

ADDENDUM 1: QUESTIONS and ANSWERS FOR RFP 58002

1. Is there a specification on the generator?

A: as far as a manufacturer goes, WVNET does not have a preference. We will just need something similar to what we currently have

2. What are the dimensions of the fenced area the generator will be located?

A: area for generator is 5'3" x 19'2"

Concrete platform is 8' x 10'

Workable areas inside fence is 40' x 15', one gate is 9' wide with pole between edges, which can be removed, and the other gate is 4' wide. Also, the fence is 8' high.

3. What is the make and model of the transfer switch?

A: Eaton Cutler-Hammer

Transfer Switch Cat. No. ATVIMGF31200XRU

Some additional information from ATS cabinet:

2 each: source 1/utility source 2/generator

Magnum DS

MDSC20

Low Voltage AC Power Circuit Breaker

200 Amp Frame 3 Pole 50/60Hz

4. Does the proposal need to include a loadbank per NFPA?

A: WVNET has never used load bank. According to the NFPA 110 standards, we see a load bank test and a building load test. Since WVNET does a generator power on test each week and a Data Center load test each month, WVNET does not require a load bank

5. Can we provide the spec sheets for the generator being bid?

A: The spec sheets for the generator are attached but here is some general information:

GENERAC Power Systems

Model: 53896890100

Type: 5D0506-K36180D18GPSLC

277/480 500kw 625kva

6. Can we get a copy of the demand history from the power company?

A: the demand history from the power company is on an excel spreadsheet on the web site

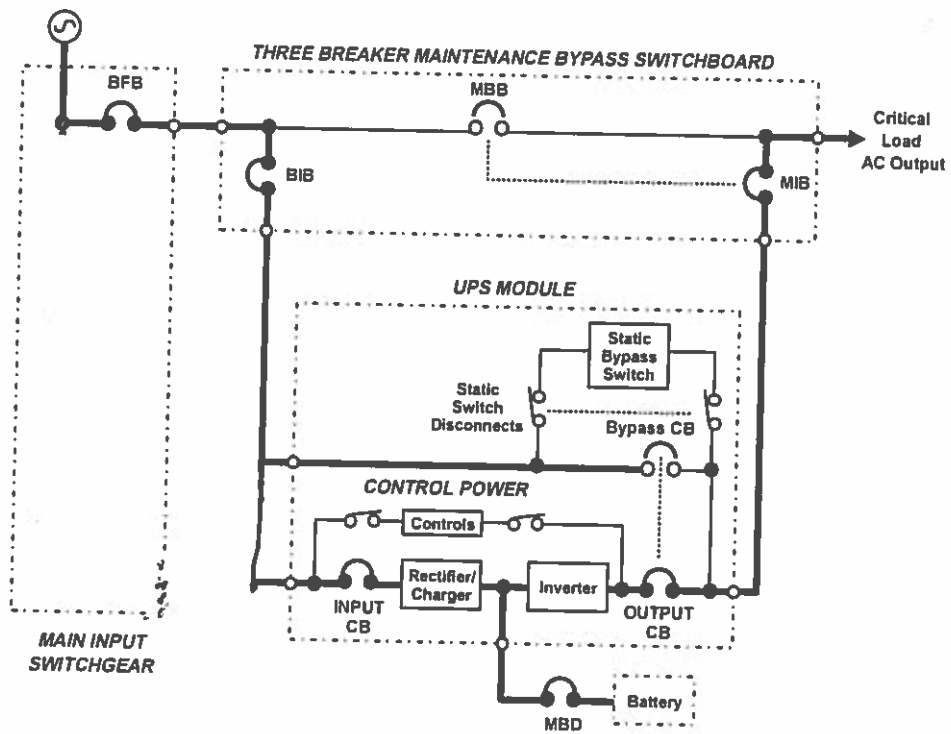


Figure 3-36. Load on UPS (Bypass Available)

WVNET Power_UPS

UPS model: Liebert Series 610 UPS

Our UPS uses dual banks containing multiple batteries.

Service rating:

225kva/60hz

480vac/277vac

UPS Input Power(3 phase, will use θ for theta symbol):

UPS Input:

θ A-B 492v 142a

θ B-C 496v 143a

θ C-A 494v 139a

Bypass Input(3 phase):

θ A-B 492v

θ B-C 496v

θ B-C 494v

Current average load:

107 kva 52%

105 kw 63%

θ A-B 138a

θ B-C 140a

θ B-C 118a

WVNET Power_Automatic Transfer Switch(refer to as ATS)

ATS Model: Eaton ATC-600 Automatic Transfer Switch

2 switches:

Utility Power(top switch):

120-600v 1200 a

Generator Power(lower switch):

120-600v 1200 a

WVNET PowerManual Transfer Switch(refer to as MTS)

Do not have a manufacturer. These were installed by WV Electric.

Our MTS is a series of three switches. Each switch handles one phase of the 3 phase power.

This system also has a connection in the event of work needing done involving the shut down of utility and back up power. There is an external feed in the event we need to rent a generator during any major maintenance.

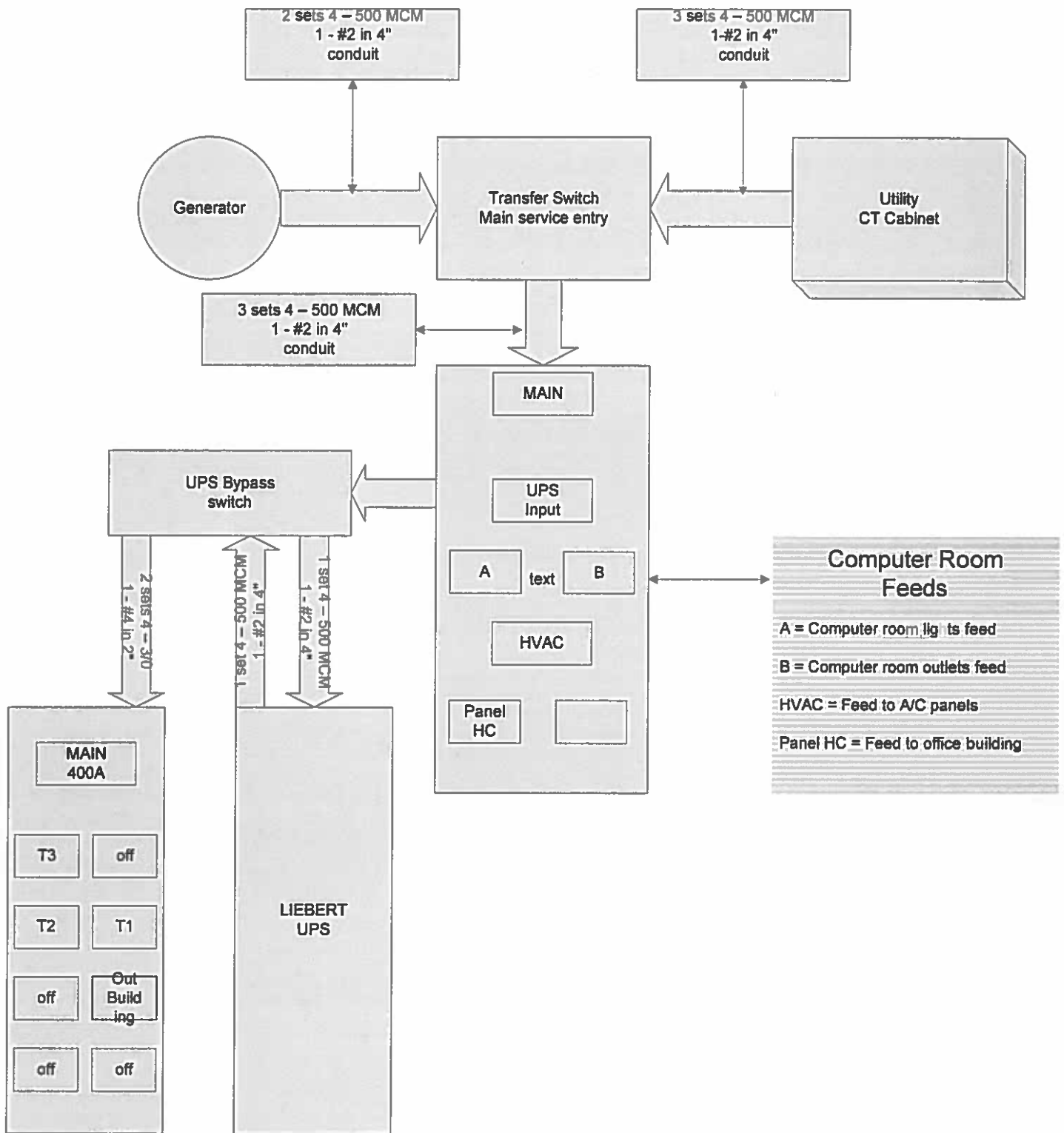
MTS each individually:
480/277v
600a

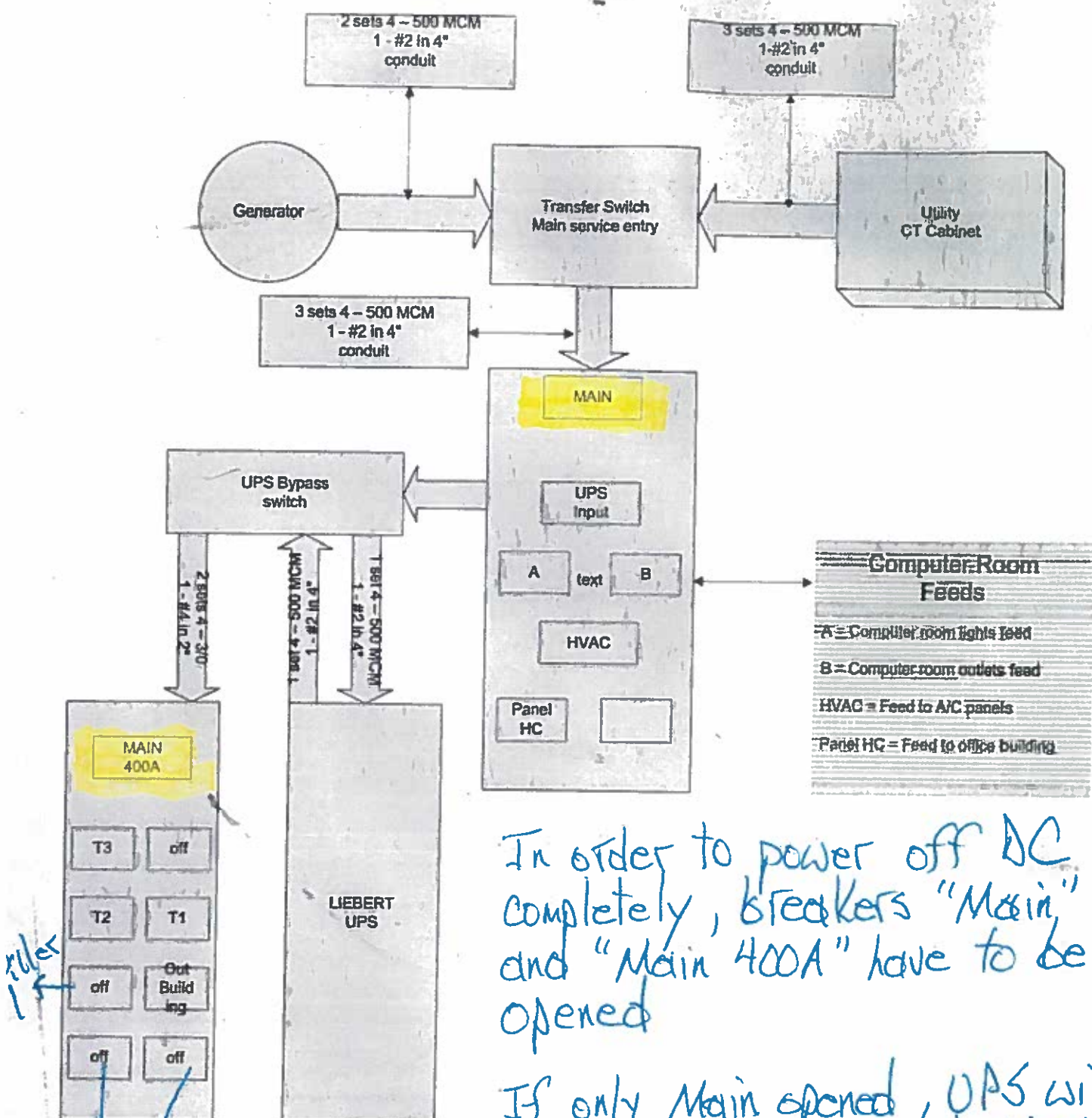
WVNET PowerGenerator Backup

Generac Power Systems

Model 5389680100
500kw
625kva
480/277v

Diesel fueled, with estimated run time until re-fueling 2.5 days. Generator can be fueled while in use.

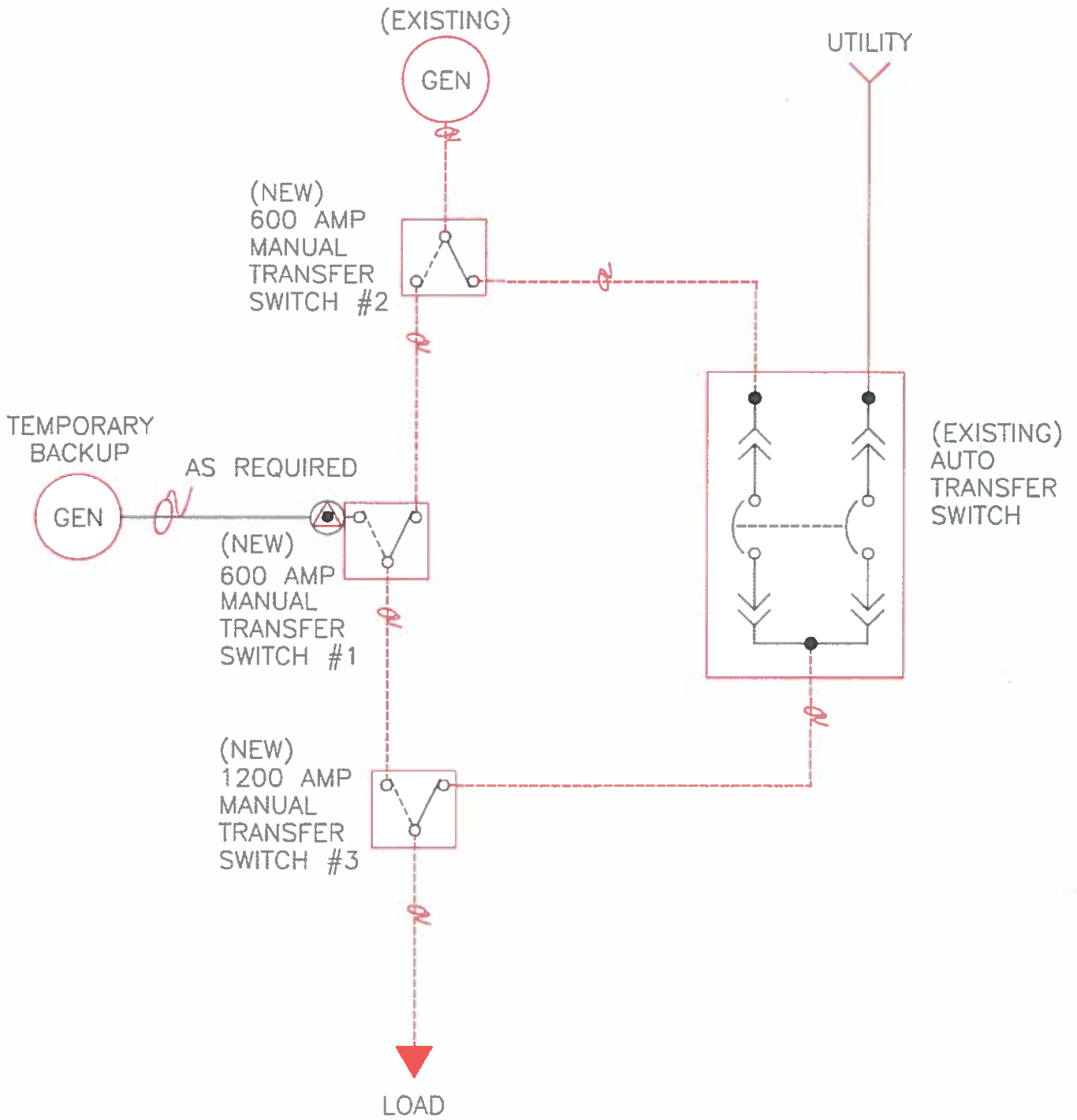


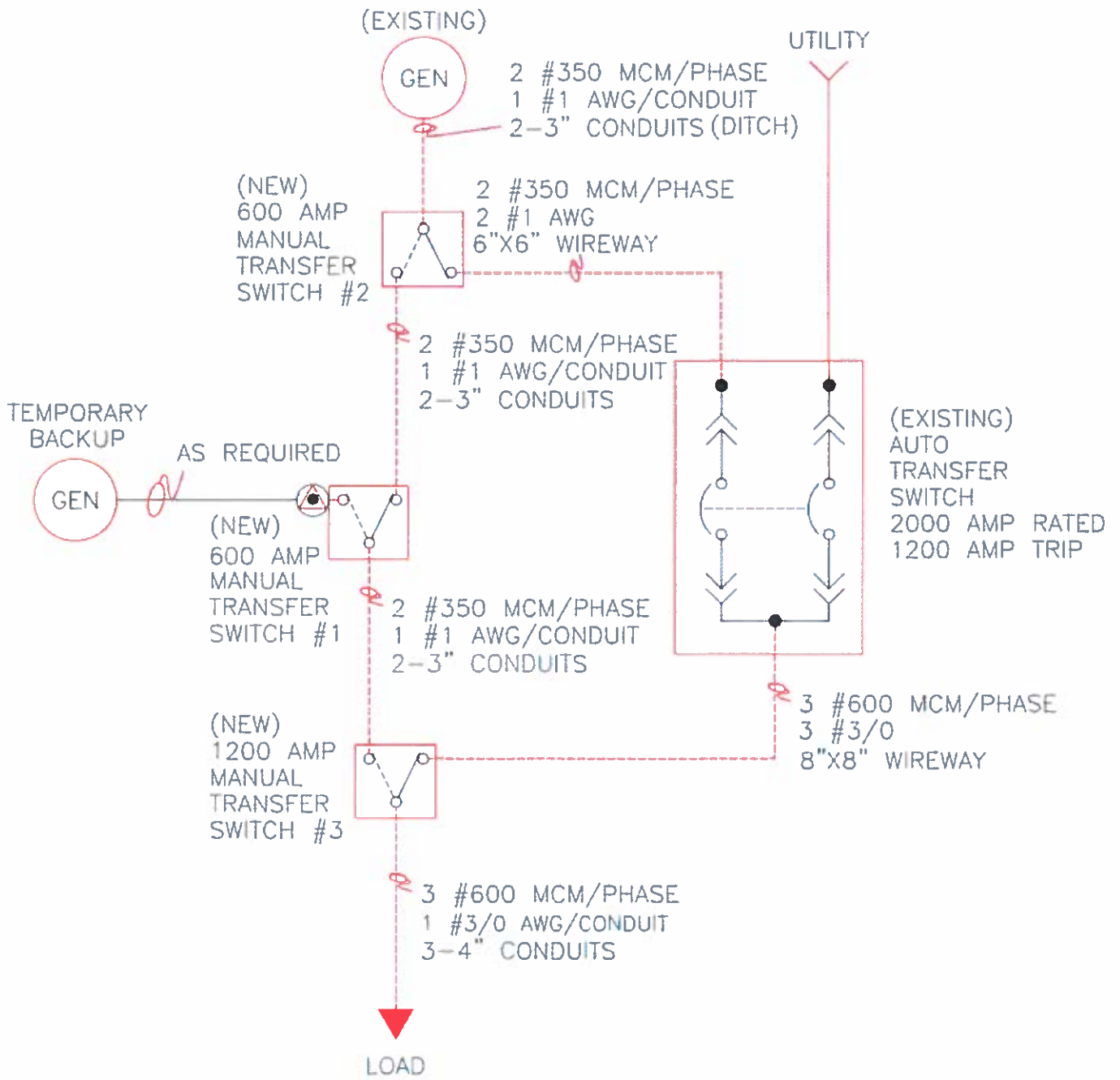


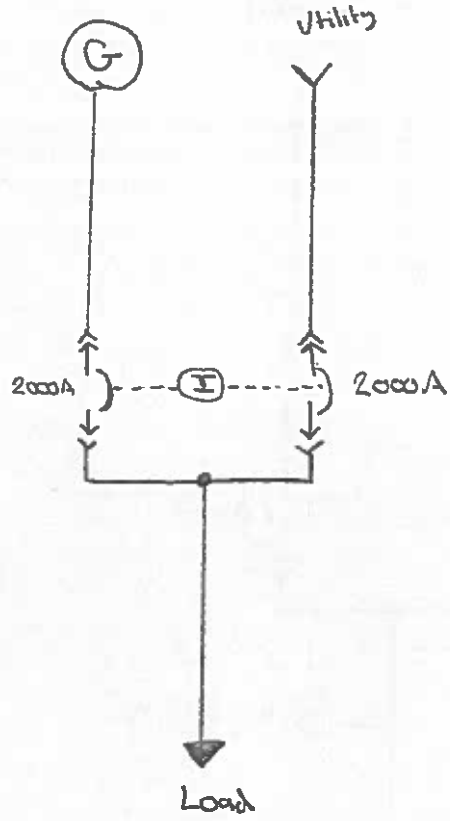
In order to power off DC completely, breakers "Main" and "Main 400A" have to be opened

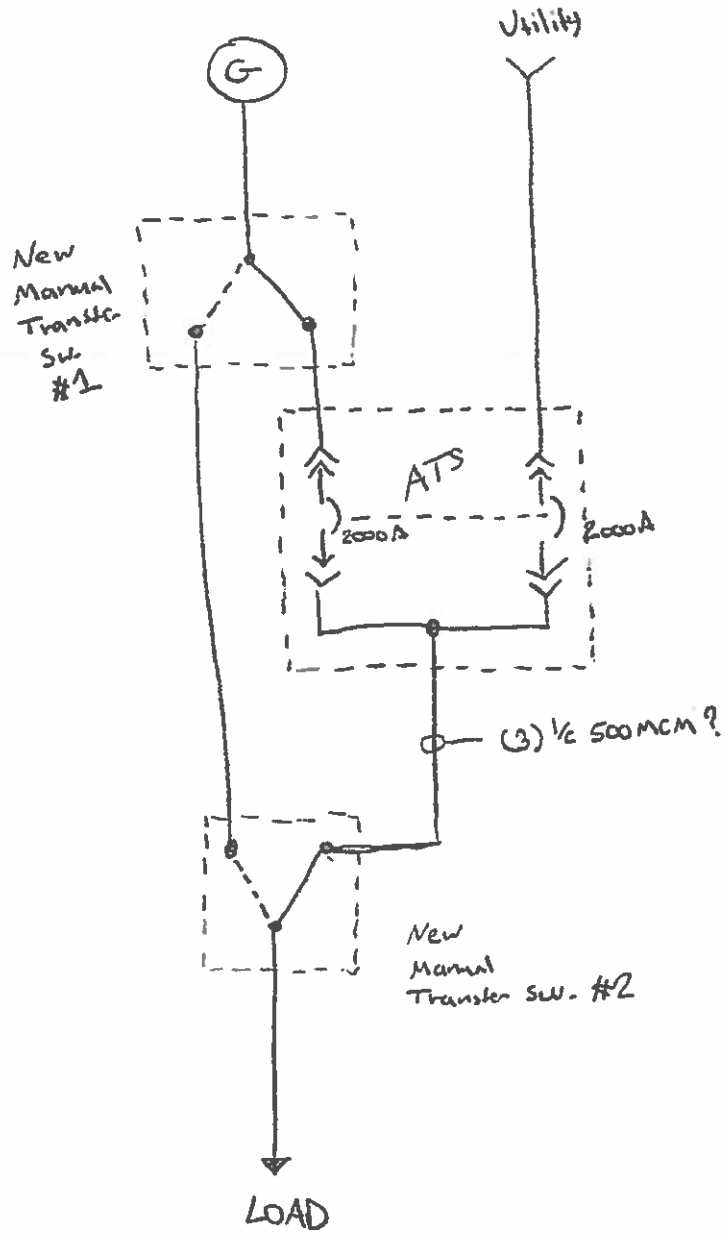
If only Main opened, UPS will detect power loss and keep Main 400A running.

1-#2 in 4"
New PDU









DO NOT SCALE

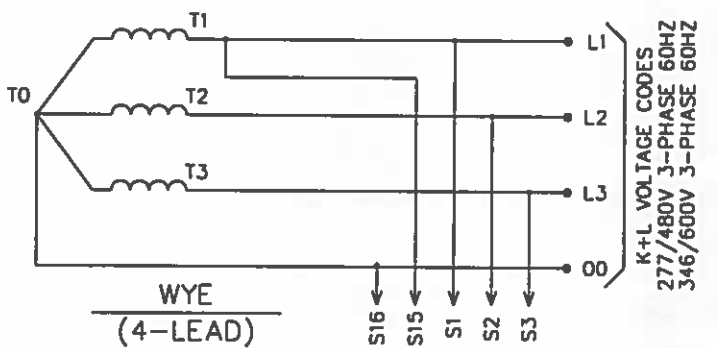
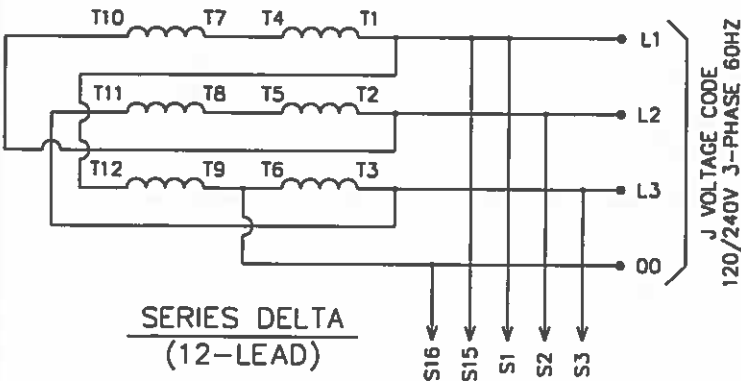
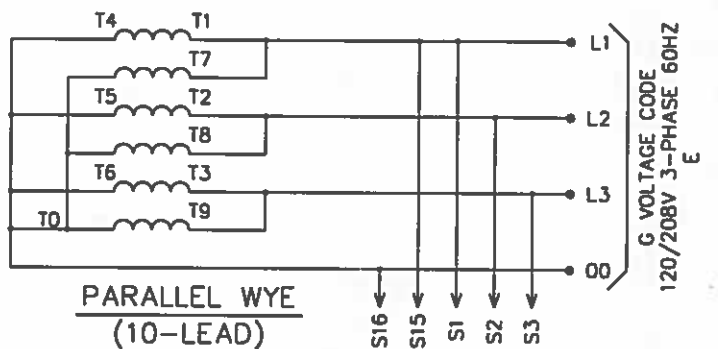
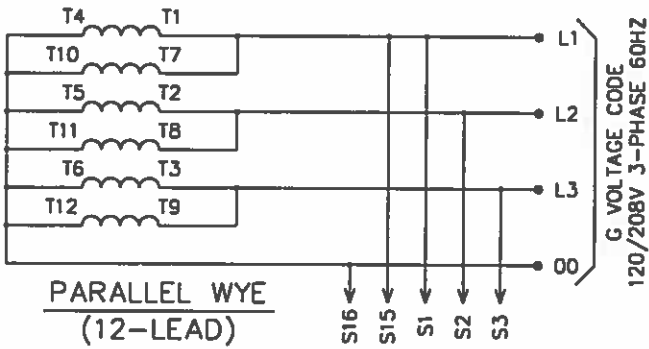
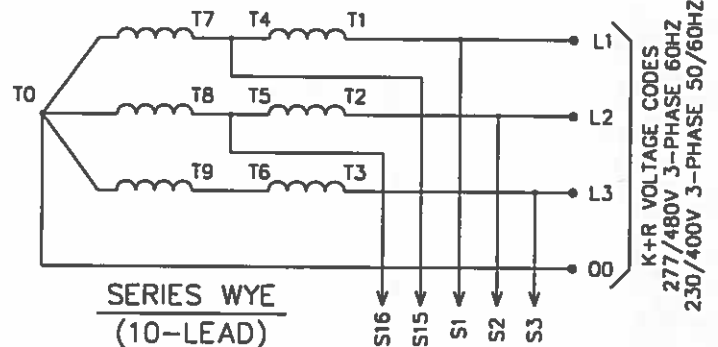
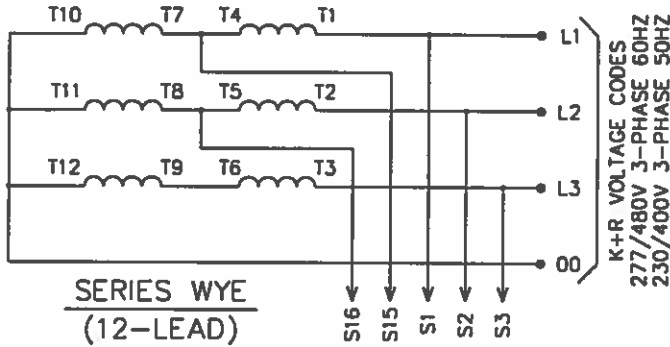
ALL DIMENSIONS AND TOLERANCING PER ASME Y14.5M-1994

UNLESS OTHERWISE SPECIFIED:

XX DIM ---- ±0.4 MM
 XX.X DIM --- ±0.4 MM
 ALL XX.XX DIM -- ±0.15 MM
 ALL ANGLES ---- ±1°

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0E0274



NOTE: S1, S2, S3, S15 AND S16 METERING CONNECTIONS TO CONTROL PANEL ARE SHOWN FOR CLARITY.

DRAWING TITLE
ALTERNATOR CONNECTIONS USING E-PLUS PANEL
 ALTERNATOR CONN OPTIONS E-PLUS

GENERAC POWER SYSTEMS
 Eagle
 P.O. BOX 8
 WAUKESHA, WIS. 53187

MATERIAL N/A				
OWN BWC	DATE 3/15/02	MFG MJC	DATE 3/25/02	EST. WT.
CHKD MJF	DATE 3/21/02	APPD PF	DATE 3/27/02	FINAL WT.
RELEASED FOR PRODUCTION	BY P. FORSYTHE	DATE 3/27/02		

FILE NAME 0E0274.DWG	SIZE A
SCALE 1 = 1	FIRST USE E-PLUS PNL
DWG NO. 0E0274	REV *

BC1 - DISPLAY CONNECTOR

PIN#	WIRE #	TO	FUNCTION
1	393	J1-21	RS485-
2	392	J1-20	RS485+
3	220C	J1-12	+24VDC
4	0	J1-11	GROUND (ISO)
5	503	J5-7	"AUTO" LED
6	712	J5-9	"ALARM" LED
7	220A	FBI-4	NOTE 5
8	175	J4-2	"MANUAL" START
9	174	J4-1	"AUTO" START
10	229	RB2-10	ALARM HORN
11	R15A	RB2A-5	EMERGENCY STOP
12	R15B	J5-28	OVERSPEED/MAN/OVER

BC2 - FUEL CONNECTOR

PIN#	WIRE #	TO	FUNCTION
1	575V	J3-21	FUEL LV. SOURCE
2	575R	J3-22	FUEL LV. RETURN
3	0	-	NOTE 1
4	567	J4-7	RUP/TURE BASIN
5	0	-	NOTE 1
6	0	-	NOTE 1
7	PLUG	-	SPARE
8	220A	FBI-5	NOTE 5

BC3 - FUSE BLOCK CONNECTOR

PIN#	WIRE #	TO	FUNCTION
1	S1	MGB	GEN A6
2	S2	MGB	GEN B6
3	S3	MGB	GEN C6
4	11	CON2	BUS A6
5	12	CON3	BUS B6
6	13	CON4	BUS C6
7	13A	VD81-7	FUSED BUS C6
8	12A	VD81-6	FUSED BUS A6
9	11A	VD81-5	FUSED BUS B6
10	S3A	VD81-4	FUSED GEN C6
11	S2A	VD81-3	FUSED GEN B6
12	S1A	VD81-2	FUSED GEN A6

DD CONNECTOR

PIN#	WIRE #	TO	FUNCTION
1	771	DA1-1	THROTTLE DRIVE L0
2	770	DA1-4	THROTTLE DRIVE HI
3	219	-	NOTE 3
4	0	-	NOTE 3
5	0	-	NOTE 1
6	769	J2-21	THROTTLE PWM
7	-	DD-9	ENABLE INPUT
8	-	DD-7	ENABLE INPUT

VR1 CONNECTOR

PIN#	WIRE #	TO	FUNCTION
1	404	J2-31	GATE TRIGGER A
2	403	J2-32	GATE TRIGGER B
3	194	J2-34	+12VDC
4	405	J2-35	GROUND (ISO)
5	406	J2-33	ZERO CROSSING 1/5
6	568	-	NOT USED

VR2 CONNECTOR

PIN#	WIRE #	TO	FUNCTION
1	4	R1/FIELD	+ FIELD
2	1	FIELD	- FIELD
3	6	PMG	PMG OUTPUT
4	162	GB1	PMG OUTPUT (ARTER 08)

ENGINE CONTROL MODULE CONNECTIONS

J1

PIN#	WIRE #	TO	FUNCTION
1	0	MPU-2	MPU SIGNAL (-)
2	SHLD	CUT	RS232 DRAIN (DRINK)
3	SHLD	CUT	RS232 DRAIN (DIAG)
11	0	BC1-4	DISPLAY GROUND (ISO)
12	220C	BC1-3	DISPLAY +24VDC
13	7/9	MPU-3	MPU SIGNAL (+)
14	SHLD	CUT	RS485 DRAIN (DISPLAY)
17	390	CUST CON	RS485+ (GENS)
18	391	CUST CON	RS485- (GENS)
19	SHLD	CUST CON	RS485 DRAIN (GENS)
20	392	BC1-2	RS485+ (DISPLAY)
21	393	BC1-1	RS485- (DISPLAY)
22	0	-	NOTE 1
24	387	COM-2	RS232 RX (GENLINK)
25	388	COM-5	RS232 TX (GENLINK)
26	388	COM-3	RS232 TX (GENLINK)
27	387A	CUST CON	RS232 RX (DIAG)
28	388A	CUST CON	RS232 TX (DIAG)
29	388A	CUST CON	RS232 TX (DIAG)
31	800	CUST CON	MODEM 1 (TIP)
32	801	CUST CON	MODEM 2 (RING)
33	SHLD	MPU-1	MPU DRAIN
34	220B	FBI-7	NOTE 6

J2

PIN#	WIRE #	TO	FUNCTION
7	394A	C11	GEN A6 CURRENT +
8	394B	C11	GEN A6 CURRENT -
9	398B	C12	GEN B6 CURRENT +
10	398B	C12	GEN B6 CURRENT -
11	398C	C13	GEN C6 CURRENT +
12	398C	C13	GEN C6 CURRENT -
13	423	BC4-10	BUS VAB SENSE
14	448	BC4-12	BUS VBC SENSE
15	15	BC4-6	NOTE 12
16	0	BC4-5	VD81 GROUND
17	424	BC4-3	GEN VBC SENSE
18	426	BC4-2	GEN VCA SENSE
19	449	BC4-11	GEN VAB SENSE
20	425	BC4-1	GEN VAB SENSE
23	0	DD-10	NOTE
31	404	VR2-1	AIR GATE IMAGER A
32	403	VR2-2	AIR GATE IMAGER B
33	406	VR2-5	AVR ZERO CROSSING 1/5
34	194	VR2-3	AVR +12VDC
35	405	VR2-4	AVR GROUND

J3

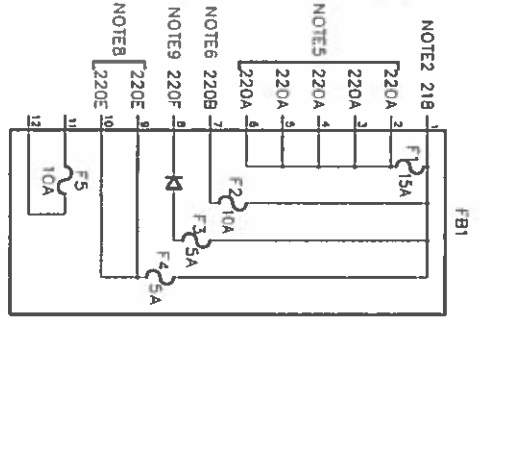
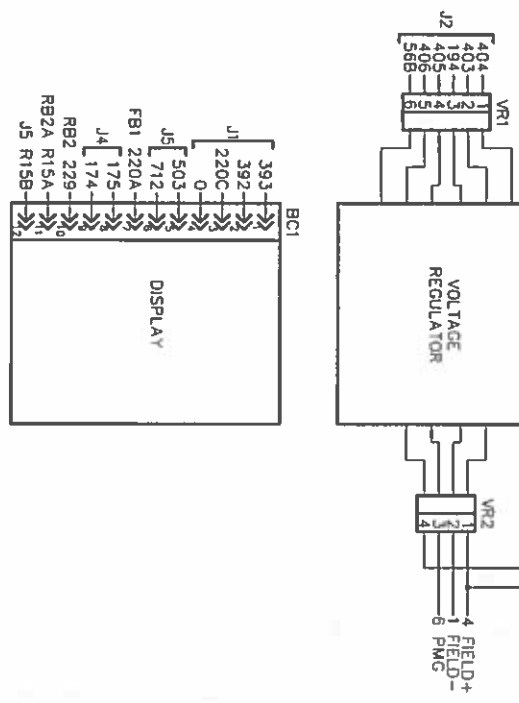
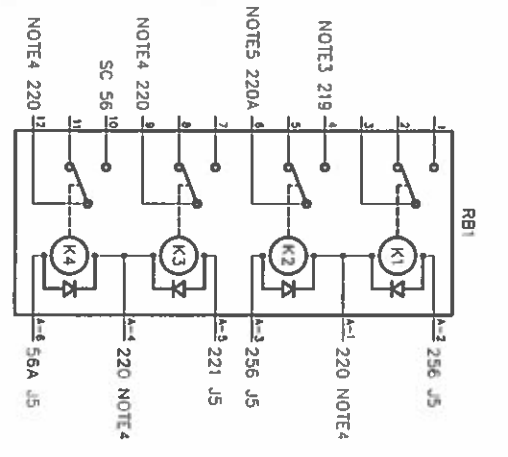
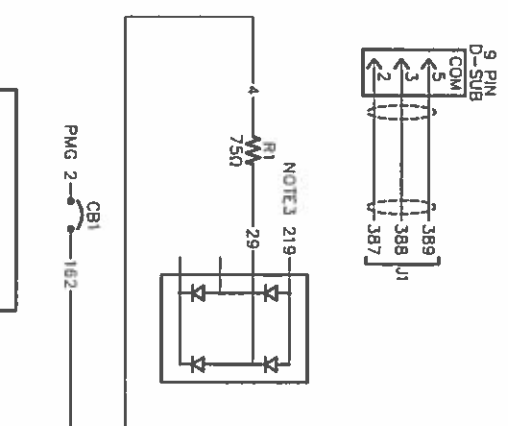
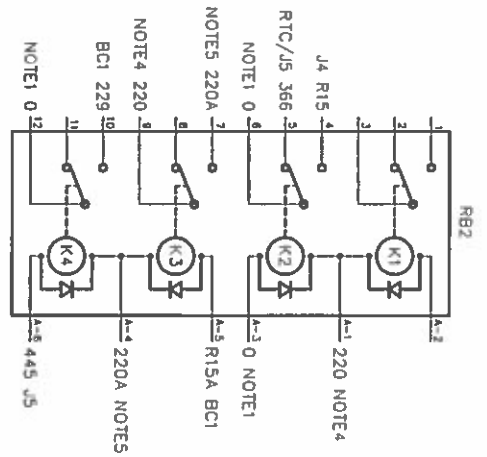
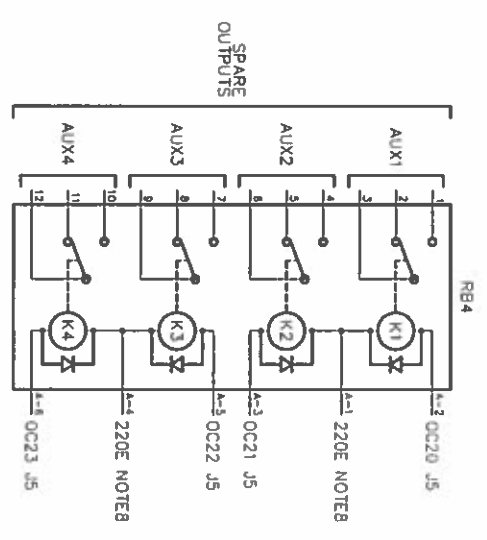
PIN#	WIRE #	TO	FUNCTION
3	68V	WIS-1	COOLANT TEMP +
4	68R	WIS-2	COOLANT TEMP RTN
5	68V	OPS-1	OIL PRESS +
6	68R	OPS-2	OIL PRESS RTN
19	85V	WIS-1	COOLANT LV. +
20	85R	WIS-2	COOLANT LV. RTN
21	575V	BC2-1	FUEL LEVEL +
22	575R	BC2-2	FUEL LEVEL RTN
23	A1S	CUST CON	AUX 1 INPUT +
24	A1R	CUST CON	AUX 1 INPUT RTN
25	A1ZS	CUST CON	AUX 2 INPUT +
26	A1ZR	CUST CON	AUX 2 INPUT RTN

J4

PIN#	WIRE #	TO	FUNCTION
1	174	BC1-9	"AUTO" START
2	175	BC1-8	"MANUAL" START
4	R15	RB2-4	EMERGENCY STOP
5	183	CUST CON	REMOTE START
6	505	CUST CON	CHARGER FAIL
7	567	BC2-4	RUP/TURE BASIN
11	371	CON1	CONTACTOR STATUS
16	418	MICB	MICB STATUS
25	D11	CUST CON	SPARE DI 1
26	D12	CUST CON	SPARE DI 2
27	D13	CUST CON	SPARE DI 3/GEN POWER
28	D14	CUST CON	SPARE DI 4/GEN POWER
31	COM	MICB/CON	DI RETURN

J5

PIN#	WIRE #	TO	FUNCTION
1	56A	RB1A-6	STARTER RELAY
2	298	RB1A-2,3	FUEL RELAY
3	445	RB2A-6	ALARM RELAY
4	221	RB1A-5	PREHEAT RELAY
7	503	BC1-5	"AUTO" LED
9	712	BC1-6	"ALARM" LED
12	366	RB2-5	TRIP CONTACTOR
14	23	CG-14	CLOSE CONTACTOR
20	OC20	RB4A-2	SPARE DO 1
21	OC21	RB4A-3	SPARE DO 2
22	OC22	RB4A-5	SPARE DO 3
23	OC23	RB4A-6	SPARE DO 4
27	263A	ST-14	MICB SHUNT TRIP
28	R15B	BC1-12	OVERSPEED/MAN/OVER
33	0	-	NOTE 1

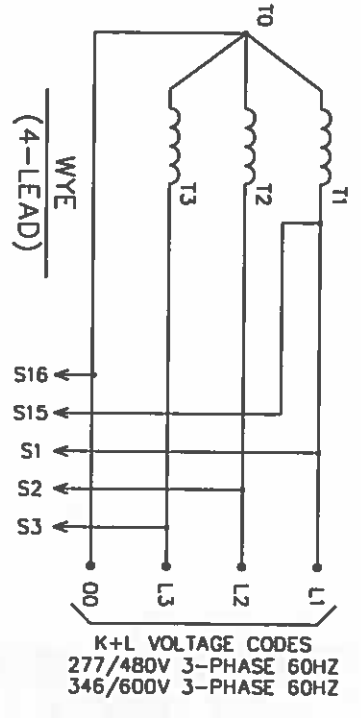
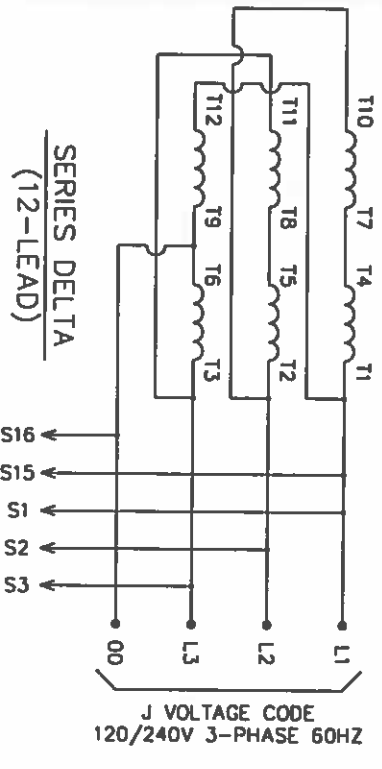
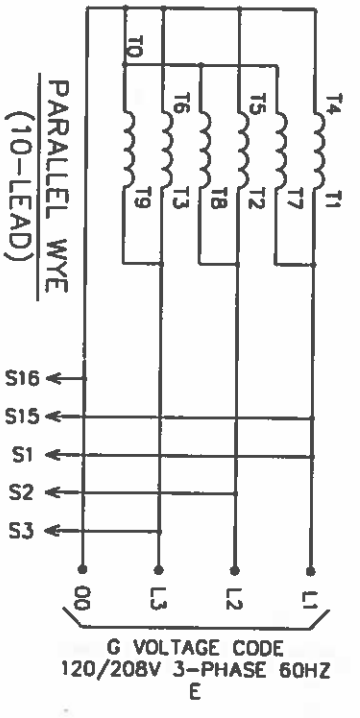
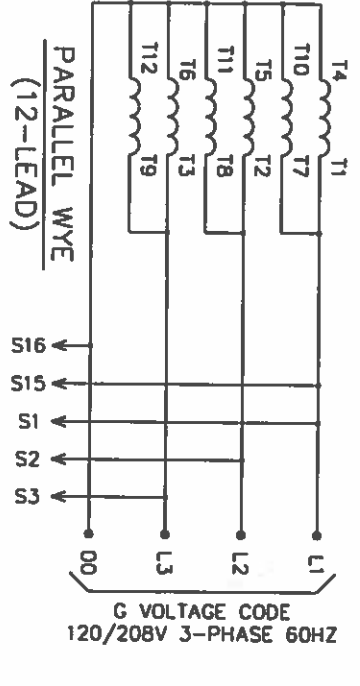
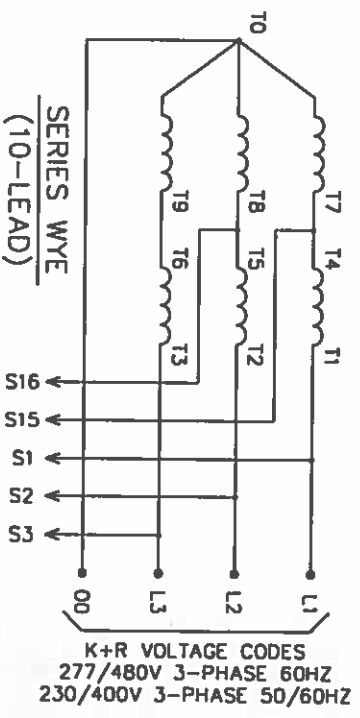
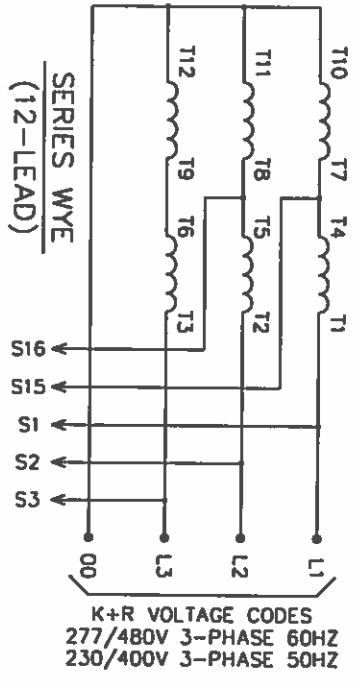


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0E0274

ALL DIMENSIONS AND TOLERANCING PER ASME Y14.5M-1994 UNLESS OTHERWISE SPECIFIED:
 XX DIM --- 40.4 MM
 XXX DIM --- 40.4 MM
 MLL XXXX DIM --- 40.15 MM
 ALL ANGLES --- 90°



NOTE: S1, S2, S3, S15 AND S16 METERING CONNECTIONS TO CONTROL PANEL ARE SHOWN FOR CLARITY.

DRAWING TITLE
ALTERNATOR CONNECTIONS USING E-PLUS PANEL
 ALTERNATOR CONN OPTIONS E-PLUS

GENRAC POWER SYSTEMS
 Bagle
 P.O. BOX 8
 WAUKESHA, WIS. 53187

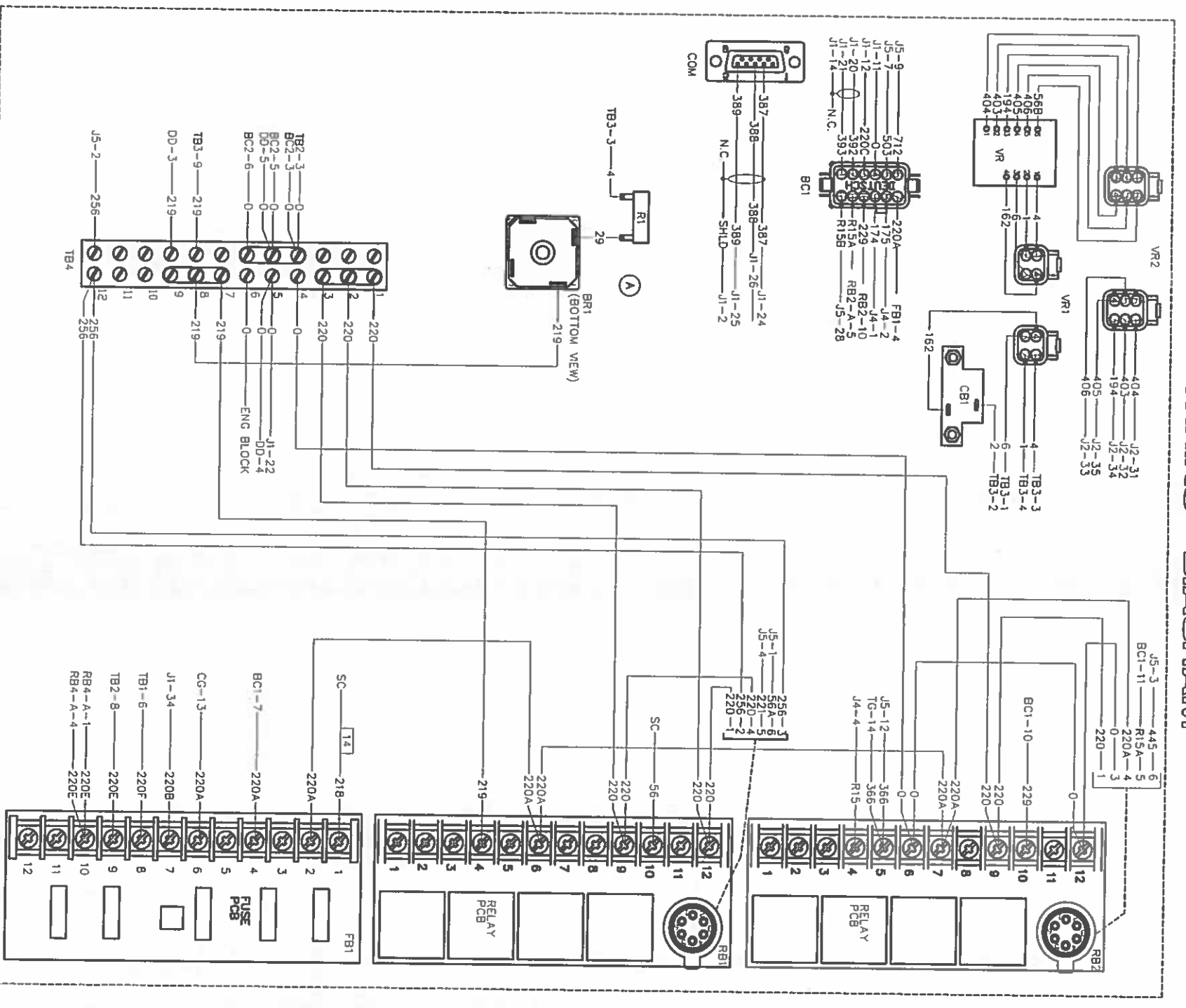
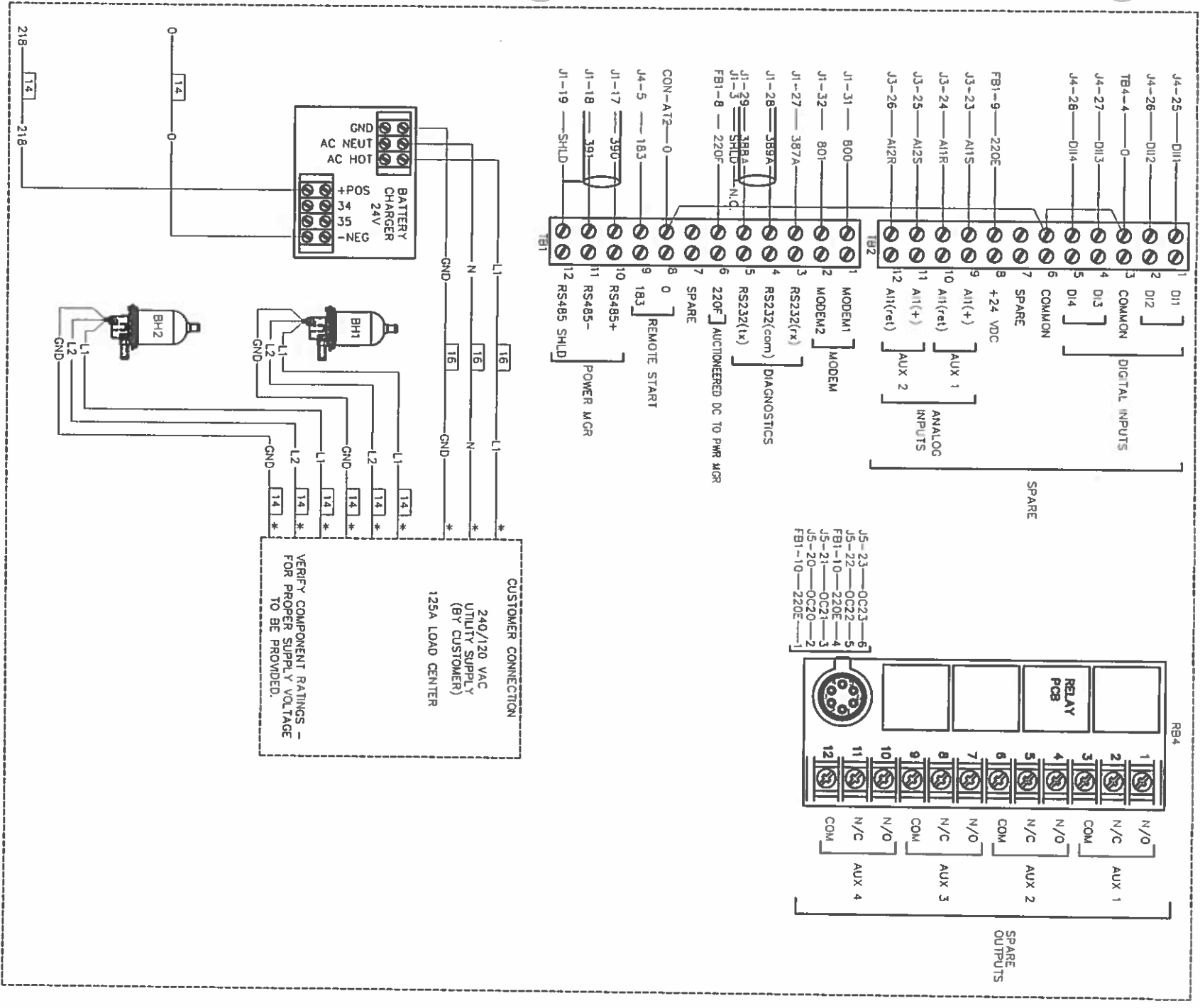
MATERIAL
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FILE NAME
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 FIRST USE
 E-PLUS PNL
 SIZE
 A

DATE	3/15/02	DATE	3/25/02	EST. VT.	
DATE	3/21/02	DATE	3/27/02	FINAL VT.	
DATE	3/27/02	DATE	3/27/02		

RELEASED FOR PRODUCTION BY P. FORSYTHE

WIRING - DIAGRAM



WIRING - DIAGRAM

0E9756B-A	0E9756B-B	0E9756B-C	0E9756B-D	0E9756B-E	0E9756B-F	0E9756B-G	0E9756B-H
1	2	3	4	5	6	7	8

SHEET 2 OF 2

VD ENGINE
18L & 22L PH-PC

DO NOT SCALE

DATE: 2/19/04
 BY: MJC
 CHECKED: 2/20/04
 BY: AG

DATE: 2/20/04
 BY: A. GILLETTE

DATE: 2/20/04
 BY: PH-PC

DATE: 2/20/04
 BY: A

GENERATING POWER
BY VOLTERRA
 VOLTERRA, INC. 1997
 0E9756B-A-DWG
 PH-PC
 0E9756B
 A