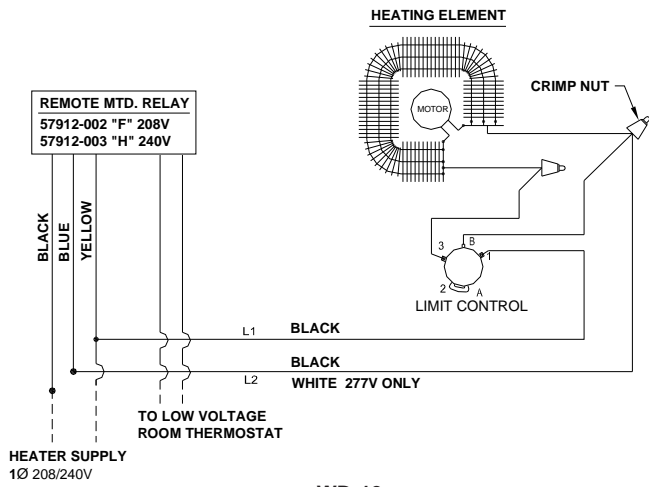


**WIRING DIAGRAM FOR THREE PHASE 208, 240V HEATERS WITH DISCONNECT SWITCH, CLASS 2 TRANSFORMER, RELAY W/LOW VOLTAGE COIL, SINGLE POLE TAMPERPROOF THERMOSTAT AND FAN DELAY CONTROL**

**3-"TA1S" option**



# 3480 / RCH SERIES CEILING HEATER WIRING DIAGRAM



## RELAY CONNECTION:

- \* CONNECT THE YELLOW WIRE WITH L1 AND SUPPLY WIRE USING A SUITABLE APPROVED CONNECTOR
- \* CONNECT BLUE WIRE WITH L2 USING AN APPROVED CONNECTOR
- \* CONNECT BLACK WIRE WITH SUPPLY WIRE USING AN APPROVED CONNECTOR
- \* ALL WIRING SHOULD BE PERFORMED BY A QUALIFIED ELECTRICIAN IN ACCORDANCE WITH N.E.C., ALL STATE AND LOCAL CODES