

USED FOR PRODUCTION MONITORING
DOWNLOADING SOFTWARE, OR
UPLOADING MACHINE INFORMATION

ETHERNET CONNECTOR
RJ 45 TYPE
LOCATED TOP RIGHT REAR PANEL

ETHERNET CABLE
J15

P50
READY L
READY H
KILL L
KILL H

BLK/RED
RED
BLK/GRN
GRN
SYNC-TANDEM CONNECTOR (OPTIONAL)
LOCATED ON LEFT CASE BACK BOTTOM

S5

SEE PAGE 2 FOR BOARD LED HELP

DIGITAL CONTROL P.C. BOARD
Schematic: G4799
Assembly: G6682

LOCATED ON BACK OF ROOF PANEL
3RD IN POWER UP SEQUENCE

ETHERNET CABLE
J15

MACHINE THERMOSTAT
LOCATED ON FRONT OF CHOPPER HEATSINK

TSSTAT-409
TSSTAT-410

CAN L
CAN H

48VDC
VDC
FAULT SIGNAL +
SECONDARY COMMON

FAN
FAN

FAN SPEED CONTROL
48 VDC FAN

FAN CONTROL POSITIVE
FAN CONTROL NEGATIVE

!!! HIGH VOLTAGE !!!
FLOATING VOLTAGE
POTENTIAL TO GROUND

PFC CONTROL P.C. BOARD
Schematic: G6859
Assembly: G6860

LOCATED ON BACK OF CASE FRONT

REGULATES PRIMARY VOLTAGE AND CONTROLS DEVICE SWITCHING

RECTIFIED AC +
SOFT START RELAY
+15V
RECTIFIED AC POWER +

MAIN BUCK DRIVE A+
MAIN BUCK DRIVE A-
AUX BUCK DRIVE A+
AUX BUCK DRIVE A-
MAIN BOOST DRIVE A+
MAIN BOOST DRIVE A-
AUX BOOST DRIVE A+
AUX BOOST DRIVE A-
FULL BRIDGE A+
FULL BRIDGE A-
CT A+
CT A-
+15V A
-15V A
LEM A
THERMAL FAULT A
PRIMARY CAPACITOR VOLTAGE
COMMON

MAIN BUCK DRIVE B+
MAIN BUCK DRIVE B-
AUX BUCK DRIVE B+
AUX BUCK DRIVE B-
MAIN BOOST DRIVE B+
MAIN BOOST DRIVE B-
AUX BOOST DRIVE B+
AUX BOOST DRIVE B-
FULL BRIDGE B+
FULL BRIDGE B-
CT B+
CT B-
+15V B
-15V B
LEM B
THERMAL FAULT B

SWITCHBOARD P.C. BOARD LED LEGEND
LED1: BTM BUCK IGBT DRIVE
LED2: BTM BOOST IGBT DRIVE
LED3: TOP BUCK IGBT DRIVE
LED4: TOP BOOST IGBT DRIVE
LED5: +48V AUXILIARY

INPUT P.C. BOARD
Schematic: M22489
Assembly: M22489

LOCATED RIGHT SIDE PANEL REAR TOP

INPUT CHOKES

BACK LEFT MIDDLE

LOCATED ON CASE BACK

LOCATED ON LOWER FRONT RIGHT SIDE

LOCATED ON CASE BACK

LOCATED ON FRONT LEFT

LOCATED ON CASE BACK

LOCATED ON CASE BACK, RIGHT

LEFT FRONT LOW

RIGHT FRONT LOW

CURRENT FEEDBACK FOR CHOPPER BD MOUNTED UNDERNEATH OUTPUT CHOKE

WELD CURRENT FEEDBACK MOUNTED ON FRONT OF OUTPUT CHOKE

LOCATED ON OUTPUT CHOKE ASSEMBLY

MOUNTED ON CASE FRONT ABOVE OUTPUT STUDS

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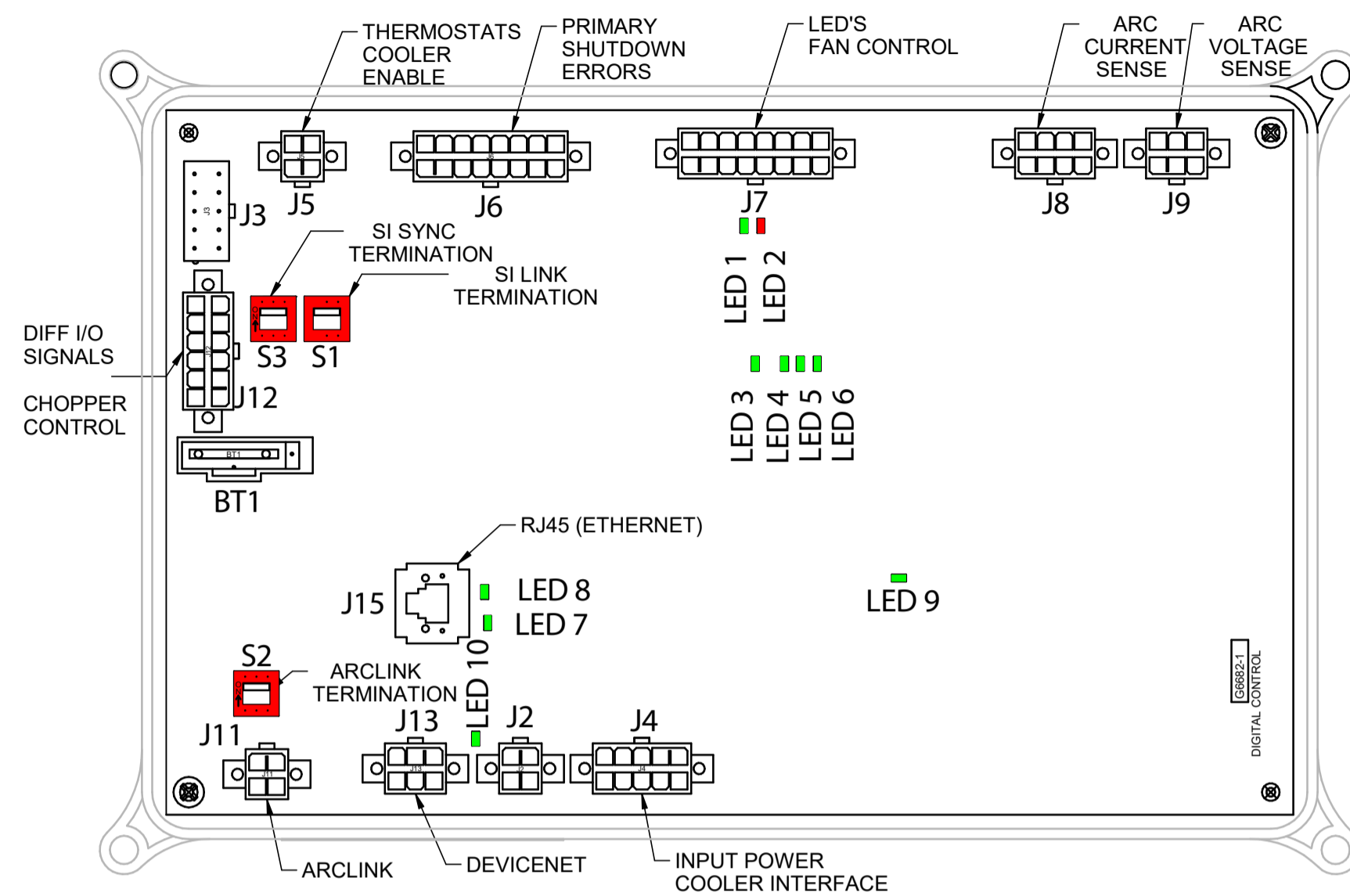
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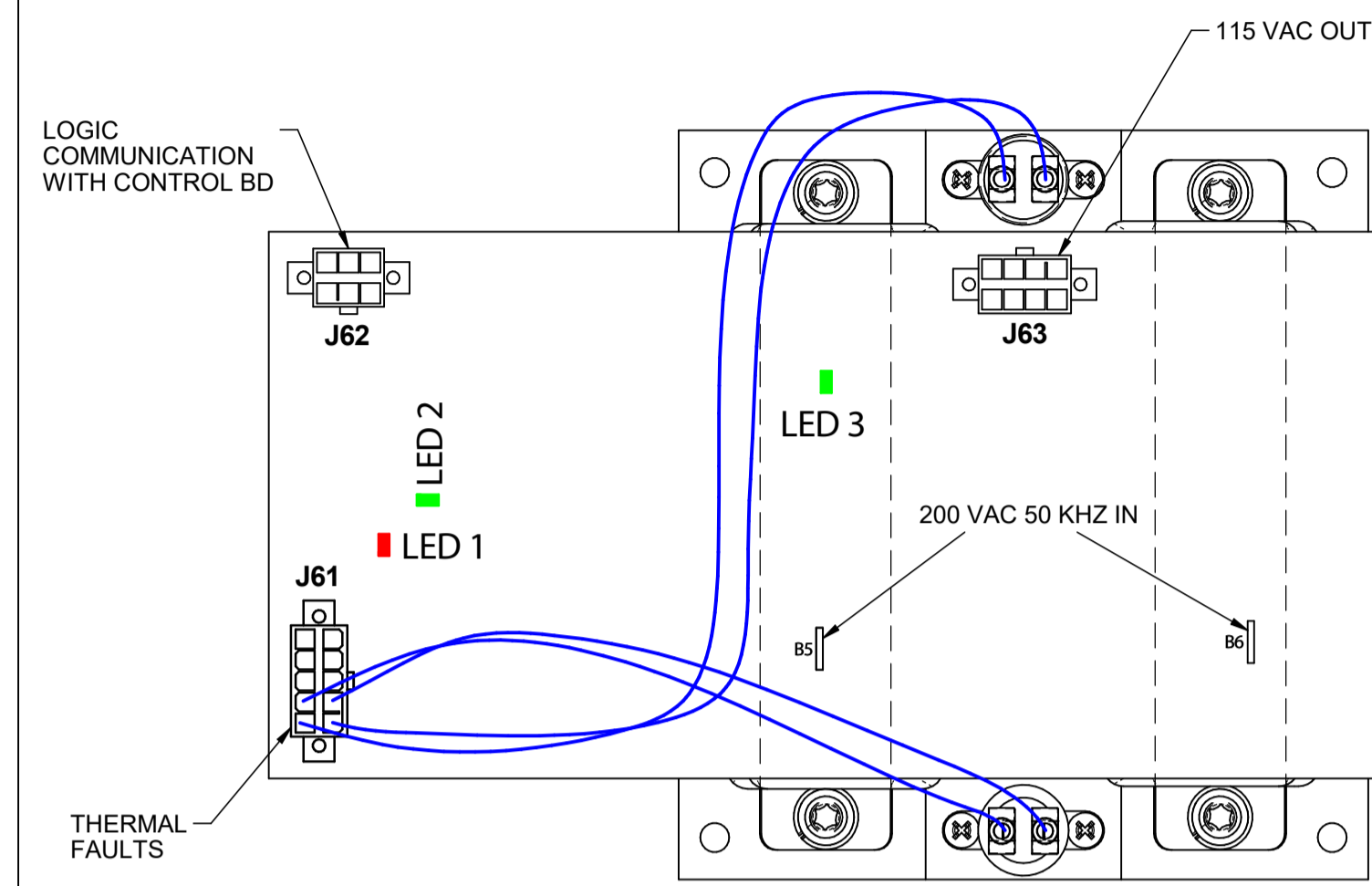
CONTROL P.C. BOARD



Description of LED functions on Power Wave R350 For reference only

G6682 CONTROL P.C. BOARD		
LED #	COLOR	FUNCTION
1	GREEN	STATUS "OK"
2	RED	STATUS "ERROR" (CHECK CODE FOR SPECIFIC ERROR)
3	GREEN	OUTPUT ENABLE
4	GREEN	SINGLE PHASE FAULT
5	GREEN	ELECTRODE SENSE
6	GREEN	WORK SENSE
7	GREEN	ETHERNET LINK/ACTIVITY STATUS
8	GREEN	ETHERNET SPEED STATUS
9	GREEN	INPUT SUPPLY 30 VDC TO 55 VDC
10	GREEN	DEVICENET EXTERNAL 24 VDC PRESENT

115VAC INVERTER P.C. BOARD

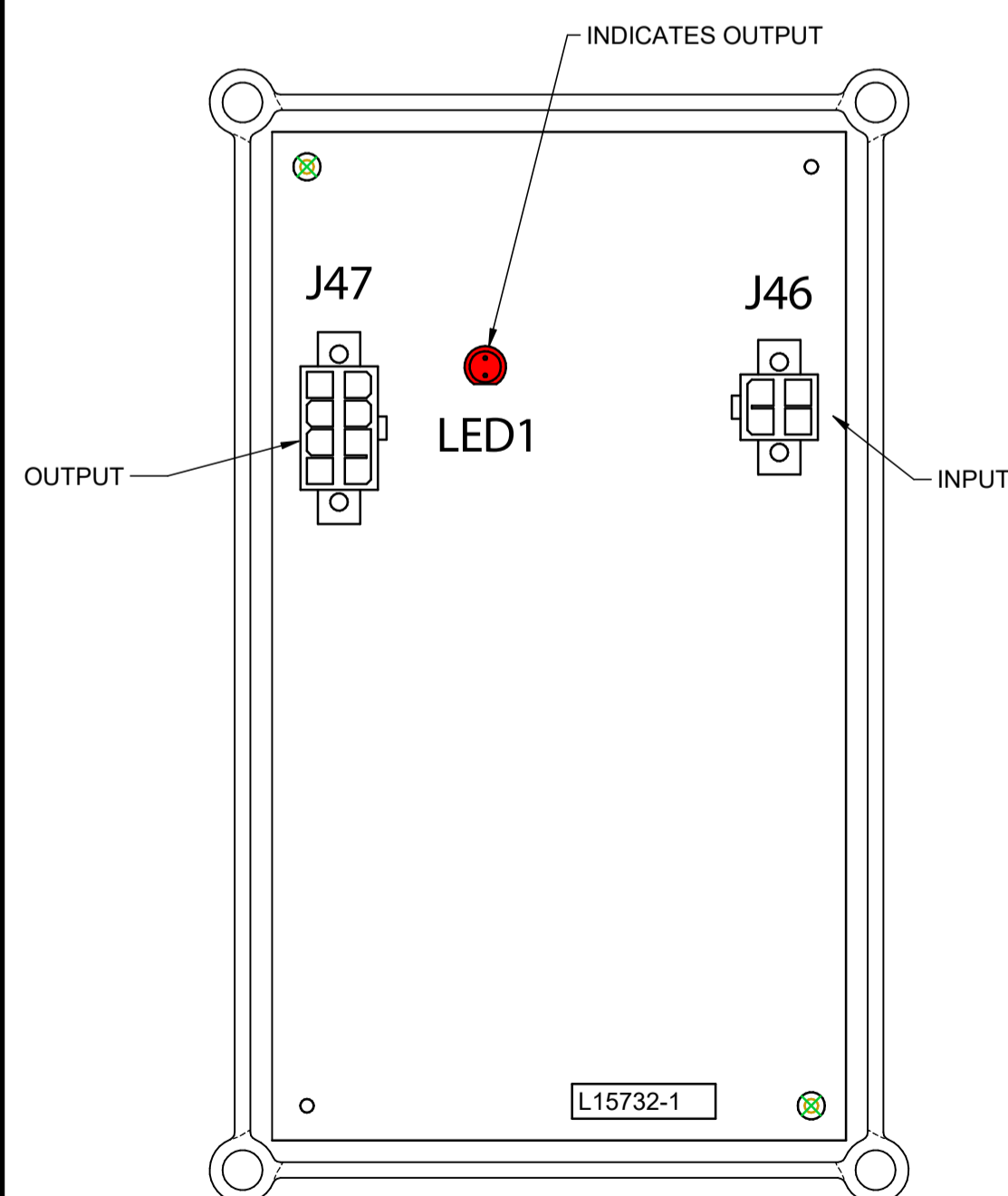


Description of LED functions on Power Wave S500 For reference only

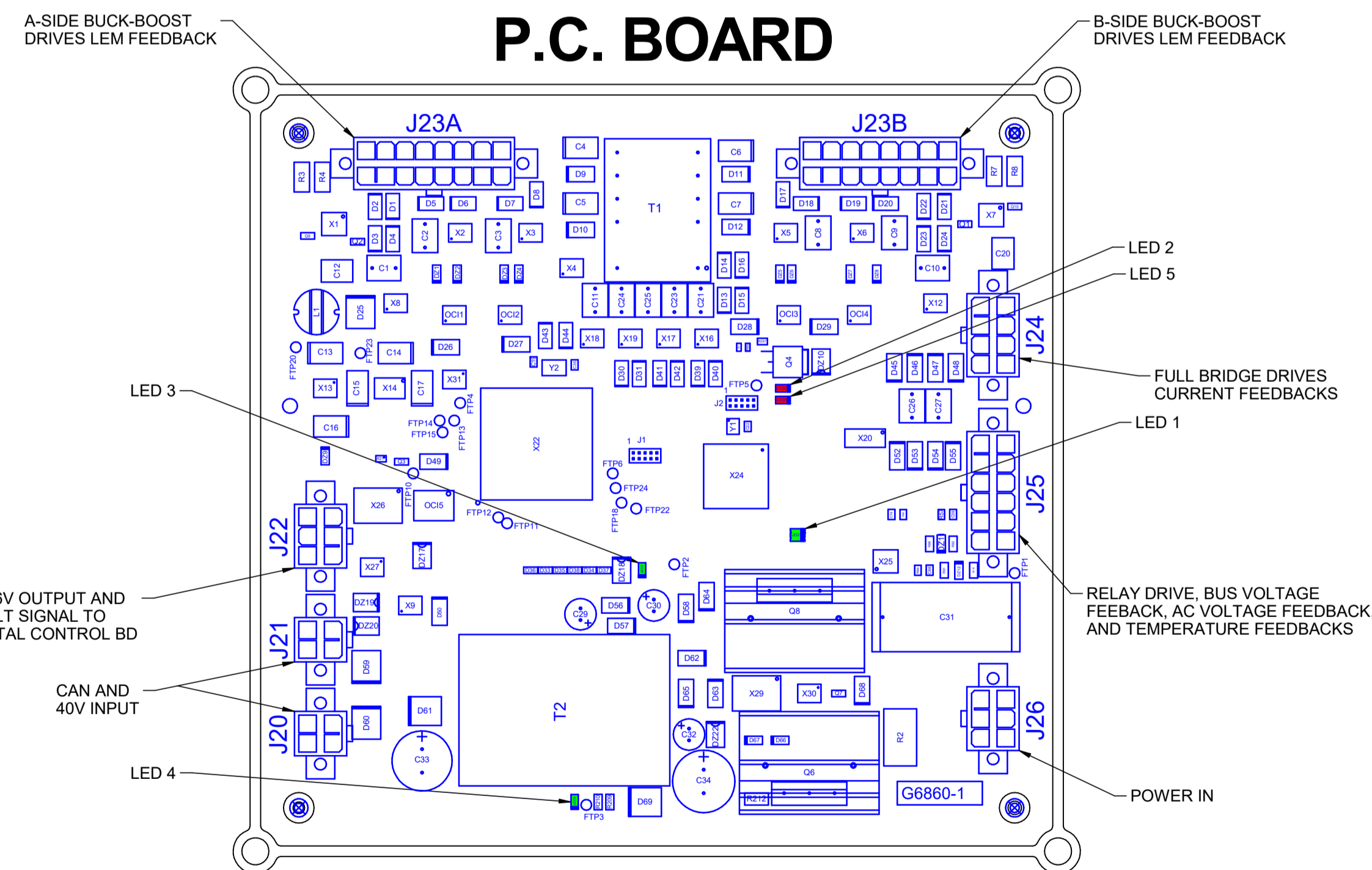
G6571 115 VAC INVERTER P.C. BOARD		
LED #	COLOR	FUNCTION
1	RED	ERROR CODE (LED WILL FLASH ERROR) SEE TABLE BELOW FOR DETAILS
2	GREEN	RECEPTACLE OUTPUT IS ON (115 VAC)
3	GREEN	INPUT POWER PRESENT. POWER SUPPLY ON

ERROR CODE	
ERROR	EXPLANATION
1	GROUND FAULT
2	THERMAL FAULT
3	15V CONTROL UNDERVOLTAGE
4	200V BUS UNDERVOLTAGE
5	OUTPUT OVER CURRENT
6	OUTPUT OVER VOLTAGE

+40 VDC BUS P.C. BOARD



PFC CONTROL P.C. BOARD

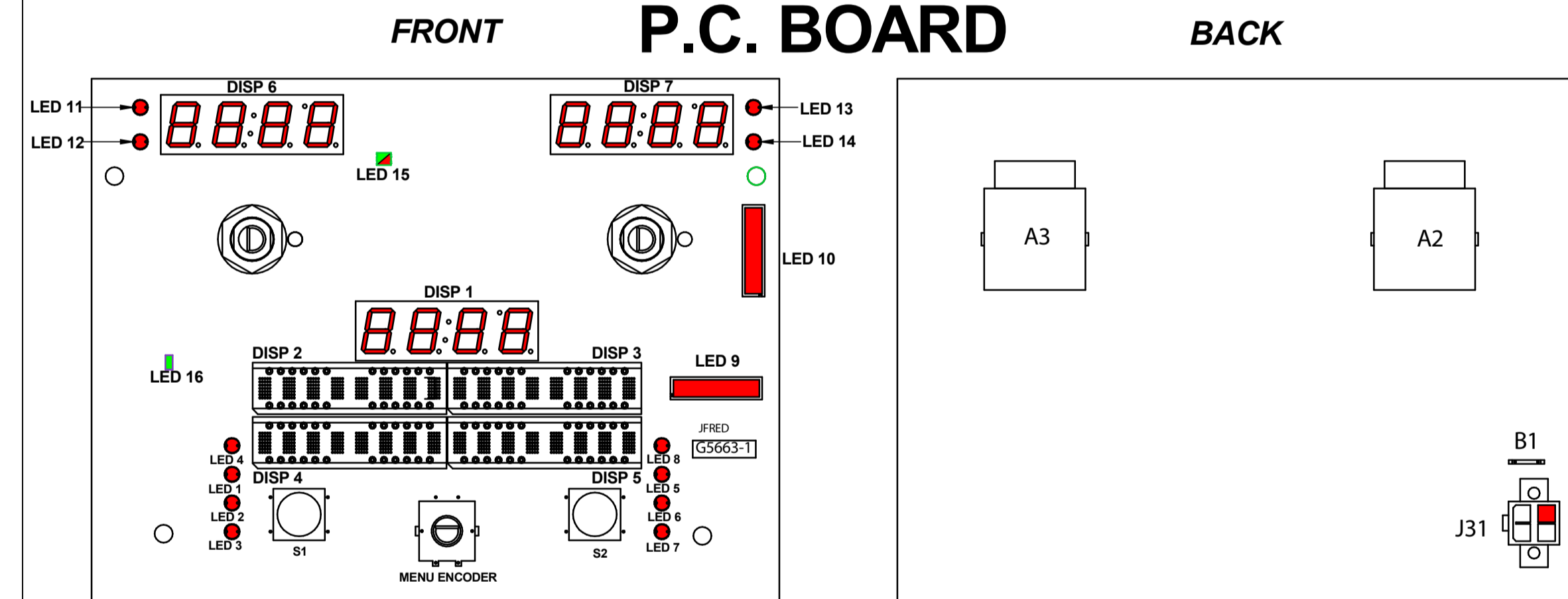


Description of LED functions on Power Wave S500 For reference only

G6880-1 PFC CONTROL P.C. BOARD		
LED #	COLOR	FUNCTION
1	GREEN / RED	STATUS LIGHT AND ERROR CODE (LED WILL FLASH ERROR) SEE TABLE FOR DETAILS
2	RED	FAULT SIDE B
3	GREEN	-15 VOLT PRESENT
4	GREEN	+15 VOLT PRESENT
5	RED	FAULT SIDE A

ERROR CODE	
ERROR	EXPLANATION
331	PEAK INPUT CURRENT LIMIT
334	START UP CURRENT CHECK FAILURE
335	START UP VOLTAGE CHECK FAILURE
336	THERMAL FAULT (NO FIRST STAGE FAN)
337	PRECHARGE TIMEOUT
338	INPUT POWER LIMIT
341	INPUT VOLTAGE DROPOUT
346	TRANSFORMER PRIMARY OVERCURRENT
347	AVERAGE INPUT CURRENT LIMIT
349	BUS UNDERVOLTAGE

F.R.E.D. P.C. BOARD

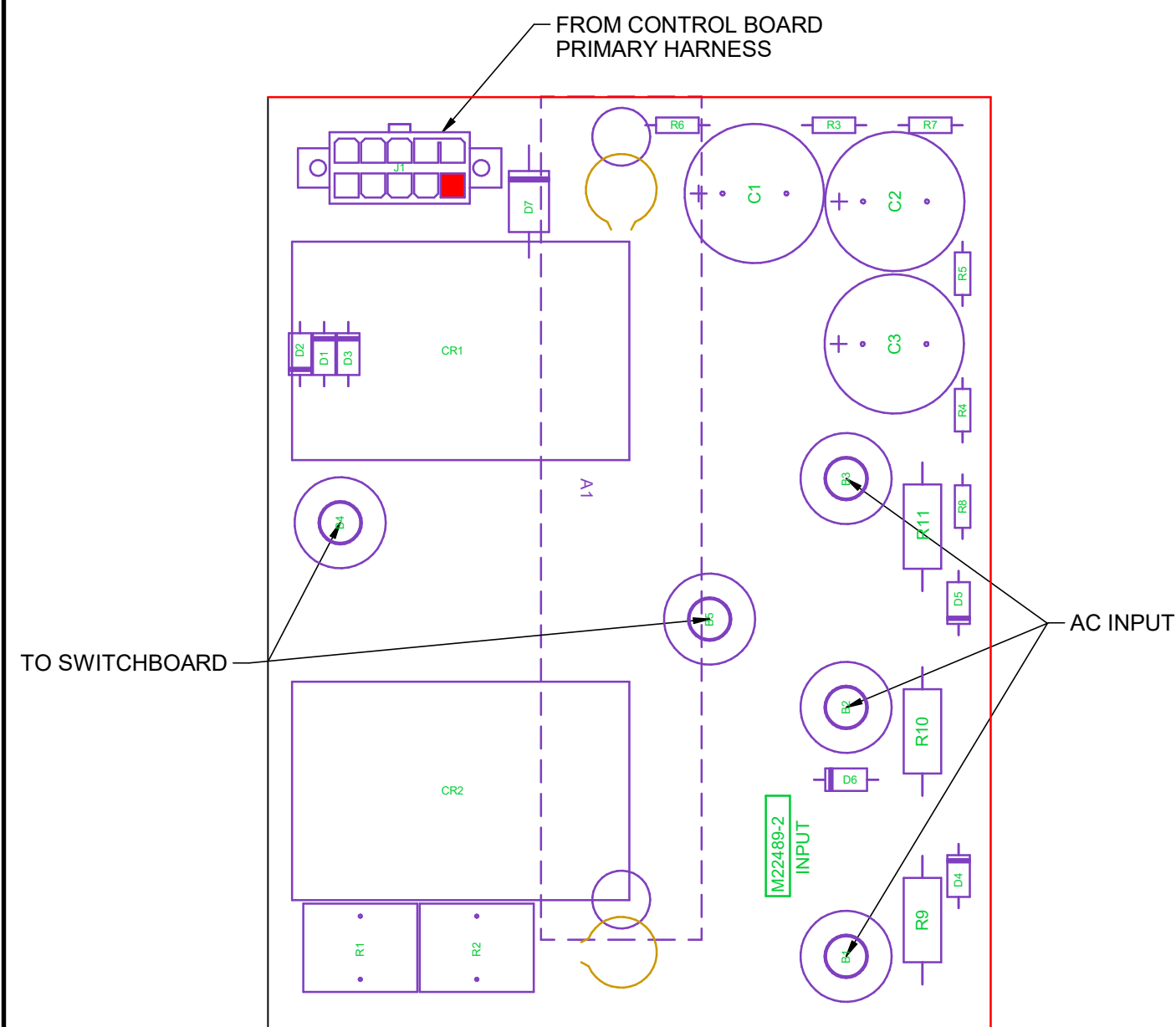


Description of LED functions on Power Wave S500 For reference only

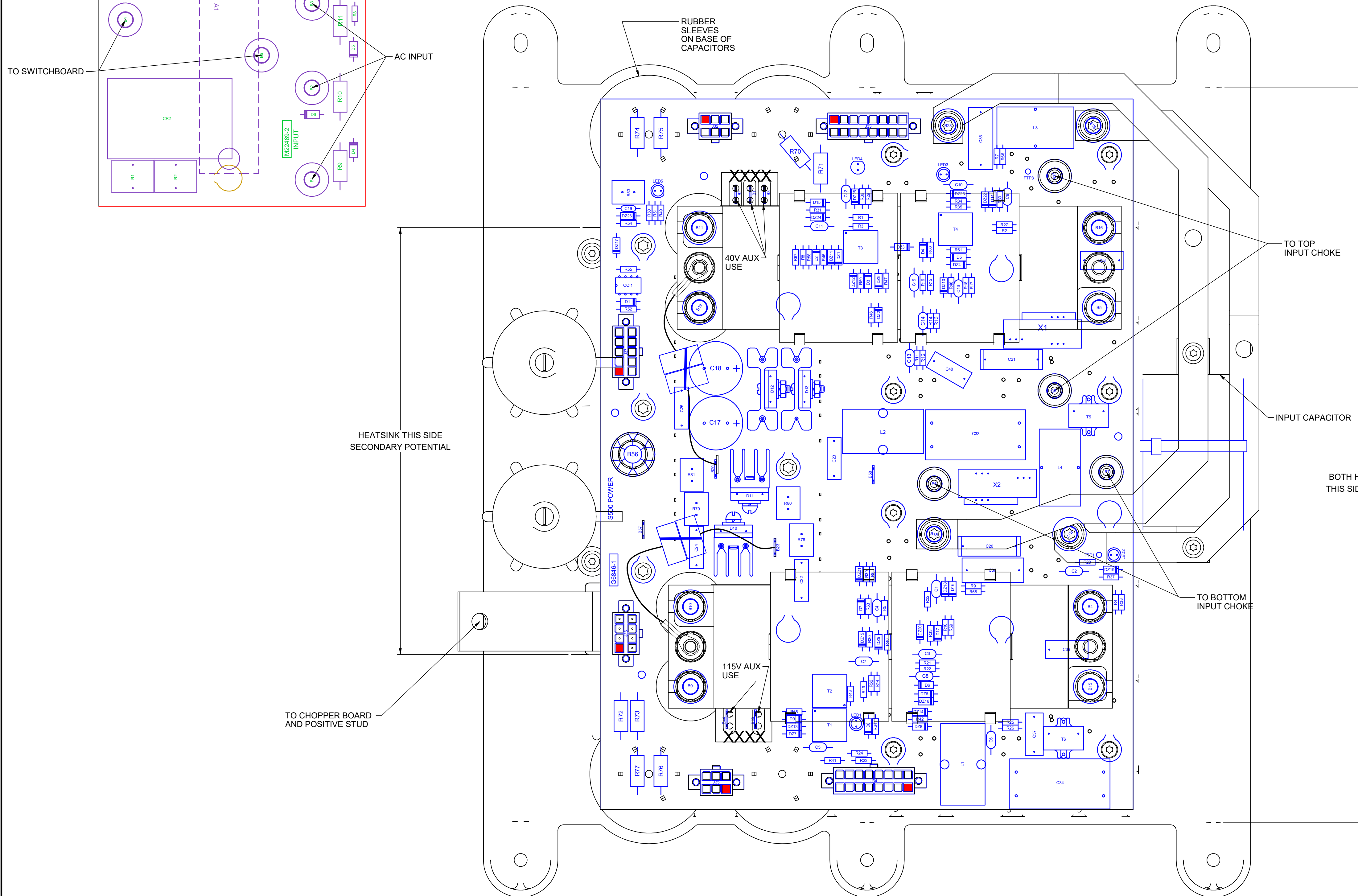
G5663 J.F.R.E.D P.C. BOARD								
LED #	COLOR	FUNCTION	LED #	COLOR	FUNCTION	LED #	COLOR	FUNCTION
1	RED	MEMORY SELECT	7	RED	POST-WELD CONTROL SELECT	13	RED	VOLTS SELECT
2	RED	WAVE CONTROL SELECT	8	RED	N/A	14	RED	TRIM SELECT
3	RED		9	RED	SETUP MENU ENABLED	15	GREEN	STATUS "OK"
4	RED	N/A	10	RED	THERMAL FAULT MEASURED		RED	STATUS "ERROR" (CHECK CODE FOR SPECIFIC ERROR)
5	RED	2 STEP - 4 STEP SELECT	11	RED	WIRE FEED SPEED SELECT	16	GREEN	POWER SUPPLY FUNCTION "OK"
6	RED	PRE-WELD CONTROL SELECT	12	RED	AMPS SELECT			

■ = MOLEX PIN 1

INPUT BOARD

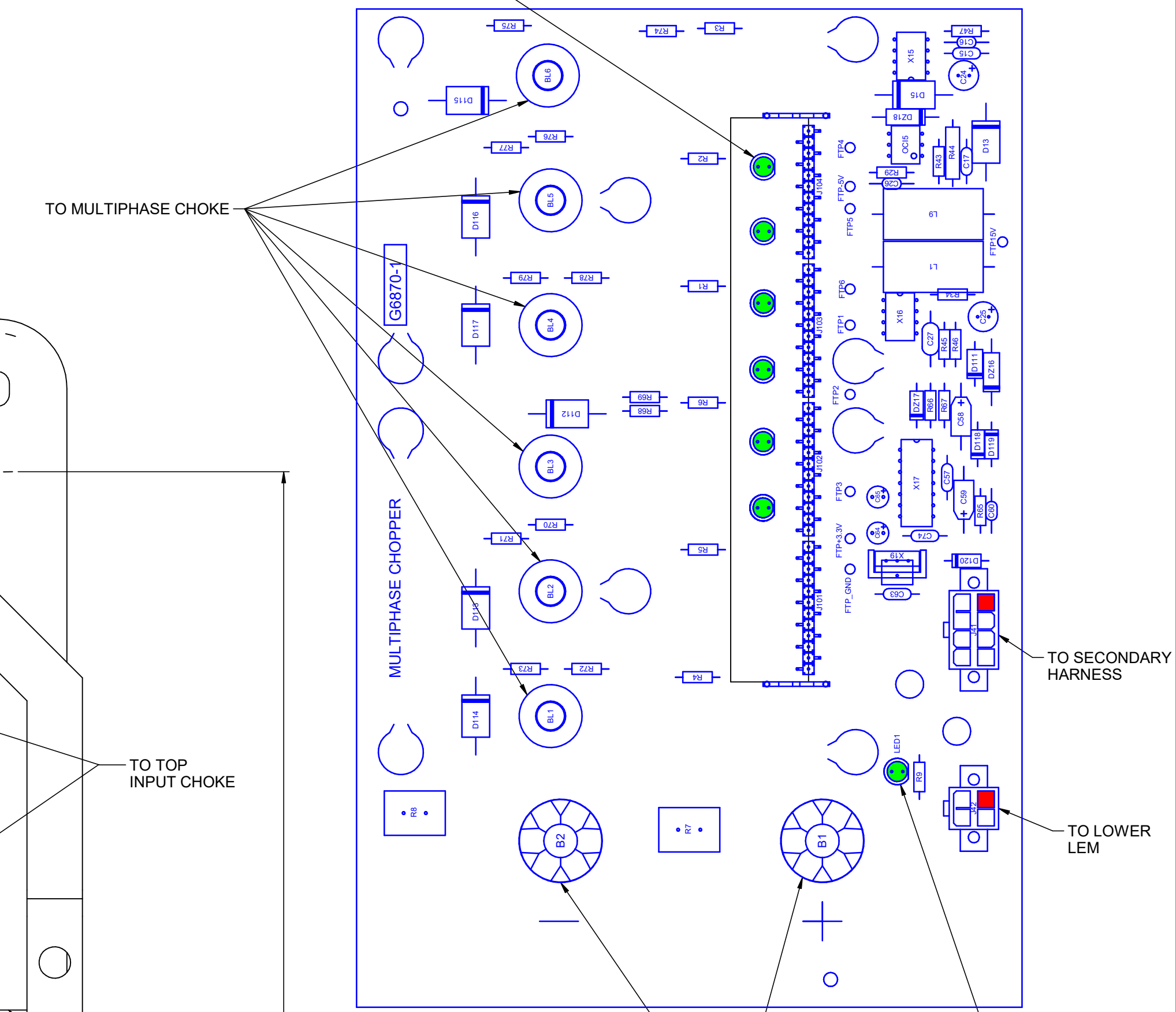


3 STAGE INVERTER SWITCHBOARD P.C. BOARD



MULTIPHASE CHOPPER

LEDS 1-6 ARE LOCATED ON DAUGHTER BOARD, WHICH IS MOUNTED ON AND PERPENDICULAR TO THE CHOPPER, SHOW EACH PHASE THAT IS ACTIVE



Description of LED functions on Power Wave S500 For reference only

G7150 SWITCHBOARD P.C. BOARD		
LED #	COLOR	FUNCTION
1	GREEN	BTM BUCK IGBT DRIVE FUNCTIONING WHEN ON
2	GREEN	BTM BOOST IGBT DRIVE FUNCTIONING WHEN ON
3	GREEN	TOP BUCK IGBT DRIVE FUNCTIONING WHEN ON
4	GREEN	TOP BOOST IGBT DRIVE FUNCTIONING WHEN ON
5	GREEN	48 VDC AUXILIARY POWER FUNCTIONING WHEN ON

■ = MOLEX PIN 1