



## **INSTRUCTION MANUAL FOR VACCINE REFRIGERATOR & VACCINE FREEZER MODELS**

15-LITER, 20-LITER, 35-LITER, 45-LITER, 60-LITER & 100-LITER

**SECTION 1 ..... Basic Operation**

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**PLEASE READ ENTIRE INSTRUCTION MANUAL BEFORE  
USING THE *FRIDGEFREEZE* UNIT**

# SECTION 1

## Basic Operation

### WARNING

FridgeFreeze portable refrigerators and freezers are powered by electric current; not taking proper steps to ensure safety can potentially injure or kill. **ANY** installation, cleaning, or troubleshooting must be conducted with the electrical power source disconnected from the unit.

- After receiving the FridgeFreeze unit from the shipper, please wait 24 hours before turning it on. The oil in the compressor needs time to settle. Ensure unit is upright and out of the box.
- Never operate the FridgeFreeze unit at a tilt exceeding 30 degrees. The oil reservoir will not lubricate the compressor motor properly at angles above 30 degrees.
- FridgeFreeze units can operate with 12/24-volts DC power or with 110-volts AC power. 12/24-volts DC power is found in most cars, trucks, RVs and boats. 110-volts AC power is found in all U.S. homes and office buildings. Make sure to use the black appliance cord for 110-volts AC power and the red and black lead for 12/24-volts DC power.
- A deep cycle battery is the best power supply when operating a FridgeFreeze unit using 12/24 –volts DC. Our UPS (uninterruptable power supply) battery back-up systems includes a deep cycle battery.
- The FridgeFreeze can operate from a vehicle's cigarette outlet with the included cigarette lighter adapter.
- When using the FridgeFreeze unit in a vehicle with only a single battery for more than a day, a FridgeFreeze UPS Battery Back-Up System is highly recommended. Using the FridgeFreeze UPS Battery Back-Up System will ensure your vehicle's battery is not drained, leaving the vehicle unable to start its engine.
- Generators are NOT a recommended power source for the FridgeFreeze and can damage the unit's control module. NEVER connect the FridgeFreeze unit directly to a generator.

- FridgeFreeze units are equipped with a green light indicator located on the control panel. The compressor is running when this light is illuminated.
- The handles can be used to secure the FridgeFreeze unit in any type of vehicle. Nylon cam straps or stainless-steel turnbuckles are suggested for use.
- On units with a high/normal compressor speed switch, the compressor speed should be set in the *normal* position most of the time. If rapid cooling is needed, the switch can be moved to the *high* position. The *high* position will cool the interior faster, but will also consume approximately 15-20% more power.
- At least 4 inches of ventilation space around a FridgeFreeze unit is recommended in order to properly dissipate heat. Keeping the unit well ventilated will improve performance.
- Whenever possible, avoid operating the FridgeFreeze unit in direct sunlight; doing so will decrease the unit's efficiency.
- Several factors affect the efficiency of a FridgeFreeze unit. These factors include: the ambient temperature, the amount of items inside the unit, and the starting temperature of the items put in the unit. Placing warm items inside the unit in hot ambient temperatures and leaving the lid open will all negatively affect the performance of the FridgeFreeze. Using the FridgeFreeze unit is the best way to learn its capabilities.
- Whenever possible, pre-cool your FridgeFreeze unit and its contents in advance with the 110-volt power source before taking it out to the field. Always place the warmest items towards the bottom of the unit and the coldest items towards the top.

## SECTION 2

### Cleaning and Storing

## WARNING

FridgeFreeze portable refrigerators and freezers are powered by electric current; not taking proper steps to ensure safety can potentially injure or kill. **ANY** installation, cleaning, or troubleshooting must be conducted with the electrical power source disconnected from the unit.

- The best way to clean your FridgeFreeze unit is with a bucket of warm water, a sponge and a bottle of all-purpose cleaner. Never submerge a FridgeFreeze unit in water.
- If the FridgeFreeze is used as a freezer for long periods of time, (approximately 2-3 months) the unit should be periodically defrosted with its contents removed.
- **Never** empty water out of the unit by turning it upside down. Doing so can cause water to collect in the top of the cowl. Remove excess water with a sponge.
- To store the FridgeFreeze unit:
  1. Unplug the unit.
  2. Defrost the unit with the lid open.
  3. Once defrosted, remove excess water with a sponge.
  4. Store unit with the lid cracked open
  5. Cables and baskets can be stored inside.

# SECTION 3

## Basic Troubleshooting

Observation	Probable Cause (Work down the list)	Remedy	Part Description & Number
AC power does not work	1. No Power from AC outlet	Check main room switch	
	2. Burned out fuse in AC circuit	Replace internal fuse	4 amp slow blow E-149 100LT: 10 amp slow blow E-148
DC power does not work	1. Blue connector not secured properly	Twist blue plug clockwise until it snaps into place	
	2. Polarity incorrect	Fix polarity	
	3. 12-volt DC supply has low voltage	Fix DC voltage to 11.7-volts or higher	
	4. Blown fuse within the DC chord	Replace inline fuse	ATC15 amps E-123
	5. Blown internal fuse in DC circuit	Replace internal fuse	ATC15 amps E-123
	6. Low voltage at control module terminals	Fix connection	
Both AC and DC do not work	1. Loose connection in control module	Correct	
	2. Loose Connection in digital stat	Correct	
	3. Malfunctioning digital stat	Replace	Carel Thermostat E-135
	4. Dead control module	Replace	Danfoss Module CP-101
	5. Service personnel rewired internal harness incorrectly	Consult wiring diagram	
Cigarette lighter is not working	1. Blown fuse(s) in cigarette lighter adapter	Replace fuses(s)	E-148/E-123
	2. Some vehicles require the ignition to be turned to accessory mode	Turn ignition	
	3. Voltage at cigarette outlet is too low	Rewire DC lead directly to vehicle's battery	

<b>Observation</b>	<b>Probable Causes (Work down the list)</b>	<b>Remedy</b>	<b>Part Description &amp; Number</b>
Internal fan is not on	1. Fan only comes on when compressor is on	Normal operation	
	2. Fan blocked with debris	Clean fan	
	3. Fan connections loose	Check connections	
	4. Dead fan	Replace	12v internal fan E-134
FridgeFreeze is not getting cold	1. Incorrect thermostat settings	Reprogram	
	2. Latch not secured completely	Secure	
	3. Ambient temperature too high	Move unit to lower ambient temperatures	
	4. Condenser case not well ventilated	Ventilate	
	5. DC power source low voltage	Fix DC voltage to 11.7 volts or switch to AC power	
	6. Differential (P1) set too high	Fridge: P1=2 Freezer: P1=4	
	6. Bad lid seal	Replace	Lid Seal G-100
FridgeFreeze is getting too cold	7. Refrigerant leak	In-house repair Call us 619-220-6003	
	1. Incorrect thermostat setting	Reprogram	
	2. Very little load inside	Put in water bottles to tighten cycling interval	
	3. Differential too high	Fridge: P1=2 Freezer: P1=4	
Er4 Message: High Temp Alarm	4. Calibrate thermostat	Adjust setting ( P14)	
	1. Door is not shut completely	Latch down and secure door	
	2. Using unit as a refrigerator with alarm set for a freezer	Correct alarm settings	
	3. Temperature set-point St1 is set above high alarm (P26) settings	Adjust set-point or high alarm setting	
Er5 Message: Low Temp Alarm	4. If probable cause 1, 2, or 3 is not the issue, relocate the vaccines and call FridgeFreeze	Call us: 619-220-6003	
	1. Using unit as freezer with alarm set for a refrigerator	Correct alarm settings	
	2. Temperature set-point ST1 is set below low alarm (P25) settings	Adjust set-point or low alarm settings	
	3. If probable cause 1 or 2 is not the issue, relocate the vaccines and call FridgeFreeze	Call us: 619-220-6003	

# SECTION 4

## Programming the Thermostat

Programming the FridgeFreeze unit to run as a Refrigerator  
(for Freezer *and* Refrigerator Models)

**Parameters**

To access and change the parameters:

1. Press and hold the PRG button until P1 appears, then release the PRG button.
2. Now you have access to the following parameters on Table 1 below. Use the arrow keys to scroll through the various parameters and make sure that P1, P14, P25, P26, P27 and P28 is present in the parameter-programming menu.
3. Scroll to P1.
4. Press SEL to get into that parameter’s setting.
5. Use the arrow keys and adjust the value to 2, according to Table 1 below.
6. Once that parameter’s value is set press SEL to confirm. This will return you to the parameter-programming menu.
7. Repeat steps 3 through 6 for parameters P14, P25, P27, and P28 with values given on Table 1 below.
8. Once all parameters are set, press the PRG button to finalize. You are no longer in parameter-programming mode when the interior temperature is displayed.

<i>Table 1</i>	<b>FridgeFreeze Factory Parameters for Vaccine Refrigerator/Freezer Units in Celsius</b>	
<b>Parameters</b>	<b>Description</b>	<b>Values</b>
P1	Differential of Temperature Set Point	2
P14	Calibration Offset	0
P25	Low Temp Alarm	**
P26	High Temp Alarm	**
P27	Alarm Differential	2
P28	Cycling Time Limit in Minutes	60

\*\* Low and High Temperature alarms should be set to your vaccines’ required range.

**Temperature Set Point ST1**

To change the thermostat set temperature:

1. Press and hold the SEL button until display is showing ST1.
2. Release the SEL button and the present thermostat set point will flash.
3. Press either arrow to change the thermostat set point to your vaccine’s required temperature.
4. Press the SEL button to confirm. The display will show the present interior temperature.

## Programming the FridgeFreeze unit to run as a Freezer (For Freezer Model Only)

### Parameters

To access and change the parameters:

9. Press and hold the PRG button until P1 appears, then release the PRG button.
10. Now you have access to the following parameters on the Table 2 below. Use the arrow keys to scroll through the various parameters and make sure that P1, P14, P25, P26, P27 and P28 is present in the parameter-programming menu.
11. Scroll to P1.
12. Press SEL to get into that parameter's setting.
13. Use the arrow keys and adjust the value to 4, according to the Table 2 below.
14. Once that parameter's value is set press SEL to confirm. This will return you to the parameter-programming menu.
15. Repeat steps 3 through 6 for parameters P14, P25, P27, & P28 with values given on the Table 2 below.
16. Once all parameters are set, press the PRG button to finalize. You are no longer in parameter-programming mode when the interior temperature is displayed.

<b>Table 2</b>	<b>FridgeFreeze Factory Parameters for Vaccine Freezer Units in Celsius</b>	
<b>Parameters</b>	<b>Description</b>	<b>Values</b>
P1	Differential of Temperature Set Point	4
P14	Calibration offset	0
P25	Low Temp Alarm	**
P26	High Temp Alarm	**
P27	Alarm Differential	2
P28	Cycling Time Limit in Minutes	120

\*\* Low and High Temperature alarms should be set to your vaccines' required range.

### Temperature Set Point ST1

To change the thermostat set temperature:

5. Press and hold the SEL button until display is showing ST1.
6. Release the SEL button and the present thermostat set point will flash.
7. Press either arrow to change the thermostat set point to your vaccine's required temperature.
8. Press the SEL button to confirm. The display will show the present interior temperature.

# **SECTION 5**

## **Battery Back-Up Systems**

Installation of FridgeFreeze UPS Battery Back-Up System:

- 1) Place battery in battery box.
- 2) Connect (+) terminal on battery to red (+) cable from battery charger in lid.
- 3) Connect (-) terminal on battery to black (-) cable from battery charger in lid.
- 4) Tighten terminals with wrench.
- 5) Put lid on and tighten thumb screws by hand.
- 6) Plug in 110-volt lead from the UPS System into 110-volt supply (wall socket).
- 7) Plug 12-volt lead (blue plug) from UPS System into the FridgeFreeze. Twist the blue plug clockwise to lock it in.
- 8) Plug 110-volt lead from FridgeFreeze to 110-volt supply (wall socket.) This lead is supplied with the fridge.
- 9) UPS System is now in operation.

With the UPS System in operation, the FridgeFreeze has two power sources it can run on. The 110-volt AC from the wall outlet will be its primary power source. The 12-volt DC from the Battery Back-Up System will be its secondary source. The FridgeFreeze will run exclusively on 110-volt AC, until the power is interrupted by black/brown outs. When AC power is interrupted, the FridgeFreeze will automatically switch to Battery Back-Up power.

Expected run time without 110-volt power for Vaccine Fridge is 65 hours and Vaccine Freezer is 26 hours. Figures are given in an ambient temperature of 70 degrees Fahrenheit. Lower performance will occur in higher ambient temperatures. If you have any questions, please call us at 619-220-6003.