

Refrigerator Instructions for Use

Upright i.Center® Plus · Horizon Series™

Blood Bank

i.Center® Plus

iBR118-GXC, iBR120-GXC, iBR125-GXC

Horizon Series

HBR118-GXC, HBR120-GXC,
HBR125-GXC

Laboratory

i.Center® Plus

iLR118-GXC, iLR120-GXC, iLR125-GXC

Horizon Series

HLR118-GXC, HLR120-GXC,
HLR125-GXC

Pharmacy

i.Center® Plus

iPR118-GXC, iPR120-GXC, iPR125-GXC

Horizon Series

HPR118-GXC, HPR120-GXC,
HPR125-GXC



Document History

Revision	Date	CO	Supersession	Revision Description
A	08 APR 2026	30466	n/a	Initial release.

* Date submitted for Change Order review. Actual release date may vary.

Document Updates

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The screenshots and component images appearing in this guide are provided for illustrative purposes only, and may vary slightly from the actual software screens and/or product components.

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1 About this Manual

1.1 Intended Audience

This manual provides information on how to use i.Center® Plus and Horizon Series™ refrigerators. It is intended for use by end users of the refrigerator and authorized service technicians.

1.2 Model Reference

Models are indicated by a distinguishing model number that corresponds to the series, type, number of doors, and capacity of the refrigerator. For example, “iLR118-GXC” refers to an i.Center Plus Laboratory Refrigerator with one door and a capacity of 18 cu ft and “HPR125-GXC” refers to a Horizon Series Pharmacy Refrigerator with one door and a capacity of 25 cu ft.

1.3 Intended Use

Note

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

Helmer refrigerators are intended for the storage of blood products and other medical and scientific products.

1.4 Safety Precautions and Symbols

Symbols found in this document

The following symbols are used in this manual to emphasize certain details for the user:



Task Indicates procedures which need to be followed.



Note Provides useful information regarding a procedure or operating technique when using Helmer Scientific products.

NOTICE Advises the user against initiating an action or creating a situation which could result in damage to equipment; personal injury is unlikely.

Symbols found on the units

The following symbols may be found on the refrigerator or refrigerator packaging:



Caution: Risk of damage to equipment or danger to operator



Warning: Crushing of hands / fingers



Caution: Hot surface



Danger: Risk of Fire or Explosion. Flammable refrigerant used



Caution: Shock / electrical hazard



Refer to documentation

These symbols also appear with appropriate information provided within this document.

1.5 Avoiding Injury



- Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer.
- Do not damage the refrigerant circuit.

Review safety instructions before installing, using, or maintaining the equipment.

- ◆ Before moving unit, ensure door is closed and casters are unlocked and free of debris.
- ◆ Before moving unit, disconnect the AC power cord and secure the cord.
- ◆ Never physically restrict any moving component.
- ◆ Avoid removing electrical service panels and access panels unless so instructed.
- ◆ Keep hands away from pinch points when closing doors.
- ◆ Avoid sharp edges when working inside the electrical compartment and refrigeration compartment.
- ◆ Ensure products are stored at recommended temperatures determined by standards, literature, or good laboratory practices.
- ◆ Proceed with caution when adding and removing product from the refrigerator.
- ◆ Do not open multiple, loaded drawers at the same time.
- ◆ Use manufacturer supplied power cord only.
- ◆ Avoid risk of ignition by using only manufacturer supplied components and authorized personnel when servicing the unit.
- ◆ Using the equipment in a manner not specified by the manufacturer may impair the protection provided by the equipment.
- ◆ Ensure product is stored safely, in accordance with all applicable organizational, regulatory and legal requirements.
- ◆ The refrigerator is not considered to be a storage cabinet for flammable or hazardous materials.

REQUIRED: Decontaminate parts prior to sending for service or repair. Contact Helmer or your distributor for decontamination instructions and a Return Authorization Number.

1.6 General Recommendations

General Use

Allow the refrigerator to come to room temperature before switching the power on.

During initial startup, the high temperature alarm may sound while the refrigerator reaches operating temperature.



Do not remove the cover from the condensate evaporator tray.

Initial Loading

Allow chamber temperature to stabilize at the setpoint before storing product.

Product Loading Guidelines

When loading your refrigerator, take care to observe the following guidelines:

- ◆ Never load refrigerators beyond capacity.
- ◆ Always store items within shelves or drawers.
- ◆ Temperature uniformity is maintained by air circulation, which could be impeded if the unit is overfilled, particularly at the top or against the doors or walls. Ensure a 2" (50 mm) clearance is provided below the fan.

Note

Products stacked against walls or doors may obstruct air flow and affect performance of the unit.

2. Installation

2.1 Location



Keep all ventilation openings in the enclosure or, in the structure of building-in, clear of obstruction.

- ◆ Has a grounded outlet meeting electrical requirements listed on the product specification label.
- ◆ Is clear of direct sunlight, high temperature sources, and heating and air conditioning vents.
- ◆ Meets specified limits for ambient temperature and relative humidity as stated in the Product Specifications section of this manual.
- ◆ Units require minimum 8" (203 mm) above, and minimum 3" (76 mm) behind.

2.2 Placement and Leveling



The evaporation tray located on the back of the refrigerator may be hot. Do not use the tray as a handle.

NOTICE

- Helmer does not recommend operating this unit on a GFI/GFCI outlet.
- To prevent tipping, ensure the casters are unlocked and doors are closed before moving the unit.
- To avoid damaging refrigerant tubing or risking refrigerant leak, use caution when moving or operating the unit.

1. Ensure the door is secured and casters are unlocked.
2. Roll the refrigerator into place and lock casters.
3. Ensure the refrigerator is level.

2.3 AC Power Cord



Use manufacturer supplied power cord only.



Install power cord

If packaged with a modular cord, insert the plug securely into the refrigerator power receptacle prior to connecting to a grounded outlet.

2.4 Temperature Probes

A probe bottle and container of glycerin have been provided with this unit. The glycerin is used to create a solution which, when placed in the probe bottle, simulates the product stored in the refrigerator. The product simulation solution temperature reflects the product's temperature during normal operation.

Notes

- Temperature probes are fragile; handle with care.
- Number and location of probes vary by model.
- Remote probes may also be introduced through the existing port on top or at the left side of the unit.
- Optional Solid ballast (if installed) should be placed in the bracket in a horizontal position.
- Failure to fill the probe bottle or keep the probe bottle filled to the appropriate level may cause the chamber temperature to display higher or lower than the actual temperature.

Primary Monitor Probe

The primary monitor probe is located at the top left side of the refrigerator.



Primary monitor probe

Secondary Monitor Probe (*i.Center® Plus models only*)

The secondary monitor probe is located in the lower left side or lower rear of the refrigerator depending on storage configuration.



Secondary monitor probe

Fill Temperature Probe Bottle

Note

Use approximately 4 oz. (120 mL) of product simulation solution (10:1 ratio of water to glycerin). Glycerin packet included in refrigerator box.

1. Remove the probe(s) from the bottle and remove the bottle from the bracket.
2. Remove the cap and fill with approximately 4 oz. (120 mL) of product simulation solution.
3. Secure the cap on the bottle and place in the bracket.
4. Replace the probe(s), immersing at least 2" (50 mm) in solution.

Install Additional Probe Through Access Port

1. Peel back putty to expose the port. (*If routing through the side port, remove the interior and exterior covers to remove the putty*)
2. Insert the probe through the port into the chamber.
3. Insert the probe in the bottle.
4. Replace putty, ensuring a tight seal. (*If routing through the side port, replace covers and seal with putty.*)

2.5 Chart Recorder (if included)



The chart recorder has a back-up battery system enabling a period of continuous operation if power is lost. Battery life varies by manufacturer as well as voltage level remaining. If full battery power is available, back-up power for the temperature chart recorder is available for up to 14 hours.

Notes

- If chart recorder is operated on battery power, the battery should be replaced to ensure the back-up source has proper charge.
- For complete information, refer to the Temperature Chart Recorder Operation and Service Manual.

Prior to use:

Place chart recorder probe in bottle or ballast (*if installed*) with primary monitor probe.

Set up and Operation

Access the chart recorder by pulling door open.



Install battery.

Connect the leads to the battery to provide back-up power to the chart recorder.

Install / Replace Chart Paper

Note

For accurate temperature reading, ensure the current time is aligned with the time line groove when the chart knob is fully tightened.



Chart recorder stylus and time line groove

1. Press and hold C button. When stylus begins to move left, release button. The LED flashes.
2. When stylus stops moving, remove chart knob then move knob up and away.
3. Place chart paper on chart recorder.
4. Gently lift stylus and rotate paper so current time line corresponds to time line groove.
5. Hold chart paper in place while making sure the chart knob is fully tightened. *(Failure to fully tighten the knob can result in paper slipping and losing time.)*
6. Press and hold C button. When stylus begins to move right, release button.
7. Confirm stylus is marking on paper and stops at the correct temperature.
8. Calibrate chart recorder to match primary temperature if needed and close recorder door.

Power Supply

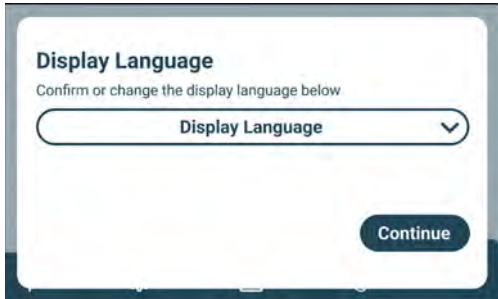
The temperature chart recorder uses AC power when the system is operating. If AC power fails, the recorder continues to record temperature with back-up power provided by the nine-volt battery.

- ◆ The LED indicator glows green continually when main power is functioning and the battery is charged.
- ◆ The LED indicator glows red continually when main power is functioning and the battery is either not installed or needs to be changed.
- ◆ The LED indicator flashes red to indicate that the recorder is receiving power only from the back-up battery.
- ◆ The LED indicator flashes during chart paper change mode.

3 i.Center® Plus Operation

3.1 Initial Start Up

1. Plug the power cord into a grounded outlet meeting the electrical requirements on the product specification label.
2. Turn the AC power switch ON.
3. Turn the backup battery switch ON.
4. The Language screen is displayed.
5. Use the Language drop down menu to select the i.Center Plus display language.

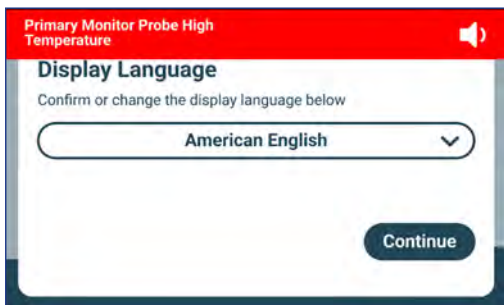


Language screens

i Notes

- English is the default language.
- Language options may vary.

If an alarm sounds, temporarily mute the alarm by touching the Mute icon.



Language screen



Mute icon

i Note

Active alarms are displayed across the top of the Home screen. If an alarm condition other than High Temperature occurs, refer to the service manual for troubleshooting.

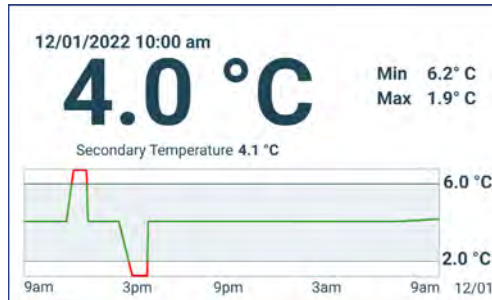
3.2 Operation

i Notes

- Refer to the i.Center Plus User Guide for complete information regarding the i.Center Plus User Interface.
- The i.Center Plus Home screen displays temperature and alarm information, and provides icons to gain access to other functions of the i.Center Plus.
- If enabled, the screensaver will be displayed after two minutes of inactivity. To return to the Home screen, touch the screensaver.



Home screen



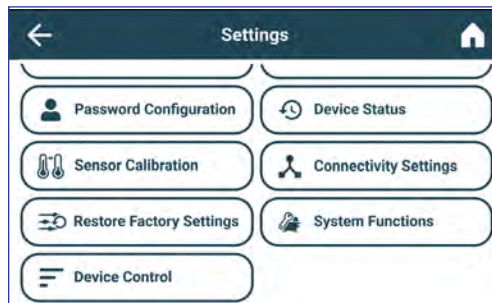
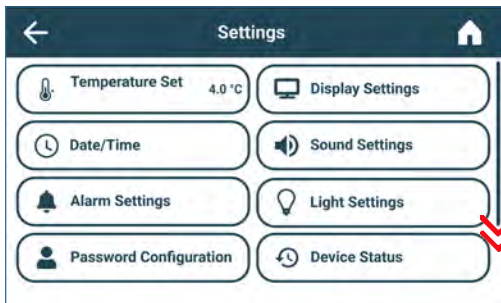
Home screensaver (if enabled)
(touch to return to Home screen)

3.3 Device Settings

Touching the Settings icon on the App tray at the bottom of the screen, or selecting Settings from the Applications menu opens the Settings screen. The Settings screen provides access to multiple functions for which the user may view or change settings. Access to this screen may be restricted to users with administrator passwords. Once accessed, the user may scroll up or down to select the desired function.

i Note

Default Administrator password is 1234

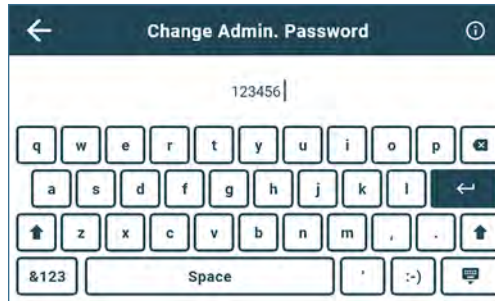


3.4 Users and Passwords

The Password Configuration screen provides a way for the administrator-level user to limit access to certain screens. The administrator-level password can be changed by selecting Password Configuration.



Users and Passwords screen



Change Password keypad

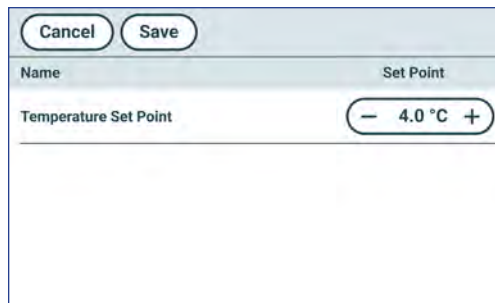
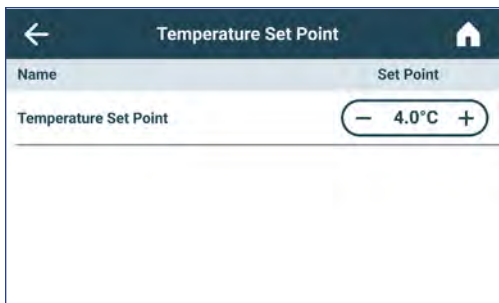
Note

Default Administrator password is 1234

Change Password

1. From the Settings screen, select Password Configuration. The Enter Password screen appears.
2. Enter the current Administrator password and select Enter. The Password Configuration screen appears.
3. Select Change Password. The Change Admin. Password screen appears.
4. Enter a unique code which corresponds with the current Password Requirements, and select the return button. A confirmation screen appears.
5. Re-enter the unique code to confirm and select the return button. The Success screen appears.
6. Select the Done button to return to the Password Configuration screen.
7. Select the Home icon to return to the Home screen or the Back Arrow to return the Settings screen.

3.5 Change Temperature Set Point



Notes

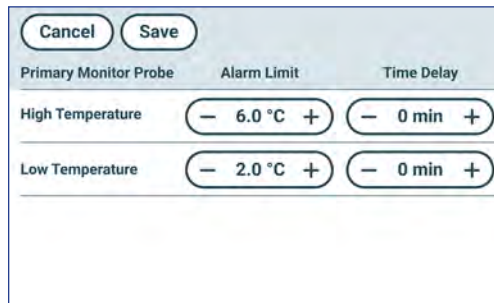
Default Administrator password is 1234

Default setpoint for Blood Bank and Laboratory models is 4.0° C, and 5.0°C for Pharmacy models.

1. From the Settings screen, select Temperature Set Point. The Temperature Set Point screen appears.
2. Select the Temperature Set Point Actions arrow. The Enter Password screen appears
3. Enter the current Administrator password and touch Enter. The Temperature Set Point edit screen appears.
4. Touch the minus (-) or plus (+) on spin box to change the value and select Save.

3.6 Set Alarm Parameters

Alarm settings control the circumstances and timing of alarm condition indicators displayed on the i.Center Plus Home screen.



Note

Default Administrator password is 1234

1. From the Settings screen, select Alarm Settings. The Alarm settings screen appears.
2. Touch the Actions arrow adjacent to the desired alarm. The Enter Password screen appears.
3. Enter the current Administrator password and touch Enter. The alarm edit screen appears.
4. Touch the minus (-) or plus (+) on spin box to set each alarm parameter and select Save.

3.7 Active Alarms

Active alarms are displayed in a red or yellow banner at the top of the screen. Refer to Appendix A for a list of potential active alarms.



Home screen with active alarm

3.8 Mute and Disable Active Alarms

Audible alarms may be temporarily muted by touching the Mute icon in the alarm banner at the top of the screen. The delay duration can be set and changed by selecting Sound Settings from the Settings screen. The duration may be set to any value from 1 - 30 minutes. The delay time remaining will be displayed to the left of the Mute icon. If the alarm is still active after the mute delay has ended, the audible alarm will sound.



Unmuted



Mute

3.9 Light Operation

Press Light Icon to turn LED lights ON or OFF. Auto ON/OFF feature can be configured in Settings.

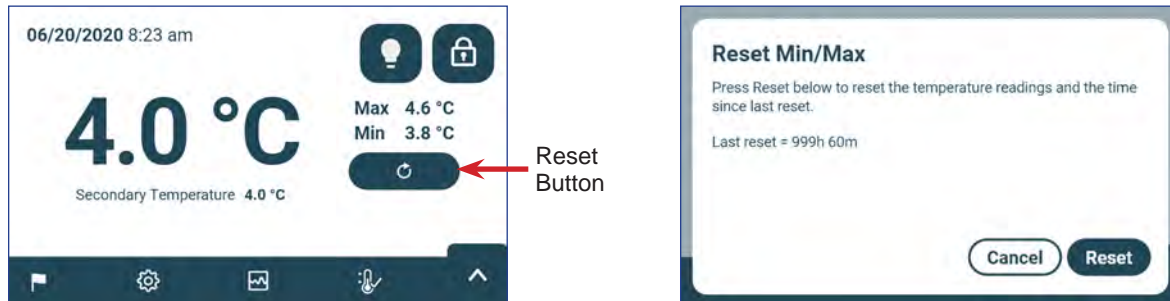


Light ON/OFF

4 Additional Features

4.1 Min/Max Temperature Monitoring (if enabled)

The Min/Max temperature display can be enabled through Display Settings. This feature provides the highest and lowest Primary Monitor probe temperature reading since the last system reset (power-on event) or manually-initiated reset. Touch the Reset button to the right of the temperature display to manually reset.



i Notes

- The Min/Max temperature display can be turned on or off through Display Settings.
- Once the time reaches the maximum display of 999 hours and 60 minutes, the message will display ">999:60", but minimum and maximum temperatures will continue to be tracked.

4.2 Secondary Monitor Probe (i.Center Plus models only)

The factory-installed Secondary Monitor probe provides additional temperature monitoring within the refrigerator to support the needs of the facility. Temperature monitor probes are precalibrated and designed to be replaceable. The Secondary Temperature display can be turned on for viewing and monitoring through Display Settings screen on the i.Center Plus. The Alarm Settings screen provides options for activating the high and low temperature alarm features. The Administrator password must be entered prior to making changes to a Display Setting.



i Note

Default Administrator password is 1234

🔧 Activate Secondary Temperature display

1. From the Home screen, select the Settings icon or select the tray up arrow in the lower right corner. The Settings menu or Applications menu will appear.
2. Select Display Settings and scroll down to Secondary Monitor Probe Temperature Display.
3. Touch the Secondary Monitor Probe Temperature Display Edit button. The Enter Password screen appears.
4. Enter the current Administrator password and select Enter.
5. Slide the Edit button to the right to turn the Secondary Monitor Probe Temperature Display on

4.3 i.Center Plus Cabinet Access Control (optional)

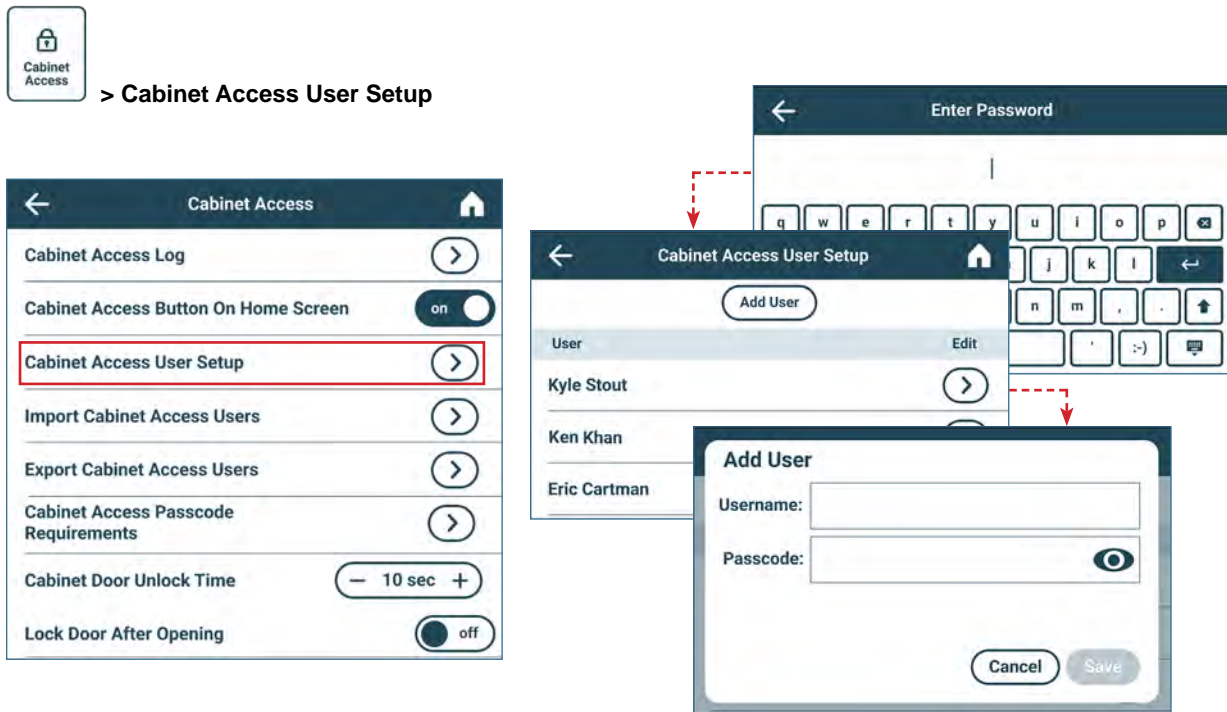
The Cabinet Access feature limits access to the refrigerator.

Using Cabinet Access Control

Notes

- During a power failure, the optional Cabinet Access lock will remain locked until battery power is depleted or until the back-up battery key switch is switched OFF.
- Switching the back-up battery key switch OFF will disable the monitoring system during a power failure.
- During a power failure, switch the battery back-up switch OFF and use the mechanical door key to provide secure storage for refrigerator contents.
- Refer to i.Center Plus User Guide for complete information regarding Access Control.

Configure and manage user-specific accounts to allow controlled access to the refrigerator. Enter the supervisor PIN to set up Cabinet Access and follow the on-screen prompts to set up users.




Notes

- Initial factory supervisor PIN = 5625
- The supervisor PIN cannot be deleted, and should be changed to prevent unauthorized user ID setup. The supervisor PIN does not allow access to the unit. At least one user ID must be set up to gain access to the unit.

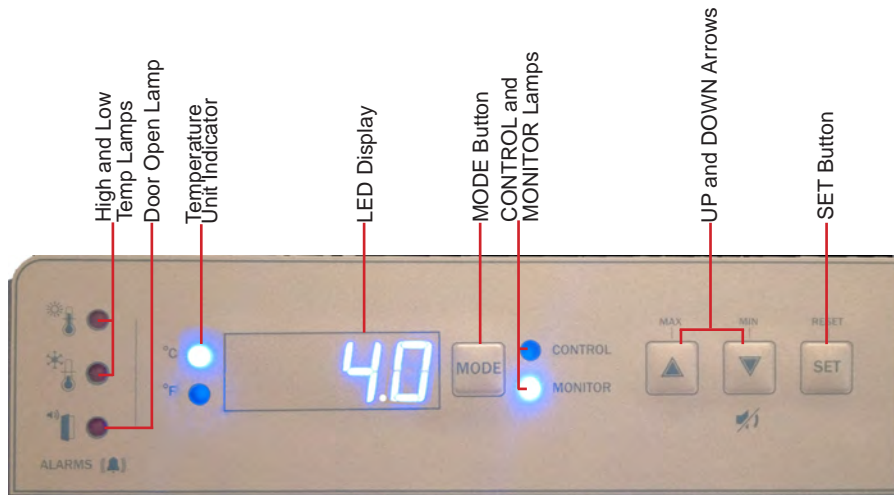
5 Horizon Series Operation

5.1 Initial Power-Up

1. Plug the power cord into a grounded outlet that meets the electrical requirements on the product specification label.
2. Switch the AC ON/OFF switch **ON**.
3. Switch the Alarm ON/OFF key switch to **ON**.
4. Press **Down Arrow** (Mute) if high temperature alarm sounds. 

Notes

If an alarm condition other than High Temperature occurs, refer to the service manual for troubleshooting.




Horizon Series™ temperature monitor and control interface


5.2 Display Minimum and Maximum Monitor Temperature Recordings

The minimum and maximum recording feature allows the user to view a minimum temperature occurrence and a maximum temperature occurrence within a given period of time. The timer provides a time reference in which those temperatures occurred.

View minimum temperature recording

1. Press and hold the **Down Arrow** button for one (1) second and listen for a single beep. 
2. The display will alternate between **LO** and a valid temperature value five (5) times followed by a single beep to indicate exit back to the temperature display.



View maximum temperature recording

1. Press and hold the **Up Arrow** button for one (1) second and listen for a single beep. 
2. The display will alternate between **HI** and a valid temperature value five (5) times followed by a single beep to indicate exit back to the temperature display.



View recorded temperature timer

Notes

- The timer denotes the period of time that has elapsed. It does not display the time at which a minimum or maximum temperature occurred.
- The maximum period of time the timer can record is 99:59 (99 hours and 59 minutes).

1. Press and hold either the **Up** or **Down Arrow** button for one (1) second.  or 
2. While the display is flashing the **HI** or **LO** value, press and hold the **SET** button for 1 second.
3. The display will alternate five (5) times between **CLr** and a value representing the number of hours and minutes that have elapsed since the last recording (example: 12:47 would represent 12 hours and 47 minutes). A single beep will follow to indicate exit back to temperature display.

Clear minimum and maximum temperature recordings

1. Press and hold either the **Up** or **Down Arrow** button for one (1) second.  or 
2. While the display is flashing the **HI** or **LO** value, press and hold the **SET** button for one (1) second and listen for a single beep.
3. While the display is flashing the elapsed time since last reset, press and hold the **SET** button for two (2) seconds. **CLr** will be displayed followed by a series of three (3) beeps to indicate exit back to the temperature display.

Notes

The minimum and maximum temperature and timer will reset when:

- the unit is powered off and battery back-up is not engaged, or
- after 99 hours and 59 minutes have elapsed.

5.3 Change Temperature Setpoint

Note

Default setpoint for Blood Bank and Laboratory models is 4.0° C, and 5.0°C for Pharmacy models.

1. Press and release **MODE** to change to Control mode. The CONTROL lamp will illuminate.
2. Press and hold **SET** to display the current setpoint temperature.
3. Hold **SET** and press the **Up** or **Down Arrow** as necessary to set the desired setpoint value.
4. Release all buttons; the setpoint is changed.
5. Press and release **MODE** to return to Monitor mode. The MONITOR lamp will illuminate.

5.4 Set Parameter Values

1. Press and hold the **Up** and **Down Arrows** simultaneously for three (3) seconds to enter program mode.
2. The LED Display will show .C or .F to indicate Celsius or Fahrenheit.
3. Press and release **MODE** button to scroll through the parameters.
4. Once the desired parameter is selected, press and hold the **SET** button while pressing the **Up** or **Down Arrow** to select the desired value.
5. Release **SET** button. The new setting is saved.
6. Press and hold the **Up** and **Down Arrows** simultaneously for three (3) seconds to exit program mode.

Note

Contact Helmer Technical Service to set Rail Limit values.

Parameter Values

Parameter	Visual Indicator	Range	Default
Celsius or Fahrenheit	None	°C, °F	°C
High Temperature	MONITOR Lamp & HIGH Lamp	-40.0 to 30.0 (°C) -40 to 86 (°F)	5.5°C (42°F) 6.5°C (44°F) - HPR and iPR models
Low Temperature	MONITOR Lamp & LOW Lamp	-40.0 to 30.0 (°C) -40 to 86 (°F)	1.5°C (35°F) 2.0°C (36°F) - HPR and iPR models
Monitor Offset	MONITOR Lamp	-10.0 to 10.0 (°C) -18 to 18 (°F)	Varies
Control Offset	CONTROL Lamp	-10.0 to 10.0 (°C) -18 to 18 (°F)	Varies
Upper Rail Limit	CONTROL Lamp & HIGH Lamp	0.1 to 10.0 (°C); 1 to 18 (°F)	0.7°C (1.3°F)
Lower Rail Limit	CONTROL Lamp & LOW Lamp	-0.1 to -10.0 (°C); -1 to -18 (°F)	-0.7°C (-1.3°F)

5.5 Set Temperature Units

Note

If temperature units are changed, the temperature setpoints, offsets and alarm settings must be recalibrated.

1. Press and hold the **Up** and **Down Arrows** simultaneously for three (3) seconds to enter program mode.
2. The LED Display will show °C or °F to indicate Celsius or Fahrenheit.
3. Press and hold the **SET** button while pressing the **Up** or **Down Arrow** to select the desired temperature unit.
4. Release **SET** button. The new setting is saved.
5. Press and hold the **Up** and **Down Arrows** simultaneously for three (3) seconds to exit program mode.

5.6 Set Alarm Setpoints (Parameters)

1. Press and hold the **Up** and **Down Arrows** simultaneously for three (3) seconds to enter program mode.
2. The LED Display will show .C or .F to indicate Celsius or Fahrenheit.
3. Press **MODE** until HIGH TEMP or LOW TEMP and MONITOR lamps flash.
4. Hold **SET**, then press **Up** or **Down Arrow** to change the setpoint.
5. Release **SET** button. The new setting is saved.
6. Press and hold the **Up** and **Down Arrows** simultaneously for three (3) seconds to exit program mode.

5.7 Temperature Calibration Offsets

Temperature calibration offsets indicate an acceptable margin of error between the actual temperature value and the desired temperature value.

Monitor Offset

- ◆ Value is factory-set to match a calibrated reference thermometer.
- ◆ Refer to the service manual for instructions regarding changing the Monitor Offset.

Control Sensor Offset and Hysteresis

The control sensor affects the reading of the control probe temperature and therefore the actual temperature of the refrigerator. This should not be adjusted from the original setting unless directed by Helmer Technical Service.

The Upper and Lower Rail Limits help control the refrigeration based on the control probe temperature reading and the set point. These limit values should not be changed from the default setting unless directed by Helmer Technical Service.

NOTICE

Control Sensor Offset and Rail Limits are factory-preset and should not be changed. Contact Helmer Technical Service for instructions regarding changing these values.

5.8 Active Alarms

The controller displays temperature and alarm information.

Horizon Series Active Alarms

Alarm	Visual Indicator	Description
High Temperature	HIGH TEMP lamp flashes	Chamber temperature reading is above high temperature alarm setpoint
Low Temperature	LOW TEMP lamp flashes	Chamber temperature reading is below low temperature alarm setpoint
Display/Control Board Communication Error	Er04	Display board fails to communicate with the control board
Control Board to Compressor Inverter Error	Er05	Communication loss from control board to compressor inverter
Power Failure	PoFF	Power to unit has been disrupted
Primary Monitor Probe Failure (RTD2)	Er02	Probe not functioning properly
Probe Calibration Error	CAL	Monitor probe installed was not programmed to unit at factory
Control Probe Failure (RTD1)	Er01	Probe not functioning properly
No Battery	bAtt	Battery voltage is low
Configuration Error	Er07	Indicates that an EEPROM reading was corrupted or dip switch settings on the control board have changed since last power-up
Door Open < 3 min.	DOOR ALARM lamp lights	Door is open (less than three minutes)
Door Open > 3 min.	DOOR ALARM lamp flashes	Door has been open 3 minutes or longer*

*Audible alarm will sound after door is open for 3 minutes.

5.9 Mute and Disable Audible Alarms

Note

Muting audible alarms does not disable alarm lamps or signals sent through the remote alarm interface.

- ◆ Press the **Down Arrow** (Mute) to mute audible alarms.
- ◆ To disable all audible alarms, insert the key in the Alarm Disable switch and turn.

5.10 Light Operation



Note

- The light switch must be in the ON position to illuminate the lights when the door is opened.
- The default time delay for the lights to remain on is five (5) minutes.
- When in the ON position, the switch must be turned OFF then ON again after the time delay has passed to reactivate the lights without opening the door. Reopening the door will also reactivate the lights when the switch is in the ON position.

The light switch is located on the upper right front of the unit. Toggling the switch ON or OFF controls the LED light within the chamber.

6 Product Specifications

6.1 Operating Standards

These units are designed to operate under the following environmental conditions:

- ◆ Indoor use only
- ◆ Altitude (maximum): 2000 m
- ◆ Ambient temperature range: 15 °C to 32 °C (59°F to 90°F)
- ◆ Relative humidity (maximum for ambient temperature): 80% for temperatures up to 31 °C; 76% at 32 °C
- ◆ Temperature control range: 2 °C to 10 °C (35°F to 50°F)
- ◆ Overvoltage Category II
- ◆ Pollution Degree 2
- ◆ RF Emissions: Group 1 - Class A
- ◆ EMC Environment: Basic
- ◆ Sound level is less than or equal to 56 dB(A)

Electrical Specifications

Model	Input Voltage & Frequency	Voltage Tolerance	Circuit Breakers	Current Draw	Power Source	Remote Alarm Capacity
118-GXC	115V 60 Hz	±10%	7A quantity 2	3.0A	Grounded outlet, meeting national electric code (NEC) in the U.S. and local electrical requirements in all locations.	115V or 230V: 1A at 33V (AC) RMS or 30V (DC)
	208-240V 50/60 Hz			1.9		
120-GXC	115V 60 Hz		7A quantity 2	2.8A		
	208-240V 50/60 Hz			1.55A		
125-GXC	115V 60 Hz		7A quantity 2	2.8A		
	208-240V 50/60 Hz			1.55A		

* Amperage values are subject to change. Refer to the product specification label on your unit for current values.

Notes

- Amperage values listed represent the highest current draw presented among available factory configurations.
- The interface on the remote alarm monitoring system is intended for connection to the end user's central alarm system(s) that uses normally-open or normally-closed dry contacts.
- If an external power supply exceeding 33V (RMS) or 30V (DC) is connected to the remote alarm monitoring system's circuit, the remote alarm will not function properly or may be damaged.

6.2 Refrigerator Specifications

Additional unit specifications for the 118-GXC, 120-GXC and 125-GXC models can be found at [Technical Data Sheets](#).

7 Compliance

7.1 Safety Compliance



HLR, iLR, HPR and iPR units comply with the requirements of directive (EU) 2017/745 concerning Medical Devices.
(HBR and iBR units are not sold in the EU or UK)



Identifies this product as a medical device in accordance with 15223-1:2021 Medical Devices - Symbols to Be Used with Information to be supplied by the manufacturer.

This product is certified to applicable UL and CSA standards by a NRTL.

This product is IECEE CB Scheme certified and complies with national differences for safety certification beyond IEC 61010-1-12 3rd edition.

7.2 Environmental Compliance



This device complies with the 2011/65/EU Directive for the Restriction of Hazardous Substances (RoHS). Recast including the amendment to Annex II described in Commission Delegated Directive (EU) 2015/863.



This device falls under the scope of Directive 2102/19/EU Waste Electrical and Electronic Equipment (WEEE) .

When disposing of this product in countries affected by this directive:

- ◆ Do not dispose of this product as unsorted municipal waste.
- ◆ Collect this product separately.
- ◆ Use the collection and return systems available locally.

For more information on the return, recovery, or recycling of this product, contact your local distributor.

7.3 EMC Compliance

Helmer Scientific Refrigerators meet the applicable requirements of IEC60601 and IEC61326 and are intended for use in the electromagnetic environment specified in the Operating Standards section of this manual. The customer or the user of these devices should assure they are used in such environment.



This device complies with FCC Radiated and Conducted Emissions Approval to CFR47, Part 15 Subpart B; Class A levels























Appendix A: i.Center® Plus Active Alarms

Note

Control Board Reset, Display Power Up and Date/Time events only appear on the Event Log. No banner is displayed when these events occur.

Alarm	Description	Color
Primary Monitor Probe High Temp	Primary monitor probe reading is above high temperature alarm setpoint	Red
Primary Monitor Probe Low Temp	Primary monitor probe reading is below low temperature alarm setpoint	Red
Primary Monitor Probe Failure	Primary monitor probe is not functioning properly	Red
Secondary Monitor Probe High Temp (if applicable)	Secondary monitor probe reading is above high temperature alarm setpoint	Red
Secondary Monitor Probe Low Temp (if applicable)	Secondary monitor probe reading is below low temperature alarm setpoint	Red
Secondary Monitor Probe Failure (if applicable)	Secondary monitor probe is not functioning properly	Red
Compressor High Temp	Compressor probe reading is above the high temperature alarm setpoint	Red
Compressor Probe Failure	Compressor probe is not functioning properly	Red
Ambient Probe Failure	Ambient probe on the control board is not functioning properly	Red
Probe Calibration Error	Wrong probe type installed into Primary or Secondary locations	Yellow
Control Probe Failure	Control probe is not functioning properly	Red
Drive Space Low	SD card is near capacity	Yellow
Drive Space Full	SD card is full, no history being recorded	Yellow
Drive Space Failure	SD card is not functioning properly, no history being recorded	Yellow
Power Failure	Power to unit has been disrupted	Red
Door Open (time)	Door is open beyond user-specified duration	Red
Door Switch Failure	Switch is not reporting open or closed	Red
Low Battery	Rechargeable battery voltage is low	Yellow
No Battery	Battery is not connected	Yellow
Battery Charger Circuit Error	Battery charger is faulty	Yellow
Configuration File Error	Communication lost between i.Center Plus display board and internal system memory	Red
Database Integrity Error	Corrupt database	Red
Inverter Communication Failure	Communication is lost with inverter	Red
Control Board Communication Failure	Communication lost with i.Center Plus display board and control board	Red
Control Board Setting Failure	Database is unable to confirm the setting is successful at the control board	Red
Control Board Memory Error	Communication lost with i.Center Plus display board and internal system memory	Red
Network Connectivity Error	Communication is interrupted when Send Data to External Server Service is enabled	Yellow
Emergency Mode	Primary Monitor Probe and Control Probe failure	Yellow

Appendix B: i.Center® Plus Icons

Icon	Description	Icon	Description	Icon	Description
	Home		Display Power Up		Mute
	Event Log		Information		Power Failure
	Temperature Graph		Date/Time Change		High Temp Alarm
	Alarm Test		Door Open		Low Temp Alarm
	Settings		Previous Screen		Door Open Alarm
	Min/Max Reset		Calendar or Temperature Graph Back		Alarm Conditions
	Cabinet Control		Calendar or Temperature Graph Forward		
	Light		Temperature Graph Zoom In		

Helmer Scientific

14400 Bergen Boulevard, Noblesville, IN 46060 USA

Life Science Solutions

A business unit of Trane Technologies