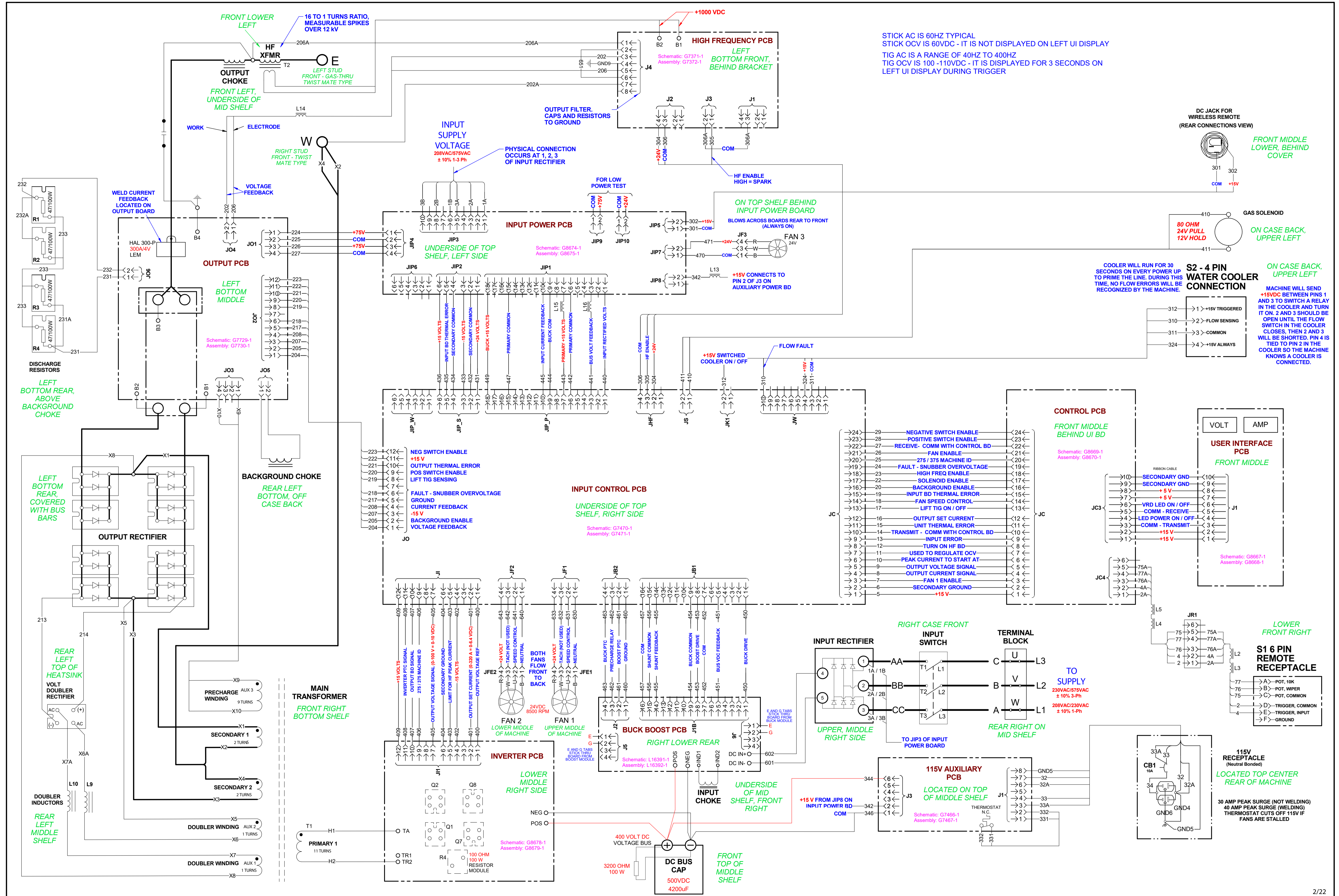


# ASPECT 375 MACHINE SCHEMATIC G8671 REV: A



STICK AC IS 60HZ TYPICAL  
 STICK OCV IS 60VDC - IT IS NOT DISPLAYED ON LEFT UI DISPLAY  
 TIG AC IS A RANGE OF 40HZ TO 400HZ  
 TIG OCV IS 100 -110VDC - IT IS DISPLAYED FOR 3 SECONDS ON LEFT UI DISPLAY DURING TRIGGER

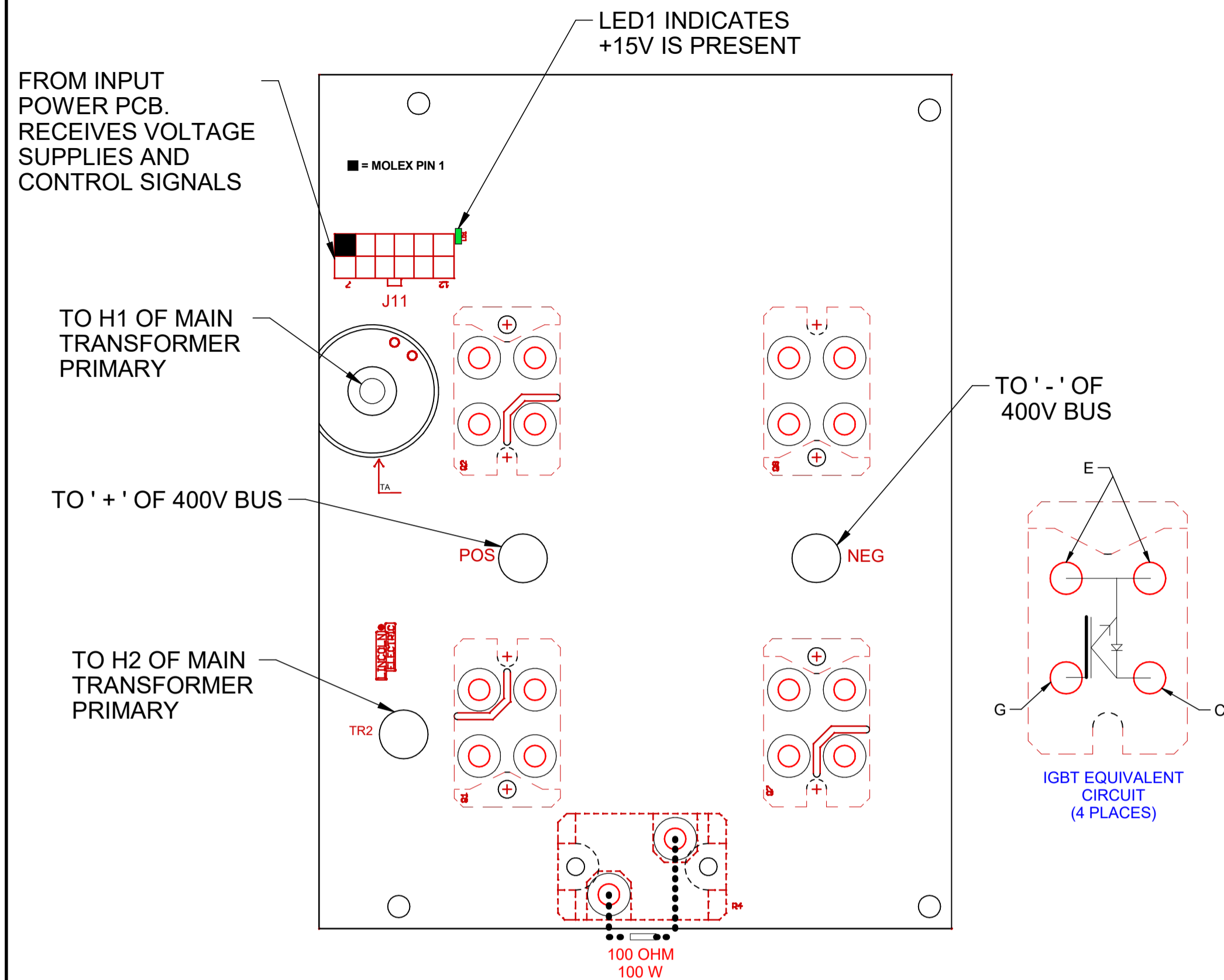
**S2 - 4 PIN WATER COOLER CONNECTION**  
 COOLER WILL RUN FOR 30 SECONDS ON EVERY POWER UP TO PRIME THE LINE. DURING THIS TIME, NO FLOW ERRORS WILL BE RECOGNIZED BY THE MACHINE.  
 MACHINE WILL SEND +15VDC BETWEEN PINS 1 AND 3 TO SWITCH A RELAY IN THE COOLER AND TURN IT ON. 2 AND 3 SHOULD BE OPEN UNTIL THE FLOW SWITCH IN THE COOLER CLOSES, THEN 2 AND 3 WILL BE SHORTED. PIN 4 IS TIED TO PIN 2 IN THE COOLER SO THE MACHINE KNOWS A COOLER IS CONNECTED.

**USER INTERFACE PCB**  
 FRONT MIDDLE  
 VOLT AMP  
 Schematic: G8668-1  
 Assembly: G8668-1

**S1 6 PIN REMOTE RECEPTACLE**  
 LOWER FRONT RIGHT  
 TO SUPPLY  
 230VAC/575VAC ±10% 3-Ph  
 208VAC/230VAC ±10% 1-Ph

**115V RECEPTACLE**  
 (Neutral Bonded)  
 LOCATED TOP CENTER REAR OF MACHINE  
 30 AMP PEAK SURGE (NOT WELDING)  
 40 AMP PEAK SURGE (WELDING)  
 THERMOSTAT CUTS OFF 115V IF FANS ARE STALLED

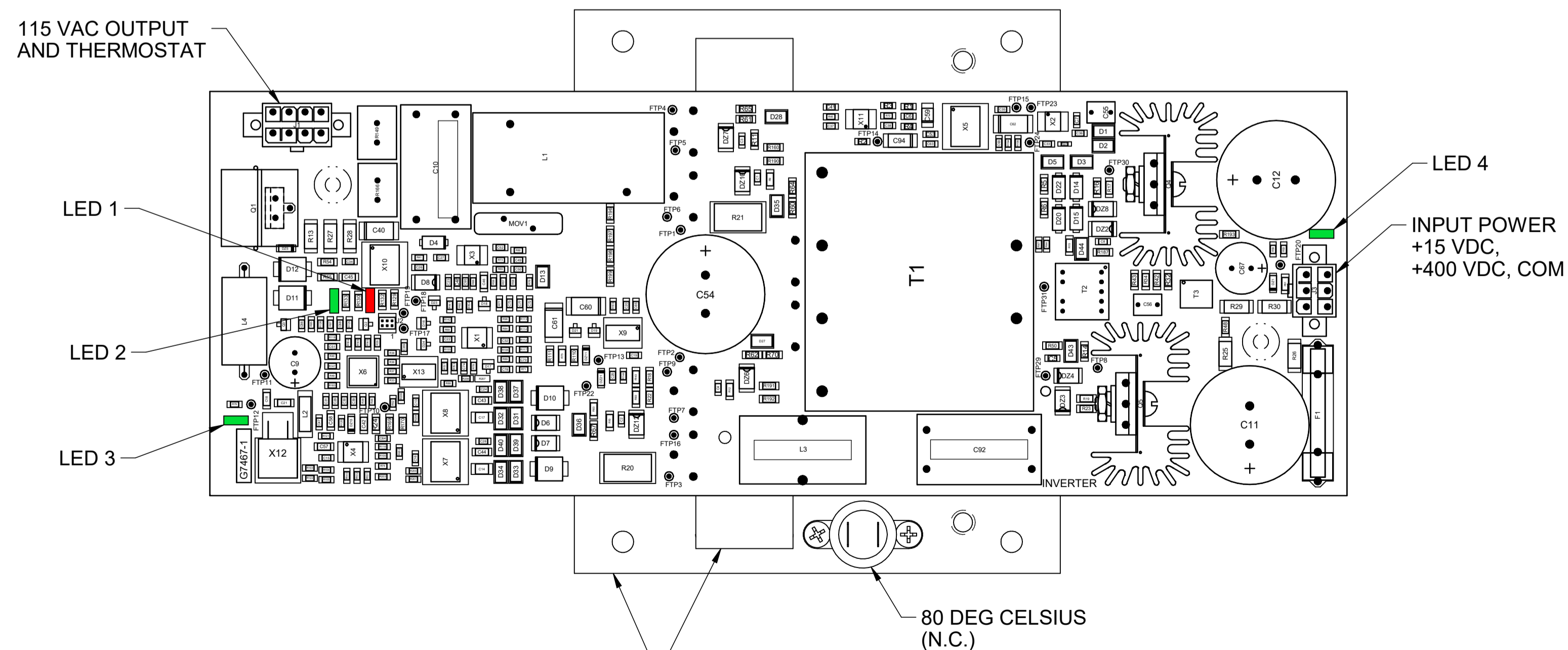
### INVERTER BD



**BOARD FUNCTION:**  
REGULATES WELD OUTPUT BY ADJUSTING INPUT ON THE PRIMARY SIDE OF THE MAIN TRANSFORMER. USES THE 400VDC BUS GENERATED BY THE BUCK BOOST BOARD. CONTROL SIGNALS ARE SENT FROM THE INPUT CONTROL BOARD.

### 115VAC AUXILIARY BD

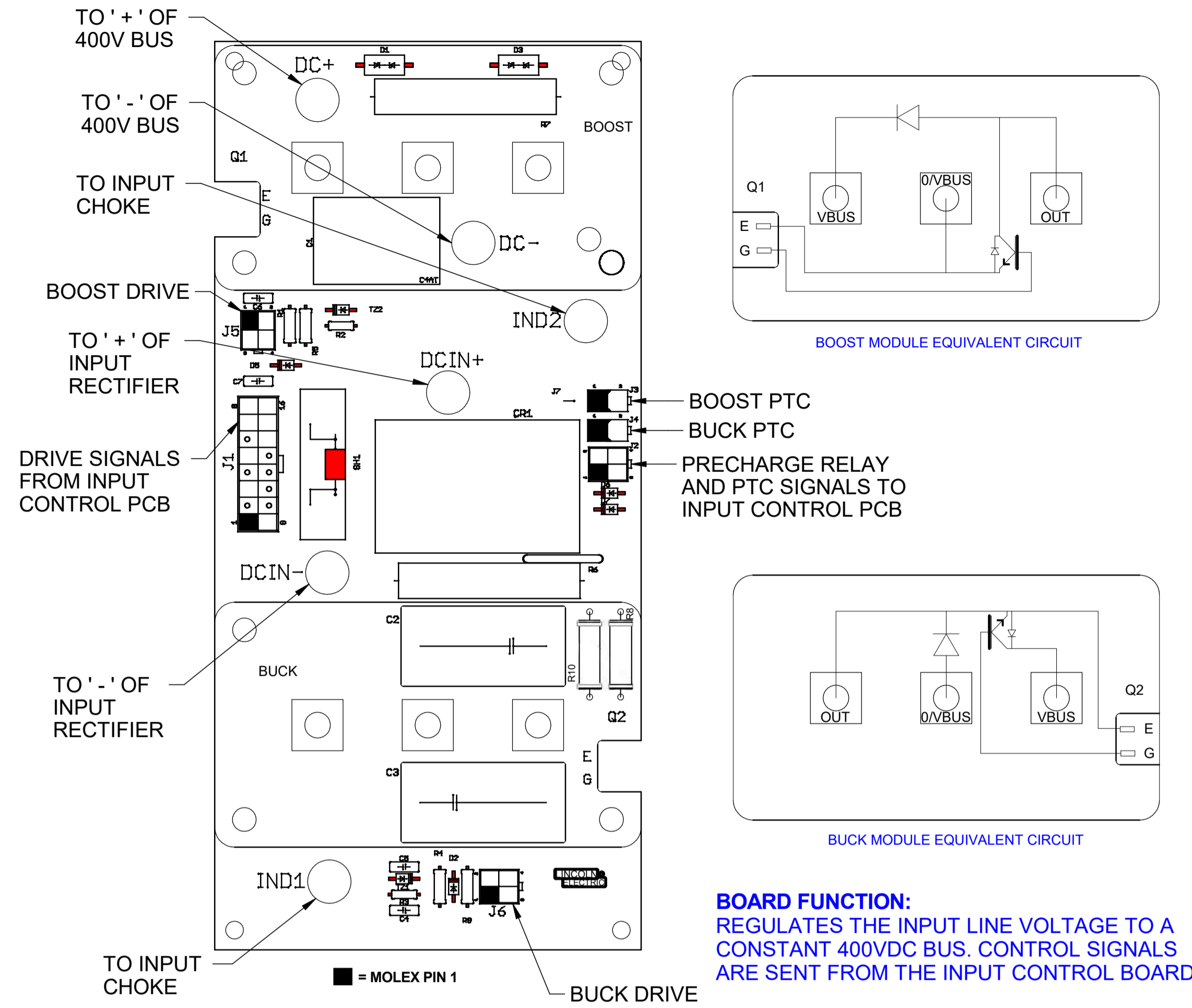
**BOARD FUNCTION:**  
PRODUCES AND REGULATES 115VAC TO THE CASE BACK RECEPTACLE. USES THE 400VDC BUS WHICH IS GENERATED BY THE BUCK BOOST BOARD.



G7467-1 115 VAC AUXILIARY POWER BOARD		
LED #	COLOR	FUNCTION
1	RED	ERROR CODE (LED WILL FLASH CODE)
2	GREEN	LIT WHEN NO ERRORS HAVE OCCURRED
3	GREEN	BOARD POWER SUPPLY IS WORKING
4	GREEN	+15 V INPUT IS PRESENT

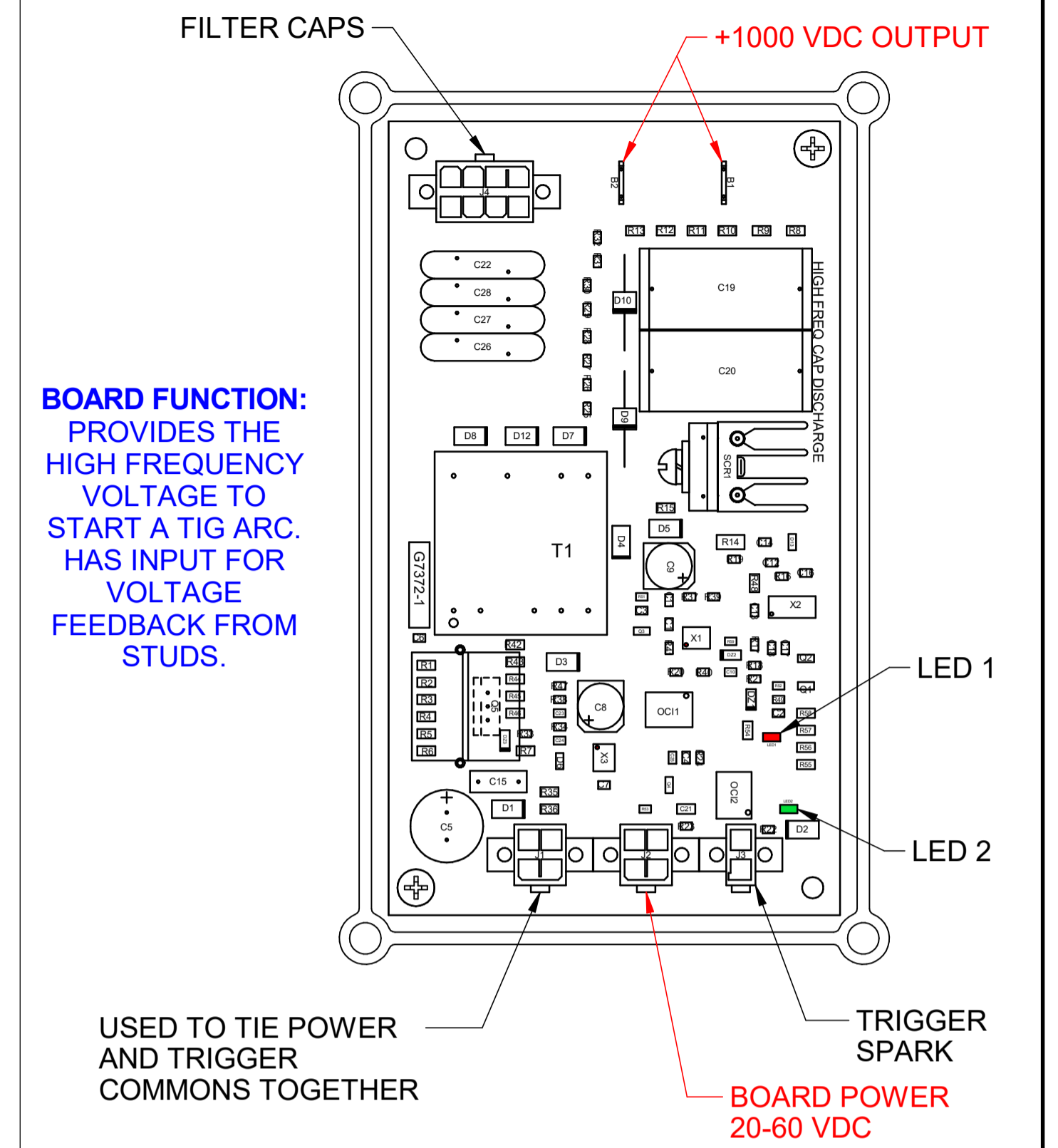
ERROR CODE	
ERROR	EXPLANATION
2	THERMAL FAULT
3	15V CONTROL UNDERVOLTAGE
5	OUTPUT OVER CURRENT

### BUCK BOOST BD



**BOARD FUNCTION:**  
REGULATES THE INPUT LINE VOLTAGE TO A CONSTANT 400VDC BUS. CONTROL SIGNALS ARE SENT FROM THE INPUT CONTROL BOARD.

### HIGH FREQUENCY BD

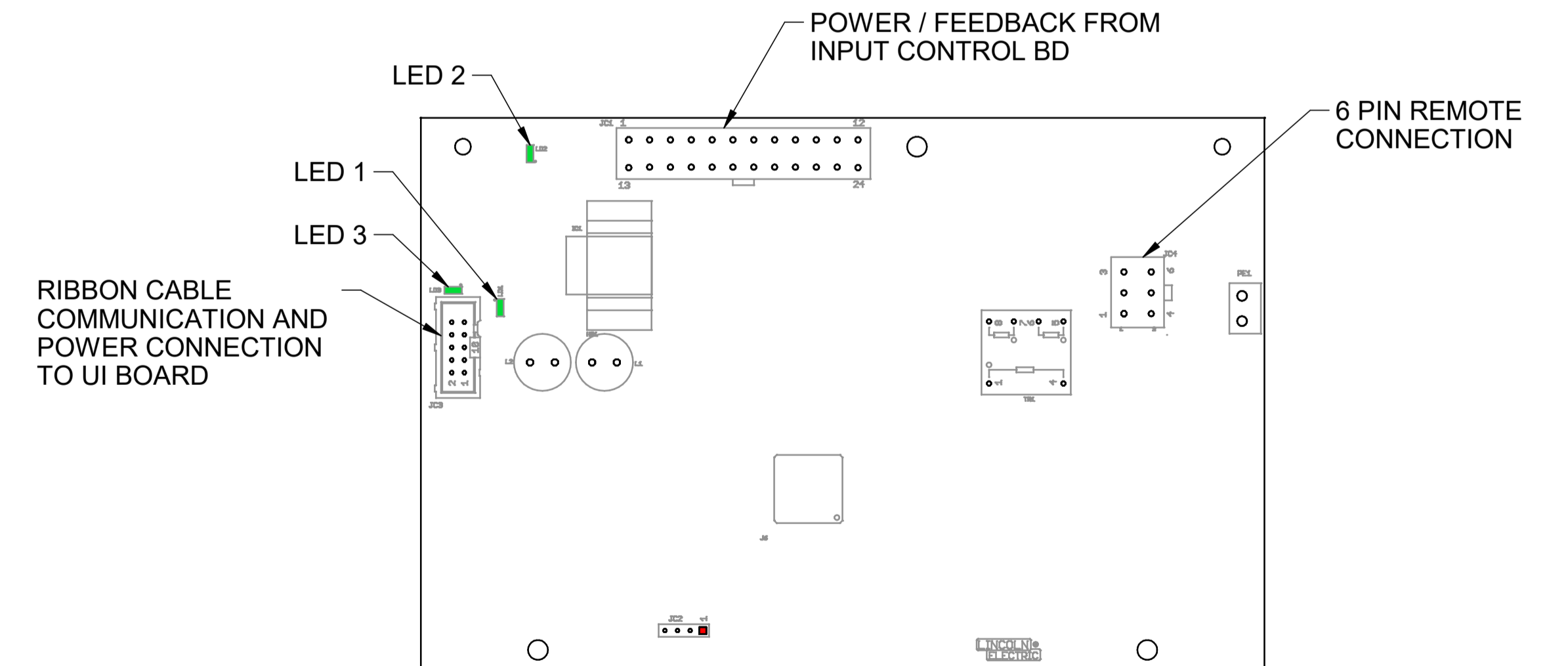


**BOARD FUNCTION:**  
PROVIDES THE HIGH FREQUENCY VOLTAGE TO START A TIG ARC. HAS INPUT FOR VOLTAGE FEEDBACK FROM STUDS.

G7372-1 HIGH FREQ BOARD		
LED #	COLOR	FUNCTION
1	RED	POWER SUPPLY FUNCTIONAL WHILE TRIGGER ENABLED
2	GREEN	TRIGGER ENABLED

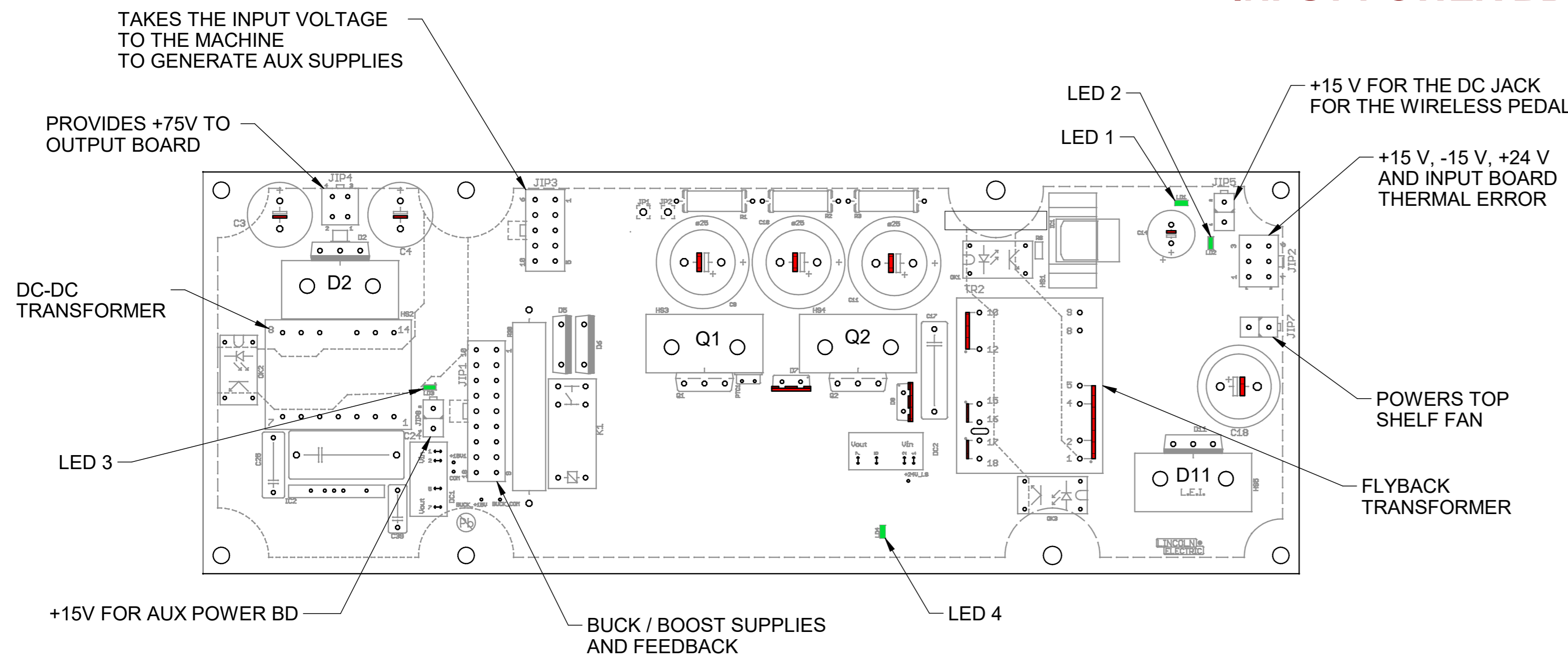
### CONTROL BD

**BOARD FUNCTION:**  
INTERFACE BETWEEN UI BOARD AND INPUT CONTROL BOARD. PROCESSES CUSTOMER INPUTS THROUGH UI BOARD AND SENDS BACK INFORMATION TO INPUT CONTROL TO REGULATE REQUIREMENTS FOR WELDING.



G8670-1 CONTROL BOARD		
LED #	COLOR	FUNCTION
1	GREEN	+ 5 VOLT SUPPLY WORKING
2	GREEN	+ 15 VOLT SUPPLY WORKING
3	GREEN	- 15 VOLT SUPPLY WORKING

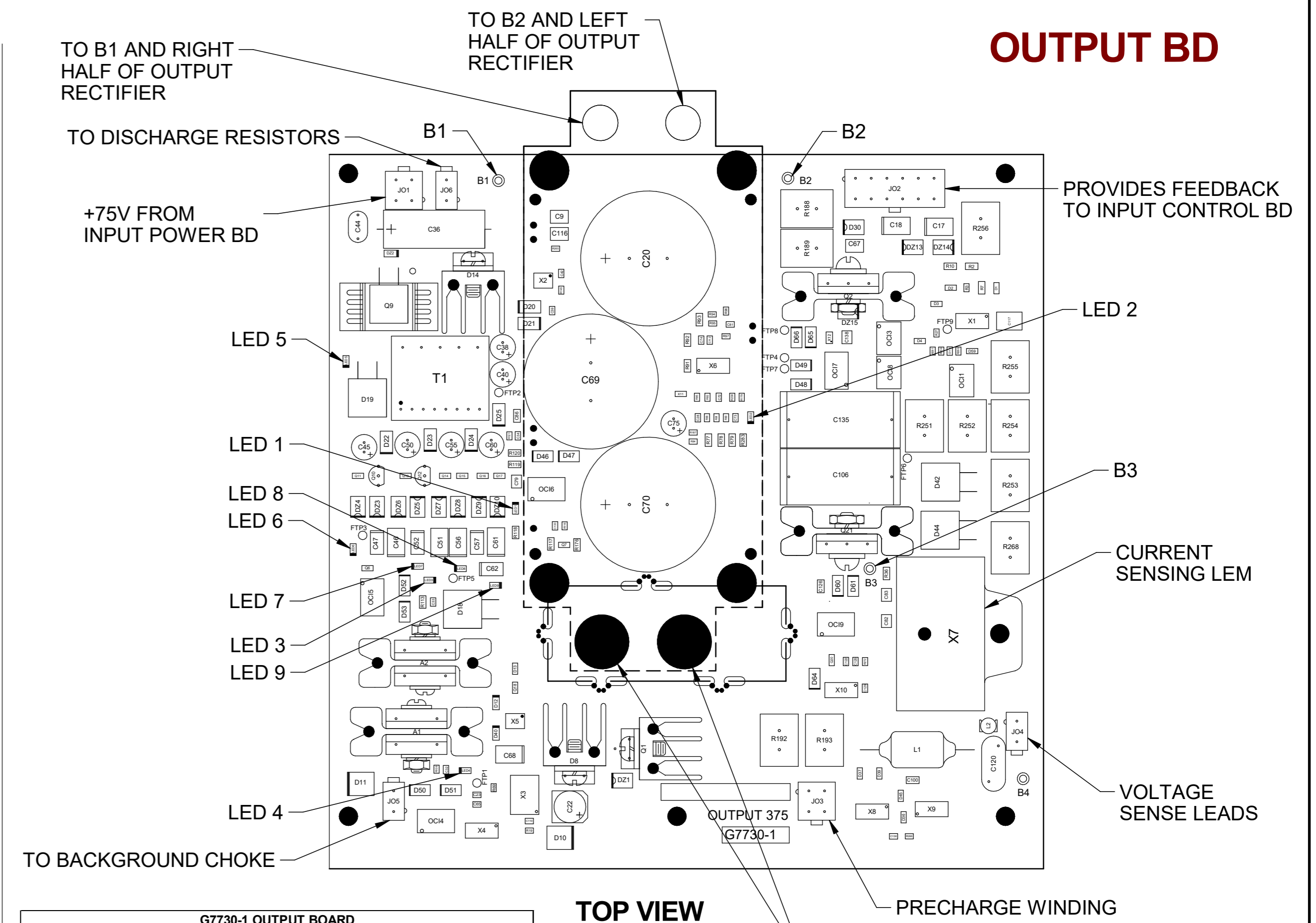
### INPUT POWER BD



G8675-1 INPUT POWER BOARD		
LED #	COLOR	FUNCTION
1	GREEN	+15 V SUPPLY IS WORKING
2	GREEN	-15 V SUPPLY IS WORKING
3	GREEN	ISOLATED PRIMARY +15 V IS WORKING
4	GREEN	ISOLATED BUCK +15 V SUPPLY IS WORKING

**BOARD FUNCTION:**  
 PROVIDES THE LOWER LEVEL SUPPLIES FOR THE PC BOARDS VIA THE INPUT LINE TO THE WELDER AND THE 400VDC BUS. PROVIDES 75VDC FOR THE OUTPUT BOARD.

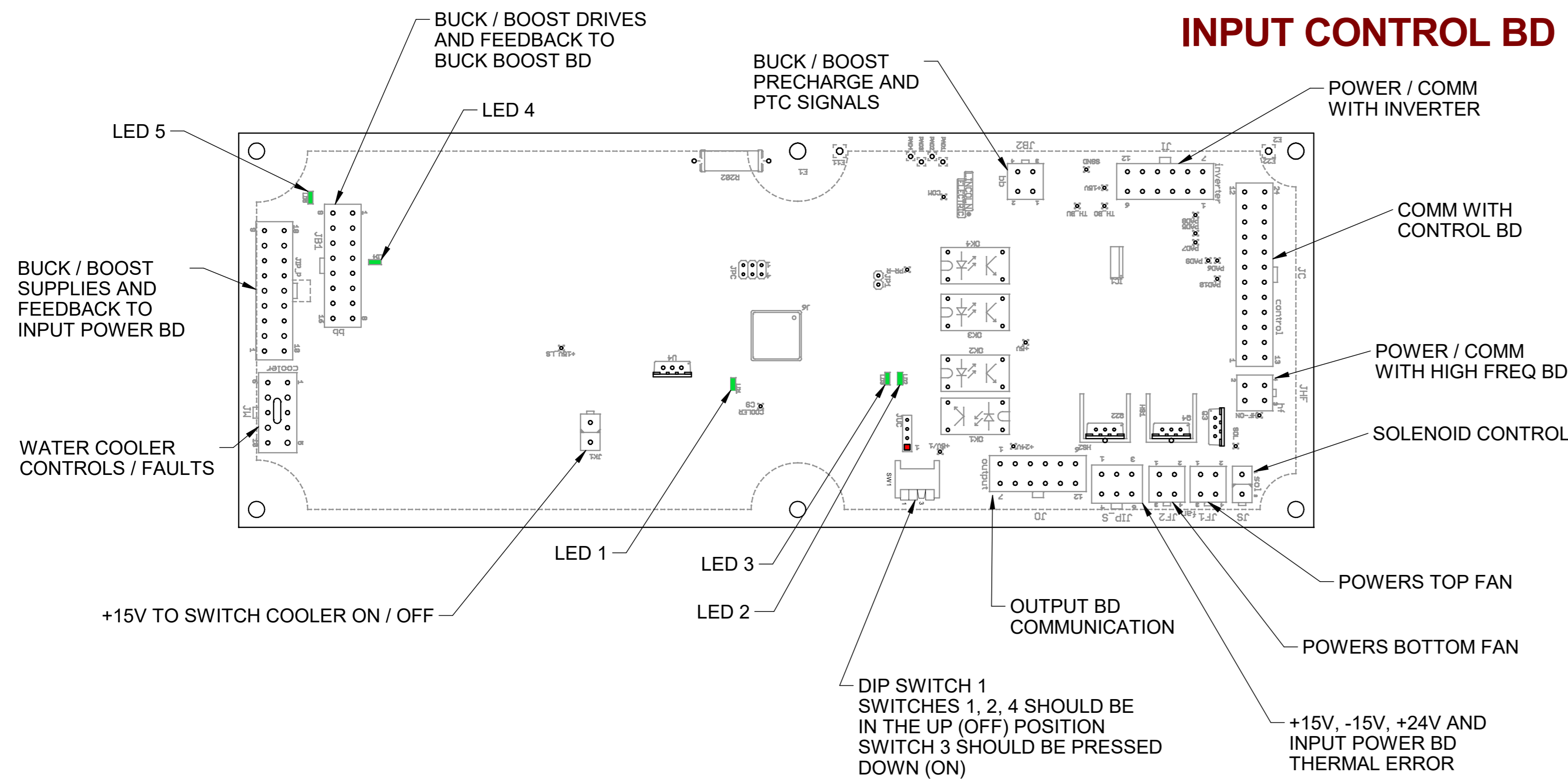
### OUTPUT BD



G7730-1 OUTPUT BOARD		
LED #	COLOR	FUNCTION
1	RED	GATE DRIVE AC + SWITCH PRESENT
2	RED	GATE DRIVE AC - SWITCH PRESENT
3	RED	GATE DRIVE BACKGROUND + SWITCH PRESENT
4	RED	GATE DRIVE BACKGROUND - SWITCH PRESENT
5	RED	BACKGROUND +15 VOLT SUPPLY WORKING
6	GREEN	POWER SUPPLY AC + SWITCH WORKING
7	GREEN	POWER SUPPLY AC - SWITCH WORKING
8	GREEN	POWER SUPPLY BACKGROUND + SWITCH WORKING
9	GREEN	POWER SUPPLY BACKGROUND - SWITCH WORKING

**BOARD FUNCTION:**  
 PROVIDES THE AC & DC WELD OUTPUT. BACKGROUND CHOKE AND DISCHARGE RESISTORS ARE REQUIRED INPUTS THAT ARE MOUNTED EXTERNAL TO THE BOARD. INPUT FOR THIS BOARD COMES THROUGH THE OUTPUT DIODE MODULE ARRAY NEXT TO THE BOARD. THE CURRENT TRANSDUCER IS SOLDERED TO THE BOARD FOR CURRENT FEEDBACK.

### INPUT CONTROL BD



G7471-1 INPUT CONTROL BOARD		
LED #	COLOR	FUNCTION
1	GREEN	CPLD HAS SOFTWARE AND IS WORKING
2	GREEN	ON FOR 3 PHASE INPUT, OFF FOR SINGLE PHASE
3	GREEN	ON = CORRECT INPUT VOLTAGE, OFF = UNDERVOLTAGE, BLINKING = OVERVOLTAGE
4	GREEN	BOOST DRIVE WORKING
5	GREEN	BUCK DRIVE WORKING

**BOARD FUNCTION:**  
 CONTROL LOCATION FOR ALL USER INTERFACE AND WELDING FEEDBACK. CONTROLS AND RECEIVES FEEDBACK FROM THE COOLER. REGULATES INPUT/OUTPUT INFORMATION TO ALL THE OTHER BOARDS.

### USER INTERFACE BD

