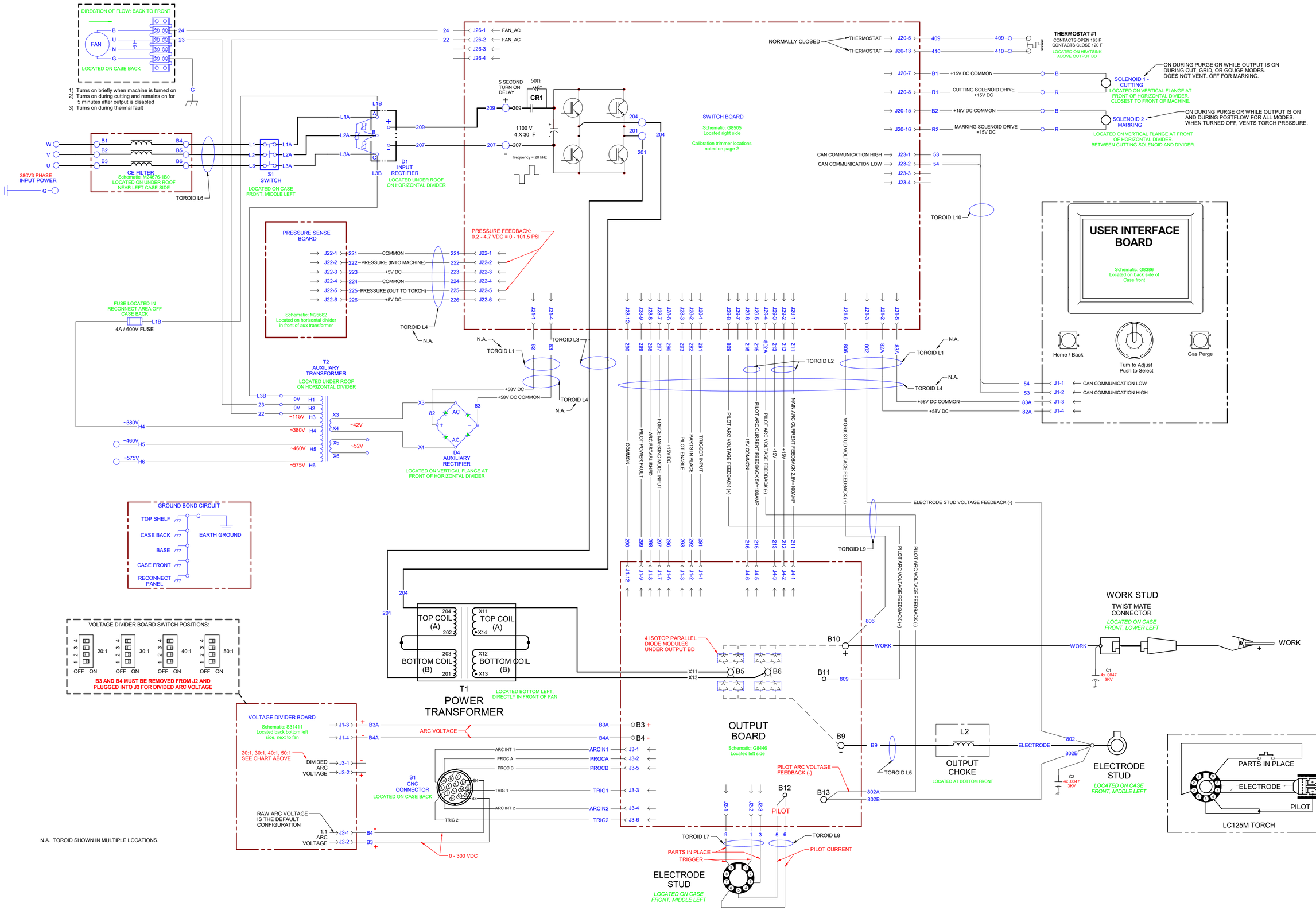
FLEXCUT 125 MACHINE SCHEMATIC G8560-2 REV: A



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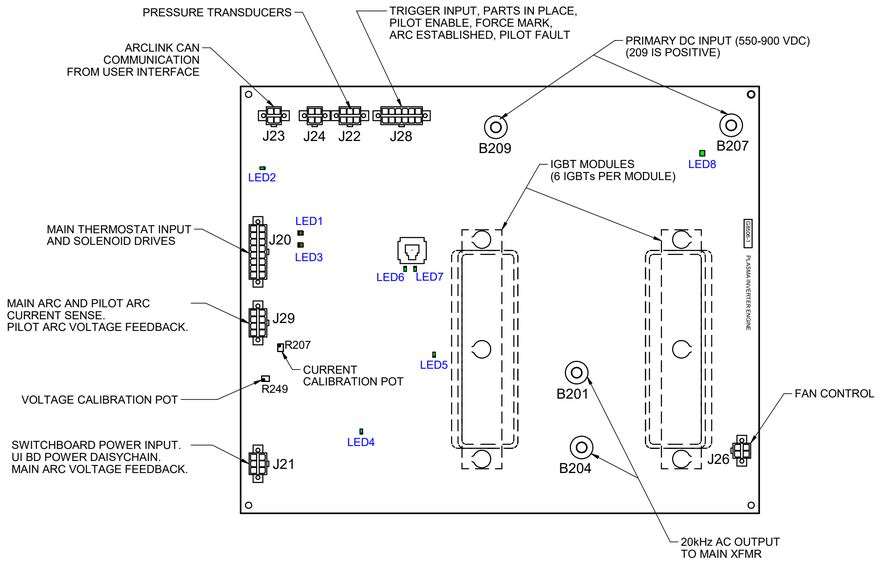
SWITCHBOARD P.C. BOARD

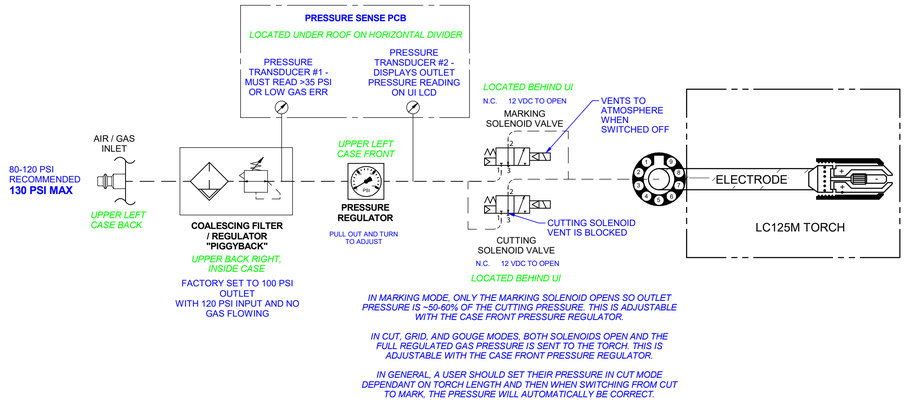


USING THE FLEXCUT 125 SWITCHBOARD STATUS LED

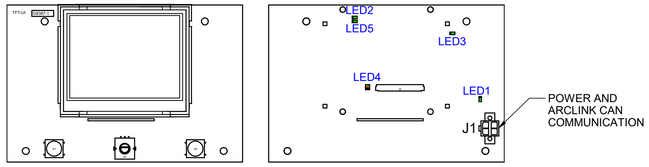
LIGHT CONDITION	MEANING
Steady Green	System OK.
Blinking Green	Occurs during startup or reset, and indicates that the switchboard is waiting for communication from the control board. Normal for the first 1-10 seconds after power is turned on.
Alternating Green and Red	A system fault has occurred. If the switchboard status LED is flashing any combination of red and green, errors are present. 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. See Page 3 for an Error Code Troubleshooting Guide.

LED #	COLOR	FUNCTION
1	GREEN	DSP STATUS "OK"
	RED	DSP STATUS "ERROR" (CHECK CODE FOR SPECIFIC ERROR)
2	GREEN	+5V CAN POWER SUPPLY "OK"
3	GREEN	MICRO STATUS "OK"
	RED	MICRO STATUS "ERROR" (CHECK CODE FOR SPECIFIC ERROR)
4	GREEN	+15V DC POWER SUPPLY "OK"
5	GREEN	+5V DC PRIMIARY POWER SUPPLY "OK"
6	GREEN	LINK "OK" FOR ETHERNET
7	GREEN	ETHERNET ACTIVITY
8	GREEN	INPUT CAP VOLTAGE BLEEDER HIGH VOLTAGE PRESENT WHEN LIT

PRESSURIZED AIR/GAS PATH



USER INTERFACE P.C. BOARD

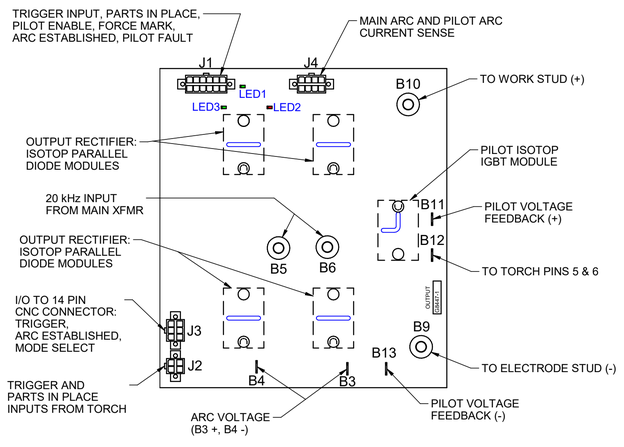


S31126 USER INTERFACE P.C. BOARD		
LED #	COLOR	FUNCTION
1	GREEN	INPUT POWER CONNECTED
2	RED	+3.3V POWER SUPPLY "OK"
3	GREEN	+5V CAN POWER SUPPLY "OK"
4	GREEN	STATUS "OK"
	RED	STATUS "ERROR" (CHECK CODE FOR SPECIFIC ERROR)
5	GREEN	+5V USB POWER "OK" (NOT USED)

USING THE FLEXCUT 125 USER INTERFACE BOARD STATUS LED

LIGHT CONDITION	MEANING
Steady Green	System OK.
Alternating Green and Red	A system fault has occurred. If the User Interface Board status LED is flashing any combination of red and green, errors are present. 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. See Page 3 for an Error Code Troubleshooting Guide.

OUTPUT P.C. BOARD



LED #	COLOR	FUNCTION
1	GREEN	+15V POWER "OK"
2	RED	LIGHTS UP WHEN PILOT IGBT IS CLOSED (PILOT ON)
3	GREEN	+15V PILOT SUPPLY "OK"
	OFF	PILOT IS LIKELY SHORTED

ACCESS ERROR LOG

To access the Error Log:

- With the machine on and in an idle state, press and hold both the “Home” and the “Gas Purge” buttons to enter the settings menu
- Turn the encoder CW until you see “Advanced options”. Press to select.
  - Select “Power Source”
    - Select “Show Objects”
      - Select “Power Source” to see the 25 most recent power source errors
      - Select “Weld Controller” to see the 25 most recent weld controller errors
      - Select “Ethernet” to see the 25 most recent ethernet errors
      - Select “Plasma Controller” to see the 25 most recent sequencer errors
    - Select “Fatal Log” to see the 25 most recent Fatal Log errors
  - Select “UI”
    - Select “Show Objects”
      - Select “UI” to see the 25 most recent UI errors
    - Select “Fatal Log” to see the 25 most recent Fatal Log errors
- Use the encoder knob to navigate and select options and the home button to go back
- Press the home button several times to exit the settings and return to the mode screen or press both “Home” and “Gas Purge” simultaneously

ERROR CODE TROUBLESHOOTING GUIDE

Description
Gas input line is disconnected or input pressure is too low.
Possible Solution
Check that the gas line feeding the machine is properly connected and that the pressure is above 80 psi for cutting or above 50 psi for marking or gouging.

Description
Torch is disconnected or the torch retaining cap is missing or loose.
Possible Solution
Check that the consumables are properly installed. Tighten retaining cap (hand-tight only) and check that it touches the two pins extending down from the torch body. The pins on the torch should extend and retract freely.

Description
Pilot timeout error
Possible Solution
In cut, mark, and grid modes, the pilot arc will only run for 5 seconds to prevent unnecessary consumable wear. Verify the correct torch to workpiece height and that the work lead is connected and making a good electrical connection.

Description
Trigger locked
Possible Solution
Release the trigger before continuing. The trigger must be disabled at machine startup or when changing modes.

Description
Pilot Stuck Open
Possible Solution
Nozzle could be missing or debris could be stuck between the torch consumables. Remove and replace the consumables, checking for proper installation.

Description
Pilot Stuck Closed
Possible Solution
Electrode is not retracting from the nozzle after trigger initiation. The parts could be stuck together or air is not properly flowing through the torch. Remove and replace the consumables, checking for proper installation.

Description
Machine has overheated and must be allowed to cool before continuing.
Possible Solution
Check that the fan is spinning freely and that the rear brickwork and side/front louvers are not obstructed. If thermal faults continue, blow dust out from the rear of the machine.

Description
Communication error between power board and control board.
Possible Solution
Cycle power to the machine to see if the error clears. Otherwise a qualified technician must check communication between the power and control boards.

6	User Interface not Connected to Switchboard
Description	CAN communication between switchboard and User Interface PCB has timed out.
Possible Solution 1	Check the physical wiring and connections between User Interface PCB and switchboard.
Possible Solution 2	Verify power supply to switchboard.
Possible Solution 3	Replace defective switchboard assembly or User Interface PCB.

31	Primary Overcurrent
Description	Peak current through the transformer primary has exceeded threshold (140 amps).
Possible Solution 1	Verify connections to the switchboard, transformer and output rectifier assemblies are made correctly and there are no damaged components in the machine.
Possible Solution 2	Replace shorted Output Rectifier Diode
Possible Solution 3	Replace defective main transformer.
Possible Solution 4	Replace defective switchboard assembly.

36	Thermal Fault
Description	Thermostat on output rectifier heat sink has tripped.
Possible Solution 1	Do not exceed allowable ambient temperature or duty cycle limits.
Possible Solution 2	Verify that fan is operating and airflow is not being blocked.
Possible Solution 3	Measure thermostats at Switchboard and replace if defective.

213	Switchboard is Offline
Description	Switchboard failed to turn on.
Possible Solution 1	Mapping error. Cycle power to attempt to clear error.
Possible Solution 2	Switchboard has a fatal error. Read error code at on-board status LED and decode error.
Possible Solution 3	Replace defective Switchboard assembly.

713	Misconnection - Primary Supply Voltage too High
Description	Switchboard auxiliary supply voltage is too high at machine power-up.
Possible Solution 1	Improper input voltage configuration. Verify primary reconnect position, measure input voltage level and check three phase operation.
Possible Solution 2	Damaged auxiliary transformer or intermittent "A" lead connection.
Possible Solution 3	Replace defective User Interface PCB assembly.

714	Misconnection - Primary Supply Voltage too Low
Description	Switchboard auxiliary supply voltage is too low at machine power-up.
Possible Solution 1	Improper input voltage configuration. Verify primary reconnect position, measure input voltage level and check three phase operation.
Possible Solution 2	Damaged auxiliary transformer or intermittent "A" lead connection.
Possible Solution 3	Replace defective User Interface PCB assembly.