



HOSHIZAKI AMERICA, INC.

SERVICE BULLETIN

SB03-0007R3

Revised December 19, 2007

Page 1 of 4

Subject: -SSB TEMPGUARD™/-AAC SAFETEMP™ DISPLAY MENU REFERENCE.

Attached you will find a one page explanation as well as adjustment instructions for both the -SSB and the -AAC reach-in control circuits. If these two pages are printed front and back on the same page, it can be a compact but very useful troubleshooting tool. The service technician can laminate it or slide it into a page protector and use it as a quick reference on the job site.

Note: In 2004 changes were made to the programming of both the -AAC and -SSB controllers. These changes included the following:

-AAC

- The fan resume temperature after defrost was changed from 0°F to 70°F.
- The “dEF” or “REC” display will terminate when the cabinet temperature gets within 15°F of the temperature set point. Originally it was terminated when the evaporator coil temperature reached 0°F.
- The “REC” will be displayed once the compressor energizes. This will occur 5 minutes after the defrost heaters are de-energized. (This change was made in mid 2007)

-SSB

- The fan resume temperature after defrost was changed from 0°F to 70°F.

* In some cases it will be necessary to change the setting of the fan resume temperature back to 0°F from 70°F on replacement service parts. To determine if this setting should be changed refer to the information below.

Single section units built before March of 2004 should be changed from 70°F to 0°F, these include:

- | | | |
|--------------|-------|---------|
| • FH1-AAC | up to | P51277B |
| • FH1-AAC-HD | up to | P50108B |
| • FH1-SSB | up to | P50655M |
| • FH1-SSB-HD | up to | N60145K |

Note: Some single section units built before this time have been converted in the field and therefore the setting should **NOT** be changed. To determine if your unit was converted look for the following items.

1. Open the control box. If there is a fuse holder mounted in the box the setting should **NOT** be changed from 70°F.
2. Locate the upper air distributor. This is the gray angled ABS duct that directs air from the evaporator into the cabinet. If there are 4 or 6 heater mounting screws on the angled portion, the setting should **NOT** be changed.

Dual section units built before August 2004 should be changed back from 70°F to 0°F these include.

- FH2-AAC up to P50759G
- FH2-AAC-HD up to P50030G
- FH2-SSB up to P50518F
- FH2-SSB-HD up to P50220E

Along with these programming changes the thermistors for the –AAC controllers are now color coded so that they are easier to identify

Sensor 1 white and black leads (Cabinet temperature sensor)

Sensor 2 red and black leads (Defrost sensor)

The current controller part numbers are shown below.

-AAC

3A3656-01 (-AAC Refrigerator)

3A3656-06 (-AAC Freezer)

-SSB

2A2862-23 (Changes only apply to freezer configuration)

For complete copies of the Service Manual for either of the Reach-In series please go to www.hoshizaki.com and access them through Hoshi+Plus.

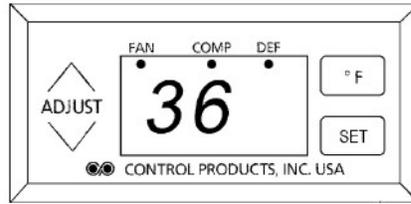
TempGuard™ (SSB) Series Controller



Upon start up the control board will display its current revision level displayed as “r xx”

Display Codes	Service Diagnostic Menu	Display Adjustments
<p>dEF Defrost (Freezer only)</p> <p>CF Clean filter (1 Beep)</p> <p>door Door open (2 Beep) > 3 Min</p> <p>E1 High cabinet temp (3 Beep)</p> <p>E2 Low cabinet temp (4 Beep)</p> <p>E3 One hour defrost (5 Beep)</p> <p>E4 High pressure alarm (6 Beep)</p> <p>E6 High voltage (8 Beep)</p> <p>E7 Low voltage (9 Beep)</p> <p>E8 Cabinet temperature sensor failure (Continuous Buzzer)</p> <p>E9 Defrost temperature sensor failure (Continuous Buzzer)</p> <p>E10 Communication failure (Dual Temp only)</p> <div data-bbox="207 1451 521 1535" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Codes Display Automatically</p> </div> <div data-bbox="181 1564 547 1822" style="border: 1px solid black; padding: 5px;"> <p>Compressor Cycling (Freezer Default setting -3°F) (Refrig. Default setting 36°F)</p> <p>Ex: (Freezer) Compressor cycles on at +3°F Compressor cycles off at -3°F</p> </div>	<p>1 OFF Display cabinet temp. 1 On Displays evaporator temp. Display will automatically revert to cabinet sensor after 5 minutes</p> <p>2 OFF Manual defrost not activated 2 On Manual defrost initiated</p> <p>3 OFF Unconditional alarm reset not activated 3 On Alarm reset on</p> <p>4 16 The right two numbers displays compressor run time for the past 24 hours</p> <p>5 50 The right two number display % of compressor run time for the past five cycles</p> <p>6 45 The right three numbers display compressor run time for the last cycle</p> <p>7 45 The last two numbers display the run time for the last defrost</p> <p>8 67 The right two numbers display the highest temp reached during the last high temp alarm (E1)</p> <p>9 10 The right two numbers display the lowest temp reached during the last low temp alarm.</p> <p>t 0F The temperature at which the freezer restarts the evaporator fan after defrost, default is 0°F (Freezer only)</p> <p>*Note: This setting may be 70°F on some units. See information on page 1 and 2 of this SB</p> <div data-bbox="589 1734 1086 1938" style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>To gain access hold both arrow buttons and the enter button down for 3 seconds. To scroll press the enter button. To make adjustments press either arrow key. To save adjustments press enter until temperature is displayed.</p> </div>	<p>T 36F Temperature set point Refrigerator range = 36 to 50°F Refrigerator default 36°F</p> <p>Freezer range = -10 to 25°F Freezer default -3°F</p> <p>dF 6 Defrost frequency (Events per day) 1, 2, 4, 6, or 8 times per day.</p> <p>Example: (dF 1 = One defrost per 24 hours) (dF 4 = Four defrost per 24 hours)</p> <p>F Display in °C or °F</p> <div data-bbox="1149 1255 1495 1593" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>To gain access hold down both arrow buttons for 3 seconds</p> <p>To scroll press the enter button.</p> <p>To make adjustments press either arrow key. To save adjustment press enter.</p> </div> <div data-bbox="1149 1654 1495 1745" style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>See SB03-0004 for –SSB control board dip switch</p> </div>

SafeTemp™ (AAC) Series Controller



The AAC freezers start in defrost any time power has been interrupted

Display LED	Service Menu	Display Adjustments
<p>DEF Light indicator for defrost heater activation</p> <p>COMP Light indicator for compressor activation</p> <p>FAN Light indicator for Evaporator fan activation</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p align="center">-AAC Defrost Bypass: (SB04-0001)</p> <p>The -AAC SafeTemp® reach-in freezers go through a defrost cycle any time they are started, after power has been interrupted. This is a normal part of the sequence and is built into the control module. During troubleshooting it is possible to by-pass this initial defrost so that the technician does not have to wait through a defrost cycle each time the unit is re-started.</p> <p>To by-pass the initial defrost follow these instructions:</p> <ol style="list-style-type: none"> 1. Press the “UP” arrow and turn the power switch (toggle) on simultaneously. 2. The initial defrost will be by-passed and after a 2 minute delay the unit will start in refrigeration. </div>	<p>Display: dIF = Differential cabinet temperature setting Display: -5 Factory setting for Refrigerator -6 Factory setting for Freezer</p> <p>Display: HI = Highest allowable set temperature Display: 55 = Factory setting for refrigerator 28 = Factory setting for freezer</p> <p>Display: LO = Lowest allowable set temperature Display: 37 = Factory setting for refrigerator -10 = Factory setting for freezer</p> <p>Display: Cal = Calibration of cabinet thermistor Display: 00 = Adjustment to cabinet thermistor</p> <p>Display: dEF (Freezer Only) Display: Int = Interval between defrosts setting Display: 4 = 4 Hours between defrosts (6 defrost per 24 hour period) Factory setting for freezer</p> <p>Display: dEF (Freezer Only) dUr = Defrost duration time limit Display: 60 = 60 minute maximum defrost time factory setting for freezer</p> <p>Display: dEF (Freezer Only) Display: HI = Defrost termination temperature Display: 100 = 100°F termination temp for defrost (Factory setting for freezer)</p> <p>Display: dEF (Refrigerator only) Display: In1 = Defrost initiation temperature Display: 13 = 13°F defrost initiation temperature (Factory setting for refrigerator) (RH1-AAC-W = 7°F)</p> <p>Display: dEF (Refrigerator only) Display: End = Defrost termination temperature Display: 40 = 40°F defrost termination temperature (Factory setting for refrigerator)</p> <p>Display: SHO Display: CyC = Short cycle timer Display: 02 = 2 minute short cycle timer setting (Factory setting for all units)</p> <p>Display: Fan (Freezer Only) Display: HI = Fan resume temperature after defrost Display: 00 = 0°F fan resume temperature after defrost <i>*Note: This setting may be 70°F on some units. See information on page 1 and 2 of this SB</i></p> <p>Display: COI Display: SEn = Evaporator coil sensor temperature Display: 20 = 20°F Evaporator temperature</p>	<p>Temperature Set point</p> <p>Refrigerators = 37°F to 55°F (Factory setting = 39°F)</p> <p>Freezers = -10°F to 28°F (Factory setting FH2 = 0°F) (Factory setting FH1 = -01°F)</p> <p>(Display reads Fahrenheit only)</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>To gain access to set point press the SET button and release</p> <p>To scroll press set again</p> <p>To make adjustments press either arrow key. To save adjustment continue pressing the SET button until the menu exits and the cabinet temperature is again displayed.</p> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p align="center">Compressor cycling:</p> <p>Compressor cycles on at Set point temperature.</p> <p>Compressor cycles off at Set point temperature differential.</p> </div>

To gain access to the service menu press the “DOWN” arrow and the “°F” button simultaneously. Once they are released you will have access
 To advance through the menu press the “°F” button
 To make adjustments in factory settings press either “ARROW” button. (Please see SB02-0006 before making any changes to the default settings)
 To save changes made press the “SET” button, or continue pressing the “°F” button until the menu exits and the cabinet temperature is again displayed.