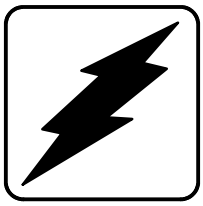
Wiring Diagrams

Fast-Response™ II
Industrial Generator Sets



Models:

20–170ROZK

Controllers:

Decision-Maker™ 340
Decision-Maker™ 3+
Decision-Maker™ 1
Manual

ISO 9001
KOHLER GENERATORS
INTERNATIONALLY REGISTERED

KOHLER®
POWER SYSTEMS

TP-6042 6/99

Introduction

This manual provides wiring diagrams for the 20–170ROZK generator sets equipped with one of the following controllers:

- Digital Controller, Decision-Maker™ 340
- Microprocessor Controller, Decision-Maker™ 3+
- Decision-Maker™ 1 Controller
- Manual Controller

x:in:001:001

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 Generator Division products.

To locate a local authorized distributor/dealer inside the U.S.A. and Canada

- Look on the product or in the information included with the product
- Consult the Yellow Pages under the heading Generators—Electric
- Visit the Kohler Generator Division web site at www.kohlergenerators.com
- Call 1-800-544-2444

To locate a local authorized distributor/dealer outside the U.S.A. and Canada

- Look on the product or in the information included with the product
- Consult the telephone directory under the heading Generators—Electric
- Visit the Kohler Generator Division web site at www.kohlergenerators.com
- Contact 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

Product Information

Product identification numbers determine service parts. Record the product identification numbers in the spaces below immediately after unpacking the products so that the numbers are readily available for future reference. Record field-installed kit numbers after installing the kits.

Generator Set Identification Numbers

Record the product identification numbers from the generator set nameplate(s).

Model Number _____

Specification Number _____

Serial Number _____

Accessory Number	Accessory Description

Engine Identification

Record the product identification information from the engine nameplate.

Manufacturer _____

Model Number _____

Serial Number _____

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

x:in:003:002

Wiring Diagram Cross-Reference

Generator Set Model No.	Hz	Generator Set Spec No.	Wiring Diagram Version No.
20ROZK	60	PA-198001-	1
20ROZK	50	PA-198002-	1
30ROZK	60	PA-198003-	1
30ROZK	50	PA-198004-	1
40ROZK	60	PA-198005-	1
40ROZK	50	PA-198006-	1
50ROZK	50/60	PA-198007-	2
60ROZK	50/60	PA-198008-	2
70ROZK	50/60	PA-198009-	2
80ROZK	50/60	PA-198010-	2
90ROZK	50/60	PA-198011-	2
100ROZK	50/60	PA-198012-	2
115ROZK	50/60	PA-198013-	2
135ROZK	50/60	PA-198014-	2
150ROZK	50/60	PA-198016-	2
170ROZK	50/60	PA-198017-	2

x:in:003:003

Controller Wiring Diagram Reference

Controller Description	Version 1	Pg	Version 2	Pg
Digital Controller, Decision-Maker™ 340				
Point-to-Point Wiring Diagram				
Sheet 1	347941A-J	23	364243A-	35
Sheet 2	347941B-J	24	364243B-	36
Schematic Diagram				
Sheet 1	ADV-6130A-H	5	ADV-6501A-	15
Sheet 2	ADV-6130B-H	6	ADV-6501B-	16
Accessory Connections				
Accessories	354246A-C	25	354246A-C	25
Remote Annunciator Kit	354246B-A	26	354246B-A	26
Microprocessor Controller, Decision-Maker™ 3+				
Point-to-Point Wiring Diagram				
Sheet 1	327153-L	18	364073A-	27
Sheet 2	—		364073B-	28
Schematic Diagram				
Sheet 1	ADV-6002-E	2	ADV-6497A-	7
Sheet 2	—		ADV-6497B-	8
Accessory Connections				
Accessories	328912A-E	19	328912A-E	19
Remote Annunciator Kit	328912B-D	20	328912B-D	20
Decision-Maker™ 1 Controller				
Standard (without engine gauges)				
Point-to-Point Wiring Diagram				
Sheet 1	347327-F	22	364241A-	31
Sheet 2	—		364241B-	32
Schematic Diagram				
Sheet 1	ADV-6010-E	4	ADV-6499A-	11
Sheet 2	—		ADV-6499B-	12
Standard with Engine Gauges				
Point-to-Point Wiring Diagram				
Sheet 1	347327-F	22	364241A-	31
Sheet 2	—		364241B-	32
Schematic Diagram				
Sheet 1	ADV-6010-E	4	ADV-6499A-	11
Sheet 2	—		ADV-6499B-	12
Expanded with Engine Gauges and AC Meters				
Point-to-Point Wiring Diagram				
Sheet 1	347058-J	21	364240A-	29
Sheet 2	—		364240B-	30
Schematic Diagram				
Sheet 1	ADV-6008-G	3	ADV-6498A-	9
Sheet 2	—		ADV–6498B-	10
Manual Controller				
Point-to-Point Wiring Diagram				
Sheet 1	327099-H	17	364242A-	33
Sheet 2	—		364242B-	34
Schematic Diagram				
Sheet 1	ADV-5664-E	1	ADV-6500A-	13
Sheet 2	—		ADV-6500B-	14

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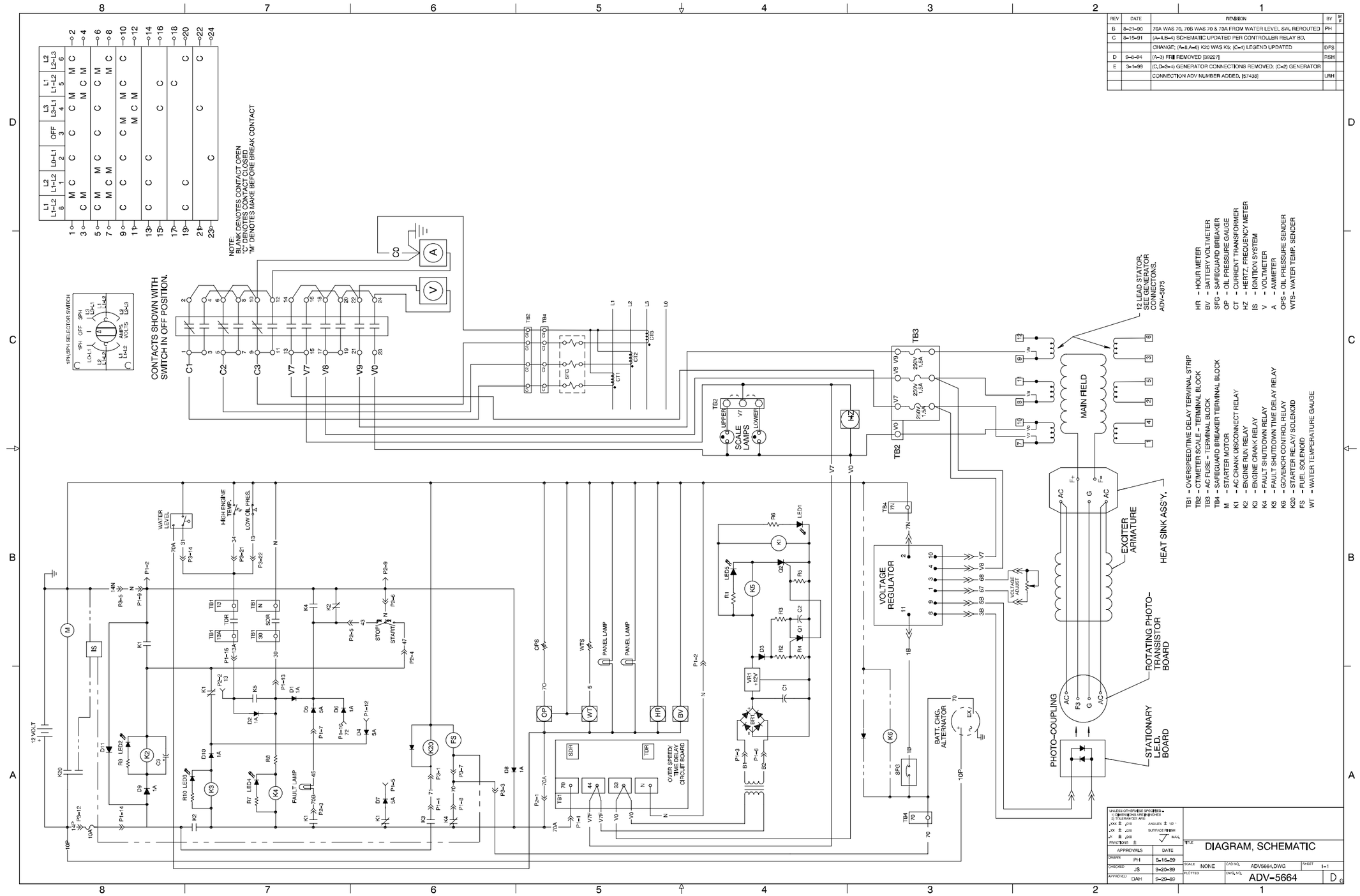
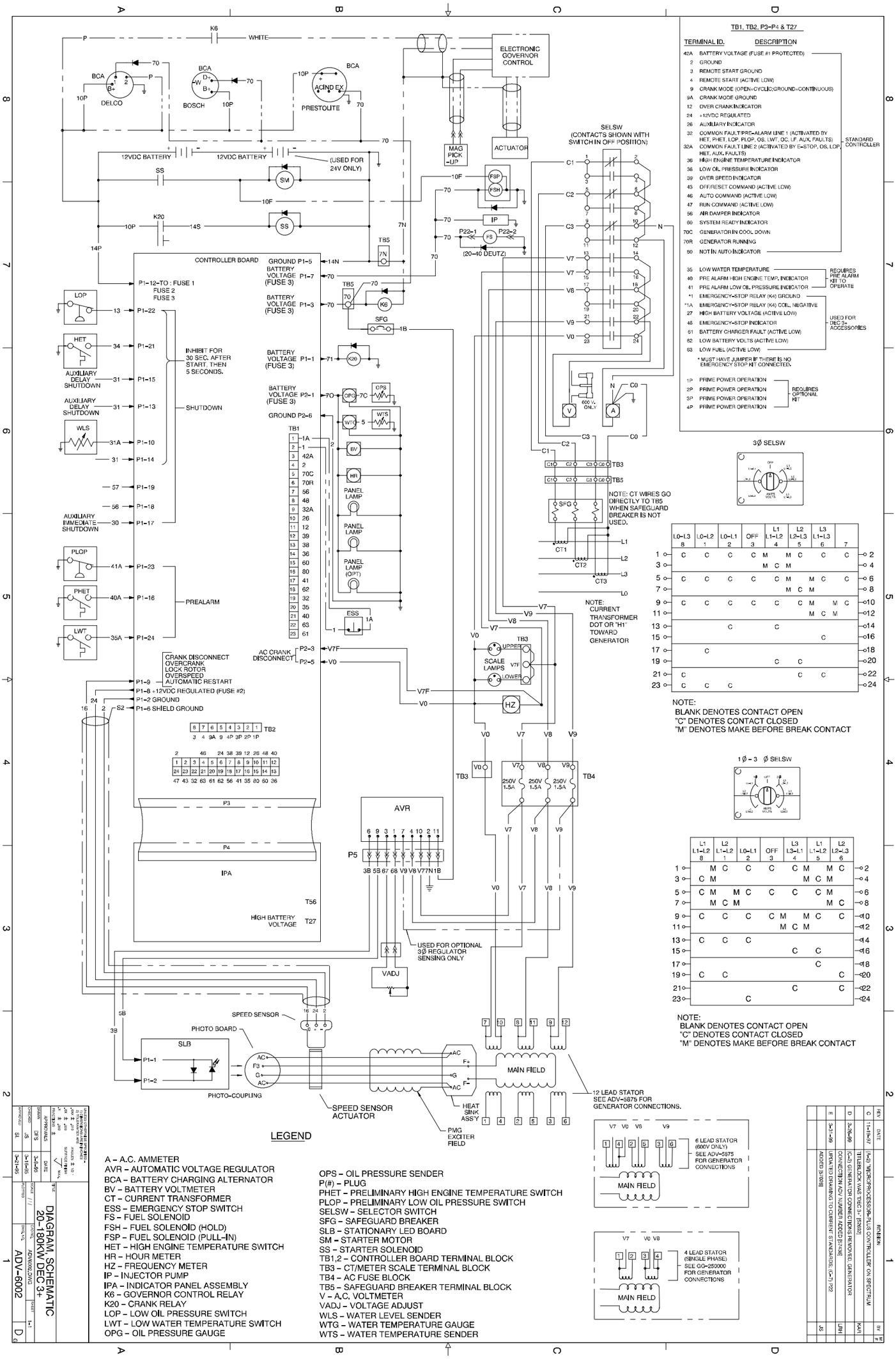
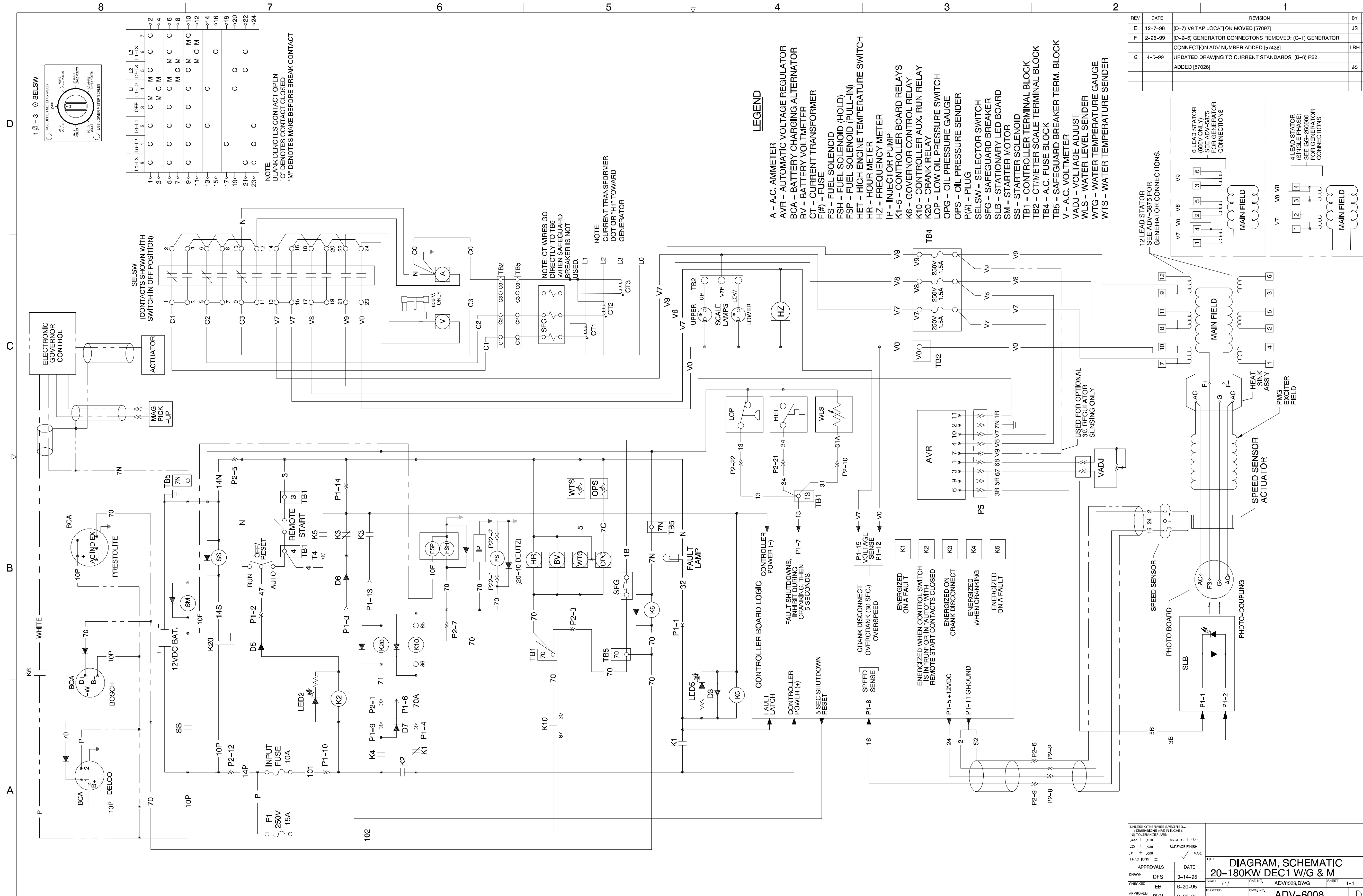


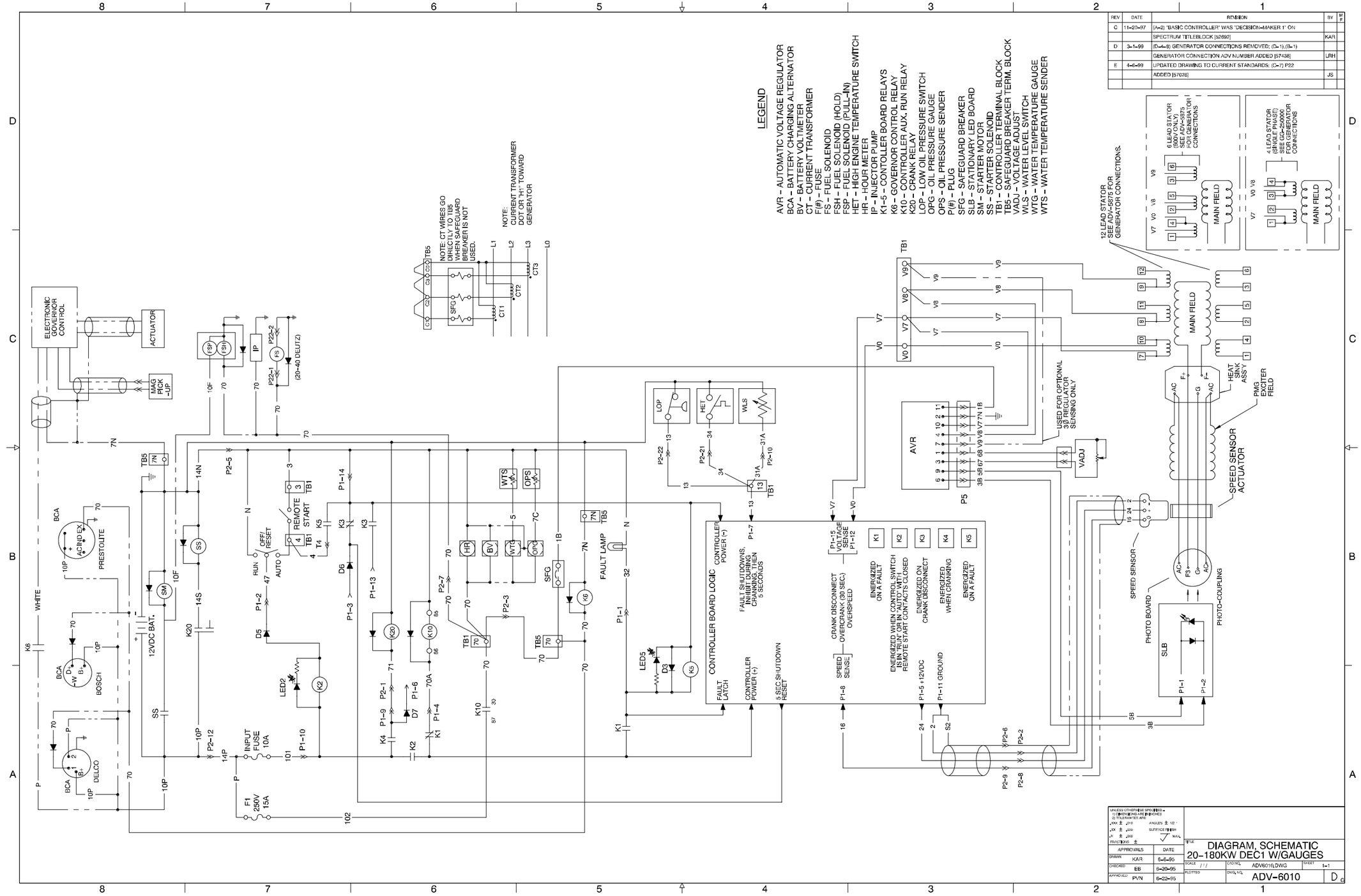
Manual Controller, Schematic Diagram, Sheet 1, ADV-5664-E

Microprocessor Controller, Schematic Diagram, Sheet 1, ADV-6002-E




LEGEND
A - A.C. AMMETER
AVR - AUTOMATIC VOLTAGE REGULATOR
BCA - BATTERY CHARGING ALTERNATOR
BV - BATTERY VOLTMETER
CT - CURRENT TRANSFORMER
F(#) - FUSE
FS - FUEL SOLENOID
FSH - FUEL SOLENOID (HOLD)
FSP - FUEL SOLENOID (PULL-IN)
HET - HIGH ENGINE TEMPERATURE SWITCH
HR - HOUR METER
HZ - FREQUENCY METER
IP - INJECTOR PUMP
K1-5 - CONTROLLER BOARD RELAYS
K6 - GOVERNOR CONTROL RELAY
K10 - CONTROLLER AUX. RUN RELAY
K20 - CRANK RELAY
LOP - LOW OIL PRESSURE SWITCH
OPG - OIL PRESSURE GAUGE
OPS - OIL PRESSURE SENDER
P(#) - PLUG
SELSW - SELECTOR SWITCH
SFG - SAFEGUARD BREAKER
SLB - STATIONARY LED BOARD
SM - STARTER MOTOR
SS - STARTER SOLENOID
TB1 - CONTROLLER TERMINAL BLOCK
TB2 - CT/METER SCALE TERMINAL BLOCK
TB4 - A.C. FUSE BLOCK
TB5 - SAFEGUARD BREAKER TERM. BLOCK
V - A.C. VOLTMETER
VADJ - VOLTAGE ADJUST
WLS - WATER LEVEL SENDER
WTG - WATER TEMPERATURE GAUGE
WTS - WATER TEMPERATURE SENDER
DIAGRAM, SCHEMATIC
20-180KW DEC1 W/G & M
ADV-6008

Decision-Maker™ 1 Expanded Controller, Schematic Diagram, Sheet 1, ADV-6008-G



Decision-Maker™ 1 Standard/Engine Gauges Controller, Schematic Diagram, Sheet 1, ADV-6010-E

REV.	DATE	REVISION	BY	M #
F	11-20-97	(A-2) "DIGITAL CONTROLLER" WAS "DEC 340" ON SPECTRUM.		
		TITLEBLOCK [52892]	KAR	
G	3-1-99	(C,D-4-6) GENERATOR CONNECTIONS AND NOTE REMOVED;		
		(C-1,2) GENERATOR CONNECTION ADV NUMBER ADDED [57438]	LRH	
H	4-8-99	UPDATED DRAWING TO CURRENT STANDARDS; (D-3) P22		
		ADDED [57028]	JS	

LEGEND

AVR – AUTOMATIC VOLTAGE REGULATOR
BCA – BATTERY CHARGING ALTERNATOR
CT – CURRENT TRANSFORMER
ECS – ENGINE CONTROL SWITCH
ESS – EMERGENCY STOP SWITCH
FS – FUEL SOLENOID
FSH – FUEL SOLENOID (HOLD)
FSP – FUEL SOLENOID (PULL-IN)
HET – HIGH ENGINE TEMPERATURE SWITCH
HOT – HIGH OIL TEMPERATURE SWITCH
IP – INJECTOR PUMP
K6 – GOVERNOR CONTROL RELAY
K20 – CRANK RELAY
LOP – LOW OIL PRESSURE SWITCH
LWT – LOW WATER TEMPERATURE SWITCH
OPS – OIL PRESSURE SENDER
P(#) – PLUG
PHET – PRELIMINARY HIGH ENGINE TEMPERATURE SWITCH
PLOP – PRELIMINARY LOW OIL PRESSURE SWITCH
SFG – SAFEGUARD BREAKER
SLB – STATIONARY LED BOARD
SM – STARTER MOTOR
SS – STARTER SOLENOID
TB1-4 – CONTROLLER BOARD TERMINAL BLOCK
TB5 – SAFEGUARD BREAKER TERMINAL BLOCK
TB9 – A.C. FUSE BLOCK
VADJ – VOLTAGE ADJUST
WTS – WATER TEMPERATURE SENDER

ECS				
CIRCUIT	CONTACTS	AUTO	OFF	RUN
1	1 ← 2 → 2		X	
2	3 ← 4 → 4			
3	5 ← 6 → 6	X		X

APPROVALS	DATE
DRAWN KAR	4-1-96
CHECKED EB	7-12-96
APPROVED SL	7-17-96

TITLE: DIAGRAM, SCHEMATIC 20-180KW DEC340
SCALE: /// | LOCATION: ADV6130A.DWG | SHEET 1-2
PLOTTED | DWG NO. ADV-6130 | D

Digital Controller, Schematic Diagram, Sheet 1, ADV-6130A-H

REV	DATE	REVISION	BY	M #
A	3-17-97	(C-3,4) TB2, TB3 & TB4 UPDATED TO SHOW CURRENT		
		TERMINAL CONFIGURATION [49429]	KAR	
B	11-21-97	(A-2) "DIGITAL CONTROLLER" WAS "DEC 340" ON SPECTRUM		
		TITLEBLOCK [52692]	KAR	
H	4-12-99	DRAWING UPDATED TO CURRENT STANDARDS; INTERCONNECT		
		BOARD LIST MOVED FROM SHEET 3. (A-1) 2 OF 2 WAS		
		2 OF 3 [57028]	JS	

INTERCONNECT BOARD

OUTPUT CONNECTIONS

TB1-1 ENGINE GROUND
TB1-2 ENGINE GROUND
TB1-3 ENGINE GROUND
TB1-4 ENGINE GROUND
TB1-5 PANEL LAMP OUTPUT
TB1-6 RDO-10
TB1-7 RDO-9
TB1-8 RDO-7
TB1-9 RDO-5
TB1-10 NIA RELAY OUTPUT (80)
TB1-11 OVERCRANK RELAY OUTPUT (12)
TB1-12 LOW BATTERY VOLTAGE RELAY OUTPUT (62)
TB1-13 LOW ENGINE TEMPERATURE RELAY OUTPUT (35)
TB1-14 LOW OIL PRESSURE RELAY OUTPUT (38)
TB1-15 HIGH ENGINE TEMPERATURE RELAY OUTPUT (36)
TB1-16 LOW OIL PRESSURE WARNING RELAY OUTPUT (41)
TB1-17 HIGH ENGINE TEMPERATURE WARNING RELAY OUTPUT (40)
TB1-18 42A
TB1-19 42A
TB1-20 42A
TB1-21 DVR DOWN VOLTAGE ADJUSTMENT
TB1-22 DVR COMMON VOLTAGE ADJUSTMENT
TB1-23 DVR UP VOLTAGE ADJUSTMENT
TB1-24 RDO-8
TB1-25 RDO-6
TB1-26 RDO-4
TB1-27 RDO-3
TB1-28 RDO-2
TB1-29 RDO-1
TB1-30 SYSTEM READY RELAY OUTPUT (60)
TB1-31 E-STOP RELAY OUTPUT (48)
TB1-32 BATTERY CHARGER FAULT RELAY OUTPUT (61)
TB1-33 LOW FUEL RELAY OUTPUT (63)
TB1-34 OVERSPEED RELAY OUTPUT (39)

AC INPUT CONNECTIONS

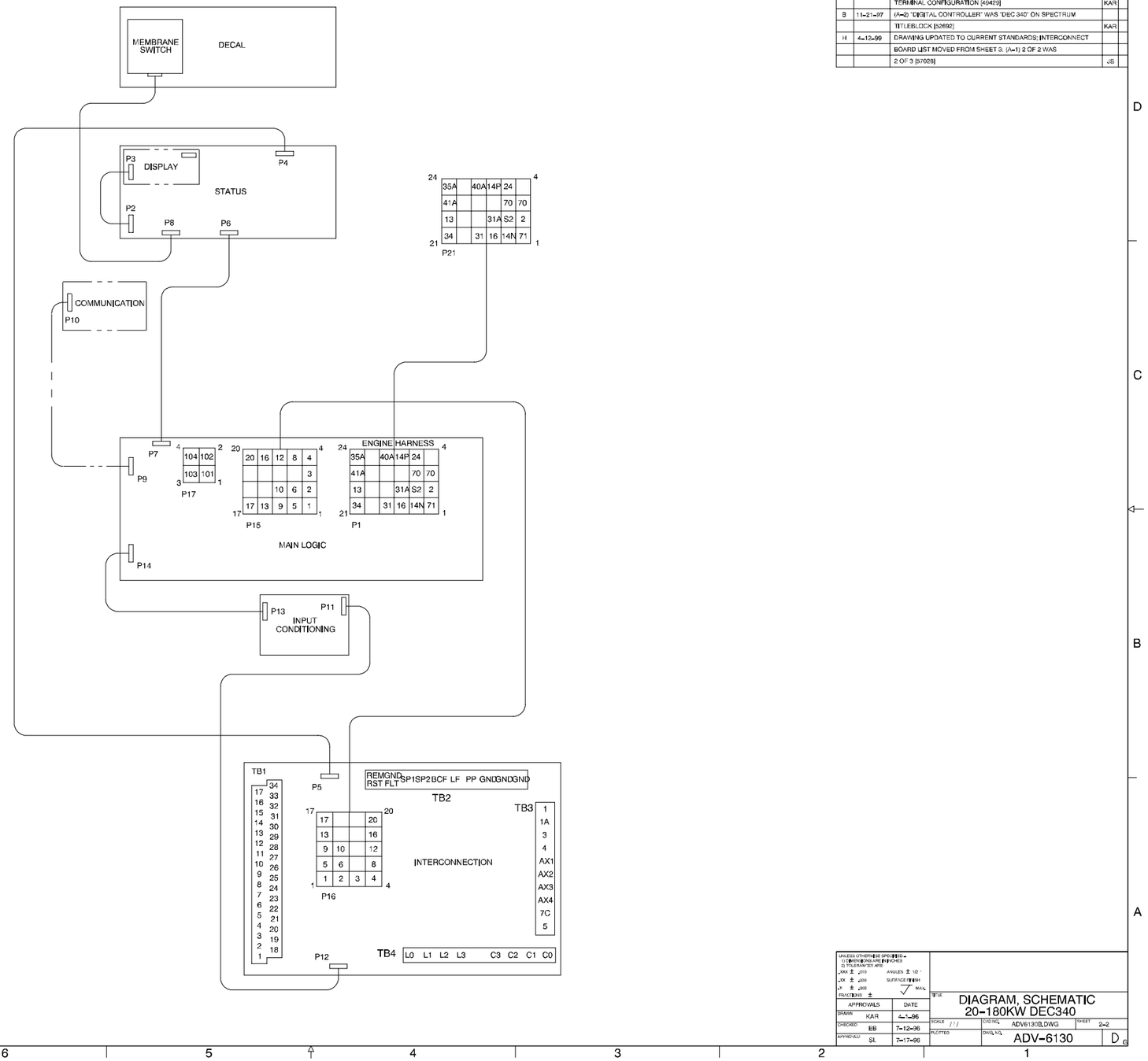
TB4-1 L0 (V0)
TB4-2 L1 (V7)
TB4-3 L2 (V8)
TB4-4 L3 (V9)
TB4-5
TB4-6 C3
TB4-7 C2
TB4-8 C1
TB4-9 C0

INPUT CONNECTIONS

TB2-1 REMOTE RESET *
TB2-2 GROUND FAULT *
TB2-3 NOT USED
TB2-4 NOT USED
TB2-5 BATTERY CHARGER FAULT *
TB2-6 LOW FUEL *
TB2-7 PRIME POWER MODE *
TB2-8 ENGINE GROUND
TB2-9 ENGINE GROUND
TB2-10 ENGINE GROUND
TB3-1 E-STOP GROUND (1)
TB3-2 E-STOP (1A)
TB3-3 REMOTE START (3)
TB3-4 REMOTE START (4)
TB3-5 AUXILIARY 1 *
TB3-6 AUXILIARY 2 *
TB3-7 AUXILIARY 3 *
TB3-8 AUXILIARY 4 *
TB3-9 OIL PRESSURE SENDING UNIT (7C)
TB3-10 WATER TEMPERATURE SENDING UNIT (5)

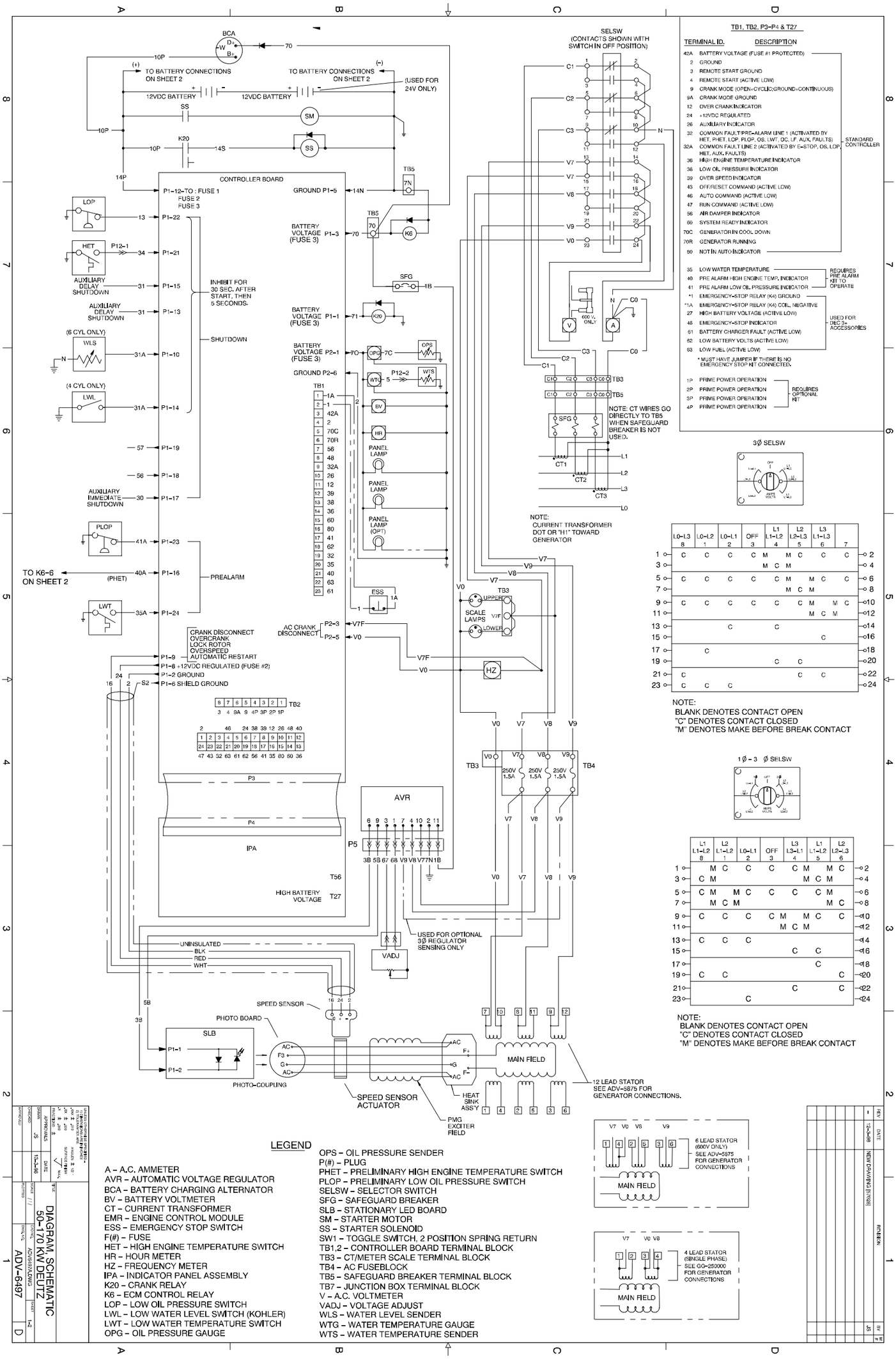
P1 CONNECTIONS (ENGINE TO MICRO BOARD)

POSITIONS
1 ENGINE CRANK (71)
2 SPEED SENSOR GROUND (2)
3 SAFEGUARD BREAKER (70)
4 B.C. ALTERNATOR FLASHING
5 STARTER MOTOR GROUND (14N)
6 SPEED SENSOR SHIELD (S2)
7 ENGINE RUN (70)
8 V+ SPEED SENSOR (24)
9 SPEED SENSOR SIGNAL (16)
10 LOW COOLANT LEVEL PTC (31A)
11 NOT USED
12 BATTERY + (14P)
13 HIGH OIL TEMPERATURE SWITCH INPUT (31) *
14 LOW COOLANT LEVEL SWITCH INPUT (31) *
15 NOT USED
16 HIGH ENGINE TEMPERATURE WARNING SWITCH INPUT (40A) *
17 NOT USED
18 AIR DAMPER SWITCH INPUT (56) *
19 AIR DAMPER SWITCH OUTPUT (57)
20 NOT USED
21 HIGH ENGINE TEMPERATURE SWITCH INPUT (34) *
22 LOW OIL PRESSURE SWITCH INPUT (13) *
23 LOW OIL PRESSURE WARNING SWITCH INPUT (41A) *
24 LOW ENGINE TEMPERATURE SWITCH INPUT (35A) *
* GROUND TO ACTIVATE



UNLESS OTHERWISE SPECIFIED → 1) DIMENSIONS ARE IN INCHES 2) TOLERANCES ARE: .XXX ± .010 .XX ± .030 .X ± .060 FRACTIONS ±		ANGLES ± 1/2 ° SURFACE FINISH √ MAX.	
APPROVALS	DATE	TITLE	DIAGRAM, SCHEMATIC 20-180KW DEC340
DRAWN KAR	4-1-96		
CHECKED EB	7-12-96	SCALE / / /	CAD NO. ADV6130B.DWG SHEET 2-2
APPROVED SL	7-17-96	PLOTTED	DWG. NO. ADV-6130 D

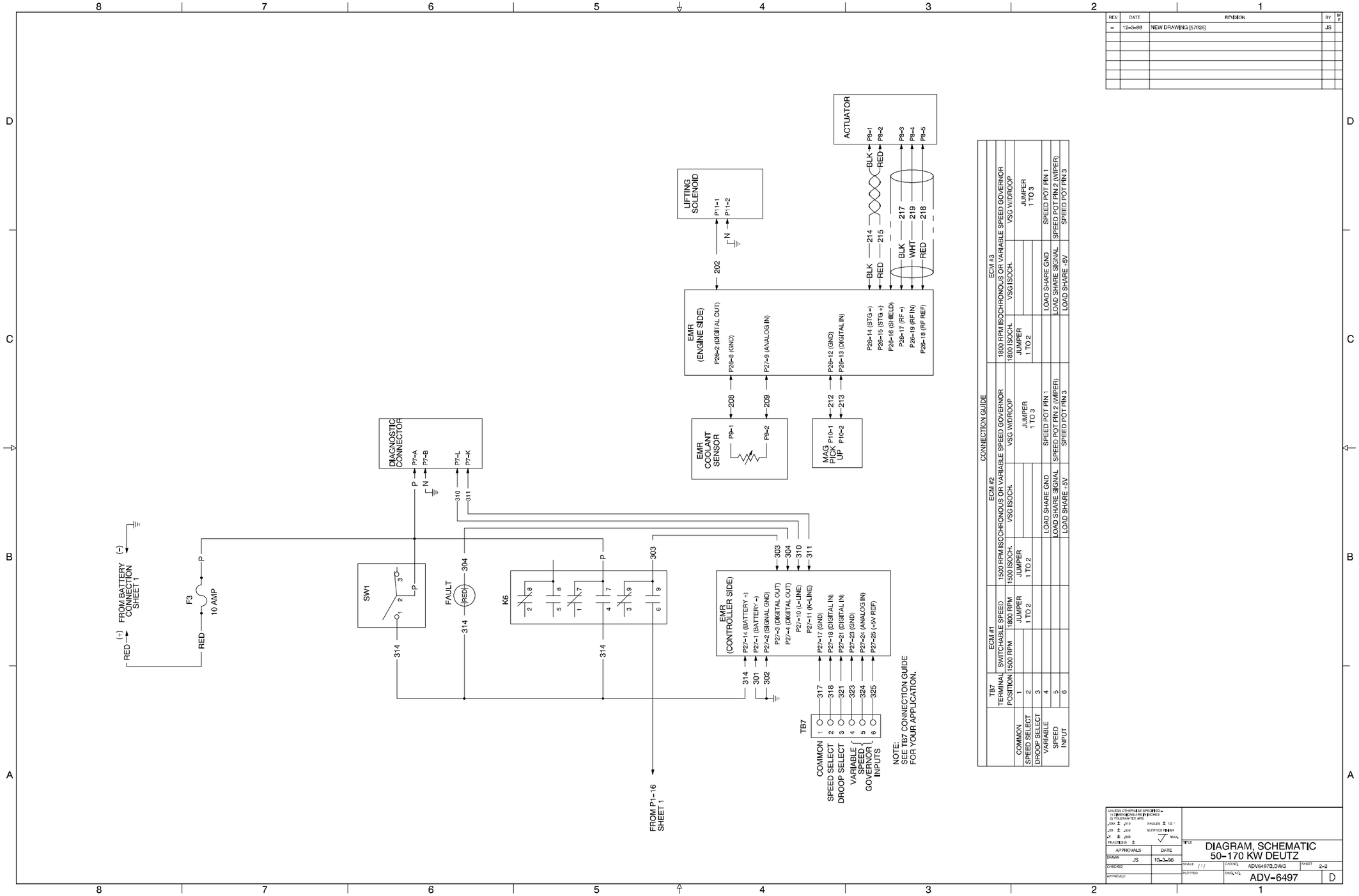
Digital Controller, Schematic Diagram, Sheet 2, ADV-6130B-H



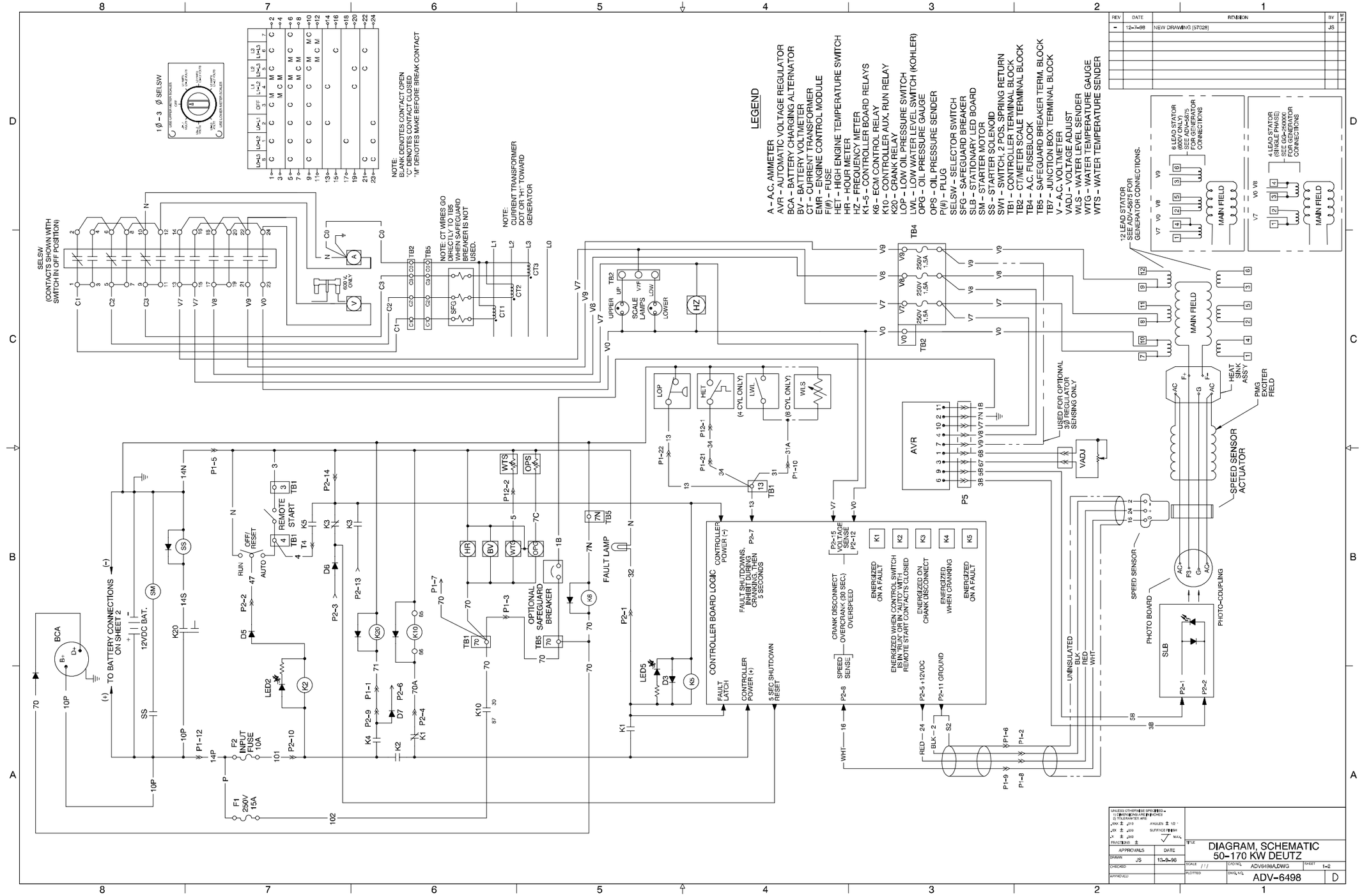
LEGEND

A – A.C. AMMETER
AVR – AUTOMATIC VOLTAGE REGULATOR
BCA – BATTERY CHARGING ALTERNATOR
BV – BATTERY VOLTMETER
CT – CURRENT TRANSFORMER
EMR – ENGINE CONTROL MODULE
ESS – EMERGENCY STOP SWITCH
F(#) – FUSE
HET – HIGH ENGINE TEMPERATURE SWITCH
HR – HOUR METER
HZ – FREQUENCY METER
IPA – INDICATOR PANEL ASSEMBLY
K20 – CRANK RELAY
K6 – ECM CONTROL RELAY
LOP – LOW OIL PRESSURE SWITCH
LWL – LOW WATER LEVEL SWITCH (KOHLER)
LWT – LOW WATER TEMPERATURE SWITCH
OPG – OIL PRESSURE GAUGE
OPS – OIL PRESSURE SENDER
P(#) – PLUG
PHET – PRELIMINARY HIGH ENGINE TEMPERATURE SWITCH
PLOP – PRELIMINARY LOW OIL PRESSURE SWITCH
SELSW – SELECTOR SWITCH
SFG – SAFEGUARD BREAKER
SLB – STATIONARY LED BOARD
SM – STARTER MOTOR
SS – STARTER SOLENOID
SW1 – TOGGLE SWITCH, 2 POSITION SPRING RETURN
TB1,2 – CONTROLLER BOARD TERMINAL BLOCK
TB3 – CT/METER SCALE TERMINAL BLOCK
TB4 – AC FUSEBLOCK
TB5 – SAFEGUARD BREAKER TERMINAL BLOCK
TB7 – JUNCTION BOX TERMINAL BLOCK
V – A.C. VOLTMETER
VADJ – VOLTAGE ADJUST
WLS – WATER LEVEL SENDER
WTG – WATER TEMPERATURE GAUGE
WTS – WATER TEMPERATURE SENDER

DIAGRAM, SCHEMATIC
50-170 KW DEUTZ
ADV-6497
SCALE: NONE
SHEET 1 OF 2
SIZE D
DRAWING NO. ADV-6497A-1
DRAWN BY: JS 10-24-96
APPROVALS
REVISIONS
REV. A 12-24-98 NEW DRAWING (57369)



Microprocessor Controller, Schematic Diagram, Sheet 2, ADV-6497B-



Decision-Maker™ 1 Expanded Controller, Schematic Diagram, Sheet 1, ADV-6498A-

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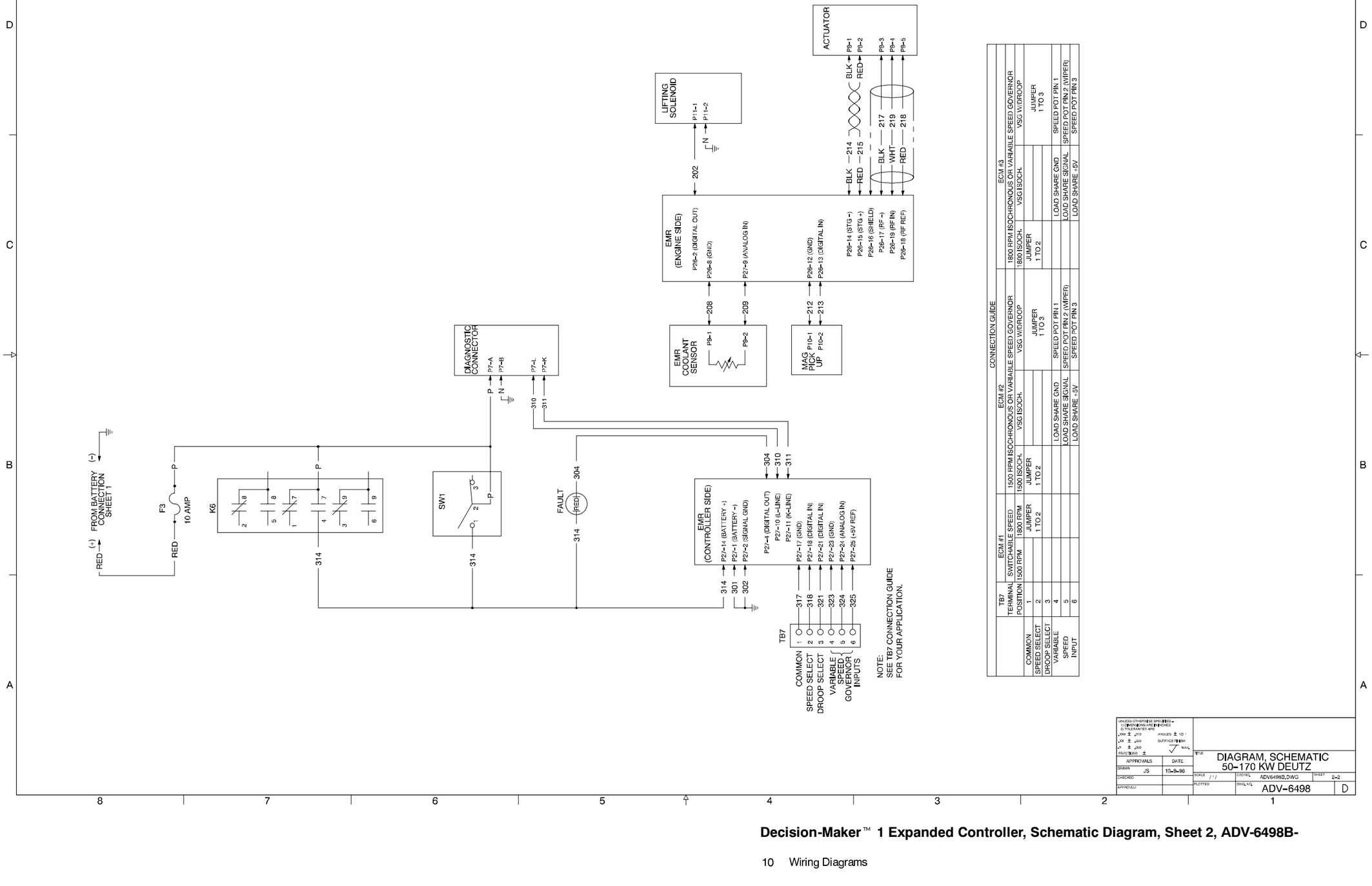
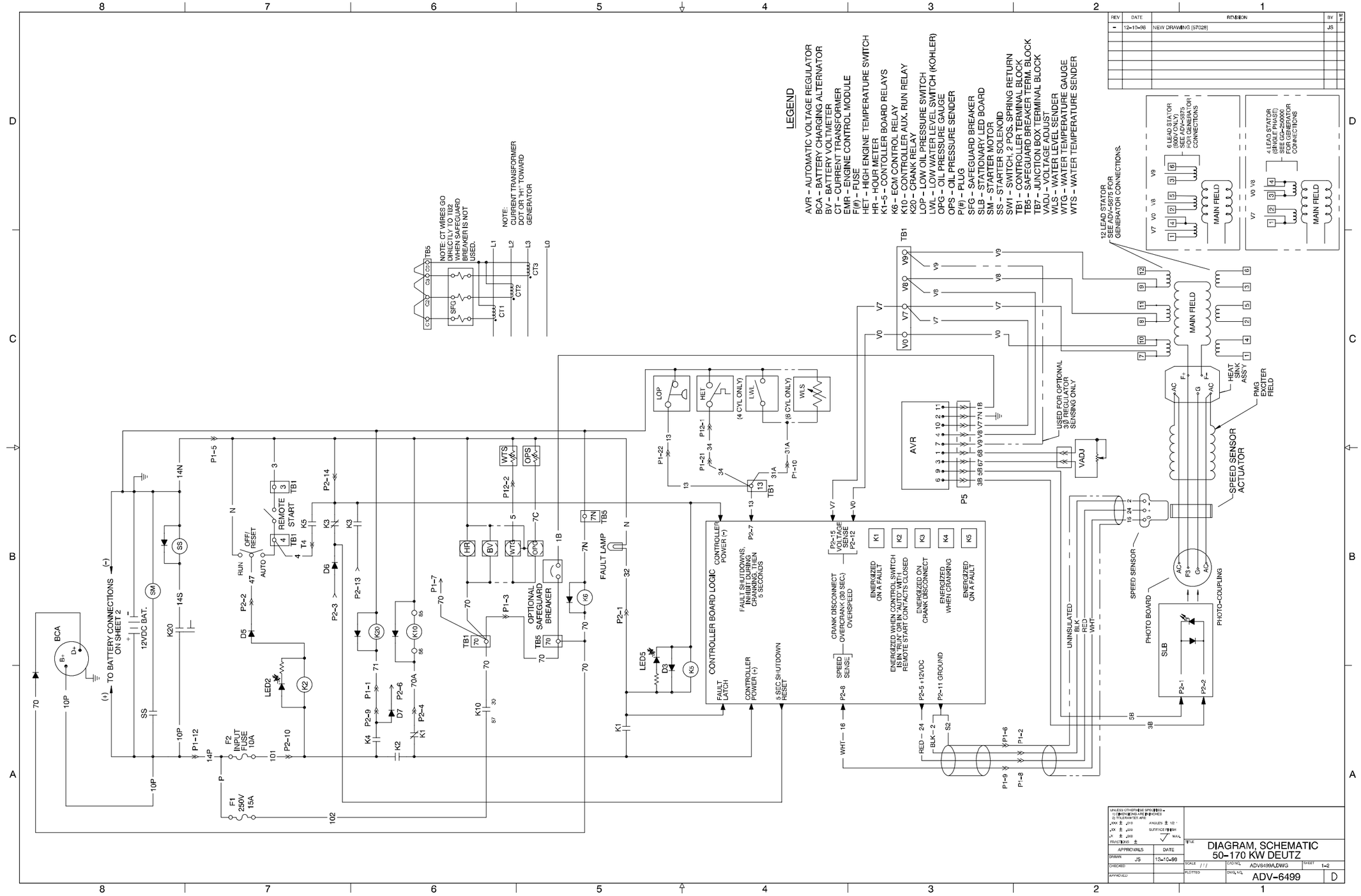


Decision-Maker™ 1 Expanded Controller, Schematic Diagram, Sheet 2, ADV-6498B-



Decision-Maker™ 1 Standard Controller, Schematic Diagram, Sheet 1, ADV-6499A-

REV	DATE	REVISION	BY	M #
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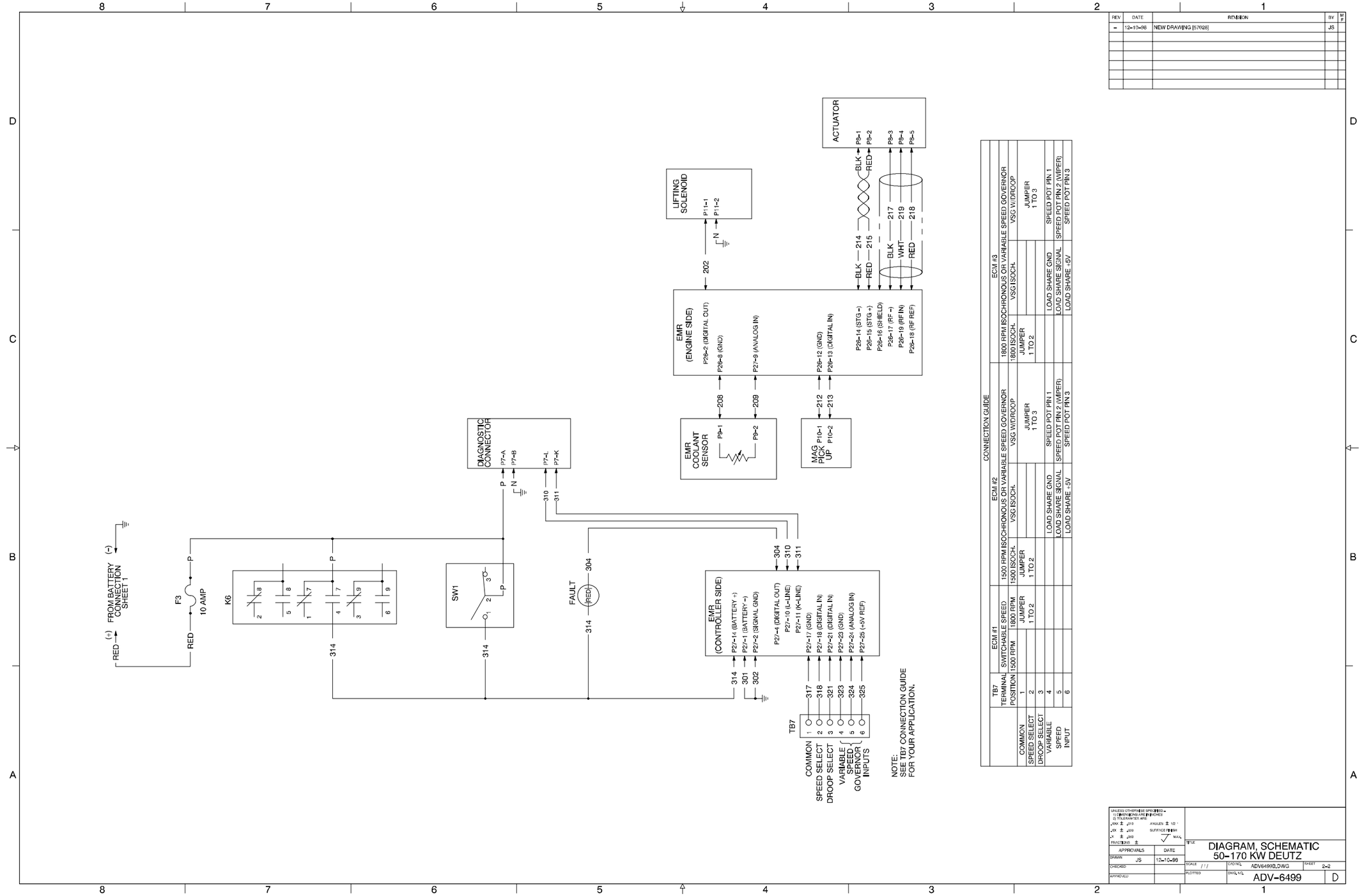


CONNECTION GUIDE

	TB7 TERMINAL POSITION	ECM #1 SWITCHABLE SPEED	ECM #1	ECM #2 1500 RPM ISOCHRONOUS OR VARIABLE SPEED GOVERNOR	ECM #2	ECM #3 1800 RPM ISOCHRONOUS OR VARIABLE SPEED GOVERNOR	ECM #3
COMMON	1	1500 RPM	JUMPER 1 TO 2	1500 ISOCH.-	JUMPER 1 TO 2	1800 ISOCH.-	JUMPER 1 TO 2
SPEED SELECT	2	1800 RPM		VSG ISOCH.-		VSG ISOCH.-	
DROOP SELECT	3			VSG W/DROOP	JUMPER 1 TO 3	VSG W/DROOP	JUMPER 1 TO 3
VARIABLE SPEED INPUT	4			LOAD SHARE GND		LOAD SHARE GND	
	5			LOAD SHARE SIGNAL	SPEED POT PIN 2 (WIPER)	LOAD SHARE SIGNAL	SPEED POT PIN 2 (WIPER)
	6			LOAD SHARE +5V	SPEED POT PIN 3	LOAD SHARE +5V	SPEED POT PIN 3

UNLESS OTHERWISE SPECIFIED
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XX ± .010 ANGLES ± 1/2 °
.XX ± .020 SURFACE FINISH
.X ± .060 MAX.
FRACTIONS ±

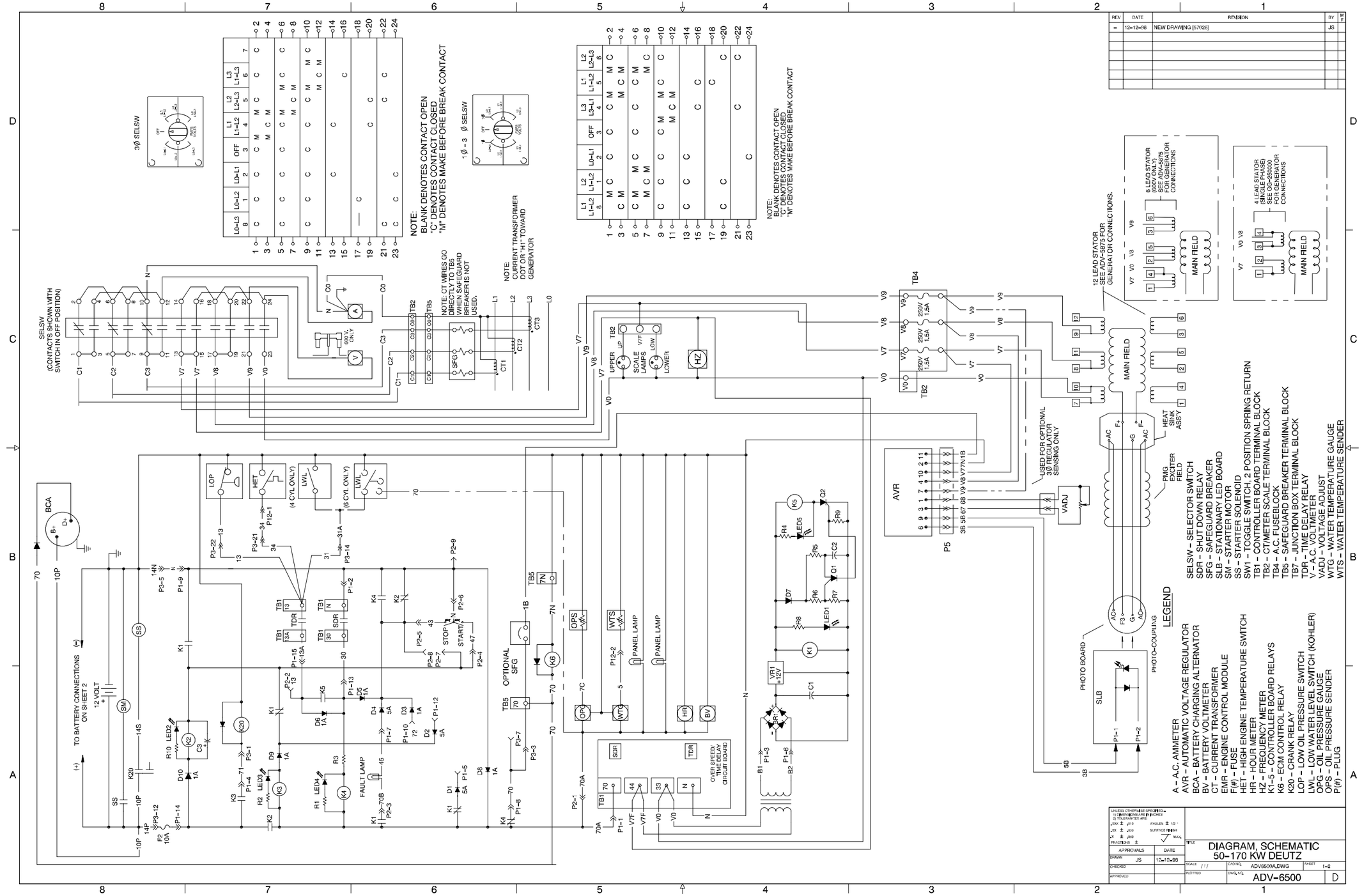
APPROVALS	DATE
DRAWN JS	12-10-98
CHECKED	
APPROVED	

TITLE: DIAGRAM, SCHEMATIC 50-170 KW DEUTZ

SCALE /// | CAD NO. ADV64998.DWG | SHEET 2-2

PLOTTED | DWG. NO. ADV-6499 | D

Decision-Maker™ 1 Standard Controller, Schematic Diagram, Sheet 2, ADV-6499B-



Manual Controller, Schematic Diagram, Sheet 1, ADV-6500A-

REV	DATE	REVISION	BY	M #
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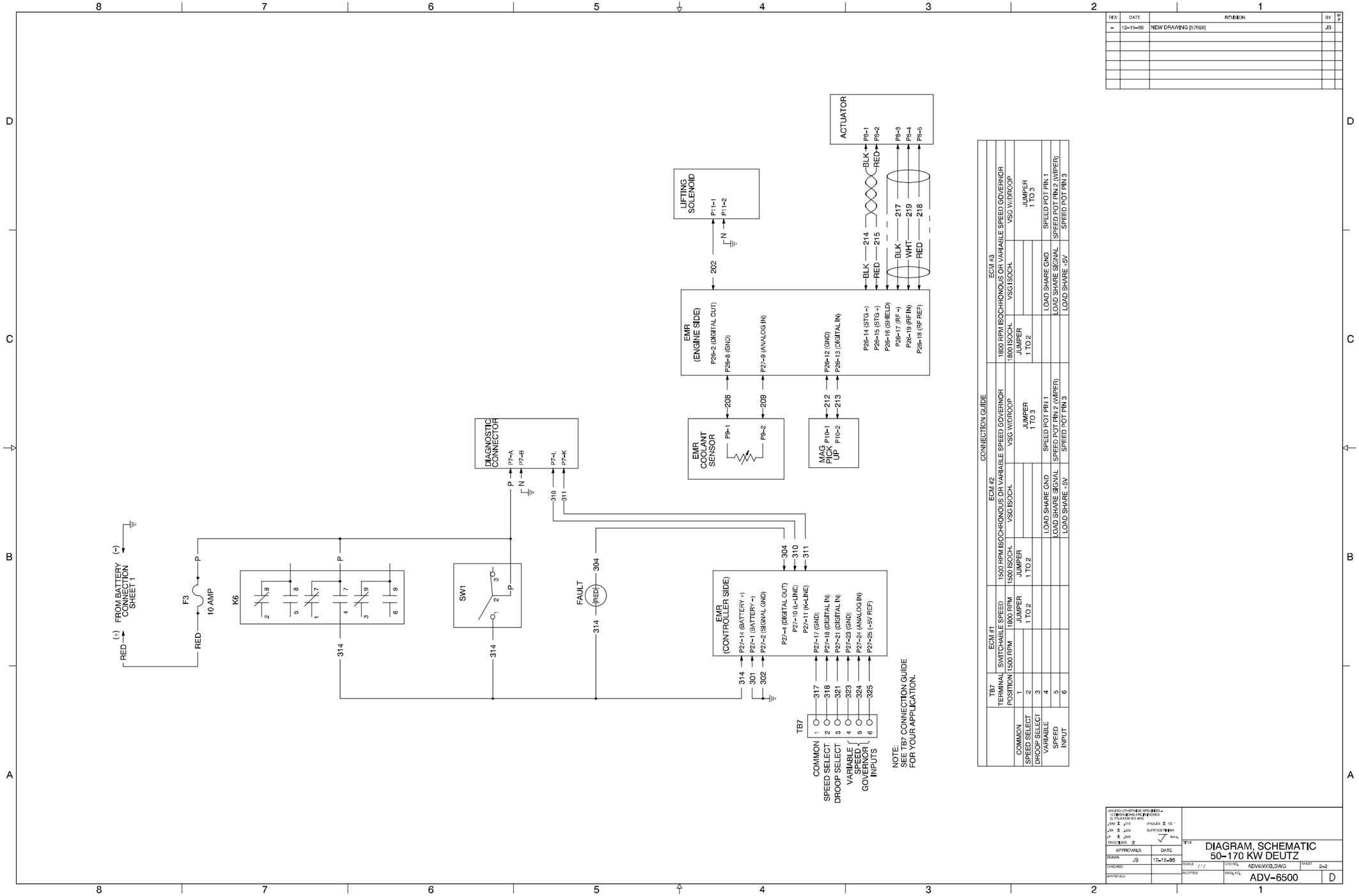


Manual Controller, Schematic Diagram, Sheet 2, ADV-6500B-

CONNECTION GUIDE									
	TB7	ECM #1		ECM #2			ECM #3		
	TERMINAL	SWITCHABLE SPEED		1500 RPM ISOCHRONOUS OR VARIABLE SPEED GOVERNOR			1800 RPM ISOCHRONOUS OR VARIABLE SPEED GOVERNOR		
	POSITION	1500 RPM	1800 RPM	1500 ISOCH.	VSG ISOCH.	VSG W/DROOP	1800 ISOCH.	VSG ISOCH.	VSG W/DROOP
COMMON	1		JUMPER	JUMPER		JUMPER 1 TO 3	JUMPER		JUMPER 1 TO 3
SPEED SELECT	2		1 TO 2	1 TO 2			1 TO 2		
DROOP SELECT	3								
VARIABLE	4				LOAD SHARE GND	SPEED POT PIN 1		LOAD SHARE GND	SPEED POT PIN 1
SPEED	5				LOAD SHARE SIGNAL	SPEED POT PIN 2 (WIPER)		LOAD SHARE SIGNAL	SPEED POT PIN 2 (WIPER)
INPUT	6				LOAD SHARE +5V	SPEED POT PIN 3		LOAD SHARE +5V	SPEED POT PIN 3

REV.	DATE	REVISION	BY	M #
–	12-17-98	NEW DRAWING [57028]	JS	

LEGEND

AVR – AUTOMATIC VOLTAGE REGULATOR
BCA – BATTERY CHARGING ALTERNATOR
CT – CURRENT TRANSFORMER
EMR – ENGINE CONTROL MODULE
ECS – ENGINE CONTROL SWITCH
ESS – EMERGENCY STOP SWITCH
F(#) – FUSE
HET – HIGH ENGINE TEMPERATURE SWITCH
K20 – CRANK RELAY
K6 – ECM CONTROL RELAY
LOP – LOW OIL PRESSURE SWITCH
LWL – LOW WATER LEVEL SWITCH (KOHLER)
LWT – LOW WATER TEMPERATURE SWITCH
OPS – OIL PRESSURE SENDER
P(#) – PLUG
PHET – PRELIMINARY HIGH ENGINE TEMPERATURE SWITCH
PLOP – PRELIMINARY LOW OIL PRESSURE SWITCH
SFG – SAFEGUARD BREAKER
SLB – STATIONARY LED BOARD
SM – STARTER MOTOR
SS – STARTER SOLENOID
SW1 – TOGGLE SWITCH, 2 POSITION, SPRING RETURN
TB1–4 – CONTROLLER BOARD TERMINAL BLOCK
TB5 – SAFEGUARD BREAKER TERMINAL BLOCK
TB9 – AC FUSE BLOCK
TB7 – JUNCTION BOX TERMINAL BLOCK
VADJ – VOLTAGE ADJUST
WLS – WATER LEVEL SENDER
WTS – WATER TEMPERATURE SENDER

NOTE:
SEE TB7 CONNECTION GUIDE FOR YOUR APPLICATION.

NOTE: CT WIRES GO DIRECTLY TO TB5 WHEN SAFEGUARD BREAKER IS NOT USED.

NOTE: CURRENT TRANSFORMER DOT OR "H1" TOWARD GENERATOR

APPROVALS	DATE
DRAWN JS	12-15-98
CHECKED	
APPROVED	

TITLE: DIAGRAM, SCHEMATIC 50–170 KW DEUTZ

SCALE: /// | CADTAG: ADV6501A.DWG | SHEET 1–2

PLOTTED | DWG. NO. ADV–6501 | D

Digital Controller, Schematic Diagram, Sheet 1, ADV-6501A-

REV	DATE	REVISION	BY	M #
–	12-15-98	NEW DRAWING [57028]	JS	

INTERCONNECT BOARD

OUTPUT CONNECTIONS

TB1-1 ENGINE GROUND
TB1-2 ENGINE GROUND
TB1-3 ENGINE GROUND
TB1-4 ENGINE GROUND
TB1-5 PANEL LAMP OUTPUT
TB1-6 RDO-10
TB1-7 RDO-9
TB1-8 RDO-7
TB1-9 RDO-5
TB1-10 NIA RELAY OUTPUT (80)
TB1-11 OVERCRANK RELAY OUTPUT (12)
TB1-12 LOW BATTERY VOLTAGE RELAY OUTPUT (62)
TB1-13 LOW ENGINE TEMPERATURE RELAY OUTPUT (35)
TB1-14 LOW OIL PRESSURE RELAY OUTPUT (38)
TB1-15 HIGH ENGINE TEMPERATURE RELAY OUTPUT (36)
TB1-16 LOW OIL PRESSURE WARNING RELAY OUTPUT (41)
TB1-17 HIGH ENGINE TEMPERATURE WARNING RELAY OUTPUT (40)
TB1-18 42A
TB1-19 42A
TB1-20 42A
TB1-21 DVR DOWN VOLTAGE ADJUSTMENT
TB1-22 DVR COMMON VOLTAGE ADJUSTMENT
TB1-23 DVR UP VOLTAGE ADJUSTMENT
TB1-24 RDO-8
TB1-25 RDO-6
TB1-26 RDO-4
TB1-27 RDO-3
TB1-28 RDO-2
TB1-29 RDO-1
TB1-30 SYSTEM READY RELAY OUTPUT (60)
TB1-31 E-STOP RELAY OUTPUT (48)
TB1-32 BATTERY CHARGER FAULT RELAY OUTPUT (61)
TB1-33 LOW FUEL RELAY OUTPUT (63)
TB1-34 OVERSPEED RELAY OUTPUT (39)

AC INPUT CONNECTIONS

TB4-1 L0 (V0)
TB4-2 L1 (V7)
TB4-3 L2 (V8)
TB4-4 L3 (V9)
TB4-5
TB4-6 C3
TB4-7 C2
TB4-8 C1
TB4-9 C0

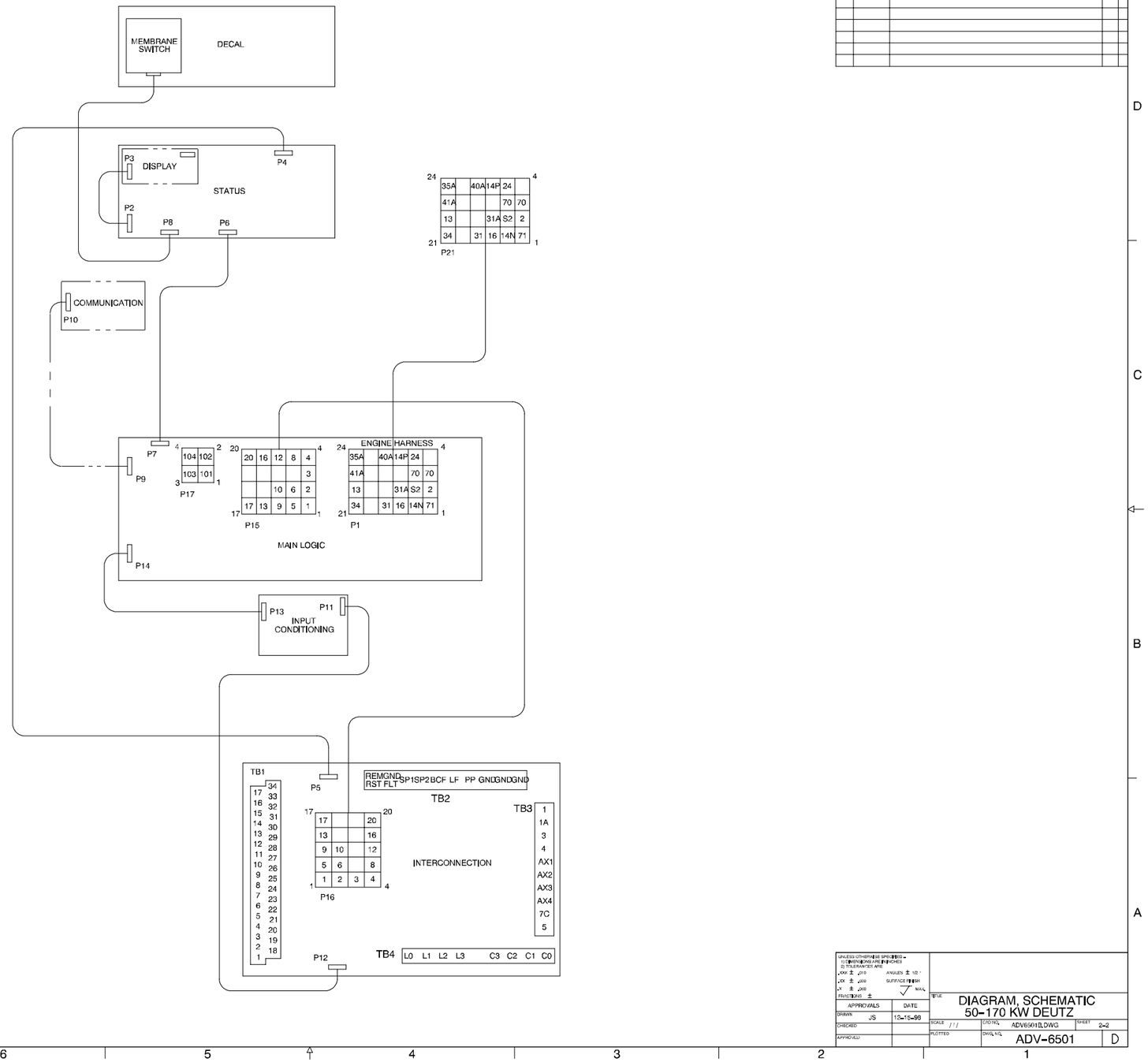
INPUT CONNECTIONS

TB2-1 REMOTE RESET *
TB2-2 GROUND FAULT *
TB2-3 NOT USED
TB2-4 NOT USED
TB2-5 BATTERY CHARGER FAULT *
TB2-6 LOW FUEL *
TB2-7 PRIME POWER MODE *
TB2-8 ENGINE GROUND
TB2-9 ENGINE GROUND
TB2-10 ENGINE GROUND
TB3-1 E-STOP GROUND (1)
TB3-2 E-STOP (1A)
TB3-3 REMOTE START (3)
TB3-4 REMOTE START (4)
TB3-5 AUXILIARY 1 *
TB3-6 AUXILIARY 2 *
TB3-7 AUXILIARY 3 *
TB3-8 AUXILIARY 4 *
TB3-9 OIL PRESSURE SENDING UNIT (7C)
TB3-10 WATER TEMPERATURE SENDING UNIT (5)

P1 CONNECTIONS (ENGINE TO MICRO BOARD)

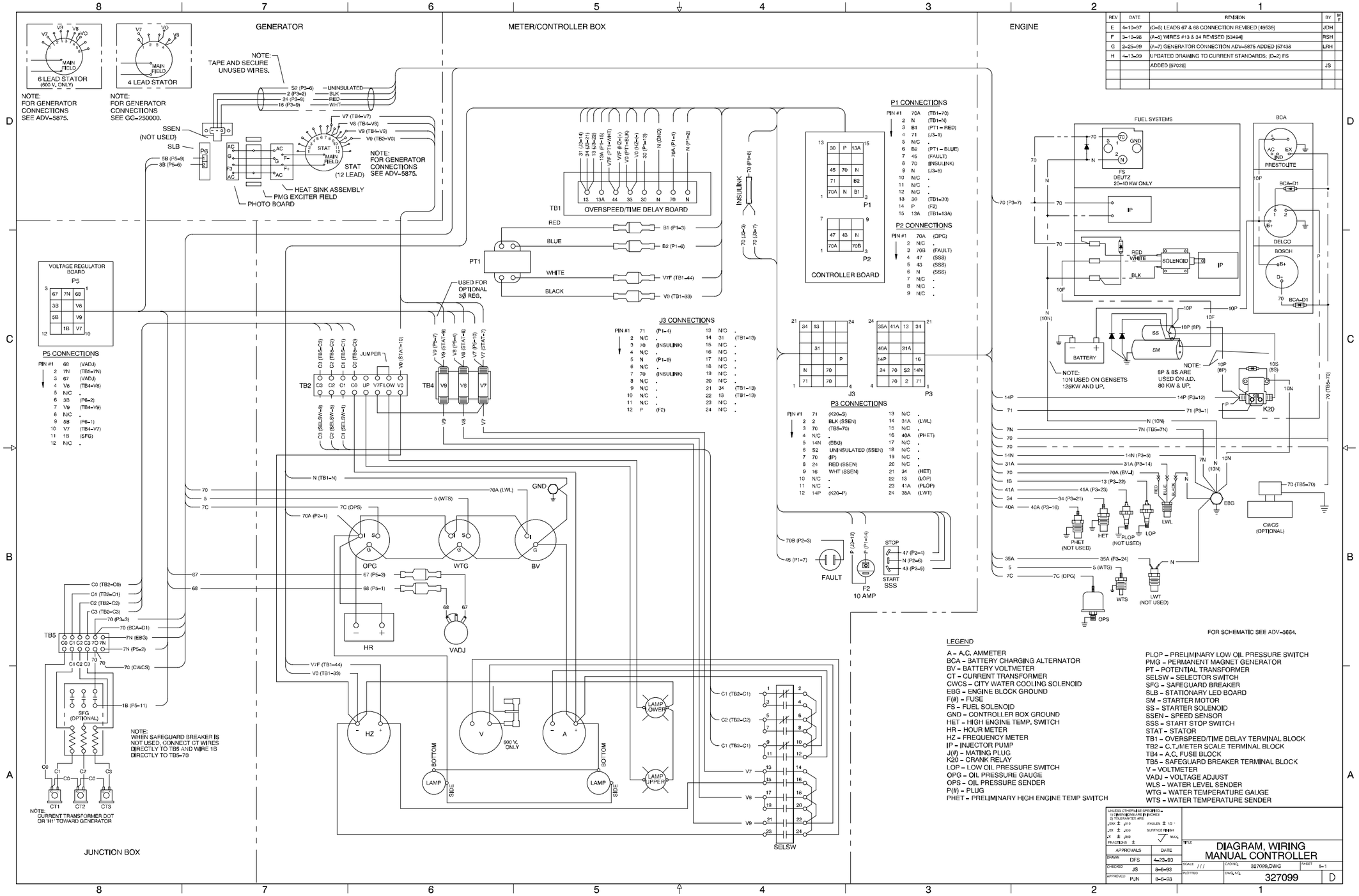
POSITIONS
1 ENGINE CRANK (71)
2 SPEED SENSOR GROUND (2)
3 SAFEGUARD BREAKER (70)
4 B.C. ALTERNATOR FLASHING
5 STARTER MOTOR GROUND (14N)
6 SPEED SENSOR SHIELD (S2)
7 ENGINE RUN (70)
8 V+ SPEED SENSOR (24)
9 SPEED SENSOR SIGNAL (16)
10 LOW COOLANT LEVEL PTC (31A)
11 NOT USED
12 BATTERY + (14P)
13 HIGH OIL TEMPERATURE SWITCH INPUT (31) *
14 LOW COOLANT LEVEL SWITCH INPUT (31) *
15 NOT USED
16 HIGH ENGINE TEMPERATURE WARNING SWITCH INPUT (40A) *
17 NOT USED
18 AIR DAMPER SWITCH INPUT (56) *
19 AIR DAMPER SWITCH OUTPUT (57)
20 NOT USED
21 HIGH ENGINE TEMPERATURE SWITCH INPUT (34) *
22 LOW OIL PRESSURE SWITCH INPUT (13) *
23 LOW OIL PRESSURE WARNING SWITCH INPUT (41A) *
24 LOW ENGINE TEMPERATURE SWITCH INPUT (35A) *

* GROUND TO ACTIVATE

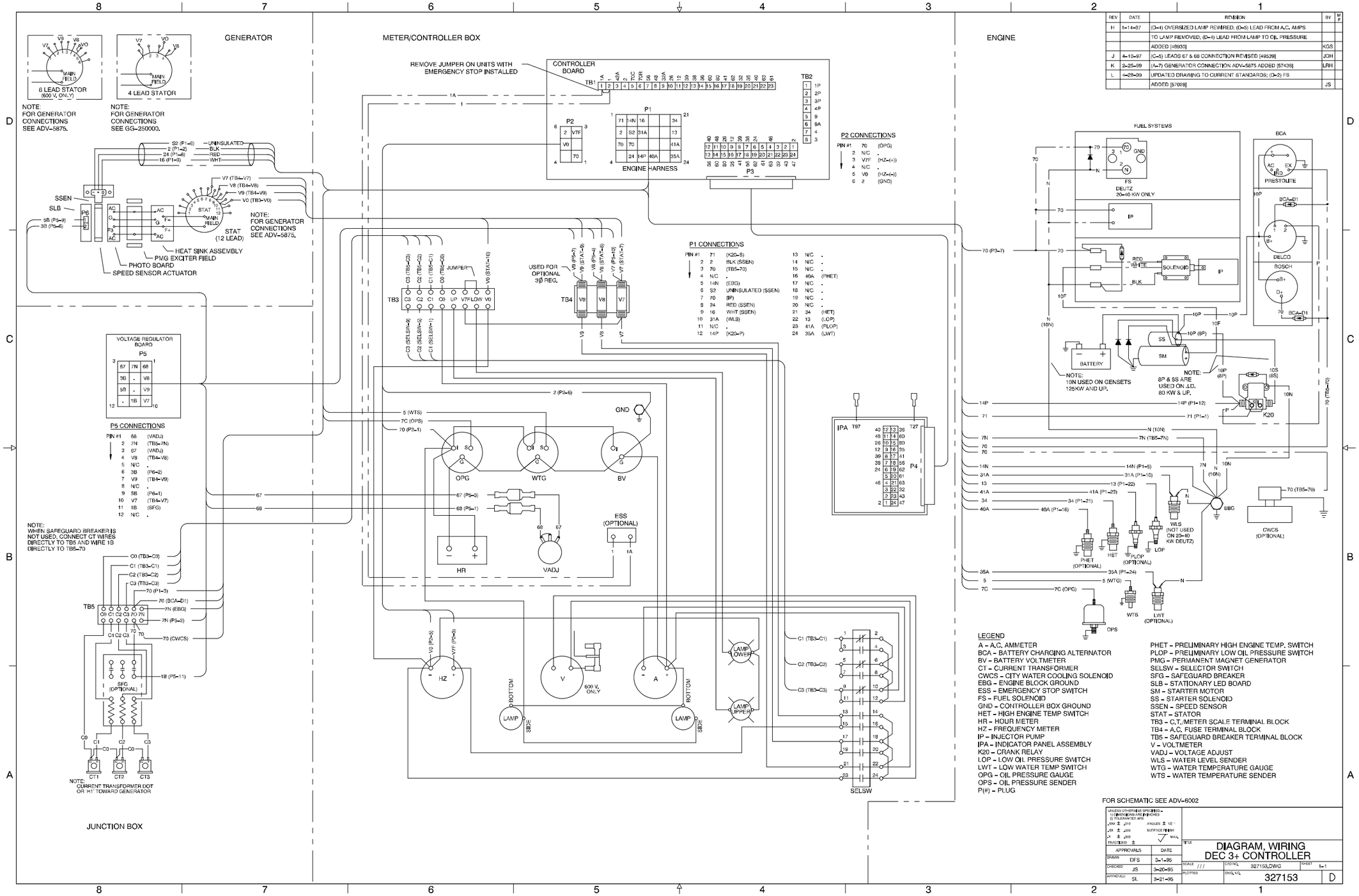


APPROVALS	DATE	TITLE: DIAGRAM, SCHEMATIC 50-170 KW DEUTZ	
DRAWN JS	12-15-98	SCALE	CADFILE ADV6501B.DWG SHEET 2-2
CHECKED		PLOTTED	DWG NO. ADV-6501 D
APPROVED			

Digital Controller, Schematic Diagram, Sheet 2, ADV-6501B-



Manual Controller, Point-to-Point Wiring Diagram, Sheet 1, 327099-H



REV.	DATE	REVISION	BY	M #
H	1-14-97	(D-4) OVERSIZED LAMP REWIRED; (D-5) LEAD FROM A.C. AMPS		
		TO LAMP REMOVED; (D-4) LEAD FROM LAMP TO OIL PRESSURE		
		ADDED [48935]	KGS	
J	4-10-97	(C-5) LEADS 67 & 68 CONNECTION REVISED [49529]	JDH	
K	2-25-99	(A-7) GENERATOR CONNECTION ADV-5875 ADDED [57438]	LRH	
L	4-28-99	UPDATED DRAWING TO CURRENT STANDARDS; (D-2) FS		
		ADDED [57028]	JS	

Microprocessor Controller, Point-to-Point Wiring Diagram, Sheet 1, 327153-L

REV	DATE	REVISION	BY	M F
B	6-5-95	(B-7) AD, N/A ADDED TO TERMINAL ID. #32 [42179]	RN	
C	10-9-96	SHEET 1 OF 3 WAS 1 OF 2 [45684]	KAR	
D	3-31-97	(B-4) INDICATOR PANEL ASSEMBLY ADDED; (B-4, C-2, D-3)		
		HIGH BATTERY VOLTAGE "27" WIRING ADDED; (A-8) LEGEND		
		UPDATED [49791]	DFS	
E	11-19-97	(A-2) "MICROPROCESSOR-PLUS" WAS "DEC 3+" ON		
		SPECTRUM TITLEBLOCK [52692]	KAR	

JUNCTION BOX

OPTIONAL COMMON FAULT RELAY KIT CONNECTIONS

OPTIONAL CUSTOMER CONNECTION KIT

NOTE: TRANSFER SWITCH TERMINAL DESIGNATIONS MAY VARY FROM THOSE SHOWN HERE. VERIFY THE CORRECT DESIGNATIONS USING THE APPROPRIATE TRANSFER SWITCH WIRING DIAGRAM.

OPTIONAL REMOTE START SWITCH

(TERMINALS 3 AND 4, REMOTE START/STOP SWITCH OR ENGINE START CONTACTS ON TRANSFER SWITCH)

(TERMINAL 63, LOW FUEL LEVEL SWITCH LOCATED IN MAIN TANK OR LOW FUEL PRESSURE SWITCH)

BATTERY GROUND

OPTIONAL BATTERY CHARGER CONNECTIONS

BATT. CHARGER FAULT

LOW BATTERY VOLTS

HIGH BATTERY VOLTS

OPTIONAL COMMON A/V ALARM CONNECTIONS

FOR REMOTE ANNUNCIATOR SEE SHEET 2 OF 2

RELAY CONTACTS

OPTIONAL RUN RELAY KIT CONNECTIONS

SAFEGUARD TERM.STRIP

RED

BLACK

(70) BATTERY VOLTAGE PRESENT ONLY WHEN GENERATOR IS OPERATING.

OPTIONAL EMERGENCY STOP KIT CONNECTIONS

(OPTIONAL LOCAL EMERGENCY STOP: STANDARD ON DDC)

CONTROLLER BOARD

INDICATOR PANEL ASSEMBLY

CONTROLLER / METER BOX

OPTIONAL ONE ISOLATED ALARM CONTACT KIT CONNECTIONS

OVERSPEED (TYPICAL CONNECTION)

CIRCULATING PUMP BLOCK HEATER

TERMINAL ID.	DESCRIPTION	
*1	EMERGENCY-STOP RELAY (K4) GROUND	STANDARD CONTROLLER
*1A	EMERGENCY-STOP RELAY (K4) COIL, NEGATIVE	
42A	BATTERY VOLTAGE (FUSE PROTECTED)	
2	GROUND	
70C	GENERATOR IN COOLDOWN	
70R	GENERATOR RUNNING	
32A	COMMON FAULT LINE 2 (ACTIVATED BY: E-STOP, AUX, OS, LOP, HET, FAULTS)	
3	REMOTE START GROUND	
4	REMOTE START (ACTIVE LOW)	
9	CRANK MODE (OPEN=CYCLE ; GROUND=CONTINUOUS)	
9A	CRANK MODE GROUND	
12	OVERCRANK INDICATOR	
26	AUXILIARY INDICATOR	
32	COMMON FAULT/PREALARM LINE 1 (ACTIVATED BY: HET, HETP, LOP, LOPP, OS, LWT, OC, LF, AUX, AD, N/A FAULTS)	
36	HIGH ENGINE TEMPERATURE INDICATOR	
38	LOW OIL PRESSURE INDICATOR	
39	OVERSPEED INDICATOR	
56	AIR DAMPER INDICATOR	
60	SYSTEM READY INDICATOR	
70	BATTERY VOLTAGE (RUN ONLY)	
7N	GROUND	
80	NOT IN AUTO INDICATOR	
35	LOW WATER TEMPERATURE	PRE-ALARM FUNCTION OPTION ADDITIONS
40	PRE-ALARM HIGH ENGINE TEMPERATURE INDICATOR	
41	PRE-ALARM LOW OIL PRESSURE INDICATOR	
58	LINE POWER	TRANSFER SWITCH OPTION ADDITIONS
59	GENERATOR POWER	
27	HIGH BATTERY VOLTAGE (ACTIVE LOW)	NFPA OPTION ADDITIONS
48	EMERGENCY-STOP INDICATOR	
61	BATTERY CHARGER FAULT (ACTIVE LOW)	
62	LOW BATTERY VOLTS (ACTIVE LOW)	
63	LOW FUEL (ACTIVE LOW)	
1P	PRIME POWER OPERATION	OPTION ADDITIONS
2P	PRIME POWER OPERATION	
3P	PRIME POWER OPERATION	
4P	PRIME POWER OPERATION	

* MUST HAVE JUMPER IF THERE IS NO EMERGENCY STOP KIT CONNECTIONS.

10 RELAY DRY CONTACT KIT

OPTIONAL TEN ISOLATED ALARM CONTACTS KIT CONNECTIONS (TYPICAL CONNECTIONS)

OVERSPEED, OVERCRANK, HIGH ENGINE TEMPERATURE, LOW OIL PRESSURE, LOW WATER TEMPERATURE, AUXILIARY FAULT, AIR DAMPER, PRE-ALARM HIGH ENGINE TEMPERATURE, PRE-ALARM LOW OIL PRESSURE, EMERGENCY STOP

PRIME POWER OPERATION
CONTROL BOARD TB2

1P, 2P, 3P, 4P, 9, 9A, 4, 3 — PLACE JUMPERS ACROSS TB2-1P TO TB2-2P, TB2-3P TO TB2-4P & TB2-4 TO TB2-3. TO POWER-DOWN CONTROLLER PLACE GENERATOR MASTER SWITCH IN "OFF/RESET". TO START GENERATOR, MOVE MASTER SWITCH TO "AUTO" POSITION.

DIAGRAM, INTERCONNECTION

DRAWN PWH 1-24-95 | CH.CK'D JS 3-10-95 | APPROVED DAH 3-15-95

SCALE /// | CAD NO. 328912A.dwg | SHEET 1-3 | PLOTTED | DWG NO. 328912 | D

Microprocessor Controller, Accessory Connections, Accessories, Sheet 1, 328912A-E

REV.	DATE	REVISION	BY	M #
B	10-9-96	SHEET 2 OF 3 WAS 2 OF 2 [45884]	KAR	
C	11-19-97	(A-2) "MICROPROCESSOR-PLUS" WAS "DEC 3+" & (B-7)		
		"REMOTE ANNUNCIATOR" WAS "DECISION MONITOR" ON		
		SPECTRUM TITLEBLOCK [52652]	KAR	
D	9-3-98	(A-2) 20-2000 KW WAS 20-1600 KW; (D-6) CUSTOMER		
		INTERCONNECTION KIT, OR INNER PANEL TERMINAL BLOCK.		
		ADDED [55875]	LDS	

REMOTE ANNUNCIATOR
DRY CONTACT BOX
MOUNTED AT GEN

WIRING HARNESS
TO CONTROLLER BOARD,
CUSTOMER INTERCONNECTION KIT,
OR INNER PANEL TERMINAL BLOCK.

42 2 39 12 36 38 26 60 80 41 48 61 62 63 35 40

INPUT

42A 2 K1 K2 K3 K4 K5 K6 K7 K8 K9 K10 K11 K12 K13 K14

N N N N N N N N N N N N N N

K1 K2 K3 K4 K5 K6 K7 K8 K9 K10 K11 K12 K13 K14

39 N 12 36 38 26 60 80 41 48 61 62 63 35 40

N

42B — P

FBA-1
ANNUNCIATOR
FUSE BLOCK
10 AMP

P

N

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.

TRANSFER SWITCH

AUXILLARY CONTACTS MOUNTED ON TRANSFER SWITCH CONTACTOR ASSEMBLY.

DO NOT APPLY ANY VOLTAGE TO THESE CONTACTS.

NOTE: TRANSFER SWITCH TERMINAL DESIGNATIONS MAY VARY FROM THOSE SHOWN HERE. VERIFY THE CORRECT DESIGNATIONS USING THE APPROPRIATE TRANSFER SWITCH WIRING DIAGRAM.

10 — NO — 59
11
12 — N
13 — NC — 58

REMOTE ANNUNCIATOR

42B 63 35 41 40 39 48 38 36 12 26 62 61 58 59 60 80 N

OPTIONAL DECISION MONITOR CONNECTIONS

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

TERMINAL ID.	DESCRIPTION	
*1	EMERGENCY-STOP RELAY (K4) GROUND	STANDARD CONTROLLER
*1A	EMERGENCY-STOP RELAY (K4) COIL, NEGATIVE	
42A	BATTERY VOLTAGE (FUSE PROTECTED)	
2	GROUND	
70C	GENERATOR IN COOLDOWN	
70R	GENERATOR RUNNING	
32A	COMMON FAULT LINE 2 (ACTIVATED BY: E-STOP, AUX, OS, LOP, HET FAULTS)	
3	REMOTE START GROUND	
4	REMOTE START (ACTIVE LOW)	
9	CRANK MODE (OPEN=CYCLE ; GROUND=CONTINUOUS)	
9A	CRANK MODE GROUND	
12	OVERCRANK INDICATOR	
26	AUXILIARY INDICATOR	
32	COMMON FAULT/PREALARM LINE 1 (ACTIVATED BY: HET, HETP, LOP, LOPP, OS, LWT, OC, LF, AUX, AD, NIA FAULTS)	
36	HIGH ENGINE TEMPERATURE INDICATOR	
38	LOW OIL PRESSURE INDICATOR	
39	OVERSPEED INDICATOR	
56	AIR DAMPER INDICATOR	
60	SYSTEM READY INDICATOR	
70	BATTERY VOLTAGE (RUN ONLY)	
7N	GROUND	
80	NOT IN AUTO INDICATOR	
35	LOW WATER TEMPERATURE	PRE-ALARM FUNCTION OPTION ADDITIONS
40	PRE-ALARM HIGH ENGINE TEMPERATURE INDICATOR	
41	PRE-ALARM LOW OIL PRESSURE INDICATOR	
58	LINE POWER	TRANSFER SWITCH OPTION ADDITIONS
59	GENERATOR POWER	
48	EMERGENCY-STOP INDICATOR	NFPA OPTION ADDITIONS
61	BATTERY CHARGER FAULT (ACTIVE LOW)	
62	LOW BATTERY VOLTS (ACTIVE LOW)	
63	LOW FUEL (ACTIVE LOW)	
1P	PRIME POWER OPERATION	OPTION ADDITIONS
2P	PRIME POWER OPERATION	
3P	PRIME POWER OPERATION	
4P	PRIME POWER OPERATION	

* MUST HAVE JUMPER IF THERE IS NO EMERGENCY STOP KIT CONNECTIONS.

UNLESS OTHERWISE SPECIFIED -
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 10 °
.XX ± .030 SURFACE FINISH
.X ± .060 ✓ MAX.
FRACTIONS ±

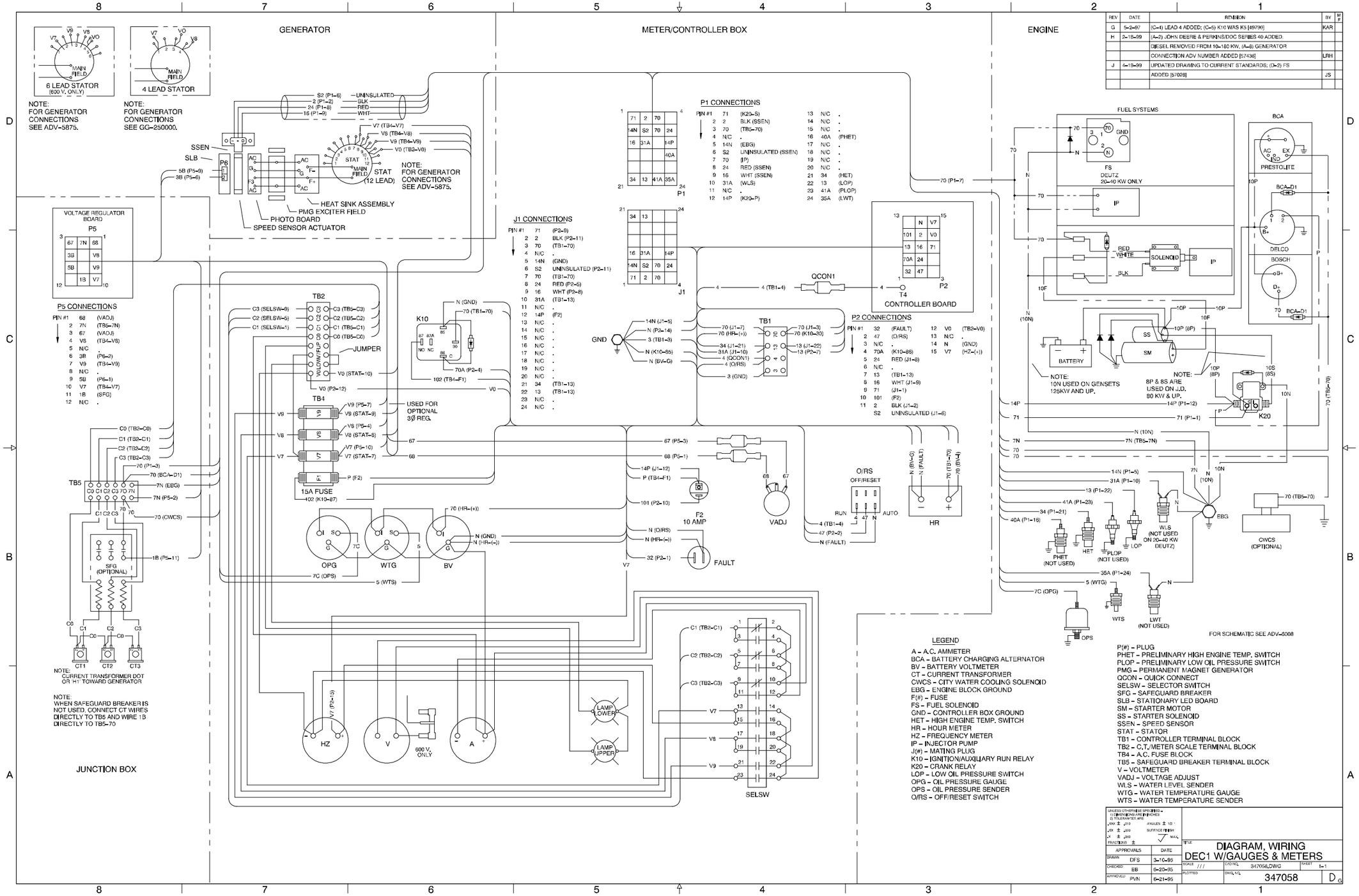
APPROVALS	DATE
DRAWN PWH	1-24-95
CHECKED JS	3-10-95
APPROVED DAH	3-15-95

TITLE: DIAGRAM, INTERCONNECTION

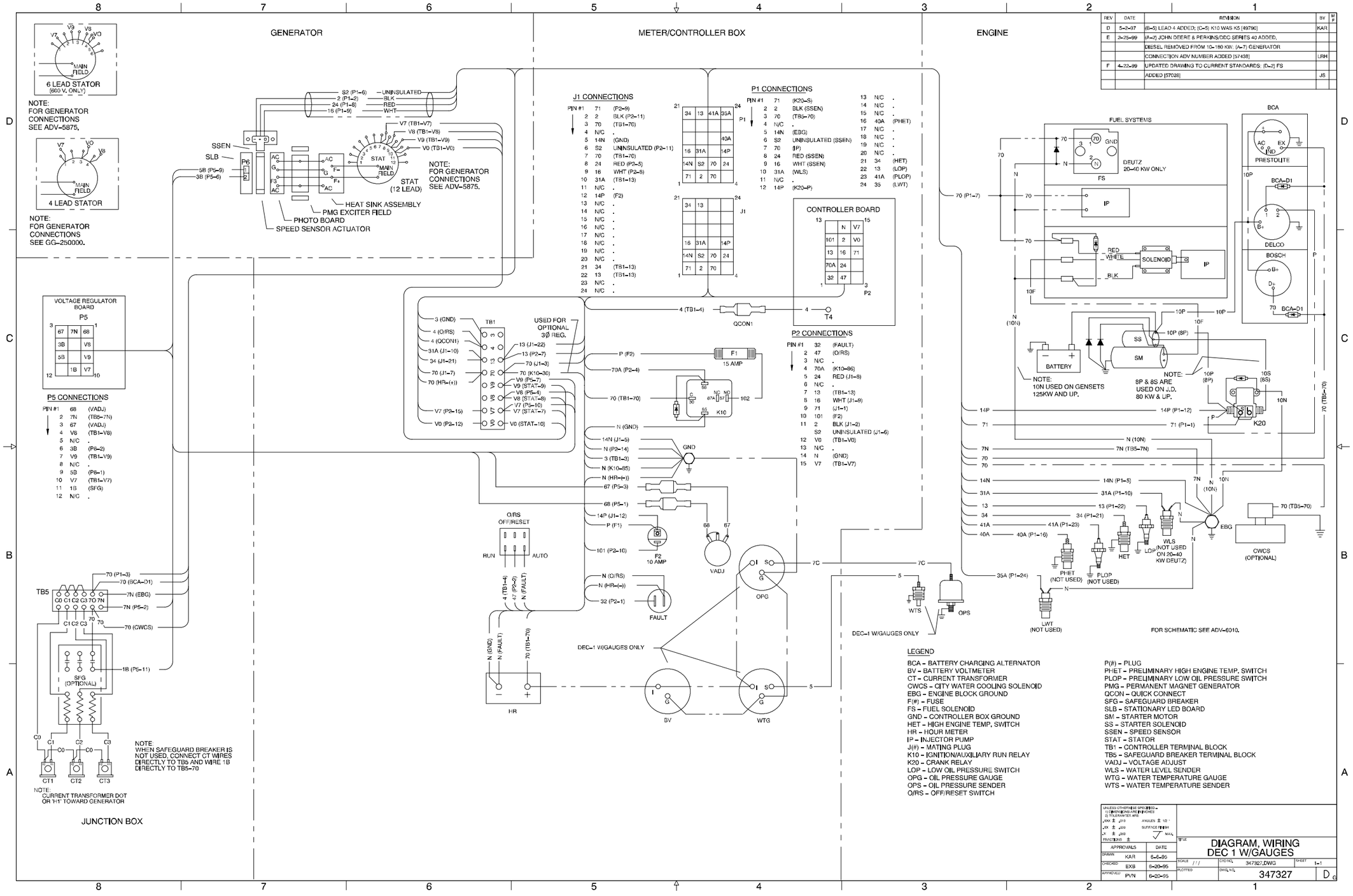
SCALE: / / | CONTROL: 328912B.dwg | SHEET 2-3

PLOTTED | DWG. NO. 328912 | D

Microprocessor Controller, Accessory Connections, Accessories, Sheet 2, 328912B-D

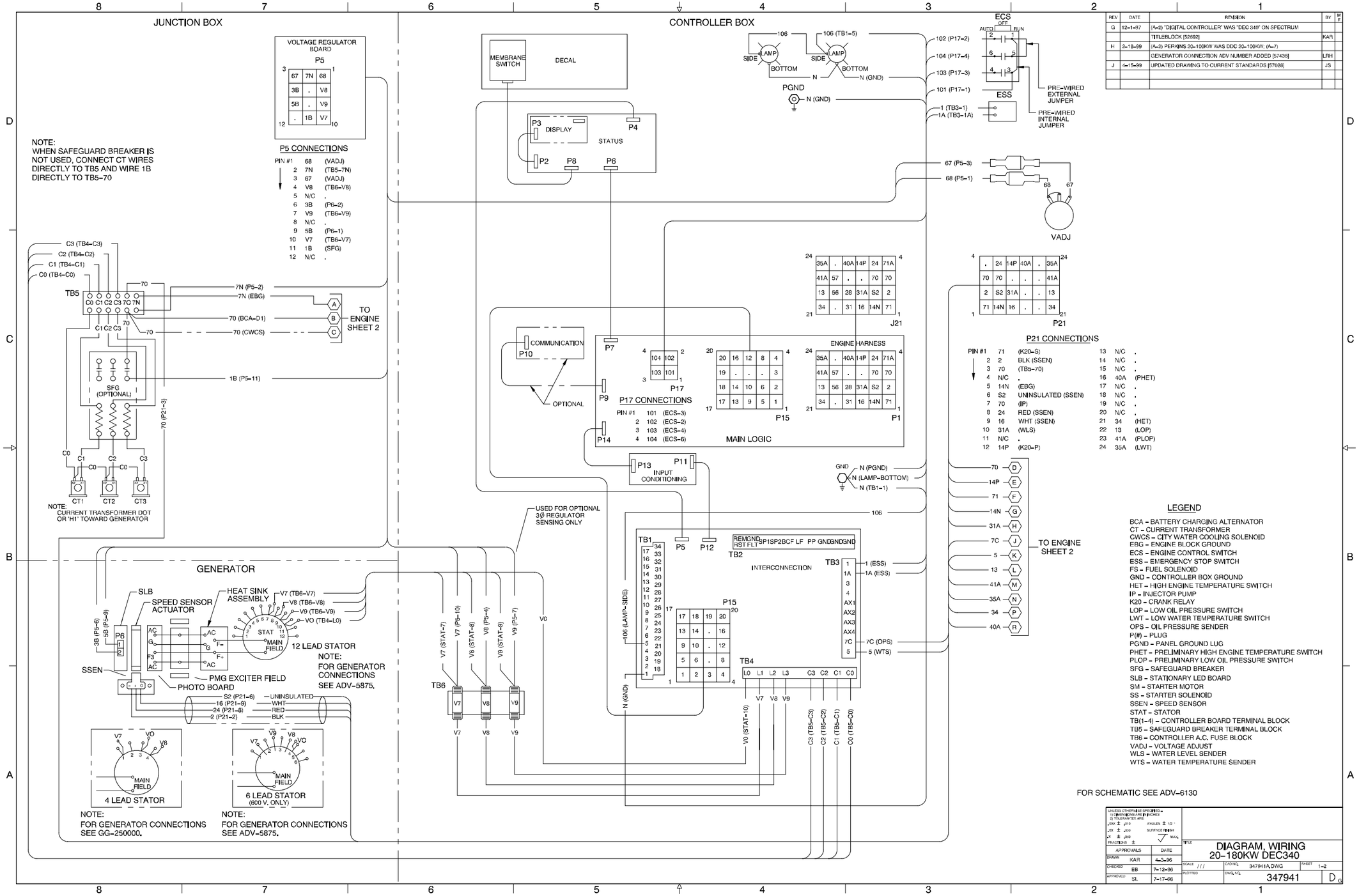


Decision-Maker™ 1 Expanded Controller, Point-to-Point Wiring Diagram, Sheet 1, 347058-J



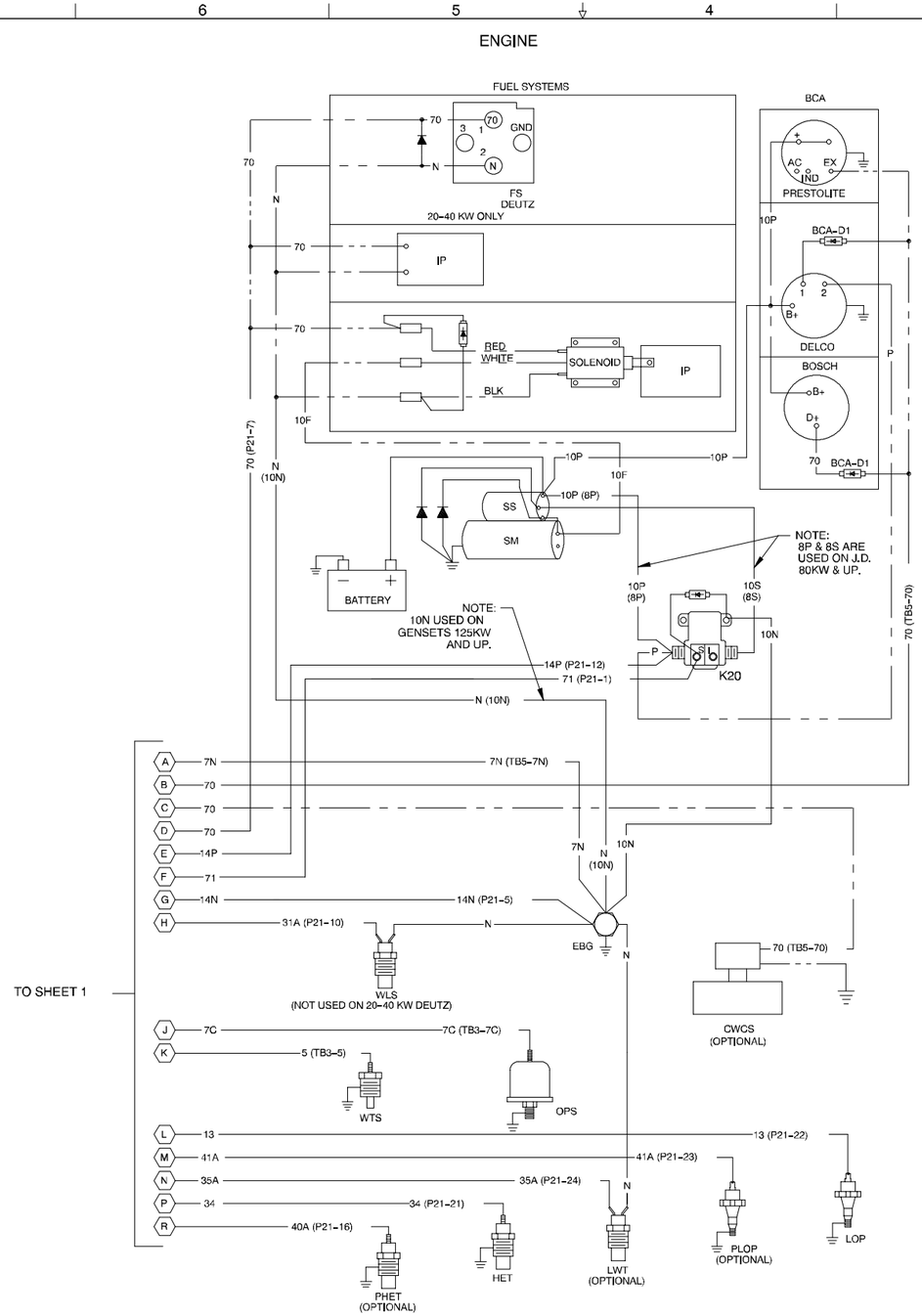
REV	DATE	REVISION	BY	M #
D	5-2-97	(B-5) LEAD 4 ADDED; (C-5) K10 WAS K5 [49790]	KAR	
E	2-25-99	(A-7) JOHN DEERE & PERKINS/DDC SERIES 40 ADDED;		
		DIESEL REMOVED FROM 10-180 KW; (A-7) GENERATOR		
		CONNECTION ADV NUMBER ADDED [57438]	LRH	
F	4-22-99	UPDATED DRAWING TO CURRENT STANDARDS; (D-2) FS		
		ADDED [57028]	JS	

Decision-Maker™ 1 Standard/Engine Gauges Controller, Point-to-Point Wiring Diagram, Sheet 1, 327327-F



Digital Controller, Point-to-Point Wiring Diagram, Sheet 1, 347941A-J

REV	DATE	REVISION	BY	M #
B	7-31-97	(GLOBAL) POINT TO POINT CODES UPDATED [51552]	KAR	
C	12-1-97	(A-2) "DIGITAL CONTROLLER" WAS "DEC 340" ON SPECTRUM		
		TITLEBLOCK [52692]	KAR	
D	2-18-99	(A-2) PERKINS 20-100KW WAS DOC 20-100KW. [57438]	LRH	
J	4-15-99	UPDATED DRAWING TO CURRENT STANDARDS. (D-6) FS		
		ADDED [57028]	JS	



Digital Controller, Point-to-Point Wiring Diagram, Sheet 2, 347941B-J

REV	DATE	REVISION	BY	M #
–	7–23–98	NEW DRAWING [47822]	KAR	
A	3–4–97	(B–3) OPT. PRIME POWER SWITCH ADDED. [48974]	LRH	
B	6–27–97	(B–5, C–6) LEADS 70R & 70C ADDED; (A–8) NOTE 2 ADDED		
		[51177]	WSD	
C	12–1–97	(A–2) "DIGITAL CONTROLLER" WAS "DEC 340" ON SPECTRUM		
		TITLEBLOCK [52692]	KAR	

JUNCTION BOX

OPTIONAL DEFINED COMMON FAULT RELAY KIT CONNECTIONS

C NC NO — OUT K1 — K1 2 42A

OPTIONAL CUSTOMER CONNECTION KIT (SEE NOTE #2)

42A 2 70C 70R 56 48 32A 26 12 39 38 36 60 80 41 62 32 35 40 63 61 4 3

OPTIONAL COMMON A/V ALARM CONNECTIONS

42A 2 32

FOR REMOTE ANNUNCIATOR SEE SHEET 2 OF 2

OPTIONAL REMOTE START SWITCH

(TERMINALS 3 AND 4, REMOTE START/STOP SWITCH OR ENGINE START CONTACTS ON TRANSFER SWITCH)

NOTE: TRANSFER SWITCH TERMINAL DESIGNATIONS MAY VARY FROM THOSE SHOWN HERE. VERIFY THE CORRECT DESIGNATIONS USING THE APPROPRIATE TRANSFER SWITCH WIRING DIAGRAM.

LOW FUEL SWITCH LOCATED IN MAIN TANK AS PROVIDED BY FUEL TANK SUPPLIER

BATTERY GROUND

OPTIONAL BATTERY CHARGER CONNECTIONS

BATT. CHARGER FAULT

RELAY CONTACTS

OPTIONAL RUN RELAY KIT CONNECTIONS

SAFEGUARD TERMINALSTRIP

C0 C1 C2 C3 70 7N

RED

BLACK

(70) BATTERY VOLTAGE PRESENT ONLY WHEN GENERATOR IS OPERATING.

OPTIONAL REMOTE EMERGENCY STOP KIT CONNECTION

1A 1

INTERCONNECT BOARD OUTPUT CONNECTIONS

TB1–1 ENGINE GROUND
TB1–2 ENGINE GROUND
TB1–3 ENGINE GROUND
TB1–4 ENGINE GROUND
TB1–5 PANEL LAMP OUTPUT
TB1–6 RDO–10 HIGH BATTERY VOLTAGE
TB1–7 RDO–9 SPEED SENSOR FAULT
TB1–8 RDO–7 LOW COOLANT LEVEL
TB1–9 RDO–5 AIR DAMPER (56)
TB1–10 NIA RELAY OUTPUT (80)
TB1–11 OVERCRANK RELAY OUTPUT (12)
TB1–12 LOW BATTERY VOLTAGE RELAY OUTPUT (62)
TB1–13 LOW COOLANT TEMPERATURE RELAY OUTPUT (35)
TB1–14 LOW OIL PRESSURE RELAY OUTPUT (38)
TB1–15 HIGH COOLANT TEMPERATURE RELAY OUTPUT (36)
TB1–16 LOW OIL PRESSURE WARNING RELAY OUTPUT (41)
TB1–17 HIGH COOLANT TEMP. WARNING RELAY OUTPUT (40)
TB1–18 42A
TB1–19 42A
TB1–20 42A
TB1–21 DVR DOWN VOLTAGE ADJUSTMENT
TB1–22 DVR COMMON VOLTAGE ADJUSTMENT
TB1–23 DVR UP VOLTAGE ADJUSTMENT
TB1–24 RDO–8 EPS SUPPLYING LOAD
TB1–25 RDO–6 OVERVOLTAGE
TB1–26 RDO–4 ENGINE COOLDOWN (70C)
TB1–27 RDO–3 GENERATOR RUNNING (70R)
TB1–28 RDO–2 DEFINED COMMON FAULT (32A)
TB1–29 RDO–1 NFPA 110 COMM. FAULT (32)
TB1–30 SYSTEM READY RELAY OUTPUT (60)
TB1–31 E–STOP RELAY OUTPUT (48)
TB1–32 BATTERY CHARGER FAULT RELAY OUTPUT (61)
TB1–33 LOW FUEL RELAY OUTPUT (63)
TB1–34 OVERSPEED RELAY OUTPUT (39)

TB1 TB2 TB3

REM RST GND FLT SP1 SP2 BCF LF PP GND GND GND

INTERCONNECTION BOARD

OPT. PRIME POWER SWITCH

LOCAL E–STOP SWITCH

OPTIONAL ONE ISOLATED ALARM CONTACT KIT CONNECTIONS

OUT K1 — NO NC C

OVERSPEED (TYPICAL CONNECTION)

CIRCULATING PUMP BLOCK HEATER

A TO SHEET 2

CONTROLLER / METER BOX

NOTES:

1. RDO–1 THRU RDO–10 ARE CUSTOMER DEFINEABLE WITH FACTORY DEFAULTS LISTED. DEFINED COMMON FAULT FACTORY DEFAULT SETTING: E–STOP, OVERSPEED, LOW OIL PRESSURE, HIGH ENGINE TEMPERATURE & OVERCRANK.
2. TERMINAL 26 OF CUSTOMER CONNECTION KIT IS NOT USED. TAPE OVER IN HARNESS.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES; TOLERANCES ARE: .XXX ± .010, .XX ± .020, .X ± .030, ANGLES ± 10°, SURFACE FINISH 125, FRACTIONS ±

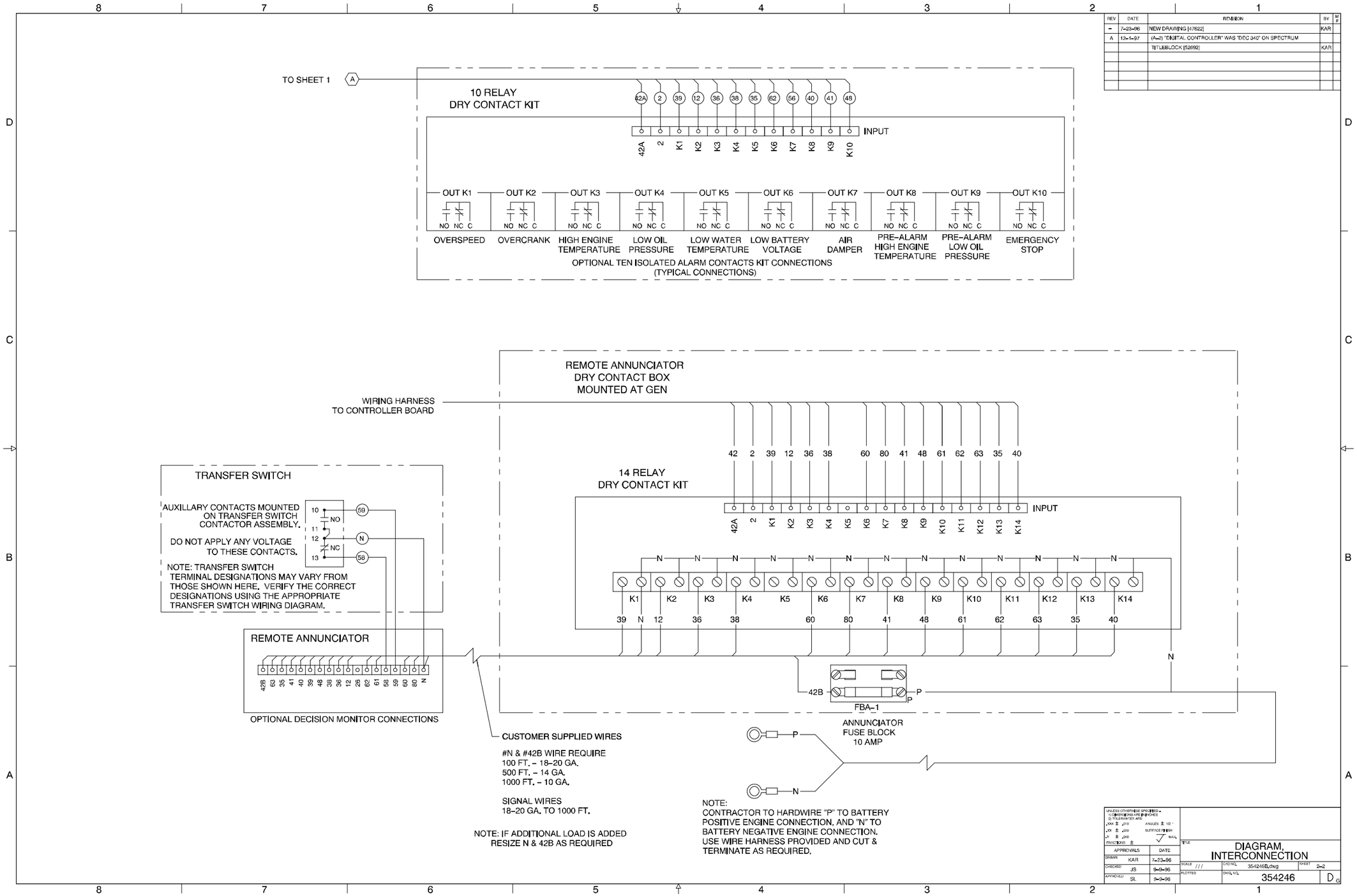
APPROVALS	DATE
DRAWN KAR	7–23–98
CHECKED JS	9–9–98
APPROVED SL	9–9–98

TITLE: DIAGRAM, INTERCONNECTION

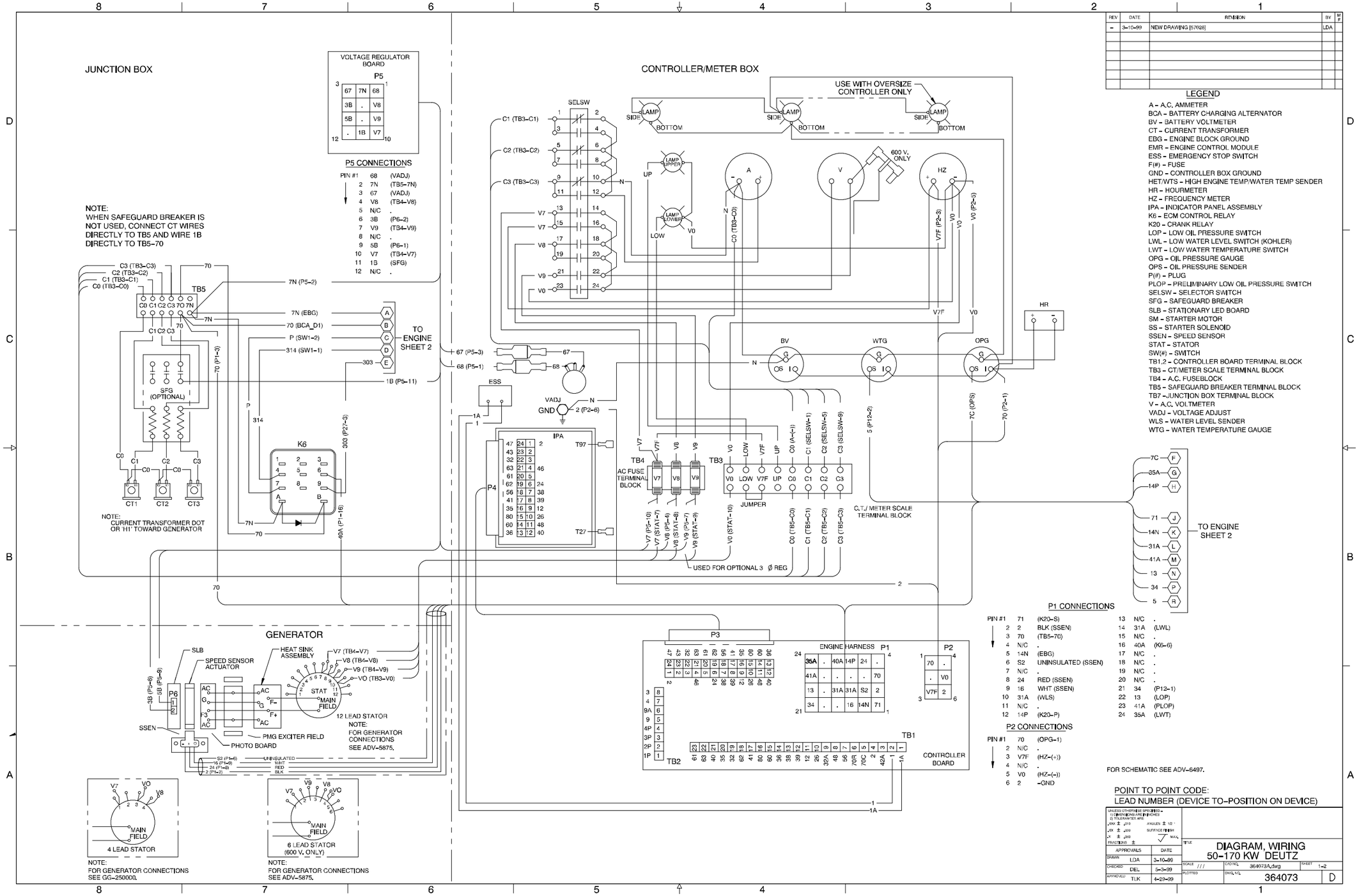
SCALE: /// | DIGITAL 354246A.dwg | SHEET 1–2 | PLOTTED | DWG. NO. 354246 | D

Digital Controller, Accessory Connections, Accessories, Sheet 1, 354246A-C

REV.	DATE	REVISION	BY	M #
–	7-23-96	NEW DRAWING [47622]	KAR	
A	12-1-97	(A–2) "DIGITAL CONTROLLER" WAS "DEC 340" ON SPECTRUM		
		TITLEBLOCK [52692]	KAR	



Digital Controller, Accessory Connections, Accessories, Sheet 2, 354246B-A

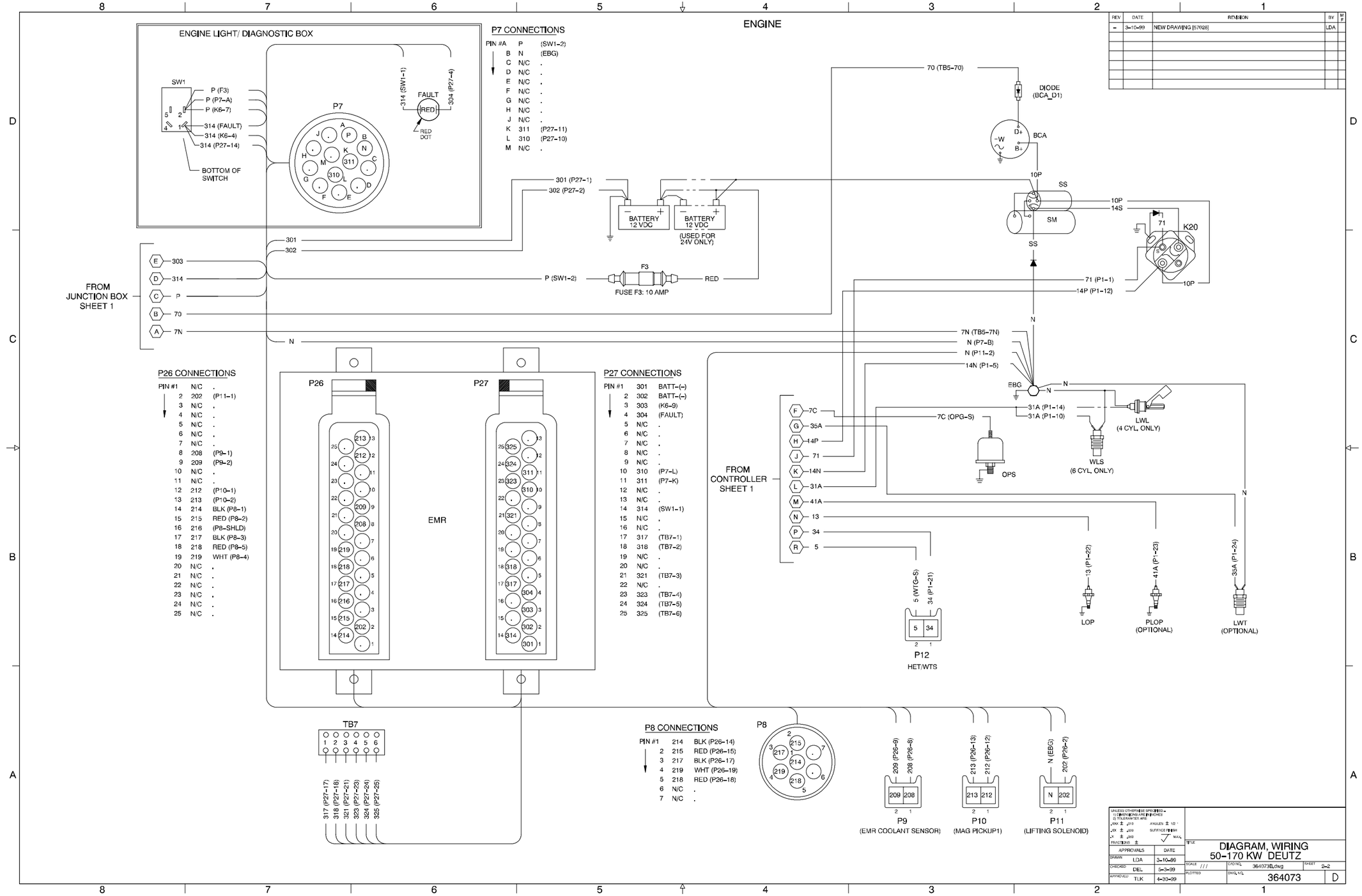


REV	DATE	REVISION	BY	M #
–	3-10-99	NEW DRAWING [57028]	LDA	

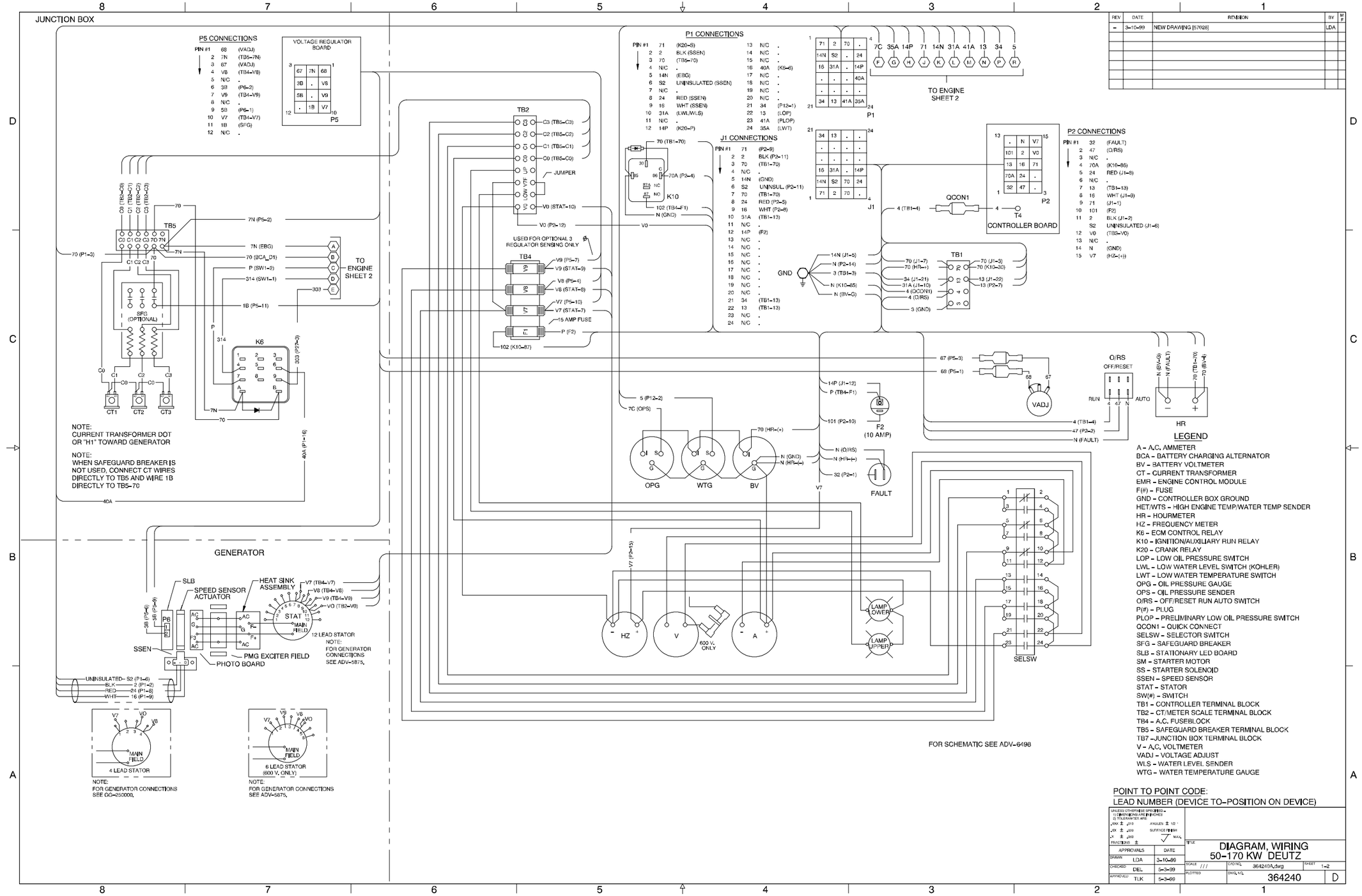
LEGEND

A – A.C. AMMETER
BCA – BATTERY CHARGING ALTERNATOR
BV – BATTERY VOLTMETER
CT – CURRENT TRANSFORMER
EBG – ENGINE BLOCK GROUND
EMR – ENGINE CONTROL MODULE
ESS – EMERGENCY STOP SWITCH
F(#) – FUSE
GND – CONTROLLER BOX GROUND
HET/WTS – HIGH ENGINE TEMP/WATER TEMP SENDER
HR – HOURMETER
HZ – FREQUENCY METER
IPA – INDICATOR PANEL ASSEMBLY
K6 – ECM CONTROL RELAY
K20 – CRANK RELAY
LOP – LOW OIL PRESSURE SWITCH
LWL – LOW WATER LEVEL SWITCH (KOHLER)
LWT – LOW WATER TEMPERATURE SWITCH
OPG – OIL PRESSURE GAUGE
OPS – OIL PRESSURE SENDER
P(#) – PLUG
PLOP – PRELIMINARY LOW OIL PRESSURE SWITCH
SELSW – SELECTOR SWITCH
SFG – SAFEGUARD BREAKER
SLB – STATIONARY LED BOARD
SM – STARTER MOTOR
SS – STARTER SOLENOID
SSEN – SPEED SENSOR
STAT – STATOR
SW(#) – SWITCH
TB1,2 – CONTROLLER BOARD TERMINAL BLOCK
TB3 – CT/METER SCALE TERMINAL BLOCK
TB4 – A.C. FUSEBLOCK
TB5 – SAFEGUARD BREAKER TERMINAL BLOCK
TB7 –JUNCTION BOX TERMINAL BLOCK
V – A.C. VOLTMETER
VADJ – VOLTAGE ADJUST
WLS – WATER LEVEL SENDER
WTG – WATER TEMPERATURE GAUGE

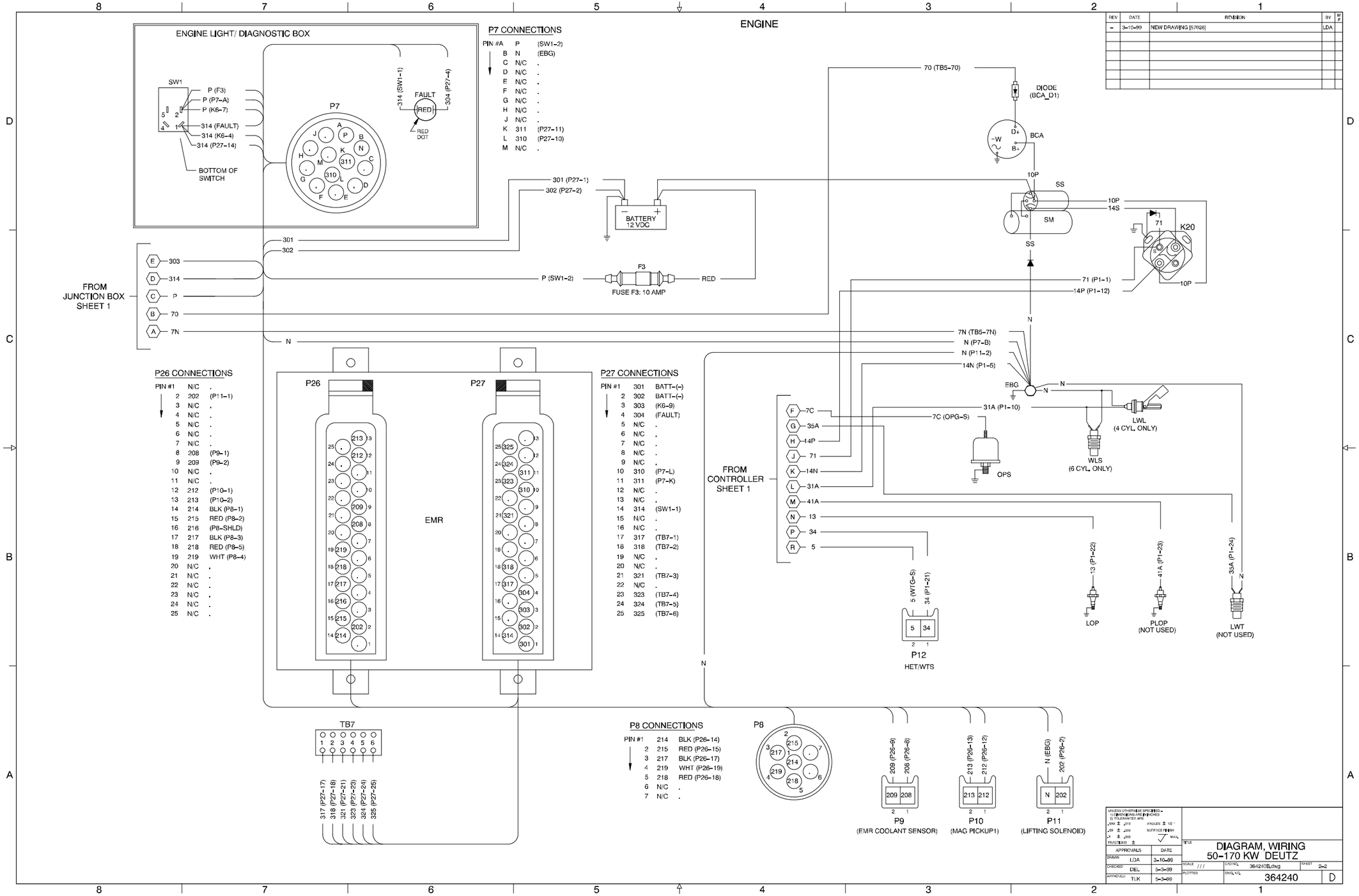
Microprocessor Controller, Point-to-Point Wiring Diagram, Sheet 1, 364073A-



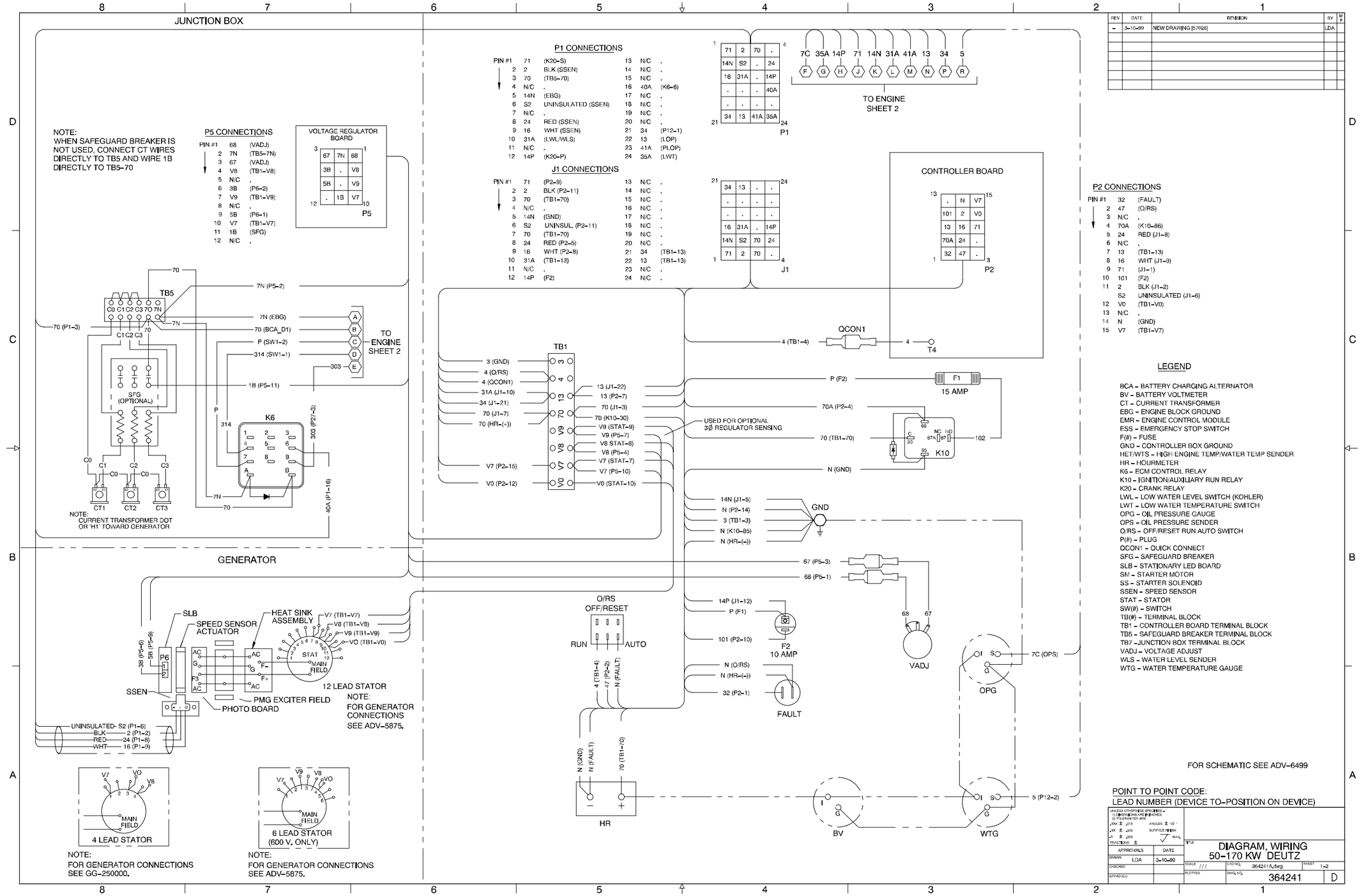
Microprocessor Controller, Point-to-Point Wiring Diagram, Sheet 2, 364073B-



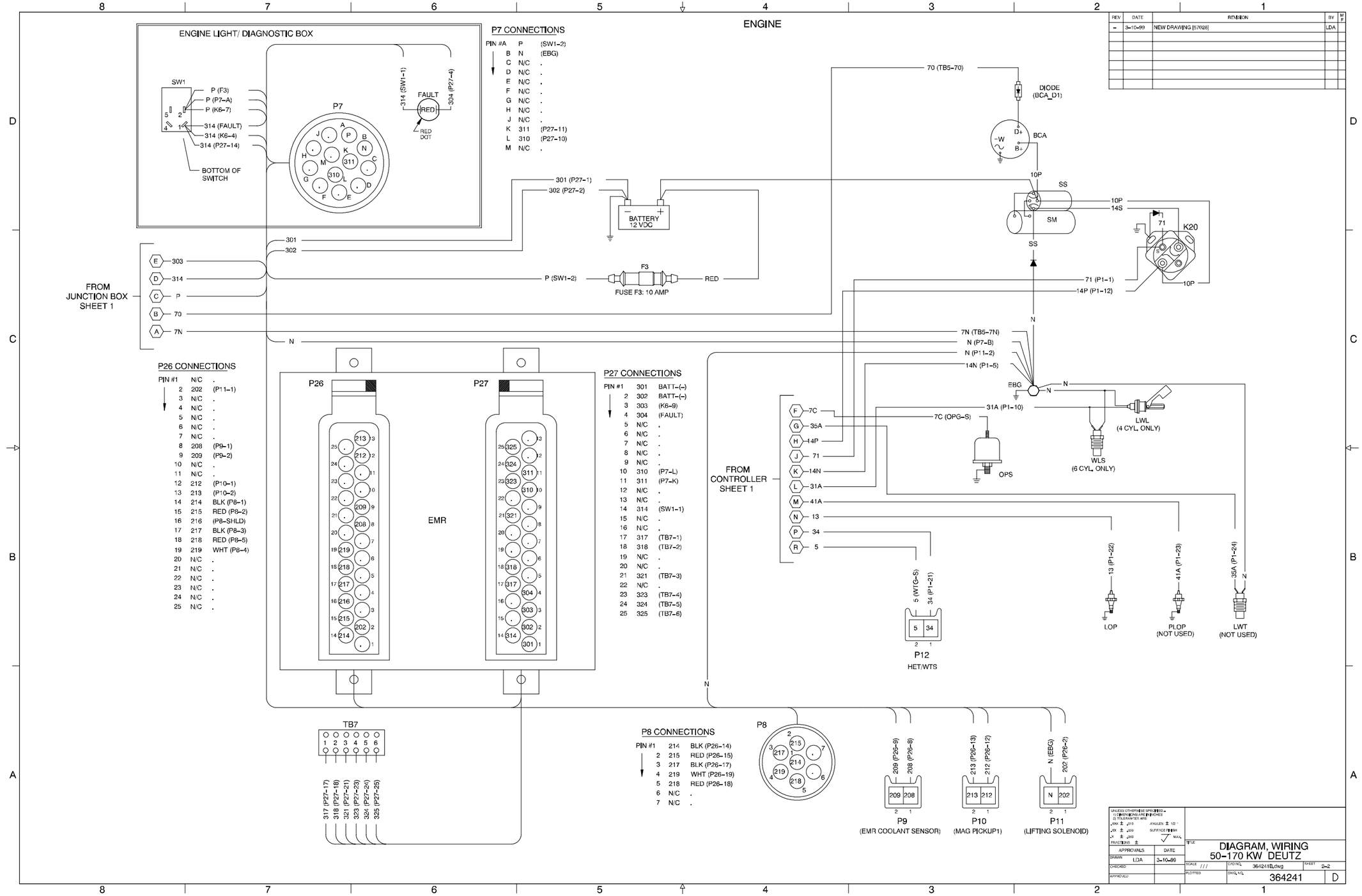
Decision-Maker™ 1 Expanded Controller, Point-to-Point Wiring Diagram, Sheet 1, 364240A-



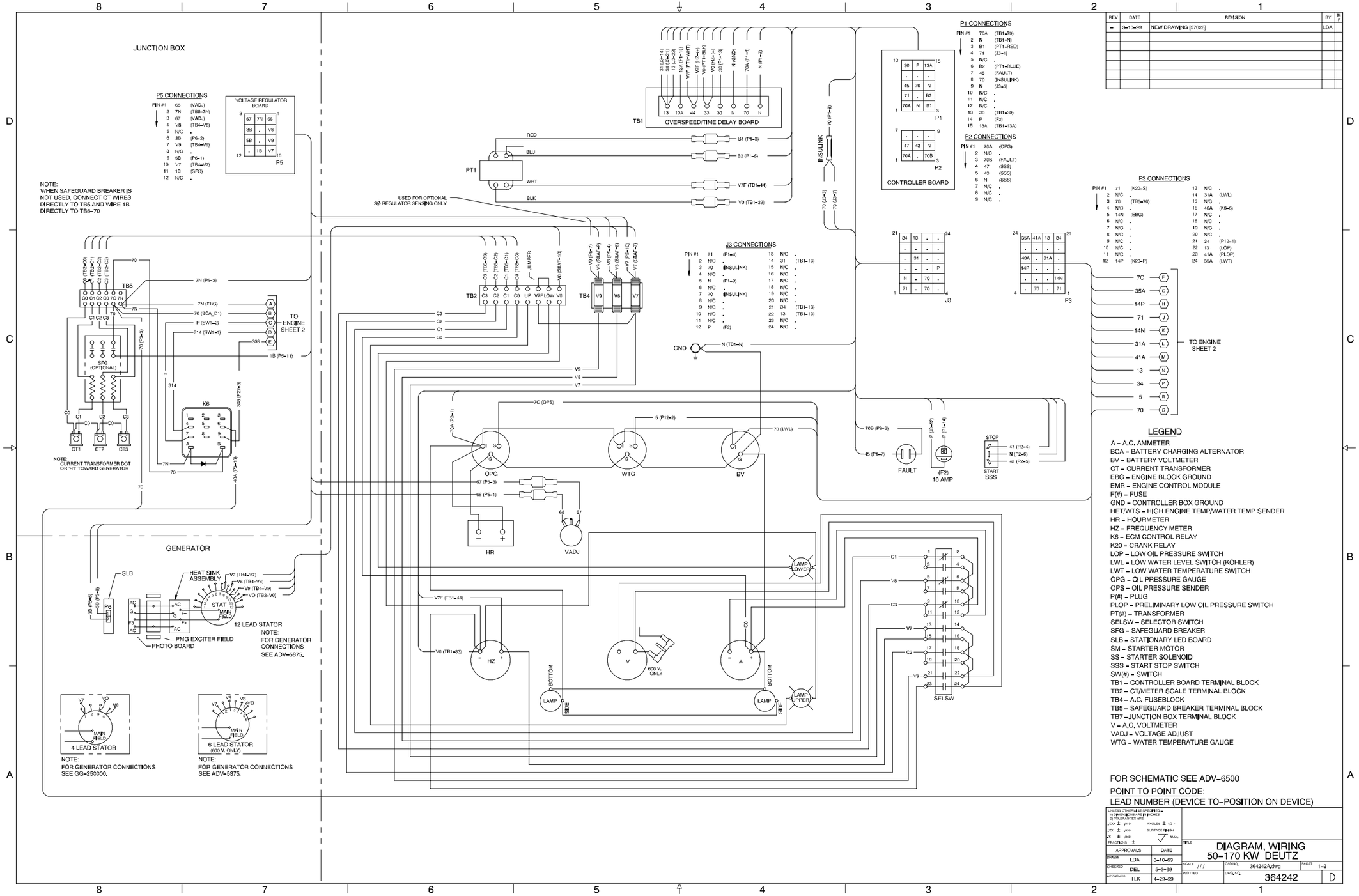
Decision-Maker™ 1 Expanded Controller, Point-to-Point Wiring Diagram, Sheet 2, 364240B-



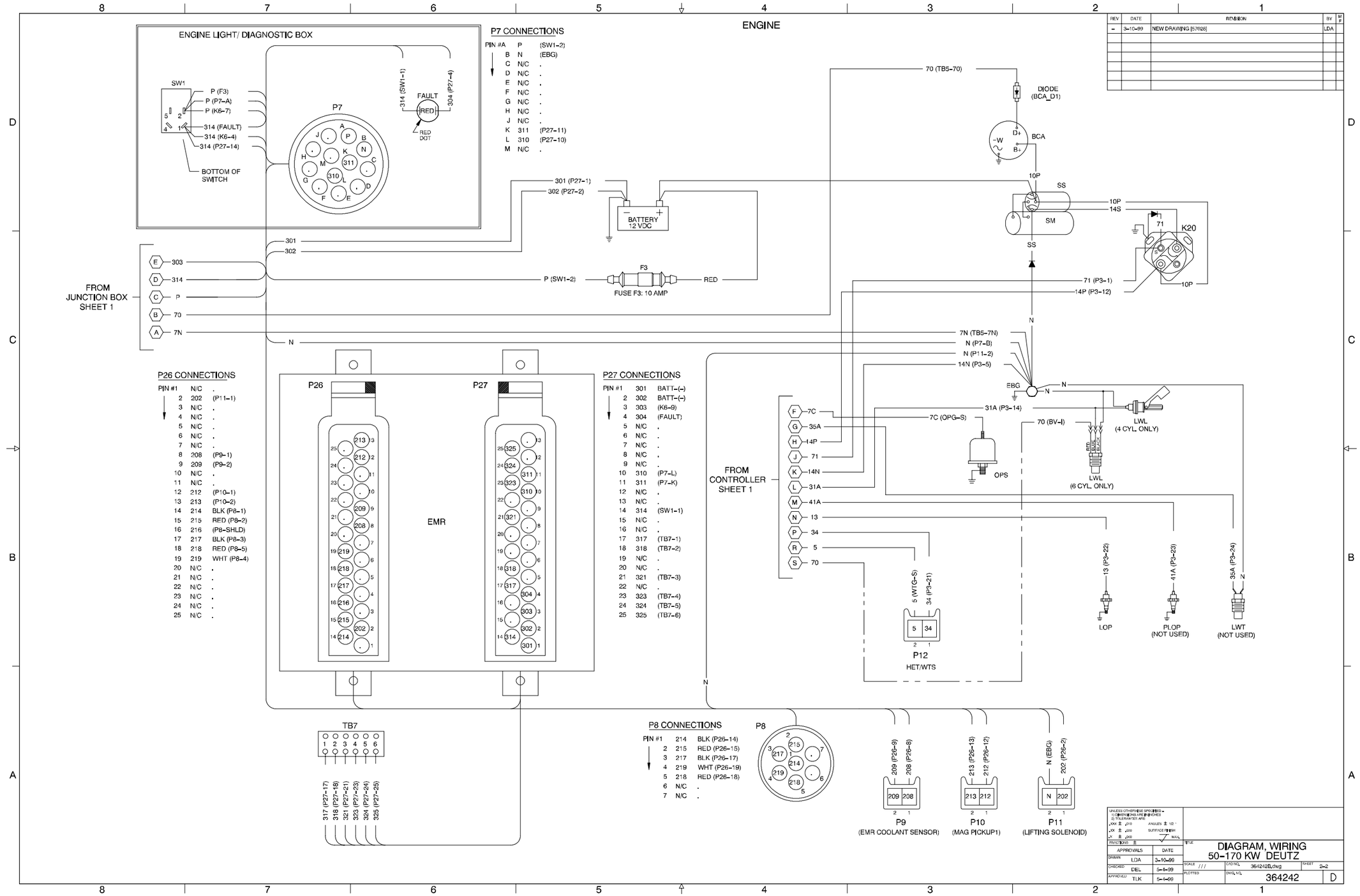
Decision-Maker™ 1 Standard/Engine Gauges Controller, Point-to-Point Wiring Diagram, Sheet 1, 364241A-



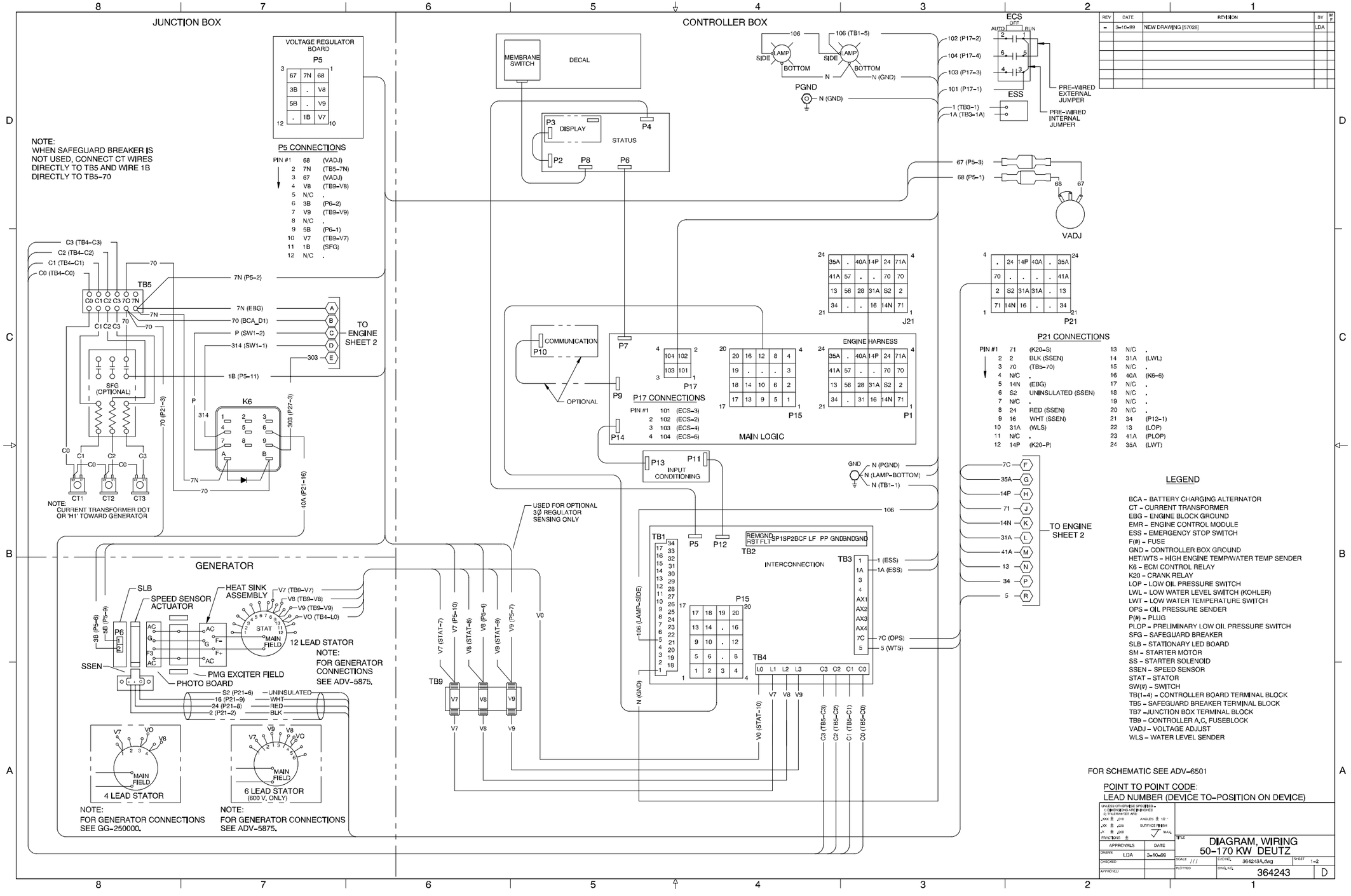
Decision-Maker™ 1 Standard/Engine Gauges Controller, Point-to-Point Wiring Diagram, Sheet 2, 364241B-



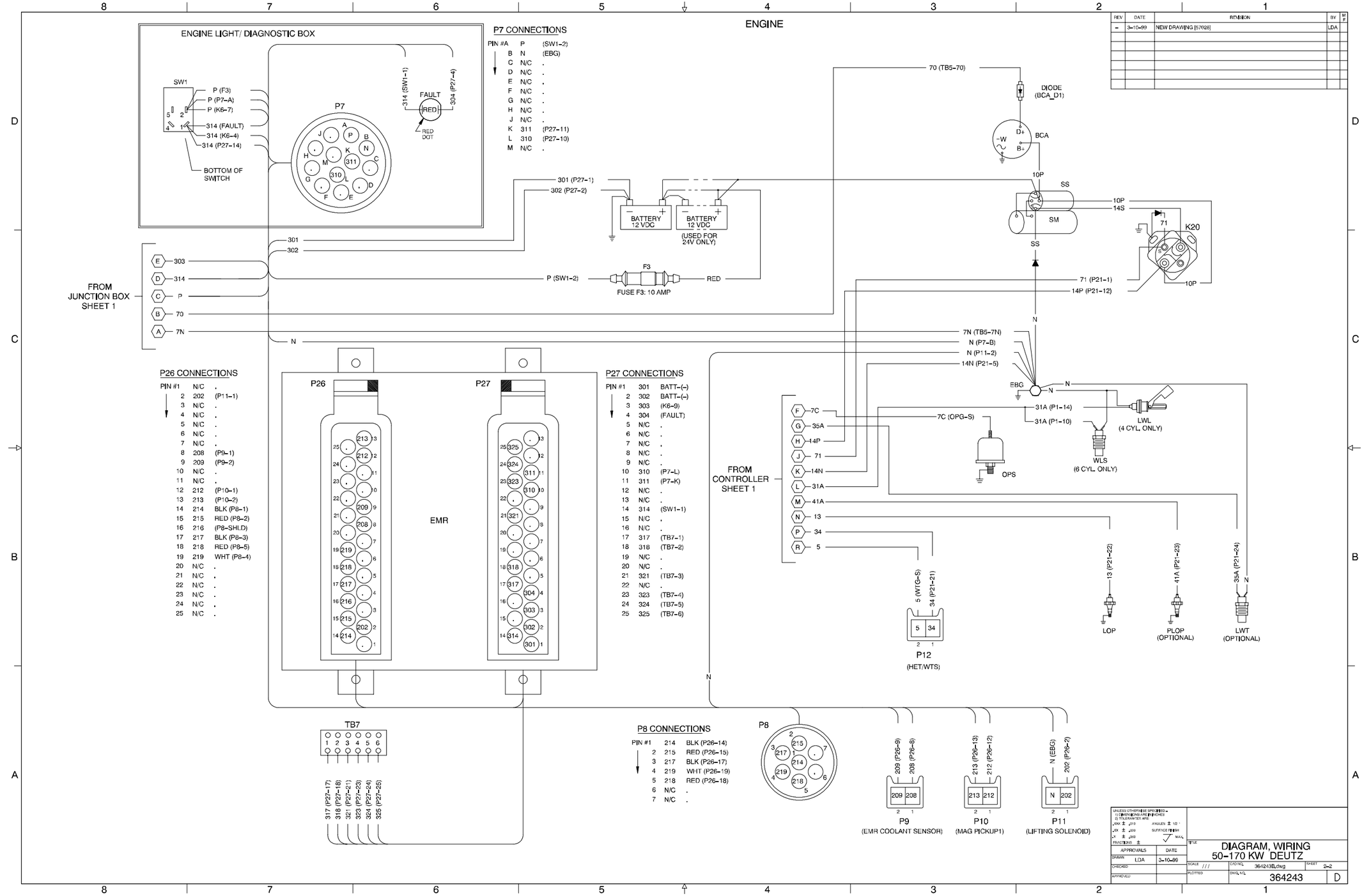
Manual Controller, Point-to-Point Wiring Diagram, Sheet 1, 364242A-



Manual Controller, Point-to-Point Wiring Diagram, Sheet 2, 364242B-



Digital Controller, Point-to-Point Wiring Diagram, Sheet 1, 364243A-



Digital Controller, Point-to-Point Wiring Diagram, Sheet 2, 364243B-

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KOHLER CO. Kohler, Wisconsin 53044
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Kohler® Power Systems
Asia Pacific Headquarters
7 Jurong Pier Road
Singapore 619159
Phone (65)264-6422, Fax (65)264-6455

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