CRITTENDEN CONVERSION CORPORATION

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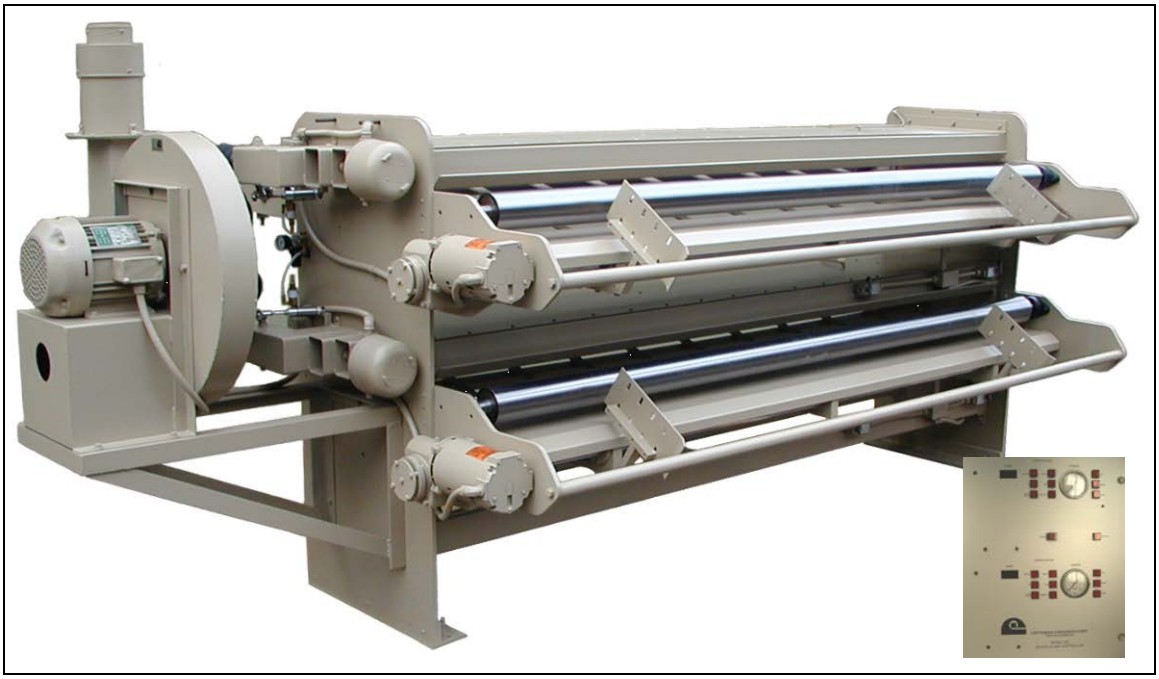
VACUUM BRIDGE GUIDE 202



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BASIC INSTALLATION INSTRUCTIONS
FOR CRITTENDEN VACUUM BRIDGE GUIDES

The installation of the Crittenden vacuum bridge guide is essentially a matter of removing the old guide unit and replacing it with the new one, employing common sense and normal good engineering practices.

The Guide should be centered on the CORRUGATOR bridge and level, square and parallel with the preheater rolls. On corrugators with triple preheaters, the top chamber has two outlet rolls, which is to insure proper tracking of the single face web. The outlet rolls are provided with adjustment at each bearing for fine-tuning the tracking. If the webs are creeping over to one side or the other, they can be re-aligned by the roll adjustment. Once properly adjusted, the web should track with very little help from side guides.

The vacuum chambers have a fixed, perforated area approximately 16”x46” wide which is located on center. Vacuum breaking is applied only to center 46” of the liner side of the web regardless of the paper width. This arrangement has proven very effective in all normal applications.

The side guides are opened and closed by a motorized gearhead unit driving a right and left hand lead screw. The guides are designed to run on center. There is no operator-controlled mechanism to allow moving the web to an off-center poison. We have found, that this is an un-necessary feature when the equipment has been installed and set up properly.

Web misalignment is correctable to an extent depending on the volume of material on the bridge and the distance between the guides and the single facer. About one to two inches in fifteen feet can be expected.

BRIDGE GUIDE CONTROL PANEL INSTALLATION NOTES

1) *RUN THE CONDUIT INTO THE BOTTOM OF THE CONTROL PANEL, AS MOISTURE IS THE BIGGEST PROBLEM. IF YOU MUST RUN THE CONDUIT OTHER THAN TO THE BOTTOM SEAL THE INSIDE AND OUTSIDE OF IT WITH SILICON.*
2) *PULL NEW WIRES, AS USING OLD WIRING CAN CAUSE PROBLEMS LEFT BEHIND IN OTHER INSTALLATIONS.*
3) *MAKE SURE THE CONTROL PANEL IS MOUNTED SQUARELY, AS BOWING CAN CAUSE MOISTURE PROBLEMS AND MAY KEEP THE DOOR CONTACTOR FROM OPERATING PROPERLY.*
4) *WHEN DRILLING HOLES IN THE CONTROL PANEL MAKE SURE TO COVER OR REMOVE THE INSIDE COMPONENTS, MANY CUSTOMERS HAVE DESTROYED THEIR PANEL BECAUSE THEY HAD METAL CHIPS ALL OVER THE INSIDE OF THE PANEL.*
5) *THE CONTROL PANEL SUPPLIES POWER FOR IT'S OWN NEEDS, IF YOU NEED ANY TYPE OF SUPPLY VOLTAGE YOU MUST FURNISH THAT ON YOUR OWN.*

MOTOR PHASING

- When vacuum Blower motor rotates correctly, all 3 phase motors will be correct.
- 1”x 3” round spacers and fasteners are for mounting control panel.

BG2 Electrical Current Requirements

	230 VAC	460 VAC
5 HP Blower	12.4 A	6.2 A
Upper Guide	2.8A	1.4A
Lower Guide	2.8 A	1.4 A
110 VAC T1 250VA transformer	2.5 A	2.5 A
Total:	20.3 A	11.5 A

START-UP INSTRUCTIONS

With the blower OFF and the guides at a setting a few inches greater than the paper width, the singleface material is threaded under the 1-1/2 " diameter bar, between the guides, over the entry roll, under the perforated vacuum chamber and over the exit roll on to the double backer. On some models there will be two exit rolls at the top station, on which, the paper goes over the first roll and under the second roll and then on to the double backer. After the corrugator has been set up, the guides should be closed up just to kiss the paper. Now turn ON the blower. The vacuum braking action is now adjusted to suit the conditions. A setting between 5 and 10 inches is fairly standard. When preparing to run a new order with a different paper width, the guides can be changed by the operator either manually or automatically. (See operating instructions for control panel.)

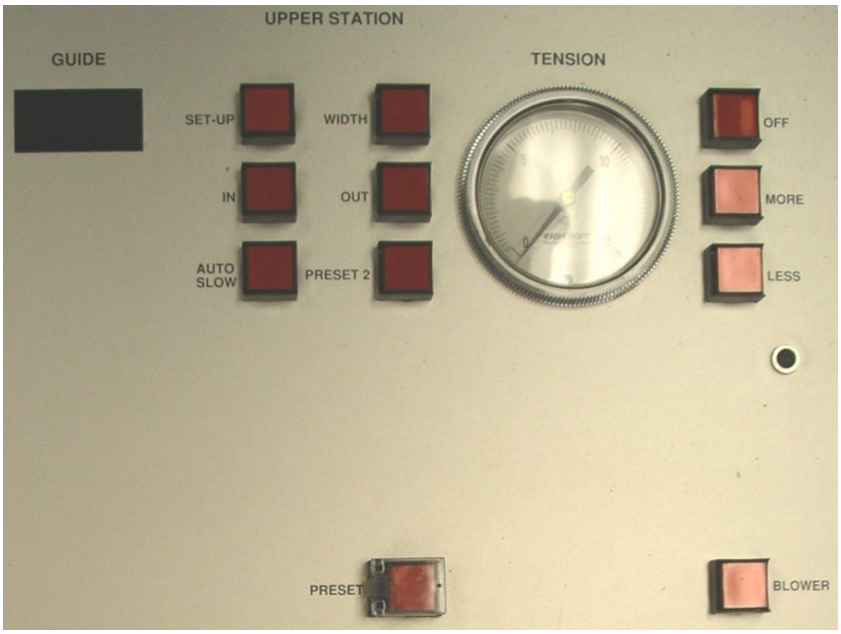
BRIDGE GUIDE CONTROL PANEL FEATURES

From the control panel, the operator can control the amount of vacuum (brake), applied to the liner side of the single face material. The system utilizes a common blower for all stations and must be ON (control button illuminated). Separate controls for the guide position and vacuum are provided for each station. The vacuum MORE/LESS switch activates a 110 Volt actuator, which operates a butterfly valve through 90 degrees of rotation. Vacuum breaking can be varied from zero to a negative pressure of aprox. Twenty inches of water, which is reflected on a panel mounted 0-20 inch magnahelic pressure gage. Guide position for each station can be changed either manually or through automatic preset operation as desired. Actual position of guides is constantly displayed on a solid-state digital display. Limit switches are provided to prevent over-travel in either the open or close directions.

The tensions OFF push buttons operate a quick-dump butterfly valve for each vacuum chamber. When the button are illuminated, the breaking action will be as set by the More or Less push buttons and indicated by a reading on the magnahelic pressure gage.

When the buttons are unlit, and breaking action will immediately cease gages will indicate a zero vacuum.

Bridge Guide Initial Start-Up and Operation Instructions



- Measure the Width between the Guide Plates on the Upper Station.
- Enter this Measurement on the Upper Controller by pushing the **SET-UP** button. (Light will come **ON**). Change the Display by pushing either **IN** or **OUT** button depending on desired direction. When Display is close to the correct **WIDTH,** the **SLOW** button is pressed simultaneously with **IN** or **OUT** to slow to half-speed on Display for ease of accuracy. When number is reached, release **IN/OUT** button. Now the **SLOW** button is released.
- Enter this into the controller memory by pushing **PRESET 1** and **PRESET 2** simultaneously. Release both buttons and the display number is what is entered into memory.
- Repeat above procedure for Lower Station.
- A Battery Pack inside the panel will maintain the controller memory in the event of power loss up to four weeks.

TO OPERATE GUIDE POSITION MANUALLY

After Guide Width has been entered into the memory, the Guides may be moved manually by pressing the **WIDTH** button. The **SET-UP** light will OFF and the **WIDTH** light will come ON. Move the Guides now by pressing either **IN** or **OUT** button. **IN** will decrease number on Display and **OUT** will increase number.
In Manual mode, the Display will correspond with Guide movement.

Note: *Do not press **AUTO/SLOW** button while in Manual Mode. This will engage the Automatic Mode and the Guides will move back to the preset number.*

TO OPERATE GUIDE POSITION AUTOMATICALLY

The Display should indicate actual measurement between Guides.

Press **SET-UP** button. Light will come ON.

Press **IN** or **OUT** button to change Display to next Paper Width to be run.
The Guides will not move at this time, only the Display Reading.
The **SLOW** button function is operative in this mode if desired.

When the desired preset Width is displayed, press the **WIDTH** button.
The **SET-UP** Light will go out and the preset width will be entered into the memory. Display will now indicate the actual Guide Width.
Presetting next paper Width can be done well advance of paper change.

When AUTOMATIC Guide movement is desired at the time of paper change, press **AUTO** button. Display reading will now correspond with guide movement.

Note: There are two buttons on top of encoder boxes mounted on face of Bridge Guide. These allow movement of Guides from the bridge only if panel is in the Manual Mode. If in SET-UP Mode, only the display will change.

BRIDGE GUIDE CONTROLLER OPERATION

SWITCH NAME	FUNCTION
SET-UP	Allows display to be set to measured guide width and allows display to register new guide width for automatic positioning.
WIDTH	Allows display to indicate actual guide width
IN	- With SET-UP “ON” to decrease displayed count. - With WIDTH “ON” to move guide IN.
OUT	- With SET-UP “ON” to increase displayed count. - With WIDTH “ON” to move guide OUT.
AUTO/SLOW	- With SET-UP “ON” to slow down IN/OUT displayed count speed. - With WIDTH “ON” to allow automatic guide width positioning to position stored in set-up display.
PRESET 2	When used with PRESET 1 will store SET-UP display into guide width disply i.e. for initial Set-UP of guide width display.
BLOWER	When lit turns ON Blower contactor.
OFF	When lit allows vacuum i.e. disables quick dump solenoid.
MORE	Depressing this will increase tension i.e. more vacuum.
LESS	Depressing this will decrease tension i.e. less vacuum.

Note:

1) When setting measured guide width it may be necessary to set SET-UP display + 0.1 count, reposition guide and check for accuracy.
2) If operating in Auto Mode and the guide coasts past the count, use the IN or OUT push button to reposition. Do Not use the AUTO button.

IMPORTANT

This machine is equipped with 1725-RPM guide motors and 5:1 gearboxes to provide for faster adjustment of the paper side guides when changing orders. Even though friction breaks are used, the guides will coast beyond the preset number by approximately 0.2", therefore it is recommended that the operator compensate for this condition when presetting for an automatic change. The simplest method is to subtract 0.2 from the desired guide position when opening the guides and add 0.2 when closing guides.
REV. 10/96

MOST COMMON BRIDGE GUIDE PROBLEMS AND CURES

1) MOISTURE IN THE MAIN CONTROL PANEL-MAKE SURE DOOR IS CLOSED TIGHTLY AND ANY CONDUIT ENTERING THE TOP OR UPPER SIDES IS SEALED BOTH INSIDE AND OUTSIDE. THIS HAS BEEN OUR BIGGEST PROBLEM.

2) MAKE SURE PC BOARDS AND CONNECTORS ARE CLEAN-USE AN ERASER TO CLEAN BOARD CONTACTS AND ISOPROPYL ALCOHOL TO CLEAN THE CONNECTORS, THEN BLOW DRY.

3) CHECK TO MAKE SURE THAT THERE ARE TWO .01mf CAPACITORS ON THE PANEL TERMINAL STRIP- ONE CONNECTED TO PINS A AND D AND THE OTHER CONNECTED TO PINS D AND F.

4) MAKE SURE ALL WIRES ARE TIGHT AND BLOW OUT PANEL-MAKING SURE IT IS CLEAN.

5) CHECK PHOTO EYE PICK-UP ASSEMBLY FOR RUBBING ON ENCODER WHEEL AND PROPER ADJUSTMENT. TO ADJUST THIS ASSEMBLY CONNECT EITHER A SCOPE OR VOLT METER TO THIS ASSEMBLY AS FOLLOWS:

A) THE NEGATIVE LEAD TO THE BROWN WIRE WITH A GREEN STRIPE
B) THE POSITIVE LEAD TO THE WHITE WIRE
C) LOOSEN ENCODER WHEEL AND ROTATE IT TO GET HIGHEST METER READING, AROUND +4.7 vdc, AND THEN TIGHTEN IT, KEEPING THE MAXIMUM READING AND CENTERED IN THE PICK-UP ASSEMBLY
D) ADJUST THE PICK-UP ASSEMBLY AND/OR IT'S BRACKET FOR A PEAK READING. TYPICALLY A 4.7 vdc READING IS NORMAL, HOWEVER I HAVE SEEN IT AS LOW AS 3.7 vdc AND STILL OPERATE PROPERLY

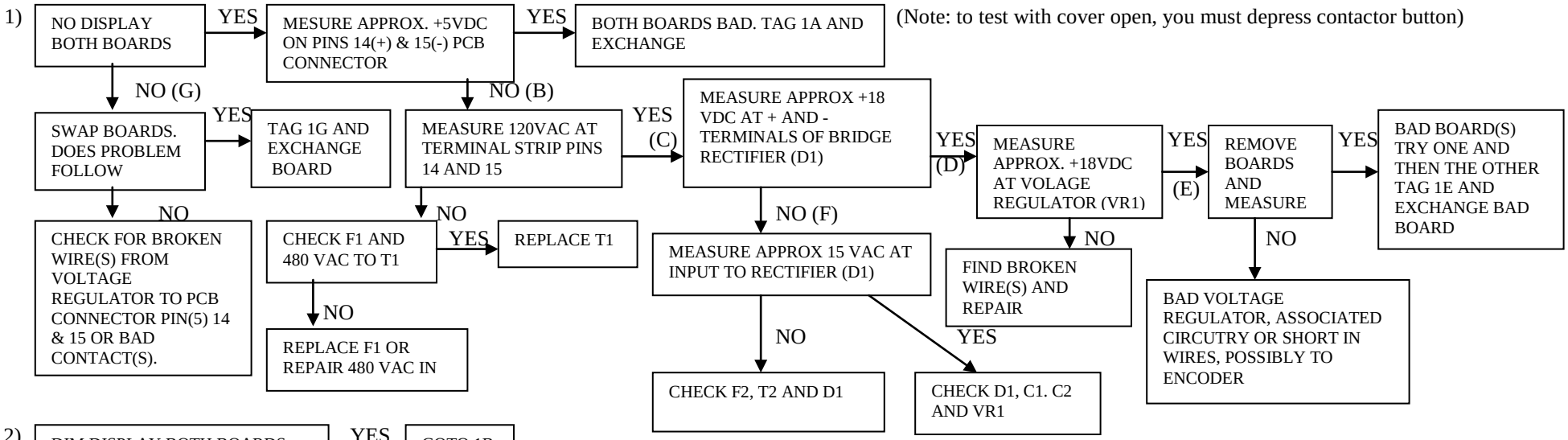
6) MAKE SURE THE MECHANICAL PLUNGER NEAR THE TOP RIGHT CORNER IS PUSHING THE DOOR GUARD CONTACTOR FULLY DOWN, YOU MAY NEED TO ADD FLAT WASHER (S) TO DO THIS. USUALLY TIGHTENING THE DOOR SCREWS WILL SOLVE THIS PROBLEM.

7) MAKE SURE THE NI-CAD BATTERIES ARE INSTALLED PROPERLY AND HAVE ENOUGH OF A CHARGE TO KEEP THE DISPLAY (S) DIMLY LIT WHEN THE DOOR IS OPENED (APPROXIMATELY 3 vdc).

8) MAKE SURE EACH BOARD IS SET PROPERLY. SOME TIMES THE DISPLAY LOOKS RIGHT, BUT IS IN AN INVALID COUNT MODE. TO CHECK THIS GO INTO SET-UP AND HOLD THE IN BUTTON DOWN UNTIL YOU SEE THE DISPLAY COUNT DOWN TO 0.0 AND THEN 999.9, 999.8, 999.7 ... SOME TIMES MAY TAKE A WHILE IF THE COUNTER IS IN THIS INVALID COUNT MODE.

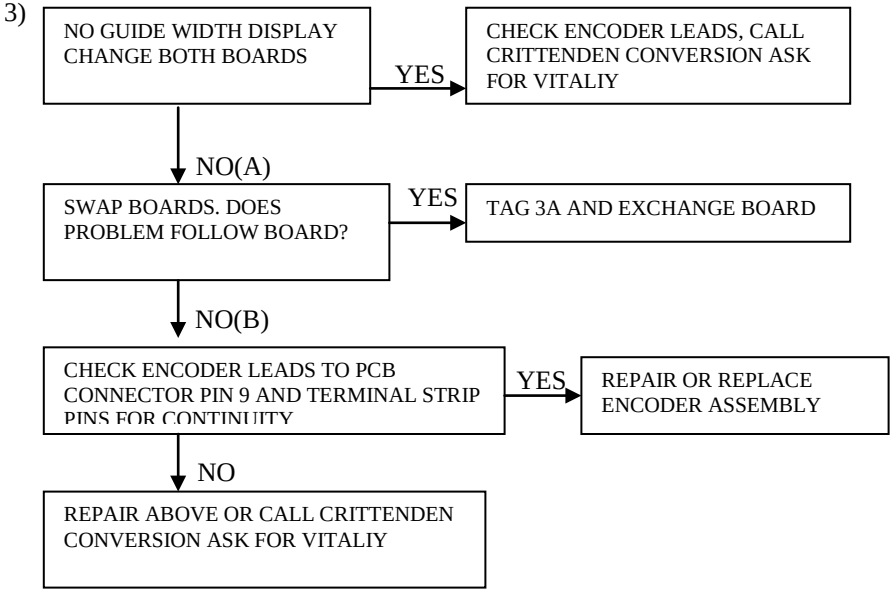
BRIDGE GUIDE CONTROLLER TROBLESHOOTING FLOW CHART

(Do initial setup first, if possible)



(Note: to test with cover open, you must depress contactor button)

(Note: if unit looses memory when power is removed check batteries & charge circuit after 24 hours of charging)



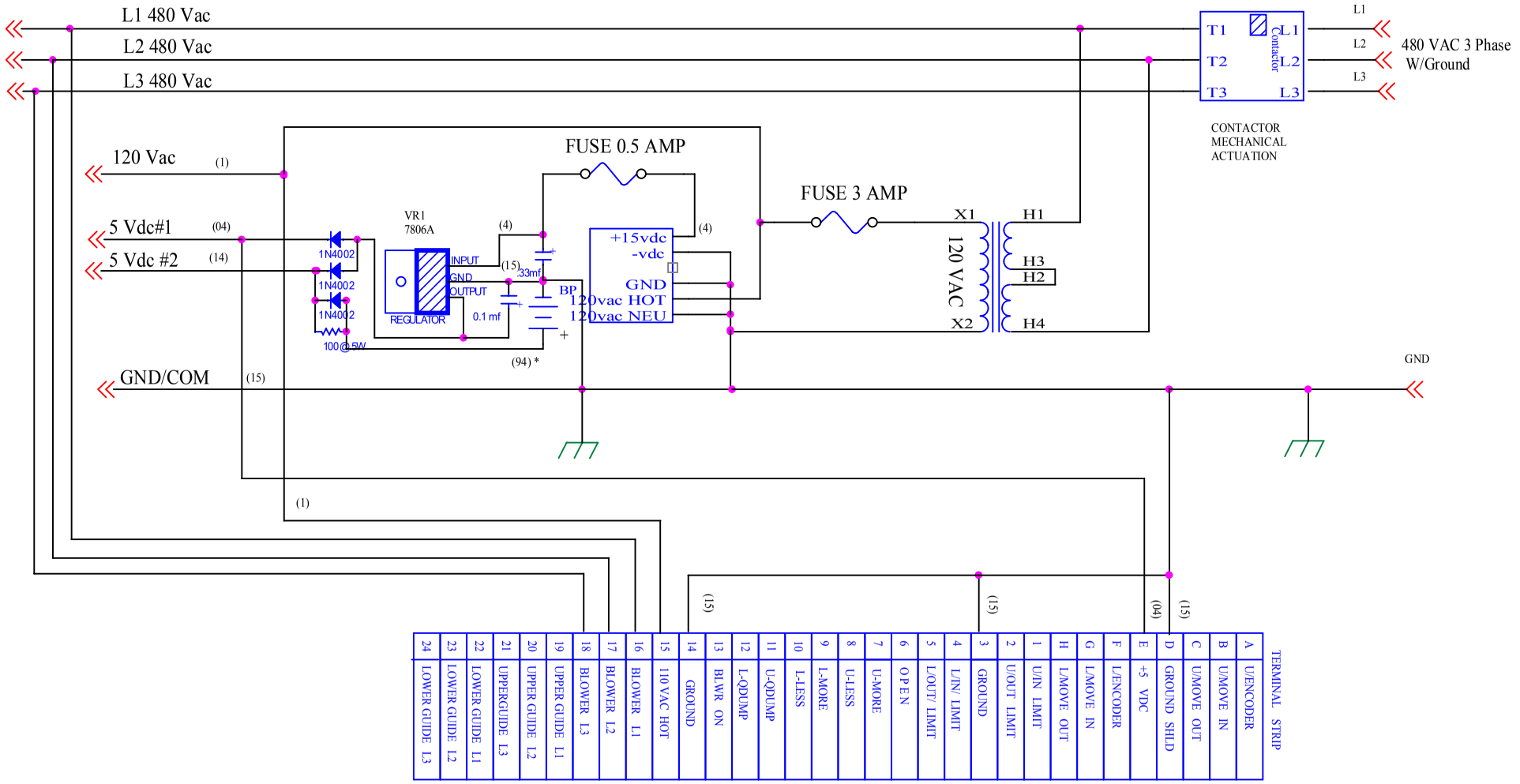
4) MOST OTHER PROBLEMS CAN BE FOUND BY:

A) Swapping Boards

B) Checking:

1) Switches
2) Wires
3) Contactors
4) Starters
5) Other electro-mechanical devices

C) If you have tried all of the above and still have problems, please call Vitaliy At Crittenden Conversion.



* (4) - Numbers in brackets mean wire color code.

CRITTENDEN CONVERSION CORPORATION		
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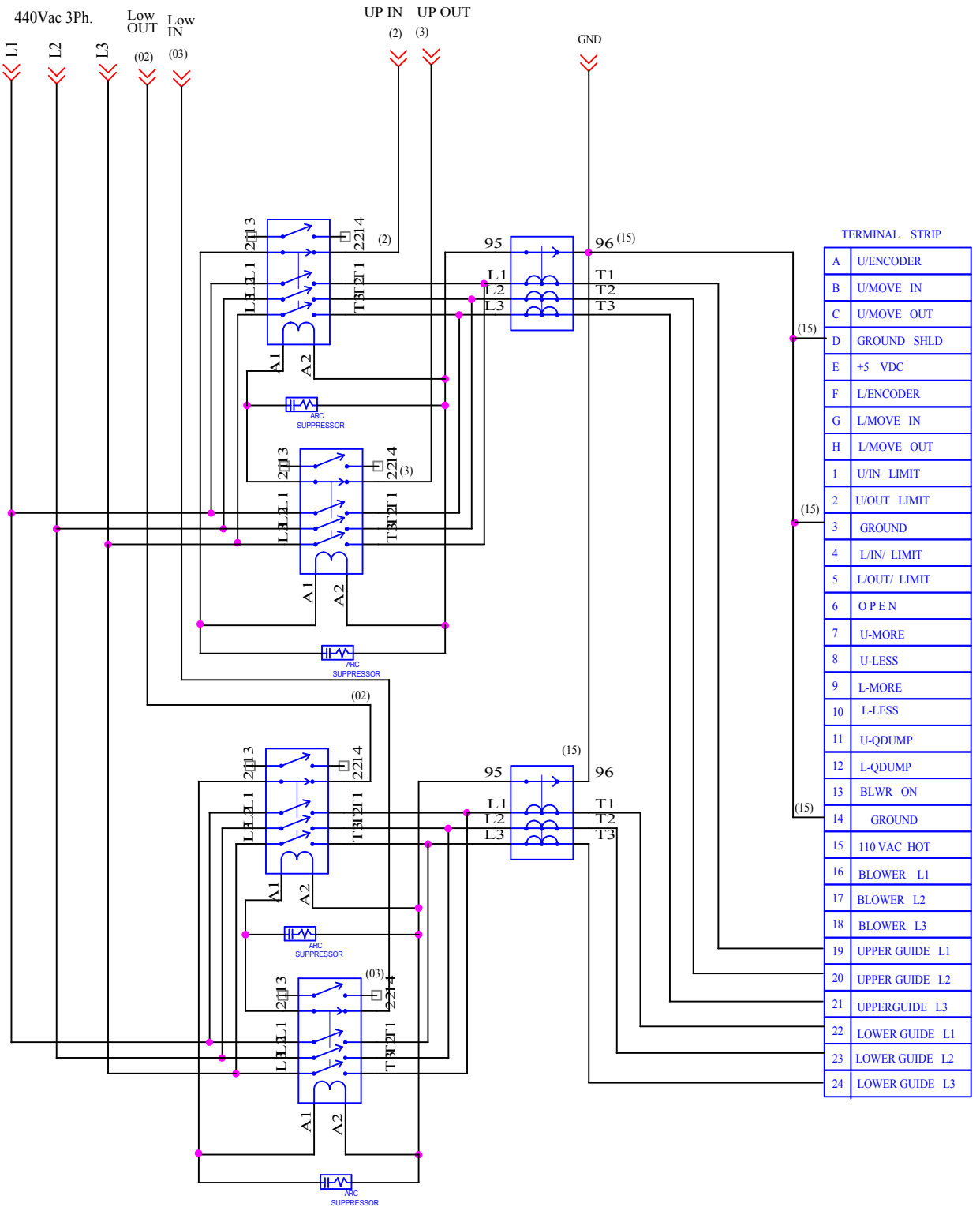
Size: A	Document Number: BGCPOLD.DSN	Rev: A
Date: Thursday, May 08, 2008	Sheet 1 of 5	



CRITTENDEN CONVERSION CORPORATION

Title: BG2 Contactors Wiring(O)

Rev A

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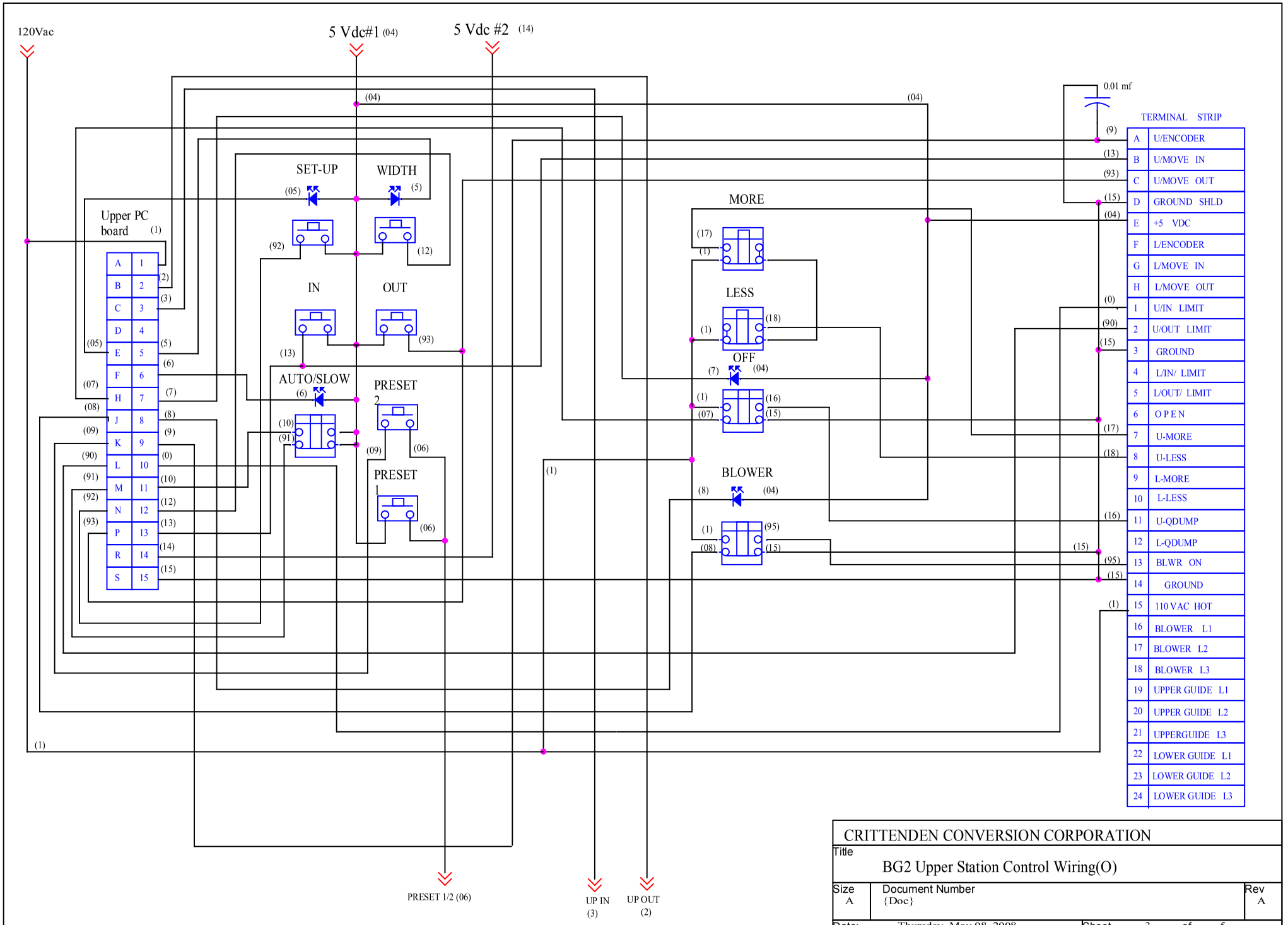
Date: Thursday, May 08, 2008



CRITTENDEN CONVERSION CORPORATION

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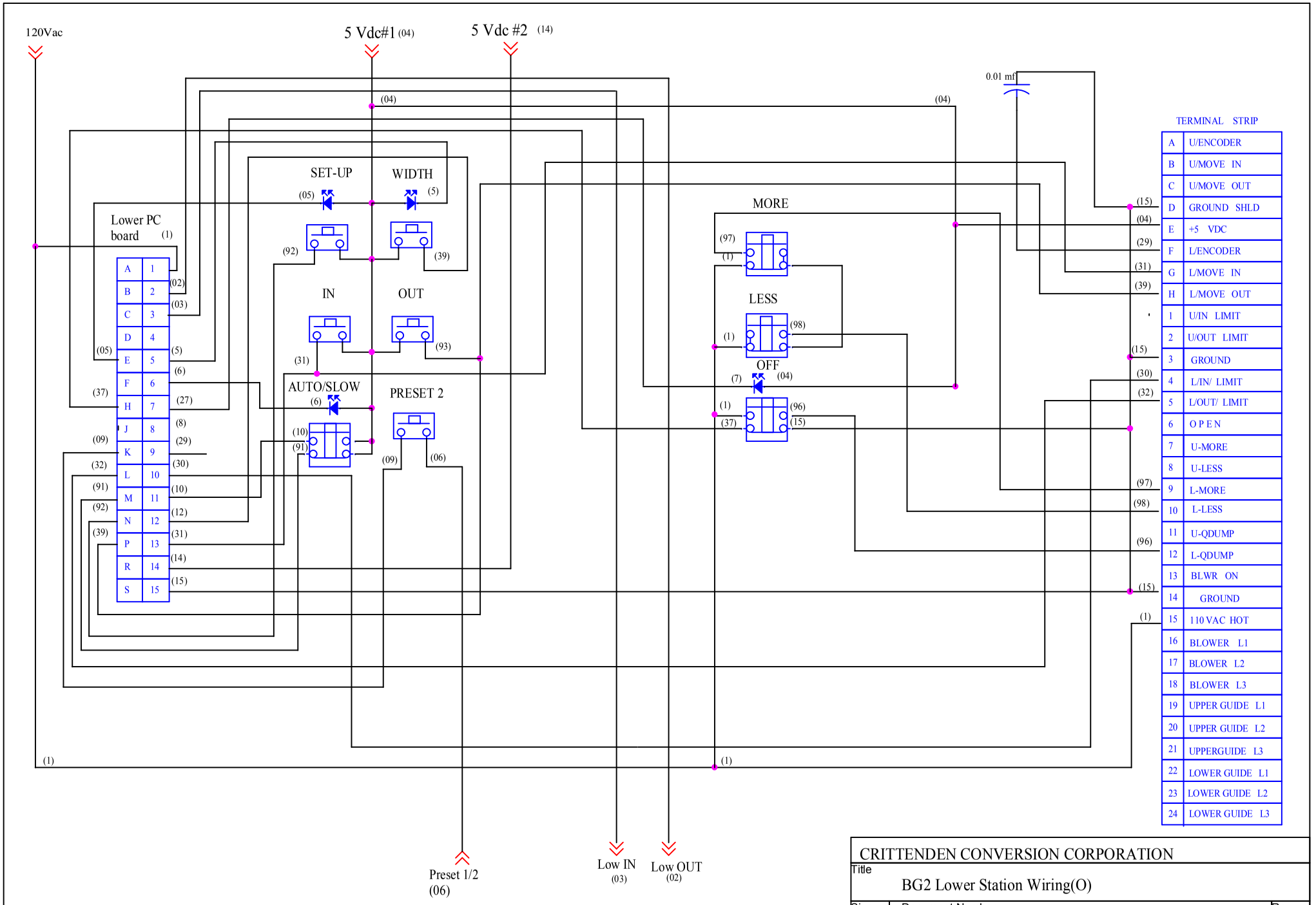

CRITTENDEN CONVERSION CORPORATION

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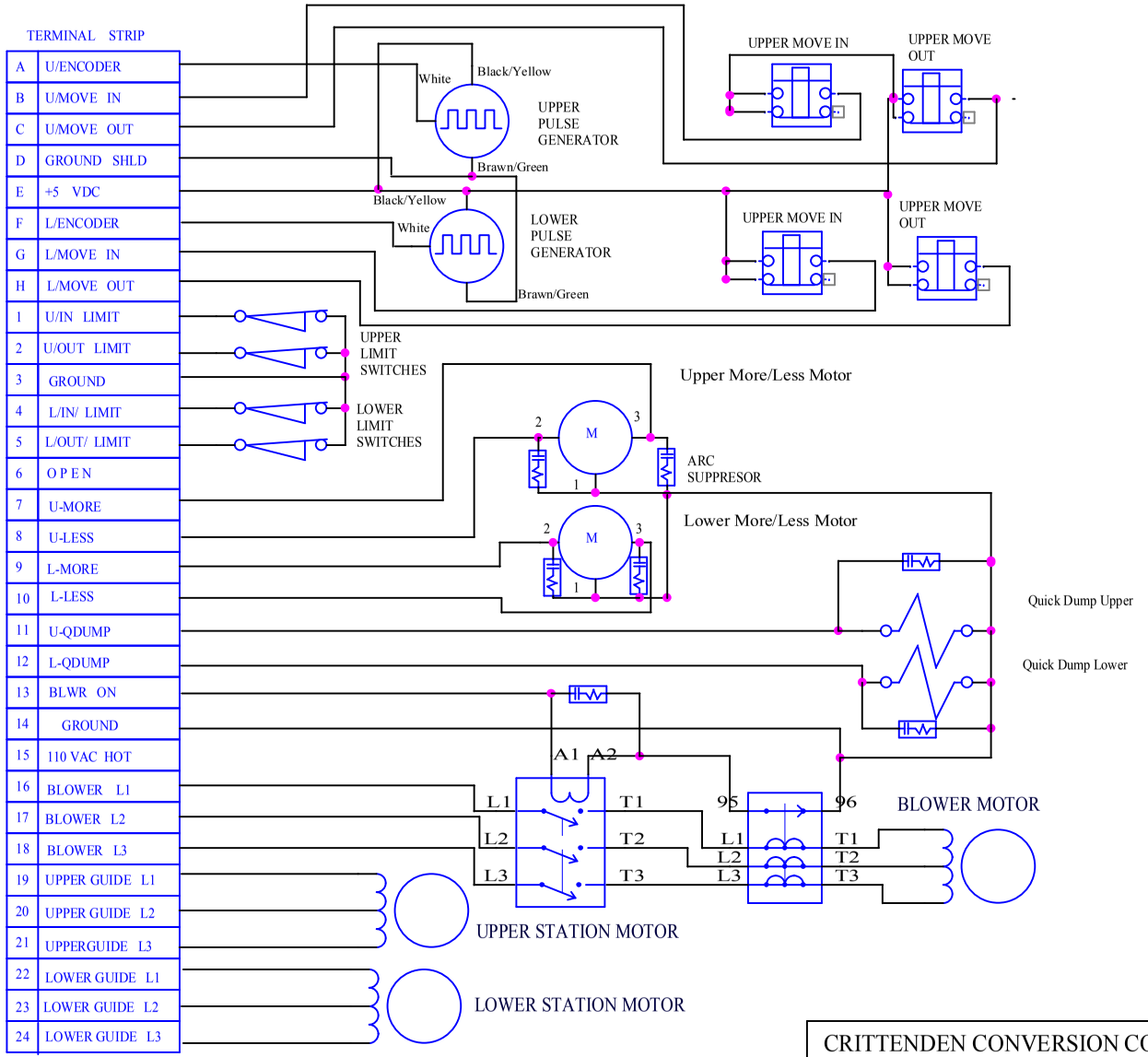

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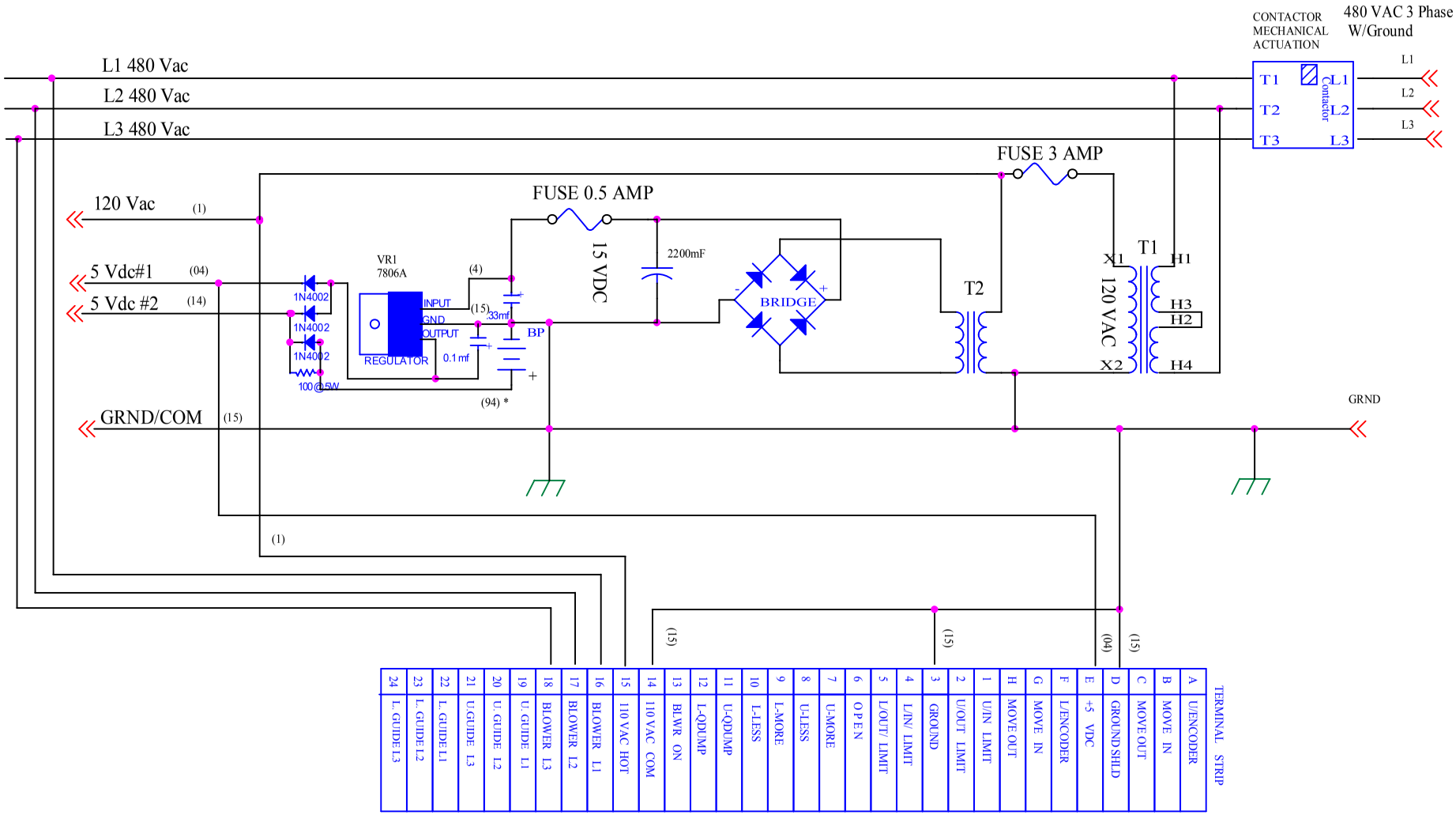

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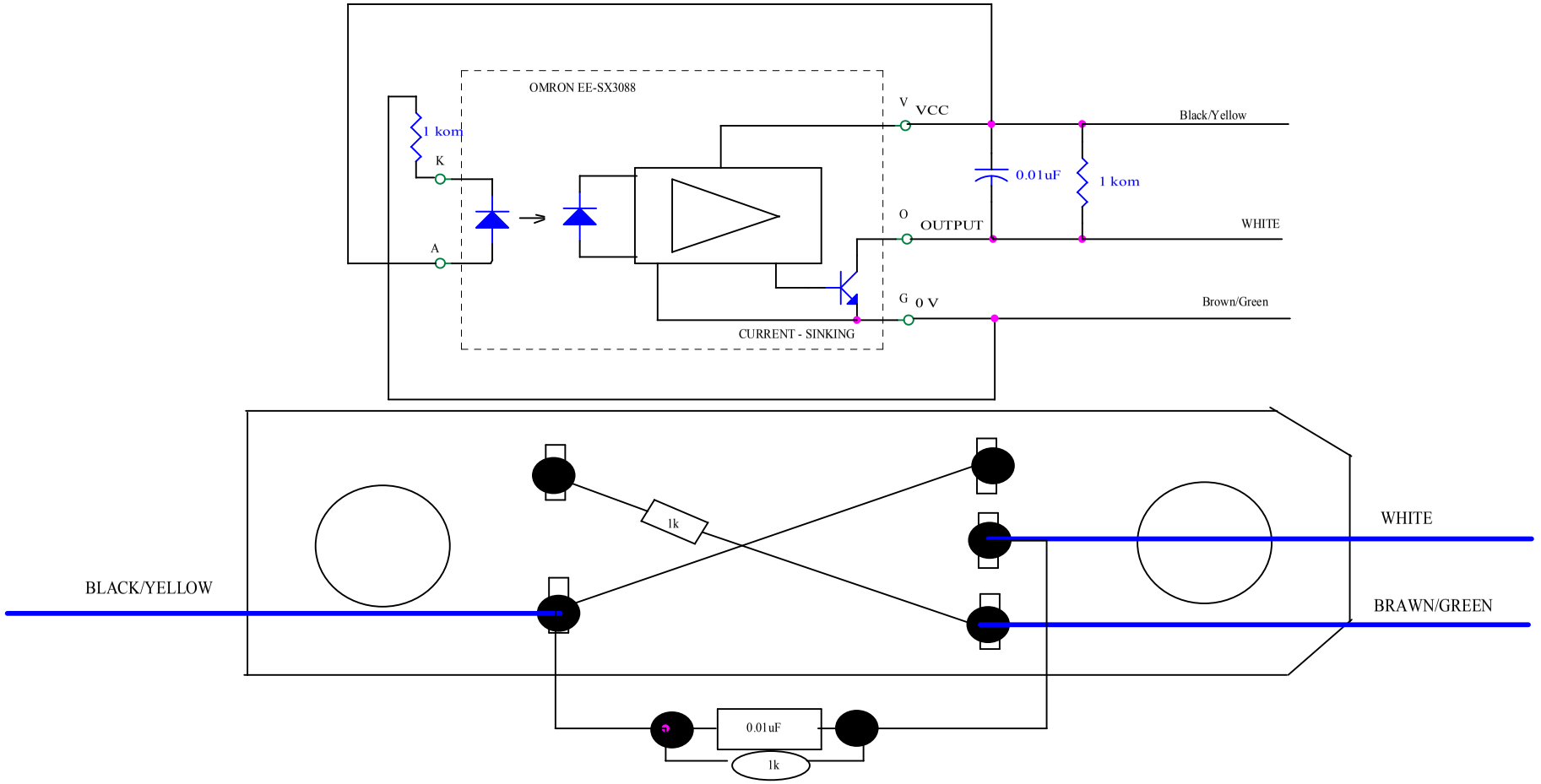


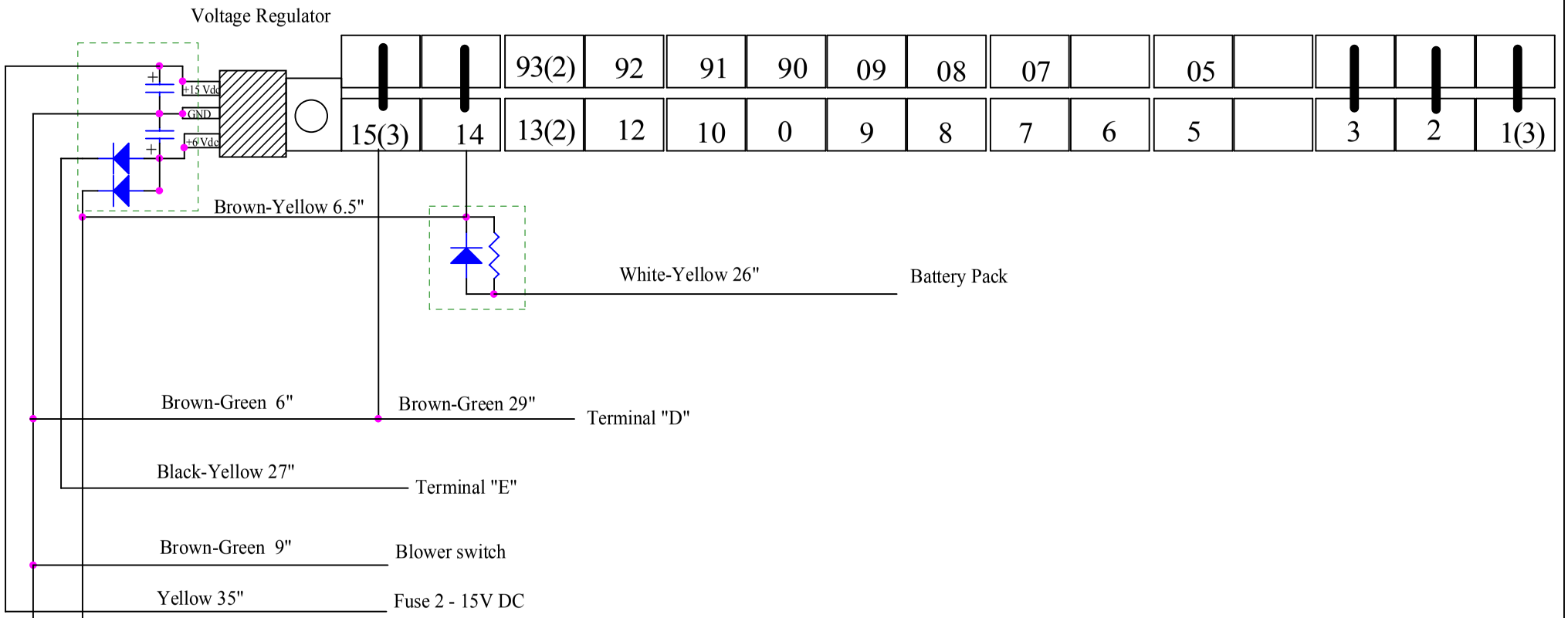
OUTPUT CONFIGURATION - DARK-ON

RECOMMENDED OPERATION CONDITION (WITH IN TAMPERATURE RANGE -40 TO 85 C)

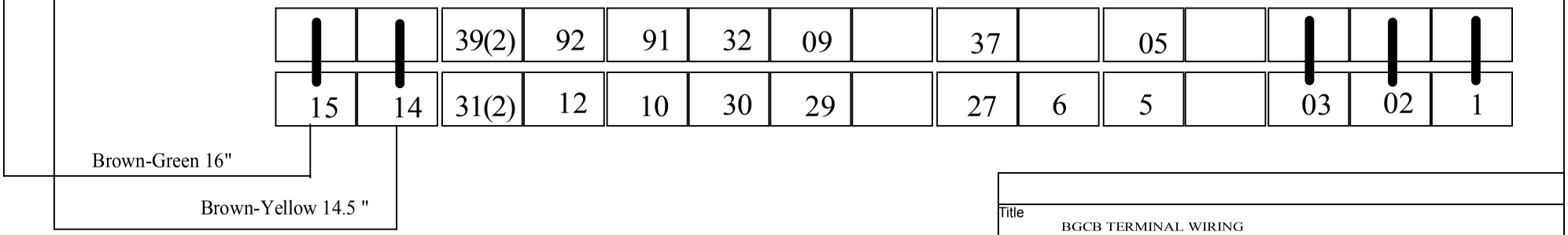
SUPPLY VOLTAGE 4.5-16 VDC
OUTPUT CURRENT 16 mA MAX.
LED CURRENT 15 mA
RESPONSE DELAY TIME - 3 us
RESPONSE FREQUENCY - 3000 P.P.S min.

CRITTENDEN CONVERSION CORPORATION		
Title: BG PULSE GENERATOR		
Size: A	Document Number: BGCPOLD.DSN (PULSE GENERATOR)	Rev: A
Date: Wednesday, April 20, 2005	Sheet 1 of 1	

UPPER STATION



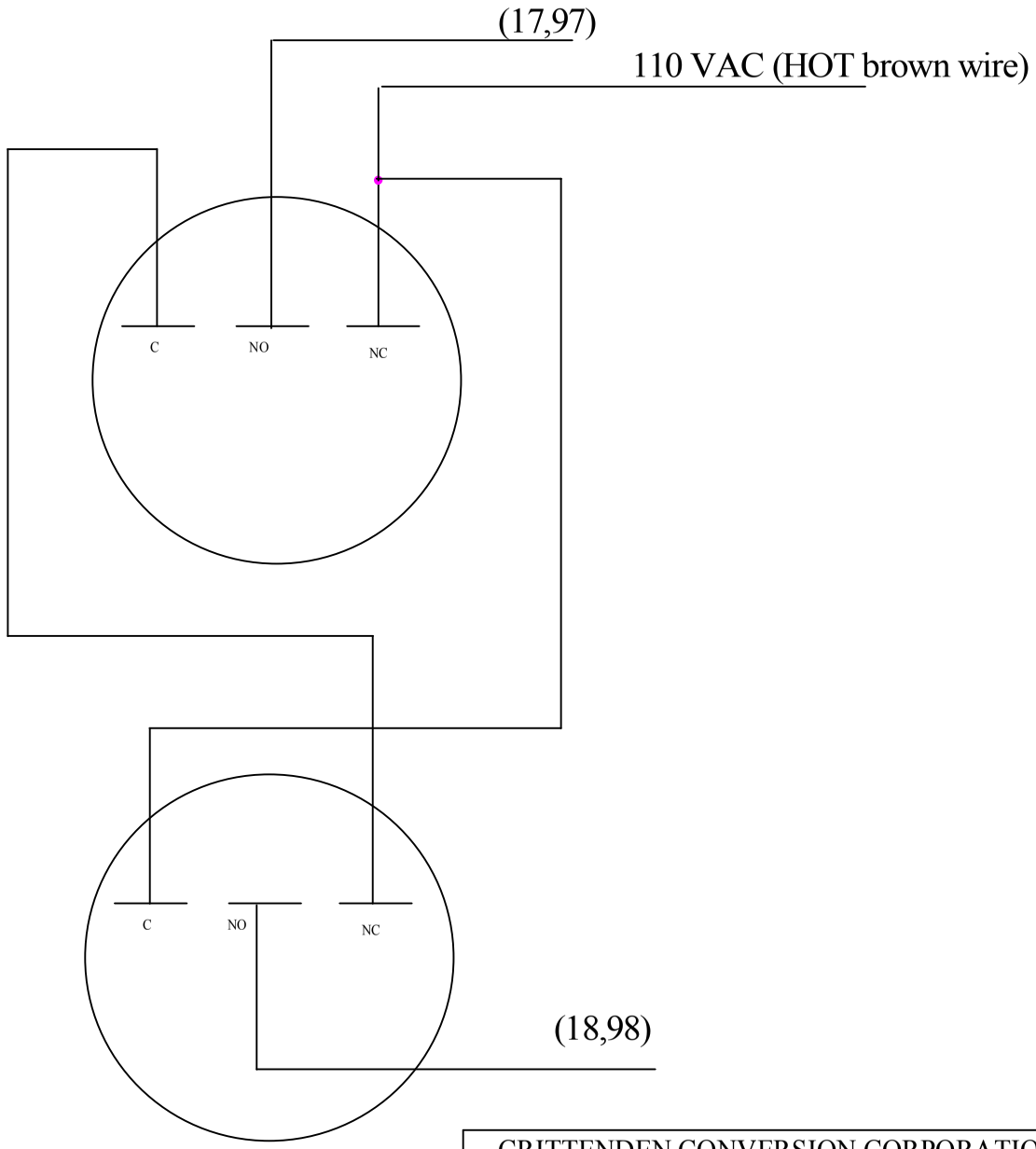
LOWER STATION



Title	BGCB TERMINAL WIRING		
Size A	Document Number BGCPOLD.DSN		Rev A
Date: Tuesday, January 22, 2008	Sheet 1 of 1		

MORE
Momentary AL6Q-M12P-R

LESS
Momentary AL6Q-M12P-R



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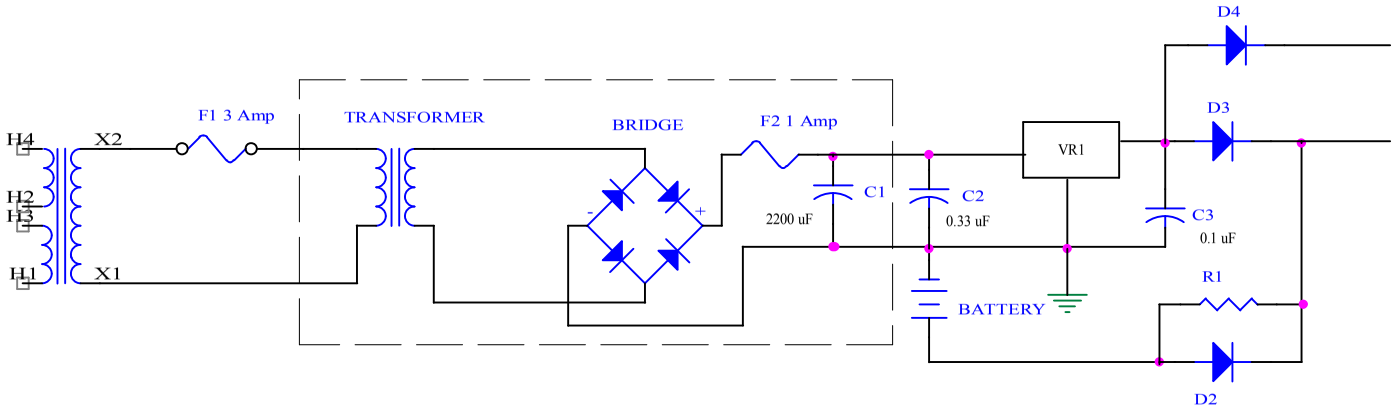
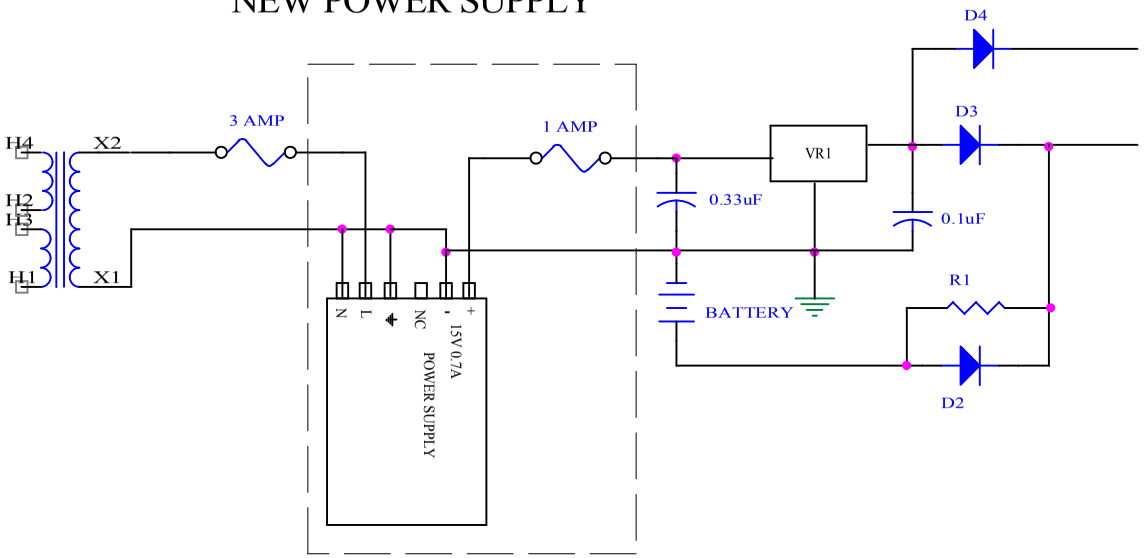
Size: A	Document Number: 01	Rev: A
Date: Wednesday, July 13, 2011	Sheet 1 of 1	

OLD POWER SUPPLY



NEW POWER SUPPLY



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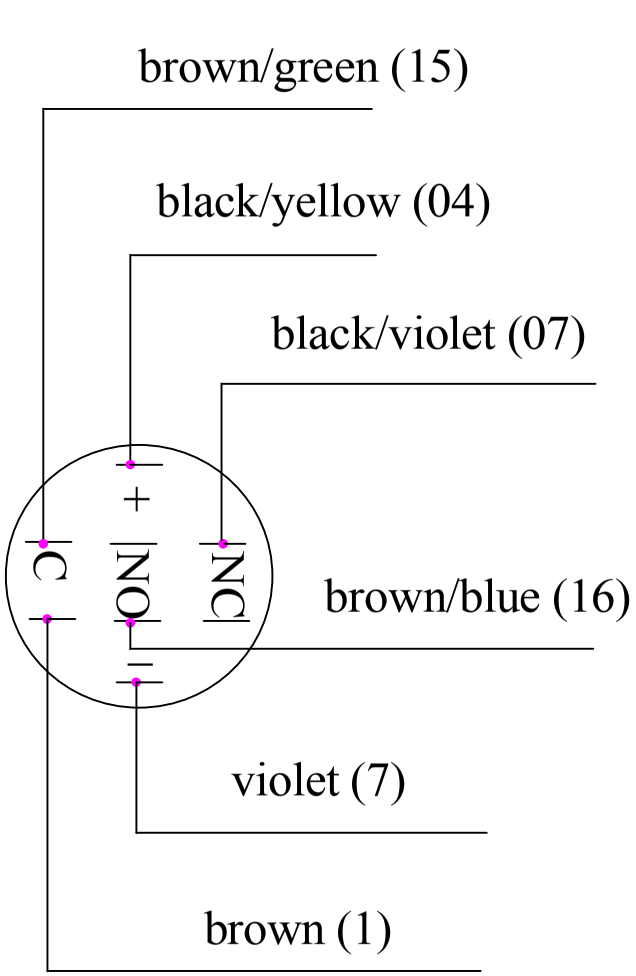
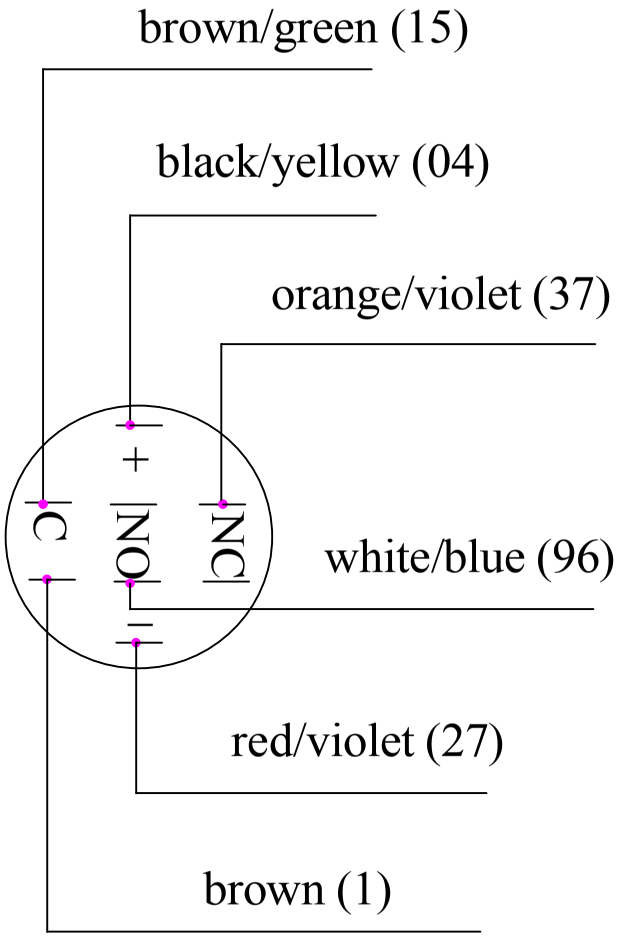


UPPER
Maintained AL6Q-A22P-R



LOWER
Maintained AL6Q-A22P-R

CRITTENDEN CONVERSION CORPORATION		
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Size: A	Document Number: IDEC sw	Rev: A
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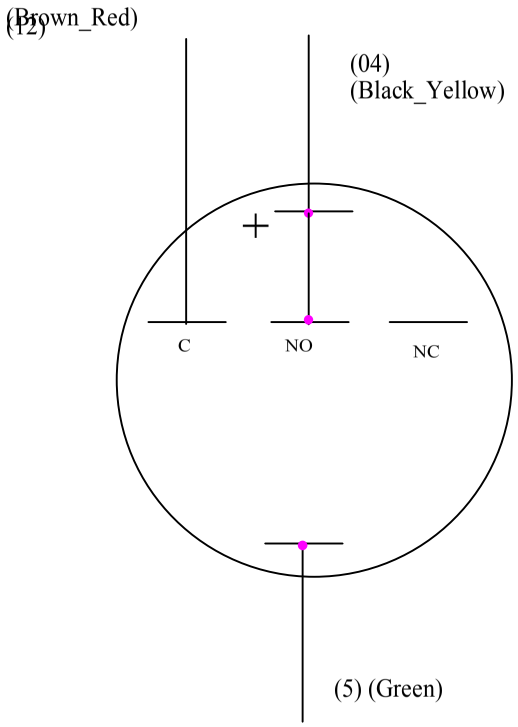
WIDTH
Momentary
AL6Q-M12P-R



SET-UP
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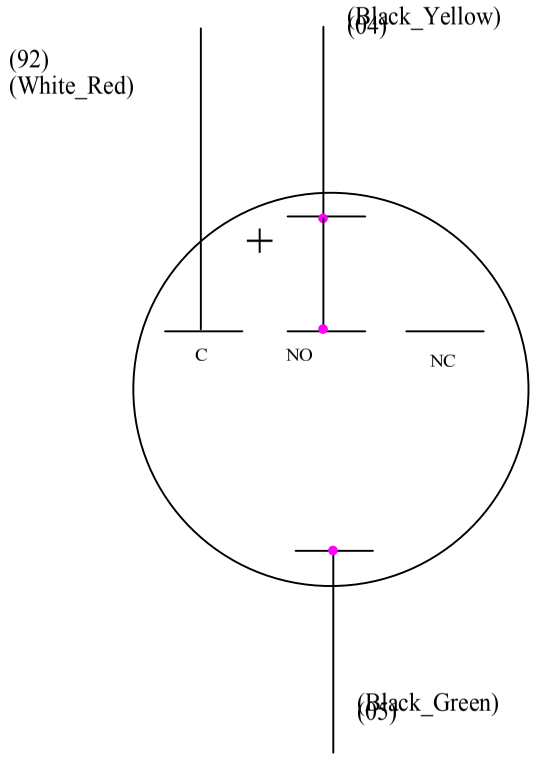

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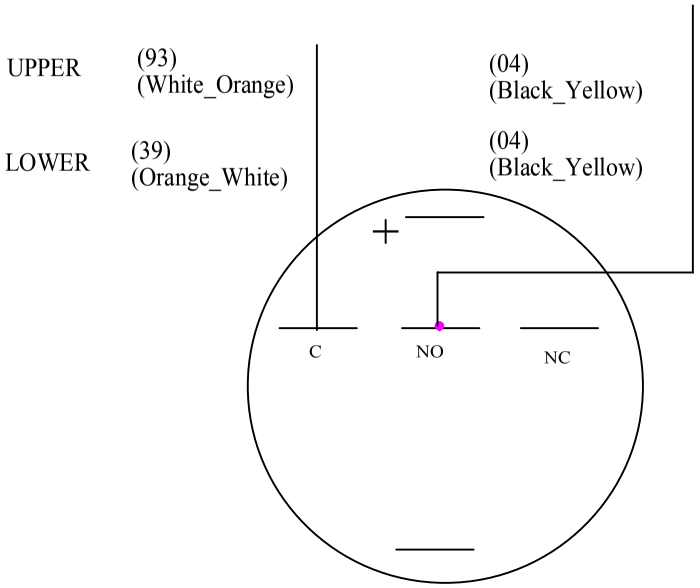
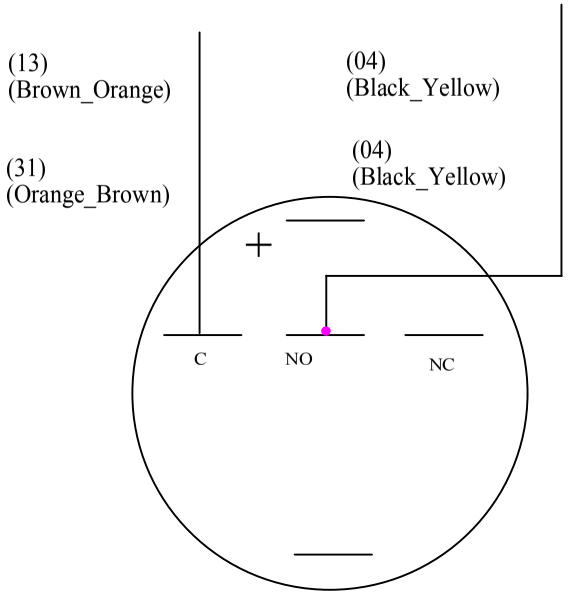
OUT
Momentary
AL6Q-M12P-R



IN
Momentary
AL6Q-M12P-R



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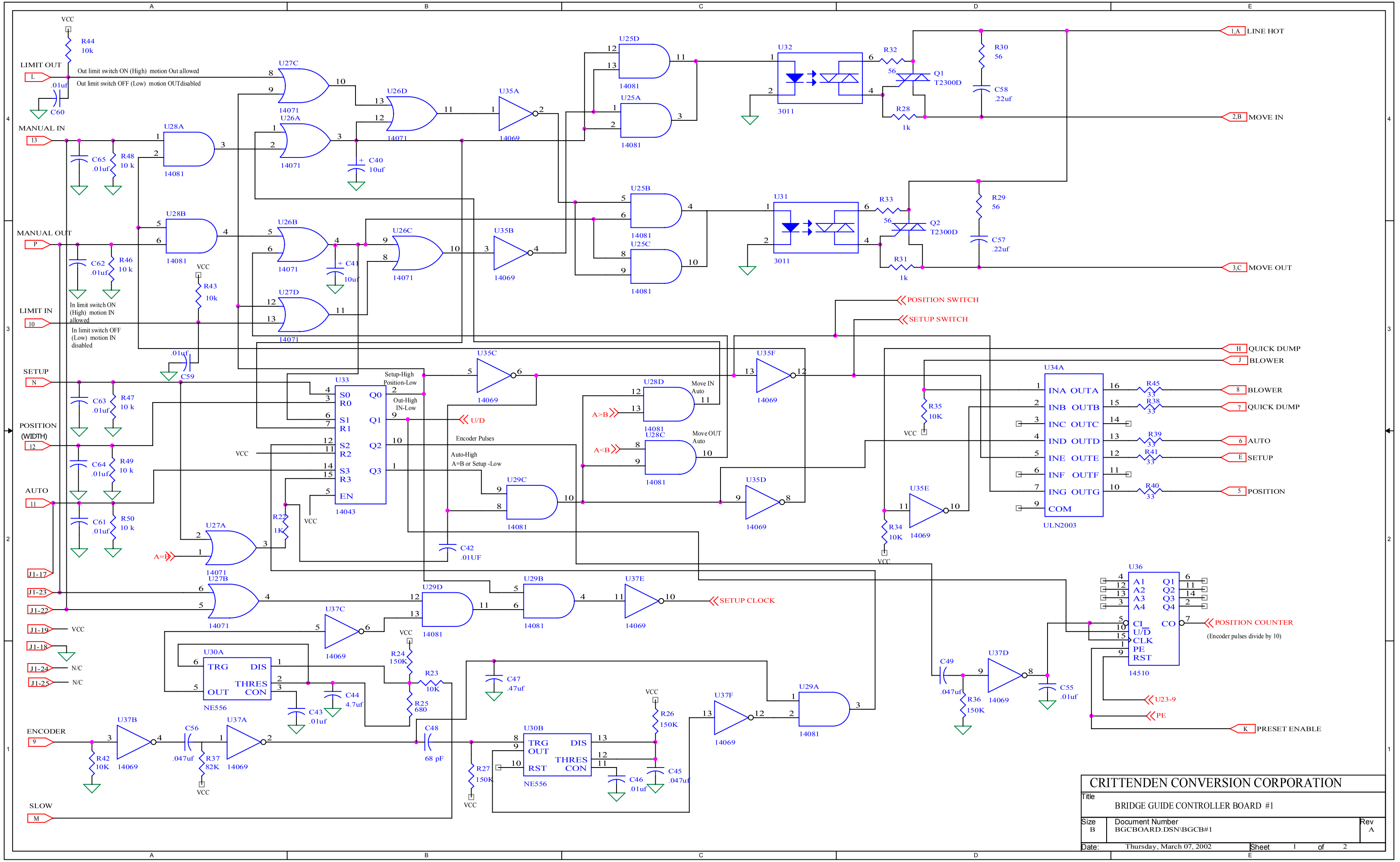
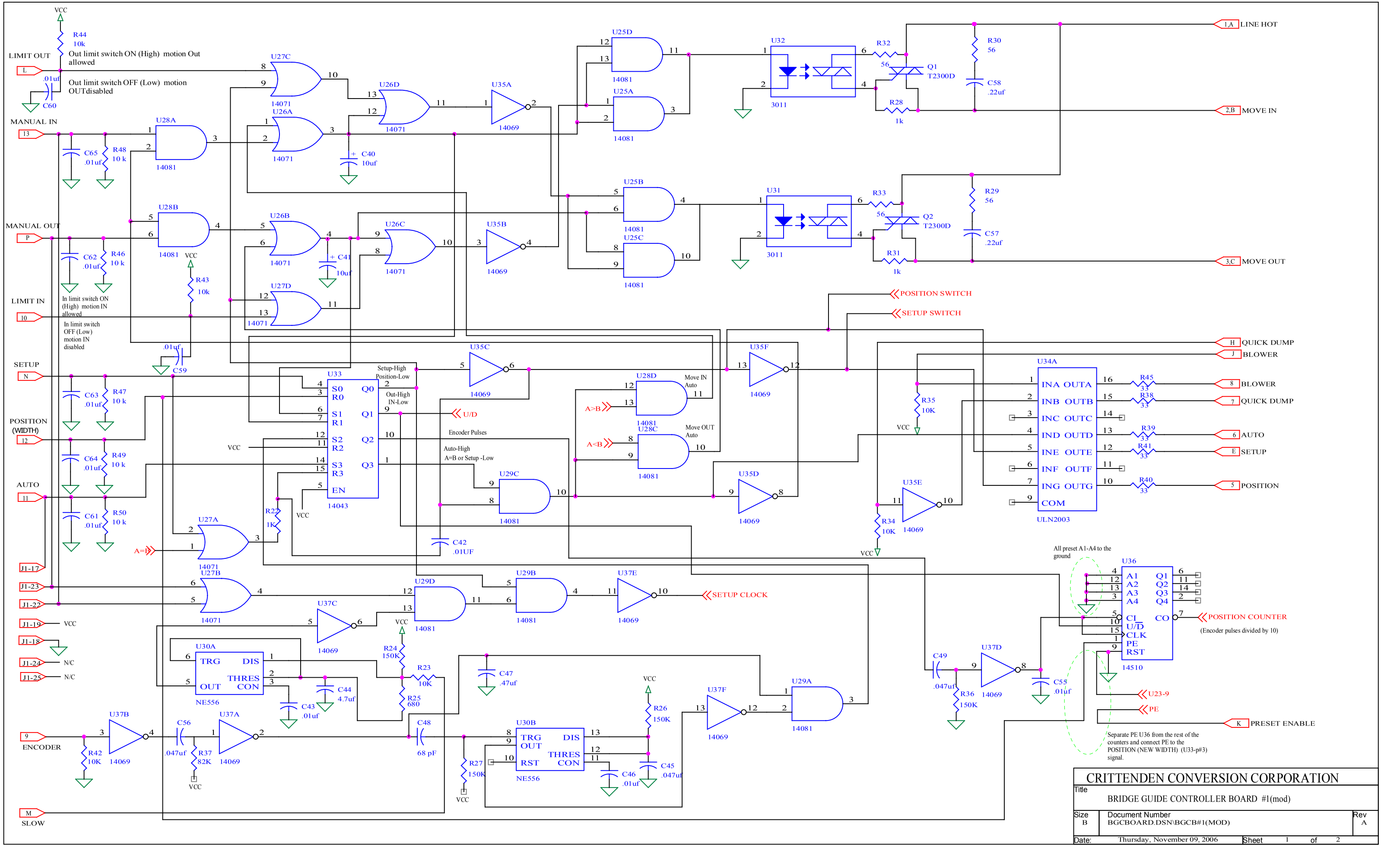


CRITTENDEN CONVERSION CORPORATION		
Title: BRIDGE GUIDE CONTROLLER BOARD #1		
Size: B	Document Number: BGCBOARD.DSN\BGCB#1	Rev: A
Date: Thursday, March 07, 2002	Sheet 1 of 2	

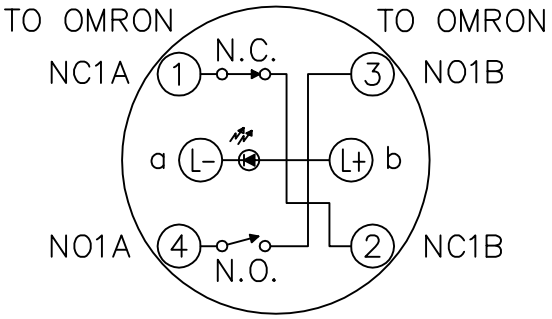


CRITTENDEN CONVERSION CORPORATION		
Title: BRIDGE GUIDE CONTROLLER BOARD #1(mod)		
Size: B	Document Number: BGCBOARD.DSN\BGCB#1(MOD)	Rev: A
Date: Thursday, November 09, 2006	Sheet 1 of 2	

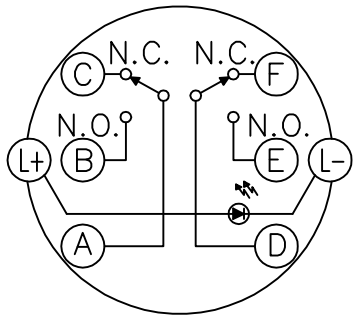
DESCRIPTION	EAO PART NO.	IDEC PART NO.	OMRON PART NO.
MOMENTARY BODY	51-151.025	AL6Q-M12P-R	A3BA-7011-3
MAINTAINED BODY	51-282.025	AL6Q-A22P-R	A3BA-7021-3
RED LENS	51-951.2	AL6Q-LK2-R	A3BA-510R
RED LED	31-967.02	LAPD-6R	A3BA-005R
SWITCH COVER	NA	NA	A3TB-5050

LENS & LED COME WITH BODY
ON THE IDEC SWITCH

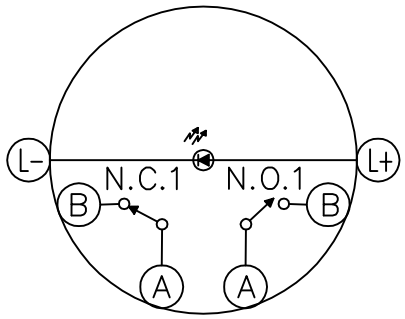
EAO



IDEC



OMRON



IF YOU NEED HELP CALL
VITALIY AT 425-222-5167

BGC-SWITCH EXCHANGE			
SCALE: 1=1	APPROVED BY:	DRAWN BY: VS	
DATE: FEB07	1=1	REDRAWN: FEB07	
CRITTENDEN CONVERSION CORP.			
MODIFICATION BACK TO IDEC		DWG #	E809
		MFG #	T=8

BRIDGE GUIDE 202 PARTS LIST

Item	Qty	Part	Type-Title	Detail
1	1	3TF42	SIEMENS CONTACTOR	110 VAC COIL MECHANICALLY ACTIVATED(DOOR CLOSED)
2	1	3TF40	SIEMENS CONTACTOR	110 VAC COIL
3	1	3UA50	SIEMENS OVERLOAD RELAY	0.8-1.2 AMP
4	1	MT0250A	SIEMENS TRANSFORMER	250 VA 50/60 Hz 480-120
5	1	FMP15-0.7	KEPKO Power supply	15 VDC, 0.7 AMP
6	1	357002	Little 2 Fuse holder	
7	1	AGC .5	Fuse 0.5 Amp	
8	1	AGC 1.0	Fuse 1.0 Amp	
9	1	270-386	2 D Battery Holder	
10	2	8WA1 011-1PG00	SIEMENS Terminal Blocks (GROUND)	DIN rail mount
11	2	8WA1 011-1DF11	SIEMENS Terminal Blocks Single Pole	DIN rail mount
12	3	8WA1 011-0DF21	SIEMENS Terminal Blocks 10-POLE	DIN rail mount
13	1	8WA1 808	SIEMENS Terminal Blocks END RETAINER	Din rail Mount
14	1	CTMBG200x	CRITTENDEN TERMINAL MARKERS	
15	1	14DSD32BA	SIEMENS BLOWER MOTOR STARTER OVERLOAD RELAY	(110-120/220-240)NEMA1
16	2	CRL0F4022K6	SIEMENS REVERSING CONTACTOR	120/110 V 60/50 HZ AYX. CONT 2N.O. 2 N.C.
17	2	307-030-500-202	EDAC PCB connector	
18	2	4326	PCB conner mount KEYSTONE ELC. Corp.	
19	1	7806A	VOLTAGE REGULATOR	6VDC 1 AMP
20	1	6VREG	VOLTAGE REGULATOR ASSEMPLY	
21	3	AL6Q-A22P-R	IDEC PANEL CONTROL SWITCH	MAINTAIN 6VDC LAMP LED 2P2T
22	19	AL6Q-M12P-R	IDEC PANEL CONTROL SWITCH	MOMENTARY 6VDC LAMP LED 1P1T
23	1	AL-K6	IDEC PANEL CONTROL SWITCH PROTECT COVER	
24	2	25-1490-A-02B-0/15IWV	Ashcroft Low presure Gauge	SIZE: 2-1/2, TYPE: 1490 RANGE: 0/15IWV VAR: UC
25	1	20167-12CHSC	B-Line BOX W/BOTTOM PEN	20x16x7 JIC box
26	2	BG_PCB	Crittenden Bridge Guide Control PC board	
27	2	BG_PGA	Crittenden Pulse generator Assembly	
28	2	0.01 uF	Capacitor 0.01 uF	Noise reducton filter
29	2	ARC_SuP	Crittenden Arc suppressor	Noise reducton filter
30	1		HOFFMAN Plastic box	
31	1		Crittenden beam interaption encoder weel assmbly	
32	2	3SE03-AL1	SIEMENS Limit Switche	
33	1	CCC_OVRL	Crittenden Box Overlay	
34	2		Electrical Motor 0.75 HP 3 PH	
35	1		Electrical Motor 5 HP 3 PH	

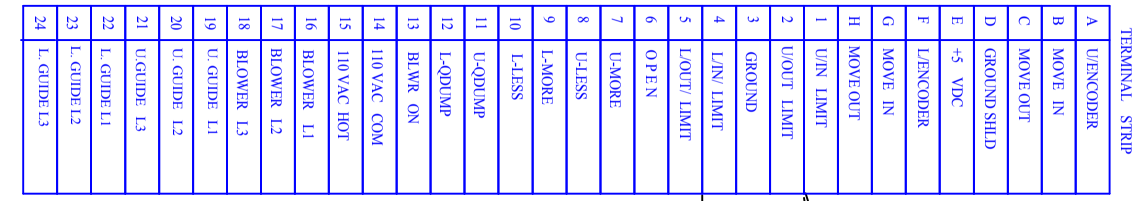
LIMIT OUT
L
.01uf
C60
R44
10k
Out limit switch ON (High) motion Out allowed
Out limit switch OFF (Low) motion OUTdisabled
MANUAL IN
13
C65 .01uf
R48 10 k
MANUAL OUT
P
C62 .01uf
R46 10 k
LIMIT IN
10
In limit switch ON (High) motion IN allowed
In limit switch OFF (Low) motion IN disabled
SETUP
N
C63 .01uf
R47 10 k
POSITION (WIDTH)
12
C64 .01uf
R49 10 k
AUTO
11
C61 .01uf
R50 10 k
J1-17
J1-23
J1-22
J1-19
VCC
J1-18
J1-24
N/C
J1-25
N/C
9
ENCODER
M
SLOW
U28A
14081
U28B
14081
VCC
R43
10k
.01uf
C59
U27C
14071
U26A
14071
U26D
14071
U35A
14069
U26B
14071
U26C
14071
U35B
14069
U27D
14071
C40
10uf
C41
10uf
U25D
14081
U25A
14081
U25B
14081
U25C
14081
U32
3011
R32
56
Q1
T2300D
R28
1k
R30
56
C58
.22uf
1,A
LINE HOT
2,B
MOVE IN
U31
3011
R33
56
Q2
T2300D
R31
1k
R29
56
C57
.22uf
3,C
MOVE OUT
POSITION SWITCH
SETUP SWITCH
U33
14043
S0 R0 S1 R1 S2 R2 S3 R3 EN
Q0 Q1 Q2 Q3
Setup-High Position-Low
Out-High IN-Low
U/D
Encoder Pulses
Auto-High A=B or Setup -Low
VCC
R22
1K
C42
.01UF
A=B
U35C
14069
U29C
14081
U28D
14081
Move IN Auto
A>B
U28C
14081
Move OUT Auto
A<B
U35D
14069
U35F
14069
U35E
14069
R34
10K
R35
10K
U34A
ULN2003
INA OUTA
INB OUTB
INC OUTC
IND OUTD
INE OUTE
INF OUTF
ING OUTG
COM
R45 33
R38 33
R39 33
R41 33
R40 33
H
QUICK DUMP
J
BLOWER
8
BLOWER
7
QUICK DUMP
6
AUTO
E
SETUP
5
POSITION
U27A
14071
U27B
14071
U37C
14069
U29D
14081
U29B
14081
U37E
14069
SETUP CLOCK
U30A
NE556
TRG DIS OUT THRES CON
R24
150K
R23
10K
R25
680
C43
.01uf
C44
4.7uf
C47
.47uf
U37B
14069
U37A
14069
C56
.047uf
R37
82K
R42
10K
C48
68 pF
U30B
NE556
TRG DIS OUT THRES CON RST
R27
150K
R26
150K
C45
.047uf
C46
.01uf
U37F
14069
U29A
14081
C49
.047uf
R36
150K
U37D
14069
C55
.01uf
POSITION COUNTER
U23-9
PE
K
PRESET ENABLE
Remove Chip
Install Jumper
Pin 5 to Pin 7
Separate PE U36 from the rest of the counters and connect PE to the POSITION (NEW WIDTH) (U33-p#3) signal.

CRITTENDEN CONVERSION CORPORATION

Title: BRIDGE GUIDE CONTROLLER BOARD #1(mod) Old 15 dc Encoder

Size: B | Document Number: BGCBOARD.DSN\BGCB#1(MOD) | Rev: A

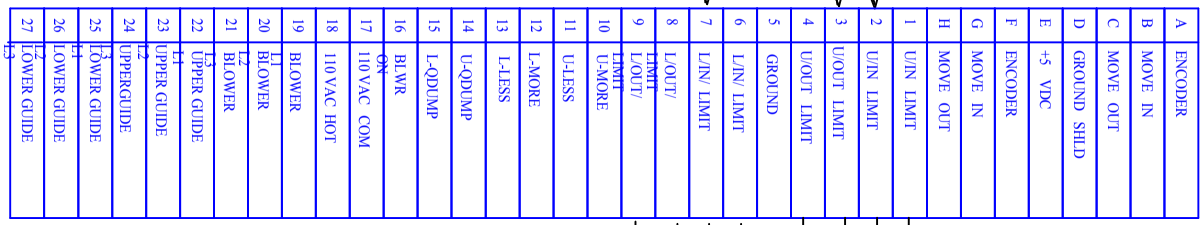
Date: Thursday, November 09, 2006 | Sheet 1 of 2



OLD

Add one more Simens terminal for Lower In limit and use Open terminal for Lower Out limit

Add two more Simens terminals for Upper In limit and Upper out limit



NEW

Disconect wire which goes from common limit switches to the ground terminal and use it for second Lower IN limit

Install one more wire from Lower OUT limit switch

Make sure that no connection to the ground and between Lower IN and OUT switches.

Disconect wire which goes from common limit switches to the ground terminal and use it for second Upper IN limit

Install one more wire from Upper out limit switch

Make sure that no connection to the ground and between Upper IN and OUT switches.

Make sure that you have wired the limit switches right. Upper to Upper; Lower to Lower; IN to IN; OUT to OUT. The error could be cause of considerable machine damage.!!!

CRITTENDEN CONVERSION CORPORATION

Title

BG2 CONTROL PANEL 202 modification

Size	Document Number	Rev
A	Limit switches wiring modification(1)	A

Date: Friday, June 04, 2004 Sheet 1 of 2

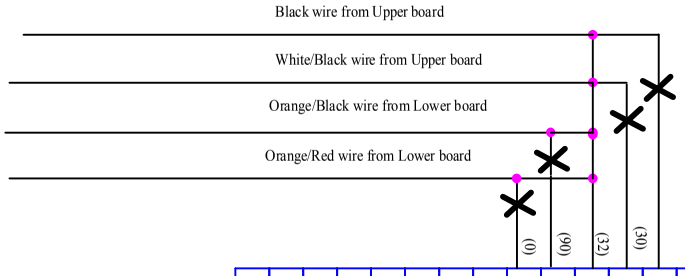
1) Disconnect Black wire from terminal 1

2) Disconnect White/black wire from terminal 2

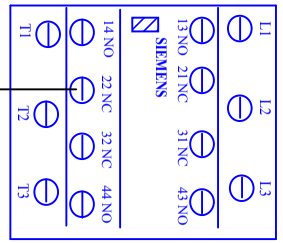
3) Disconect Orange/Black wire from terminal 4

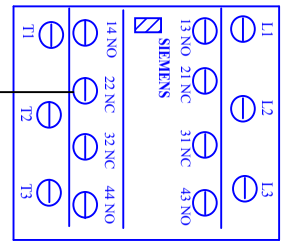
4) Disconnect Orange/Red wire from terminal 5.

5) Connect All disconnected wires together and to the Ground



	A	B	C	D	E	F	G	H	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
TERMINAL STRIP	U/ENCODER	MOVE IN	MOVE OUT	GROUND SHLD	+5 VDC	L/ENCODER	MOVE IN	MOVE OUT	U/IN LIMIT	U/OUT LIMIT	GROUND	L/IN/ LIMIT	L/OUT/ LIMIT	O P E N	U-MORE	U-LESS	L-MORE	L-LESS	U-QDUMP	L-QDUMP	BLWR ON	110 VAC COM	110 VAC HOT	BLOWER L1	BLOWER L2	BLOWER L3	U. GUIDE L1	U. GUIDE L2	U.GUIDE L3	L. GUIDE L1	L. GUIDE L2	L. GUIDE L3





6) Cut Red and Orange wires close to Upper In Out limit terminals.

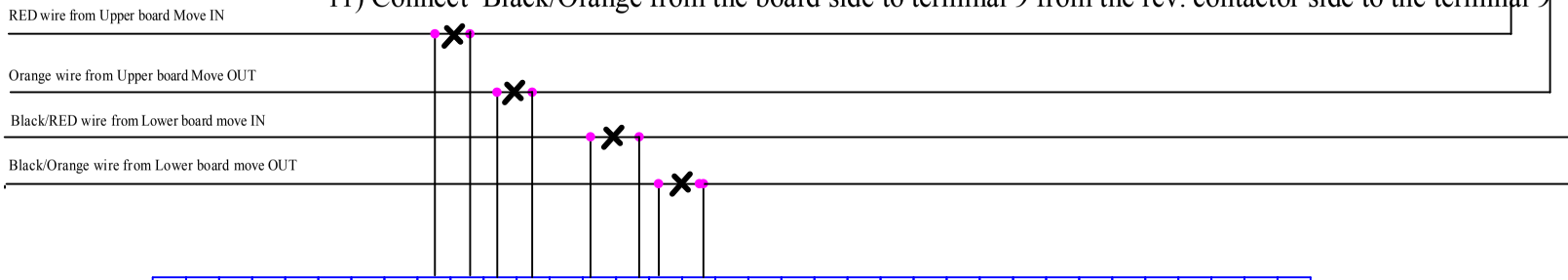
7) Cut Black/Red and Black/Orange wires close to Lower In out limit terminals

8) Connect Red from the board side to terminal 1 from the rev. contactor side to the terminal 2

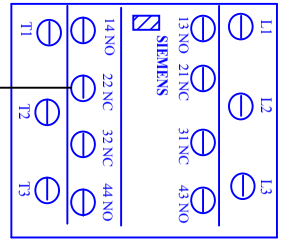
9) Connect Orange from the board side to terminal 3 from the rev. contactor side to the terminal 4

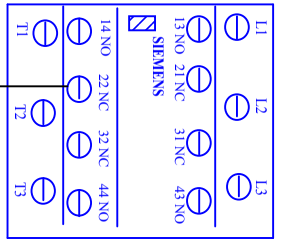
10) Connect Black/Red from the board side to terminal 6 from the rev. contactor side to the terminal 7

11) Connect Black/Orange from the board side to terminal 9 from the rev. contactor side to the terminal 9



	A	B	C	D	E	F	G	H	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
TERMINAL STRIP	ENCODER	MOVE IN	MOVE OUT	GROUND SHLD	+5 VDC	ENCODER	MOVE IN	MOVE OUT	U/IN LIMIT	U/IN LIMIT	U/OUT LIMIT	U/OUT LIMIT	GROUND	L/IN/ LIMIT	L/IN/ LIMIT	L/OUT/ LIMIT	L/OUT/ LIMIT	U-MORE	U-LESS	L-MORE	L-LESS	U-QDUMP	L-QDUMP	BLWR ON	110 VAC COM	110 VAC HOT	BLOWER L1	BLOWER L2	BLOWER L3	UPPER GUIDE L1	UPPER GUIDE L2	UPPERGUIDE L3	LOWER GUIDE L1	LOWER GUIDE L2	LOWER GUIDE L3



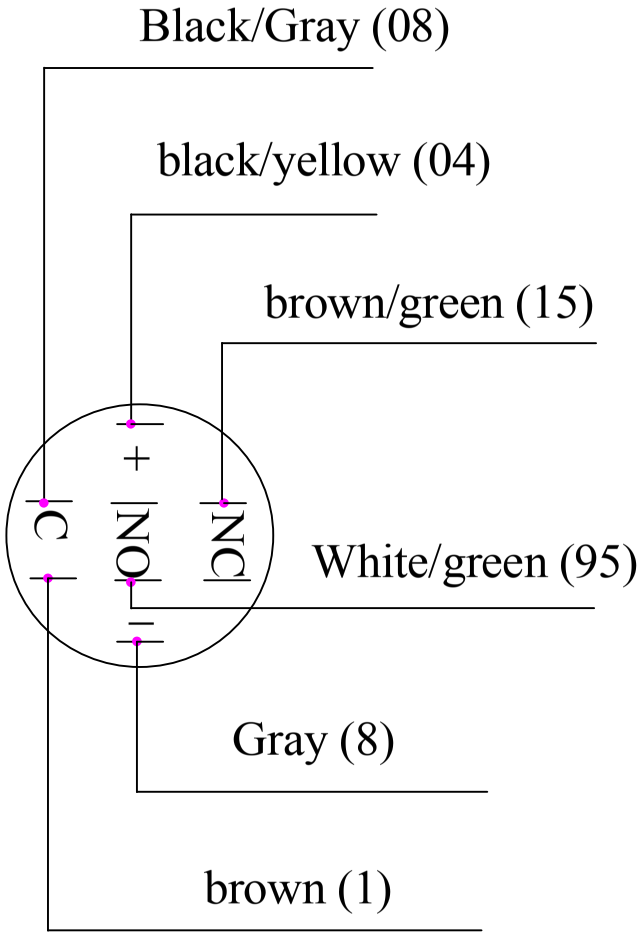


Title

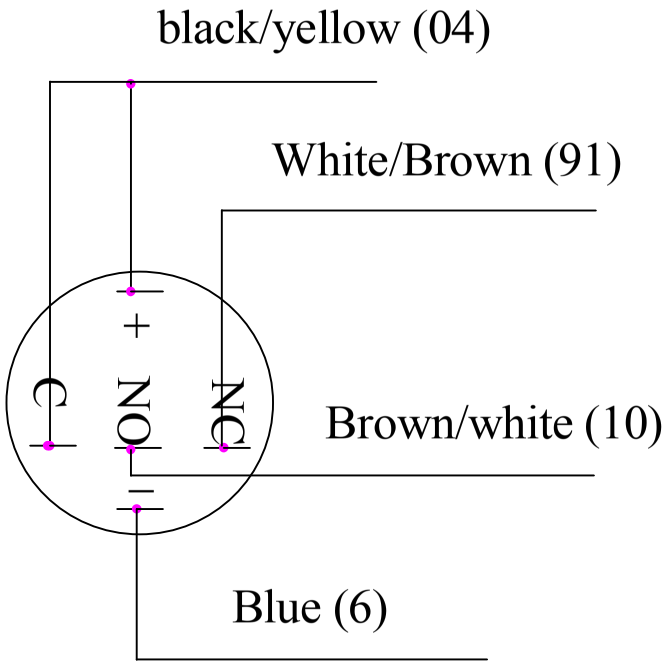
BG Limit Switch Modification 2

Size	Document Number	Rev
A	{Doc}	A

Date: Friday, June 01, 2001 Sheet 1 of 1



BLOWER
Maintained AL6Q-A22P-R



AUTO_SLOW
Momentary AL6Q-M12P-R

Title {Title}		
Size A	Document Number {Doc}	Rev A
Date: Wednesday, July 13, 2011	Sheet 1 of 1	

DISPLAY

WIRES USED

XA1	XA2
1–TS15=24”	02–RVSTR=54”
1–XA2=20”	03–RVSTR=52”
1–BLWR=14.25”	5–LID
2–RVSTR=42”	6–LID
3–RVSTR=41”	27–LID FAR
5–LID	29–TSF=36”
6–LID	30–TS4=37”
7–LID FAR	10–LID
8–LID FAR	12–LID
9–TSA=20”	31–LID
0–TS1=22”	31–TSG FROM SW=29”
10–LID	05–LID
12–LID	37–LID FAR
13–LID	09–LID
13–TSB=21”	32–TS5=38”
05–LID	91–LID
07–LID FAR	92–LID
08–LID FAR	39–LID
09–LID	39–TSH FROM SW=29”
90–TS2=23”	
91–LID	
92–LID	
93–LID	
93–TSC=21”	

OTHERS

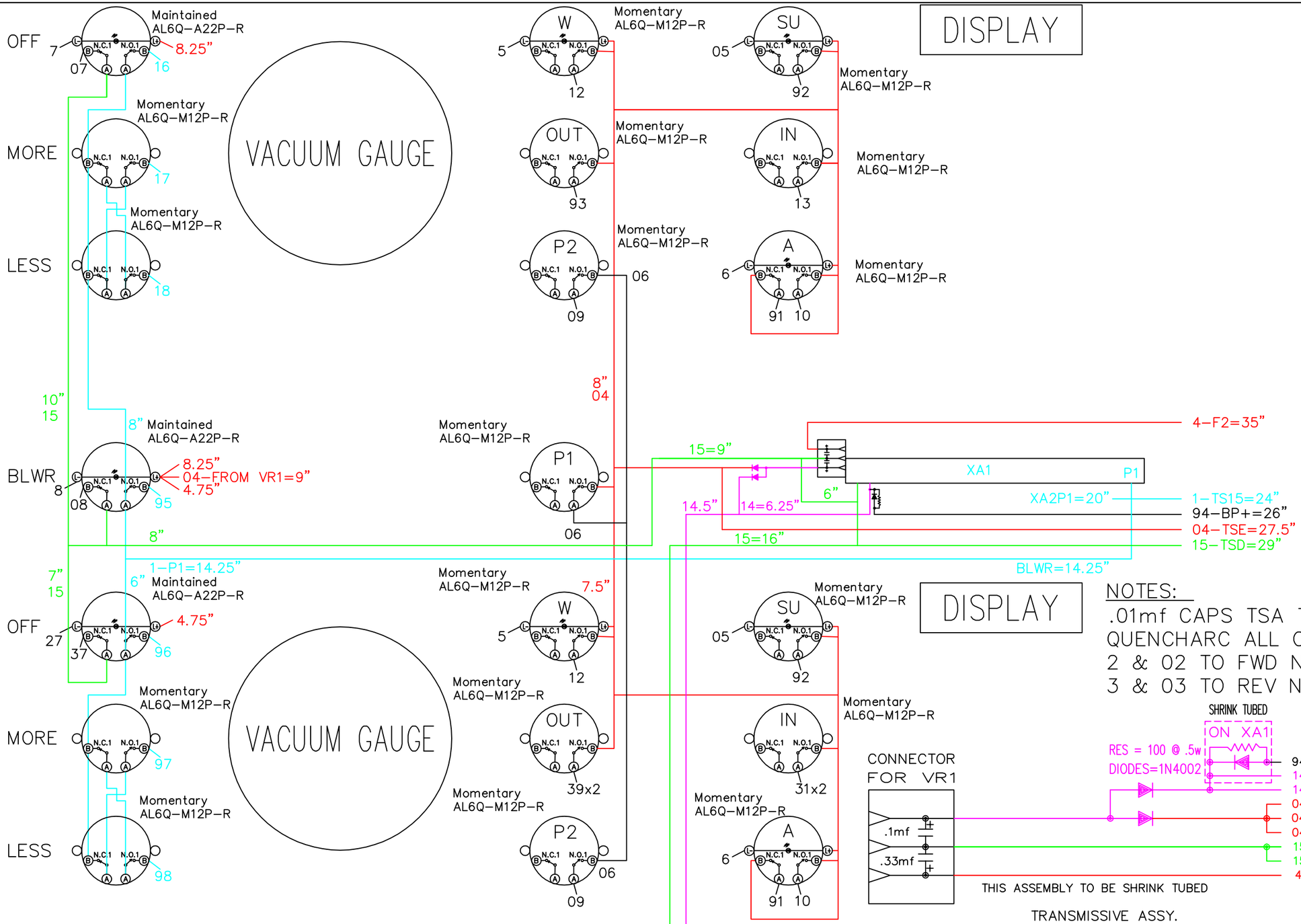
16–TS11=40”
17–TS7=39”
18–TS8=38”
95–TS13=35”
96–TS12=36”
97–TS9=36”
98–TS10=38”

COLOR CODE

BLACK=0
BROWN=1
RED=2
ORANGE=3
YELLOW=4
GREEN=5
BLUE=6
PURPLE=7
GREY=8
WHITE=9

NOTES:

.01mf CAPS TSA TO TSD TO TSF
QUENCHARC ALL COILS
2 & 02 TO FWD N.C. #22
3 & 03 TO REV N.C. #22



M202 LID WIRING LAYOUT			
SCALE: 1=1	APPROVED BY:	DRAWN BY: CDV	
DATE: JAN92 1=1B		REDRAWN: APR96	
CRITTENDEN CONVERSION CORP.			
BUILT IN HOUSE		DWG #	E812
		MFG #	T=21