



**YORK MILLENNIUM TWO-STAGE  
ABSORPTION COMPETITIVE GUIDE**

**WIRING DIAGRAM**

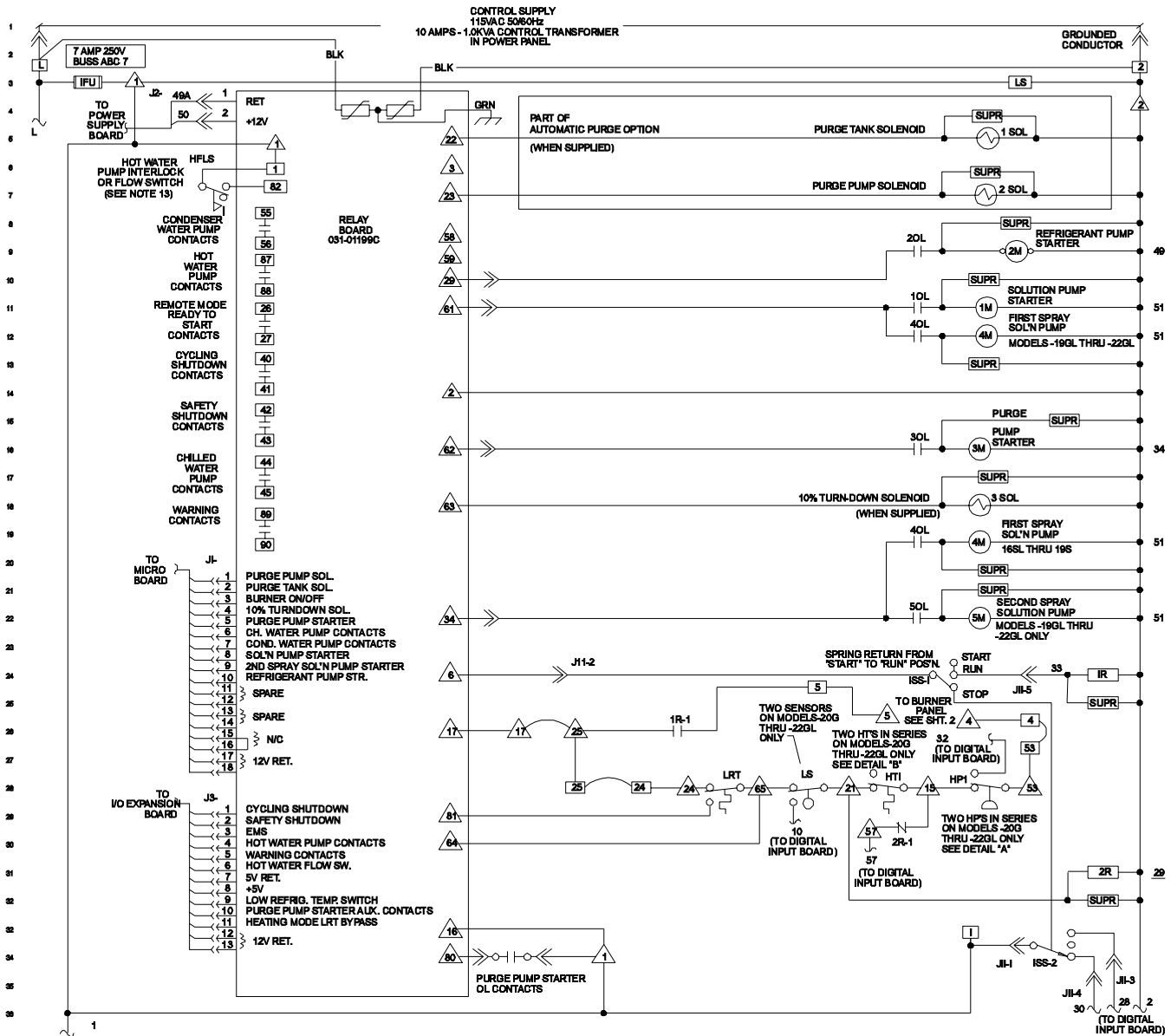
Supersedes: 155.17-W1 (1093)

Form 155.17-W1 (297)

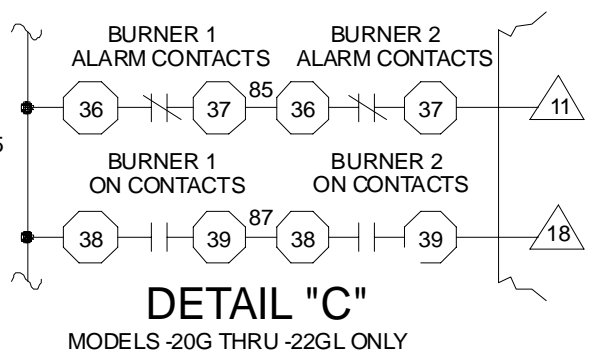
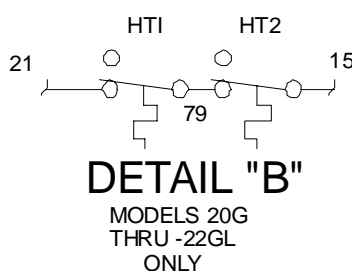
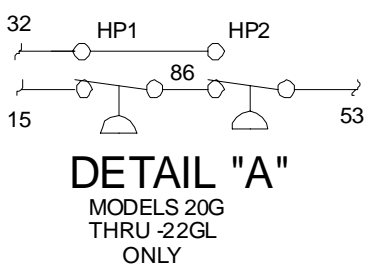
**FOR MODELS:  
YPC-DF-13S THRU YPC-DF-22G**

**(50 AND 60 HERTZ)  
200 TONS THRU 1500 TONS**

# YPC CONTROL CENTER ELEMENTARY DIAGRAM

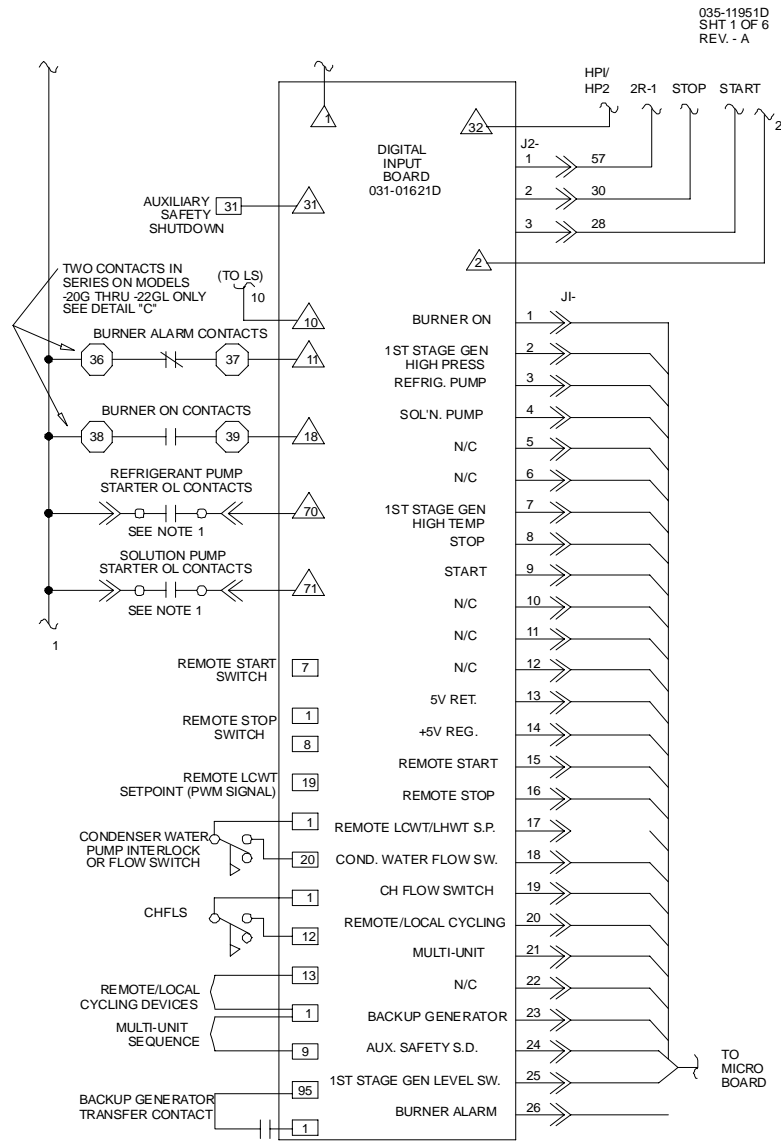


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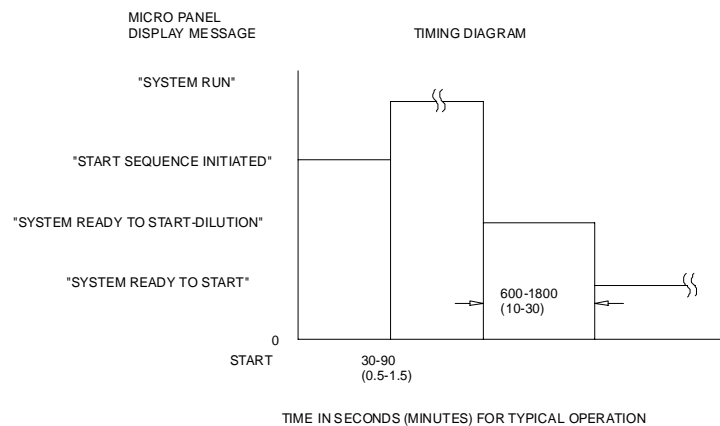
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## YPC CONTROL CENTER ELEMENTARY DIAGRAM (Cont'd.)



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## TIMING DIAGRAM (Cont'd.)



LD00802

## YPC CONTROL DIAGRAM ELEMENTARY DIAGRAM (Cont'd.)

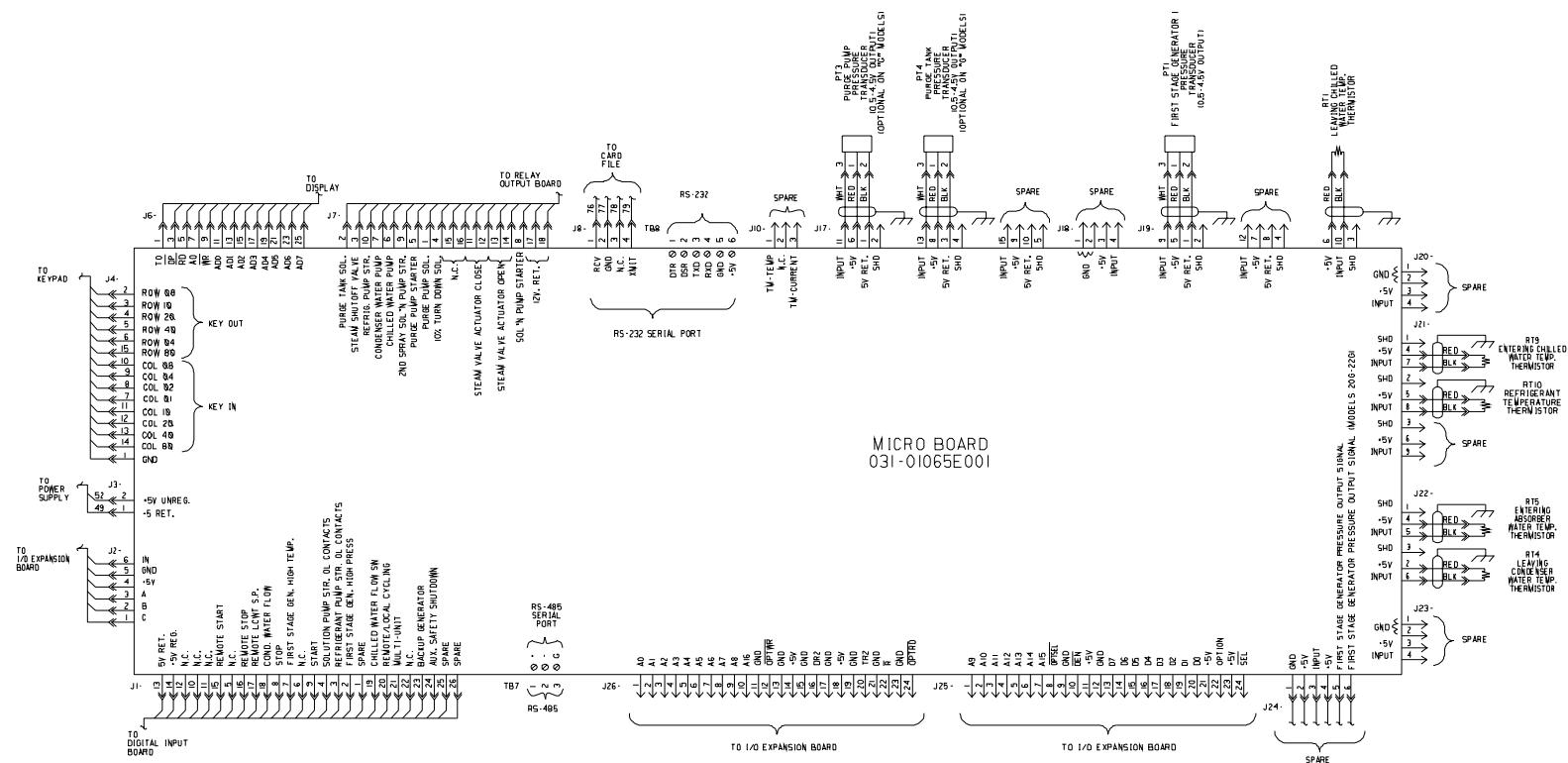
1M	3-PHASE SOLUTION PUMP STARTER (MOUNTED IN POWER PANEL)	
2M	3-PHASE REFRIGERANT PUMP MOTOR STARTER (MOUNTED IN POWER PANEL)	
3M	3-PHASE PURGE PUMP MOTOR STARTER (MOUNTED IN POWER PANEL)	
1R	BURNER CONTROL RELAY	
2R	FIRST-STAGE GENERATOR HIGH TEMP. CUT-OUT RELAY	
3SOL	10% TURNDOWN SOLENOID VALVE (WHEN SUPPLIED)	
2SOL	}	AUTO PURGE OPTION (WHEN SUPPLIED)
1SOL		
1SS	PURGE TANK SOLENOID VALVES	
1T	DPDT 3 POSITION ROCKER SWITCH	
4M	}	MOUNTED IN POWER PANEL Models -19GL through -22G only
5M	}	MOUNTED IN POWER PANEL Models -19GL through -22G only
FU	FUSE	
HT1	FIRST-STAGE GENERATOR HIGH TEMP. CUT-OUT SWITCH WITH (NON-TRIP) INDICATOR AND MANUAL RESET	
HP1	FIRST-STAGE GENERATOR HIGH PRESSURE CUT-OUT SWITCH	
LRT	LOW REFRIGERANT TEMPERATURE CUT-OUT SWITCH	
LCWT S.P.	LEAVING CHILLED WATER TEMPERATURE SETPOINT	
LHWT S.P.	LEAVING HOT WATER TEMPERATURE SETPOINT	
LWT	LOW WATER TEMPERATURE CUT-OUT (CHILLER OR CHILLER/HEATER) (PROVIDED BY RT1)	
MOV	METAL OXIDE VARISTOR	
OL	MOTOR OVERLOAD	
LS	FIRST-STAGE GENERATOR SOLUTION LEVEL CUT-OUT SWITCH (Models -20G thru -22G use two level sensors)	
RT1-RT11	RESISTANCE TEMPERATURE SENSING ELEMENT	
CHFLS	CHILLED WATER FLOW SWITCH CUT-OUT (BY YORK/WIRING BY OTHERS)	
PT1-PT4	PRESSURE TRANSDUCER	
HP2	FIRST-STAGE GENERATOR HIGH PRESSURE CUT-OUT SWITCH (Models -20G through -22G only)	
HT2	FIRST-STAGE GENERATOR HIGH TEMP. CUT-OUT SWITCH (Models -20G through -22G only)	

<span style="border: 1px solid black; padding: 2px;">SUPR</span>	TRANSIENT SUPPRESSOR	
TB1,TB3,TB6	TERMINAL BLOCK, FACTORY WIRING -	TERMINAL BLOCK IN BURNER CONTROL PANEL
TB2,TB4,TB5	TERMINAL BLOCK, FIELD CONNECTION -	
-----	FIELD WIRING	-----
_____	FACTORY WIRING	-----
.....	CIRCUIT BOARD OR ENCLOSURE BOUNDARY	-----
→	JACK (J1,J2, ...)	
➤	JACK (P1,P2, ...)	
	WIRE ENTRANCE HOLE IN CONTROL PANEL	
		-----
		-----
		-----

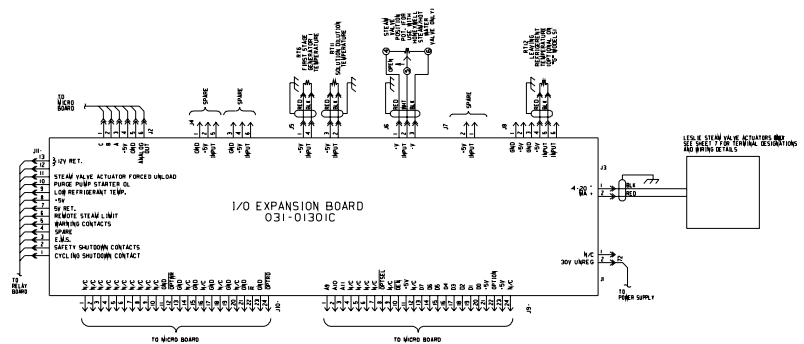
### NOTES

1. This wiring diagram describes the standard electronic control scheme. Refer to the power panel wiring diagram for additional information. For details of standard modifications, refer to Product Drawing, Form 155.17-PA1.
2. Field wiring to be in accordance with the National Electrical Code as well as all other applicable codes and specifications.
3. Numbers along the left side of diagram are line identification numbers. The numbers along the right side indicate the line number location of relay contacts. An underlined contact location signifies a normally closed contact.
4. Main control panel Class 1 field wiring terminal connection points are indicated by numbers within a rectangle, i.e., 15. Main control panel factory wiring terminals connection points are indicated by numbers within a triangle, i.e., 2. Terminals in burner control panel are indicated by numbers within a hexagon, i.e., 4. Component terminal markings are indicated by numbers within a circle, i.e., 3. Numbers adjacent to circuit lines are the circuit identification numbers.
5. To cycle unit on and off automatically with contacts other than those shown, install a cycling device between terminals 1 & 13 (Line 32) (See Note 7). If a cycling device is installed, jumper must be removed between terminals 1 & 13.
6. To stop unit and not permit it to start again, install a stop device between terminals 1 & 8 (Line 28) (See Note 7). A remote start-stop switch may be connected to terminals 1, 7 & 8 (Lines 27 & 28) (See Note 7). Remote start-stop switch (Lines 27 & 28) is operative only in the **REMOTE** operating mode.
7. Device contact rating to be 5 milliamperes at 115 volts A.C.
8. Contact rating is 5 amps resistive at 120 volts A.C. or 240 volts A.C.
9. The factory supplied jumper between 4 & 53 (Line 15) must be removed when safety devices are used.
10. Contact rating is 5 amps resistive at 250 volts A.C. & 30 volts D.C., 2 amp inductive (.4 PF) at 250 volts A.C. & 30 volts D.C.
11. Each 115VAC field-connected inductive load: i.e., relay coil, motor starter coil, etc, shall have a transient suppressor wired in parallel with its coil, physically located at the coil. Spare transient suppressors and control circuit fuse are supplied in a bag attached to the fuseholder.

# YPC CONTROL CENTER

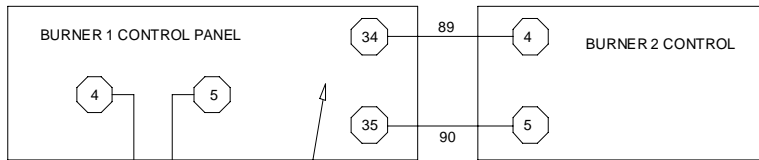
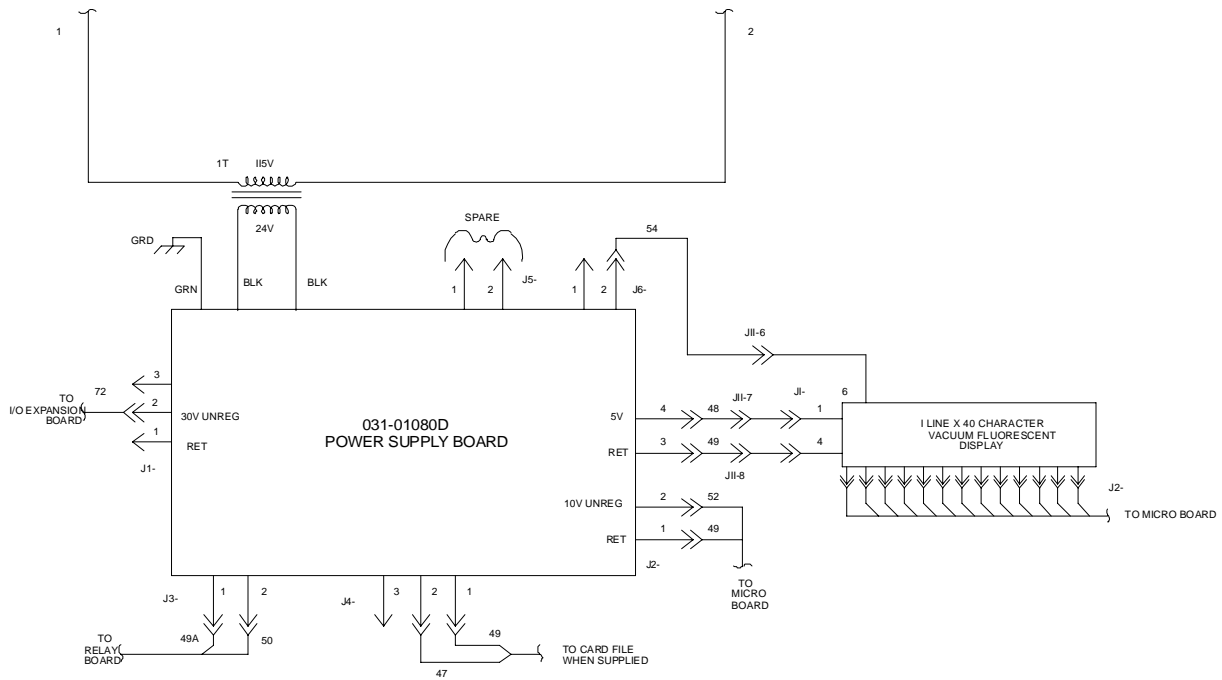


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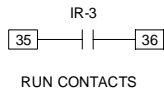


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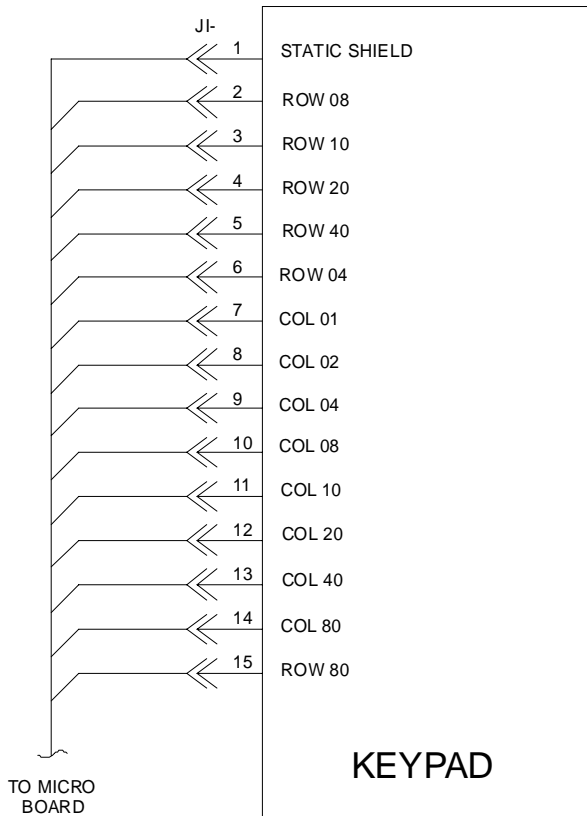
# YPC CONTROL DIAGRAM ELEMENTARY DIAGRAM (Cont'd.)



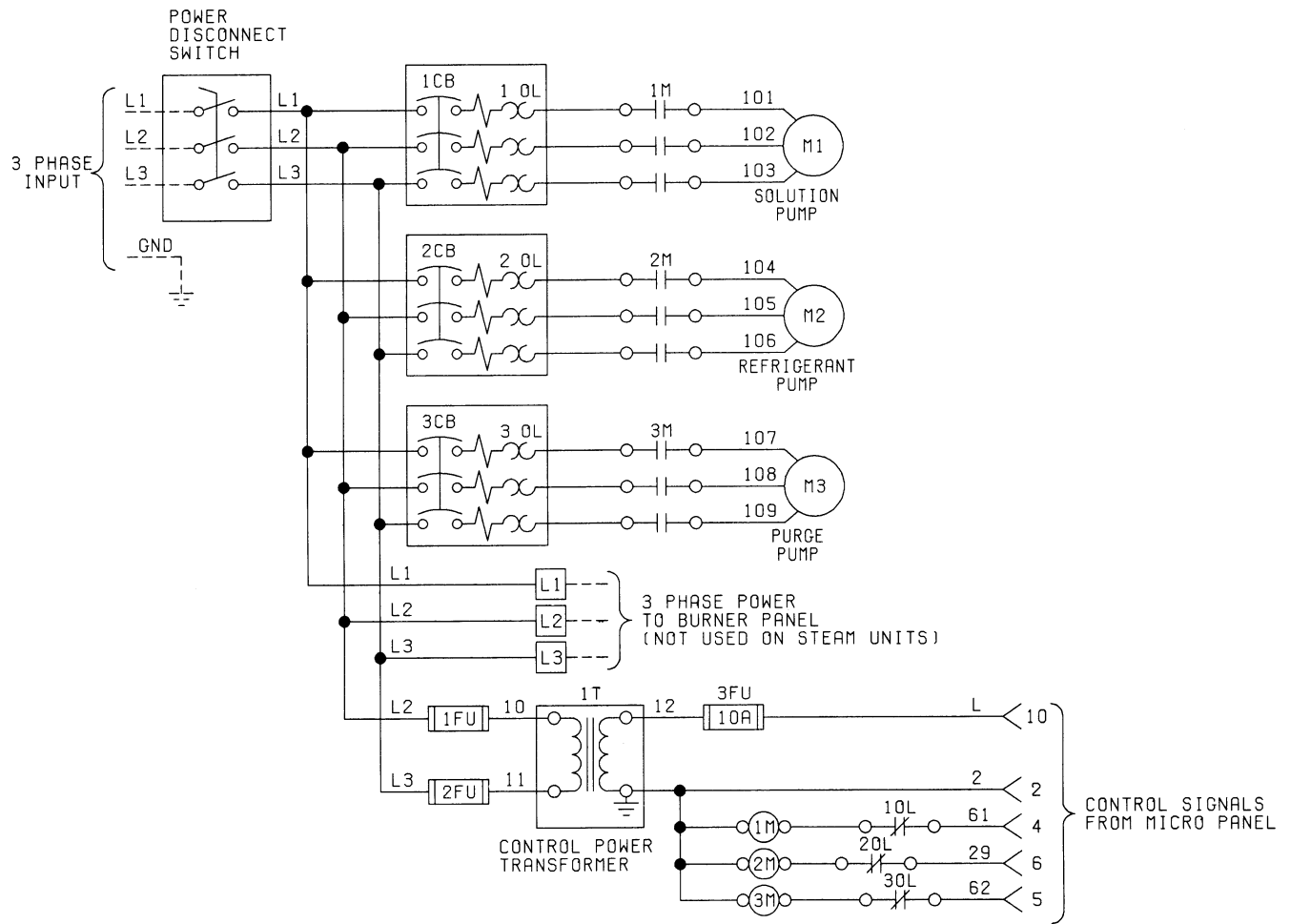
SEE SHT. 1  
BURNER CONTROL CONTACTS



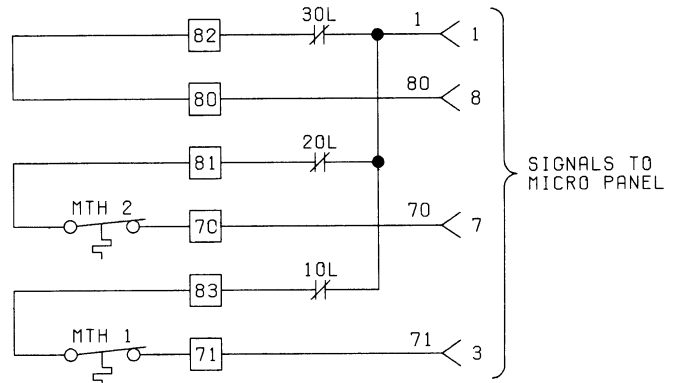
ADDITIONAL TERMINALS IN  
BURNER 1 CONTROL PANEL  
(MODELS -20G THRU -22GL ONLY)



### POWER PANEL ELEMENTARY DIAGRAM MODEL YPC-DF-13S TO -19G

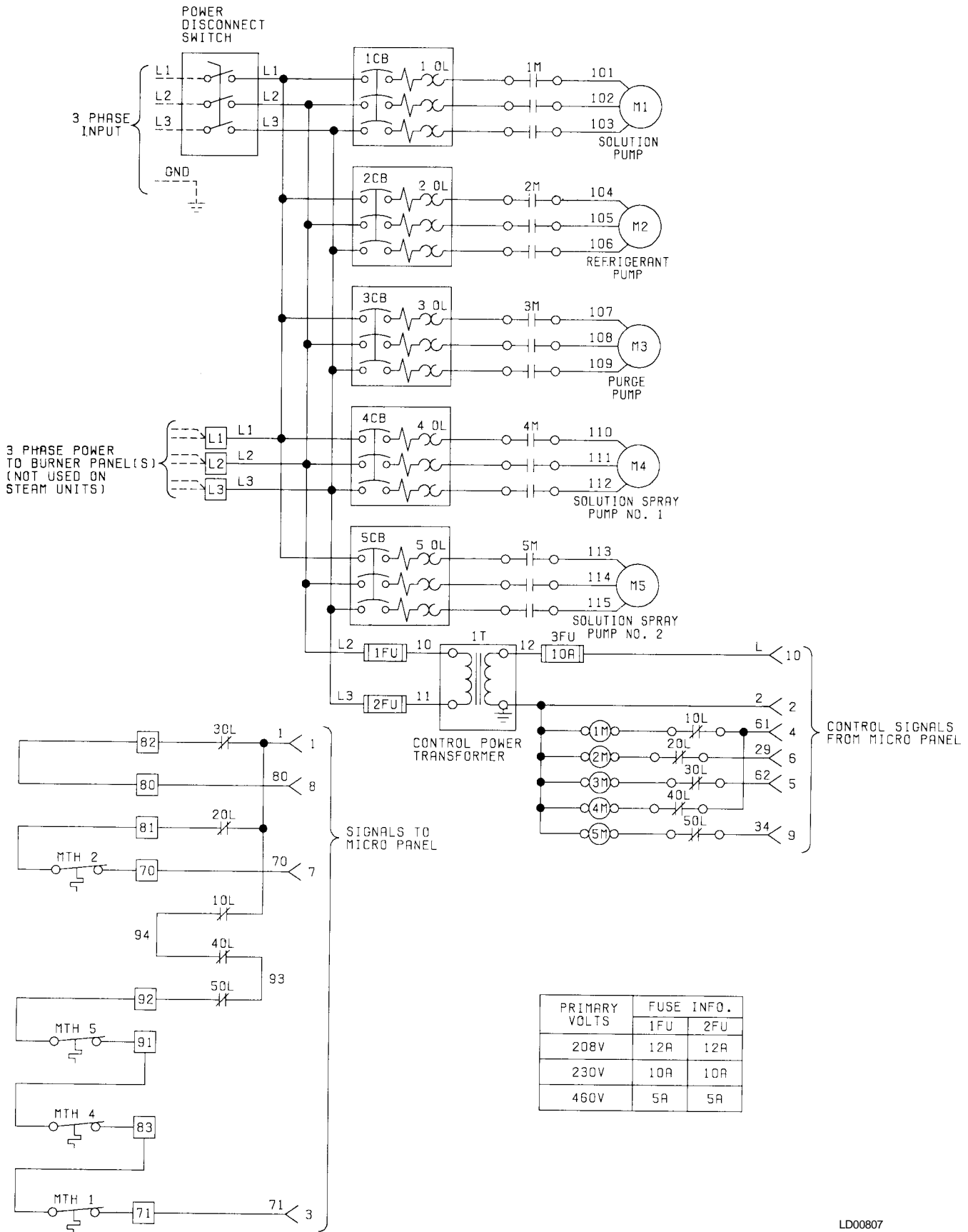


PRIMARY VOLTS	FUSE INFO.	
	1FU	2FU
208V	12A	12A
230V	10A	10A
460V	5A	5A



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## POWER PANEL ELEMENTARY DIAGRAM MODEL YPC-DF-19GL TO -22G



PRIMARY VOLTS	FUSE INFO.	
	1FU	2FU
208V	12A	12A
230V	10A	10A
460V	5A	5A

LD00807

### DIRECT-FIRED PRESSURE – TEMPERATURE CHART

APPLICATION			DEVICE	UNITS	OPERATING POINT			
CHILLER	HEATER	CHILLER/ HEATER			ON RISE		ON FALL	
√	√	√	HP1 & HP2**	PSIA/ KPa	CUT-OUT  13.73/94.67	HP OVER- RIDE-FORCED UNLOAD* 12.76/87.9	HP OVER- RIDE RELEASE* 5.00/34.47	CUT-IN  0.77/5.31
√	√	√	HT1 & HT2**	DEG. F/ DEG. C	CUT-OUT  330/165.6	HT OVER- RIDE-FORCED UNLOAD+ 326/163.3	HT OVER- RIDE RELEASE+ 250/121.1	CUT-IN  39.1/3.9
√	√	√	LRT	DEG. F/ DEG. C	CUT-IN++  42.1/5.6	LRT OVER- RIDE-ALLOW LOADING <input type="checkbox"/> 40.5/4.7	LRT OVER- RIDE INHIBIT LOADING <input type="checkbox"/> 40/4.4	CUT-OUT++  39.1/3.9
√		√	LWT	DEG. F/ DEG. C	7.0/3.9 ABOVE THE CHILLED WATER TEMP. SETPOINT		3.0/1.7 BELOW THE CHILLED WATER TEMP. OR 40/4.4 MIN. SET- POINT: WHEN THE SETPOINT IS RAISED, LWT=40/4.4 FOR 30 MIN.	
	√		HWT	DEG. F/ DEG. C	59 ABOVE THE HOT WATER TEMP. SETPOINT: WHEN THE SETPOINT IS LOWERED, HWT=215/101.7 FOR 10 MINUTES		10/18 BELOW THE HOT WATER TEMP. SETPOINT: WHEN THE SETPOINT IS LOWERED, HWT=180/82.2 FOR 30 MINUTES	

\* FUNCTION PROVIDED BY FIRST-STAGE GENERATOR PRESSURE TRANSDUCER (PT1)  
(TWO PROVIDED ON MODELS -20G THRU -22G ONLY) (PT1 & PT2)

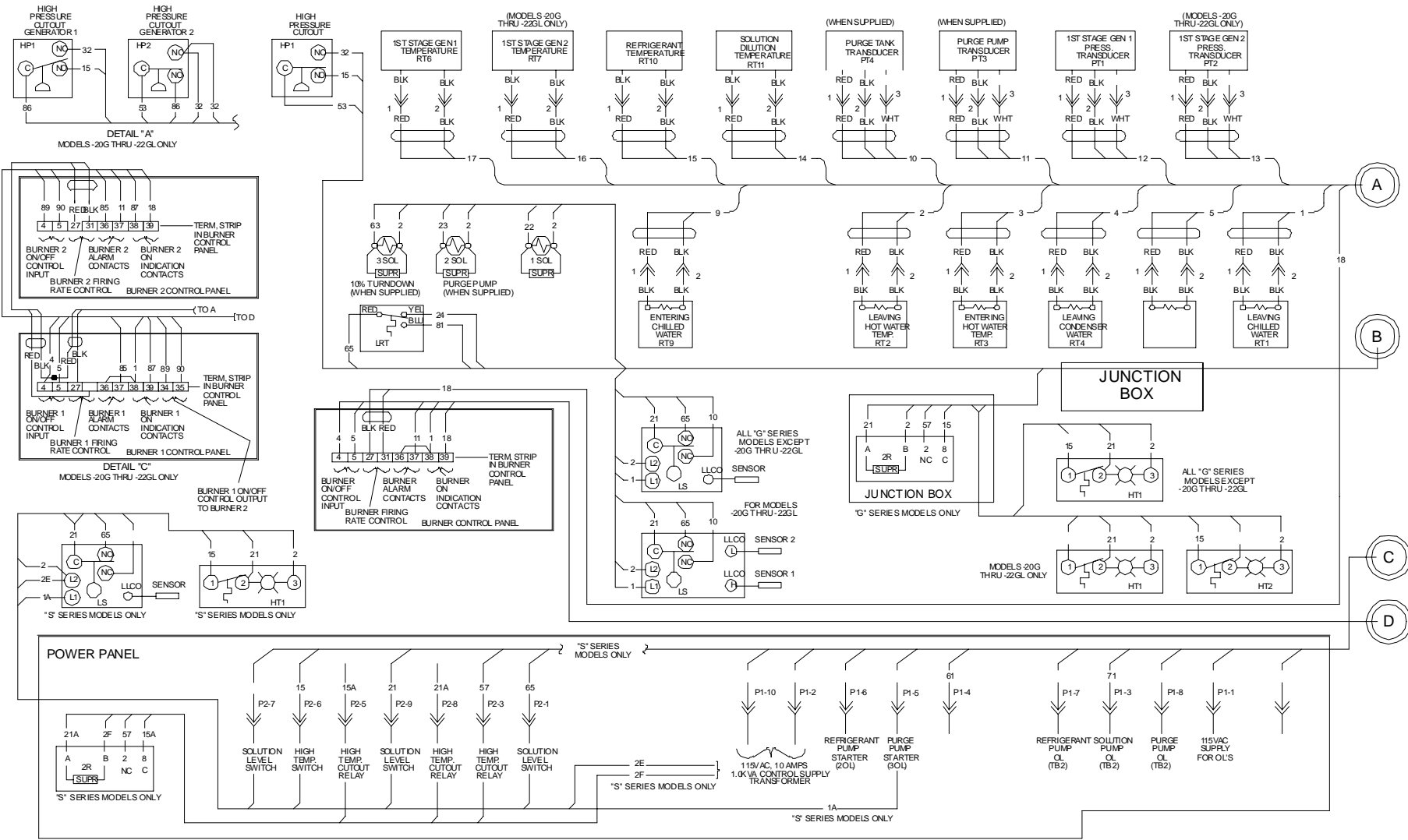
+ FUNCTION PROVIDED BY FIRST-STAGE GENERATOR TEMP. SENSOR  
(TWO PROVIDED ON MODELS -20G THRU -22G ONLY)

FUNCTION PROVIDED BY REFRIGERANT TEMP. SENSOR (RT10)

\*\* USED ON MODELS -20G THROUGH -22G ONLY

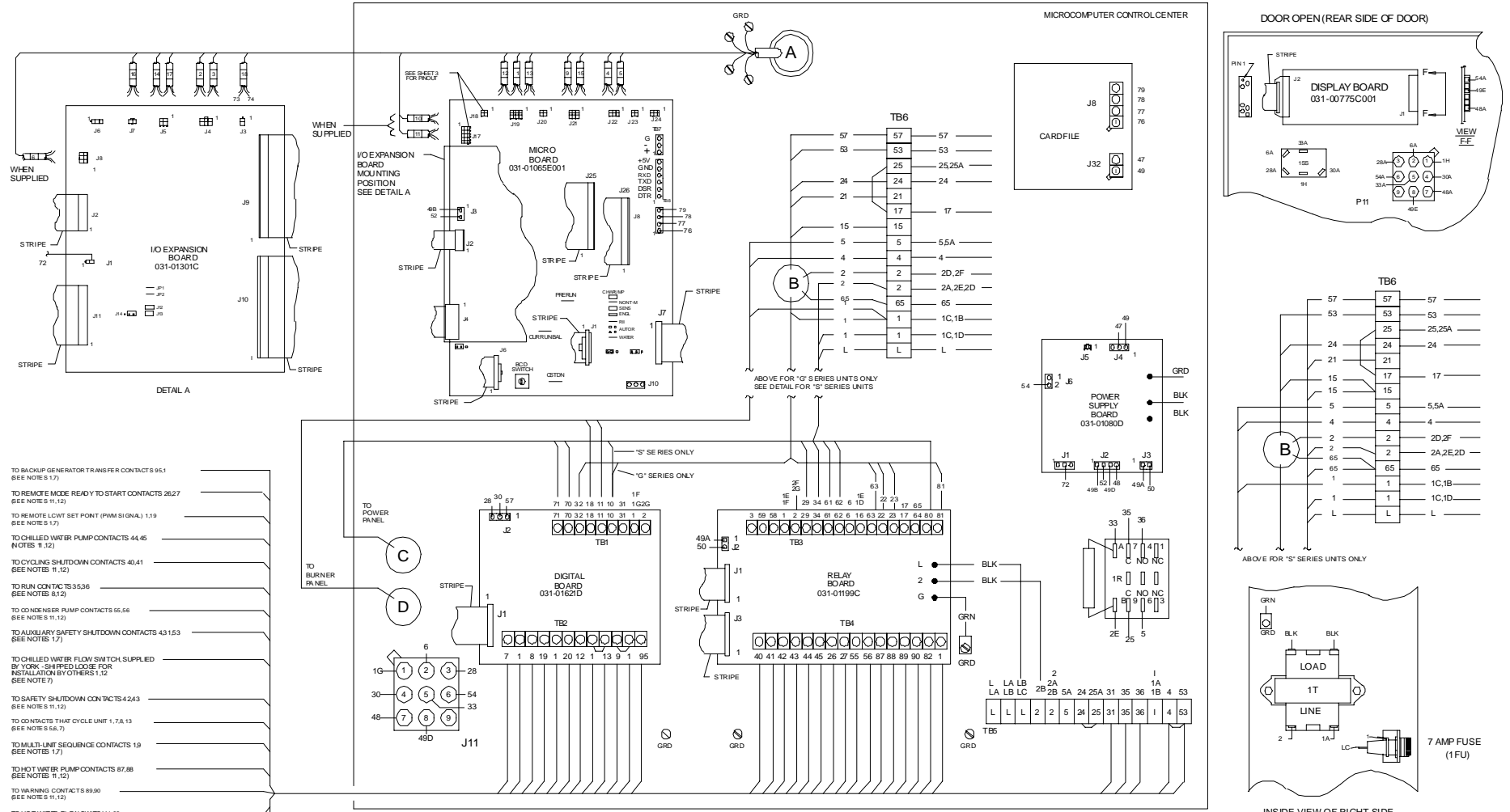
++ FUNCTION PROVIDED BY REFRIGERANT TEMP. SWITCH (LRT) AND REFRIGERANT TEMP. SENSOR (RT10)

# YPC CONTROL CENTER CONNECTION DIAGRAM

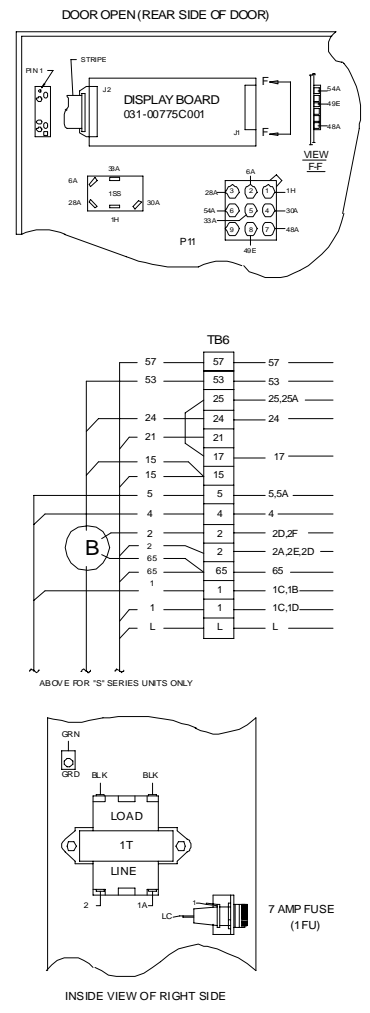


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# YPC CONTROL CENTER CONNECTION DIAGRAM (Cont'd.)

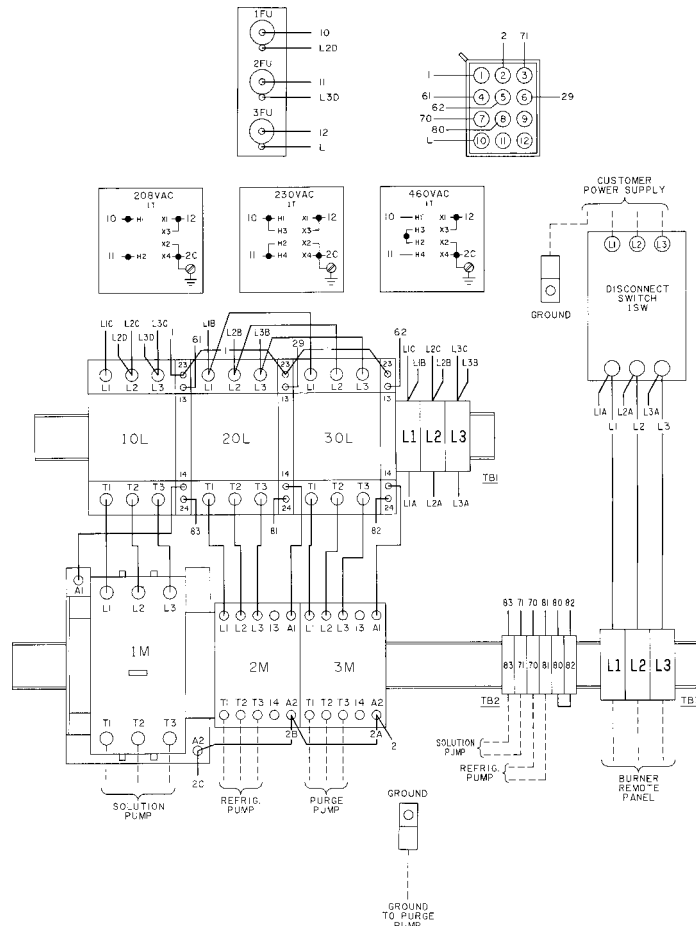


- TO BACKUP GENERATOR TRANSFER CONTACTS 95.1 (SEE NOTE S.1.7)
- TO REMOVE MODE READY TO START CONTACTS 26.27 (SEE NOTE S.11.12)
- TO REMOVE LOWT SET POINT (PVM SIGNAL) 1.19 (SEE NOTE S.1.7)
- TO CHILLED WATER PUMP CONTACTS 44.45 (NOTES 11.12)
- TO CYCLING SHUTDOWN CONTACTS 40.41 (SEE NOTES 11.12)
- TO RUN CONTACTS 35.36 (SEE NOTES 8.12)
- TO CONDENSER PUMP CONTACTS 55.56 (SEE NOTE S.11.12)
- TO AUXILIARY SAFETY SHUTDOWN CONTACTS 43.15.3 (SEE NOTES 1.7)
- TO CHILLED WATER FLOW SWITCH SUPPLIED BY YORK (SHIPPED LOOSE FOR INSTALLATION BY OTHERS) 1.12 (SEE NOTE 7)
- TO SAFETY SHUTDOWN CONTACTS 4.24.3 (SEE NOTE S.11.12)
- TO CONTACTS THAT CYCLE UNIT 1, 7, 8, 13 (SEE NOTE S.5.6.7)
- TO MULTI-LIMIT SEQUENCE CONTACTS 1.9 (SEE NOTES 1.7)
- TO HOT WATER PUMP CONTACTS 87.88 (SEE NOTES 11.12)
- TO WARNING CONTACTS 89.90 (SEE NOTE S.11.12)
- TO HOT WATER FLOW SWITCH 1.82 (SEE NOTE 7)
- TO CONDENSER WATER PUMP INT. BLOCK OR FLOW SWITCH 1.20 (SEE NOTE 7)

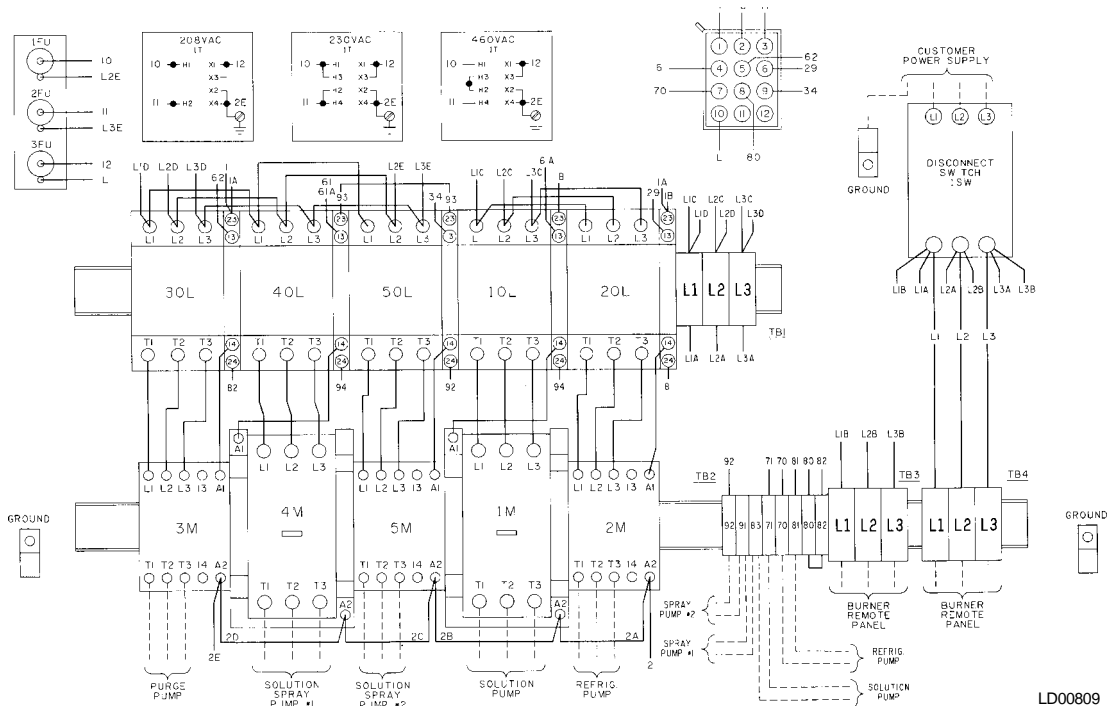


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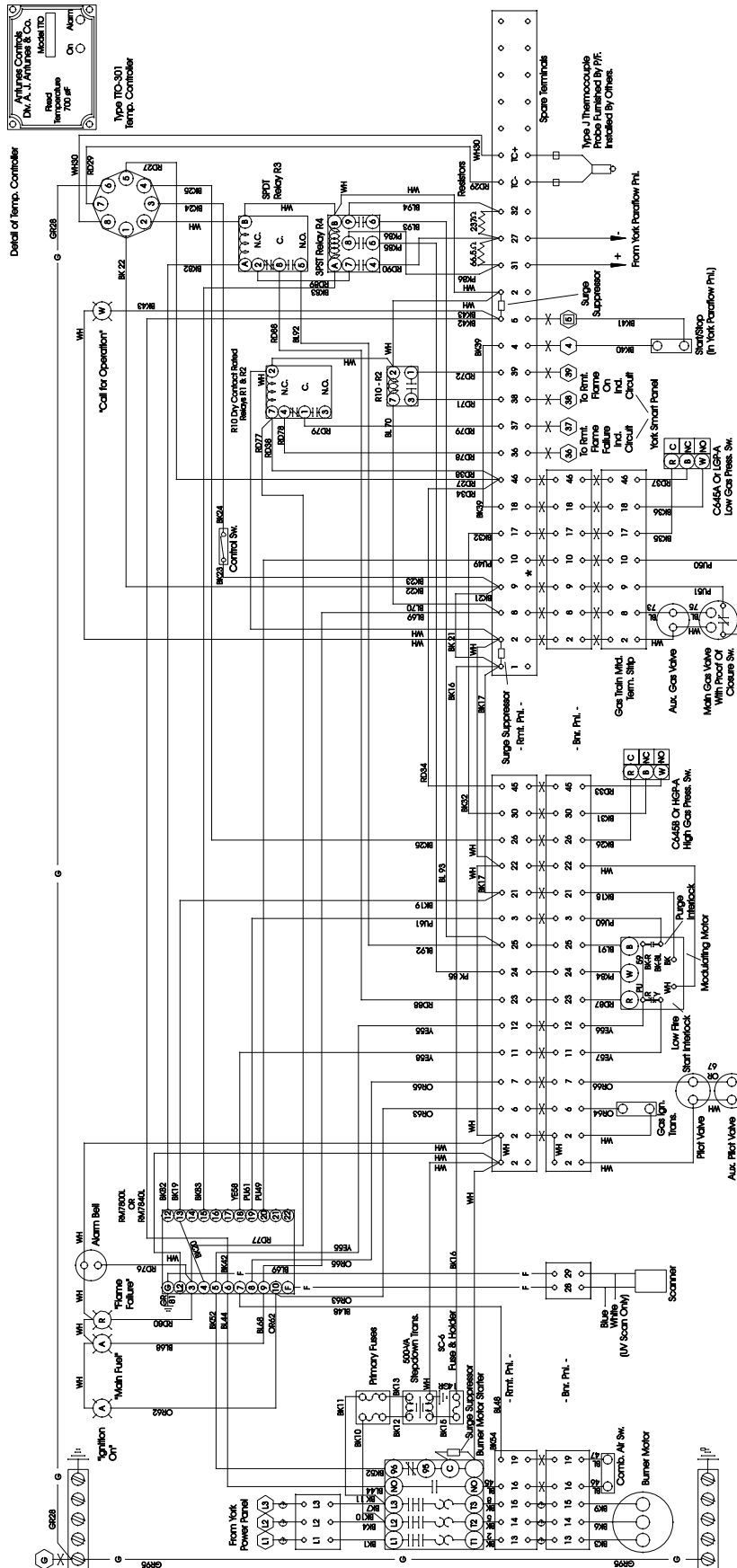
## POWER PANEL CONNECTION DIAGRAM MODELS YPC-DF-13S TO -19G



## POWER PANEL CONNECTION DIAGRAM MODELS YPC-DF-19GL TO -22G



# BURNER PANEL WIRING DIAGRAM



LD01062

Listed Grounding Bar Mounted in Panel And Wired To Earth Ground Label "Equipment Ground"  
 \*Use Copper Conductors Only\*  
 Caution: Throw All Disconnects To Off Before Servicing.  
 -G- Equipment Ground Conductor  
 -F- Flame Circuit: Run In Separate Conduit Or Shielded Conductor  
 - Factory Wiring  
 24V York Wiring  
 115V See Spec. Sheet For Voltage\*  
 200-575V  
 24V Field Wiring  
 115V See Spec. Sheet For Voltage\*  
 200-575V  
 Equipment Shown On Diagram is Only Provided And Mounted By Power Flame If Specifically Called For On Burner Spec. Sheet.

Single Valve With P.O.C. Sw. May Omit Aux. Gas Valve. (Applicable To Units With Inputs Below 5,000 MBH)  
 \* Jump Term. 9 To 10 Via Purple Lead If Proof Of Closure is Not Required

Cross Reference Relay Legend  
 P-I-P JIC  
 Diag. No. G-10028M - G-10029L  
 R1 - 41CR - Flame Failure  
 R2 - 36CR - Flame On  
 R3 - 46CR - Open Damper Purge  
 R4 - 47CR - Run

Remote Pnl. Must Be Bonded To Burner By Flexible Or Rigid Metal Conduit And Metal Conduit Connectors.  
 - Terminals in York Control Pnl.  
 Neutral Wiring May Not Be Connected As Shown, But May Be Wired To Terminate At Neutral Terminals Such As 2, 2A, T2 Or L2.

Caution: All Field Wiring Must Be Wired As Shown On Wiring Diagram

Color Code	Relays R1 & R2
BK - Black	R10 KUP
WH - White	Coil 7 A
RD - Red	Neu. 2 B
PK - Pink	Coil. 1 7,8,9
BL - Blue	N.O. 3 4,5,6
OR - Orange	N.C. 4 1,2,3
YE - Yellow	
PU - Purple	
GR - Green	

Last Wire No. Used - 95

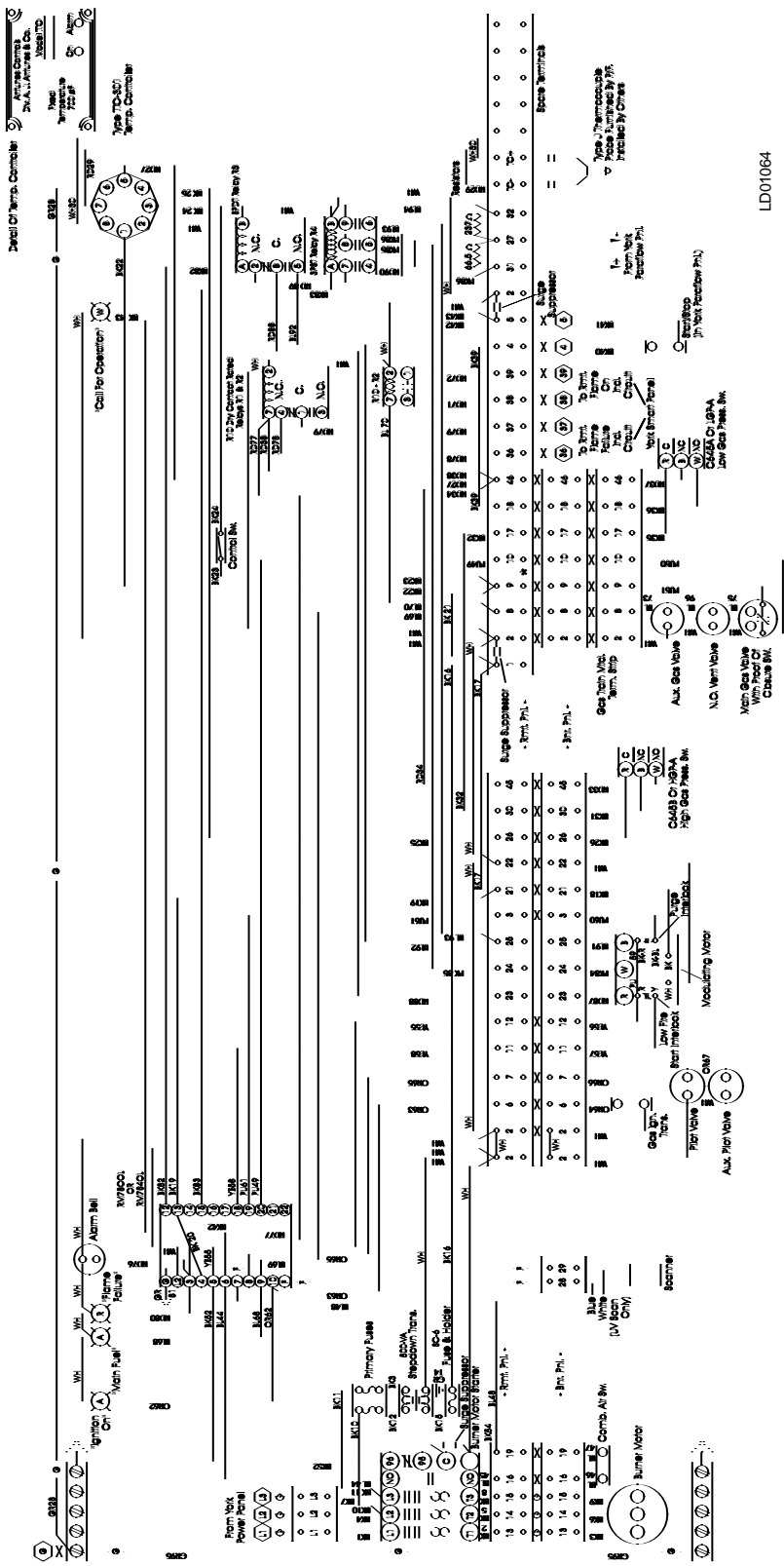
LD01062(D)







# BURNER PANEL WIRING DIAGRAM



LD01064

Listed Grounding Bar Mounted In Panel And Wired To Earth Ground Labeled "Equipment Ground" Use Copper Conductors Only

Caution: Throw All Disconnects To Off Before Servicing.

- G - Equipment Ground Conductor
- F - Flame Circuit: Run In Separate Conduit Or Shielded Conductor
- Factory Wiring
  - 24V
  - 115V "See Spec. Sheet For Voltage"
  - 200-
  - 575V
- Field Wiring "See Spec. Sheet For Voltage"
  - 24V
  - 115V
  - 200-
  - 575V

Equipment Shown On Diagram is Only Provided And Mounted by Power Flame if Specifically Called For On Burner Spec. Sheet.

### Cross Reference Relay Legend

- Diag. No. G-11943M - G-11944L
- P-F-P JIC
  - R1 - 41CR - Flame Failure
  - R2 - 36CR - Flame On
  - R3 - 46CR - Open Damper Purge
  - R4 - 47CR - Run

Remale Pnl. Must Be Bonded To Burner By Flexible Or Rigid Metal Conduit And Metal Conduit Connectors.

- - Terminals in York Control Pnl.
- - Terminals in York Control Pnl. Neutral Wiring May Not Be Connected As Shown, But May Be Wired To Terminate At Neutral Terminals Such As 2, 2A, T2 Or L2.

Caution: All Field Wiring Must Be Wired As Shown On Diagram

### Color Code

- BK - Black
- WH - White
- RD - Red
- PK - Pink
- BL - Blue
- OR - Orange
- YE - Yellow
- PU - Purple
- GR - Green

Last Wire No. Used - 96

Relays R1 & R2	
Ref.	KJP
Coil	7 A
Neut.	2 B
Cont.	1 7,8,9
N.O.	3 4,5,6
N.C.	4 1,2,3

Single Valve With P.O.C. Sw. May Omit Aux. Gas Valve. (Applicable To Units With Inputs Below 5,000 MBH)  
\* Jump Term. 9 To 10 Via Purple Lead if Proof Of Closure is Not Required.

LD01064(D)



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