

# PORTABLE REFRIGERATION



**NL15 & NL20  
User Manual**



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# SAFETY INFORMATION

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***Please read and understand the user manual and safety instructions carefully before using the appliance.***



## NOTICE

- ◆ By ignoring the safety instructions, the manufacturer cannot be held responsible for the damage.
- ◆ Do not open containers of liquid inside the fridge
- ◆ The appliance shall not be exposed to moderate/ heavy rain.
- ◆ Place the refrigerator on a dry, secure surface, with adequate ventilation.
- ◆ Please don't put hot/ warm food into the fridge directly without letting it cooling off.
- ◆ Do not use this appliance near direct heat sources, such as an open flame or radiator.
- ◆ Do not leave the refrigerator unattended in uncovered, outdoor areas exposed to the elements.
- ◆ To maximize energy saving, please make sure the lid is closed securely 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 authorised by the manufacturer.
- ◆ The use of accessories that are not recommended by the manufacturer can cause injuries and will validate any warranty that you may have.
- ◆ Place/ arrange the content of your fridge securely when using the refrigerator inside a moving vehicle.
- ◆ Before carrying out any maintenance operations on the refrigerator, disconnect all power sources from the fridge.
- ◆ Further technical information/ specifications are provided on the technical data label on the product.



## CAUTION

- 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.
- The appliance is only to be used with the power supply unit provided with the appliance.
- It must only be supplied as safety extra low voltage corresponding to the marking on the appliance.
- To avoid contamination of food, please respect the following instructions:
  - Opening the door for long periods of time can cause a significant increase in temperature in the compartments of the appliance.
  - Clean surfaces regularly that can come in contact with food and accessible drainage systems.
  - Store raw meat and fish in suitable containers within the refrigerator, so that the items are not in contact with or drip onto other food.
  - If the refrigerating appliance is left empty for long periods, switch off, defrost, clean, dry, and leave the door open to prevent mould developing within the appliance.

# SAFETY INFORMATION

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**WARNING!** Food needs to be packed in bags before putting it into the refrigerator, and liquids need to be packed in bottles or capped containers to avoid the problem that the product design structure is not easy to clean.



## WARNING!

- Do not store explosive items, such as aerosol cans with flammable 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 flammable 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.
- Do not locate multiple portable socket-outlets or portable power supplies at the rear of the appliance.
- 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.
- Children should be supervised to ensure that they do not play with the appliance.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or a similarly qualified person in order to avoid a hazard.



## CORRECT DISPOSAL OF THIS PRODUCT

To prevent possible harm to the environment or human health from the uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the recovery systems or contact the retailer so that they can take this product for environmental safe recycling.

### **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.

## INTENDED TO BE USED

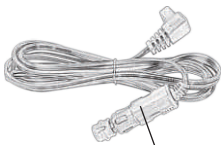
This appliance is intended to be used in household and similar applications such as:

- Staff kitchen areas in shops, offices and other working environments;
- Farm houses and by clients in hotels, motels and other residential type environments;
- Bed and breakfast type environments;
- Catering and similar non-retail applications.

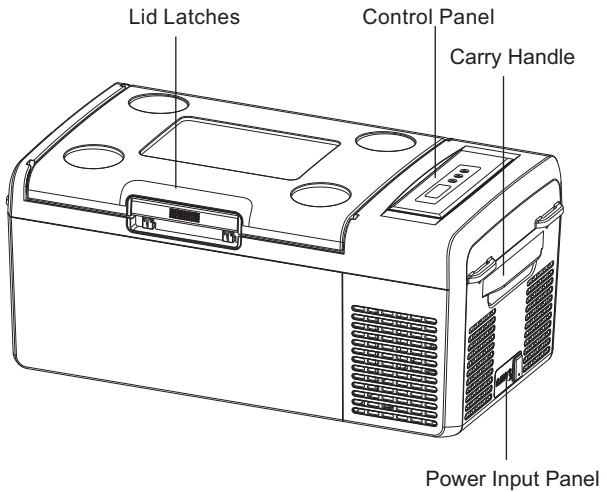
# SPECIFICATIONS

MODEL	NL15	NL20
Dimensions (L x W xH)	615 x 332 x 268 mm	615 x 332 x 330 mm
Capacity	15L	20L
Net Weight	10.2kg	10.9kg
Rated Power	55W	
Temperature Range	-20 °C to +20 °C	
Power Source	DC 12V / 24V	
Refrigerant	R134a	

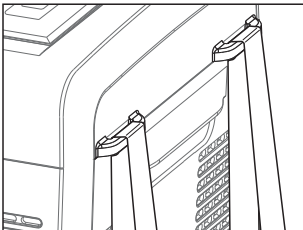
## External Features - Sketch of Main Parts



12V/24V DC power cable



## External Features- Securing fridge in mobile application



Both sides of the refrigerator features two tie-down slots that can be used with standard 25mm straps.

The straps can be used to secure the fridge to the tie-down points.

Take care not to over-tighten the straps, as this can damage the tie-down slot or the fridge body.

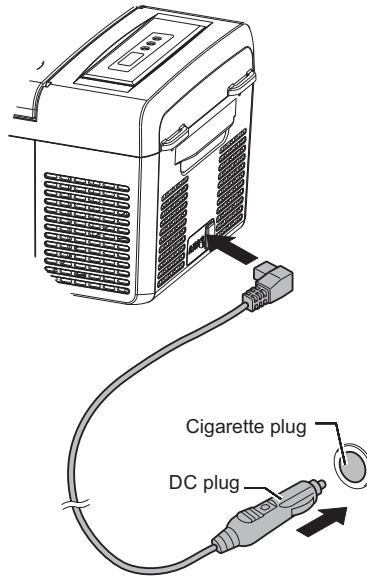
# USING THE REFRIGERATOR IN A VEHICLE

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## Connecting Power - *Connecting with 12V or 24V*

Connect the feeding cable to a direct current 24V DC power source.

- Make sure the polarity is right.
- If connected to an existing cigarette plug, please carefully check that power supply is sufficient.
- If the supplied power cable is not used, please see the table containing the information related to the cable section. (The Fridge/Freezer is designed to operate on DC voltage inputs.)



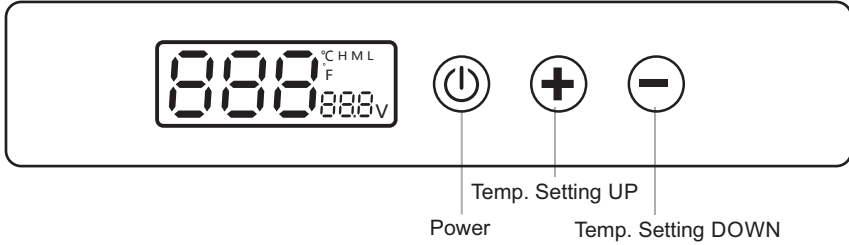
## GETTING STARTED

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### Some Reminders

1. If the device was not placed in the upright position after transit and delivery, please keep it upright for 24 hours to make sure that the compressor can work properly.
2. If the device can't turn on or you encounter other problems for first time use, please contact us for help.
3. **Pre-cool** the empty unit before using it to enhance system efficiency.

# OPERATION



Connect the fridge to a power source and short press “ ⏻ ” to turn on the fridge. Short press “ ⏻ ” to power off the fridge.

## Adjusting the temperature

- With the appliance on, short press “ + ” button to increase the temperature and the “ - ” to decrease the temperature. The highest temp is 20 °C and the lowest is -20 °C.

**NOTE:** Hold down the “ + ” or “ - ” button to fast scroll.

## Swapping between Fahrenheit (°F) & Celsius (°C)

- To swap between °C or °F on the display you must have the fridge plugged in and turned off, long press “ + ” and “ - ” buttons at the same time for 3 seconds to enter the Advanced Settings.
- When the Advanced Settings appear, short press “on/off” button to cycle into PR (Protection Settings), or F/C function (Fahrenheit/Celsius switch mode).
- With F/C showing on screen, short press “ + ” or “ - ” to convert Celsius to Fahrenheit. F refers to Fahrenheit, C refers to Celsius.
- With PR showing on screen (Protection Settings), short press “ + ” or “ - ” to set the below voltage protection levels.

## Battery Protection Settings

Battery protection is used to prevent excessive discharge and potential damage to a source battery. The choice of setting will depend on the specific application.

### Battery Protection Level

Protection Level Power Source	M Level is the Default Setting					
	H		M		L	
	Start-up	Cut-off	Start-up	Cut-off	Start-up	Cut-off
12V	12.4V	11.1V	11.7V	10.4V	10.9V	9.6V
24V	25.7V	24.3V	24.2V	22.8V	22.7V	21.3V



# ERROR CODE AND SOLUTIONS

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When an error occurs on the fridge, there will be a code shown on the display. The possible error for each code would be as follows:

Code	Description
E1	The DC voltage is under the protection setting and the battery protection mode is activated.
E2	The cooling fan overloads with more than 1A of current.
E3	Motor start error The compressor motor is blocked or the pressure difference in the refrigeration system is too high.
E4	Minimum motor speed error The compressor overloads and the motor can not maintain its minimum speed of 1850 rpms.
E5	Thermal cut-out of electronic unit Thermal cut-out error. If the refrigeration system overloads, or the ambient temperature is too high, the thermal sensor is overheated.
E6	NTC failure (Open circuit or short circuit).

- If this error code appears when the fridge is operating on 12V DC, please try to lower the battery protection setting and see if the error is resolved. The battery protection mode may be triggered prematurely on certain vehicles due to small wiring imperfections, contributing to a measured DC voltage drop at the compressor start-up. Lowering the battery protection setting may resolve this issue.
- Please also check the reading of your battery voltage to make sure it is not depleted/ discharged.
- Please contact us directly if the error persists.

# DAILY MAINTENANCE AND ATTENTION

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## Care and Cleaning

- Please use a wet cloth and warm water mixed with gentle non-abrasive detergents to clean the interior and exterior of your fridge.
- Please power off and unplug the unit before cleaning.
- Please use non-abrasive detergents when cleaning the interior/exterior of the fridge.
- Please don't scrape the interior of the fridge to defrost/de-ice the fridge.
- Please don't pressure-wash/ spray the fridge with a running water hose.
- It is strictly forbidden to wash refrigerators directly with water in order to prevent the reduction of electrical insulation and rusting of metal parts.
- The following things can damage the coating and plastic parts, so they can not be used for cleaning: Alkaline detergent, soap, abrasive powder, hot water, brush, n-Pentyl acetate, gasoline and alcohol.

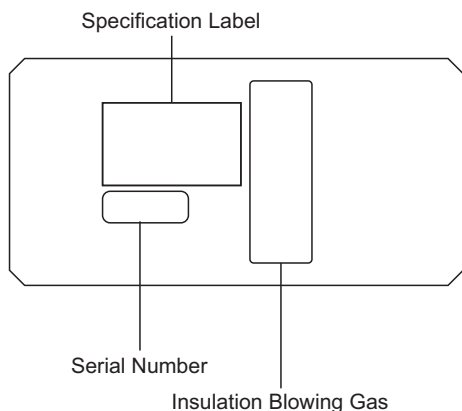
## Maintenance of plastic parts

- To properly protect the door seals, always keep them clean. Avoid grease staining and deformation when using it. If oil (animal or vegetable) is attached to the plastic parts in the box for a long period of time, the plastic can age or crack, and give off a bad smell. Therefore, regular cleaning is advised.



# SERIAL NUMBER AND SPECIFICATION LABEL





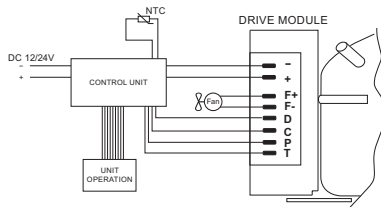
## Serial Number - Information & Placement



A unique serial number is located on the bottom panel of the fridge. Take note of this number when contacting technical support or making a warranty claim.

Do not remove the serial number sticker.

## Specification Label - Information & Placement

		<b>Model: NL20</b>	
Compartment Type	Refrigerator	 	
Climate Class	SN/N/ST/T		
Appliance Class			
Rated Voltage DC	12V/24V ===		
Rated Current DC	5.8A/2.9A		
Refrigerant Type	R134a (28g)		
Co <sub>2</sub> Equivalent	0.040t		
Insulation Blowing Gas	C-Pentane		
			
<small>IEC 60335-1:2010 IEC 60335-1:2010/AMD1:2013 IEC 60335-1:2010/AMD2:2016</small>		<small>IEC 60335-2-24:2010 IEC 60335-2-24:2010/AMD1:2012 IEC 60335-2-24:2010/AMD2:2017</small>	
SN.	<a href="http://www.nationalluna.com">www.nationalluna.com</a>	Made in China	

A specification label located on the bottom panel of the fridge, will indicate the operating voltages and current rating.

Before connecting your fridge to a power source, make sure the voltage is within the indicated voltage range.