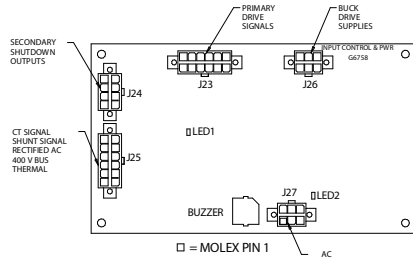


PFC CONTROL P.C. BOARD

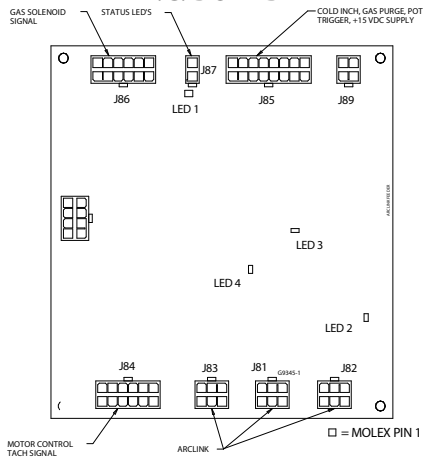


Description of LED functions on Power Wave 300C
For reference only

| LED # | COLOR | FUNCTION |
|-------|-------|---|
| 2 | GREEN | 15 VDC POWER SUPPLY FUNCTIONING PROPERLY WHEN ON |
| 1 | RED | ERROR CODE (LED WILL FLASH ERROR AND BUZZER WILL SOUND) (SEE TABLE BELOW FOR DETAILS) |

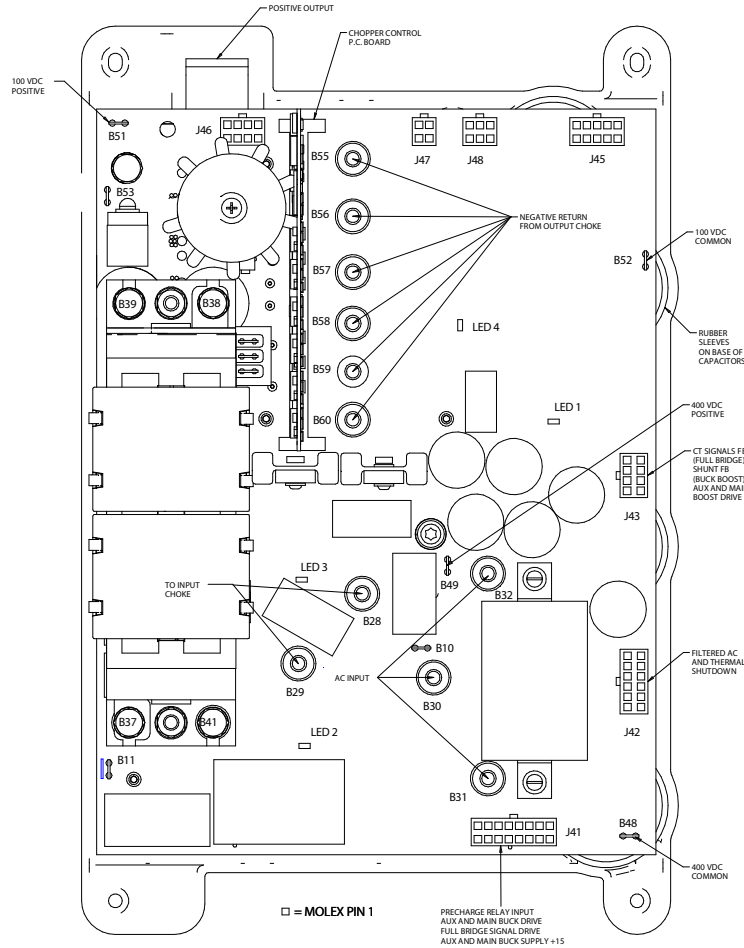
| ERROR CODE | |
|------------|------------------------------------|
| ERROR | EXPLANATION |
| 331 | PEAK INPUT CURRENT LIMIT |
| 334 | START UP CURRENT CHECK FAILURE |
| 335 | START UP VOLTAGE CHECK FAILURE |
| 336 | THERMAL FAULT (NO FIRST STAGE FAN) |
| 337 | FIRE CHARGE TIMEOUT |
| 346 | TRANSFORMER PRIMARY OVERCURRENT |

ARCLINK FEEDER P.C. BOARD



Description of LED functions on Power Wave 300C
For reference only

| G6774 ARCLINK FEEDER P.C. BOARD | | |
|---------------------------------|-------|------------------------------|
| LED# | COLOR | FUNCTION |
| 1 | GREEN | BLINKS RED TO INDICATE ERROR |
| 2 | GREEN | CAN POWER SUPPLY IS ON |
| 3 | GREEN | 5V SUPPLY IS ON |
| 4 | GREEN | 15V SUPPLY IS ON |

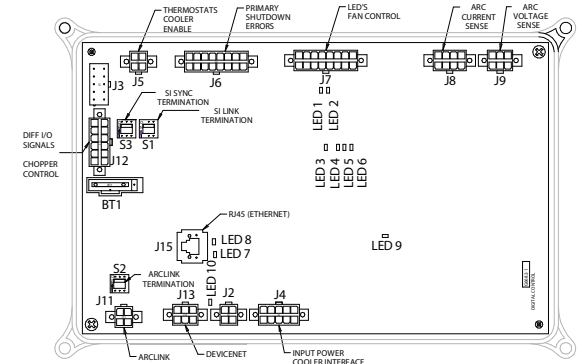


SWITCHBOARD P.C. BOARD

Description of LED functions on Power Wave 300C
For reference only

| G9945 SWITCHBOARD P.C. BOARD | | |
|------------------------------|-------|--|
| LED # | COLOR | FUNCTION |
| 1 | GREEN | 48 VDC AUXILIARY POWER FUNCTIONING WHEN ON |
| 2 | GREEN | BUCK IGBT DRIVE FUNCTIONING WHEN ON |
| 3 | GREEN | BOOST IGBT DRIVE FUNCTIONING WHEN ON |
| 4 | GREEN | 15VDC POWER FUNCTIONING PROPERLY WHEN ON |

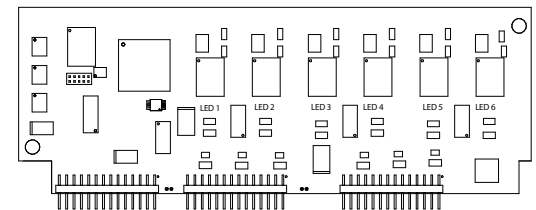
CONTROL P.C. BOARD



Description of LED functions on Power Wave 300C
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 | DEVICE NET EXTERNAL 24 VDC PRESENT |

CHOPPER CONTROL P.C. BOARD

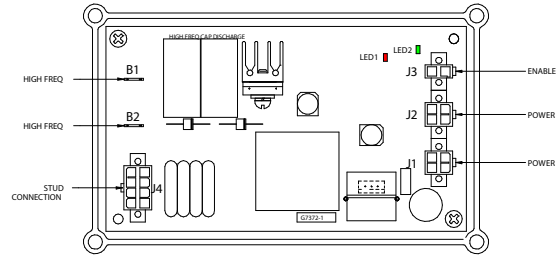


Description of LED functions on Power Wave 300C
For reference only

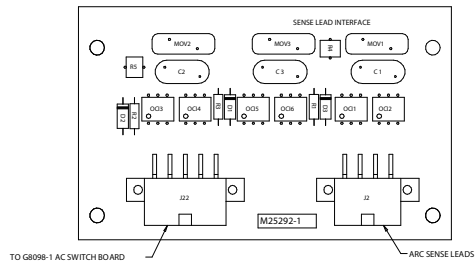
| G9999 CHOPPER CONTROL P.C. BOARD | | |
|----------------------------------|-------|---|
| LED # | COLOR | FUNCTION |
| 1 | GREEN | CHOPPER IGBT1 DRIVE FUNCTIONING WHEN ON |
| 2 | GREEN | CHOPPER IGBT2 DRIVE FUNCTIONING WHEN ON |
| 3 | GREEN | CHOPPER IGBT3 DRIVE FUNCTIONING WHEN ON |
| 4 | GREEN | CHOPPER IGBT4 DRIVE FUNCTIONING WHEN ON |
| 5 | GREEN | CHOPPER IGBT5 DRIVE FUNCTIONING WHEN ON |
| 6 | GREEN | CHOPPER IGBT6 DRIVE FUNCTIONING WHEN ON |

POWER WAVE 300C (ADVANCED) MACHINE SCHEMATIC G11669-1 PAGE 3

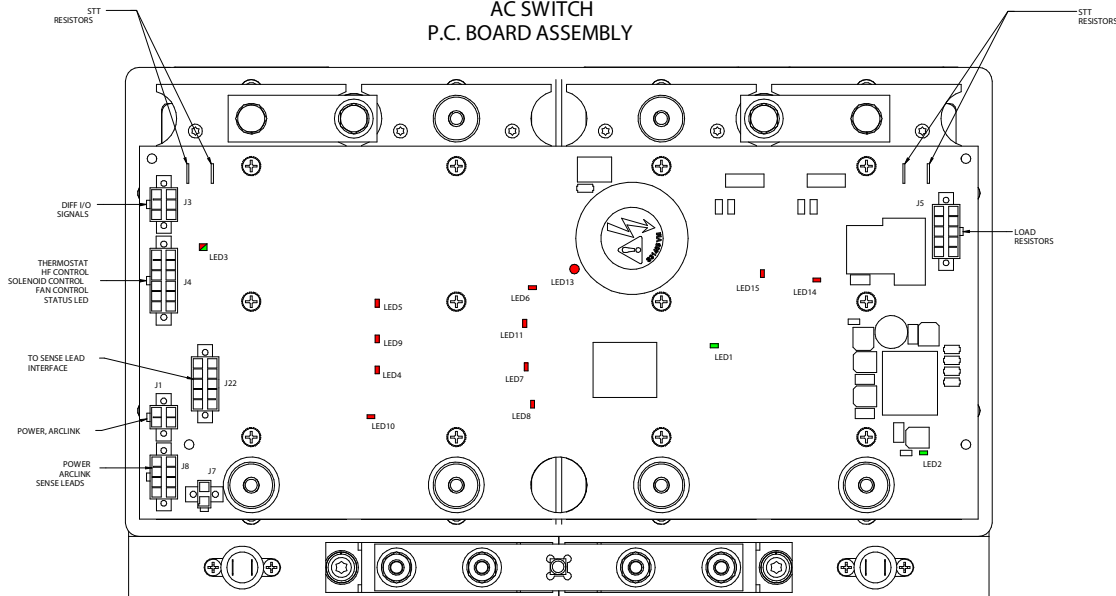
**HIGH FREQUENCY
P.C. BOARD**



**SENSE LEAD
INTERFACE
P.C. BOARD**



**AC SWITCH
P.C. BOARD ASSEMBLY**



Troubleshooting the Power Wave Advanced Module

Using the External Status LED

| LIGHT CONDITION | DESCRIPTION |
|---------------------------|--|
| Steady Green | System OK. Power source is operational, and is communicating normally with all healthy peripheral equipment connected to its ArLink network. |
| Blinking Green | Occurs during power up or a system reset, and indicates the power source is mapping (identifying) each component in the system. Normal for first 1-30 seconds after power is turned on, or if the system configuration is changed during operation. |
| Fast Blinking Green | Under normal conditions indicates Auto-mapping has failed. Also use by diagnostic utility (included in Power Wave Manager Utilities available at www.powerwavesoftware.com), to identify the selected machine when connecting specific IP addresses. |
| Alternating Green and Red | Non-recoverable system fault. If the Status lights are flashing any combination of red and green, errors are present. Read error code (s) before the machine is turned off. Error Code interpretation through the status light is detailed in the Service Manual. Individual code digits are flashed in red with a long pause between digits. If more than one code is present, the codes will be separated by a green light. Only active error conditions will be accessible through the status light. Error codes can also be retrieved with the diagnostic utility (included in Power Wave Manager Utility available at www.powerwavesoftware.com) This is the preferred method, since it can access historical information contained in the error log. To clear the active error(s), turn power source off, and back on to reset. |
| Steady Red | Not applicable (check polarity of LED). |
| Blinking Red | Not applicable (check polarity of LED). |

Error codes for the Power Wave Advanced Module

| Error Code # | Advanced Module | Indicator |
|--------------|---------------------------------|---|
| 36 | Thermal error | Indicates over temperature. Usually accompanied by Thermal LED on the host power source. Check fan operation. Be sure process does not exceed duty cycle limits of machine. |
| 39 | Misc. hardware fault | Unknown glitch has occurred on the fault interrupt circuitry. Sometimes caused by intermittent connections in the thermostat of the machine. |
| 54 | Secondary (Output) Over Current | The long term average secondary weld current limit has been exceeded. This error will immediately turn off output of machine. NOTE: The long term average secondary current limit is 375 amps. |
| 99 | STT Status error | Error reported by the Advanced Module Switch PC Board. Generally caused by misconnection of the welding leads (reverse polarity). May also be caused by loss of input voltage or board failure. Observe diagnostic LEDs on the Advanced Module Switch Board to determine the exact cause. |

On Board LEDs for the Advanced Module AC Switch PC Board

| LED | COLOR | FUNCTION | INDICATION |
|--------|-----------|-------------------------|--|
| 1 | GREEN | H-BRIDGE STATUS | Normal Status : ON Fault Condition : if the snubber capacitor voltage exceeds its threshold, the acceptable voltage across the Switch is exceeded, or the power supplies voltages are insufficient, the LED will be OFF |
| 2 | GREEN | POWER SUPPLY | Normal Status : ON Fault Condition : if there is a short on any of the power supplies, this LED will blink. If no power is present, this LED will be OFF |
| 3 | RED/GREEN | STATUS | Normal Status : SOLID GREEN Fault Condition : if the switch encounters an error, this LED will flash an ERROR CODE |
| 4 & 7 | RED | NEG. SWITCH | Indicates switch is configured for NEGATIVE polarity or AC output. |
| 5 & 6 | RED | POS. SWITCH | Indicates switch is configured for POSITIVE polarity or AC output. |
| 8 & 10 | RED | NEG. STT | Indicates switch is closed in NEGATIVE polarity. Will detect slight dimming if performing NEGATIVE STT |
| 9 & 11 | RED | POS. STT | Indicates switch is closed in POSITIVE polarity. Will detect slight dimming if performing POSITIVE STT |
| 13 | RED | SNUBBER VOLTAGE | Indicates that high voltage is present on the snubber capacitor |
| 14 | RED | MAIN BUS OVER VOLTAGE | Fault Condition: indicates that a voltage > 120 VDC was present across the bridge. Latched Error |
| 15 | RED | SNUBBER CAP OVERVOLTAGE | Fault Condition: indicates that a voltage > 500 VDC was present on the snubber capacitor |

On Board LEDs for the Advanced Module High Freq Board

| LED | COLOR | FUNCTION | INDICATION |
|-----|-------|--------------|--|
| 1 | RED | POWER SUPPLY | Indicates that the power supply is functioning |
| 2 | GREEN | ENABLE | Indicates that the board is being commanded to turn on |