FRYMASTER
8700 LINE AVENUE, SHREVEPORT, LA 71106

800-551-8633
318-865-1711
WWW.FRYMASTER.COM
EMAIL: FRYSERVICE@FRYMASTER.COM

Service Bulletin

This bulletin addresses troubleshooting SIB boards in Frymaster touch screen fryers.

Subject: Troubleshooting SIB (Smart Interface Board)

Models: Frymaster Touch Screen Fryers with SIB Boards

5/6/2025

SIB (Smart Interface Board) troubleshooting is provided to assist in determining if an SIB board requires replacement. SIB boards are much more reliable than Temperature and ATO probes. The power on the SIB board has a current limiting circuit that protects the SIB board from shorts. Ensure an SIB board, Cook probe and ATO probe are on hand when troubleshooting.

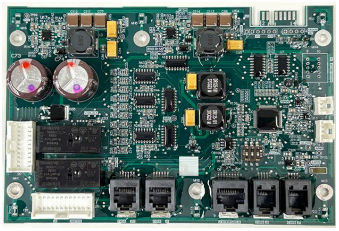
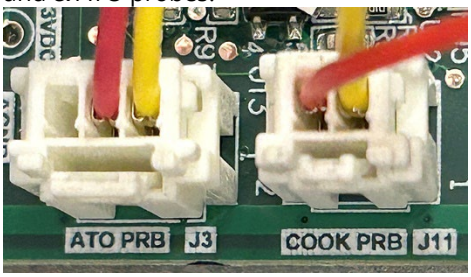


Figure 1

Problem	Probable Causes	Corrective Action
Dead controller, black screen, no power or power problem	When the SIB is powered up there should be three green LED's on and one red LED flashing *(see page 5 of 5 for location)*. This determines that the power supply is working properly. A. J1 connector not fully seated into board. B. Fuse/Fuse holder C. If the green LED's are out and the red flashing LED is out leave J1 connected. D. Power supply E. Blown board F. Bad Board	A. Ensure that the J1 harness connector is fully seated into the board connector. B. Ensure the 3-amp fuse located at the bottom of the control box is not blown and cap is securely tightened, and fuse spring is working. Refer to fuse holder service bulletin 2024-17 at http://fm-xweb.frymaster.com/service/udocs/SB24-17.pdf. C. **One at a time**, leave J1 connected and disconnect J2 (if applicable) and all other connections and probes from the SIB. If the LED's illuminate, the red LED should be flashing. The green LED's should be steady and bright. Reconnect each connection one at a time until the lights go out or dim on the board. this would indicate something in that circuit is loading down the SIB. Disconnect that connection and continue to connect the remaining connections one at a time. Whichever connection/s caused the lights to dim or go out will lead you to the cause. D. Using needle leads, check for 24VAC between pins 1 & 2 of J1 on the SIB board. If 24VAC is present, but the board doesn't light up, means it's a bad board. If 24VAC is missing, check the 3.5A fuse and transformer. If both are good, check for 24VAC at the Transformer Box C1 pins 1 & 2 and J4 pins 7 & 8 for gas or from the transformer in the component box for electric, to see if its bad harness, bad wire connection or bad power supply. Using needle leads, check ohm resistance between pins 1 & 2 of J1 on the SIB board. Should read approximately 200 ohm (+- 25 ohms). Replace the board if not.

Problem	Probable Causes	Corrective Action
Dead controller, black screen, no power or power problem (continued)	F. Bad Board	F. After replacing the board, plug J1 in first allow all the LEDs to come on. Slowly attach all the other plugs and probes one at a time to ensure everything works correctly and that nothing is loading down the board.
Controller is flickering or intermittently resetting. Controller only boots up halfway to sound and then resets.	A. Speaker connections are grounded or shorted with a probe harness or other wire. B. Fuse holder	A. Check to make sure that the speaker connections at the speaker are not grounded or shorted to a probe harness and that the screen is not flickering when booting up. If connections are good, swap UI's to see if problem follows. Replace the UI if it follows and update software on the UI as needed. B. Check the three-amp fuse holder. Refer to fuse holder service bulletin 2024-17 at http://fm-xweb.frymaster.com/service/udocs/SB24-17.pdf.
Green LED's on SIB board are blinking or dim.	A. Damaged harness between J2 on the VIB board to J9 or J10 on the SIB board.	A. Inspect for heat damage and routing of harness close to the frypot. If damaged replace harness (8075555).
Cook Probe, ATO Probe & Oil Level Errors (Probe errors in the error log or it's reading 700°F) **ATO & Cook Probe temperatures can be compared and watched in real time on the controller.** 1. Press the Home button. 2. Press Settings>Service. 3. Enter 1650 for McD, 3000 for other chains. 4. Scroll down to Temperature for other chains or Temperature Display for McD. 5. Select Disable. 6. Press check. 7. Press the back button. 8. Select AIF/ATO Temp Display. 9. Set to Enable. 10. Press the check. 11. Press the Home button. 12. Press Crew Mode.	A. Loose pins. B. Bad probe or ground.	A. Ensure the pins are secure in the white plugs (see below). Intermittent high readings and then low readings on probes point to a possible loose connection on the white probe connectors on the SIB board. B. Before changing an SIB board, check the probe resistance and isolate for ground. The **ATO probe** is the **3-pin** connector. The **Cook probe** is the **2-pin** connector. If the probe is bad, before installing the new probe, connect the probe to the SIB board. Drop it in the oil and ensure it is working properly. SIB boards are much more reliable than Cook Probe and & ATO probes. 

Problem	Probable Causes	Corrective Action
SIB BOARD 1 MISSING displayed on the controller.	A. Loose wire connection. B. UI error C. If the green LED's are out and the red flashing LED is out leave J1 connected. D. Controller issue. E. Bad SIB	A. Ensure the UI connector is securely seated in plug J6 on the SIB. B. Reboot the fryer. C. **<u>One at a time</u>**, leave J1 connected and disconnect J2 (if applicable) and all other connections and probes from the SIB. If the LED's illuminate, the red LED should be flashing. The green LED's should be steady and bright. Reconnect each connection one at a time until the lights go out or dim on the board. this would indicate something in that circuit is loading down the SIB. Disconnect that connection and continue to connect the remaining connections one at a time. Whichever connection/s caused the lights to dim or go out will lead you to the cause. D. Swap controllers to see if issue follows the controller. If issue follows, replace controller. E. Swap SIB to see if error moves. If error moves, replace defective SIB.
SIB BOARD 2 MISSING displayed on the controller.	A. Loose wire connection. B. Bad harness C. If the green LED's are out and the red flashing LED is out leave J1 connected. D. Controller issue. E. Bad SIB.	A. Ensure all wiring harnesses are securely connected between J9 and J10 between SIB boards. B. Replace the harness between the SIB1 and SIB 2. C. **<u>One at a time</u>**, leave J1 connected and disconnect J2 (if applicable) and all other connections and probes from the SIB. If the LED's illuminate, the red LED should be flashing. The green LED's should be steady and bright. Reconnect each connection one at a time until the lights go out or dim on the board. this would indicate something in that circuit is loading down the SIB. Disconnect that connection and continue to connect the remaining connections one at a time. Whichever connection/s caused the lights to dim or go out will lead you to the cause. D. Swap controllers to see if issue follows the controller. If issue follows, replace controller. E. Swap SIB to see if error changes to SIB BOARD 1 Missing. If error moves, replace defective SIB.
SIB NOT CONFIGURED displayed on the controller.	A. Software error B. SIB board not configured. C. Bad SIB.	A. Reboot the fryer. B. Swap controllers to see if issue follows the controller. C. Replace the SIB board.

NOTE: DO NOT CHECK WITH HARNESSES UNPLUGGED, AS SHORTING THE PINS MAY OCCUR WHICH WILL DAMAGE THE BOARD.

FREQUENTLY USED TEST POINTS FOR SMART INTERFACE BOARD (SIB) 1085980			
Test	**Meter Setting**	**Pins**	**Results**
24VAC Power to SIB	50VAC Scale	Pins 1 and 2 on J1	22-28VAC
Probe Resistance	R x 1000 OHMS	Disconnect and test across probe leads **Cook Probe** J11 2-pin connector **ATO Probe** J3 3-pin connector	**
Probe Isolation	R x 1000 OHMS	Pins 1 or 2 on Probe Connector and GROUND	***
High-Limit Continuity	R x 1 OHM	Pins 3 and 4 on J1	0
**** See Probe Resistance Chart below.** ***** 5 mega-Ohms or greater.**			

Probe Resistance Chart

For use with LOV™ Series fryers manufactured with RTD probes only.

Reading should be +-25 ohms

F	OHMS	C	F	OHMS	C	F	OHMS	C	F	OHMS	C	F	OHMS	C
60	1059	16	130	1204	54	200	1350	93	270	1493	132	340	1634	171
65	1070	18	135	1216	57	205	1361	96	275	1503	135	345	1644	174
70	1080	21	140	1226	60	210	1371	99	280	1514	138	350	1654	177
75	1091	24	145	1237	63	215	1381	102	285	1524	141	355	1664	179
80	1101	27	150	1247	66	220	1391	104	290	1534	143	360	1674	182
85	1112	29	155	1258	68	225	1402	107	295	1544	146	365	1684	185
90	1122	32	160	1268	71	230	1412	110	300	1554	149	370	1694	188
95	1133	35	165	1278	74	235	1422	113	305	1564	152	375	1704	191
100	1143	38	170	1289	77	240	1432	116	310	1574	154	380	1714	193
105	1154	41	175	1299	79	245	1442	118	315	1584	157	385	1724	196
110	1164	43	180	1309	82	250	1453	121	320	1594	160	390	1734	199
115	1174	46	185	1320	85	255	1463	124	325	1604	163	395	1744	202
120	1185	49	190	1330	88	260	1473	127	330	1614	166	400	1754	204
125	1195	52	195	1340	91	265	1483	129	335	1624	168	405	1764	207

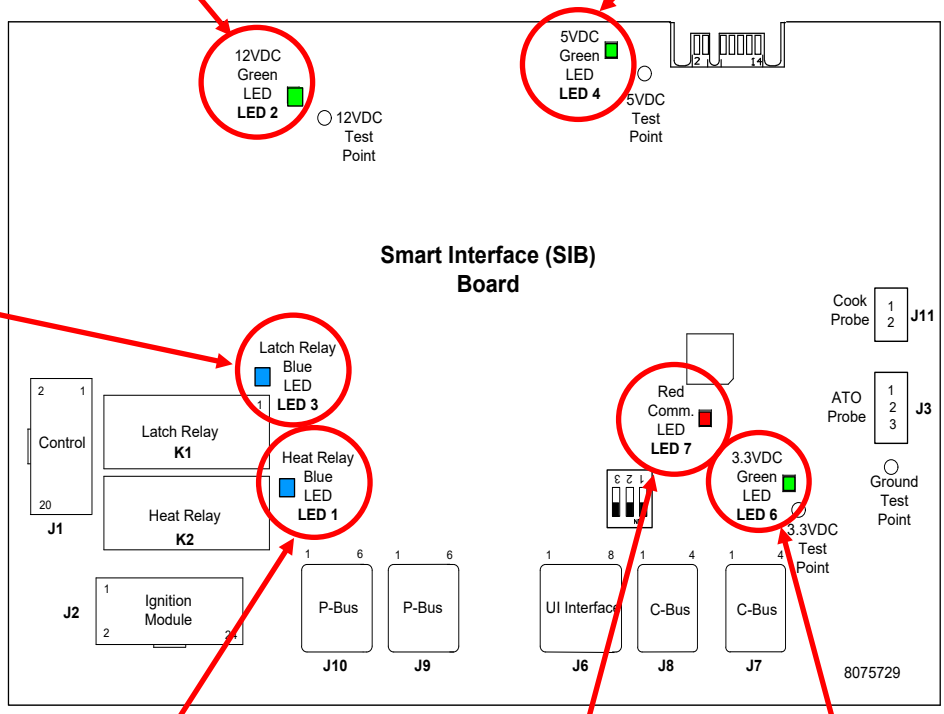
The SIB LEDs (labeled LED1 through LED7) are arrayed around the board to assist in troubleshooting.

SMART INTERFACE BOARD LED DIAGNOSTIC LIGHTS	
LED 1	24VAC Heat Relay
LED 2	12VDC to Controller
LED 3	24VAC Latch Relay
LED 4	5VDC to probes and switches
LED 6	3.3VDC to Micro Processor
LED 7	Communication to/from Micro Processor

12VDC should be lit and bright at all times. If LED is dim then something is pulling voltage down. Short to ground on 12VDC circuit will cause dim LED.

5VDC should be lit and bright at all times. If LED is dim then something is pulling voltage down. Short to ground on 5VDC circuit will cause dim LED.

When UI is soft powered on this Latch Relay LED will come on first, confirming the high limit is closed.
- **High efficiency gas fryers** - The blower will energize and prove the air switch.
- **Electric fryers** The latch contactor is energized.
- **Tube gas fryers** - it initiates the pilot lighting sequence. The relay is a true latch circuit and when broken or turned off the heat relay will also turn off.



When UI calls for HEAT this LED will come on with the heat relay only after latch relay has been latched in and AIR switch has been proven. This LED will cycle with the call for heat.
- **High efficiency gas fryers** This activates the blower/burner system.
- **Electric fryers** - This activates the heat contactor.
-**Tube gas fryers** – This activates (MV) main burner valve, cycles main burner.

Blinking red LED, (Heartbeat). This LED should always be blinking and bright when board the is powered. The other green LED's being dim or off will cause this LED to be off.

3.3VDC LED should be always lit and bright. If dim then something is pulling voltage down. Short to ground on 3.3VDC circuit will cause dim LED.