

XYZ Corp.  
Fry Controller FC-1234  
Operating Specification

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Last Modified: 00/00/0000

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## Introduction

This enhanced operating specification is based on the initial specification. Details have been added as agreed upon, based on discovery while filling the state tables to describe each situation in full.

The state tables are to be used as the basis for programming, and to resolve any questions regarding intended behavior of the product.

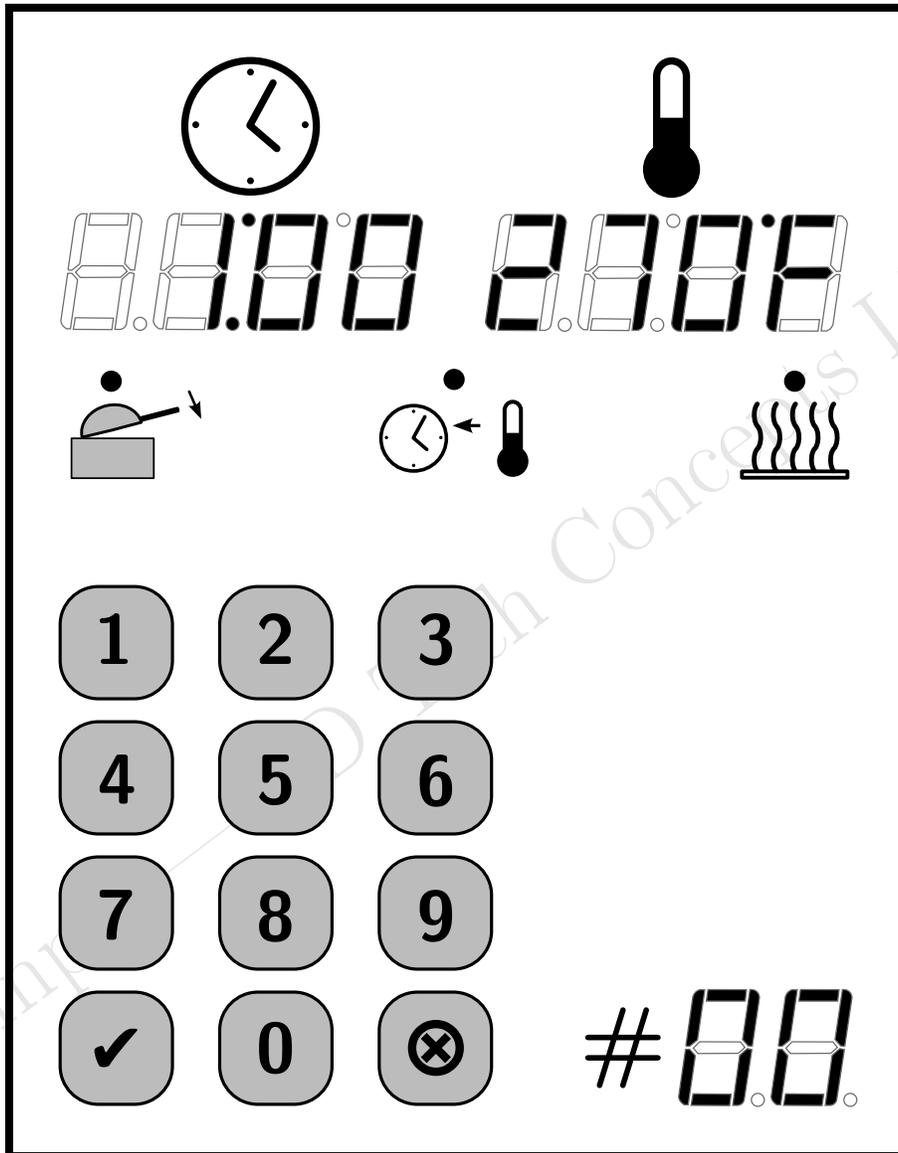
Additional specifications include Electrical, Mechanical, Front Panel, Maintenance, electrical schematic diagram, mechanical drafting documents.

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## Interface

### Front Panel

This is a diagram of the front panel display and keypad.



### Settings

The following items are chosen by the operator:

- Cooking time, 00:00 to 99:59, meaning 99 minutes and 59 seconds.
- Cooking temperature in °F or °C.
- Auto-Compensation On/Off, controlling whether cooking time is adjusted according to the current operating temperature. If auto-compensation is turned on, the unit will adjust the cooking time

depending on how the oil temperature compares to the recipe. If turned off, the unit will cook for exactly the time chosen by the recipe, even if the oil is not quite at the correct temperature.

- Nine presets are stored in memory for quick recall. Each preset has a time, a temperature, and an auto-compensation On/Off choice. From the factory they are initialized to 270°F, one minute, auto compensation off.

The following is automatically recorded by the unit:

- Count of the number of cycles completed, 0-99, wrapping to 01. This counter helps determine when to filter or change the oil.

## Outputs

Displayed on the front panel for the user:

- Time display,  from 00:00 to 99:59.
- Temp display,  in °F or °C, showing setpoint or current temperature.
- Count display,  of number of cycles performed, 0-99.
- Auto Compensation indicator  . If On, cook time varies depending on temperature.
- Valve indicator . On if valve is closed and the unit is cooking.
- Heater indicator . Shows whether heat is being applied.

Additional items which are located inside the unit:

- Speaker. Beeps On/Off when finished cooking, or steadily On in the event of an error condition.
- Heater control. Controls the heater for the cooker.

## Inputs

User-input keys which are found on the front panel:

-  –  keys. Used to enter values, select presets, select log entries.
- Select . Accepts edits or procedures.
- Cancel . Cancels edits or procedures.

Internal to the unit, and not user-adjustable.

- Thermocouple probe to monitor temperature.
- Input for probe over temperature error.
- On-board ambient temperature sensor.
- Input for ambient temperature sensor failure.
- °F / °C selection is via a jumper located on the control's circuit board. This is set by the factory.
- **Start** input. Closed during cooking, opened to finish or cancel cooking. This is used to sense when the pressure fryer valve lid is closed to start cooking.

## Other Events

The following items are additional events which may cause something to happen:

- Timeouts for 5 or 25 seconds without a key press. If nothing is happening, the unit cancels any special displays or edits and returns to its default idle display.
- Several combinations of keys being held for various amounts of time. These are used to enter special modes which are intended for special functions, not day-to-day operation.
- Error conditions. The unit continuously watches for several possible kinds of error conditions.

## Idle

On power-up, the heater becomes active and regulates to the currently selected preset's temperature, and the heater LED  lights whenever the heater is active.

If the current temperature is within regulating range, the display shows , where 9 is the preset number 1-9.

If the current temperature is too hot or too cold compared to the current preset, the display alternates between  with the preset temperature, and  or  with the current temperature.

The counter displays the count of the cycles completed.

## Cooking Cycle

Close the Start switch to begin a cooking cycle with the current preset, even if the temperature is not yet ready.

The valve LED  turns on to indicate that the fryer is closed and cooking.

The timer counts down, and is adjusted according to temperature if auto compensation  is selected in the current preset.

All keypad keys are disabled.

Cooking continues so long as the Start switch is closed. If the Start switch is opened during cooking, the unit immediately returns to Idle and does NOT increment the count.

When time is complete, food continues to cook but the timer flashes  and sounds the speaker.

When the Start switch is opened, the counter  is incremented by one, wrapping 99 to 01, and the unit returns to the Idle state.

When enabled, auto compensation is as follows:

$$t_f = t_r \times \frac{(T_s - T_b)}{(T_c - T_b)}$$

$t_f$  Flex time — up to half or twice real time.

$t_r$  Real time

$T_s$  Temperature — setpoint

$T_c$  Temperature — current

$T_b$  Temperature — boiling point of water at sea level — 212°F

## Displaying and Selecting Presets

While Idle, press Select  to display the time, temperature, and auto compensation settings for the currently selected preset. The unit returns to Idle after five seconds.

While Idle, press a key  1 –  9 to display that preset's settings for five seconds.

Press another key  1 –  9 to display a different preset.

Press Select  to switch to the selected preset. The unit returns to Idle.

Press Cancel  during the five seconds to instantly return the unit to Idle.

## Editing a Preset

1. While Idle, hold a key  1 –  9 for five seconds. The speaker beeps and begins to edit that preset.
2. The display flashes the current time for this preset. Press Select  to keep this time and move to temperature, or press Cancel  to exit with no changes, or:
3. Enter a new time, and then press Select  to accept the new time and again display flashing time, or Cancel  to cancel the edit and return to flash the preset's current time.
4. The display flashes the current temperature for this preset. As above, enter a new temperature with Select , or use Cancel  to exit with no changes.
5. The display flashes `#### ####` or `#### ####`. Press Select  to accept, Cancel  to exit with no changes, or press any key  0 –  9 to toggle On/OFF.
6. The display flashes all final values at once. Press Select  to accept all new changes, or Cancel  to exit with no changes.

At any time during editing, if the Start switch is closed, the unit immediately goes into Cooking mode using the previous values. If 25 seconds pass, the unit returns to Idle without changing the preset.

## Clearing the Counter

While Idle, hold the Cancel  button for ten seconds to clear the counter. The counter is reset to 00.

## Factory Temperature Calibration

A small adjustment may be made to calibrate the probe's readings to an external measurement.

1. While Idle, hold the  0 key for ten seconds.
2. The display shows `#### ####`.
3. Press Cancel  to quit without changes.
4. Press Select .
5. The unit flashes the current temperature.
6. Enter the new temperature.
7. Press Select  to accept the new temperature, Cancel  to quit without changes.

If 25 seconds pass without the Select  key being pressed, the entry is canceled and the unit returns to Idle without changes.

## Error Displays

On error, the heater and Heater LED turn off and the speaker sounds an alarm.

The Valve LED echos the Start input.

Cooking cycles cannot be started.

The Time display flashes a message, and the Temp display flashes a code:

EEEE	11	After three minutes, less than 6° F rise.
EEEE	12	After three minutes, failed to pass 250° F.
EEEE	21	Temp change more than 100° F in 2 seconds.
EEEE	22	Ambient circuit error input.
EEEE	23	Temp circuit limit error input.
EEEE	31	Temp > 415° F.
EEEE	41	Temp > 500° F.
EEEE	42	Probe circuit: 0 freq input.
EEEE	43	Probe cold: after three minutes, less than 45° F.

EEEE tests re-initiate at power up or after preset change.

## Error Log

To view the log of up to 9 of the most recent errors:

1. Hold Select  for 10 seconds.
2. The display shows EEEE EEEE. Press  to continue, or  to exit.
3. The display shows the error message, the count shows 01, the most recent error.
4. If no error for this entry, the display shows EEEE EEEE.
5. Press 1 – 9 to select other error log entries, 1-9.
6. Press Cancel  key to return the unit back to Idle.
7. Hold the 0 key for ten seconds to clear the error log, returning back to entry 01 which will now show EEEE EEEE.

## Noise and Power

- ESD noise testing must not result in unit lock-up or loss of preset memory values.
- Power line loss and resume must not result in unit lock-up or loss of preset memory values.
- If valve is closed on power-up and if no cooking cycle was previously in progress, unit starts a new cooking cycle with full cooking time.
- If valve is closed on power-up and if a cooking cycle was previously in progress, unit alarms and the display alternates EEEE EEEE / EEEE EEEE until the valve is opened and unit returns to idle.

## State Tables

### Power Up

On power up, if the *Start* switch is open, go to **ST-Idle**.

If the *Start* switch is closed on power up, and if no cooking cycle was previously in progress, go to **ST-Idle**.

If the *Start* switch is closed on power up, and if there was a cooking cycle previously in progress, go to **ST-Bad-Cycle**.

### Idle State

<b>ST-Idle</b>	
<b>Run heater, show hot/cold and temp or show ready preset.</b>	
<input type="checkbox"/>	Time Display: <i>EEEE</i> , or alternating <i>EEEE</i> and <i>EEEE</i> or <i>EEEE</i>
<input type="checkbox"/>	Temp Display: <i>EEEE</i> , or alternating preset temp and current temp
<input type="checkbox"/>	Count Display: Counter. Default 0 with new rom.
<input type="checkbox"/>	Valve LED: Off
<input type="checkbox"/>	Auto Comp. LED: Off
<input type="checkbox"/>	Heat LED: Regulates to setpoint +0°F, -4°F.
<input type="checkbox"/>	Heater: Regulates to setpoint +0°F, -4°F.
<input type="checkbox"/>	Speaker: —
<input type="checkbox"/>	5 Seconds Pass: —
<input type="checkbox"/>	25 Seconds Pass: —
<input type="checkbox"/>	<i>Start</i> Closed: <b>ST-Cooking</b>
<input type="checkbox"/>	<i>Start</i> Opened: —
<input type="checkbox"/>	① – ⑨ Pressed: <b>ST-View-Preset</b>
<input type="checkbox"/>	☑ Pressed: —
<input type="checkbox"/>	⊗ Pressed: —
<input type="checkbox"/>	① – ⑨ Held 5 sec: <b>ST-Show-Time</b>
<input type="checkbox"/>	① Held 10 sec: <b>ST-Start-Adjust-Calib</b>
<input type="checkbox"/>	☑ Held 10 sec: <b>ST-Start-Error-Log</b>
<input type="checkbox"/>	⊗ Held 10 sec: Clear counter.

## Cooking States

<b>ST-Cooking</b>	
 lit,  according to preset, timer counts down.	
<input type="checkbox"/>	Time Display: Remaining time.
<input type="checkbox"/>	Temp Display: Cooking temp.
<input type="checkbox"/>	Count Display: Counter
<input type="checkbox"/>	Valve LED: On
<input type="checkbox"/>	Auto Comp. LED: According to preset.
<input type="checkbox"/>	Heat LED: Regulates to setpoint +0°F, -4°F.
<input type="checkbox"/>	Heater: Regulates to setpoint +0°F, -4°F.
<input type="checkbox"/>	Speaker: —
<input type="checkbox"/>	5 Seconds Pass: —
<input type="checkbox"/>	25 Seconds Pass: —
<input type="checkbox"/>	<b>Start</b> Closed: —
<input type="checkbox"/>	<b>Start</b> Opened: <b>ST-Idle</b>
<input type="checkbox"/>	 -  Pressed: —
<input type="checkbox"/>	 Pressed: —
<input type="checkbox"/>	 Pressed: —
<input type="checkbox"/>	 -  Held 5 sec: —
<input type="checkbox"/>	 Held 10 sec: —
<input type="checkbox"/>	 Held 10 sec: —
<input type="checkbox"/>	 Held 10 sec: —

When time is complete, goes to **ST-Finished**.

<b>ST-Finished</b>	
Flash  and sound the speaker.	
<input type="checkbox"/>	Time Display: 
<input type="checkbox"/>	Temp Display: Cooking temp.
<input type="checkbox"/>	Count Display: Counter
<input type="checkbox"/>	Valve LED: On
<input type="checkbox"/>	Auto Comp. LED: According to preset.
<input type="checkbox"/>	Heat LED: Regulates to setpoint +0°F, -4°F.
<input type="checkbox"/>	Heater: Regulates to setpoint +0°F, -4°F.
<input type="checkbox"/>	Speaker: Beeping – 1/2 duty cycle
<input type="checkbox"/>	5 Seconds Pass: —
<input type="checkbox"/>	25 Seconds Pass: —
<input type="checkbox"/>	<b>Start</b> Closed: —
<input type="checkbox"/>	<b>Start</b> Opened: <b>ST-Idle</b>
<input type="checkbox"/>	 -  Pressed: —
<input type="checkbox"/>	 Pressed: —
<input type="checkbox"/>	 Pressed: —
<input type="checkbox"/>	 -  Held 5 sec: —
<input type="checkbox"/>	 Held 10 sec: —
<input type="checkbox"/>	 Held 10 sec: —
<input type="checkbox"/>	 Held 10 sec: —

## Displaying and Selecting Presets State

<b>ST-View-Preset</b>	
Display settings for one preset.	
<input type="checkbox"/>	Time Display: Time for the preset.
<input type="checkbox"/>	Temp Display: Temp for the preset.
<input type="checkbox"/>	Count Display: Counter
<input type="checkbox"/>	Valve LED: Off
<input type="checkbox"/>	Auto Comp. LED: Auto comp. for the preset.
<input type="checkbox"/>	Heat LED: Regulates to setpoint +0°F, -4°F.
<input type="checkbox"/>	Heater: Regulates to setpoint +0°F, -4°F.
<input type="checkbox"/>	Speaker: —
<input type="checkbox"/>	5 Seconds Pass: <b>ST-Idle</b>
<input type="checkbox"/>	25 Seconds Pass: —
<input type="checkbox"/>	<b>Start</b> Closed: <b>ST-Cooking</b>
<input type="checkbox"/>	<b>Start</b> Opened: —
<input type="checkbox"/>	⓪ – ⑨ Pressed: Show another preset.
<input checked="" type="checkbox"/>	Pressed: Choose this preset and return to <b>ST-Idle</b> .
<input type="checkbox"/>	⊗ Pressed: <b>ST-Idle</b>
<input type="checkbox"/>	① – ⑨ Held 5 sec: —
<input type="checkbox"/>	⓪ Held 10 sec: —
<input checked="" type="checkbox"/>	Held 10 sec: —
<input type="checkbox"/>	⊗ Held 10 sec: —

## Editing Preset States

<b>ST-Show-Time</b>	
Flash the current time for this preset. Select, cancel, or enter new time.	
<input type="checkbox"/>	Time Display: Flash time for this preset.
<input type="checkbox"/>	Temp Display: Blank
<input type="checkbox"/>	Count Display: Blank
<input type="checkbox"/>	Valve LED: Off
<input type="checkbox"/>	Auto Comp. LED: Auto comp. for this preset.
<input type="checkbox"/>	Heat LED: Off
<input type="checkbox"/>	Heater: Off
<input type="checkbox"/>	Speaker: Off
<input type="checkbox"/>	5 Seconds Pass: —
<input type="checkbox"/>	25 Seconds Pass: <b>ST-Idle</b>
<input type="checkbox"/>	<b>Start</b> Closed: <b>ST-Cooking</b>
<input type="checkbox"/>	<b>Start</b> Opened: —
<input type="checkbox"/>	⓪ – ⑨ Pressed: <b>ST-Edit-Time</b>
<input checked="" type="checkbox"/>	Pressed: <b>ST-Show-Temp</b>
<input type="checkbox"/>	⊗ Pressed: Cancel changes, go to <b>ST-Idle</b>
<input type="checkbox"/>	① – ⑨ Held 5 sec: —
<input type="checkbox"/>	⓪ Held 10 sec: —
<input checked="" type="checkbox"/>	Held 10 sec: —
<input type="checkbox"/>	⊗ Held 10 sec: —

**ST-Edit-Time**

Enter the current time for this preset. Select or cancel.

- |                                     |                      |   |
|-------------------------------------|----------------------|---|
| <input type="checkbox"/>            | Time Display:        | Time for this preset.                     |
| <input type="checkbox"/>            | Temp Display:        | Blank                                     |
| <input type="checkbox"/>            | Count Display:       | Blank                                     |
| <input type="checkbox"/>            | Valve LED:           | Off                                       |
| <input type="checkbox"/>            | Auto Comp. LED:      | Auto comp. for this preset.               |
| <input type="checkbox"/>            | Heat LED:            | Off                                       |
| <input type="checkbox"/>            | Heater:              | Off                                       |
| <input type="checkbox"/>            | Speaker:             | Off                                       |
| <input type="checkbox"/>            | 5 Seconds Pass:      | —   |
| <input type="checkbox"/>            | 25 Seconds Pass:     | <b>ST-Idle</b> with no changes.           |
| <input type="checkbox"/>            | <b>Start</b> Closed: | <b>ST-Cooking</b> with no changes.        |
| <input type="checkbox"/>            | <b>Start</b> Opened: | —   |
| <input type="checkbox"/>            | ⓪ – ⑨ Pressed:       | Collect time digits.                      |
| <input checked="" type="checkbox"/> | ✔ Pressed:           | Change the time, then <b>ST-Show-Time</b> |
| <input type="checkbox"/>            | ⊗ Pressed:           | Cancel changes, then <b>ST-Show-Time</b>  |
| <input type="checkbox"/>            | ① – ⑨ Held 5 sec:    | —   |
| <input type="checkbox"/>            | ⓪ Held 10 sec:       | —   |
| <input checked="" type="checkbox"/> | ✔ Held 10 sec:       | —   |
| <input type="checkbox"/>            | ⊗ Held 10 sec:       | —   |

**ST-Show-Temp**

Flash the current temp for this preset. Select, cancel, or enter new temp.

- |                                     |                      |                                      |
|-------------------------------------|----------------------|--------------------------------------|
| <input type="checkbox"/>            | Time Display:        | Blank                                |
| <input type="checkbox"/>            | Temp Display:        | Flash temp for this preset.          |
| <input type="checkbox"/>            | Count Display:       | Blank                                |
| <input type="checkbox"/>            | Valve LED:           | Off                                  |
| <input type="checkbox"/>            | Auto Comp. LED:      | Auto comp. for this preset.          |
| <input type="checkbox"/>            | Heat LED:            | Off                                  |
| <input type="checkbox"/>            | Heater:              | Off                                  |
| <input type="checkbox"/>            | Speaker:             | Off                                  |
| <input type="checkbox"/>            | 5 Seconds Pass:      | —                                    |
| <input type="checkbox"/>            | 25 Seconds Pass:     | <b>ST-Idle</b>                       |
| <input type="checkbox"/>            | <b>Start</b> Closed: | <b>ST-Cooking</b>                    |
| <input type="checkbox"/>            | <b>Start</b> Opened: | —                                    |
| <input type="checkbox"/>            | ⓪ – ⑨ Pressed:       | <b>ST-Edit-Temp</b>                  |
| <input checked="" type="checkbox"/> | ✔ Pressed:           | <b>ST-Show-Autocomp</b>              |
| <input type="checkbox"/>            | ⊗ Pressed:           | Cancel changes, go to <b>ST-Idle</b> |
| <input type="checkbox"/>            | ① – ⑨ Held 5 sec:    | —                                    |
| <input type="checkbox"/>            | ⓪ Held 10 sec:       | —                                    |
| <input checked="" type="checkbox"/> | ✔ Held 10 sec:       | —                                    |
| <input type="checkbox"/>            | ⊗ Held 10 sec:       | —                                    |

**ST-Edit-Temp**

Enter the current temp for this preset. Select or cancel.

- Time Display: Blank
- Temp Display: Temp for this preset.
- Count Display: Blank
- Valve LED: Off
- Auto Comp. LED: Auto comp. for this preset.
- Heat LED: Off
- Heater: Off
- Speaker: Off
- 5 Seconds Pass: —
- 25 Seconds Pass: **ST-Idle** with no changes.
- Start** Closed: **ST-Cooking** with no changes.
- Start** Opened: —
- (0) – (9) Pressed: Collect temp digits.
- Pressed: Change the temp, then **ST-Show-Autocomp**
- (⊗) Pressed: Cancel changes, then **ST-Show-Temp**
- (1) – (9) Held 5 sec: —
- (0) Held 10 sec: —
- Held 10 sec: —
- (⊗) Held 10 sec: —

**ST-Show-Autocomp**

Flash the current auto comp. for this preset. Select, cancel, or enter new temp.

- Time Display: Flash **#### ####** or **#### ####**.
- Temp Display: Flash **#### ####** or **#### ####**.
- Count Display: Blank
- Valve LED: Off
- Auto Comp. LED: Flash auto comp for this preset.
- Heat LED: Off
- Heater: Off
- Speaker: Off
- 5 Seconds Pass: —
- 25 Seconds Pass: **ST-Idle**
- Start** Closed: **ST-Cooking**
- Start** Opened: —
- (0) – (9) Pressed: Toggle auto compensation.
- Pressed: Accept auto comp edit, go to **ST-Show-Preset**
- (⊗) Pressed: Cancel changes, go to **ST-Idle**
- (1) – (9) Held 5 sec: —
- (0) Held 10 sec: —
- Held 10 sec: —
- (⊗) Held 10 sec: —

**ST-Show-Preset**  
**Flash the current time and temp and auto comp for this preset. Select or cancel.**

- Time Display: Flash time for this preset.
- Temp Display: Flash temp for this preset.
- Count Display: Blank
- Valve LED: Off
- Auto Comp. LED: Flash auto comp. for this preset.
- Heat LED: Off
- Heater: Off
- Speaker: Off
- 5 Seconds Pass: —
- 25 Seconds Pass: **ST-Idle**
- Start** Closed: **ST-Cooking**
- Start** Opened: —
- (0) – (9) Pressed: —
- Pressed: Set preset’s values, go to **ST-Idle**
- (⊗) Pressed: Cancel all edits, go to **ST-Idle**
- (1) – (9) Held 5 sec: —
- (0) Held 10 sec: —
- Held 10 sec: —
- (⊗) Held 10 sec: —

**Factory Temperature Calibration States**

**ST-Start-Adjust-Calib**  
**Display `#### ####`. Cancel (⊗) to exit, Select (✓) to adjust.**

- Time Display: `#### ####`
- Temp Display: `#### ####`
- Count Display: Blank
- Valve LED: Off
- Auto Comp. LED: Off
- Heat LED: Off
- Heater: Off
- Speaker: Off
- 5 Seconds Pass: —
- 25 Seconds Pass: **ST-Idle**
- Start** Closed: **ST-Cooking**
- Start** Opened: —
- (0) – (9) Pressed: —
- Pressed: **ST-Current-Calib**
- (⊗) Pressed: Cancel calib, **ST-Idle**
- (1) – (9) Held 5 sec: —
- (0) Held 10 sec: —
- Held 10 sec: —
- (⊗) Held 10 sec: —

**ST-Current-Calib**

Display current calibrated temperature. Cancel  to cancel, Select  to accept,  0 –  9 to enter.

- Time Display: Blank
- Temp Display: Flash temp
- Count Display: Blank
- Valve LED: Off
- Auto Comp. LED: Off
- Heat LED: Off
- Heater: Off
- Speaker: Off
- 5 Seconds Pass: —
- 25 Seconds Pass: **ST-Idle**
- Start** Closed: **ST-Cooking**
- Start** Opened: —
- 0 –  9 Pressed: **ST-Enter-Calib**
- Pressed: Accept calib, **ST-Idle**
- Pressed: Cancel calib, **ST-Idle**
- 1 –  9 Held 5 sec: —
- 0 Held 10 sec: —
- Held 10 sec: —
- Held 10 sec: —

**ST-Enter-Calib**

Display temperature being entered. Cancel  to cancel edit, Select  to finish edit,  0 –  9 to enter edited value.

- Time Display: Blank
- Temp Display: Flash temp
- Count Display: Blank
- Valve LED: Off
- Auto Comp. LED: Off
- Heat LED: Off
- Heater: Off
- Speaker: Off
- 5 Seconds Pass: —
- 25 Seconds Pass: **ST-Idle**
- Start** Closed: **ST-Cooking**
- Start** Opened: —
- 0 –  9 Pressed: Edit the value.
- Pressed: Accept edit, **ST-Current-Calib**
- Pressed: Cancel edit, **ST-Current-Calib**
- 1 –  9 Held 5 sec: —
- 0 Held 10 sec: —
- Held 10 sec: —
- Held 10 sec: —

## Bad Cycle State

### ST-Bad-Cycle

Power up with *Start* closed and cycle previously in progress. Run heater, sound alarm, show bad cycle error.

- |                          |                      |                                   |
|--------------------------|----------------------|-----------------------------------|
| <input type="checkbox"/> | Time Display:        | 8888 8888 / 8888 8888             |
| <input type="checkbox"/> | Temp Display:        | 8888 8888 / 8888 8888             |
| <input type="checkbox"/> | Count Display:       | Counter                           |
| <input type="checkbox"/> | Valve LED:           | Off                               |
| <input type="checkbox"/> | Auto Comp. LED:      | Off                               |
| <input type="checkbox"/> | Heat LED:            | Regulates to setpoint +0°F, -4°F. |
| <input type="checkbox"/> | Heater:              | Regulates to setpoint +0°F, -4°F. |
| <input type="checkbox"/> | Speaker:             | —                                 |
| <input type="checkbox"/> | 5 Seconds Pass:      | —                                 |
| <input type="checkbox"/> | 25 Seconds Pass:     | —                                 |
| <input type="checkbox"/> | <i>Start</i> Closed: | —                                 |
| <input type="checkbox"/> | <i>Start</i> Opened: | <b>ST-Idle</b>                    |
| <input type="checkbox"/> | ① - ⑨ Pressed:       | —                                 |
| <input type="checkbox"/> | ✔ Pressed:           | —                                 |
| <input type="checkbox"/> | ⊗ Pressed:           | —                                 |
| <input type="checkbox"/> | ① - ⑨ Held 5 sec:    | —                                 |
| <input type="checkbox"/> | ① Held 10 sec:       | —                                 |
| <input type="checkbox"/> | ✔ Held 10 sec:       | —                                 |
| <input type="checkbox"/> | ⊗ Held 10 sec:       | —                                 |

Sample — BD Tech

### Error Log States

**ST-Start-Error-Log**  
 Show      to continue,  to exit.

---

<input type="checkbox"/>	Time Display:	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	Temp Display:	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	Count Display:	Blank
<input type="checkbox"/>	Valve LED:	Off
<input type="checkbox"/>	Auto Comp. LED:	Off
<input type="checkbox"/>	Heat LED:	Off
<input type="checkbox"/>	Heater:	Off
<input type="checkbox"/>	Speaker:	Off
<input type="checkbox"/>	5 Seconds Pass:	—
<input type="checkbox"/>	25 Seconds Pass:	<b>ST-Idle</b>
<input type="checkbox"/>	<b>Start</b> Closed:	<b>ST-Cooking</b>
<input type="checkbox"/>	<b>Start</b> Opened:	—
<input type="checkbox"/>	<input type="checkbox"/> - <input type="checkbox"/> Pressed:	—
<input type="checkbox"/>	<input checked="" type="checkbox"/> Pressed:	<b>ST-Error-Log</b>
<input type="checkbox"/>	<input type="checkbox"/> Pressed:	<b>ST-Idle</b>
<input type="checkbox"/>	<input type="checkbox"/> - <input type="checkbox"/> Held 5 sec:	—
<input type="checkbox"/>	<input type="checkbox"/> Held 10 sec:	—
<input type="checkbox"/>	<input checked="" type="checkbox"/> Held 10 sec:	—
<input type="checkbox"/>	<input type="checkbox"/> Held 10 sec:	—

**ST-Error-Log**  
 Show error type and code and index.  to exit,  -  to select index.

---

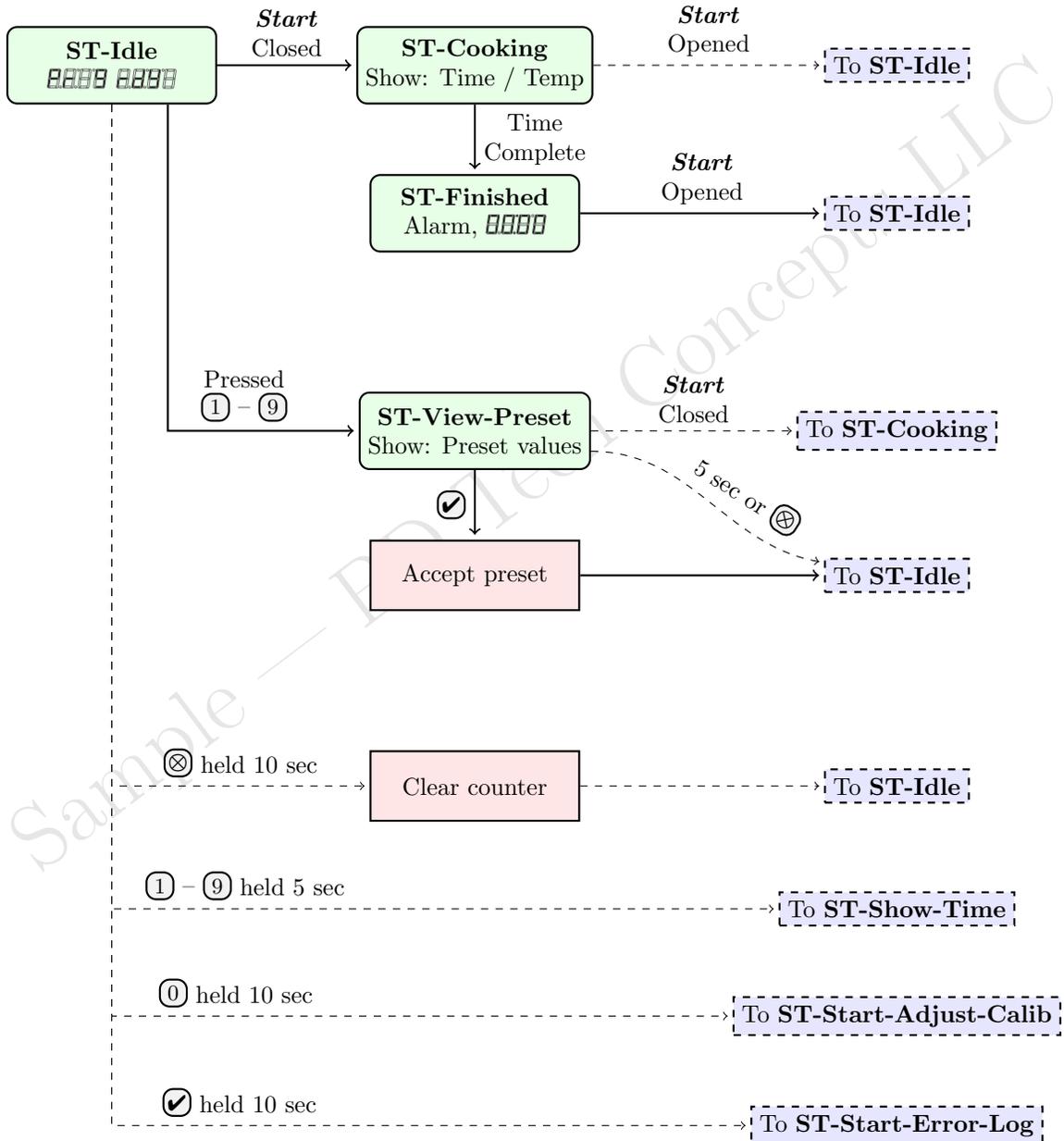
<input type="checkbox"/>	Time Display:	Error type
<input type="checkbox"/>	Temp Display:	Error code
<input type="checkbox"/>	Count Display:	Index 1-9.
<input type="checkbox"/>	Valve LED:	Off
<input type="checkbox"/>	Auto Comp. LED:	Off
<input type="checkbox"/>	Heat LED:	Off
<input type="checkbox"/>	Heater:	Off
<input type="checkbox"/>	Speaker:	Off
<input type="checkbox"/>	5 Seconds Pass:	—
<input type="checkbox"/>	25 Seconds Pass:	<b>ST-Idle</b>
<input type="checkbox"/>	<b>Start</b> Closed:	<b>ST-Cooking</b>
<input type="checkbox"/>	<b>Start</b> Opened:	—
<input type="checkbox"/>	<input type="checkbox"/> - <input type="checkbox"/> Pressed:	Select index.
<input type="checkbox"/>	<input checked="" type="checkbox"/> Pressed:	—
<input type="checkbox"/>	<input type="checkbox"/> Pressed:	<b>ST-Idle</b>
<input type="checkbox"/>	<input type="checkbox"/> - <input type="checkbox"/> Held 5 sec:	—
<input type="checkbox"/>	<input type="checkbox"/> Held 10 sec:	Beep, and clear error log.
<input type="checkbox"/>	<input checked="" type="checkbox"/> Held 10 sec:	—
<input type="checkbox"/>	<input type="checkbox"/> Held 10 sec:	—

## State Diagrams

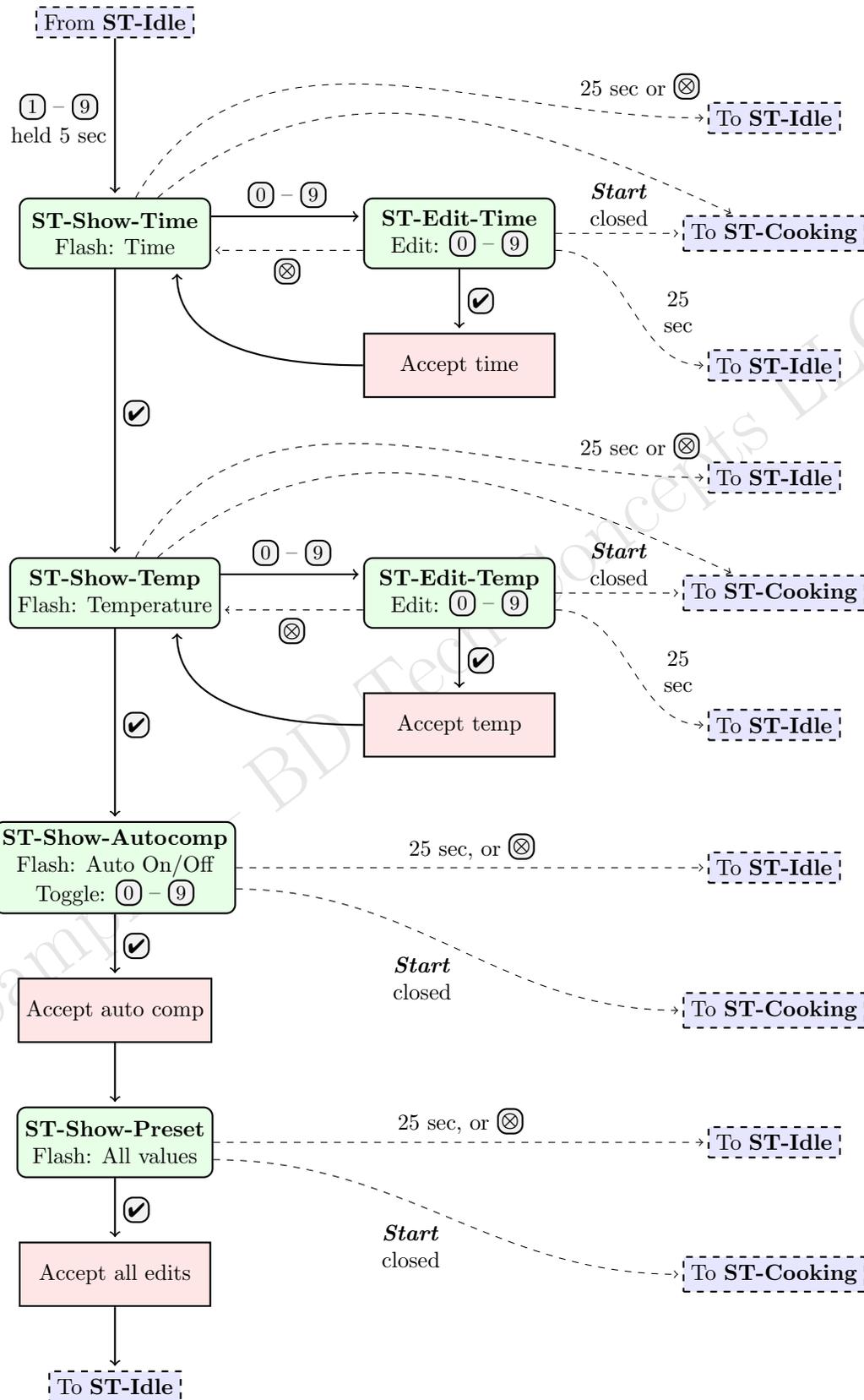
### Legend



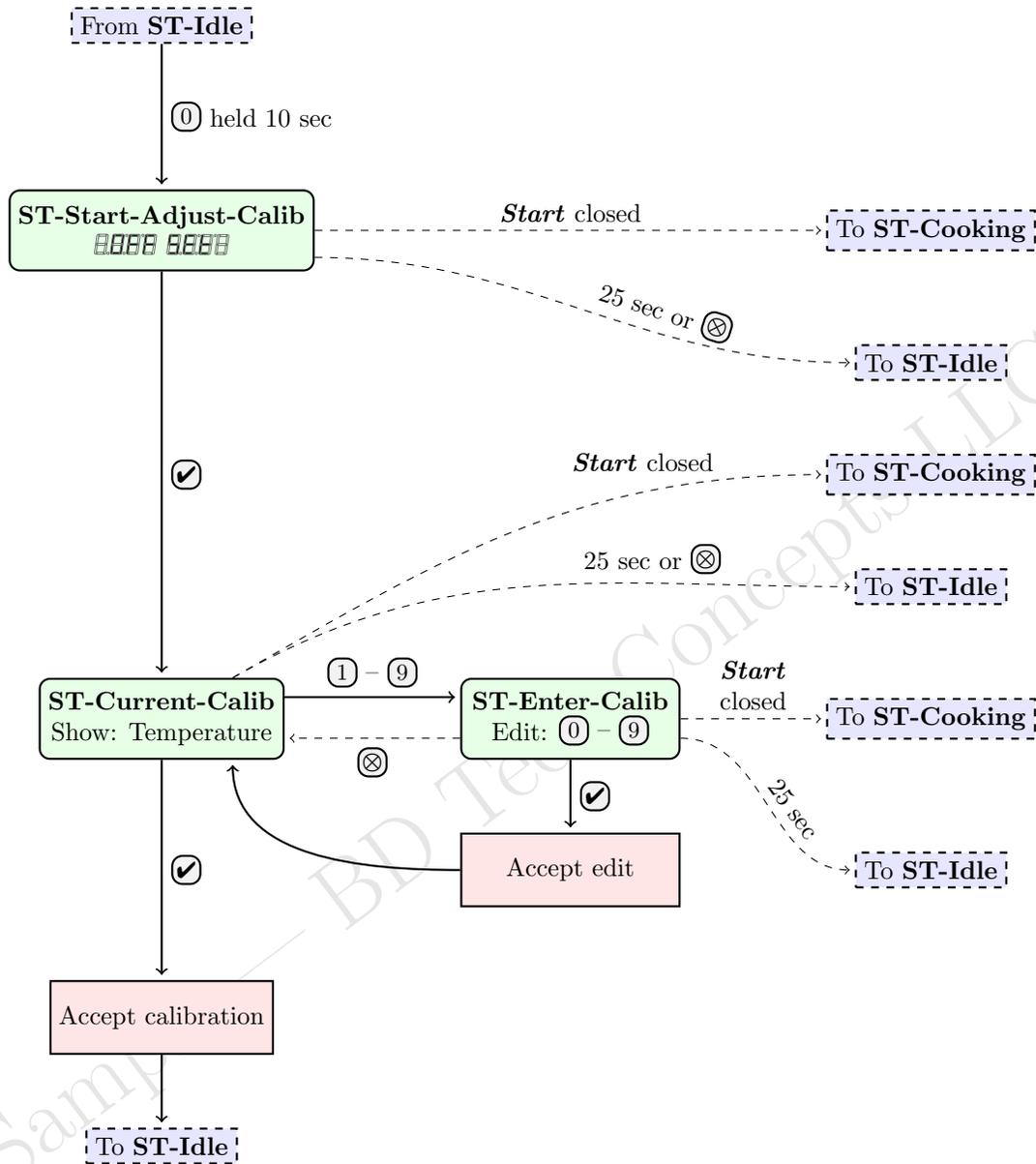
### Idle, Cooking, Viewing and Changing Presets



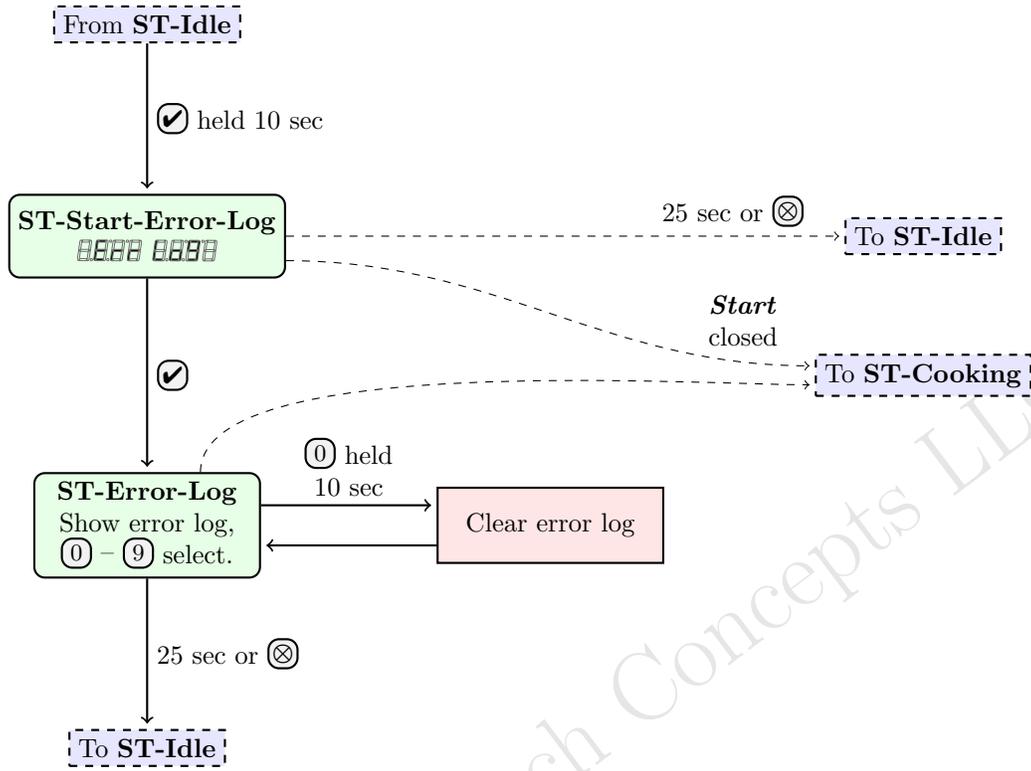
### Editing Presets



### Factory Temperature Calibration



**Error Log**



Sample — BD Tech Concepts LLC