



MEMORANDUM

To: Installation Crew

From: Dan Dye

Date: August 1st, 2015

Subject: Power Plant – Relay Replacement Project

Attached for your use during the Power Plant – Relay Replacement project are the following:

Drawing List
Bill of material
For construction drawing set

Upon completion of the project, please return the field mark up drawings to me to start the as built process.

If you have any questions or concerns, please call Dan Dye (319) 734-4363.

cc: Terry Fett
File

Bill of Material**Power Plant - Relay Replacement****Rev 7-27-14****Required Material**

Material Description	Manufacturer	Model	Qty
Microprocessor relay	SEL	351A	4
Test switch 10 position	ABB	FT series	4
Test switch 14 position	ABB	FT series	4
6 Amp fuse, 600V, medium time lag	Littelfuse	G-Class	8
Fuse holder - 2 pole - panel mount	Square D	9080FB2	4
Fiber-Optic transceiver/modem	SEL	2800	8
Fiber-Optic cable	SEL		4x500'

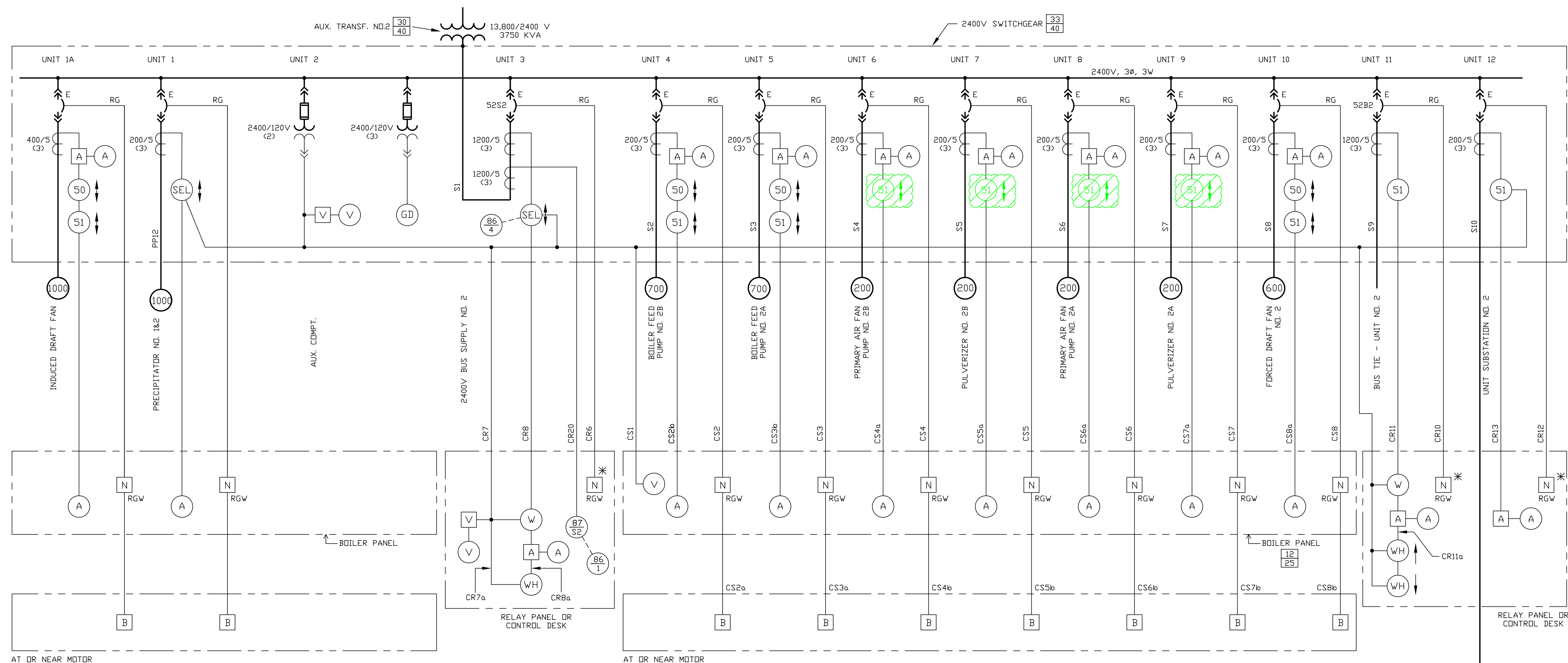


DRAWING LIST
POWER PLANT RELAY REPLACEMENT

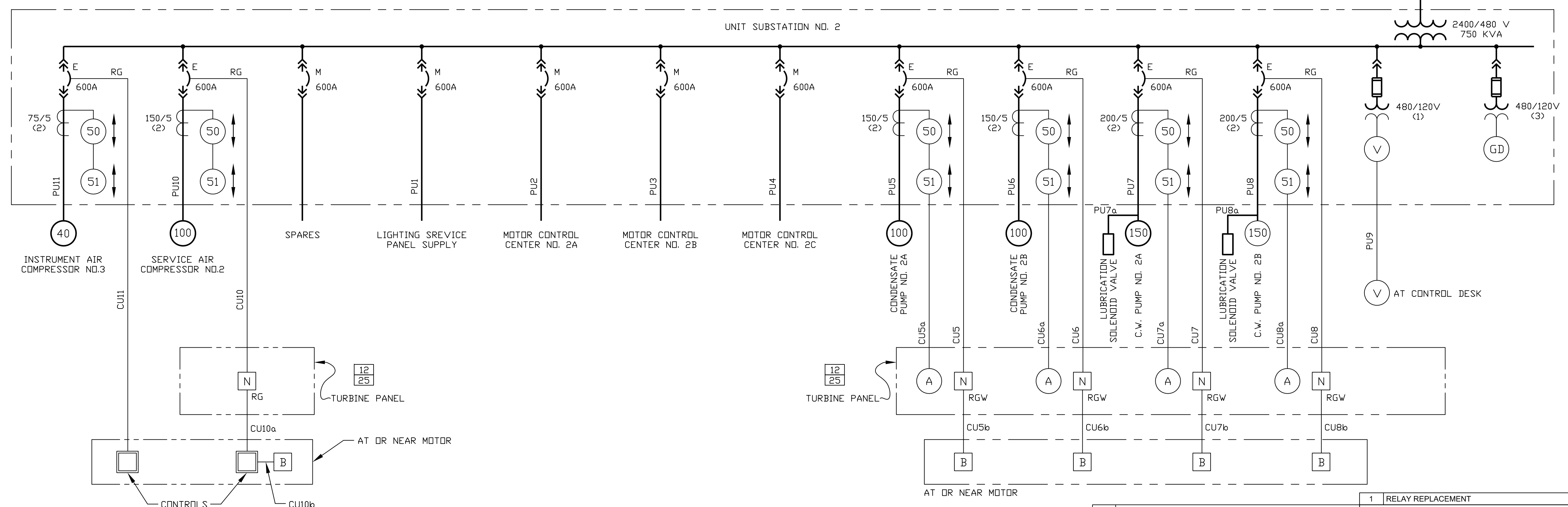
Project Drawings:

Drawing Number	Drawing Title	For Construction	
		Remove	Add
ONE LINE	One Line Diagram Switchgear and Unit Substation	Remove	Add
UNIT #6	Connection Diagram / Wiring Schematic – Unit #6	Remove	Add
UNIT #7	Connection Diagram / Wiring Schematic – Unit #7	Remove	Add
UNIT #8	Connection Diagram / Wiring Schematic – Unit #8	Remove	Add
UNIT #9	Connection Diagram / Wiring Schematic – Unit #9	Remove	Add
COMMUNICATION	Schematic Power Plant Communication	Existing	Add

POWER PLANT RELAY REPLACEMENT



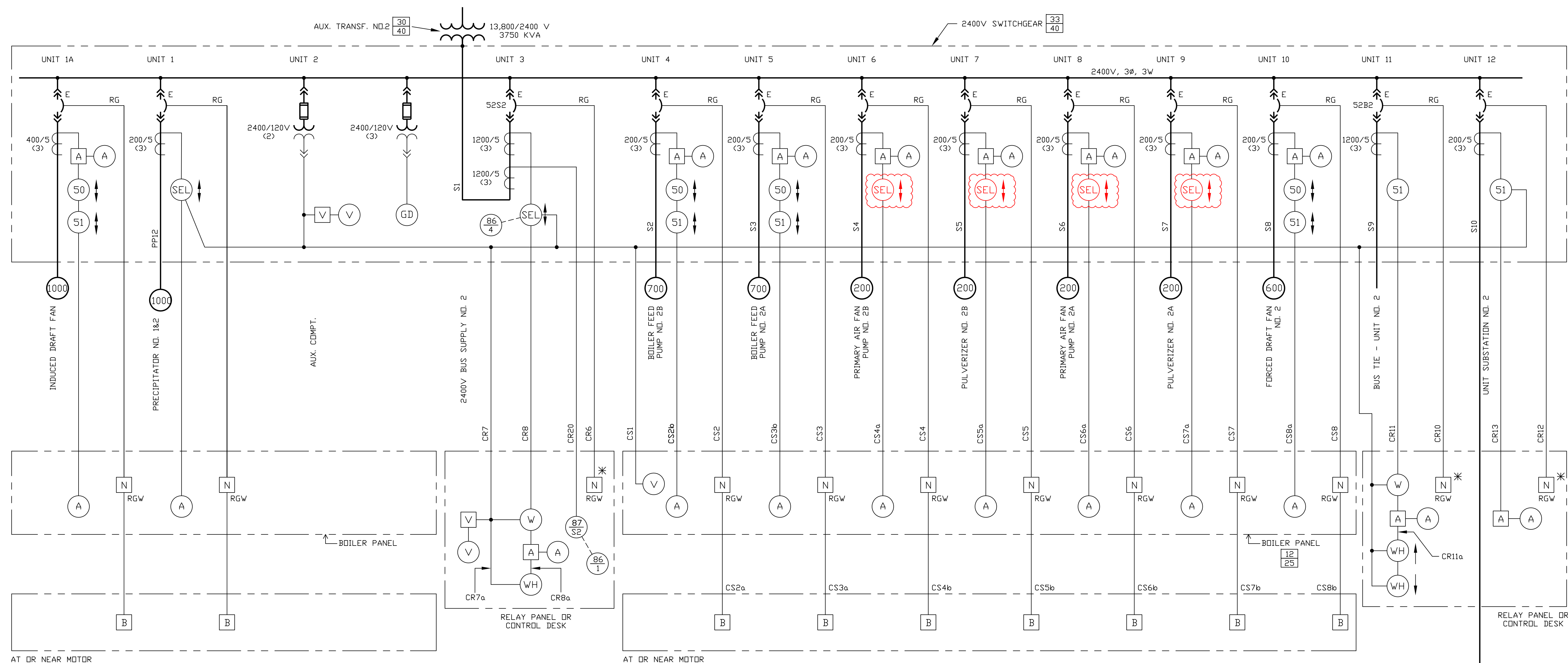
- NEW NUMBERING ON PANELS
OLD NUMBERING ON DIAGRAMS
- LEGEND**
- POWER CIRCUIT OR EQUIPMENT
 - CONTROL OR METERING CIRCUIT OR EQUIPMENT
 - ⚡ SWITCH GEAR
"E" OR "M" INDICATES ELECTRICALLY OR MANUALLY OPERATED
 - (200) MOTOR NO. INDICATES NAMEPLATE H.P. MOTOR FURNISHED BY OTHERS.
 - (A) A-C AMMETER
 - (GD) GROUND DETECTION EQUIPMENT
 - (V) A-C VOLTMETER
 - (W) WATTMETER
 - (WH) WATTHOUR METER
 - (50) OVER CURRENT RELAY, INSTANTANEOUS
 - (51) OVERCURRENT RELAY, NO. OR LETTER IDENTIFIES SPECIFIC RELAY
 - (86) AUX. HAND RESET LOCKOUT RELAY NO. OR LETTER IDENTIFIES SPECIFIC RELAY
 - (87) DIFFERENTIAL RELAY, NO. OR LETTER IDENTIFIES SPECIFIC RELAY
 - (A) AMMETER SWITCH
 - (B) PUSHBUTTON, MOMENTARY CONTACT "START-STOP"
 - (V) VOLTMETER SWITCH
 - (N) ROTARY CONTROL SWITCH, "START-STOP" OR "CLOSE-TRIP" IF INDICATED THUS (*)
 - R RED INDICATING LIGHT
 - G GREEN INDICATING LIGHT
 - W WHITE INDICATING LIGHT
- OTHER SYMBOLS PER ASA STD. Y32.2, 1962



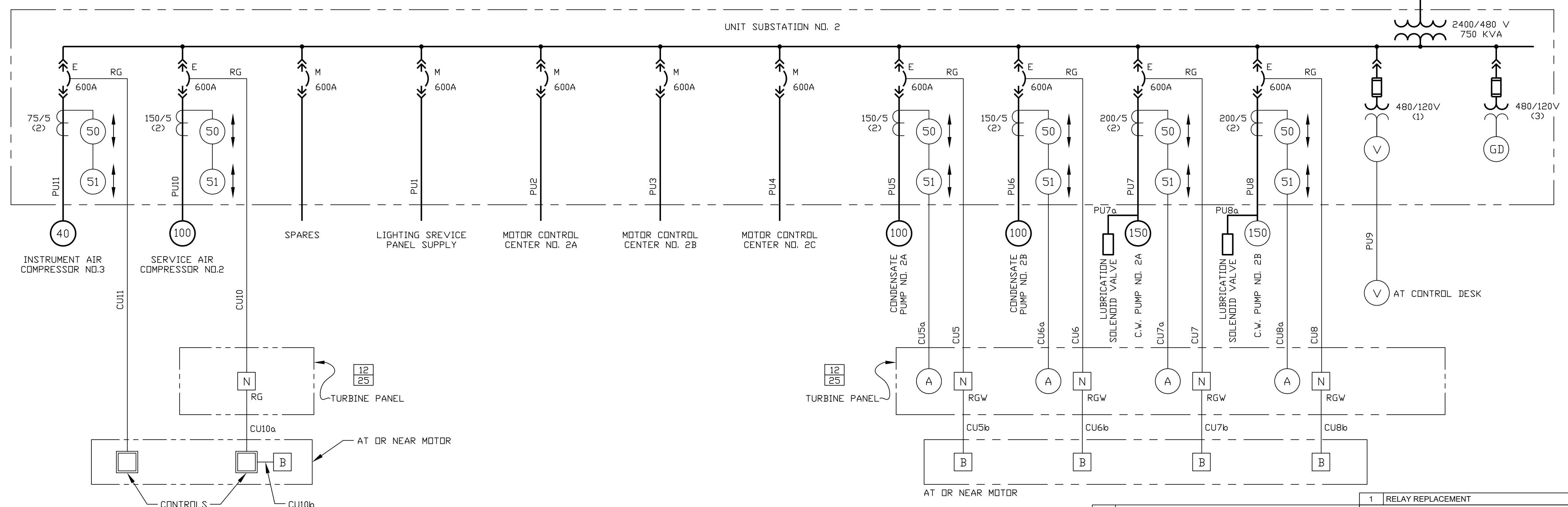
REMOVE

1 RELAY REPLACEMENT		02/10/15 DRD
ONE LINE DIAGRAM SWITCHGEAR AND UNIT SUBSTATION POWER PLANT CENTRAL IOWA POWER COOPERATIVE		
APPROVED FOR CONSTRUCTION	SCALE:	DWG. NO.
ENGR.: DRD		ONE LINE
APP: -	NONE	
REV	DESCRIPTION	

POWER PLANT RELAY REPLACEMENT



- NEW NUMBERING ON PANELS
OLD NUMBERING ON DIAGRAMS
- LEGEND**
- POWER CIRCUIT OR EQUIPMENT
 - CONTROL OR METERING CIRCUIT OR EQUIPMENT
 - ⚡ SWITCH GEAR
"E" OR "M" INDICATES ELECTRICALLY OR MANUALLY OPERATED
 - (200) MOTOR NO. INDICATES NAMEPLATE H.P. MOTOR FURNISHED BY OTHERS.
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 - (87) DIFFERENTIAL RELAY, NO. OR LETTER IDENTIFIES SPECIFIC RELAY
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 - R RED INDICATING LIGHT
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- OTHER SYMBOLS PER ASA STD. Y32.2, 1962

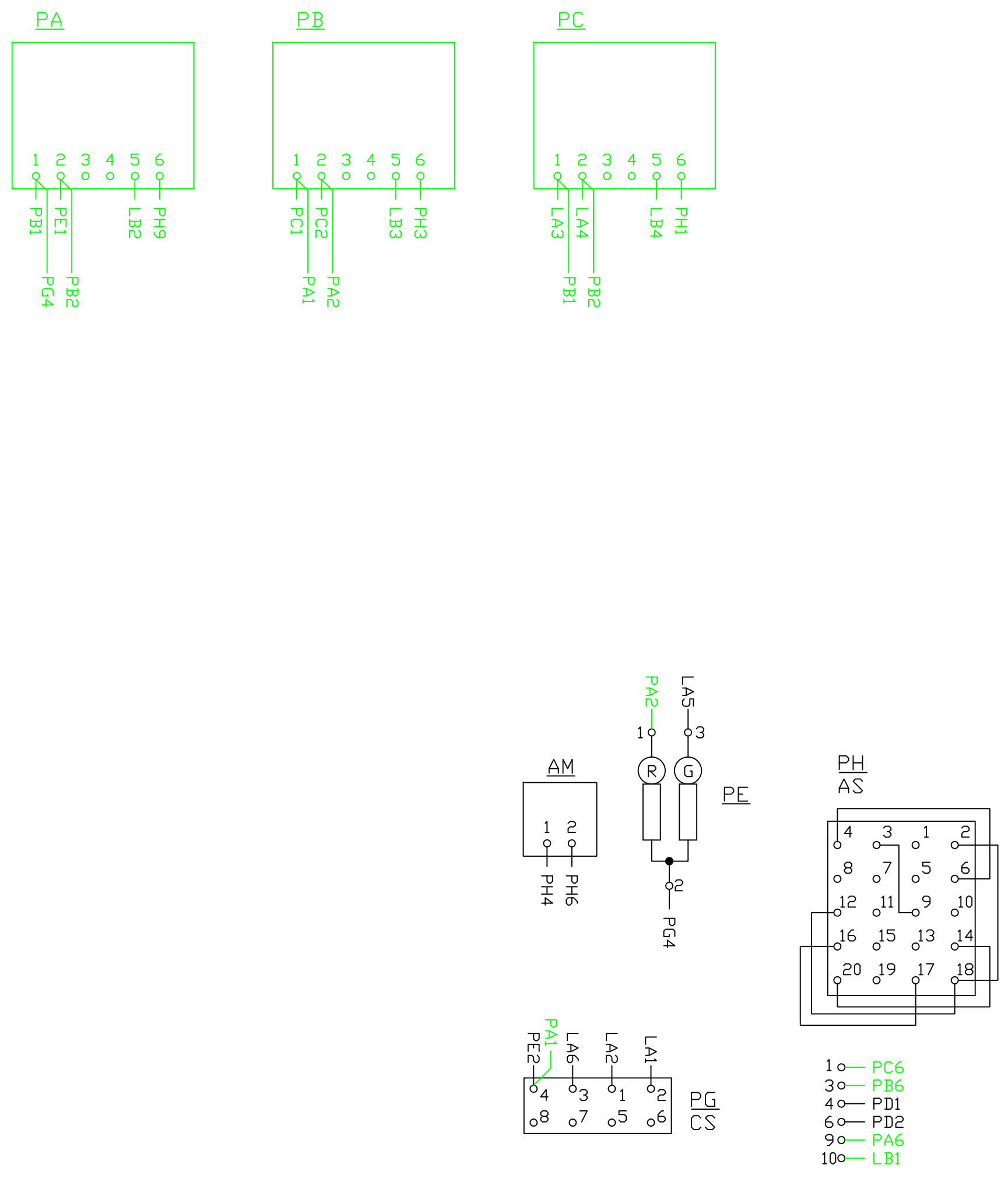


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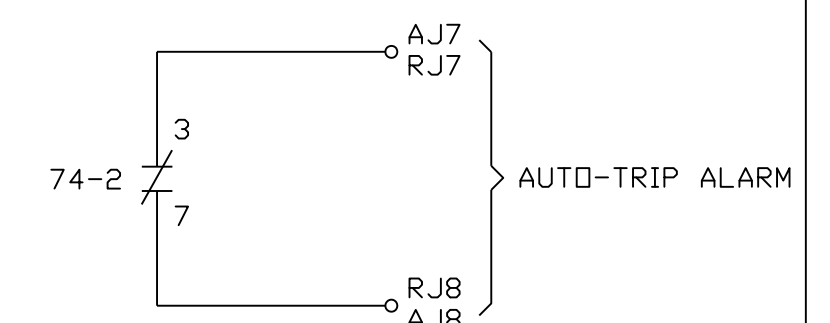
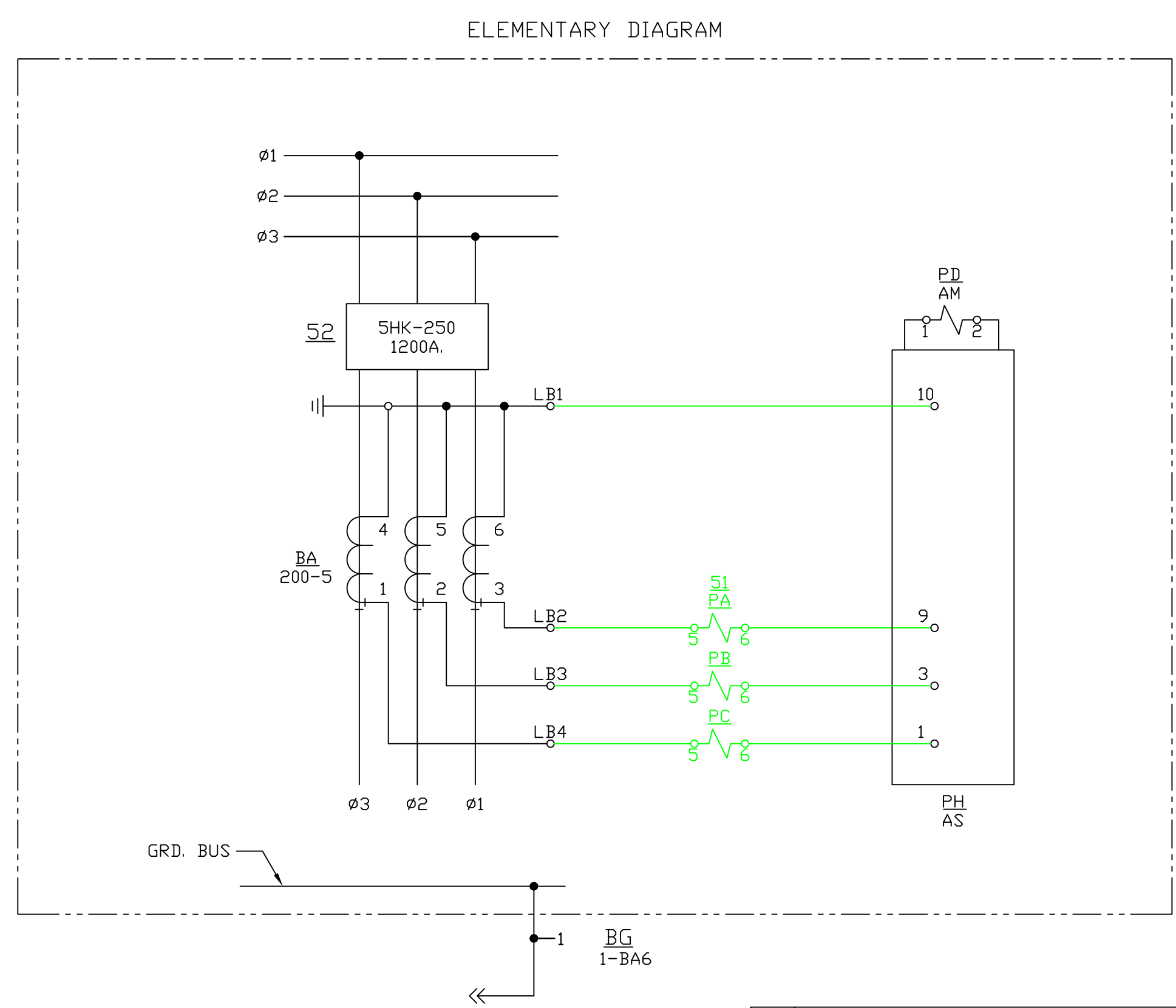
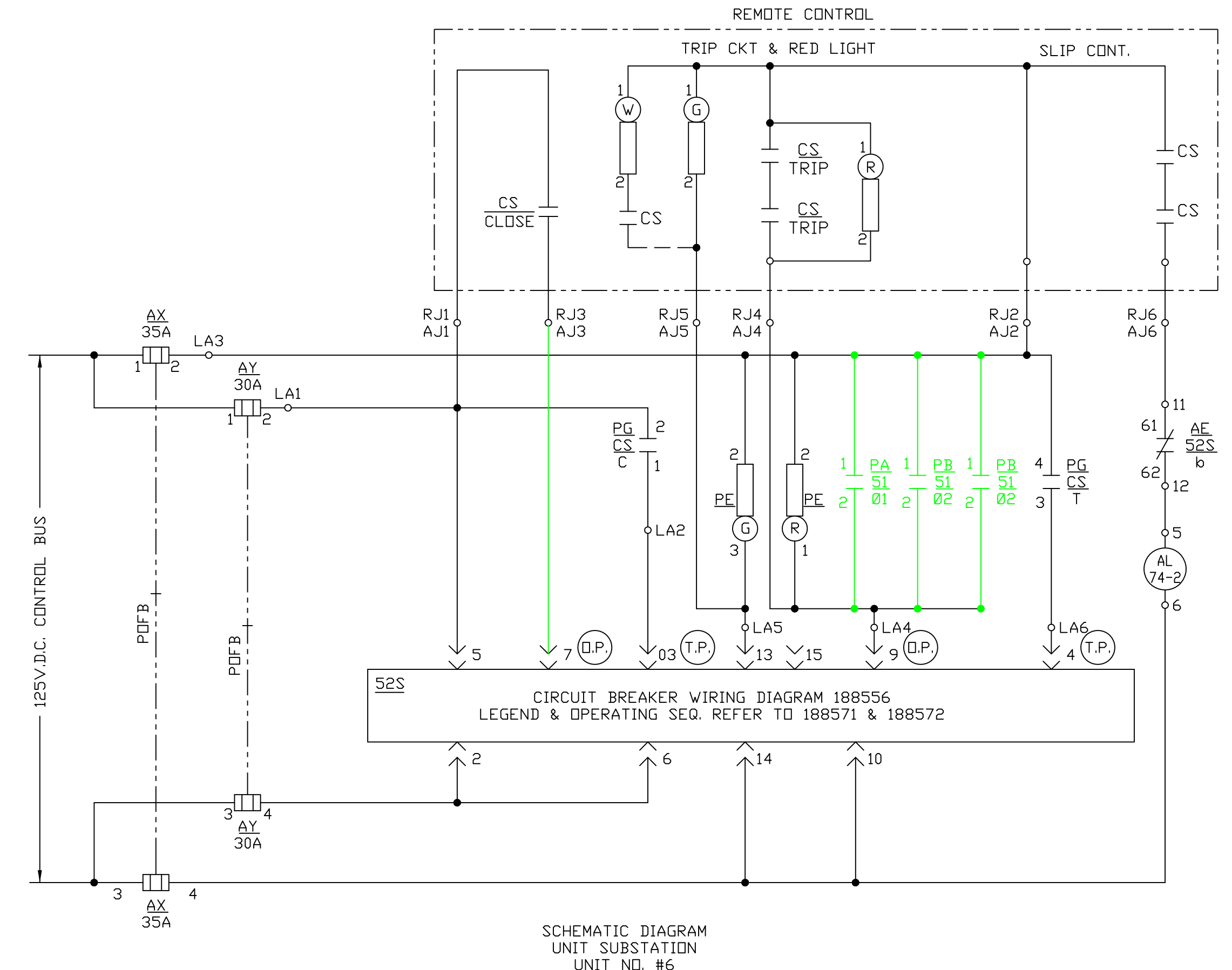
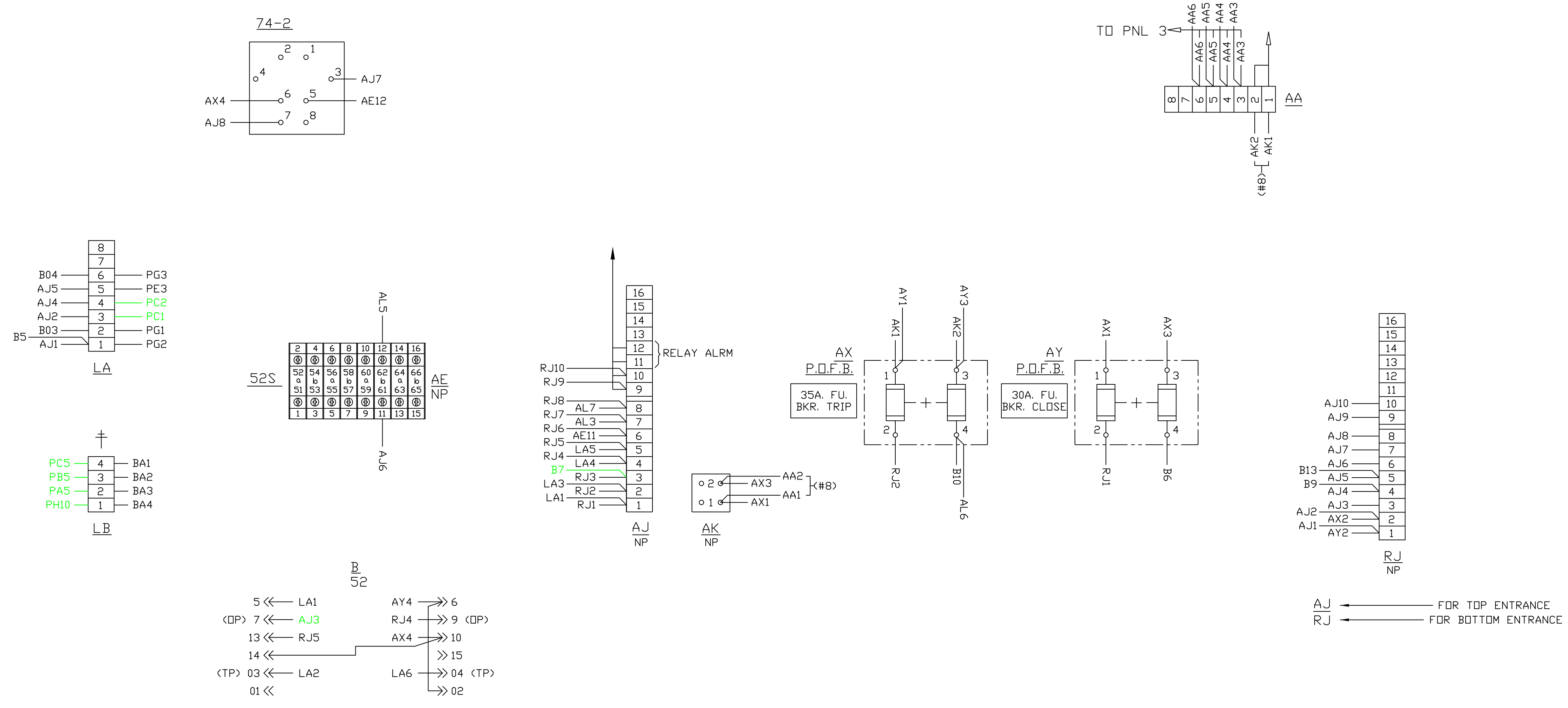
1 RELAY REPLACEMENT		02/10/15 DRD	
ONE LINE DIAGRAM SWITCHGEAR AND UNIT SUBSTATION POWER PLANT CENTRAL IOWA POWER COOPERATIVE			
APPROVED FOR CONSTRUCTION	SCALE:		DWG. NO.
ENGR.: DRD	NONE		ONE LINE
APP:			
REV	DESCRIPTION		

POWER PLANT - RELAY REPLACEMENT

INTRUMENT PANEL REAR VIEW



FRONT VIEW

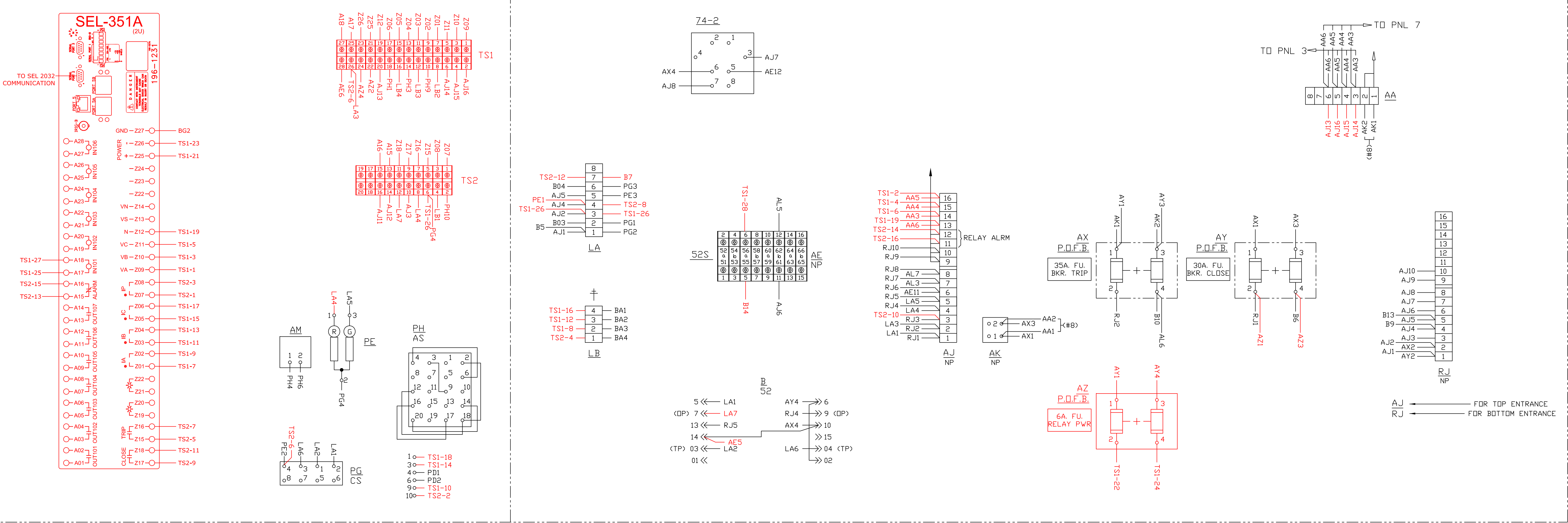


1 RELAY REPLACEMENT		02/21/15 DRD	
CONNECTION DIAGRAM / WIRING SCHEMATIC - UNIT #6 5HK-250, 2400V, 3PH, 3W, 60CY. POWER PLANT-PRI AIR FAN PUMP NO 2B-INDOOR METAL CLAD SWITCH GEAR CENTRAL IOWA POWER COOPERATIVE			
APPROVED FOR CONSTRUCTION	SCALE:	DWG. NO.	
ENGR.: DRD	NONE	UNIT #6	
APP.: -			
REV	DESCRIPTION		

REMOVE

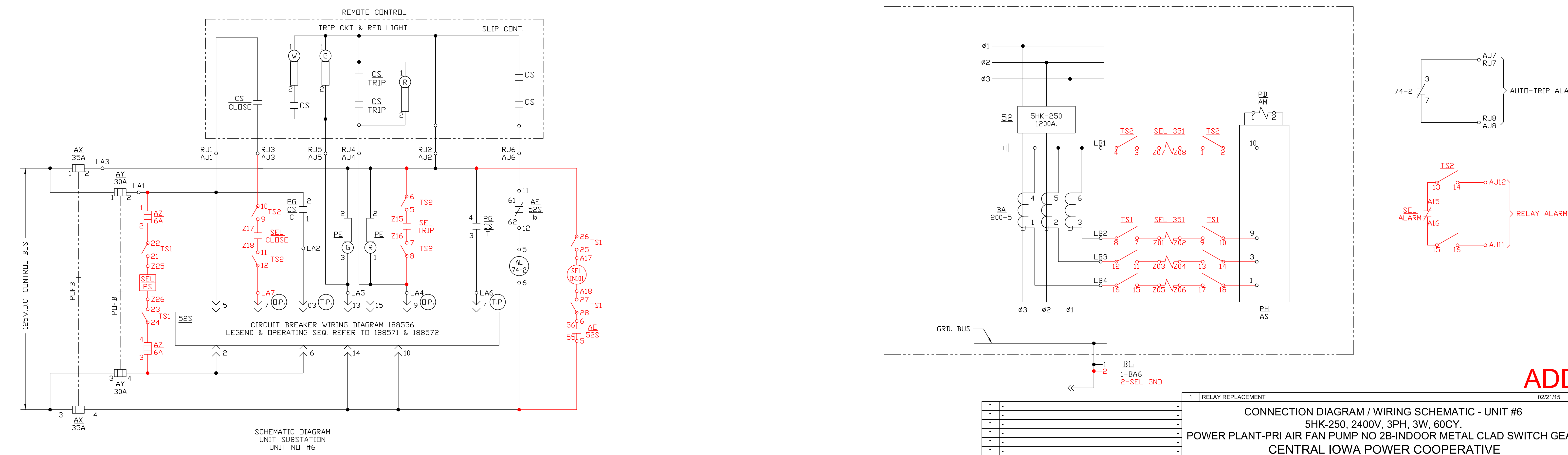
INTRUMENT PANEL REAR VIEW

FRONT VIEW



POWER PLANT - RELAY REPLACEMENT

ELEMENTARY DIAGRAM



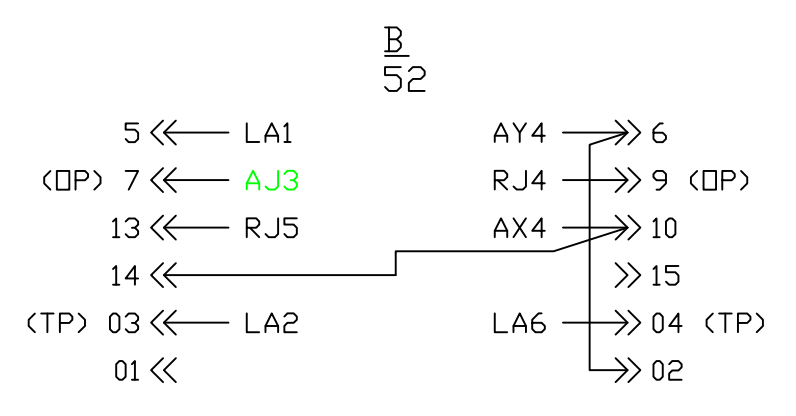
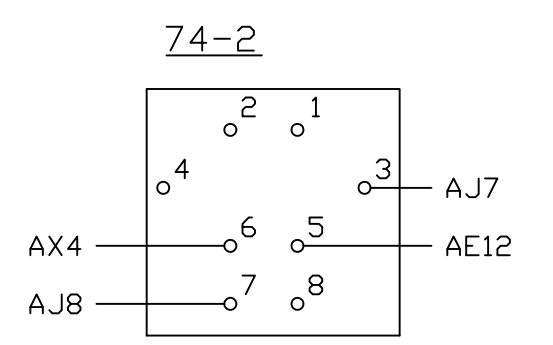
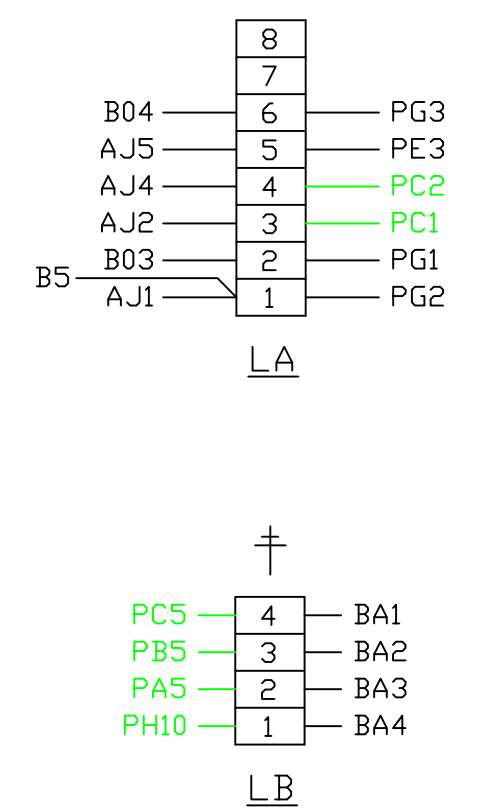
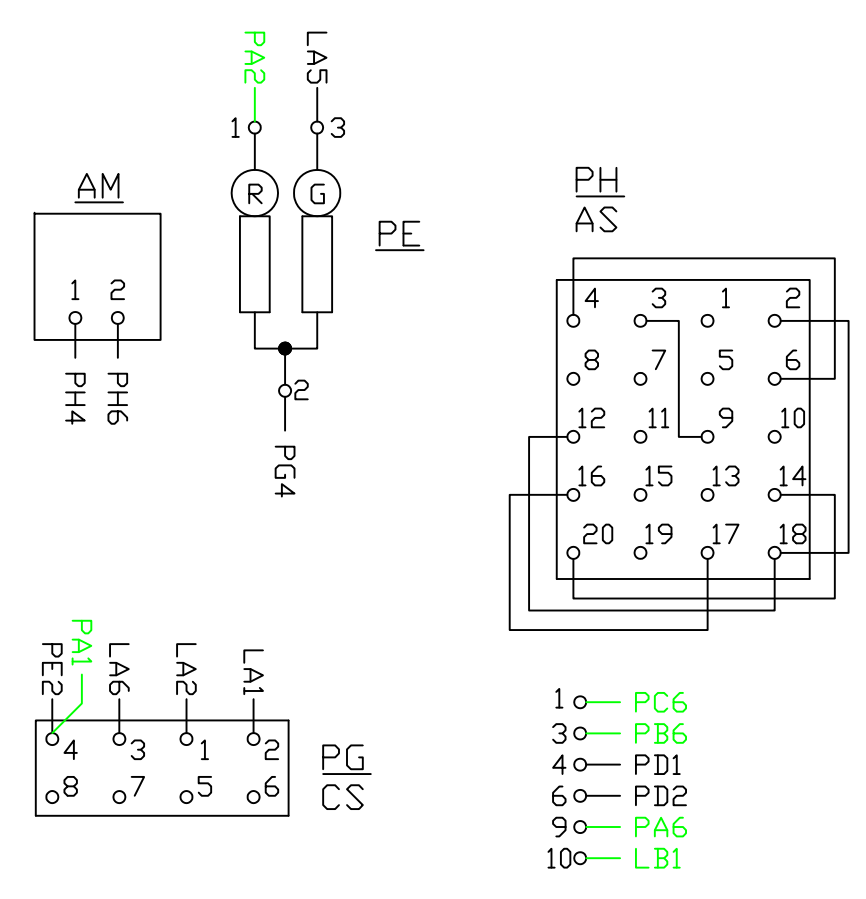
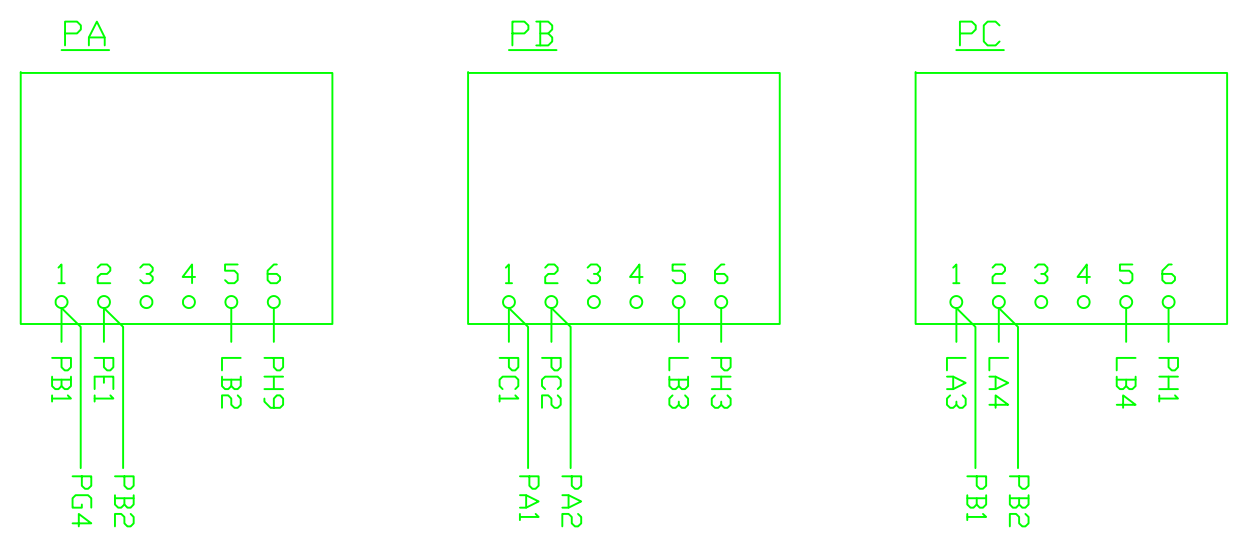
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REV	DESCRIPTION	APPROVED FOR CONSTRUCTION	SCALE:	DWG. NO.
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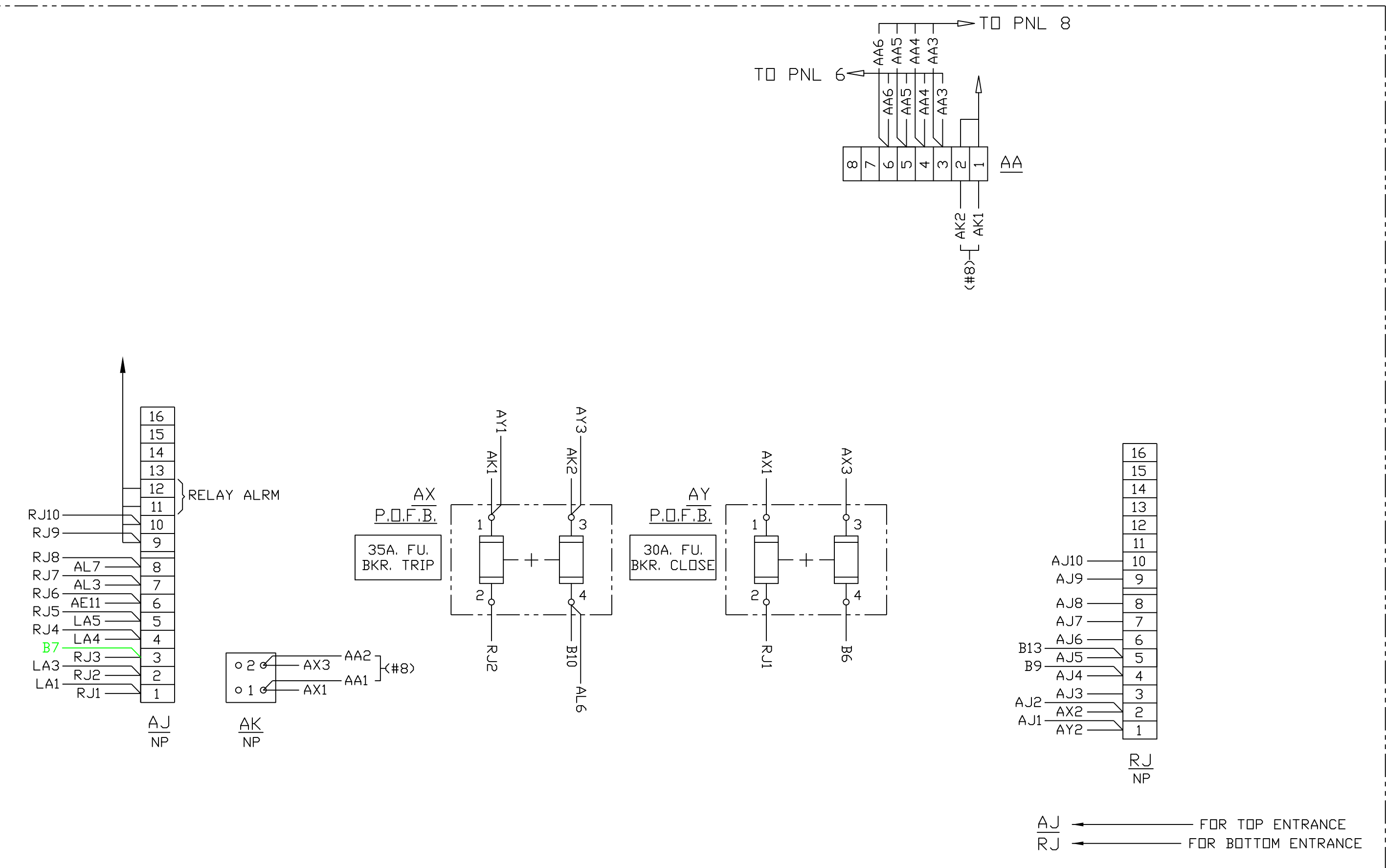
<p>CONNECTION DIAGRAM / WIRING SCHEMATIC - UNIT #6</p> <p>5HK-250, 2400V, 3PH, 3W, 60CY.</p> <p>POWER PLANT-PRI AIR FAN PUMP NO 2B-INDOOR METAL CLAD SWITCH GEAR</p> <p>CENTRAL IOWA POWER COOPERATIVE</p>				
ENGR.: DRD		UNIT #6		
APP: -		CIPCO		

POWER PLANT - RELAY REPLACEMENT

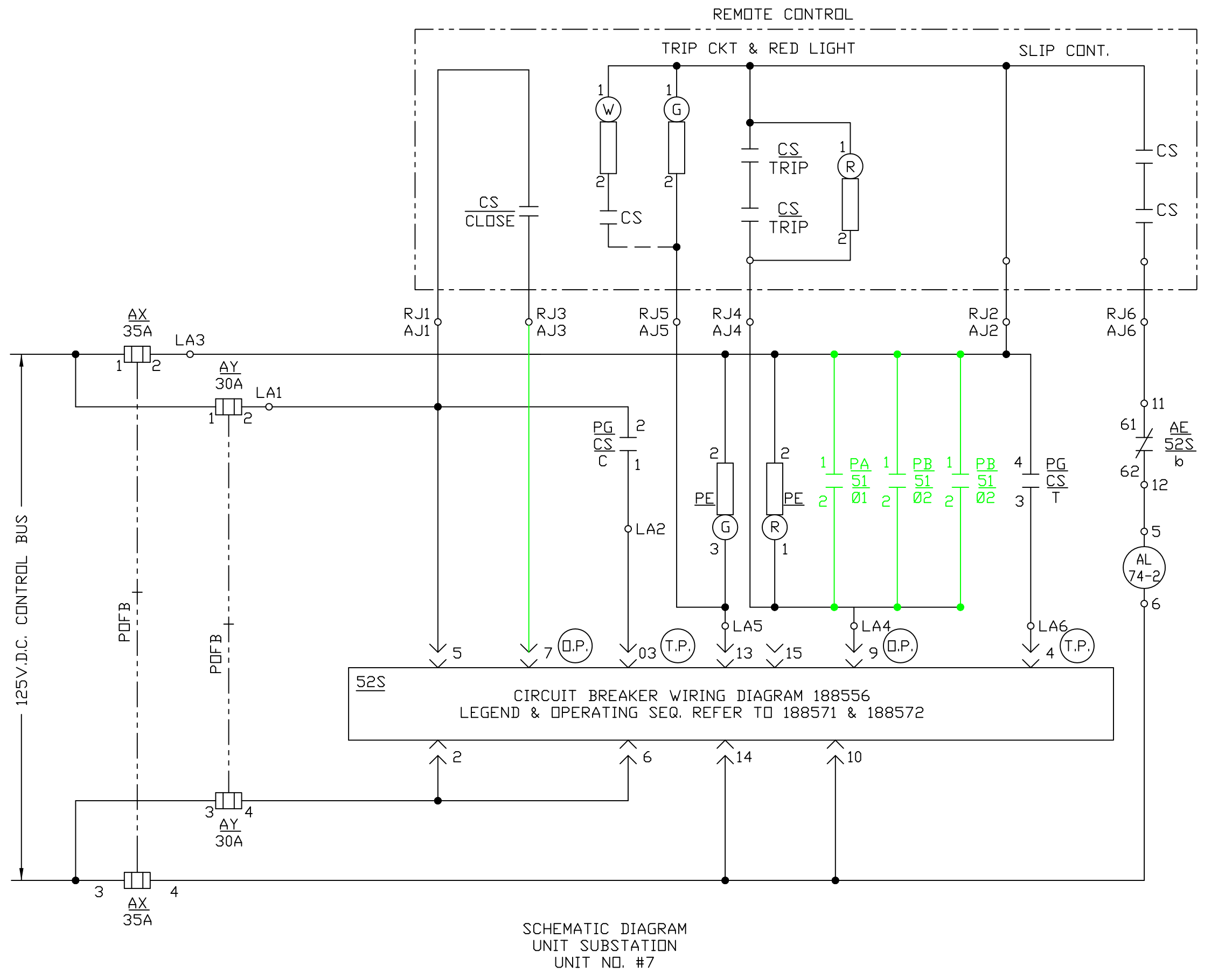
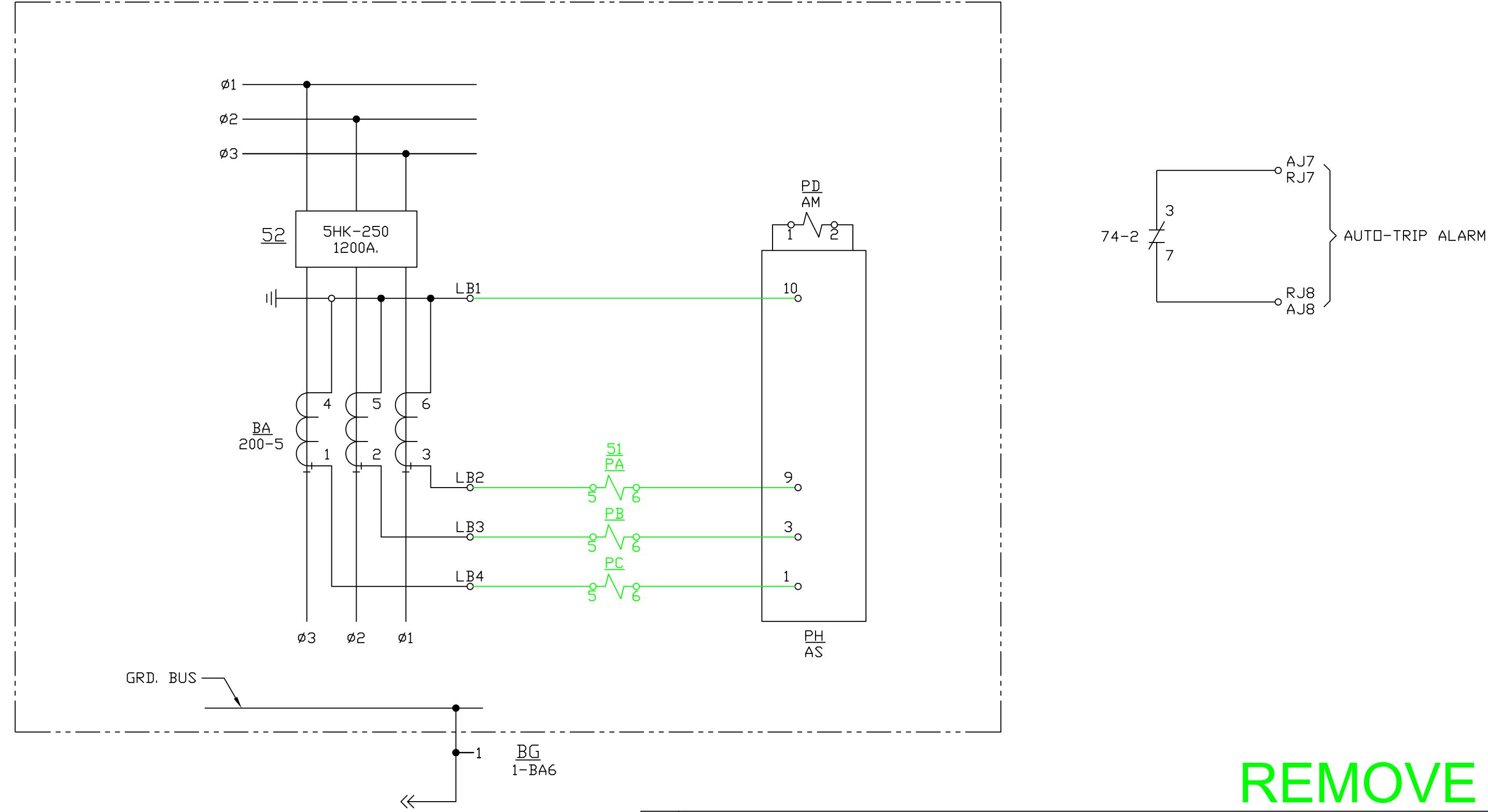
INTRUMENT PANEL REAR VIEW




FRONT VIEW



ELEMENTARY DIAGRAM

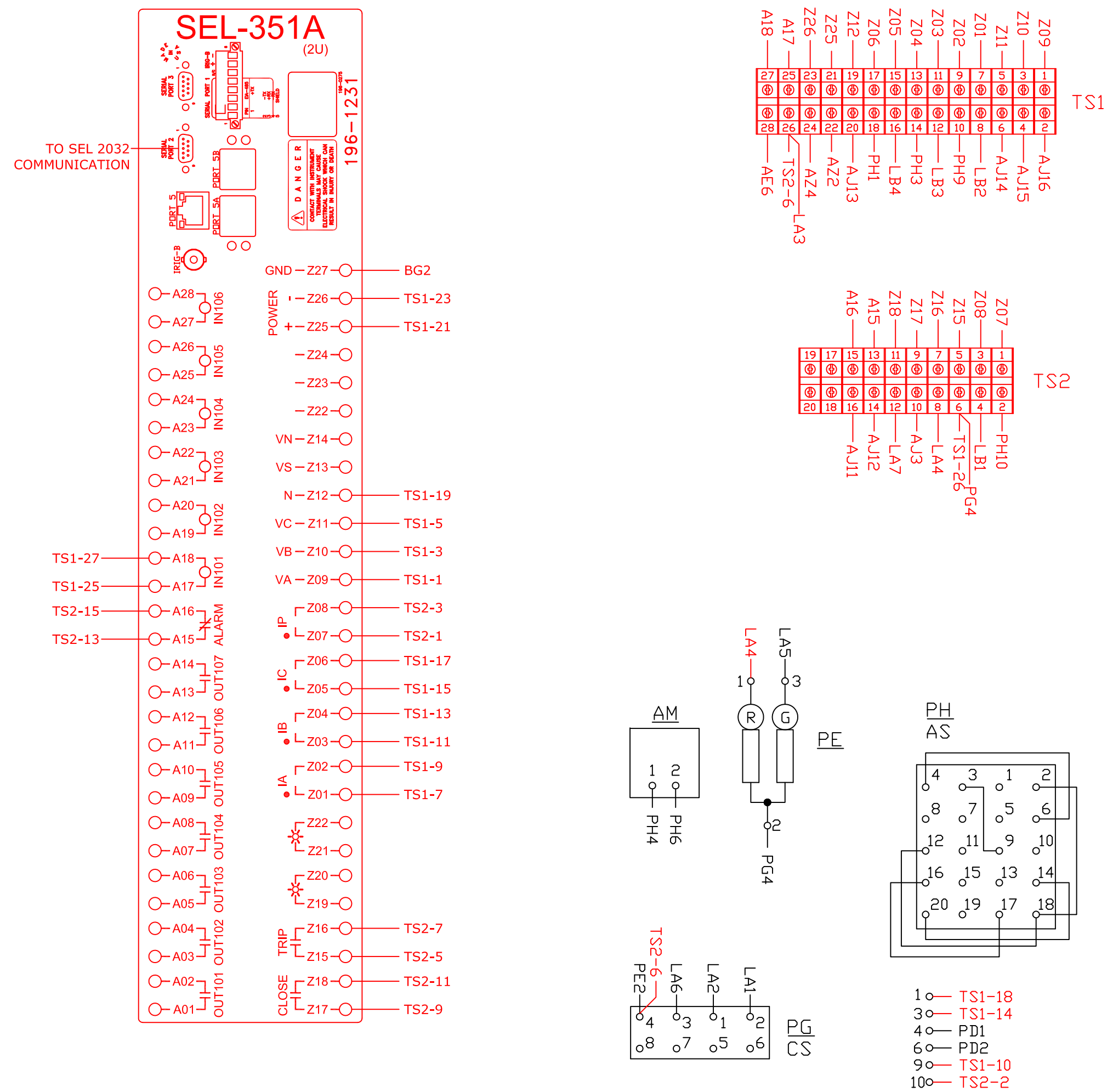


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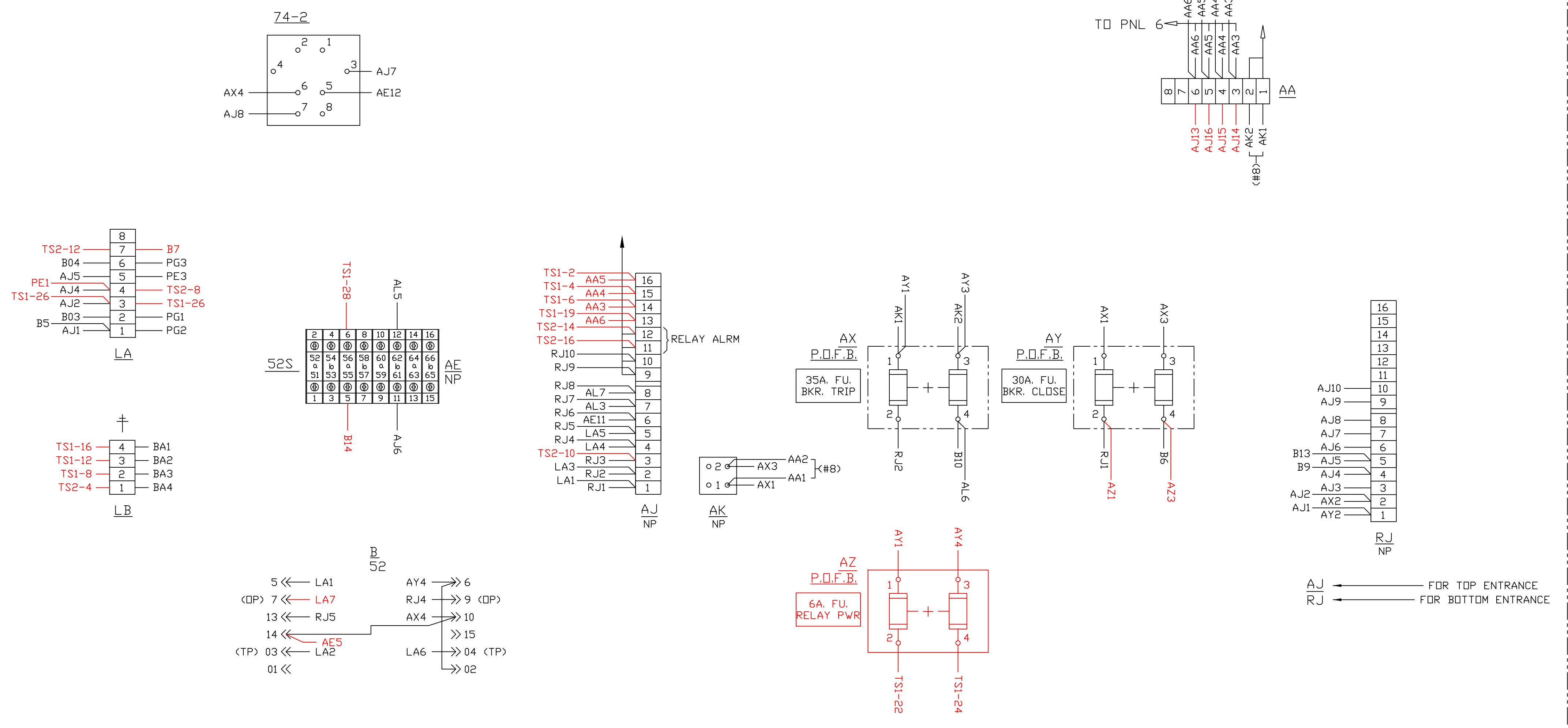
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CONNECTION DIAGRAM / WIRING SCHEMATIC - UNIT #7 5HK-250, 2400V, 3PH, 3W, 60CY. POWER PLANT - PULVERIZER NO 2B - INDOOR METAL CLAD SWITCH GEAR CENTRAL IOWA POWER COOPERATIVE			
APPROVED FOR CONSTRUCTION	SCALE:	DWG. NO.	
ENGR.: DRD	NONE		
APP.: -		UNIT #7	
REV	DESCRIPTION		

POWER PLANT - RELAY REPLACEMENT

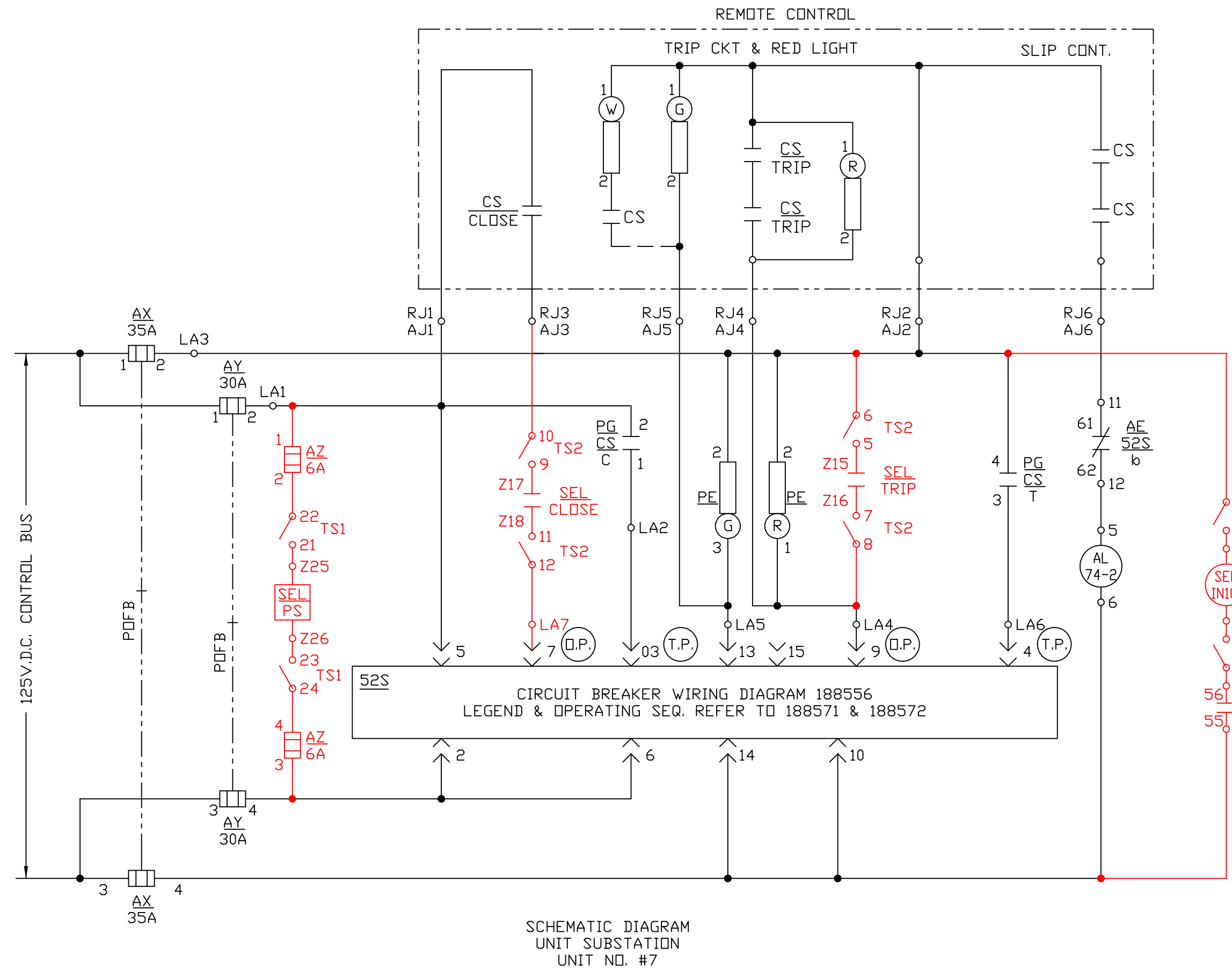
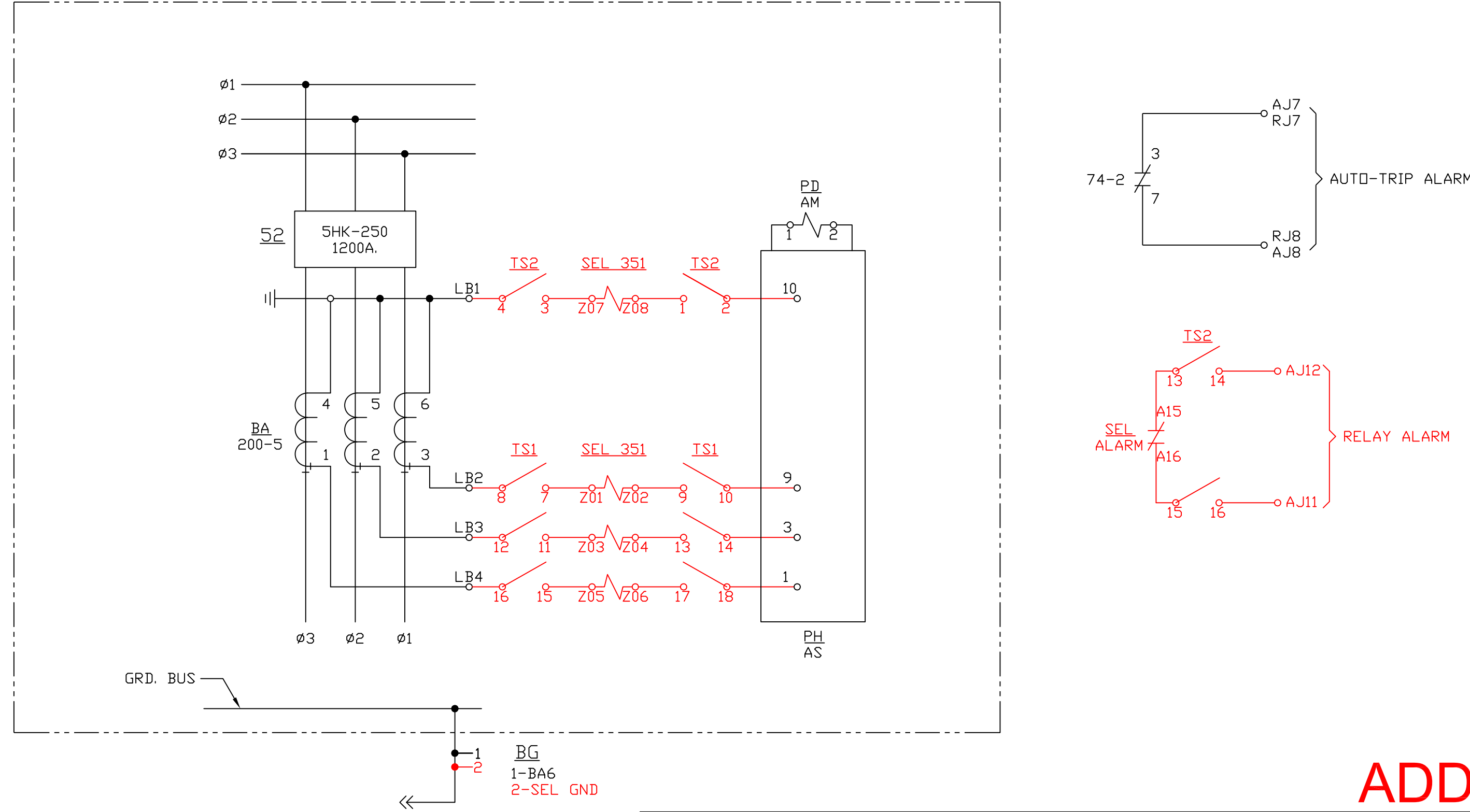
INTRUMENT PANEL REAR VIEW



FRONT VIEW



ELEMENTARY DIAGRAM

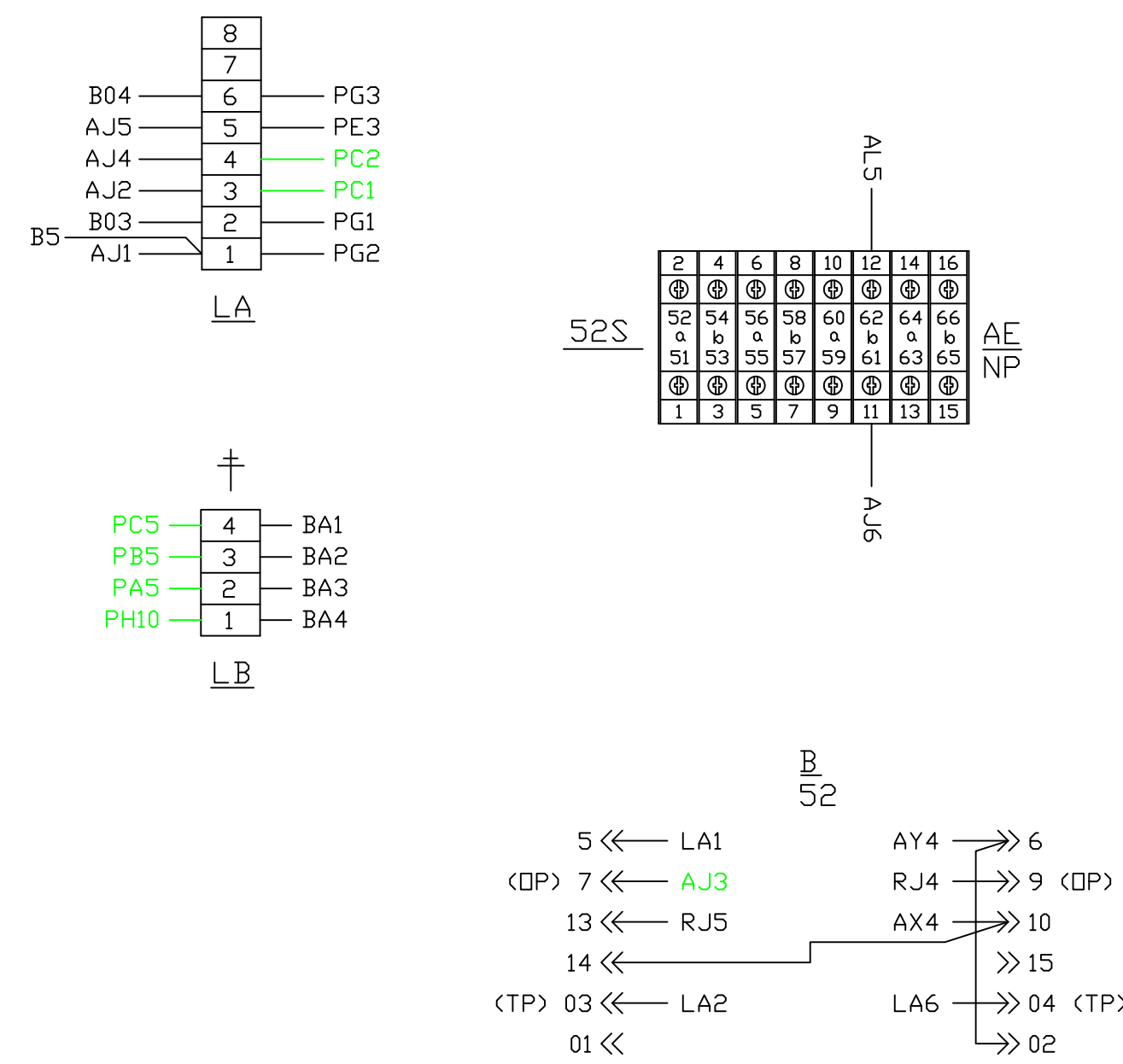
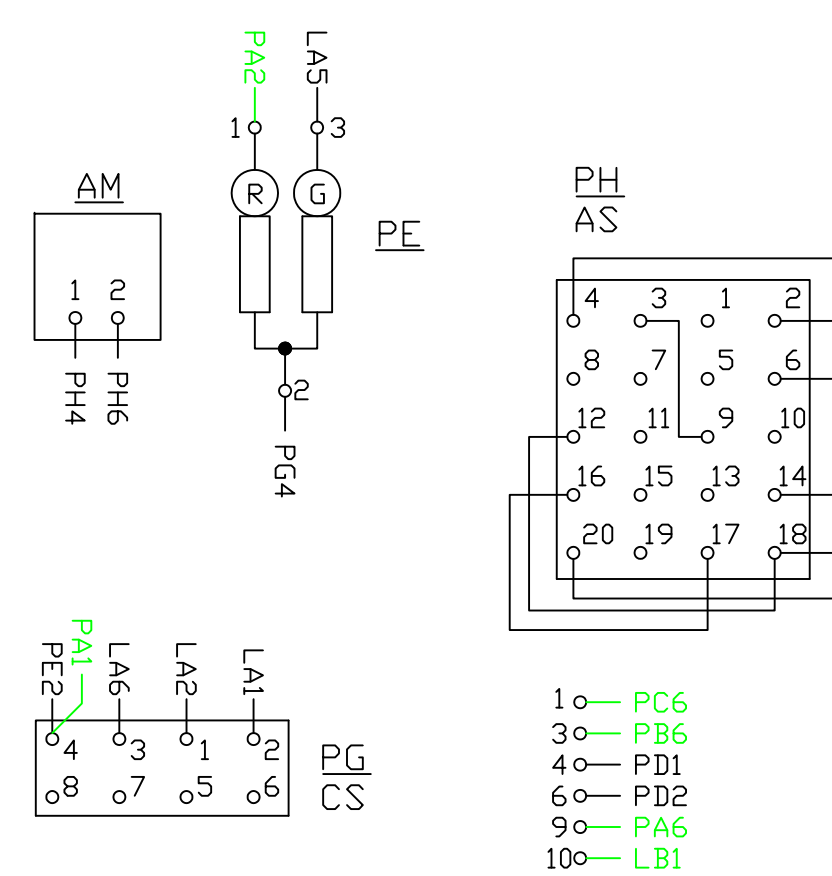
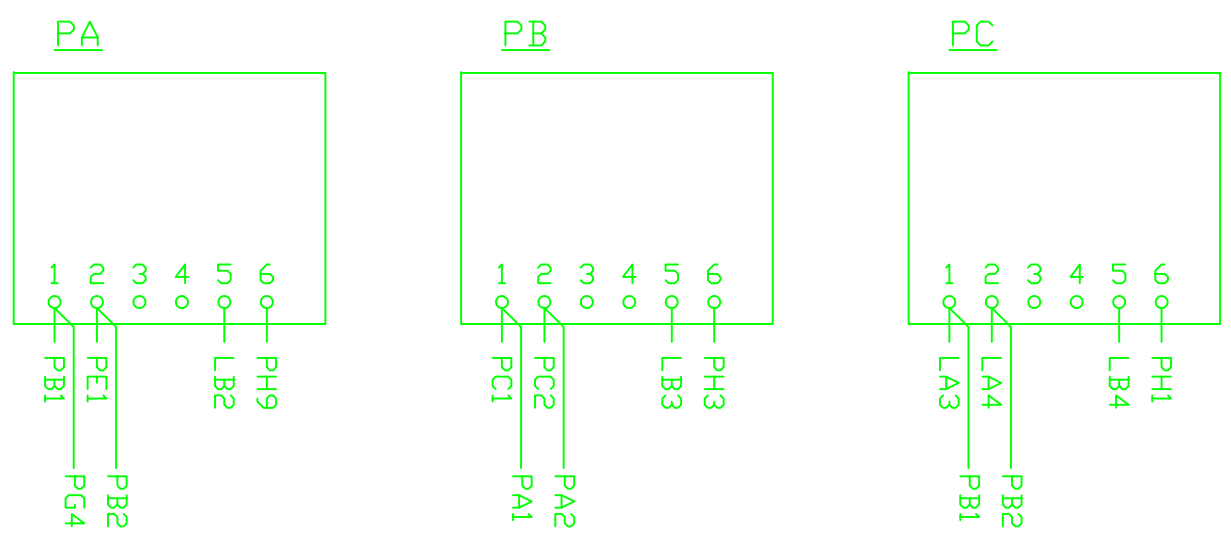


SCHEMATIC DIAGRAM
UNIT SUBSTATION
UNIT NO. #7

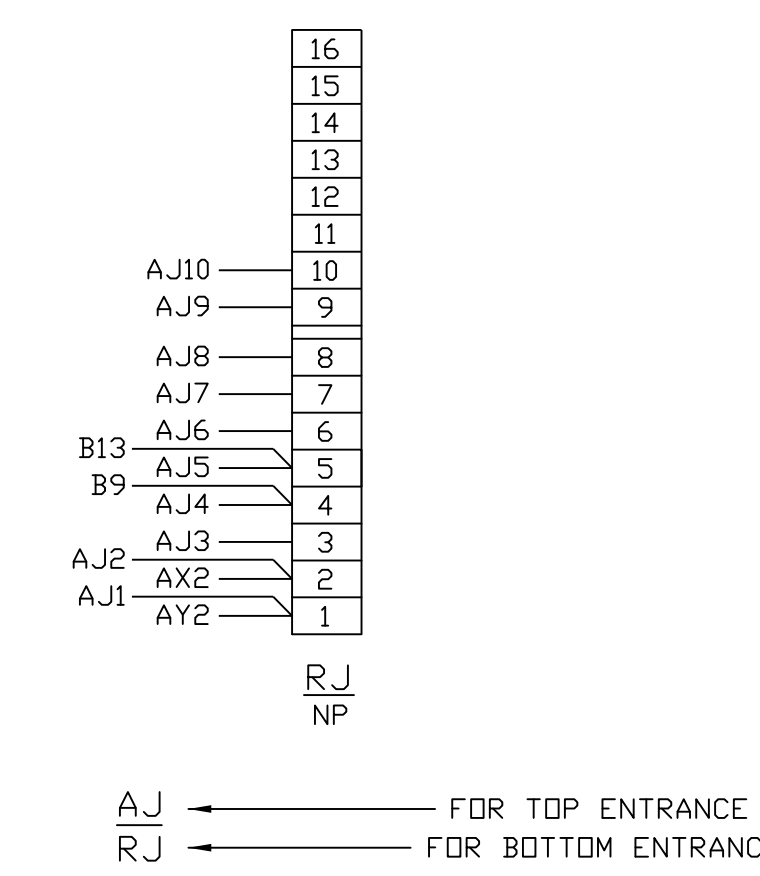
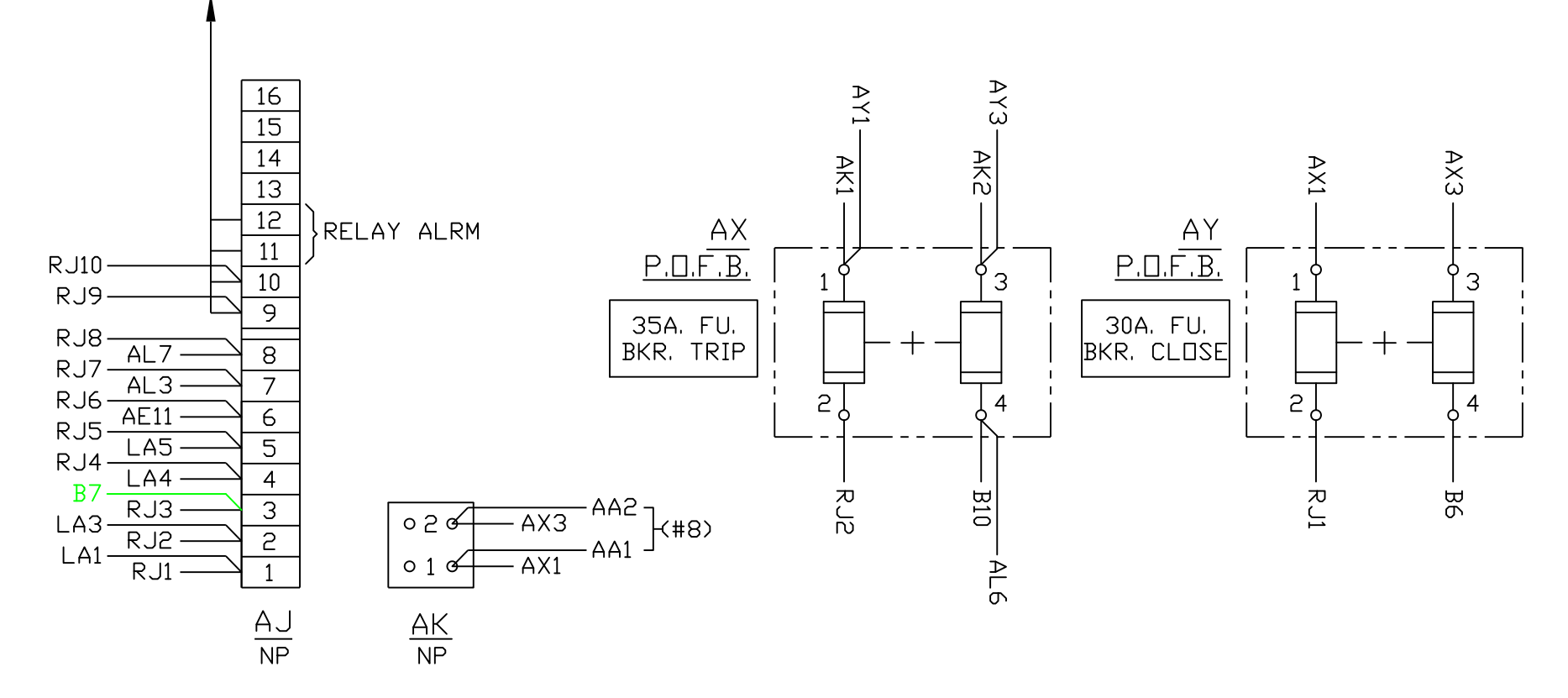
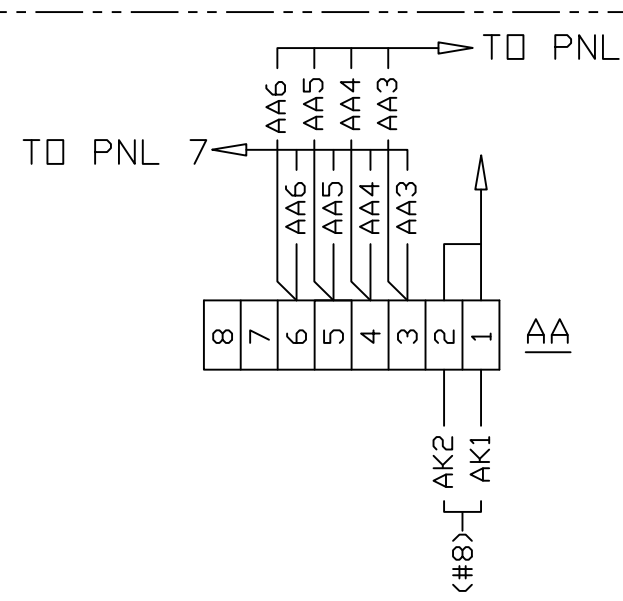
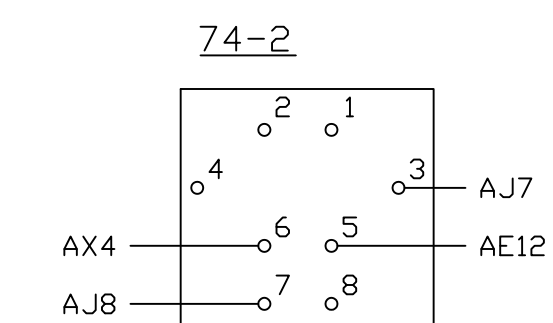
1 RELAY REPLACEMENT		02/21/15 DRD		
CONNECTION DIAGRAM / WIRING SCHEMATIC - UNIT #7 5HK-250, 2400V, 3PH, 3W, 60CY. POWER PLANT - PULVERIZER NO 2B - INDOOR METAL CLAD SWITCH GEAR CENTRAL IOWA POWER COOPERATIVE				
APPROVED FOR CONSTRUCTION	SCALE:		DWG. NO.	
ENGR.: DRD	NONE			UNIT #7
APP:				
REV	DESCRIPTION			

ADD

INTRUMENT PANEL REAR VIEW

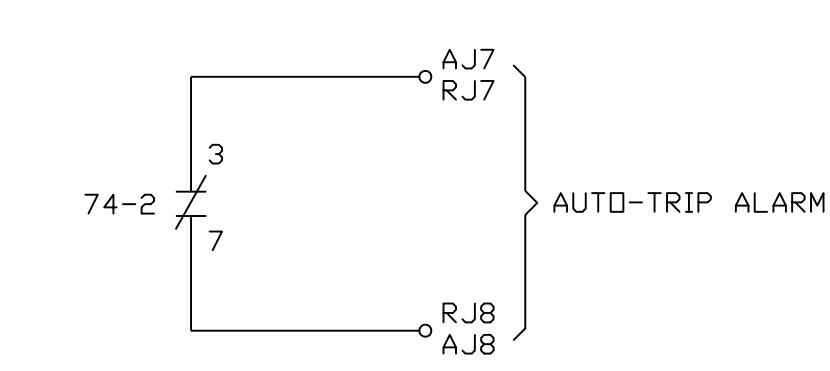
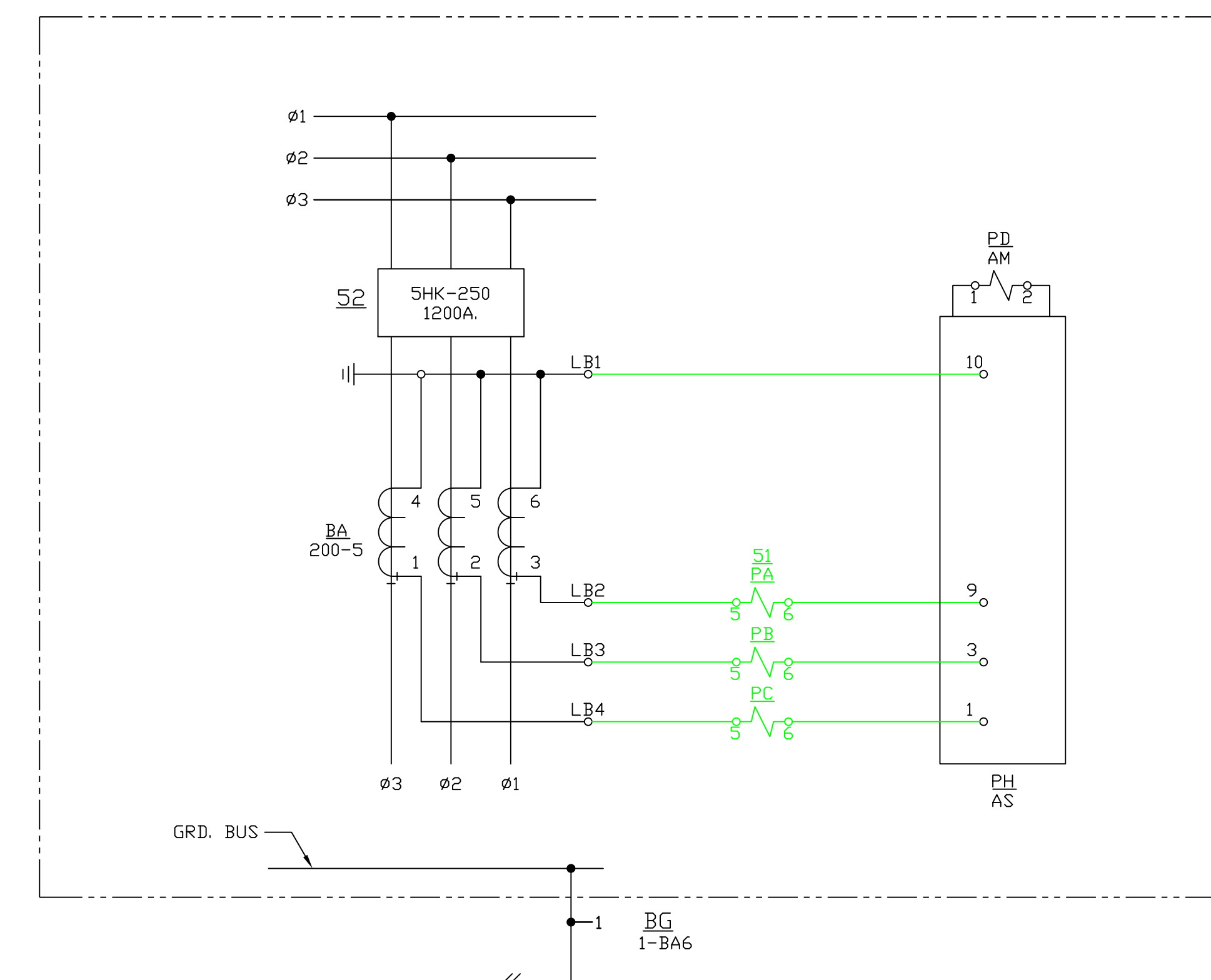


FRONT VIEW

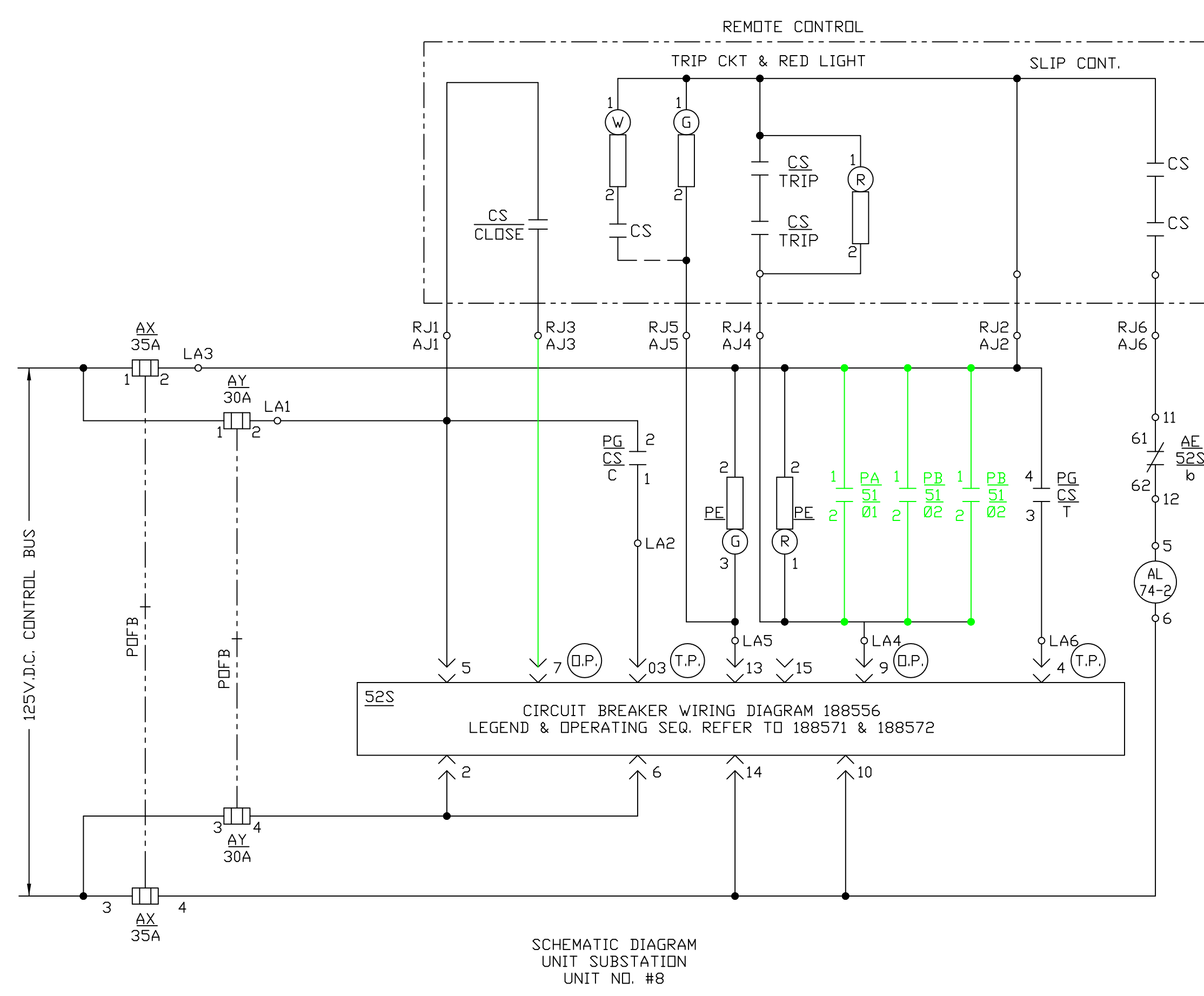


AJ ← FOR TOP ENTRANCE
RJ ← FOR BOTTOM ENTRANCE

ELEMENTARY DIAGRAM



REMOVE

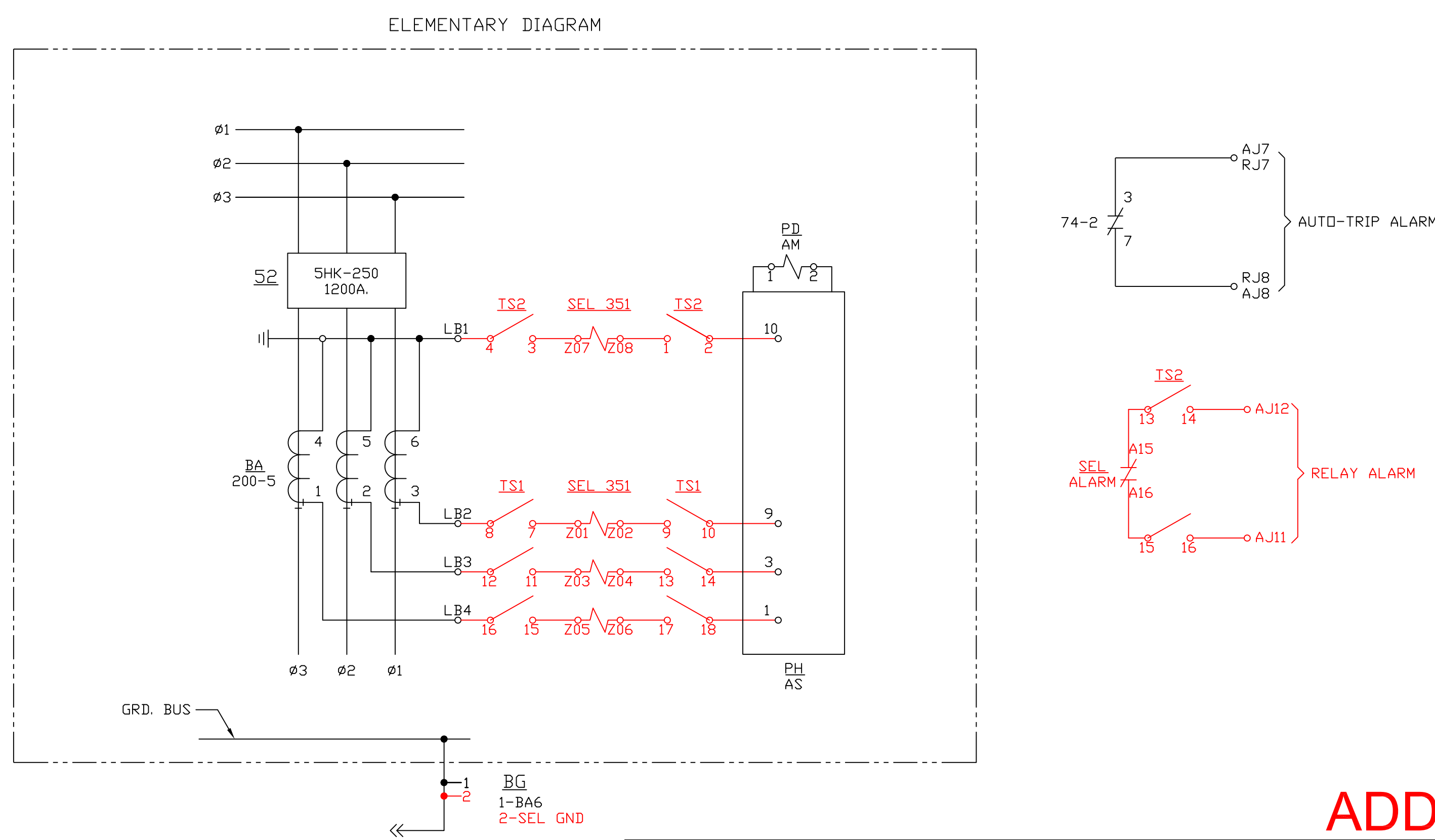
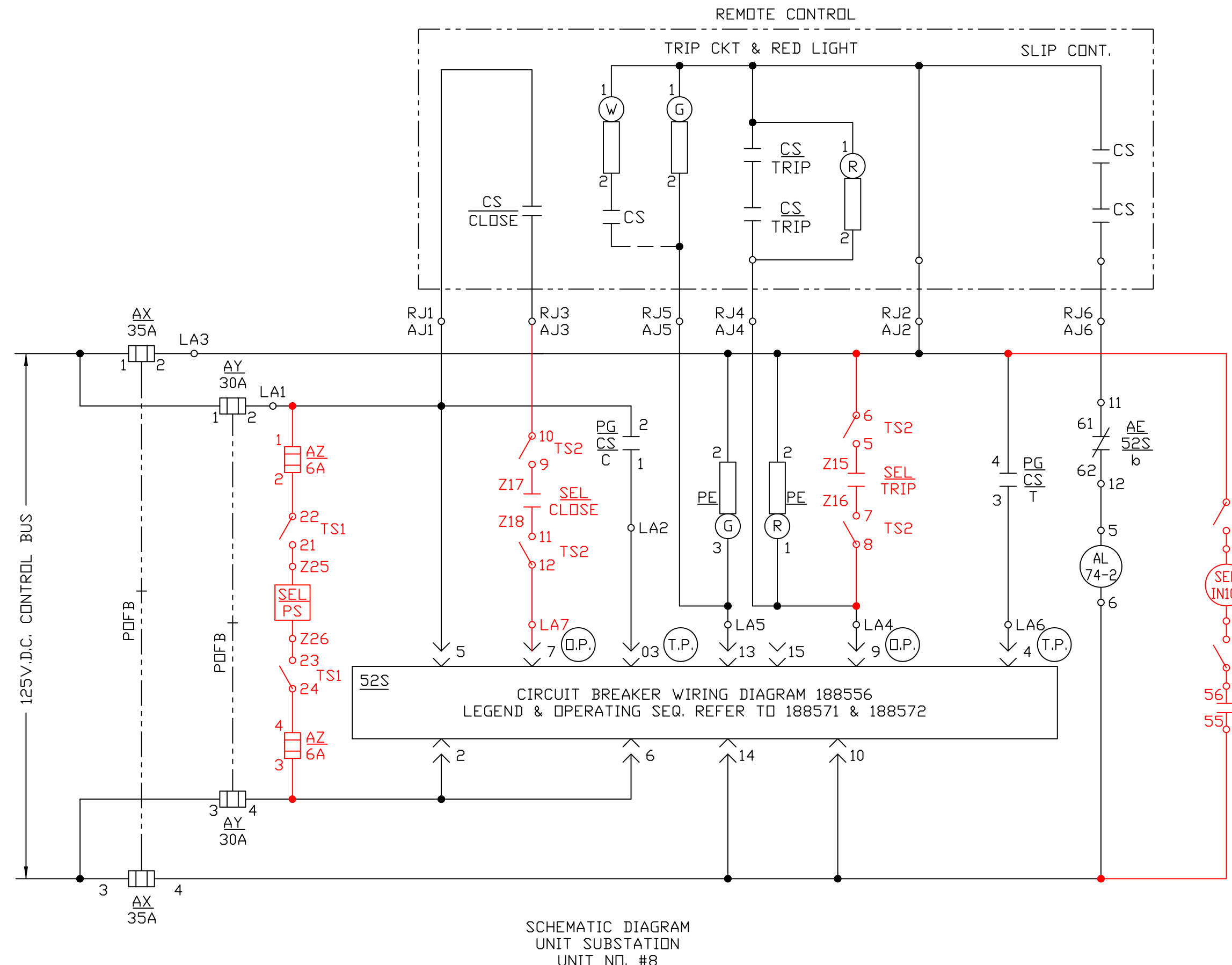
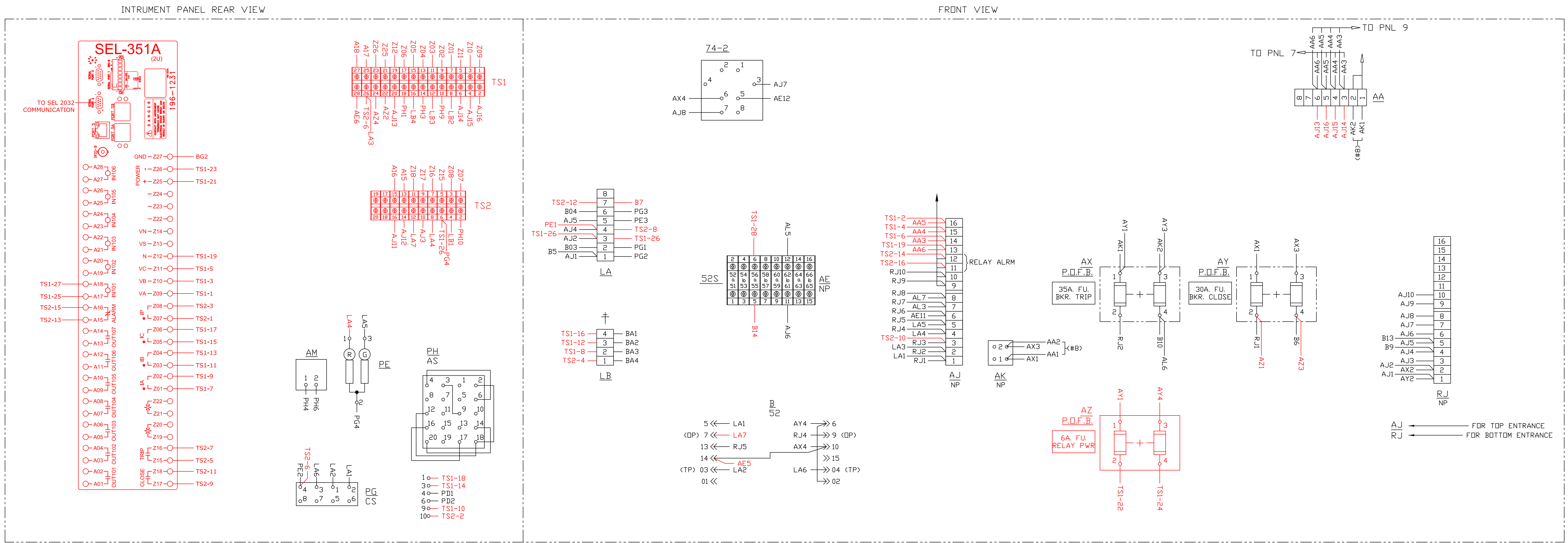


REV	DESCRIPTION	APPROVED FOR CONSTRUCTION	SCALE	DWG. NO.
1	RELAY REPLACEMENT	ENGR.: DRD	NONE	02/21/15 DRD

CONNECTION DIAGRAM / WIRING SCHEMATIC - UNIT #8
 5HK-250, 2400V, 3PH, 3W, 60CY.
 POWER PLANT-PRI AIR FAN PUMP NO 2A-INDOOR METAL CLAD SWITCH GEAR
 CENTRAL IOWA POWER COOPERATIVE

UNIT #8

POWER PLANT - RELAY REPLACEMENT

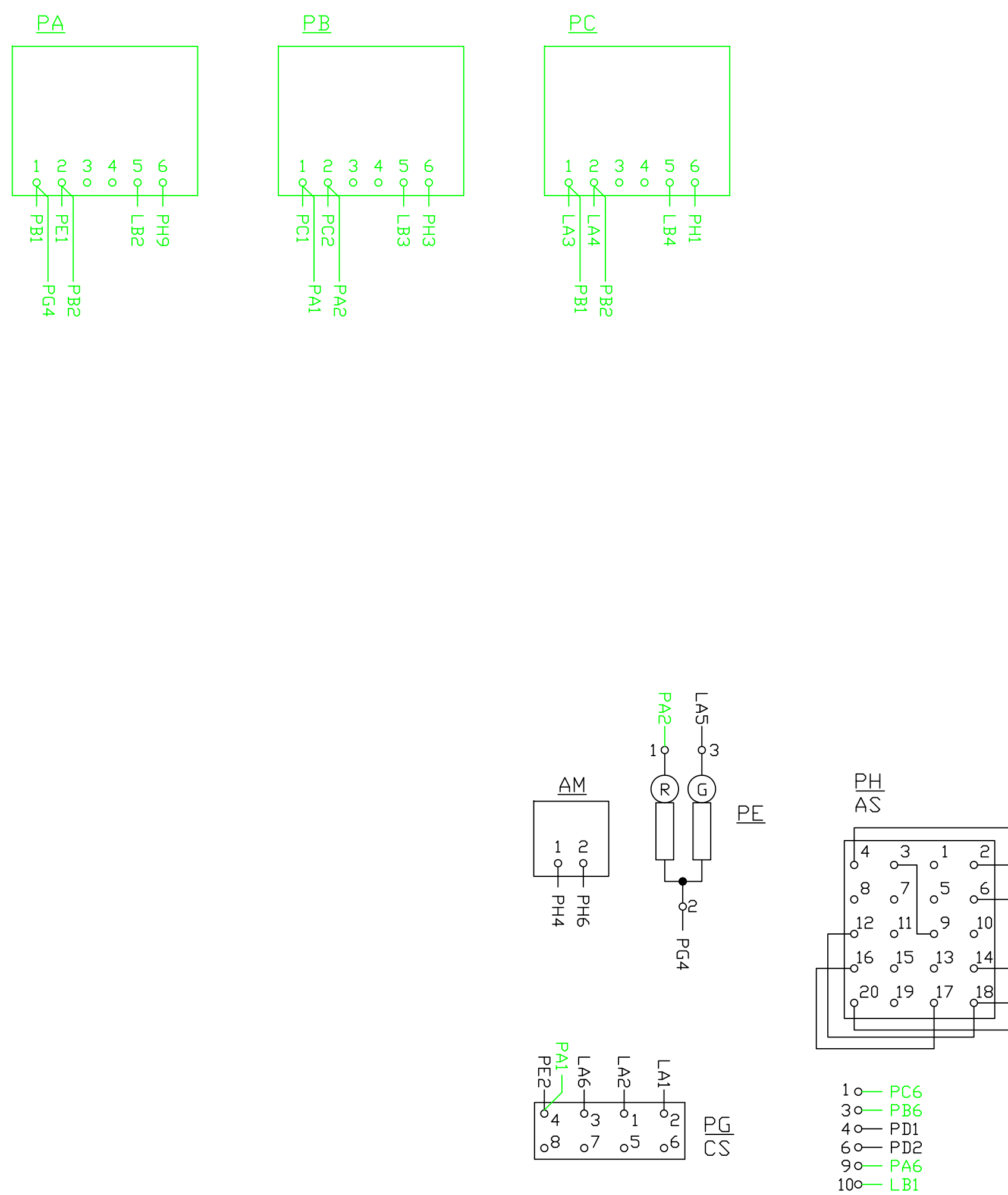


1 RELAY REPLACEMENT		02/21/15	DRD
CONNECTION DIAGRAM / WIRING SCHEMATIC - UNIT #8 5HK-250, 2400V, 3PH, 3W, 60CY. POWER PLANT-PRI AIR FAN PUMP NO 2A-INDOOR METAL CLAD SWITCH GEAR CENTRAL IOWA POWER COOPERATIVE			
APPROVED FOR CONSTRUCTION	SCALE:	DWG. NO.	
ENGR.: DRD	NONE	UNIT #8	
APP:		CIPCO	
REV	DESCRIPTION		

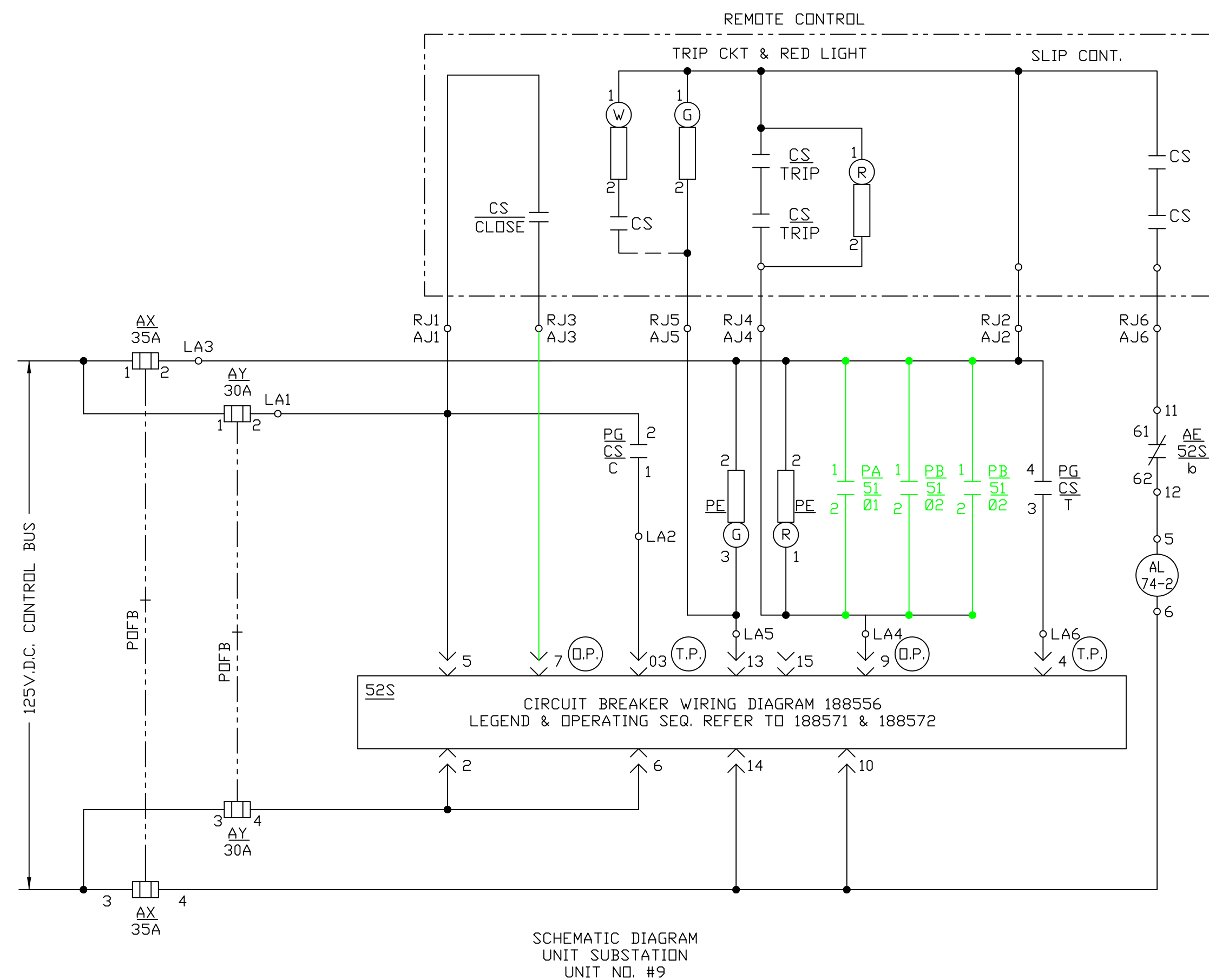
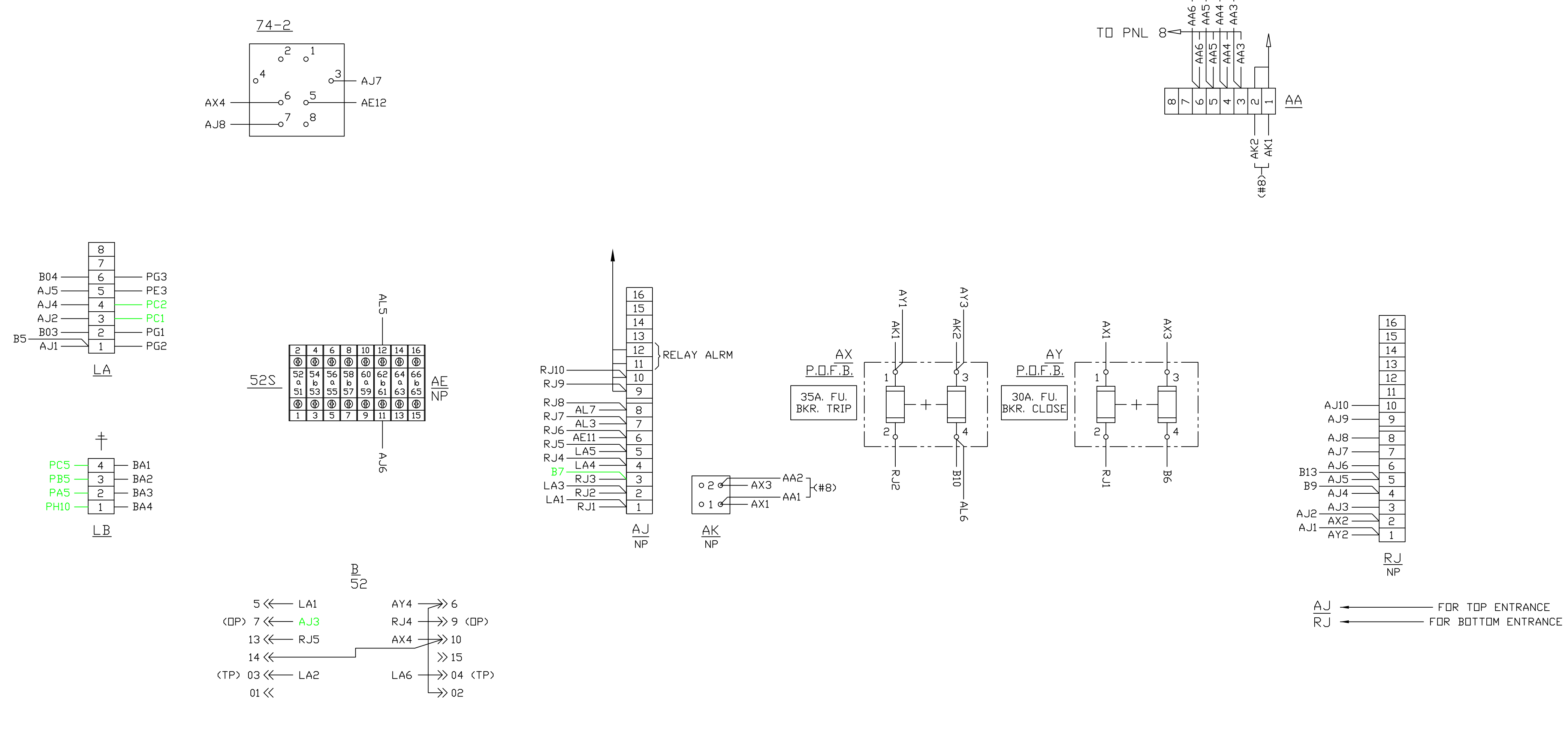
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POWER PLANT - RELAY REPLACEMENT

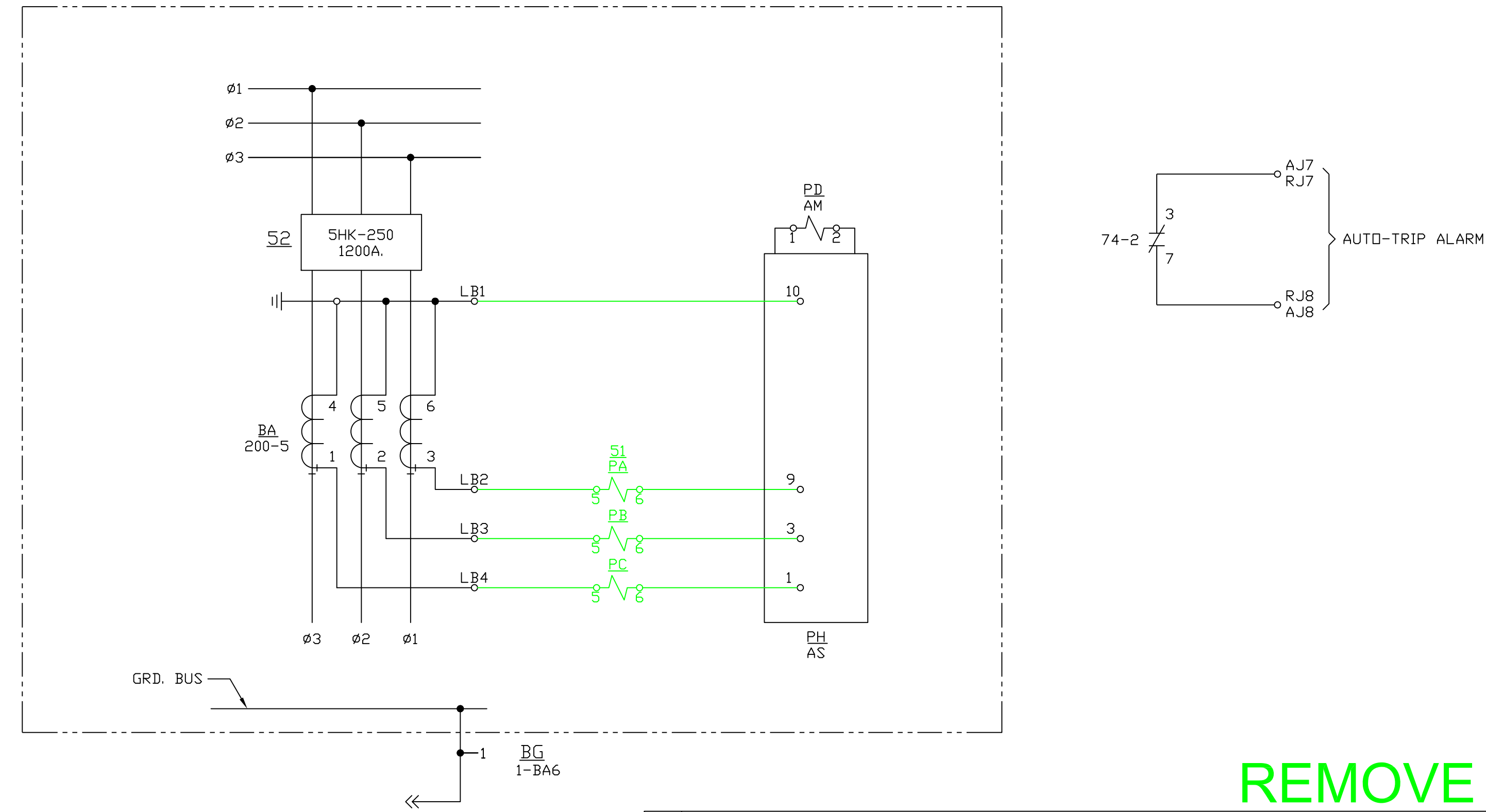
INTRUMENT PANEL REAR VIEW




FRONT VIEW



ELEMENTARY DIAGRAM



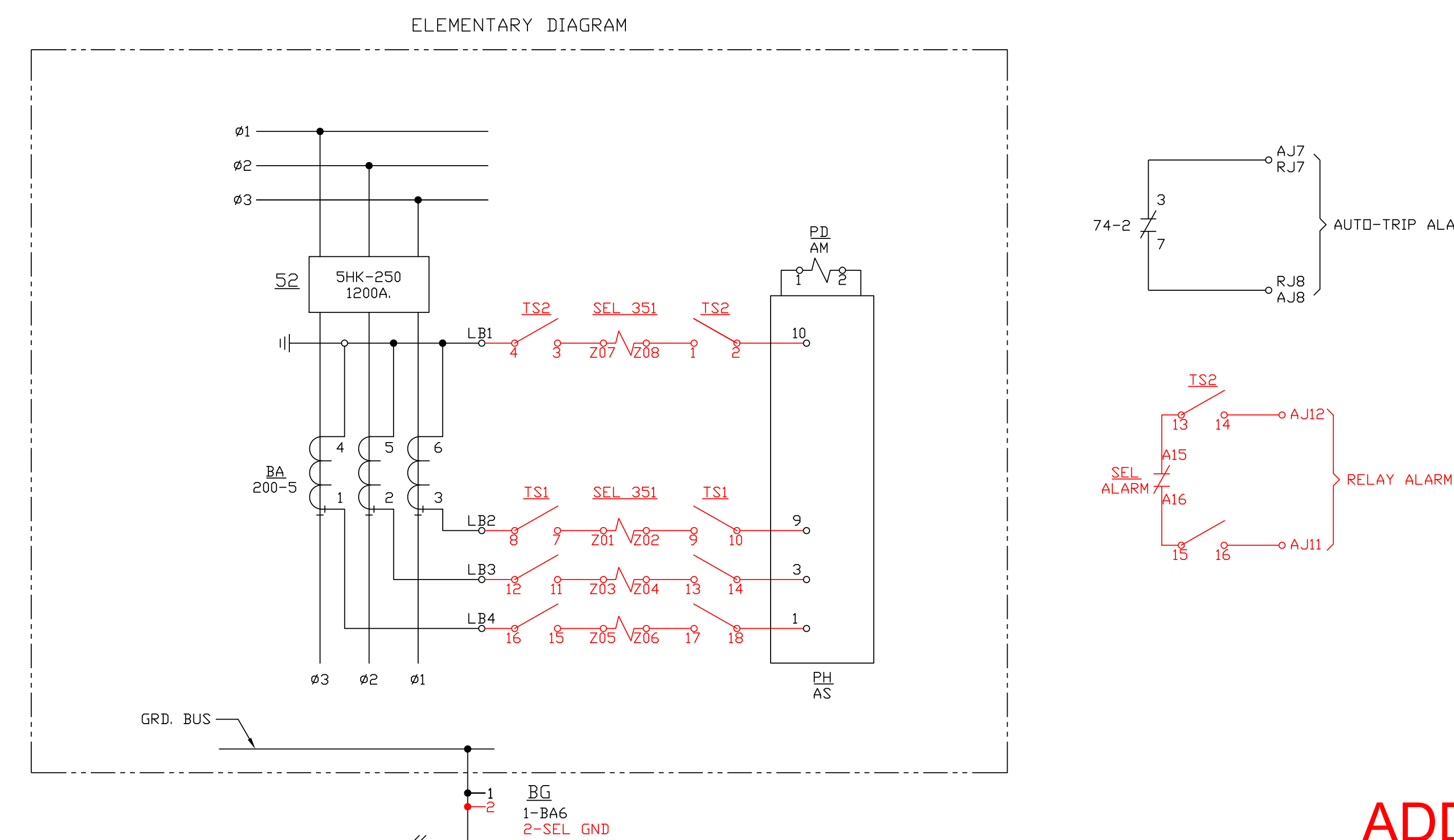
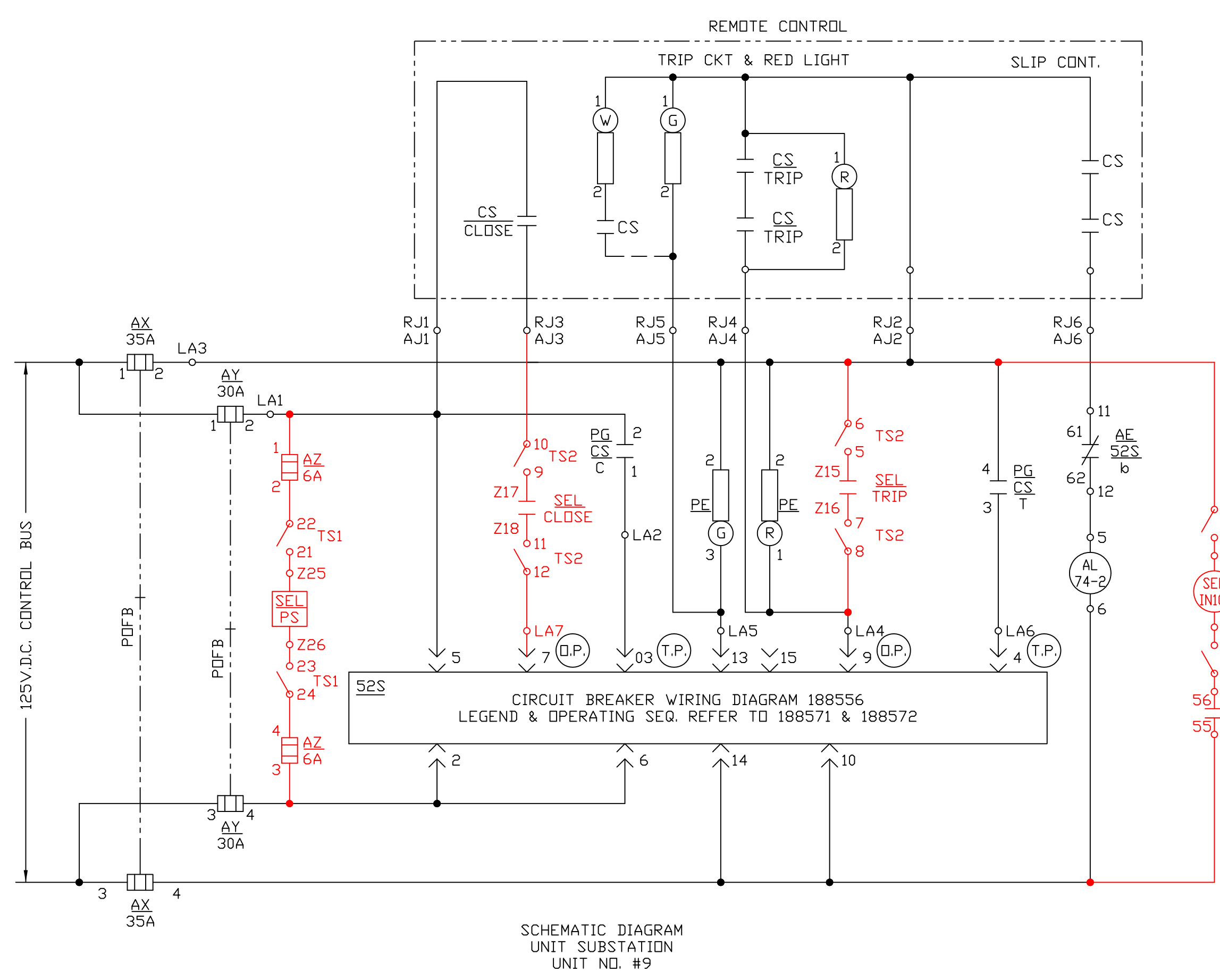
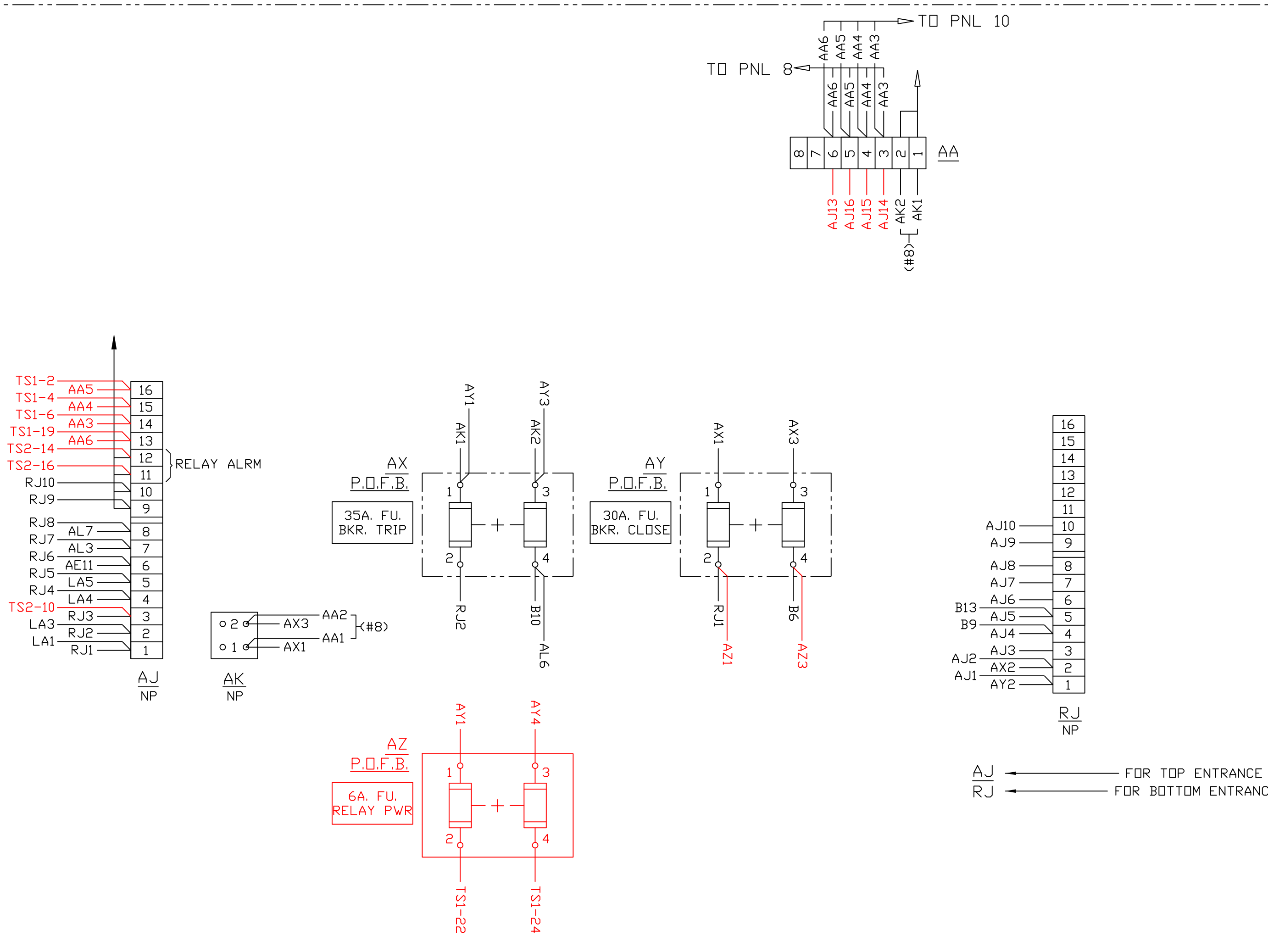
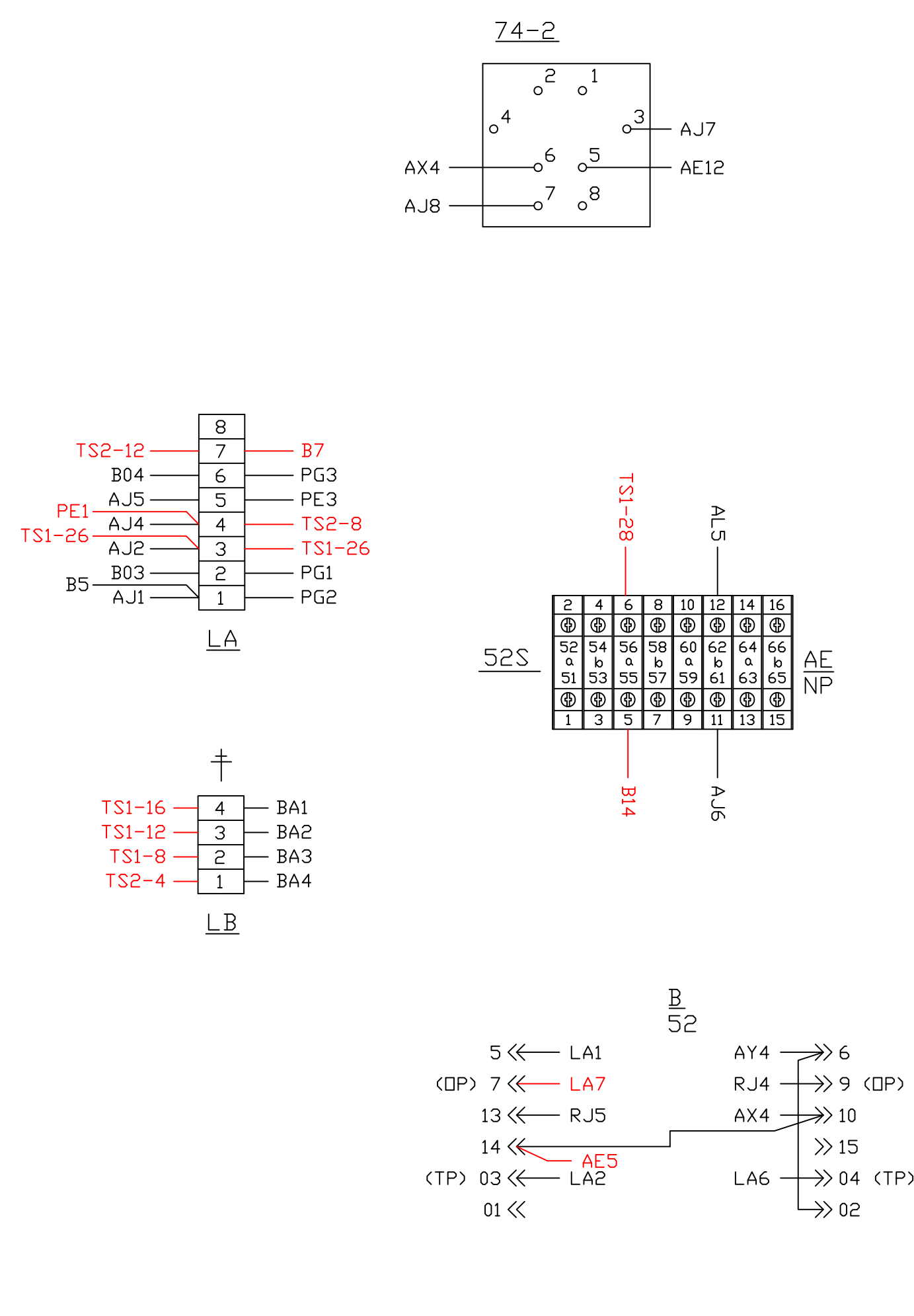
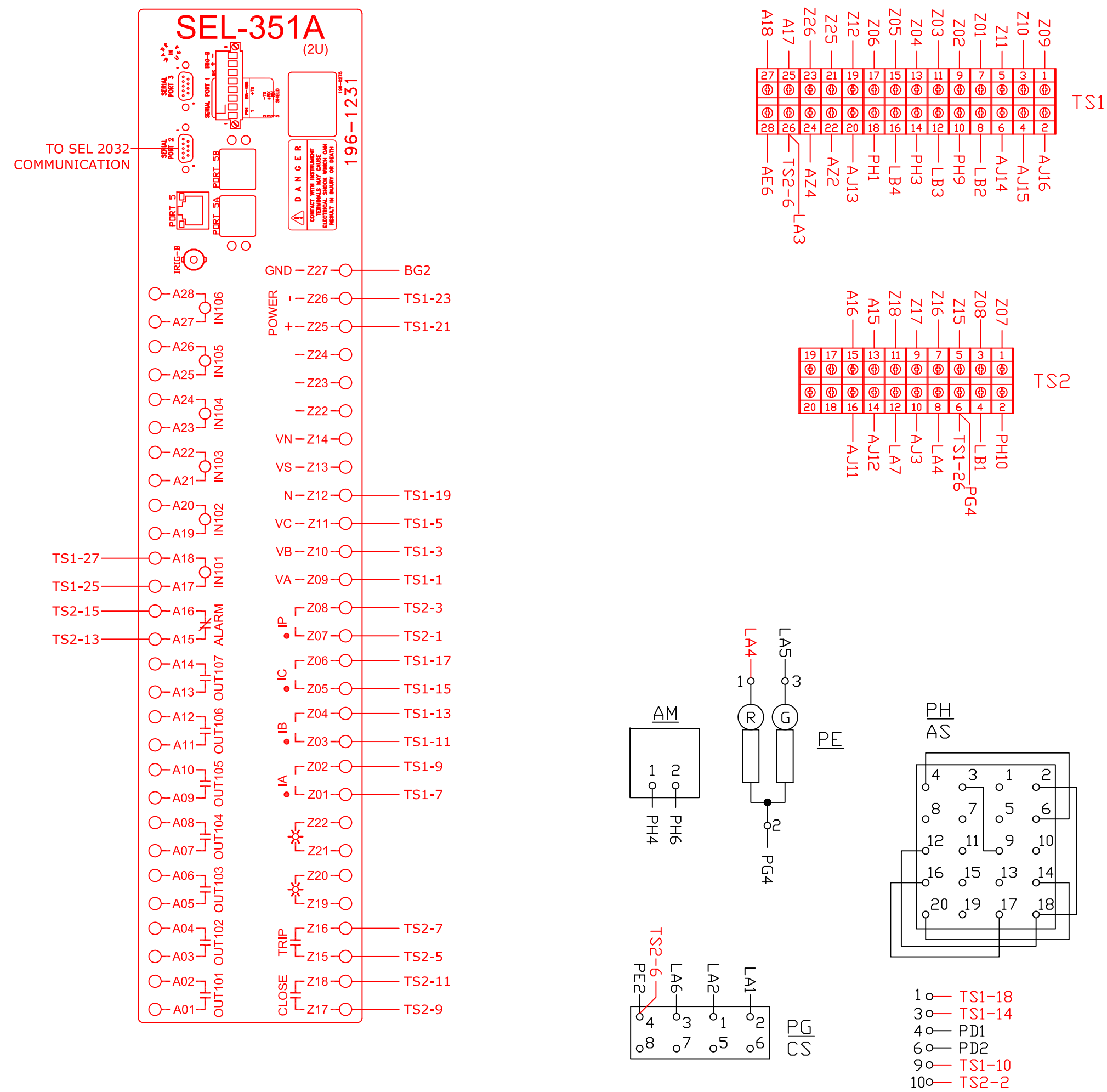
REMOVE

1 RELAY REPLACEMENT		02/21/15 DRD	
CONNECTION DIAGRAM / WIRING SCHEMATIC - UNIT #9 5HK-250, 2400V, 3PH, 3W, 60CY. POWER PLANT - PULVERIZER NO 2A - INDOOR METAL CLAD SWITCH GEAR CENTRAL IOWA POWER COOPERATIVE			
APPROVED FOR CONSTRUCTION	SCALE:	DWG. NO.	
ENGR.: DRD	NONE		
APP.: -		UNIT #9	
REV	DESCRIPTION		

POWER PLANT - RELAY REPLACEMENT

INTRUMENT PANEL REAR VIEW

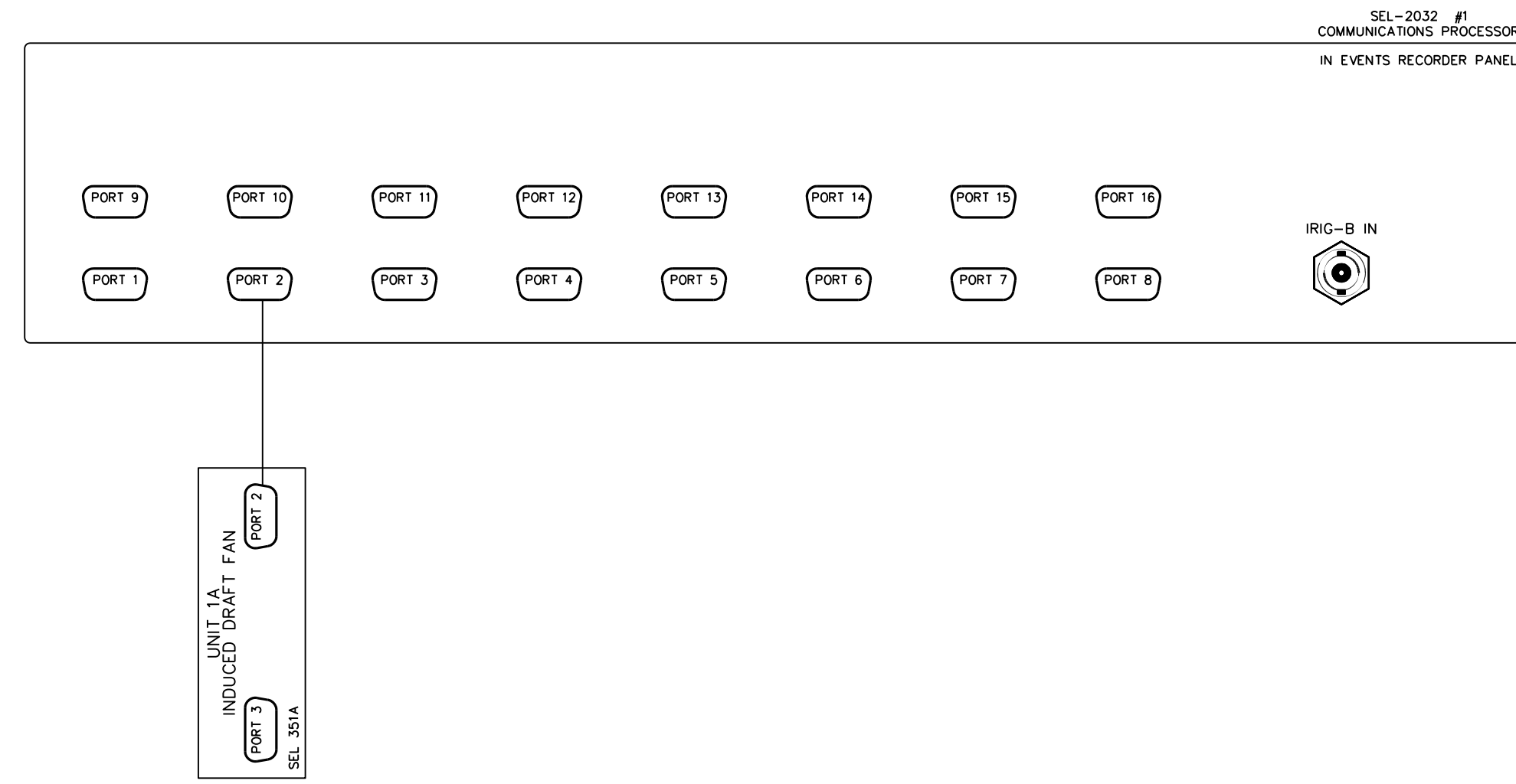
FRONT VIEW



1 RELAY REPLACEMENT		02/21/15 DRD	
CONNECTION DIAGRAM / WIRING SCHEMATIC - UNIT #9			
5HK-250, 2400V, 3PH, 3W, 60CY.			
POWER PLANT - PULVERIZER NO 2A - INDOOR METAL CLAD SWITCH GEAR			
CENTRAL IOWA POWER COOPERATIVE			
APPROVED FOR CONSTRUCTION	SCALE:	DWG. NO.	
ENGR.: DRD		UNIT #9	
APP:	NONE	CIPCO	
REV	DESCRIPTION		

ADD

POWER PLANT RELAY REPLACEMENT

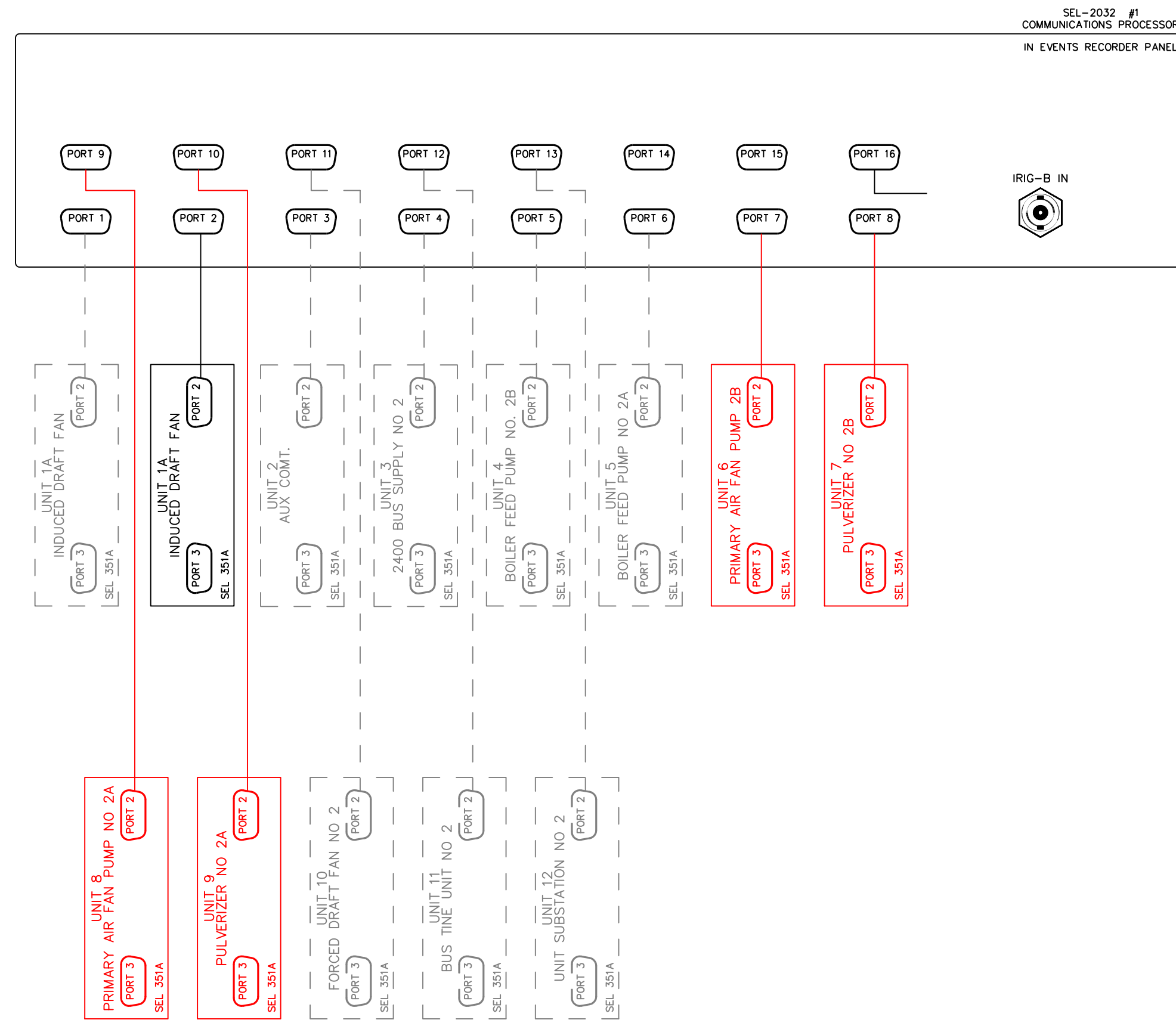


EXISTING


1		POWER PLANT RELAY REPLACEMENT PROJECT		03/30/15	DRD
SCHEMATIC POWER PLANT COMMUNICATION POWER PLANT CENTRAL IOWA POWER COOPERATIVE					
APPROVED FOR CONSTRUCTION		SCALE:		DWG. NO.	
ENGR.: DRD		NONE		COMMUNICATION	
APP.: -					
REV	DESCRIPTION				



POWER PLANT RELAY REPLACEMENT



ADD

1	POWER PLANT RELAY REPLACEMENT PROJECT	03/30/15	DRD
SCHEMATIC POWER PLANT COMMUNICATION POWER PLANT CENTRAL IOWA POWER COOPERATIVE			
APPROVED FOR CONSTRUCTION	SCALE:	DWG. NO.	
ENGR.: DRD		COMMUNICATION	
APP: -	NONE		
REV	DESCRIPTION		