

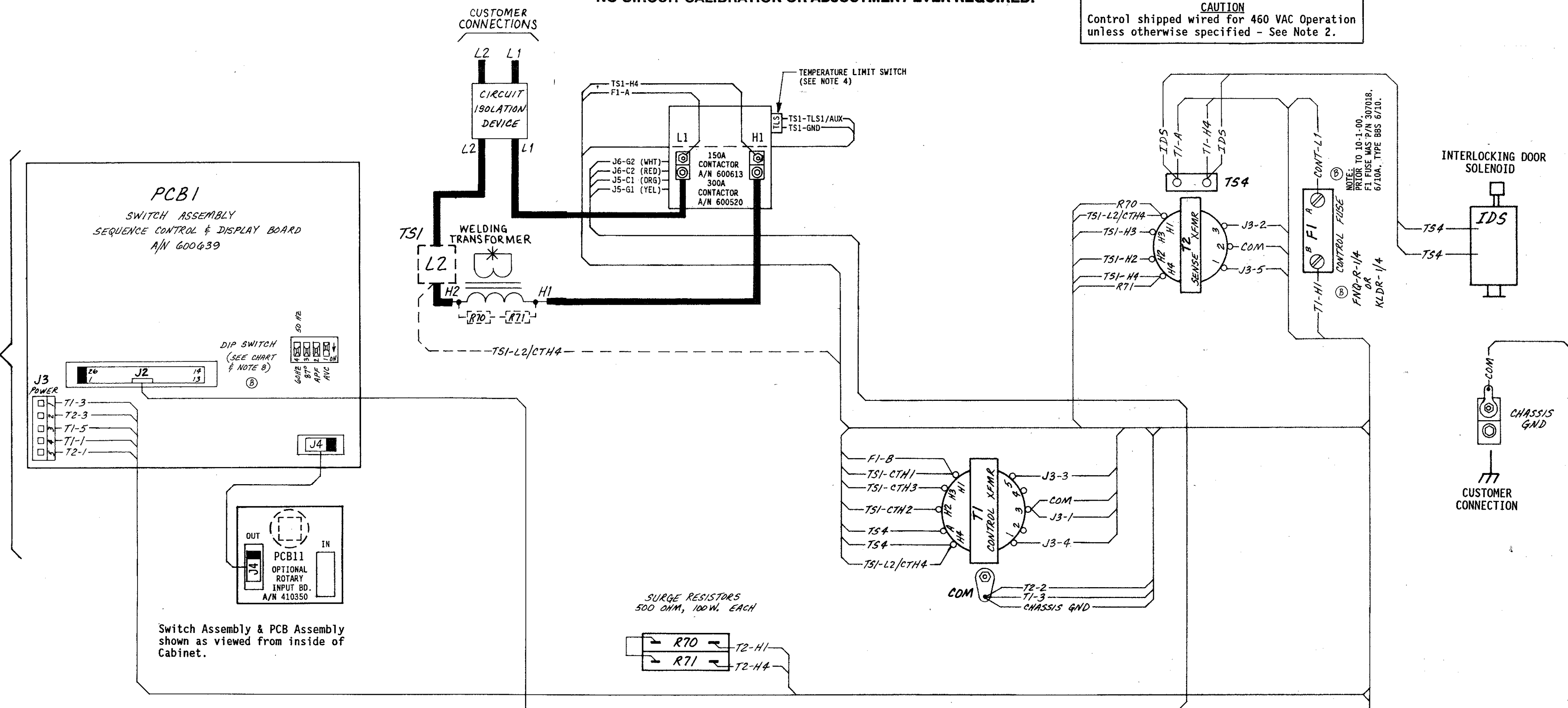
NO CIRCUIT CALIBRATION OR ADJUSTMENT EVER REQUIRED.

**CAUTION**  
Control shipped wired for 460 VAC Operation unless otherwise specified - See Note 2.

PARTS LIST - CONTROL SECTION				421368	B
QTY.	DESIG.	PART NO.	DESCRIPTION		
1	PCB1	600641	Assem., Dial Plate, w/Sw. Assem., EN2150, Consisting of:		
1		600639	Assem., Switch, Sequence Control & Display Board		
1		540291	Illustrated Panel, Dial Plate, EN2150, "B" Cabinet		
1		515104	Panel, Display, Window, Red Filter, EN2150		
1		565013	Hole Plug, 3/8" Diam., Black, (For Rotary Bd. Hole)		
X	PCB11	410350	Optional Assem., PCB, Rotary Input Board (RIB)		
X		319008	Knob, Skirted Round, w/o Indicator, Black		
X	J4-J4	322447	Assem., Harness, Ctrl Bd. to Rotary Input Bd., 7" Long		
1	PWR.LT.	305001	Lamp, Neon, Red, 230V		
1	WLD.LT.	305002	Lamp, Neon, Clear, 230V		
1	J2-J2	322349	Assem., Harness, Control Bd. to Terminal Strip Bd.		
1	J3	322359-007	Assem., Harness, Power, EN2150		

PARTS LIST - CONTACTOR/POWER SECTION					
QTY.	DESIG.	PART NO.	DESCRIPTION		
1	TS1	600630	Terminal Block, 1 Pole, 600V		
1	TS4	335007	Terminal Strip, 2 Pin, (For IDS), (Part of J3 Harness)		
1	T1	310001	Transformer, Control, (Part of J3 Harness)		
1	T2	310002	Transformer, Sense, (Part of J3 Harness)		
1	F1	308010	Fuseholder, 1 Pole, Mini, 600V		
1	F1	307024	Fuse, Control, 1/4A, FNQ-R-1/4 or KLDR-1/4		
*	R74	600048	Resistor, Power, 2000 Ohm, 10W, (For 575V)		
2	R70,71	225016	Resistor, Power, Surge, 500 Ohm, 100W		
1		325024	Assem., Wire, Surge Resistor, 18 Ga., Black		
1		600613	Assem., Contactor,Thyristor,Air,150A, 460/575V,w/TLS		
1		600520	Assem., Contactor,Thyristor,Air,300A, 460/575V,w/TLS		
1	TLS	300020	Switch, Temp. Limit, (N.C.), (Part of 600613/600520)		
1	PCB2	410333-003	Assem., PCB, Terminal Strip Bd., EN2150, "B" Cabinet		
1	F6(PCB2)	307022	Fuse, 1 Amp, Slow Blow, 2AG, (Part of 410333-003)		
1		510236-001	Plate, Mounting, Terminal Strip Board		
1		346004	Lug, Screw, Chassis GND, 2/O Wire		
1		565001	Hole Plug, 1" Diam., Black		
1	IDS	600044	Assem., Interlocking Door Solenoid		
1		314001	Coil Assem., Only, IDS		
1		510001	Cabinet, Control Style "B", Bench		
1		510004	Door, Cabinet, "B", "Bench		
4	J	580001	Jumper, Terminal Strip Board, TS1, Voltage #1 & #2		
1		700154	Manual, EN2150		
1		421370	Logic Diagram, EN2150 Control		
1		421368	Wiring Diagram, EN2150-Series, "B" Cabinet		

X Optional. Add quantity one (1) PCB11 Rotary Input Board when specified by customer. Remove Hole Plug P/N 565013 when PCB11 is specified. Supply quantity one (1) each of J4-J4 Harness Assembly & Knob when Optional PCB11 is specified.  
\* Substitution or Addition of parts when 575V Control is specified.  
See Drawing #400567 for Mechanical Assembly Instructions.  
See Drawing #440269 for Packing Instructions, "B" Cabinet.  
See Drawing #440353 for Label Locations, "B" Cabinet.

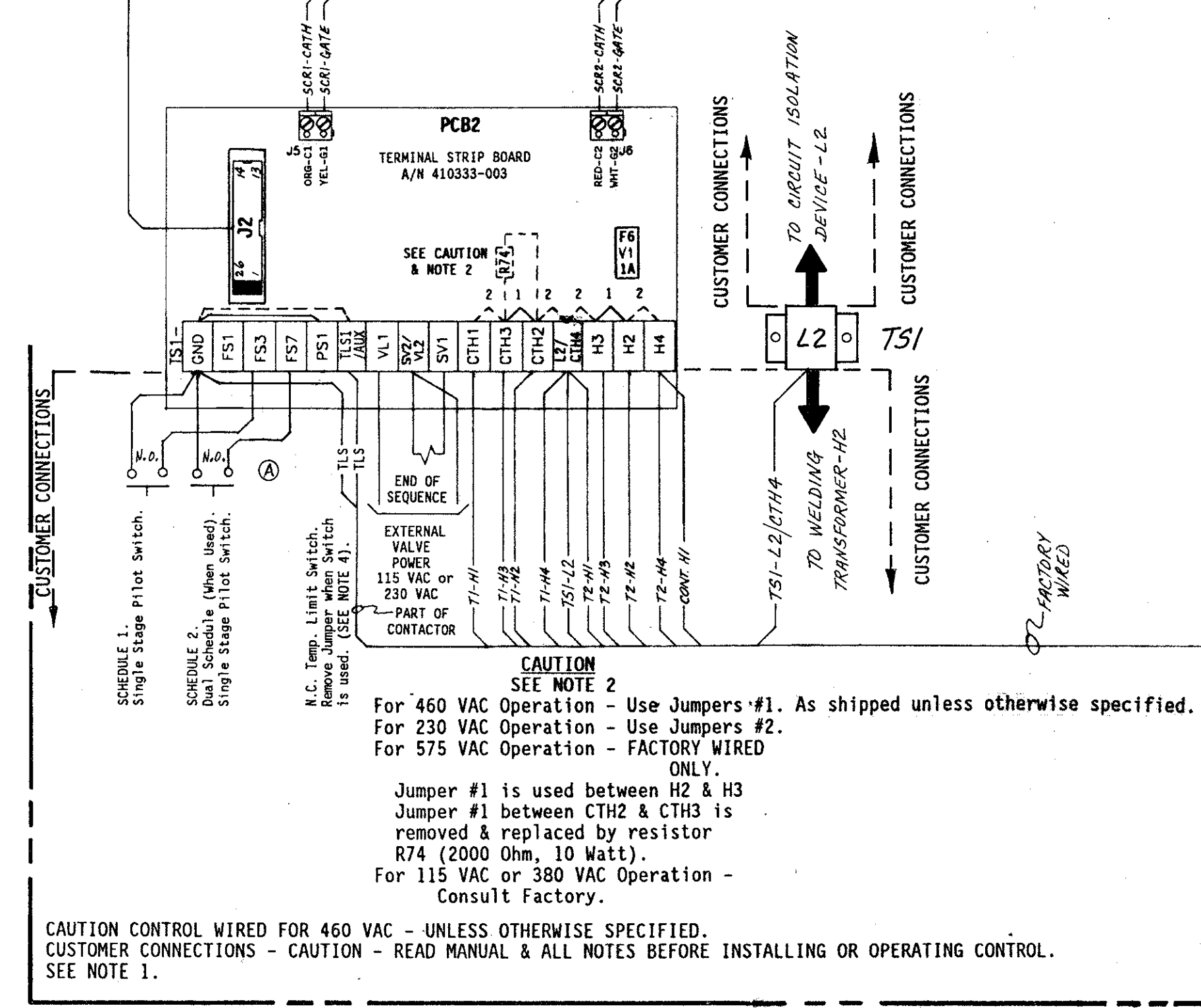


**PROGRAMMABLE POWER FACTOR APPLICATION SETTINGS CHART**

DIP SWITCH POSITION	AVC POSITION 1 (SEE NOTE BELOW)	PROGRAMMABLE POWER FACTOR (PP) SETTING			
		PP = 991 WITH 87° DELAY FUNCTION OFF	PP = 991 WITH 87° DELAY FUNCTION ON	PP = 401 WITH 87° DELAY FUNCTION ON	PP = 001 WITH 87° DELAY FUNCTION ON (SEE NOTE)
FOR ON/OFF	POSITION 2	OFF	ON	ON	OFF
SETTING	POSITION 3	OFF	OFF	ON	OFF
	POSITION 4 (SEE NOTE BELOW)	ON (60Hz)	ON (60Hz)	ON (60Hz)	ON (60Hz)

NOTE: PP = 001 WITH 87° DELAY ON IS EQUIVALENT TO AN AUTOMATIC POWER FACTOR. FOR ANY OF THE FOUR DIFFERENT POSSIBLE SETTINGS SHOWN ABOVE FOR PP, THE DIP SWITCH POSITIONS FOR AVC & 50/60Hz CAN BE CHANGED BETWEEN EITHER "ON" OR "OFF".

- NOTES:**
- It is recommended that control wiring (i.e.: initiation, pressure switch, etc.) be physically separated from the high voltage wiring (115 volts or higher).
  - For 460 VAC Operation - Use Jumpers #1 on TS1. As shipped unless otherwise specified. Use Jumpers #2 on TS1.  
For 230 VAC Operation - FACTORY WIRED ONLY.  
Use Jumper #1 between H2 & H3 on TS1. Use Resistor R74 (2000 Ohm, 10 Watt) in place of Jumper #1 between CTH2 & CTH3 on TS1.  
For 115 VAC or 380 VAC Operation - CONSULT FACTORY.
  - For Single Stage Pilot Operation - Connect pilot switch to TS1-FS3 & TS1-GND. No Jumpers required across TS1-FS1 & TS1-GND.  
For Two Stage Pilot Operation - Connect 1st stage pilot switch to TS1-FS1 & TS1-GND. Connect 2nd stage pilot switch to TS1-FS3 & TS1-GND.  
For DUAL COUNT/DUAL CURRENT (Dual Weld/Dual Heat) SEE MANUAL.
  - EN2150-150B & EN2150-300B: ENTRON supplies Temperature Limit Switch (TLS) P/N 300020 and provides connections to TS1-TLS1/AUX & TS1-GND. Jumper not required between TS1-TLS1/AUX & TS1-GND. NOTE: TLS Thyristor will open at temperatures greater than or equal to 150° F.
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  - Connect TS1-L2/CTH4 to L2/H2 side of Welding Transformer Primary.
  - The Automatic Voltage Compensation (AVC), Automatic Power Factor (APF), 87° Delayed Firing, and 50Hz/60Hz functions are determined by the settings of the four position DIP switch on PCB1 (A/N 600639). As shipped from the factory, AVC is off, APF is on, 87° Delayed Firing is on, and 60Hz operation is selected. To change any of these functions, see instructions in the manual.



**WARNING: HIGH VOLTAGE**  
VOLTAGES PRESENT IN THIS CONTROL CAN CAUSE SEVERE OR FATAL INJURIES. NOTE: EVEN THOUGH SUPPLY POWER TO THIS UNIT HAS BEEN DISCONNECTED, THERE MAY BE VOLTAGES IN THIS CONTROL ORIGINATING FROM OTHER SOURCES. FOR ALL VOLTAGE POTENTIAL TO BE REMOVED FROM THIS CONTROL, POWER MUST BE REMOVED FROM ALL EXTERNAL CONTROL CIRCUITS CONNECTED TO TERMINALS IN THIS CABINET.

**FOR SERVICE ON THIS CONTROL CONTACT YOUR MACHINE DEALER OR ENTRON CONTROLS INC. DIRECTLY: (630) 682-9600**  
465 EAST RANDY ROAD  
CAROL STREAM, IL 60188  
P.O. BOX 163091  
CHICAGO, IL 60616

REV.	AUTH.	DESCRIPTION	DATE	CHK'D BY	DATE

SCALE	DATE	DRAWN BY	CHK'D BY	APPROVED BY
	2-19-98	DEC	DEC	2-19-98

**ENTRON CONTROLS INC**

TOLERANCE UNLESS SPECIFIED	REV. LTR	APPROVED BY
ANGLES: ± 1°		
DECIMALS: ± 0.10		
FRACTIONS: ± 1/64		

WIRING DIAGRAM, EN2150-SERIES, "B" CABINET with or without ROTARY INPUT BOARD

REV.	AUTH.	DESCRIPTION	DATE	CHK'D BY	DATE