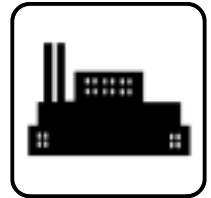


Wiring Diagrams

Fast-Response™ II Industrial Generator Sets



Models:

135-275RZD (Detroit Diesel Powered)

Controllers:

Decision-Maker™ 550

Decision-Maker™ 340

Decision-Maker™ 3+, 16-Light

Decision-Maker™ 3+, 7-Light

KOHLER[®]
POWER SYSTEMS

9001
KOHLER
POWER SYSTEMS
NATIONALLY REGISTERED

TP-5720 12/01d

This manual provides wiring diagrams for the 135-180RZD Detroit Diesel Series 50 engine-powered generator sets and 135-275RZD Detroit Diesel Series 60 engine-powered generator sets equipped with one of the following controllers:

- Decision-Maker™ 550
- Decision-Maker™ 340
- Decision-Maker™ 3+

At the time of print this manual applied to the model numbers and specification (spec) numbers shown in the Wiring Diagram Cross-Reference chart. On occasion this manual may apply to specs not listed in the Wiring Diagram Cross-Reference chart.

Information in this publication represents data available at the time of print. Kohler Co. reserves the right to change this publication and the products represented without notice and without any obligation or liability whatsoever.

x:in:001:002

Service Assistance

Service Information

Please contact a local authorized distributor/dealer for sales, service, or other information about Kohler Co. Generator Division products.

- Look on the product or in the information included with the product
- Consult the Yellow Pages under the heading Generators—Electric
- Visit the Kohler Co. Generator Division web site at www.kohlergenerators.com
- Inside the U.S.A. and Canada, call 1-800-544-2444
- Outside the U.S.A. and Canada, call the nearest regional office

Africa, Europe, Middle East

London Regional Office
Langley, Slough, England
Phone: (44) 1753-580-771
Fax: (44) 1753-580-036

Australia

Australia Regional Office
Queensland, Australia
Phone: (617) 3893-0061
Fax: (617) 3893-0072

China

China Regional Office
Shanghai, People's Republic of China
Phone: (86) 21-6482 1252
Fax: (86) 21-6482 1255

India, Bangladesh, Sri Lanka

India Regional Office
Bangalore, India
Phone: (91) 80-2284270
(91) 80-2284279
Fax: (91) 80-2284286

Japan

Japan Regional Office
Tokyo, Japan
Phone: (813) 3440-4515
Fax: (813) 3440-2727

Latin America

Latin America Regional Office
Lakeland, Florida, U.S.A.
Phone: (941) 619-7568
Fax: (941) 701-7131

South East Asia

Singapore Regional Office
Singapore, Republic of Singapore
Phone: (65) 264-6422
Fax: (65) 264-6455

X:in:008:001

Wiring Diagrams

Use the Wiring Diagram Cross-Reference chart to determine the wiring diagram version number for a given model number and spec number. Then find that version number and the controller type on the Controller

Wiring Diagrams Reference chart to determine the wiring diagram numbers for your unit. Refer to the generator set operation manual for controller type identification, if necessary.

Wiring Diagram Cross-Reference

Generator Set Model No.	Hz	Generator Set Spec No.	Wiring Diagram Version No.
135RZD	50/60	PA-194006, 7, 10, 49, 51	1-1
135RZD	50/60	GM16893-GA1, 2	1-2
150RZD	50/60	PA-194011, 12, 15, 20, 33-35, 38, 59, 61, 65	1-1
150RZD	50/60	GM16894-GA1, 2, 3	1-2
180RZD	50/60	PA-194045-48, 63, 67, 71	1-1
180RZD	50/60	GM16895-GA1, 2	1-2
200RZD	50/60	PA-194245-49, 80, 82, 84	2-1
200RZD	50/60	GM16896-GA1, 2	2-2
230RZD	50/60	PA-194256-59, 90, 92, 94	2-1
230RZD	50/60	GM16897-GA1, 2	2-2
250RZD	50/60	PA-194265-69, 300, 302	2-1
250RZD	50/60	GM16898-GA1, 2	2-2
275RZD	50/60	PA-194235, 75-79, 306, 308	2-1
275RZD	50/60	GM16899-GA1, 2	2-2

Note: Versions 1-1 and 2-1 use the Decision-Maker™ 340 controller
 Versions 1-2 and 2-2 use the Decision-Maker™ 550 controller

135-180RZD Controller Wiring Diagrams Reference

Controller Description	Version 1-1	Page	Version 1-2	Page
Decision-Maker™ 550				
Point-to-Point Wiring Diagram				
Sheet 1	—	—	GM17422A-B	18
Sheet 2	—	—	GM17422B-B	19
Schematic Diagram				
Sheet 1	—	—	ADV-6607A-A	10
Sheet 2	—	—	ADV-6607B-A	11
Accessory Connections				
Accessories	—	—	GM16088A-C	16
Remote Annunciator Kit	—	—	GM16088B-C	17
Decision-Maker™ 340				
Point-to-Point Wiring Diagram				
Sheet 1	347942A-G	26	—	—
Sheet 2	347942B-D	27	—	—
Schematic Diagram				
Sheet 1	ADV-6132A-E	4	—	—
Sheet 2	ADV-6132B-B	5	—	—
Sheet 3	ADV-6132C-B	6	—	—
Sheet 4	ADV-6132D-C	7	—	—
Accessory Connections				
Accessories	354246A-D	28	—	—
Remote Annunciator Kit	354246B-D	29	—	—
Decision-Maker™ 3+				
Point-to-Point Wiring Diagram				
Sheet 1	328614A-H	22	GM14230A-	14
Sheet 2	328614B-H	23	GM14230B-	15
Schematic Diagram				
Sheet 1	ADV-6082A-F	2	ADV-6572A-	8
Sheet 2	ADV-6082B-F	3	ADV-6572B-	9
Accessory Connections				
Accessories	328912A-F	24	328912A-F	24
Remote Annunciator 14-Relay Kit	328912B-F	25	328912B-F	25
Generator Reconnections	ADV-5875A-D	1	ADV-5875A-D	1

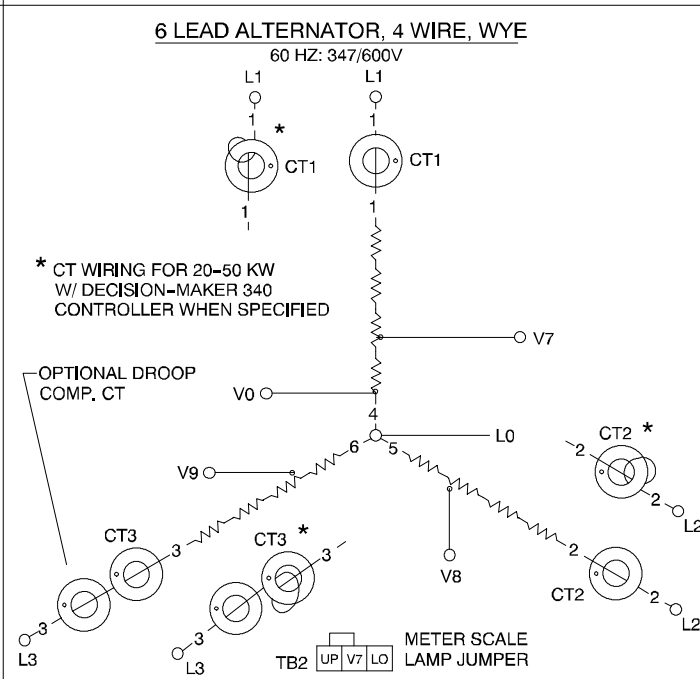
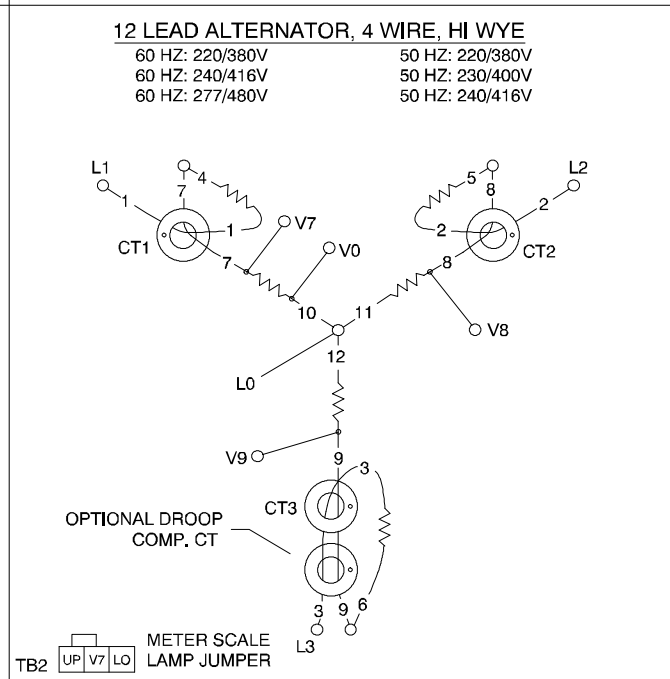
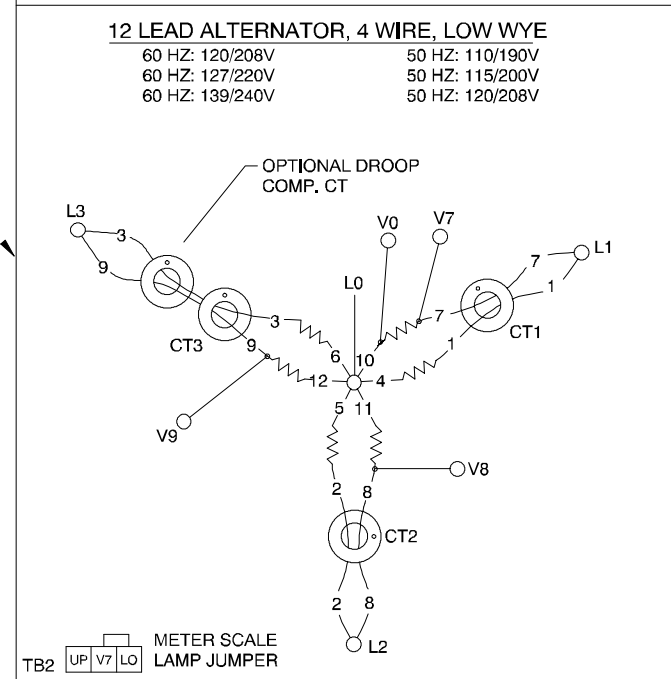
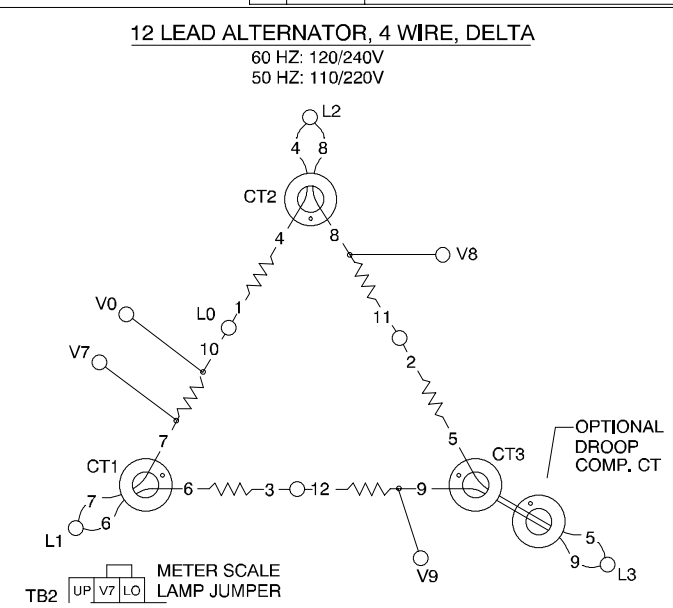
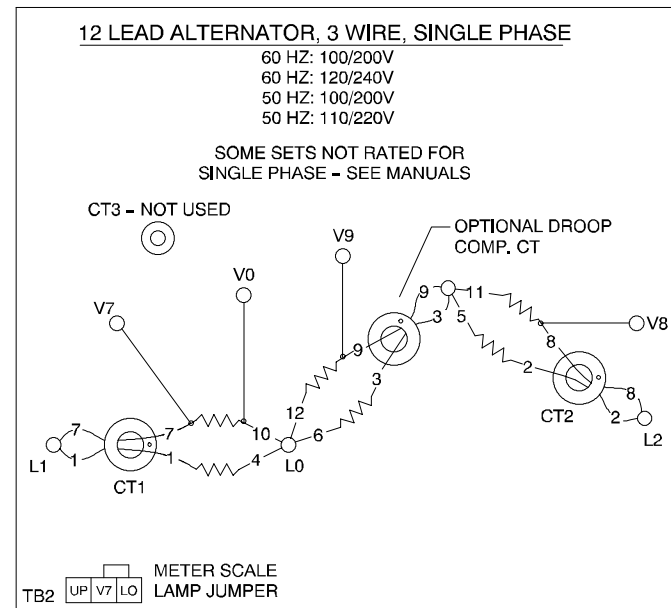
Note: Version 1-1 uses the Decision-Maker™ 340 controller
Version 1-2 uses the Decision-Maker™ 550 controller
Diagram 328614 replaces 328615
Diagram ADV-6082 replaces ADV-6083

200-275RZD Controller Wiring Diagrams Reference

Controller Description	Version 2-1	Page	Version 2-2	Page
Decision-Maker™ 550				
Point-to-Point Wiring Diagram				
Sheet 1	—	—	GM17423A-B	20
Sheet 2	—	—	GM17423B-B	21
Schematic Diagram				
Sheet 1	—	—	ADV-6608A-A	12
Sheet 2	—	—	ADV-6608B-A	13
Accessory Connections				
Accessories	—	—	GM16088A-C	16
Remote Annunciator Kit	—	—	GM16088B-C	17
Decision-Maker™ 340				
Point-to-Point Wiring Diagram				
Sheet 1	347942A-G	26	—	—
Sheet 2	347942B-D	27	—	—
Schematic Diagram				
Sheet 1	ADV-6132A-E	4	—	—
Sheet 2	ADV-6132B-B	5	—	—
Sheet 3	ADV-6132C-B	6	—	—
Sheet 4	ADV-6132D-C	7	—	—
Accessory Connections				
Accessories	354246A-D	28	—	—
Remote Annunciator Kit	354246B-D	29	—	—
Decision-Maker™ 3+				
Point-to-Point Wiring Diagram				
Sheet 1	328614A-H	22	GM14230A-	14
Sheet 2	328614B-H	23	GM14230B-	15
Schematic Diagram				
Sheet 1	ADV-6082A-F	2	ADV-6572A-	8
Sheet 2	ADV-6082B-F	3	ADV-6572B-	9
Accessory Connections				
Accessories	328912A-F	24	328912A-F	24
Remote Annunciator 14-Relay Kit	328912B-F	25	328912B-F	25
Generator Reconnections	ADV-5875A-D	1	ADV-5875A-D	1

Note: Version 2-1 uses the Decision-Maker™ 340 controller
Version 2-2 uses the Decision-Maker™ 550 controller
Diagram 328614 replaces 328615
Diagram ADV-6082 replaces ADV-6083

REV	DATE	REVISION	BY	M/F
B	11-4-98	(B-1,2,3,4 C-1) OPTIONAL DROOP MOVED FROM L2 TO L3		
		[56797]	JS	
C	6-2-99	(C-3) MARINE ONLY: L0 REMOVED, L0 WAS L1, L1 WAS L2. TAPE TWO PLACES WAS ONE [58896]		
		[58896]	SAM	
D	6-17-99	DIAGRAMS UPDATED; (B-2, C-4) NOTE & CT'S ADDED FOR 20-50 KW W/ DECISION-MAKER 340 & DIGITAL CONTROLLERS		
		[59021]	KAR	

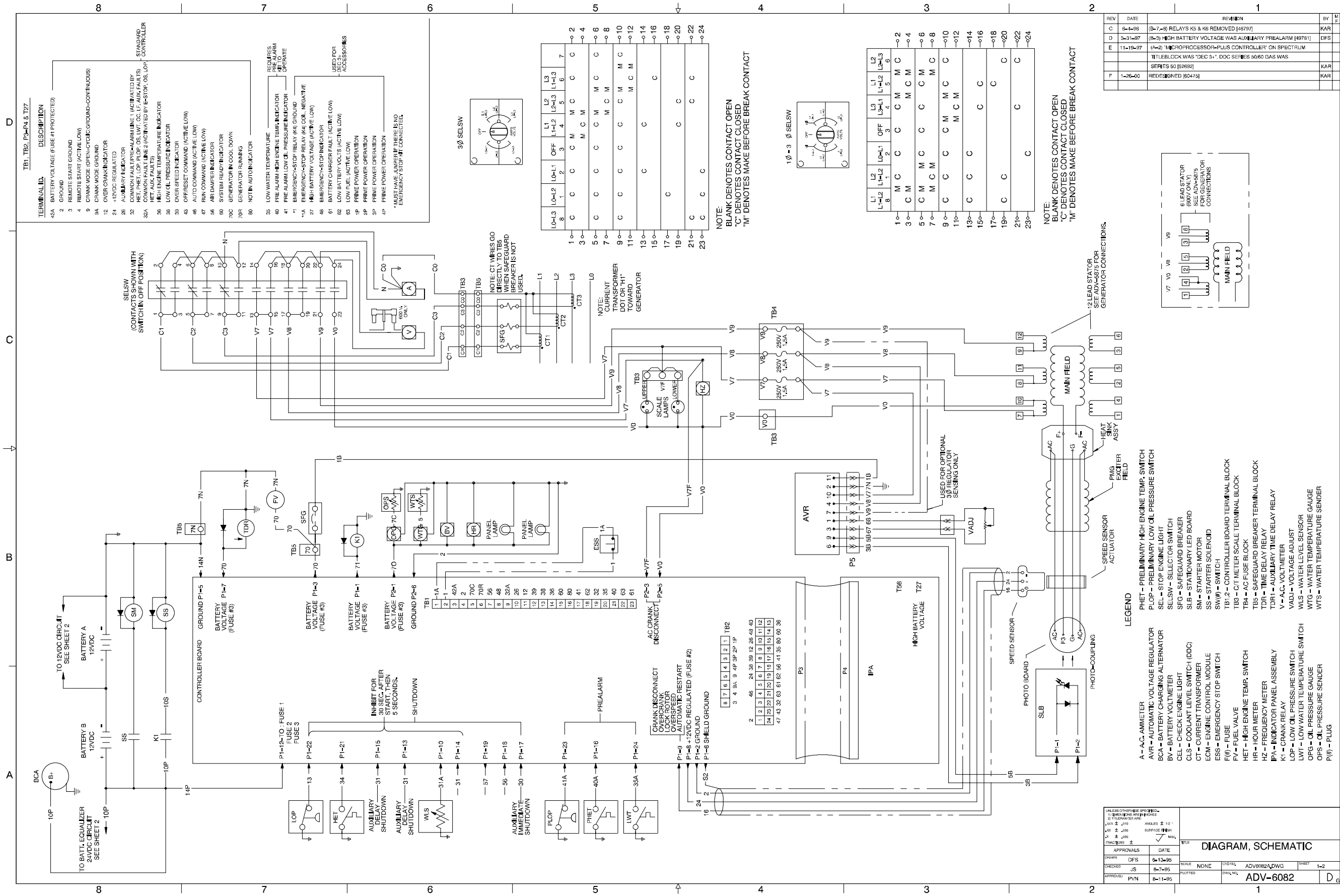


NOTES:
 CURRENT TRANSFORMER DOT OR "H1" TOWARD GENERATOR.
 CURRENT TRANSFORMERS NOT USED ON ALL SETS.

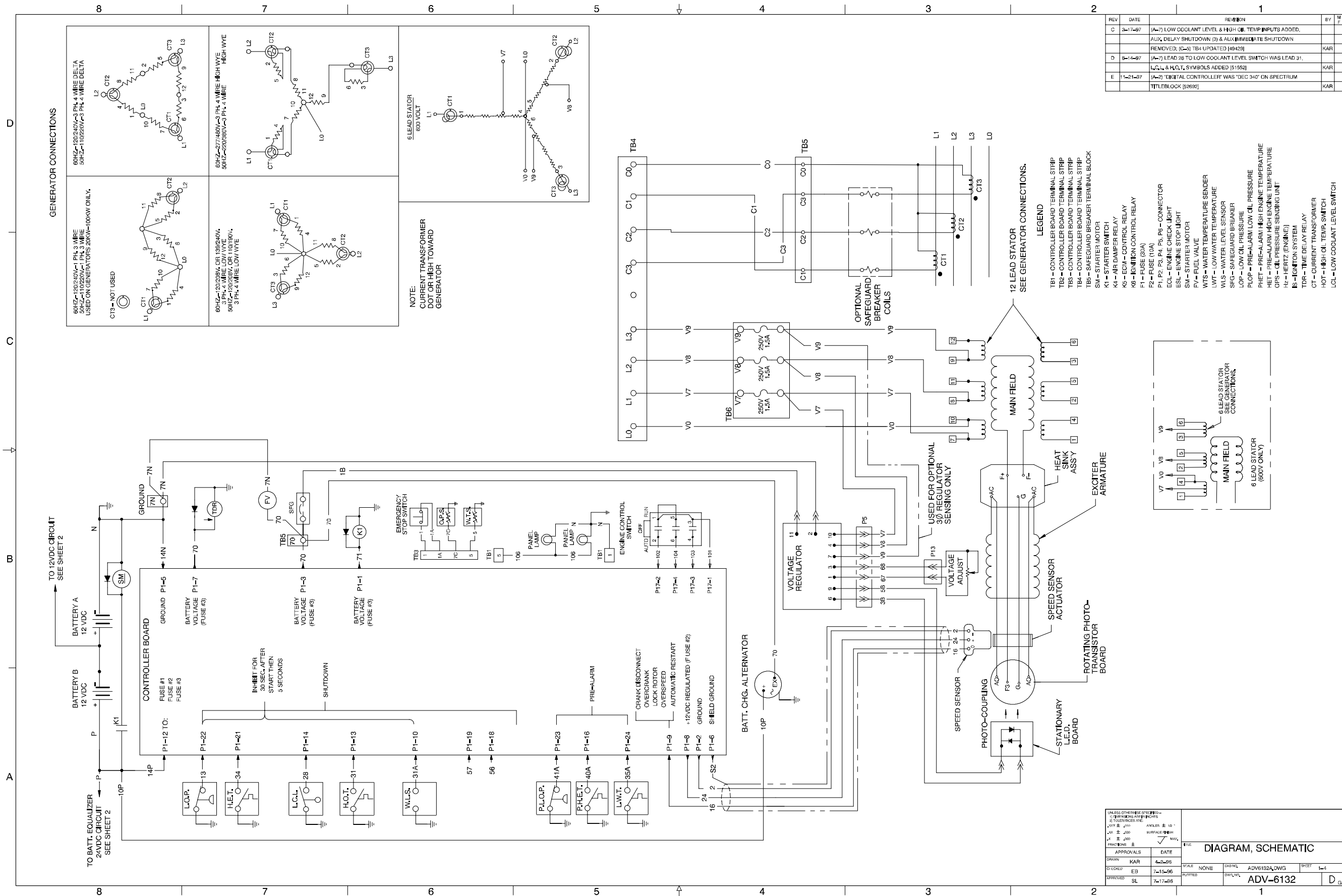
PHASE ROTATION
 A B C
 L1 L2 L3

UNLESS OTHERWISE SPECIFIED - 1) DIMENSIONS ARE IN INCHES 2) TOLERANCES ARE: XXX ± .010 ANGLES ± 1/2 ° XX ± .030 SURFACE FINISH X ± .060 ✓ MAX. FRACTIONS ±		TITLE 3 Ø DIAGRAM, RECONNECTABLE	
APPROVALS	DATE	SCALE	SHEET
DRAWN DFS	7-28-92	NONE	1-2
CHECKED TLK	6-23-99	CAD NO.	DWG. NO.
APPROVED JMH	6-25-99	ADV5875ADWG	ADV-5875

Generator Reconnections, ADV-5875A-D



Decision-Maker™ 3+ Controller, Schematic Diagram, Sheet 1, ADV-6082A-F



REV	DATE	REVISION	BY	FR
C	3-17-97	(A-7) LOW COOLANT LEVEL & HIGH OIL TEMP INPUTS ADDED, AUX. DELAY SHUTDOWN (S) & AUX. IMMEDIATE SHUTDOWN REMOVED; (C-5) TB4 UPDATED (H9429)		
D	3-14-97	(A-7) LEAD 28 TO LOW COOLANT LEVEL SWITCH WAS LEAD 31, L.C.L. & H.O.T. SYMBOLS ADDED (S1552)	KAR	
E	1-21-97	(A-2) DIGITAL CONTROLLER WAS "DEC 340" DN SPECTRUM TITLEBLOCK (S2692)	KAR	

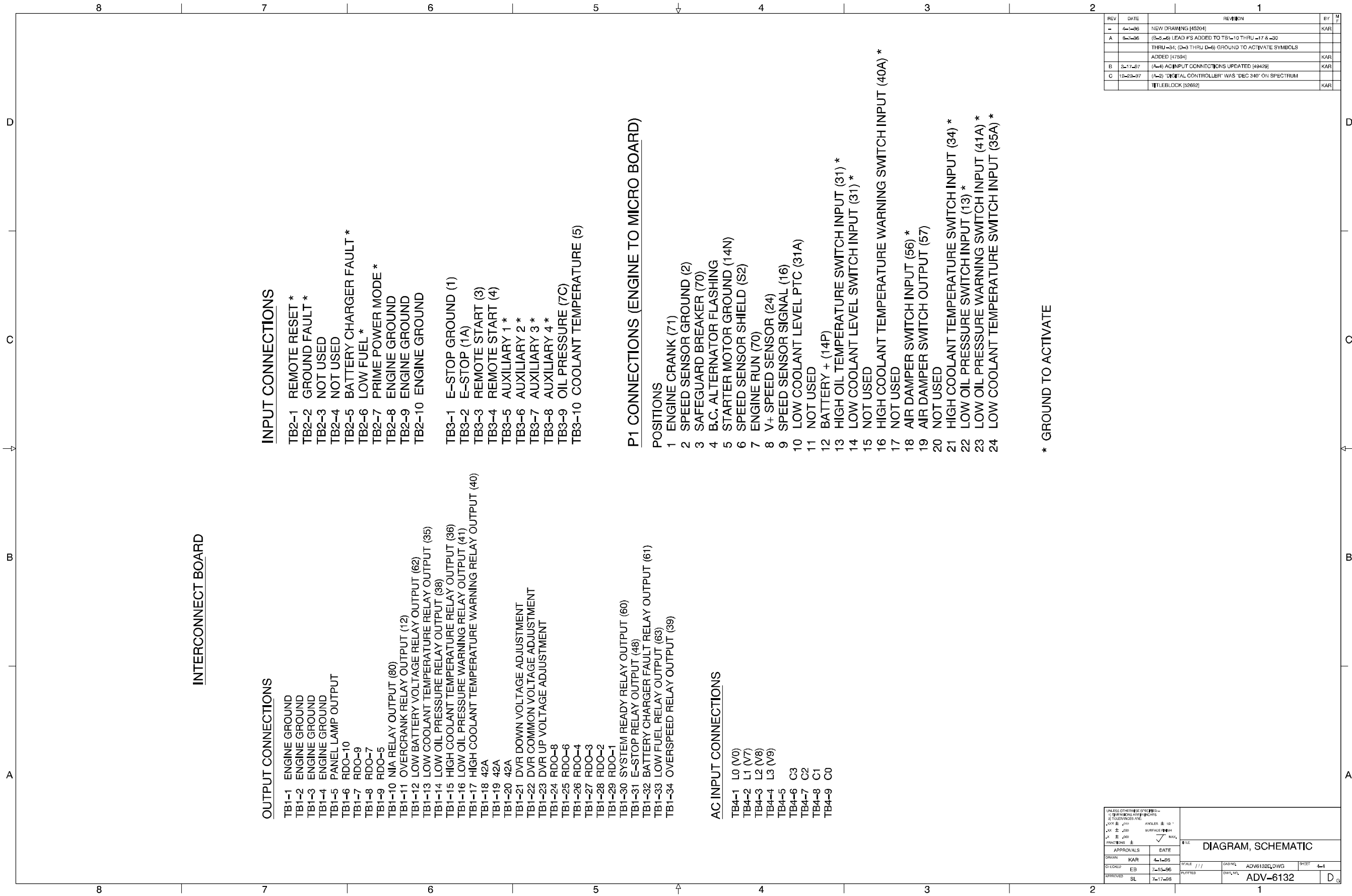
APPROVALS		DATE	SCALE	NONE	DWG. NO.	ADN182A.DWG	SHEET	1-4
DRN	KAR	4-2-95						
ENGR	EB	7-15-96						
APPRV	SL	7-17-98						

UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE ARE: .001 ± .001 SURFACE FINISH: MAX. FILE

FILE: **DIAGRAM, SCHEMATIC**

DWG. NO. **ADV-6132**

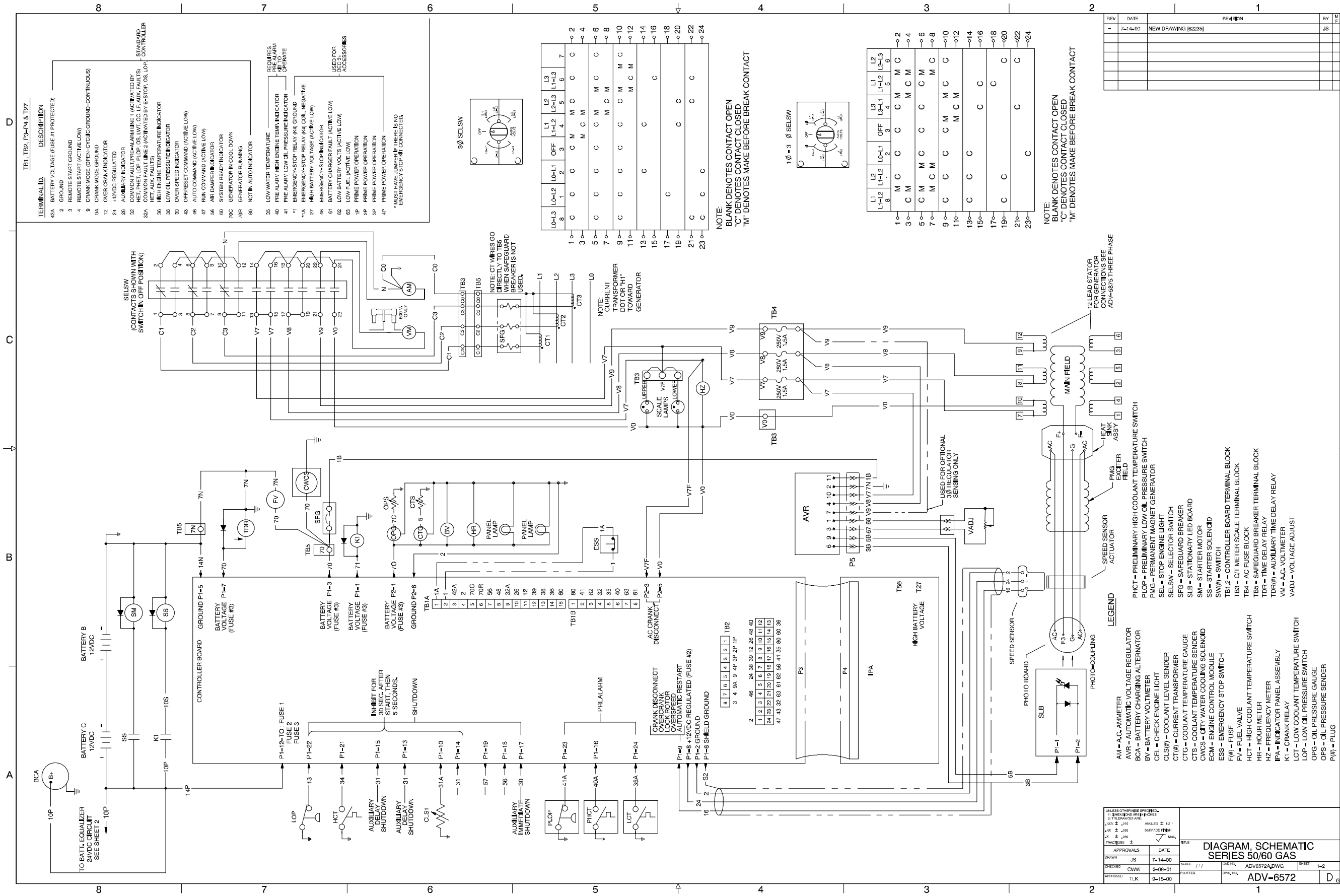
Decision-Maker™ 340 Controller, Schematic Diagram, Sheet 1, ADV-6132A-E



REV	DATE	REVISION	BY	CHK
-	4-1-96	NEW DRAWING (45204)	KAR	
A	8-7-96	(B-5-6) LEAD #'S ADDED TO TB1-10 THRU -17 & -30 THRU -34; (D-3 THRU D-6) GROUND TO ACTIVATE SYMBOLS		
		ADDED (47394)	KAR	
B	2-17-97	(A-4) AC INPUT CONNECTIONS UPDATED (49429)	KAR	
C	12-23-97	(A-2) "DIGITAL CONTROLLER" WAS "DEC 340" ON SPECTRUM	KAR	
		TITLEBLOCK (52692)	KAR	

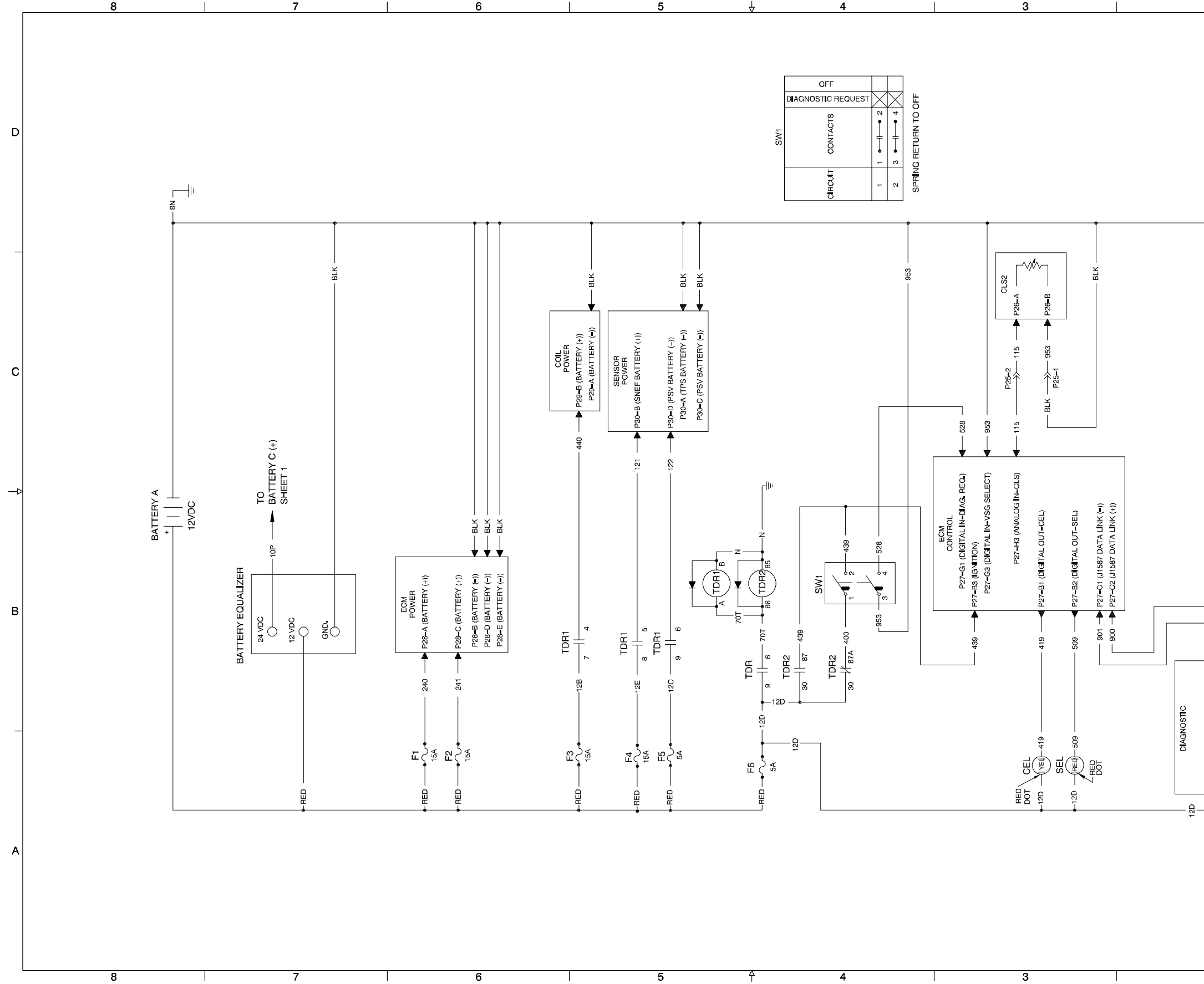
UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE ARE:		SCALE: 1/1		DRAWING: ADV6132D.DWG		SHEET: 4	
APPROVALS	DATE	FILE: DIAGRAM, SCHEMATIC					
DRAWN: KAR	4-1-96						
DESIGNED: EB	7-15-96						
APPROVED: SL	7-17-98	ADV-6132					

Decision-Maker™ 340 Controller, Schematic Diagram, Sheet 4, ADV-6132D-C



Decision-Maker™ 3+ Controller, Schematic Diagram, Sheet 1, ADV-6572A-

REV	DATE	REVISION	BY	CHK
-	7-14-00	NEW DRAWING (R62295)	JS	

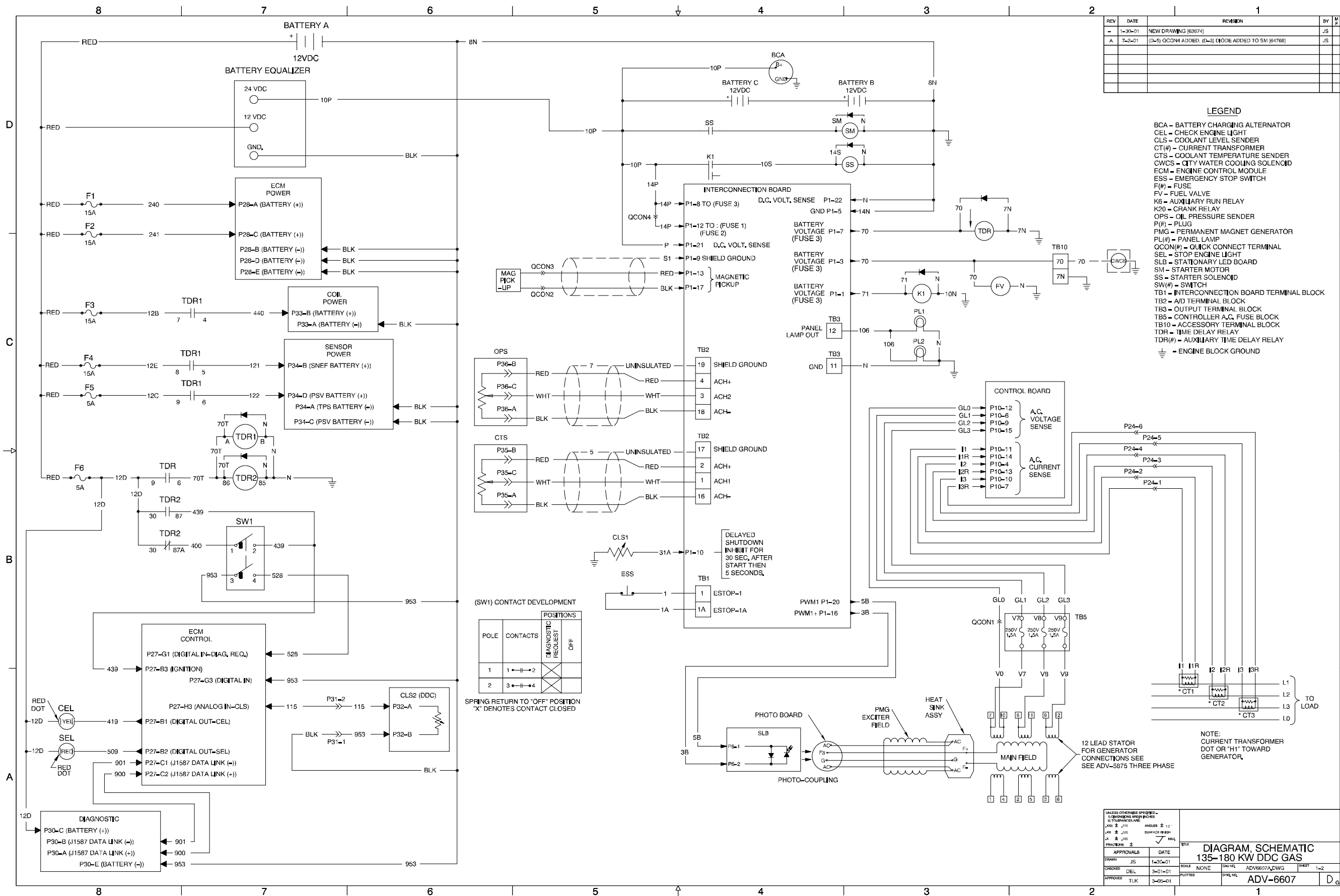


CIRCUIT	CONTACTS	DIAGNOSTIC REQUEST	OFF
1	1	2	×
2	3	4	×

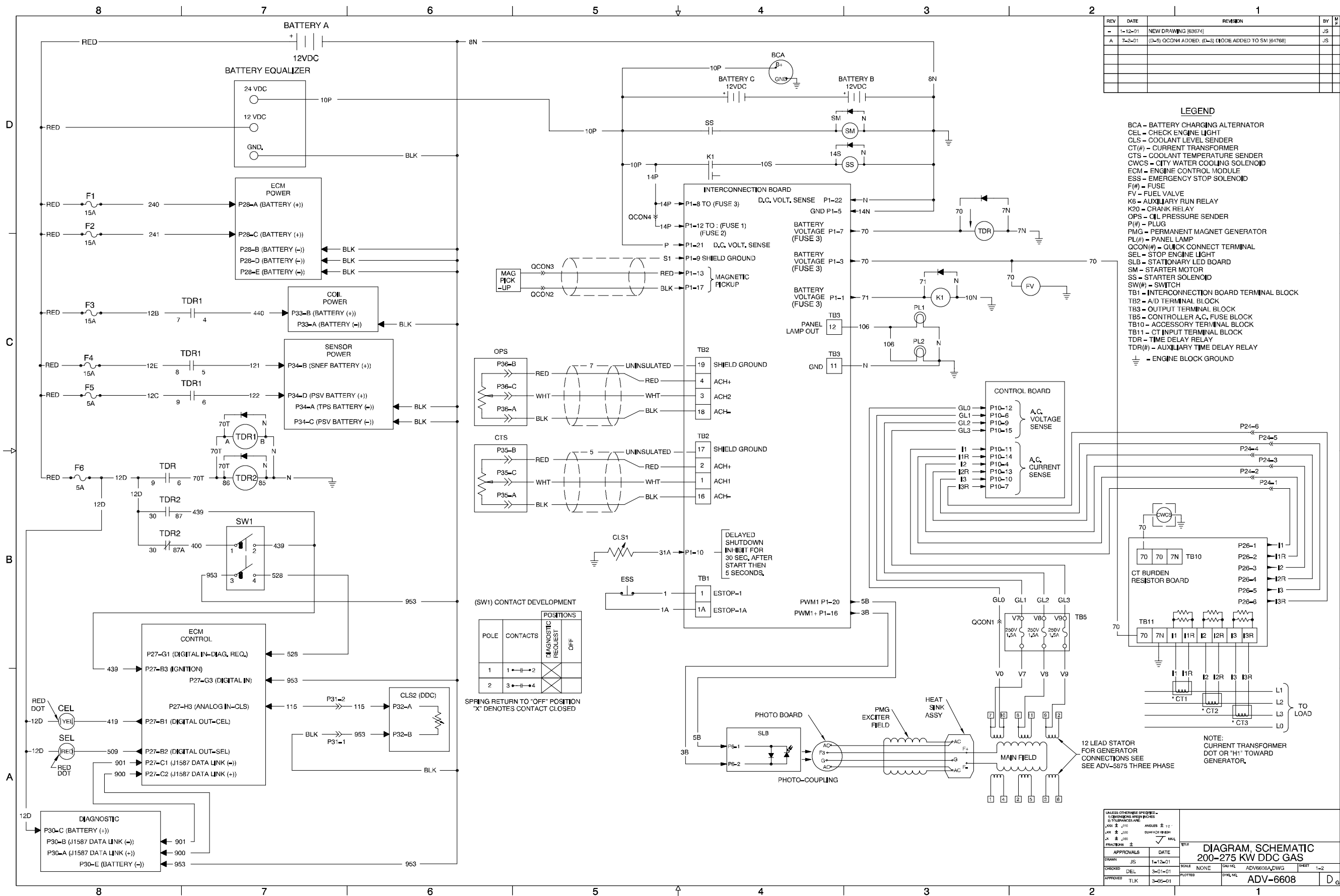
SPRING RETURN TO OFF

UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES DIMENSIONS ARE IN MILLIMETERS		TOLERANCES ARE: FRACTIONS ± .015 DECIMALS ± .010 ANGLES ± .1° HOLE POSITION ± .010 HOLE DIA ± .010	
APPROVALS	DATE	TITLE	
DRAWN JS	7-14-00	DIAGRAM, SCHEMATIC SERIES 50/60 GAS	
CHECKED CWW	2-12-01	SCALE	SHEET 2-2
APPROVED TLK	2-12-01	PLOTTED	DWG NO. ADV-6572

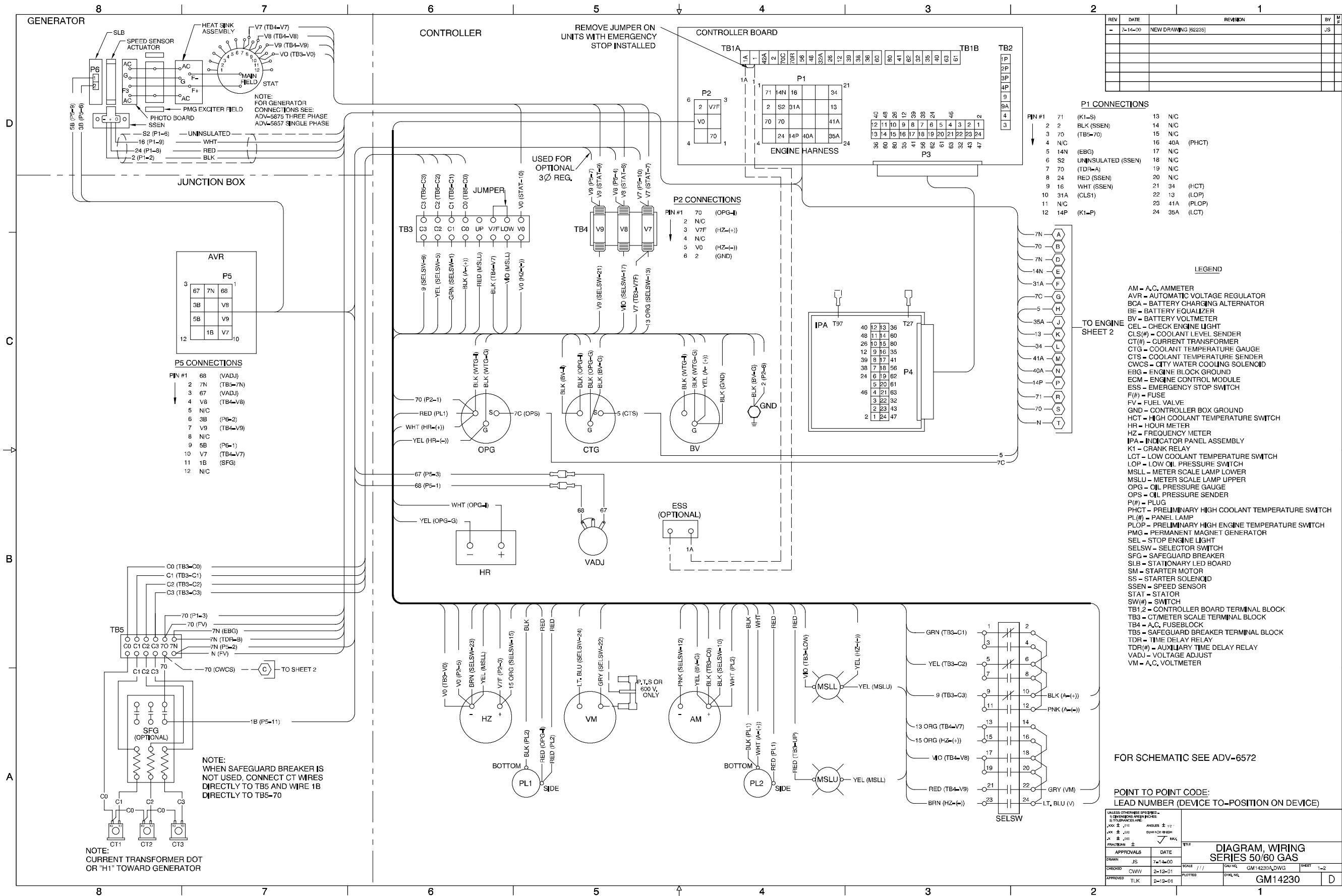
Decision-Maker™ 3+ Controller, Schematic Diagram, Sheet 2, ADV-6572B-



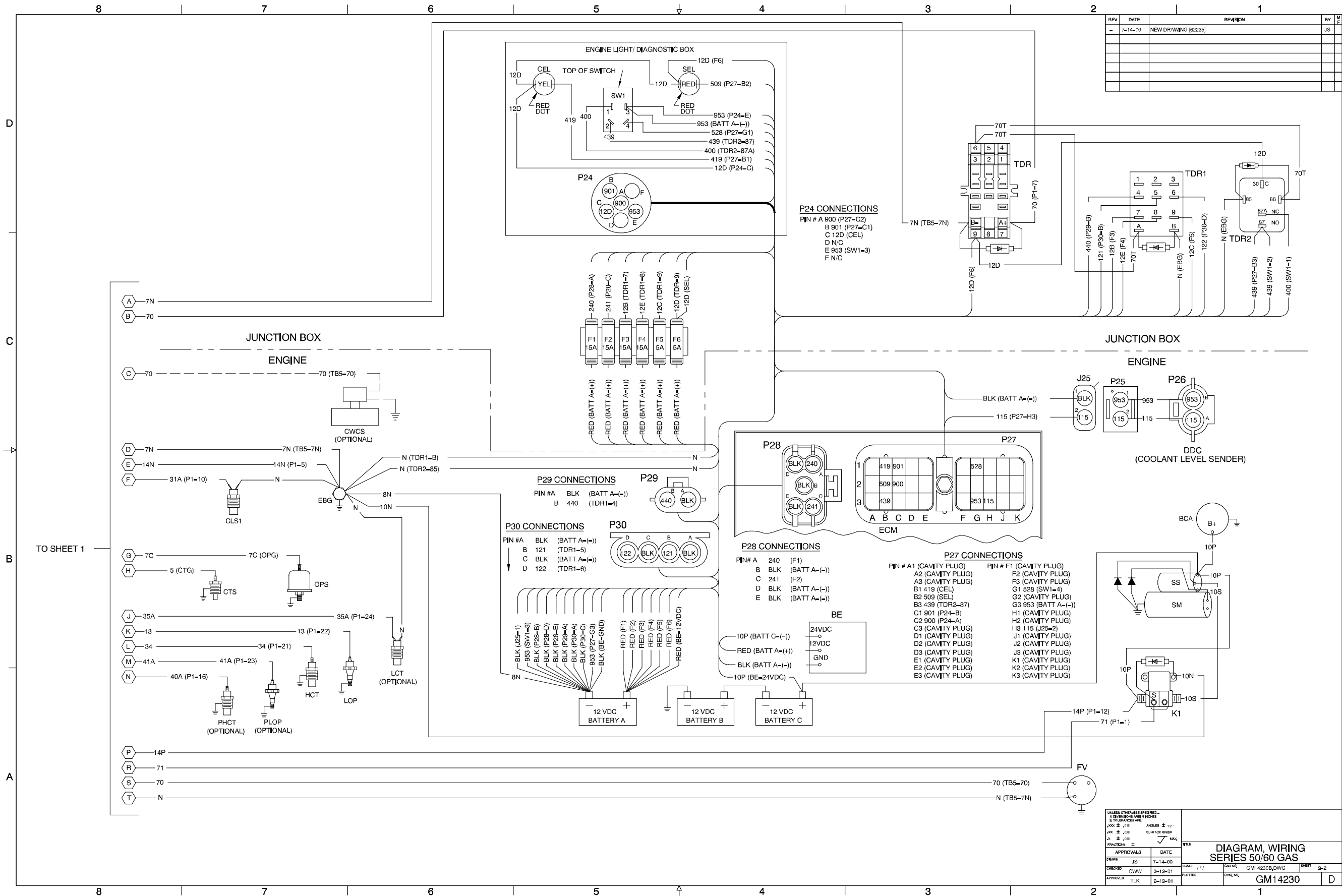
Decision-Maker™ 550 Controller, Schematic Diagram, Sheet 1, ADV-6607A-A



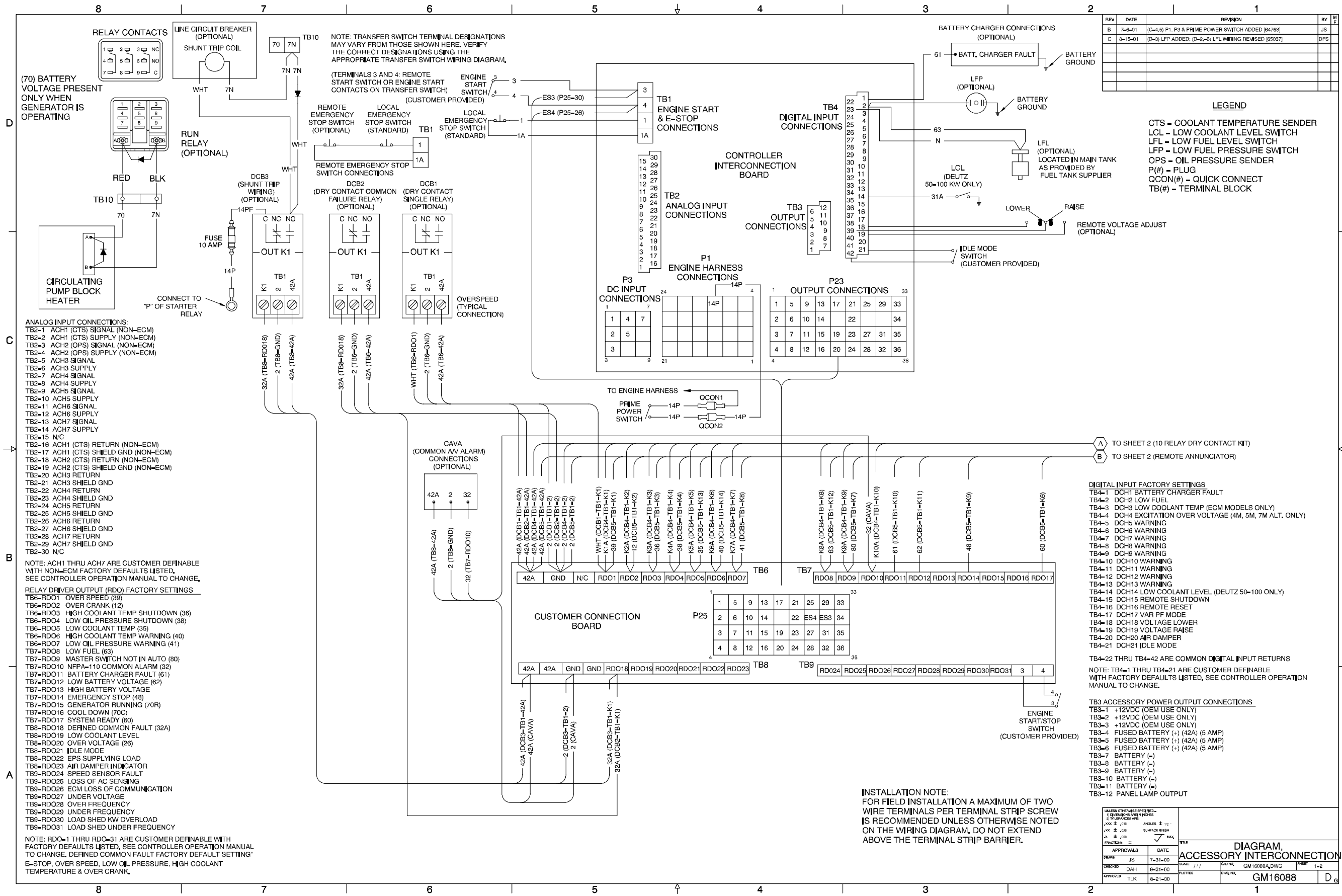
Decision-Maker™ 550 Controller, Schematic Diagram, Sheet 1, ADV-6608A-A



Decision-Maker™ 3+ Controller, Point-to-Point Wiring Diagram, Sheet 1, GM14230A-

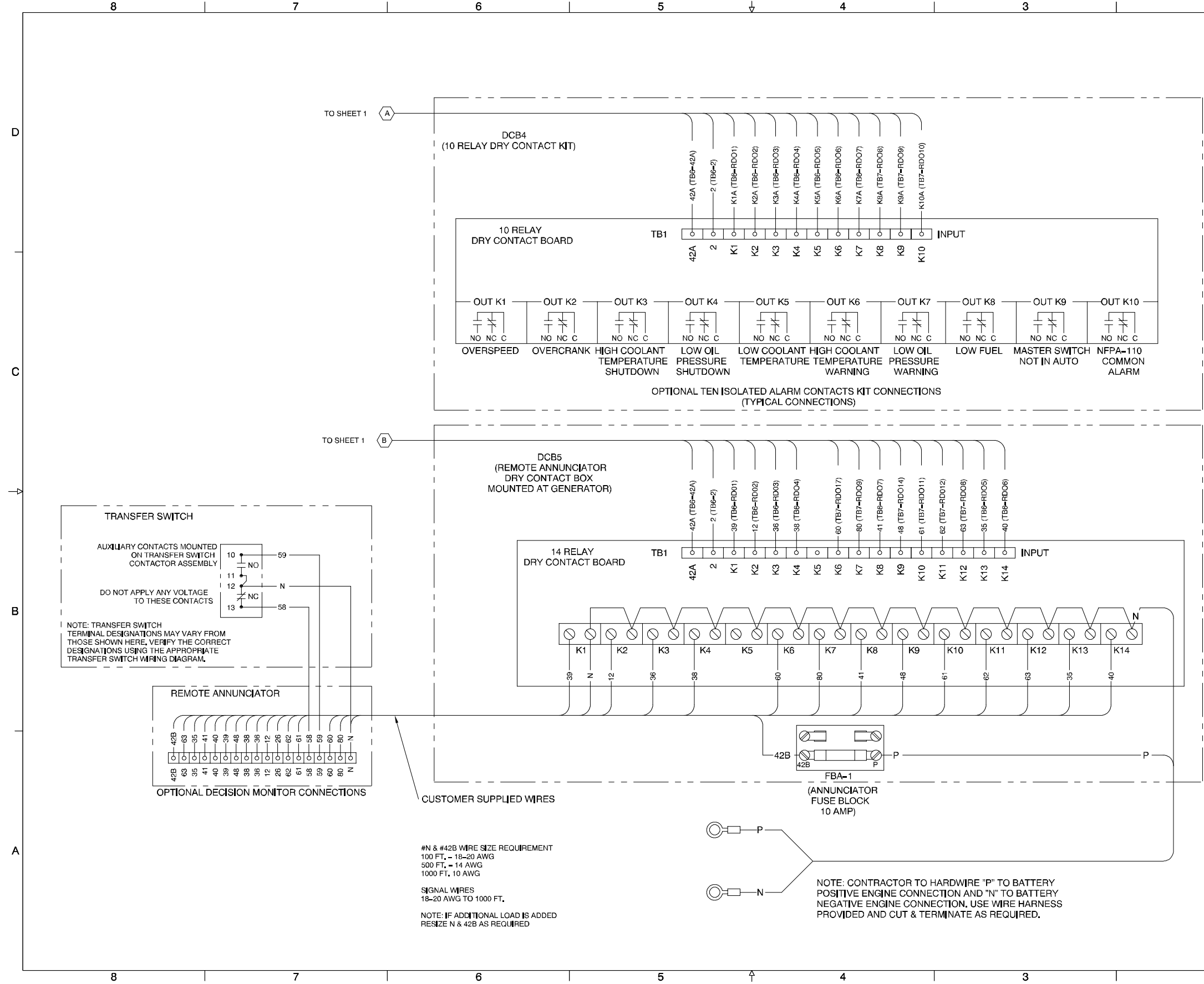


Decision-Maker™ 3+ Controller, Point-to-Point Wiring Diagram, Sheet 2, GM14230B-



Decision-Maker™ 550 Controller, Accessory Connections, Accessories, GM16088A-C

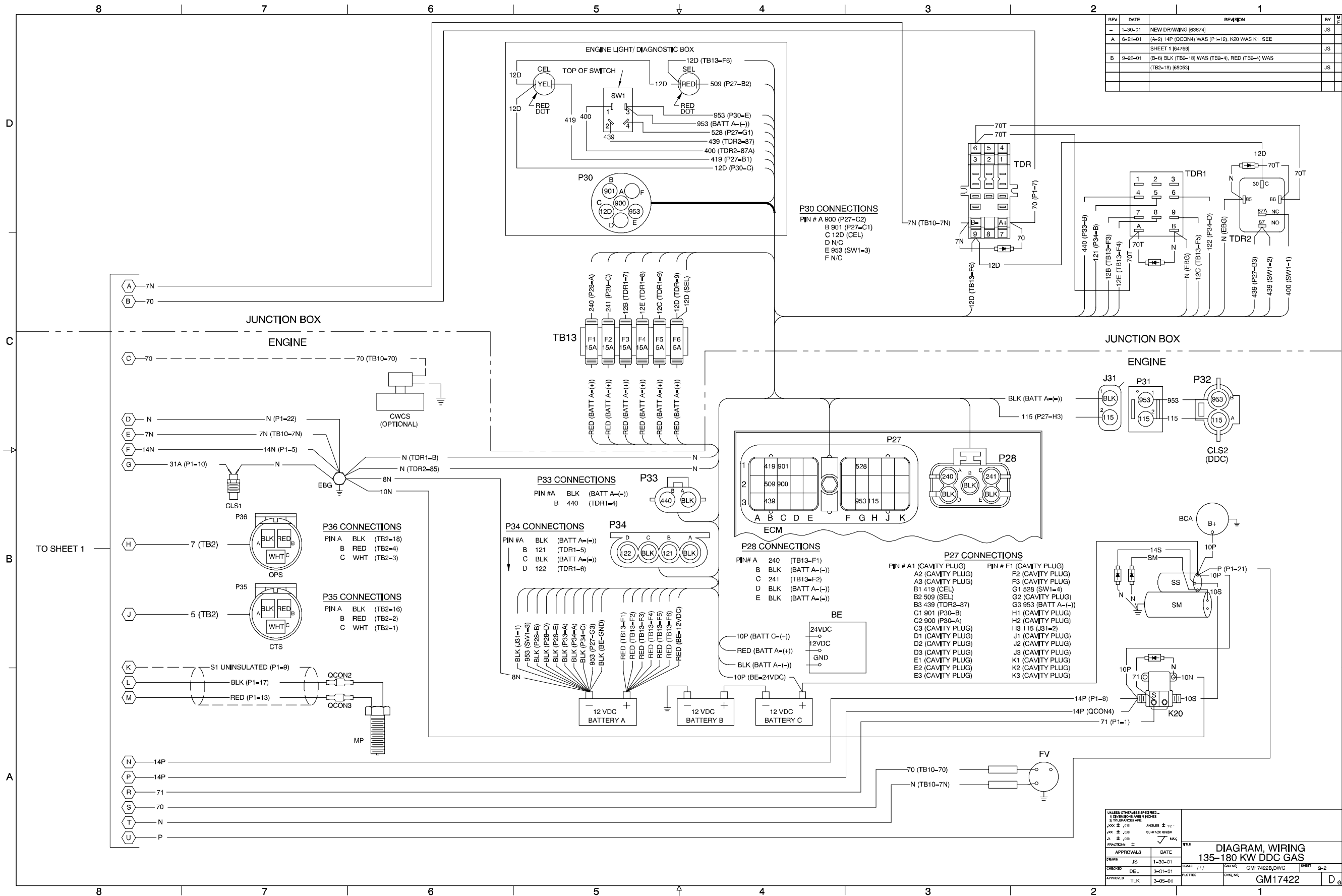
REV	DATE	REVISION	BY	CHK
B	7-9-01	(C-2-5) OPTIONAL OUTPUTS K3 THRU K10 RENAMED- SEE SHEET 1 [64768]	JS	
C	8-15-01	SEE SHEET 1 OF 2 [65037]	DFS	



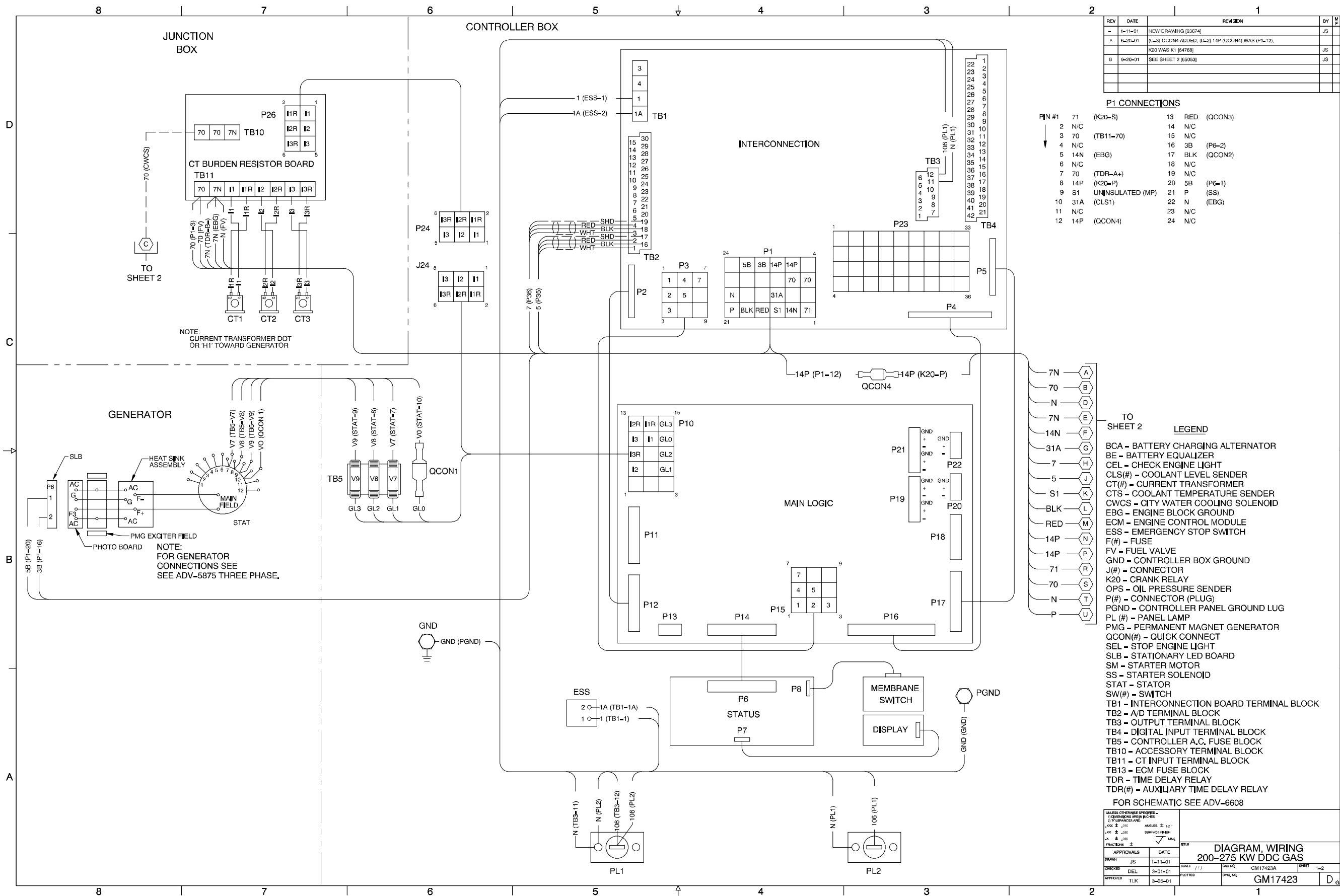
INSTALLATION NOTE:
FOR FIELD INSTALLATION A MAXIMUM OF TWO WIRE TERMINALS PER TERMINAL STRIP SCREW IS RECOMMENDED UNLESS OTHERWISE NOTED ON THE WIRING DIAGRAM. DO NOT EXTEND ABOVE THE TERMINAL STRIP BARRIER.

APPROVALS		DATE		TITLE	
DESIGN	JS	DATE	8-1-00	DIAGRAM ACCESSORY INTERCONNECTION	
DRAWN	DAH	SCALE	1/1	ORIG. NO.	GM16088B-DWG
CHECKED	TLK	DATE	8-21-00	SHEET	2-2
APPROVED	TLK	DATE	8-21-00	PLOTTED	
				DWG. NO.	GM16088
					D

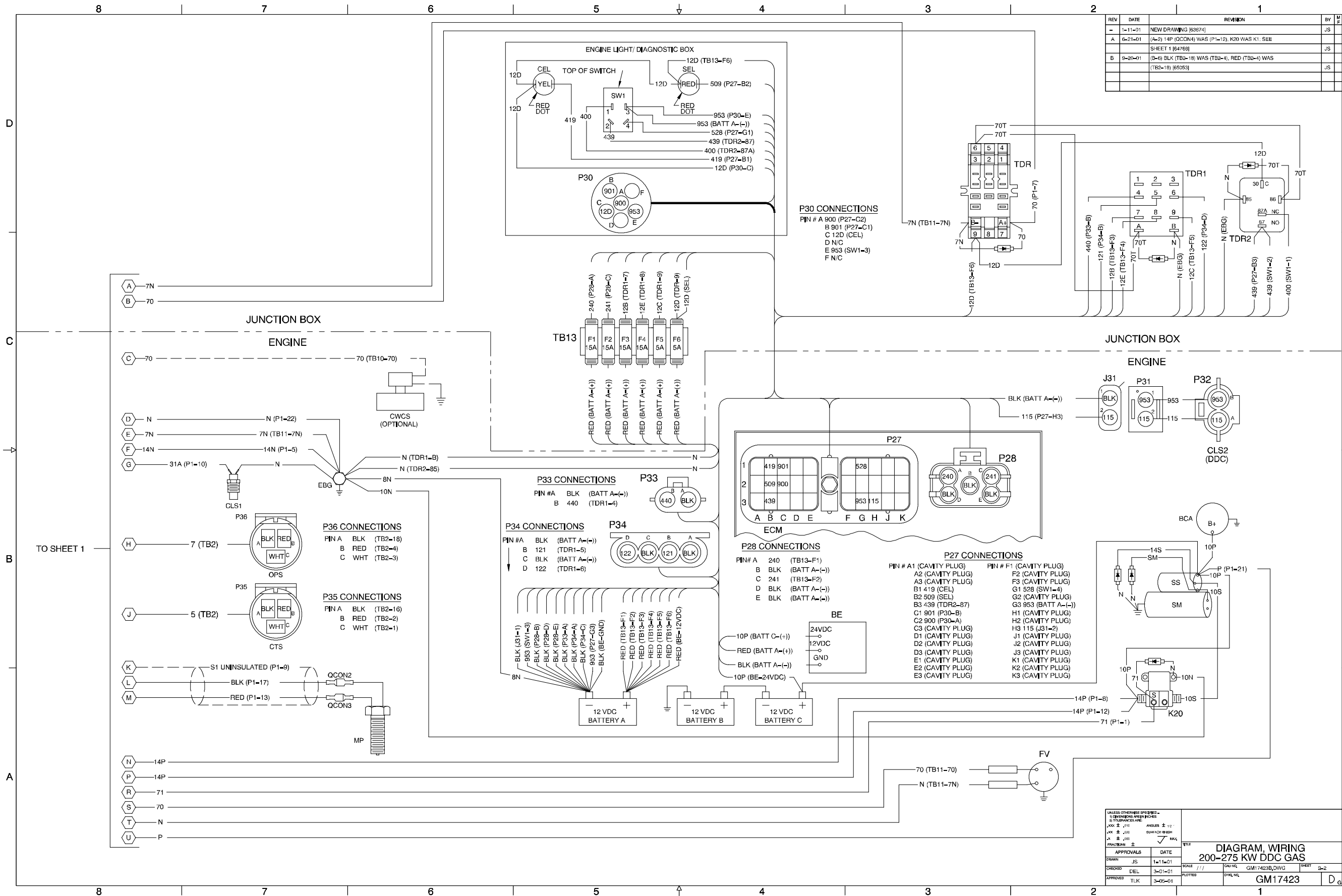
Decision-Maker™ 340 Controller, Accessory Connections, Remote Annunciator Kit, GM16088B-C



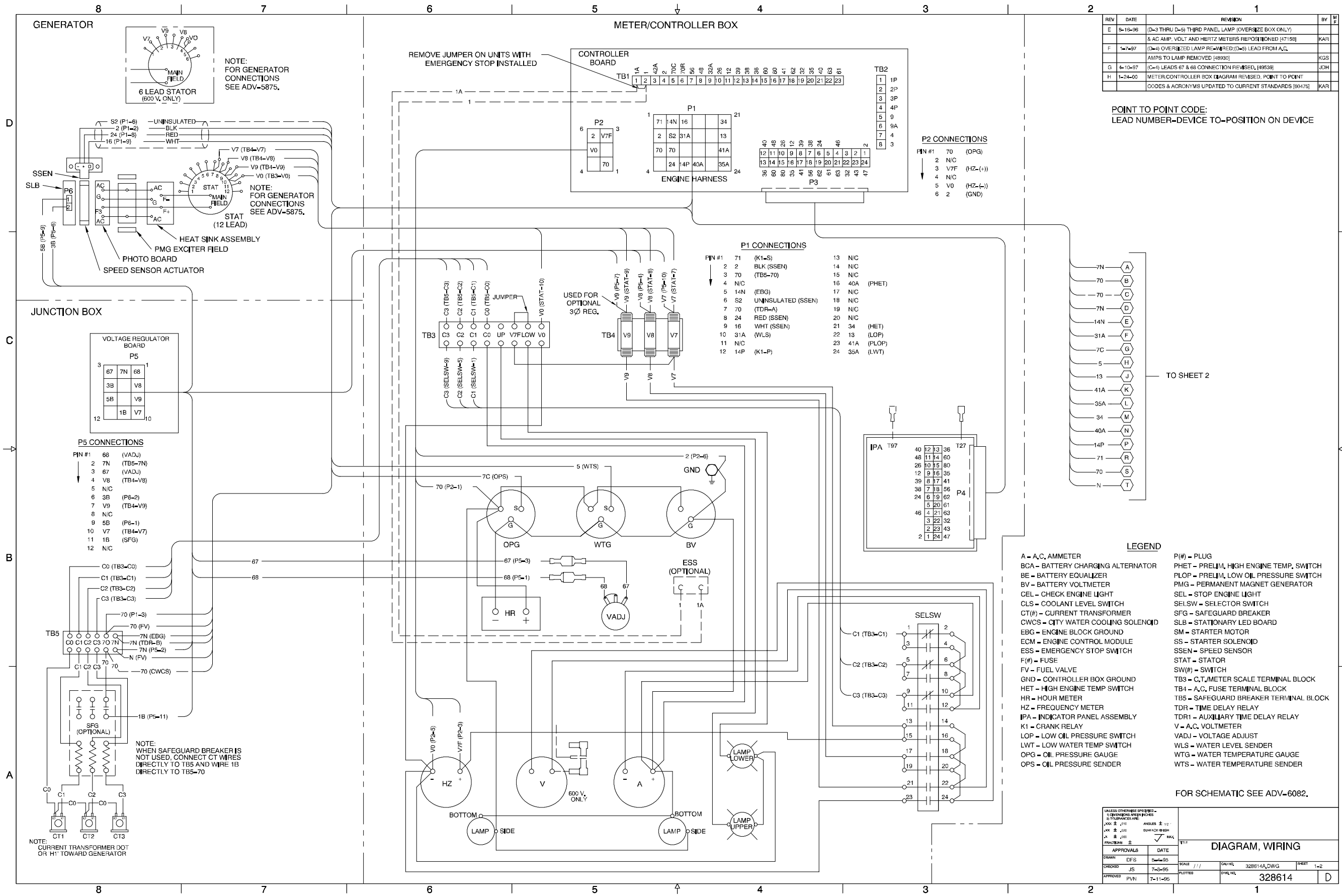
Decision-Maker™ 550 Controller, Point-to-Point Wiring Diagram, Sheet 2, GM17422B-B



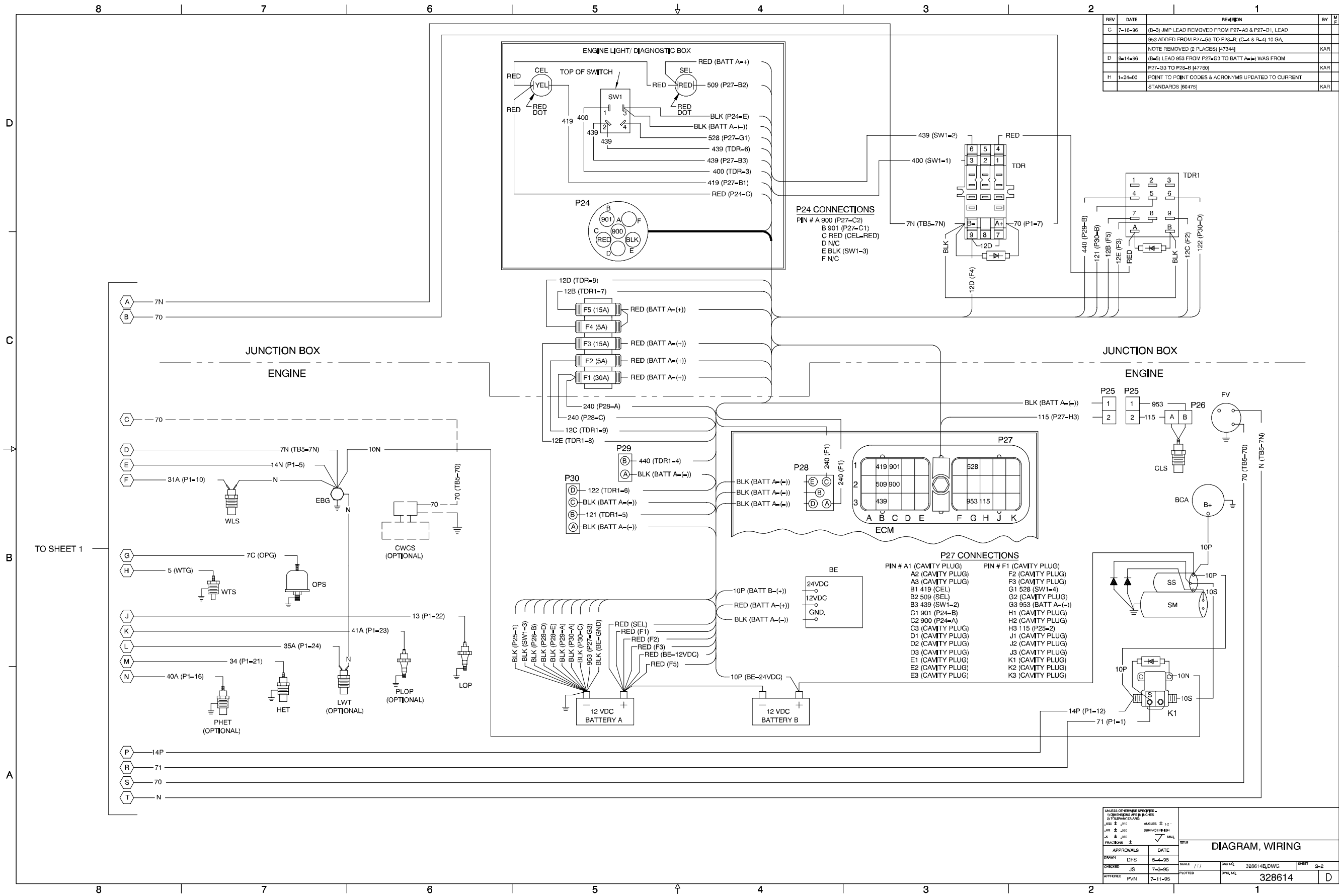
Decision-Maker™ 550 Controller, Point-to-Point Wiring Diagram, Sheet 1, GM17423A-B



Decision-Maker™ 550 Controller, Point-to-Point Wiring Diagram, Sheet 2, GM17423B-B



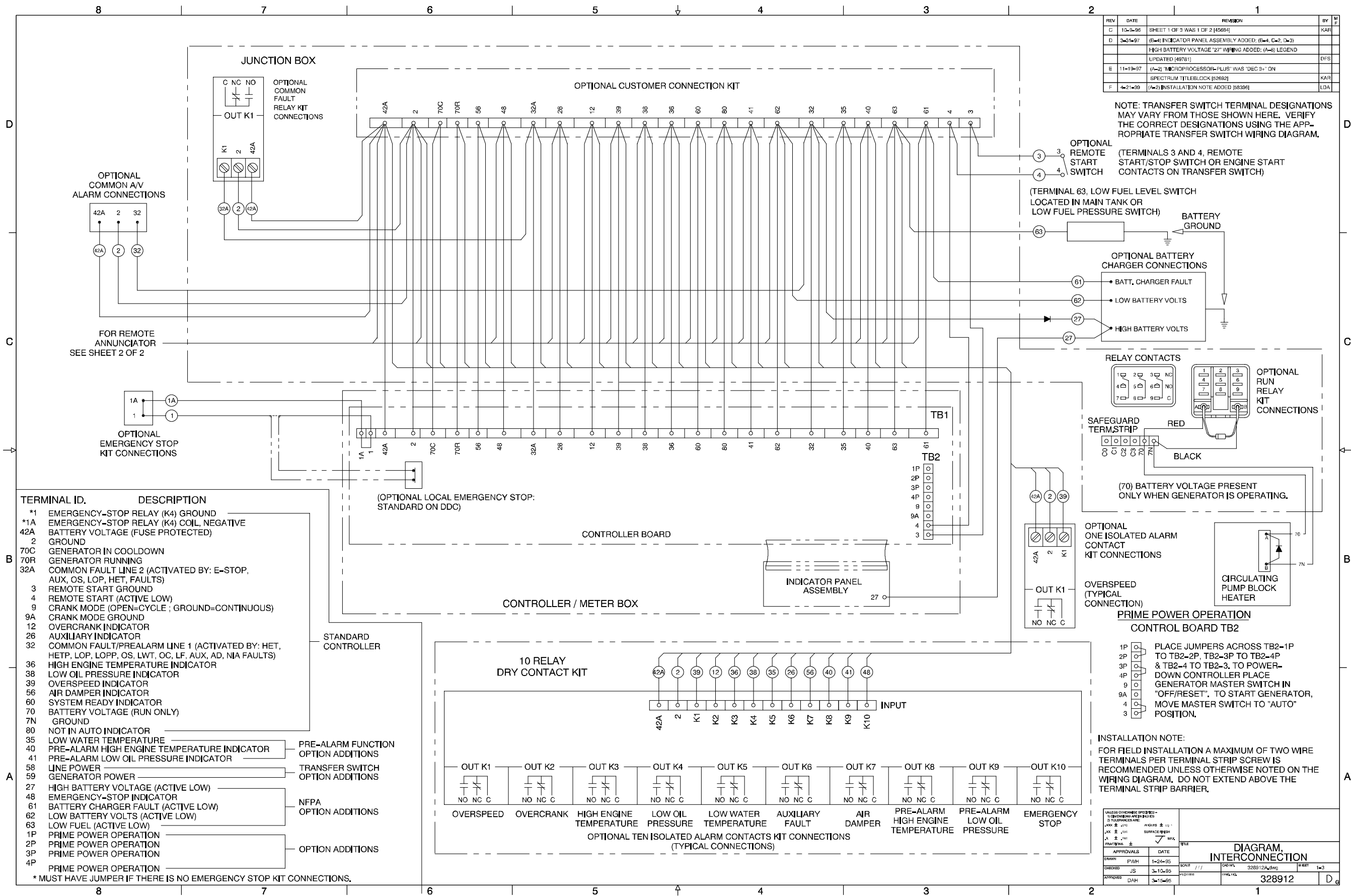
Decision-Maker™ 3+ Controller, Point-to-Point Wiring Diagram, Sheet 1, 328614A-H



REV	DATE	REVISION	BY	APP
C	7-18-96	(B-3) JMP LEAD REMOVED FROM P27-A3 & P27-D1, LEAD 953 ADDED FROM P27-G3 TO P28-B; (C-4 & B-4) 10 GA, NOTE REMOVED (2 PLACES) (47344)	KAR	
D	8-14-96	(B-5) LEAD 953 FROM P27-G3 TO BATT A+ WAS FROM P27-G3 TO P28-B (47786)	KAR	
H	1-24-00	POINT TO POINT CODES & ACRONYMS UPDATED TO CURRENT STANDARDS (60472)	KAR	

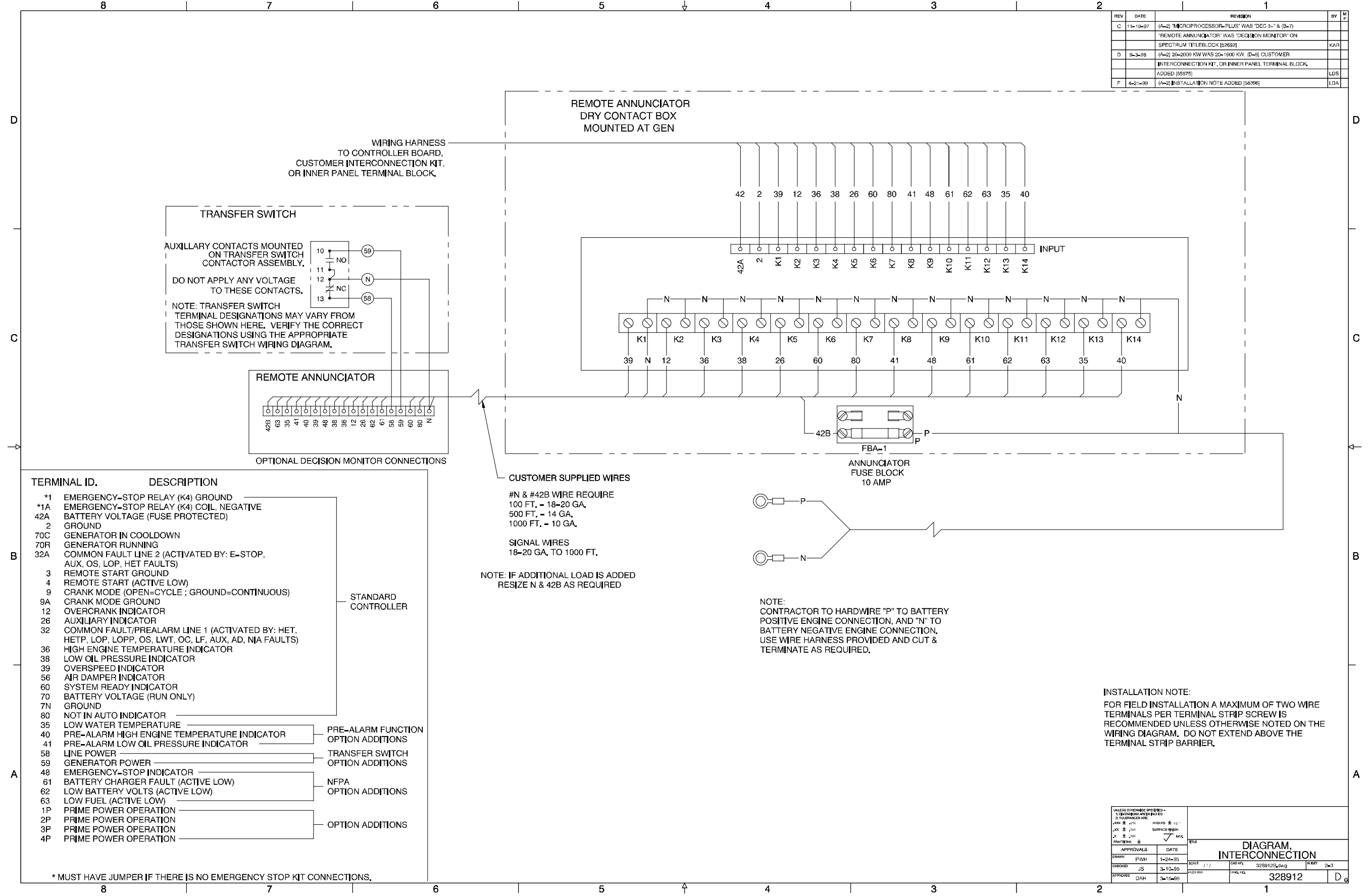
APPROVALS		DATE	SCALE	DWG NO.	SHEET
DESIGNED	DFS	5-1-95	1:1	328614B.DWG	2-2
CHECKED	JS	7-3-95			
APPROVED	PVN	7-11-95		328614	D

Decision-Maker™ 3+ Controller, Point-to-Point Wiring Diagram, Sheet 2, 328614B-H

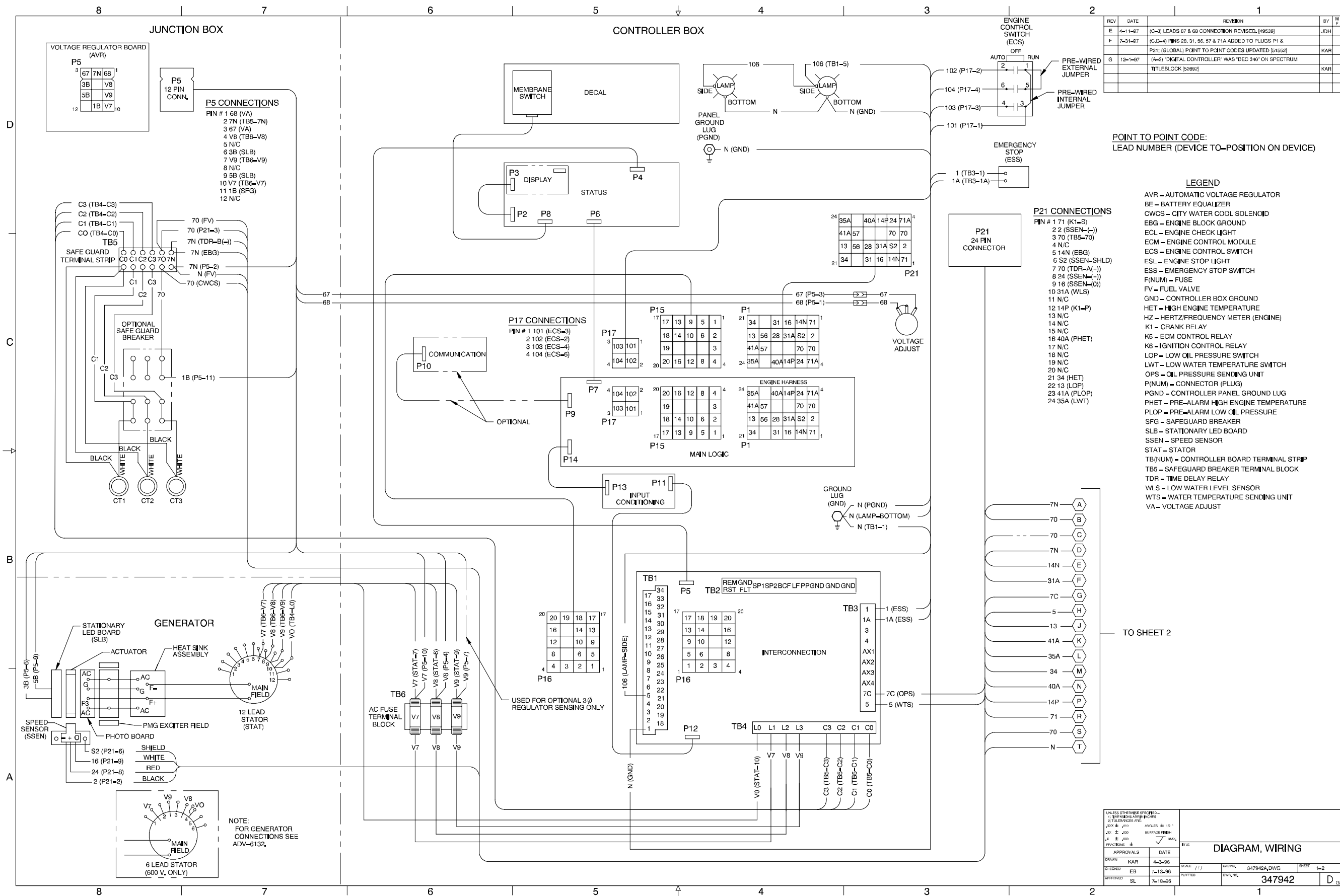


Decision-Maker™ 3+ Controller, Accessory Connections, Accessories, 328912A-F

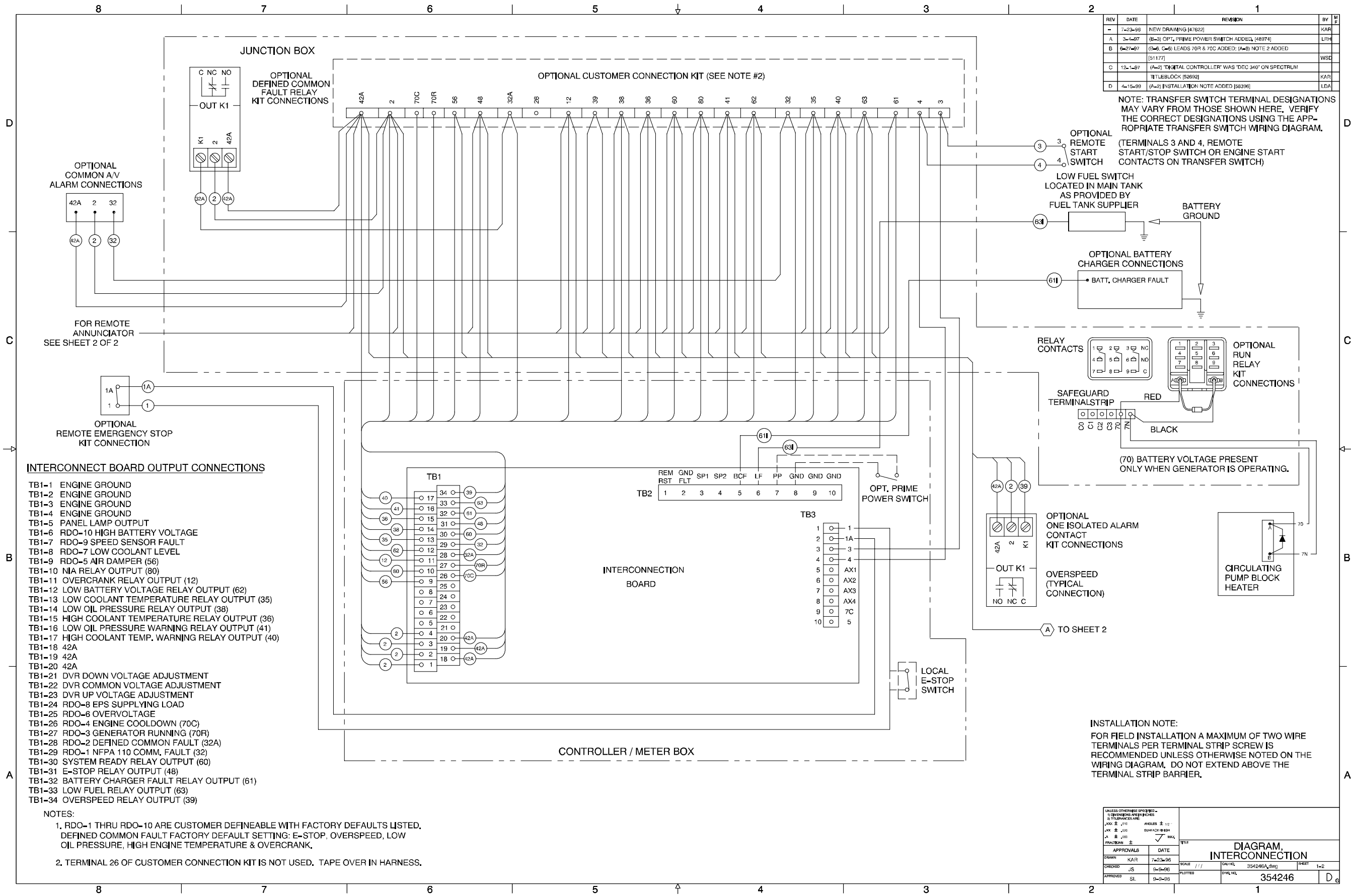
REV	DATE	REVISION	BY	CHK
C	11-19-97	(A-2) MICROPROCESSOR-PLUS WAS DEC 3+ & (B-7)		
		"REMOTE ANNUNCIATOR" WAS "DECISION MONITOR" ON SPECTRUM TITLEBLOCK [5892]	KAR	
D	3-3-98	(A-2) 20-2000 KW WAS 20-1800 KW, (D-5) CUSTOMER INTERCONNECTION KIT, OR INNER PANEL TERMINAL BLOCK, ADDED [58975]	LDS	
F	4-21-99	(A-2) INSTALLATION NOTE ADDED [58306]	LDA	



Decision-Maker™ 3+ Controller, Accessory Connections, Remote Annunciator Kit, 328912B-F



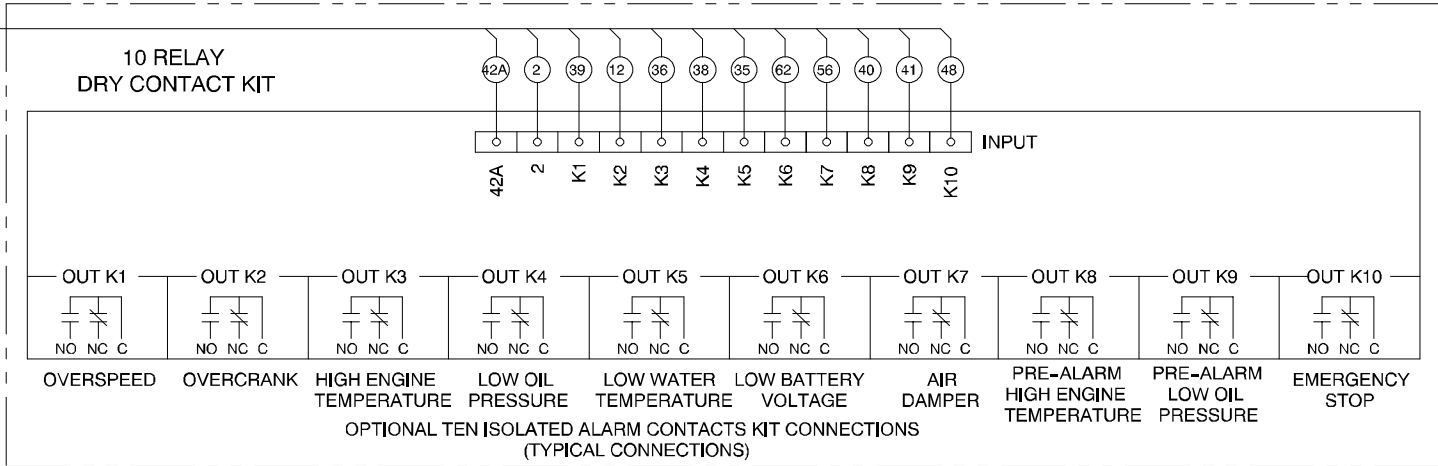
Decision-Maker™ 340 Controller, Point-to-Point Wiring Diagram, Sheet 1, 347942A-G



Decision-Maker™ 340 Controller, Accessory Connections, Accessories, 354246A-D

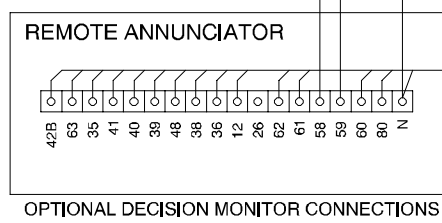
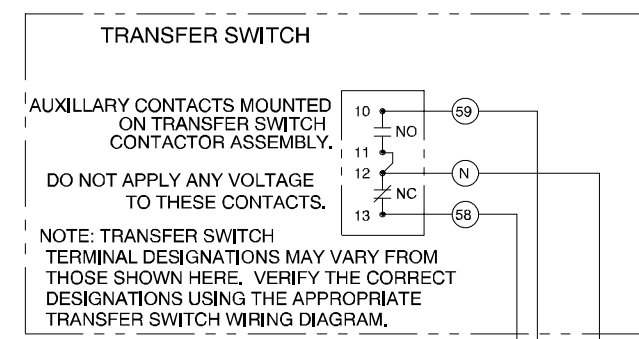
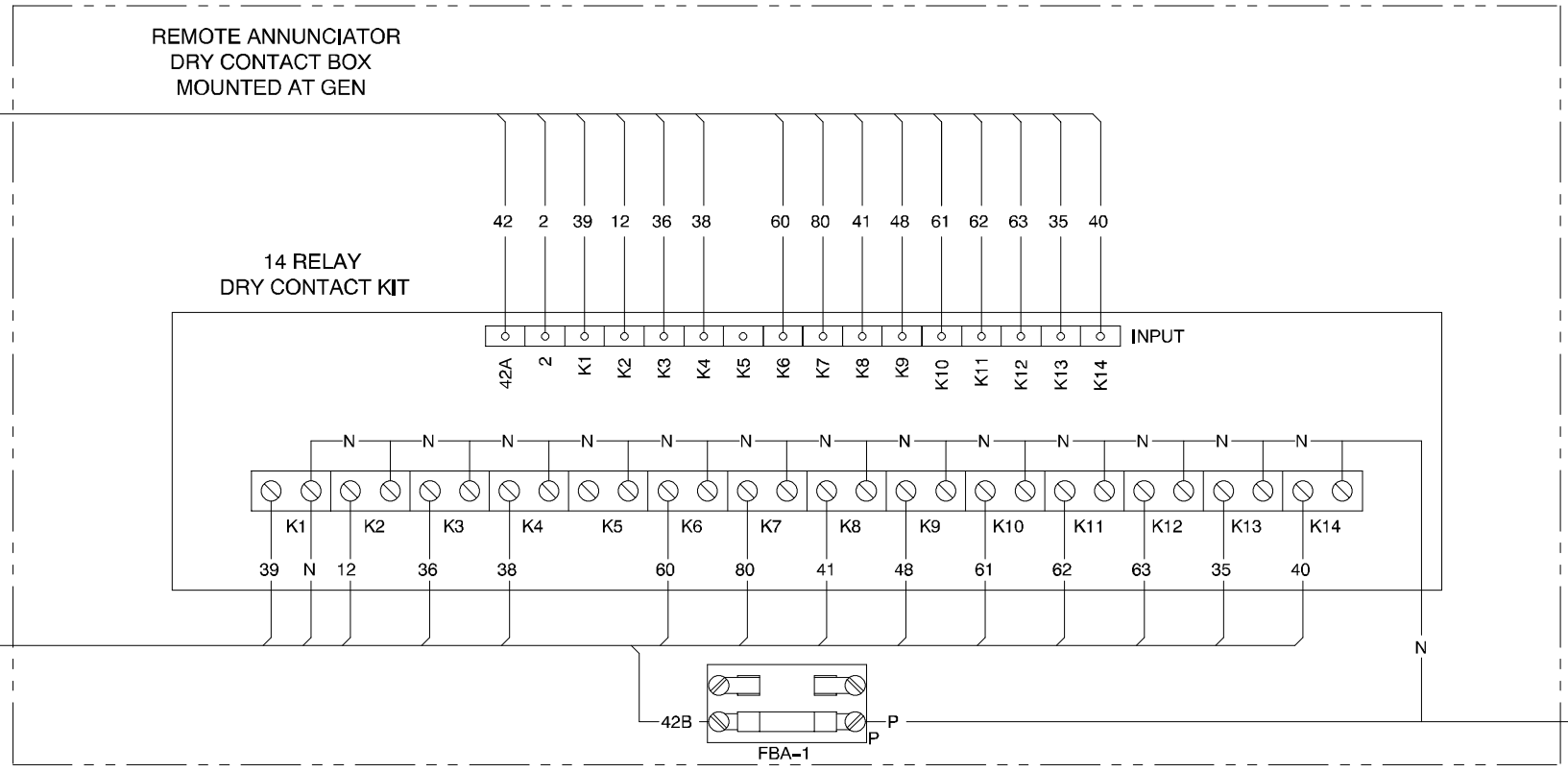
REV	DATE	REVISION	BY	MR
-	7-23-06	NEW DRAWING (47822)	KAR	
A	12-1-07	(A-2) "DIGITAL CONTROLLER" WAS "DEC 340" ON SPECTRUM	KAR	
		TITLEBLOCK (38892)	KAR	
D	4-15-09	(C-2) INSTALLATION NOTE ADDED (38899)	LDA	

TO SHEET 1

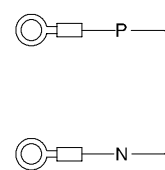


INSTALLATION NOTE:
FOR FIELD INSTALLATION A MAXIMUM OF TWO WIRE TERMINALS PER TERMINAL STRIP SCREW IS RECOMMENDED UNLESS OTHERWISE NOTED ON THE WIRING DIAGRAM. DO NOT EXTEND ABOVE THE TERMINAL STRIP BARRIER.

WIRING HARNESS TO CONTROLLER BOARD



CUSTOMER SUPPLIED WIRES
#N & #42B WIRE REQUIRE
100 FT. - 18-20 GA.
500 FT. - 14 GA.
1000 FT. - 10 GA.
SIGNAL WIRES
18-20 GA. TO 1000 FT.
NOTE: IF ADDITIONAL LOAD IS ADDED
RESIZE N & 42B AS REQUIRED



NOTE:
CONTRACTOR TO HARDWIRE "P" TO BATTERY POSITIVE ENGINE CONNECTION, AND "N" TO BATTERY NEGATIVE ENGINE CONNECTION. USE WIRE HARNESS PROVIDED AND CUT & TERMINATE AS REQUIRED.

APPROVALS		DATE	SCALE	FIG. NO.	SHEET
DESIGNED	KAR	7-23-06	1/1	354246B-D	2-2
DRAWN	JS	9-9-06			
APPROVED	SL	9-9-06		354246	D

Decision-Maker™ 340 Controller, Accessory Connections, Remote Annunciator Kit, 354246B-D

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