# ICECO

## APL20

V5.0

SECOP Compressor
5-Year Warranty

Local Technical
Support

# Catalogue


1 Supply Details ..... 01

2 Operation ..... 03

- 2.1 ON/OFF Button ..... 04
- 2.2 MAX/ECO Mode ..... 04
- 2.3 Triple Battery Protection Operation ..... 05
- 2.4 Switch Between °C to °F ..... 06

3 App Control ..... 07

4 Error Code And Solutions ..... 08

5 Cleaning And Maintenance ..... 14

- 5.1 Cleaning ..... 14
- 5.2 Danger Behavior ..... 14

6 Troubleshooting (Q & A) ..... 15

- 6.1 Heat Resistance & Water Resistance ..... 15
- 6.2 What should I do if the refrigerator is upside down when it is delivered? ..... 15

# Catalogue


- 6.3 Why did it change back to the original temperature after setting the temperature? ··· 16
- 6.4 Why is there a temperature difference (between the actual temperature of the refrigerator and the set temperature)? ····· 16
- 6.5 What kind of cable do I need to use in the car and at AC socket? ····· 16
- 6.6 What is the function of triple battery protection? How do they work? ····· 17
- 6.7 What is the 24 hours power consumption? ····· 18
- 6.8 What is the specification of the fuse of the refrigerator? ····· 18
- 6.9 Why is there a temperature difference between the actual temp and the set temp in the 4L zone ? ····· 19

**7 Warranty & Return Policy** ····· **20**

**8 Safety Instructions** ····· **22**

**9 Accessories (Purchase Separately)** ····· **28**

- 9.1 Fridge Accessories ····· 28
- 9.2 Power Support Series ····· 28
- 9.3 ICECO Portable Fridge Catalog ····· 29

# 1 Supply Details

## APL20

APL20 Refrigerator x 1

DC Cigarette Lighter Plug Cable x 1

100-240V Universal AC Adapter x 1

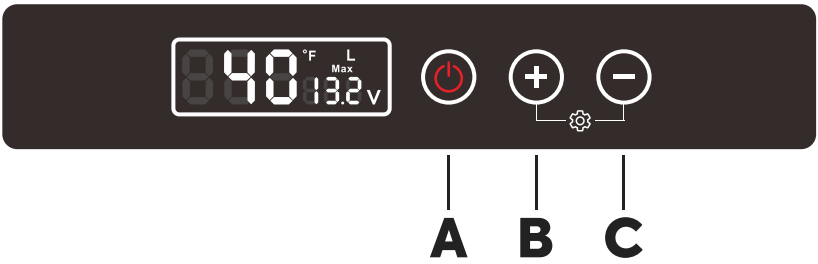
*Note: The AC adapter is usually used for power bank, vehicles, onboard ships with AC sockets.

| Model | APL20 |
| --- | --- |
| **Color** | Silver/Other limited colors |
| **Dimensions (L x W x H)** | 25.0 x 14.9 x 11.6 inches (636 x 379 x 294 mm) |
| **Net Weight** | 22.9 lbs (10.4 kg) |
| **Capacity** | 21.0 quarts (20.0 liters) |
| **Voltage** | DC 12/24V |
| **Temperature Range** | -4°F to 68°F (-20°C to +20°C) |
| **Insulation** | C-pentane |
| **Shell material** | Aluminum |

***Note: Unit can be used with 100-240V~, when connected to an Ac adapter. The AC adapter is usually used for power bank, vehicles, onboard ships with AC sockets.**

***Under specific conditions, the fridge can reach -20°C.**

# 2 Operation




**A** **Power** (Short press to turn on/off)

**B** **Temp. Setting** (Up)

**C** **Temp. Setting** (Down)

## 2.1 ON/OFF Button

After powering on, the refrigerator automatically enters standby mode. In the standby state, short press " ⏻ " button, the refrigerator enters the working state; in the working state, short press " ⏻ " button, the system enters the standby state.

## 2.2 MAX & ECO Mode

In the power-on state (press and hold the " ⏻ " button to turn on the refrigerator), press and hold the " + " and " − " buttons at the same time to enter the advanced menu settings.

After entering the menu, press the " ⏻ " button briefly to cycle through the functions of refrigerator operation mode setting - battery protection level setting - Celsius Fahrenheit switching, and so on. There are two modes of operation: Max or Eco mode. Switch between MAX and ECO modes by briefly pressing the " + " or " − " button.

## 2.3 Triple Battery Protection Operation

In the power-on state (press and hold the " ⏻ " button to turn on the refrigerator; the screen will display the temperature in the power-on state), press and hold the " + " and " − " buttons at the same time to enter the advanced menu settings. After entering the menu, press the " ⏻ " button briefly to cycle through the functions of refrigerator operation mode setting - battery protection evel setting - Celsius Fahrenheit switching, and so on.

Three bars appear on the screen when cycling to Triple Battery Protection. Switch between high and low battery protection modes by briefly pressing the " + " or " − " button.

The three bars are **H** (High Mode), two are **M** (Medium Mode) and one is **L** (Low Mode). The top right corner of the screen will be labeled **H\M\L** to refer to the three battery protection modes of **H\M\L** respectively. Wait for 3 seconds after adjustment to save the settings automatically.

| VOLTAGE | PROTECTION POSITION | LOW | MED | HIGH |
|---|---|---|---|---|
| | | 1Bar | 2Bar | 3Bar |
| 12V | CUT OFF (V) | 9.6 | 10.4 | 11.1 |
| | CUT IN (V) | 10.9 | 11.7 | 12.4 |
| 24V | CUT OFF (V) | 21.3 | 22.8 | 24.3 |
| | CUT IN (V) | 22.7 | 24.2 | 25.7 |

## 2.4 Switch Between ˚C to ˚F

In the power-on state (power on and press the " ⏻ " button to turn on the refrigerator; the screen will display the temperature in the power-on state), press and hold the " ✚ " and " ━ " buttons at the same time to enter the advanced menu settings.
After entering the menu, press the " ⏻ " button briefly to cycle through the functions of refrigerator operation mode setting - battery protection level setting - Celsius Fahrenheit switching, and so on.

When cycling to the Celsius Fahrenheit switching function the screen will show the " **℃** " or " **℉** " icon. Switch the temperature unit by short pressing the " ✚ " or " ━ " button. Wait for 3 seconds after adjustment to save the settings automatically.

# 3 App Control

| Android | IOS |
| --- | --- |

## 1 APP Download and Installation:

Android users can find the "ICECO" app on the Android market, and iPhone users can locate it on the App Store by searching for "ICECO". or Download the app by scanning the QR code above using your mobile phone's QR code scanner.

## 2 Instruction:

Log into the APP, with Bluetooth on, and click "Add Devices". The APP will search for available fridge, and enter the instruction display when it connects with your fridge.

# 4 Error Code And Solutions

| Code | Description |
|---|---|
| **E1** | The DC Voltage is below the protection settings and the battery protection mode is activated. |
| **E2** | The cooling fan is over-loaded with more than 1A of current. |
| **E3** | Repeated switching of the machine or a faulty input voltage causes this motor start error. The pressure difference in the refrigeration system is too high. |
| **E4** | Minimum motor speed error, the compressor is over-loaded, and the motor cannot maintain its minimum speed of 1850 rpms. |
| **E5** | Compressor control module temperature too high or too low protection. (ambient temperature is too high or too low, or the system load is too high, causing the internal temperature of the module/ECU > 212°F or < 14°F) |
| **E6/LL** | The temperature sensing head is loose or damaged. |
| **E7/HH** | NTC failure (short circuit) |

## E1

### Error Code

The DC Voltage is below the protection settings and the battery protection mode is activated.

### Solutions

1. In case of using in the car, turn the car ignition on and start the refrigerator again;

2. In the case of using the AC adapter to connect the electricity at AC socket, you can adjust the battery protection to medium or low mode. If it still does not start after adjusting the mode, then the adapter is faulty and needs to be replaced with a new one.

## E2

### Error Code

The cooling fan is over-loaded with more than 1A of current.

### Solutions

If the fan does not start but the compressor does, this is a short-circuited fan. You can fix the error code by replacing the fan.

## E3

### Error Code

Repeated switching of the machine or a faulty input voltage causes this motor start error. The pressure difference in the refrigeration system is too high.

### Solutions

1. Make sure to turn off the machine and wait for 5 minutes before turning it on again. If the compressor starts and then stops a few seconds later, it is an E1 fault, and you need to refer to the above E1 troubleshooting method for troubleshooting;

2. The input voltage is too low to reach the minimum starting voltage required by the battery protection, resulting in the refrigerator can not start. Reduce the starting voltage gear can solve the problem.

## E4

### Error Code

Minimum motor speed error, the compressor is over-loaded, and the motor cannot maintain its minimum speed of 1850 rpms.

### Solutions

1. Make sure to turn off the machine and wait for 5 minutes before turning it on again. If the compressor starts and then stops a few seconds later, it is an E1 fault, and you need to refer to the above E1 troubleshooting method for troubleshooting;

2. The compressor will break down at ambient temperatures above 55°C. Try to avoid using the refrigerator at high ambient temperatures. Make sure there is enough space outside the compressor cover to dissipate heat
(more than 5cm on the left and right sides and 10cm space on the front air outlet).
Check that the cooling fan terminals are connected tightly. A non-functioning cooling fan will result in the compressor being unable to dissipate heat and the temperature will rise.

## E5

### Error Code

Compressor control module temperature too high or too low protection.
(ambient temperature is too high or too low, or the system load is too high, causing the internal temperature of the module/ECU > 212°F or< 14°F)

### Solutions

1. The compressor will break down at ambient temperatures above 55°C. Try to avoid using the refrigerator at high ambient temperatures. Make sure there is enough space outside the compressor cover to dissipate heat
(more than 5cm on the left and right sides and 10cm space on the front air outlet).
Check that the cooling fan terminals are connected tightly. A non-functioning cooling fan will result in the compressor being unable to dissipate heat and the temperature will rise.

2. For ECU (module) issues, you can adjust the battery protection mode and then make sure the starting voltage is normal. If that doesn't fix the problem, the ECU will need to be replaced.

## E6/LL

### Error Code

The temperature sensing head is loose or damaged.

### Solutions

1. Check the temperature sensing head to see if the connection is tight. If it is loose, reconnect it and install it in place.

2. If the sensor head is damaged, replacing the sensor head can solve the problem.

## E7/HH

### Error Code

NTC failure (short circuit)

### Solutions

1.Check the temperature sensing head terminals for water ingress. Try replacing the temperature sensing head to see if the refrigerator works properly.

2.Check the terminals on the control panel end for shorts.

# 5 Cleaning And Maintenance

## 5.1 Cleaning

- Always unplug the fridge before cleaning the fridge.
- You can clean the interior and exterior of the fridge by using warm water, mixed with a gentle non-abrasive detergent.
- You may use a soft sponge, or micro fiber cloth.
- When not in use, it's better to leave the lids open to reduce odors.
- If odors occur, please clean the fridge thoroughly, or use baking soda in a bowl to absorb odors.

## 5.2 Danger Behavior

⚠ Use pointed objects to scrape, or defrost ice.

⚠ Use abrasive detergents to clean.

⚠ Use heavy duty sponges (due to scratching).

⚠ Clean the fridge with running water or pressure washer.

⚠ Clean the fridge without power input covers secured.

# 6 Troubleshooting (Q & A)

## 6.1 Heat Resistance & Water Resistance

### Heat Resistance

ICECO refrigerators are engineered to operate at an ambient temperature of up to 55°C (131°F).

### Water Resistance

ICECO refrigerators can operate under light rain conditions. Please keep the vents above clear of water, and please add some clearances to the bottom of the fridge if the ground is wet.

We DO NOT recommend exposing the fridge to moderate or heavy rain.

As with all electrical appliances, over-exposure to moisture may shorten the fridge's life.

## 6.2 What should I do if the refrigerator is upside down when it is delivered?

Please leave your refrigerator upright for **24 hours** to allow the compressor lubricant to resettle before powering on the fridge. Otherwise it may contribute to certain operation abnormalities.

## 6.3 Why did it change back to the original temperature after setting the temperature?

The Solid/Non-Flashing number on the display is the CURRENT interior temperature. The Flashing number is your SET temperature after adjustment.

The compressor will shut off when the SET temperature is reached.

## 6.4 Why is there a temperature difference (between the actual temperature of the refrigerator and the set temperature)?

Because of the sinking nature of cold air, the different temperatures may exist in different locations in the refrigerator (the temperature of the bottom will be the lowest). The panel only shows the average temperature of the refrigerator.

## 6.5 What kind of cable do I need to use in the car and at AC socket?

The DC cable is provided. You can power it from your vehicle's cigarette lighter plug using the DC cable. You can also power it at AC socket, but you need to use with AC cable as precondition.

## 6.6 What is the function of triple battery protection? How do they work?

The triple battery protection is designed to prevent over-discharge and battery depletion.

When the measured DC voltage is below the set value, the compressor is shut off to prevent battery depletion.

| VOLTAGE | PROTECTION POSITION | LOW | MED | HIGH |
|---|---|---|---|---|
| | | 1Bar ⎓ | 2Bar ⎓ | 3Bar ⎓ |
| 12V | CUT OFF (V) | 9.6 | 10.4 | 11.1 |
| | CUT IN (V) | 10.9 | 11.7 | 12.4 |
| 24V | CUT OFF (V) | 21.3 | 22.8 | 24.3 |
| | CUT IN (V) | 22.7 | 24.2 | 25.7 |

For example, when you switch to a LOW MODE, the battery voltage is under 9.6 volts, the refrigerator will automatically cut the power OFF;

The refrigerator will start again till the battery voltage reached back to 10.9 volts.

## 6.7 What is the 24 hours power consumption?

| Model | Electrical Power | Model | Electrical Power |
|---|---|---|---|
| **APL20** | 0.293 KW.H | **GO20** | 0.433 KW.H |
| **APL35** | 0.381 KW.H | **JP30 ProS** | 0.323 KW.H |
| **APL55** | 0.326 KW.H | **JP40 ProS** | 0.323 KW.H |
| **JP30** | 0.452 KW.H | **JP50 ProS** | 0.405 KW.H |
| **JP40** | 0.482 KW.H | **VL35 ProS** | 0.430 KW.H |
| **JP50** | 0.482 KW.H | **VL45 ProS** | 0.510 KW.H |
| **VL45** | 0.348 KW.H | **VL60 ProS** | 0.548 KW.H |
| **VL60** | 0.416 KW.H | **VL75 ProD** | 0.636 KW.H |
| **VL65** | 0.545 KW.H | **VL90 ProD** | 0.658 KW.H |
| **VL74** | 0.562 KW.H | | |

This data is only suitable for laboratory testing, and the actual power consumption is subject to actual conditions.

## 6.8 What is the specification of the fuse of the refrigerator?

The supply line is protected by a 15A fuse located in the refrigerator.

## 6.9 Why is there a temperature difference between the actual temp and the set temp in the 4L zone ?

This is because the main temp control zone of the compressor is the 16L area. Normally, the actual temp in the 4L area will be 9°F higher than the temp in the 16L area (lab data). So the temperature in the 4L area will vary from the set temp.

# 7 Warranty & Return Policy

**30 days** refund guarantee upon receiving.

**5 years** warranty on the compressor.

**1 year** warranty for other parts or accessories.

## If you have any problems or questions about the product

1. **Please call us:**
   **+1 (888) 606 1046** (Mon-Fri 9:00am-6:00pm PT)

2. **Please email us:**
   **official@icecofreezer.com**
   (for Amazon/Walmart orders)
   **support@icecofreezer.com**
   (for website orders)
   **support@iceco-us.com**
   (for other orders)

*Please let us know your order number first for a quick solution.

1. If the product is received damaged or defective during transportation, you will need to contact our customer service within 2 business days.

2. Make sure to provide relevant photos or videos, your order ID number, and your name.

3. A customer service agent will help assist into solving the issue at a timely manner (Return, Exchange, or Discount Compensation).

4. A free return label will be provided if needed.

# 8 Safety Instruction

- Please read the user manual and safety instructions carefully before using the appliance.
- By ignoring the safety instructions, the manufacturer cannot be held responsible for the damage.
- The use of accessories that are not recommended by manufacturer can cause injuries and will invalidate any warranty that you may have.
- The appliance shall not be exposed to moderate /heavy rain.
- Place the refrigerator on a dry, secure surface, with adaquate ventilation.

⚠ **Do not leave the refrigerator unattended in uncovered, outdoor areas exposed to the elements.**

⚠ **Do not use this appliance near direct heatsources, such as an open flame or radiator.**

⚠ **Do not place open containers of liquid inside the fridge.**

⚠ **Please don't put hot/warm food into the fridge directly without letting it cooling off. Place/arrange the content of your fridge securely when using the refrigerator inside a moving vehicle.**

- To maximize energy savings, please make sure the lid is closed and secure, and only open the fridge when you need to.
- The power cable must only be replaced by qualified technical personnel and by an assistant body authorized by the manufacturer.
- Before carrying out any maintenance operations on the refrigerator, disconnect all power sources from the fridge.
- This appliance is suitable for camping use.

## WARNING!

⚠ Please keep the fridge in a well ventilated area.

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

⚠ Do not use electrical devices inside the food storage compartments of the appliance, unless approved/recommended by the manufacturer.

⚠ Do not store explosive items, such as aerosol cans with a ammable propellant in this appliance.

⚠ Risk of fire and electrical shock.

⚠ Do not let hot items touch the plastic parts of the appliance.

⚠ Do not put ammable products or items in, near or on the appliance.

⚠ Do not touch the compressor or the condenser when the fridge is operating. They may be very hot.

⚠ When setting up the appliance, ensure the supply cord is not trapped or damaged.

**Further information is provided on the technical data label inside the product.**

1. This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

2. Children should be supervised to ensure that they do not play with the appliance.

3. This appliance is intended to be used in applications such as: Car, truck, RV, camping trip, van, boat, suv, jeep, overlanding life and so on.

4. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified person in order to avoid a hazard.

5. Do not store explosive substances such as aerosol cans with a flammable propellant in this appliance.

6. **DANGER:** Risk of child entrapment. Before you throw away your old refrigerator or freezer:

***Take off the doors.**

***Leave the shelves in place so that children may not easily climb inside.**

FCC warning:

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note:
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.
However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- -Reorient or relocate the receiving antenna.
- -Increase the separation between the equipment and receiver.
- -Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- -Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of the FCC Rules.
Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

# 9 Accessories (Purchase Separately)

## 9.1 Fridge Accessories

**Insulated Cover**

APL20

## 9.2 Power Support Series

**PB250**

250Wh
Magnetic Battery

**PB1000**

1057Wh Battery

**80W**

Solar Panel

## 9.3 ICECO Portable Fridge Catalog

Dual Zone

**GO20**

White/Gray
/Other limited colors

| | |
|---|---|
| Capacity | 21 quarts |
| Cooling Range | 0°F to 50°F |
| Consumption (KW.H/24H) | 0.433 |
| Product Weight | 27.5 lbs |
| Product dimension (L*W*H) | 22.4 x 12.6 x 12.4 inches |

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Single Zone

**JP30/40/50 ProS**

Black/Other limited colors

| | |
|---|---|
| Capacity | 31/40/50 quarts |
| Cooling Range | -4°F to 68°F |
| Consumption (KW.H/24H) | 0.323/0.323/0.405 |
| Product Weight | 38.6/39.1/40.7 lbs |
| Product dimension (L*W*H) | 28.5 x 13.8 x 15.9/ 28.5 x 13.8 x 18.0/ 28.5 x 13.8 x 21.0 inches |

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Single Zone

## VL45/74

Green/Other limited colors

| | |
|---|---|
| Capacity | 47/78 quarts |
| Cooling Range | 0°F to 50°F |
| Consumption (KW.H/24H) | 0.4348/0.416 |
| Product Weight | 50.6/62.5 lbs |
| Product dimension (L*W*H) | 27.4 x 15.8 x 19.2/ 32.3 x 19.4 x 19.6 inches |

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Dual Zone

## VL60/65

Green/Other limited colors

| | |
|---|---|
| Capacity | 63/68 quarts |
| Cooling Range | 0°F to 50°F |
| Consumption (KW.H/24H) | 0.545/0.562 |
| Product Weight | 64/65 lbs |
| Product dimension (L*W*H) | 31.2 x 19.5 x 18.9/ 32.3 x 19.5 x 19.7 inches |

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Single Zone

## VL35/45/60 ProS

Black/Other limited colors

| | |
|---|---|
| Capacity | 37/47/63 quarts |
| Cooling Range | 0°F to 50°F |
| Consumption (KW.H/24H) | 0.430/0.510/0.548 |
| Product Weight | 48.7/52.2/59.0 lbs |
| Product dimension (L*W*H) | 28.1 x 15.9 x 15.7/ 28.1 x 15.9 x 18.1/ 30.2 x 18.5 x 18.1 inches |

Dual Zone

## VL75/90 ProD

Black/Other limited colors

| | |
|---|---|
| Capacity | 79/95 quarts |
| Cooling Range | 0°F to 50°F |
| Consumption (KW.H/24H) | 0.636/0.658 |
| Product Weight | 69.6/75.1 lbs |
| Product dimension (L*W*H) | 36.5 x 18.5 x 18.1/ 38.3 x 20.7 x 18.1 inches |

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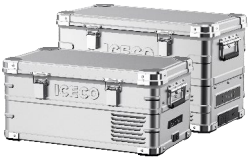
Single Zone/Dual Zone



## APL20/35

Sliver/Other limited colors

| | |
|---|---|
| Capacity | 21/37 quarts |
| Cooling Range | -4°F to 68°F |
| Consumption (KW.H/24H) | 0.293/0.381 |
| Product Weight | 22.9/32.0 lbs |
| Product dimension (L*W*H) | 25.0 x 14.9 x 11.6/ 27.0 x 14.4 x 15.7 inches |

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Dual Zone

## APL55

Black/Sliver /Other limited colors

| | |
|---|---|
| Capacity | 58 quarts |
| Cooling Range | -4°F to 68°F |
| Consumption (KW.H/24H) | 0.326 |
| Product Weight | 63.2 lbs |
| Product dimension (L*W*H) | 29.7 x 18.9 x 19.3 inches |

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# ICECO

Cooler Than A Cooler

+1 (888) 606 1046 (Mon-Fri 9:00am-6:00pm PT)

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support@icecofreezer.com (for website orders)

support@iceco-us.com (for other orders)