HUSSMANN®

ARCH PLUS

UPRIGHT AND CHEST COMBINATION FREEZER

MAINTENANCE AND OPERATION



PLUS



ARCH

TABLE OF CONTENTS

Key 3
Legal Information 4
Safety Instructions and General Warnings 4
Safety Instructions and Special Warnings 7
Case Dimensions 8
1.Introduction 9
2.Environmental Instructions 9
3.Unpacking 10
4.Installation 10
5.Electrical Connection 11
6.Operation 11
7.Control Panel 13
8.Maintenance and Cleaning 15
9.Problem Resolution Guide 18
10. Common Carel IR33+ controller errors 21
11. Prolonged Non-operation 21
12. Light Timer Set Up 22

Key

Safety instructions and warnings



WARNING – Hazardous situation that may indirectly cause serious injuries or death if not prevented.



CAUTION – Hazardous situation that may cause light to moderate injuries if not prevented.

NOTE – Important collective or individual notes on how to prevent damages to material or property.

NOTES AND SYMBOLS



General Warning
"DANGER!" or "CAUTION!"



Warning
"ELECTRIC SHOCK HAZARD!"



Warning
"FIRE HAZARD OF FLAMMABLE SUBSTANCES"



Warning
"RISK OF HAND INJURY"



Mandatory Action Sign
"USE SAFETY GLOVES!"



Prohibited Action Sign
"DO NOT STAND HERE"



Disposal Indication
"HAZARDOUS RESIDUES AND ELECTRONIC MATERIAL – Disposal only according with local authority guidelines. **"**

Legal Information

Read this maintenance and operation manual carefully and furnish it to other individuals responsible for handling and using this appliance.

The equipment included in this Instruction Manual was conceived to preserve previously frozen products. Therefore, any other application is considered not to be in accordance with its designated purposes.

The manufacturer does not assume any liability for damages to individuals, objects, or equipment resulting from the following:

- Incorrect application.
- Failure to observe the safety regulations in this manual.
- Failure of the electronic safety devices or power supply.
- Unauthorized alterations to the equipment and technical modifications made by the client.
- Use by unauthorized individuals.
- Use of replacement parts that are not authorized by the manufacturer.
- The manufacturer reserves the right to make technical modifications as a result of improvements made to the equipment and new developments.

Safety Instructions and General Warnings



WARNING

- Do not store explosive substances such as aerosols containing flammable propellants in this appliance!
- Do not damage the refrigerator circuit!
- Do not use mechanical devices that are not recommended by the manufacturer to accelerate defrosting!
- This equipment is not meant to be used by individuals (including children) with reduced physical, sensorial, or mental capacities or by individuals with lack of experience or knowledge, unless they have received instruction regarding the appliance’s operation by an individual responsible for safety!
- Leave the equipment’s vents unobstructed.
- Do not use electrical appliances in the compartment designated for food preservation!

- Each shelf supports a uniformly distributed maximum load of 40 kg.
- Do not use power strips or extension cords. They present a fire or electric shock hazard.
- Before any cleaning or maintenance operation, disconnect the appliance from the power source by removing the plug from the source outlet!
- If the power cord is damaged, it must be replaced by personnel qualified for this task so as to prevent hazardous situations.
- Never connect damaged equipment to the electrical circuit. If so, this presents the risk of electric shock or refrigerant leaks!
- Do not make technical modifications to the equipment. This presents a risk of injuries or electric shock!
- To disconnect the equipment, pull by the plug and not the cord! (Fig. 1)



Fig. 1- Prohibited to Pull by Cord

CAUTION

- Do not climb on the equipment!
- Do not place objects on top of the appliance. This presents a risk of injury when these objects fall.
- Loading the equipment with frozen products may cause burns on hands. Use safety gloves!
- Do not store bottles of any kind in the freezer equipment. Glass bottles containing fluids may burst from freezing and cause injuries.

NOTES:

- Upon unpacking the equipment, check if there are any loose components in the packaging. Check whether they belong to or are accessories to the appliance before disposal.
- Do not leave food in the equipment if it is not in operation.
- Do not expose the equipment to atmospheric agents.
- Never use direct or indirect jets of water on the equipment.
- Do not puncture the equipment. Noncompliance with this rule implies loss of warranty.
- The appliance must be transported or stored in the horizontal position of operation.
- The equipment must be placed in areas with proper air circulation, and there must always be at least 150 mm from the walls and ceiling to allow the necessary ventilation (Fig. 2).
- Operation of the appliance is not permitted without doors or with open doors. The doors can only be opened briefly to place or remove products. They must be completely closed immediately afterward.

Safety Instructions and Special Warnings

Equipment with Refrigerant s:

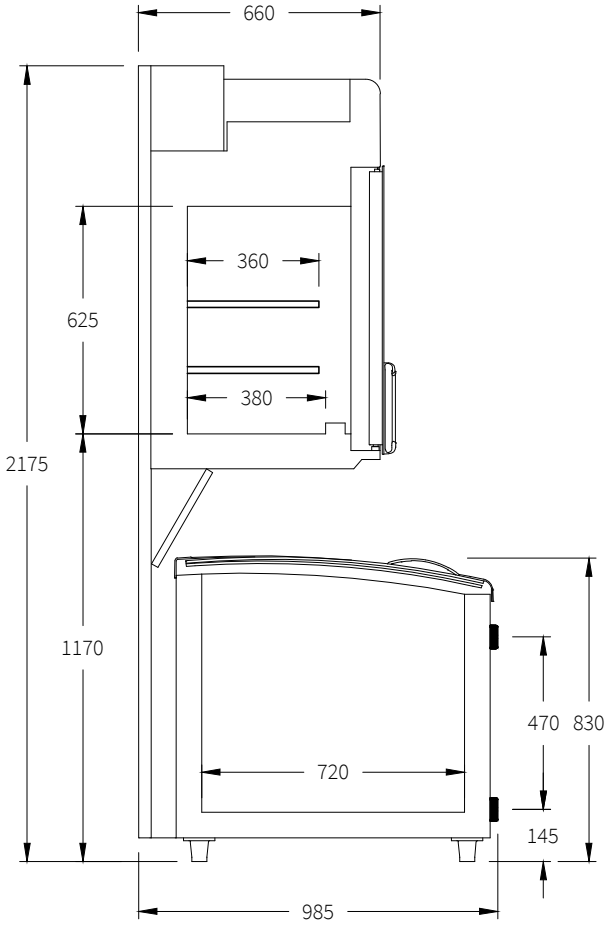
R290 (Propane)  WARNING

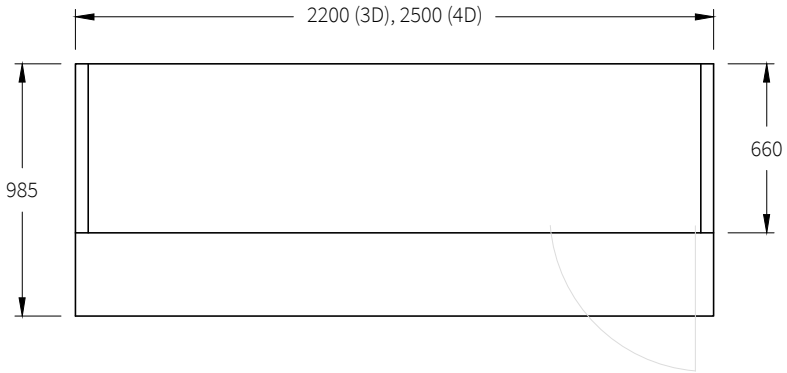
- The refrigerant R290 (PROPANE) is classified in the A3 (flammables and explosives) refrigerant group, according to the regulation DIN EN 378-1. In certain limits, it may unleash an exothermic reaction with the air and a corresponding ignition energy (source of ignition)!
- **In equipment with the R290 refrigerant, the appliances are labeled with the  (flammable gas) symbol. Each and every maintenance operation must be performed by technicians duly qualified in flammable and fluorinated refrigerants!**

R404a  WARNING

- The R404a (44% R125, 4% R134a, 52% R143a) refrigerant agent used is included in the Kyoto Protocol.
- It is a **non-flammable** gas. If released into the atmosphere, it contributes to **global warming.**
- **This gas must always be recovered.**

Case Dimensions





Additional Information
All Dimensions shown in Millimetres (mm) unless otherwise stated. Dimensions and features are subject to change. Please obtain current technical information prior to order confirmation.

1. Introduction

We offer our clients various high quality products with an excellent finish and low energy consumption.

During manufacture, our products underwent several safety and operation tests.

To obtain the equipment's maximum performance, we recommend that you read this instruction manual carefully. It contains important instructions for its installation, operation, and maintenance.

2. Environmental Instructions

The  symbol on the product or packaging indicates that this product cannot be treated as normal domestic waste.

To discard the appliance, take it to a local recycling center.

It must be delivered to the selective collection center for recycling electrical and electronic equipment. Ensuring this product's appropriate disposal will help prevent eventual negative consequences to the environment and public health, which may be brought on by improper treatment of the product. **For more detailed information on recycling this product, contact local municipal services, the selective collection center in your residential area, or the establishment where you acquired the product.**

Before discarding the equipment, make it inoperable by cutting the power cord.

To properly discard the equipment, dispose of the refrigerant and polyurethane foam insulation material in a safe and environmentally friendly manner. Ask the authorities responsible about the legal regulations on disposal!

3. Unpacking

NOTES:

- To protect the preservation equipment from damages, it must be transported in its position of operation. Noncompliance with this rule results in loss of warranty.
- Before and during unpacking of the appliance, it must be visually inspected for eventual transportation damages. Pay attention to loose parts, bulges, hazards, visible fluid losses, among others. Eventual damages must be immediately communicated to the installer. For other cases, contractual conditions apply.



WARNING

- Do not allow children to play with the packaging or its parts as they present a risk of asphyxiation.
- Damaged equipment may cause a short circuit or a short circuit to the ground. Never connect damaged equipment to the electrical circuit.

4. Installation

NOTES:

- For the equipment’s proper installation, check if it is placed on an even surface and not near sources of heat and/or direct solar radiation or near doors, windows, fans, and vents.
- Only advertising labels in the form of thin film may be placed. Do not affix thick insulation materials on the outer walls.
- The shelves and divisions need to be assembled, and no product can be placed on the base plates.
- In equipment with an automatic defrost system, to conserve and display frozen products in bulk, appropriate crates must be used to prevent the products from falling or touching the walls of the equipment.
- In humid environments with a large concentration of salt, such as fish markets, pay special attention so that water does not come directly into contact with the compressor area.

- Make sure that air circulates freely around the equipment and observe the minimum distances illustrated in Figure 2.
- Before starting up the equipment, pour 1 liter of water in the back trough for defrost water.
- For the StandAlone or if the Upperdeck is acquired separately, it must installed over a structure or another piece of equipment with a forklift.

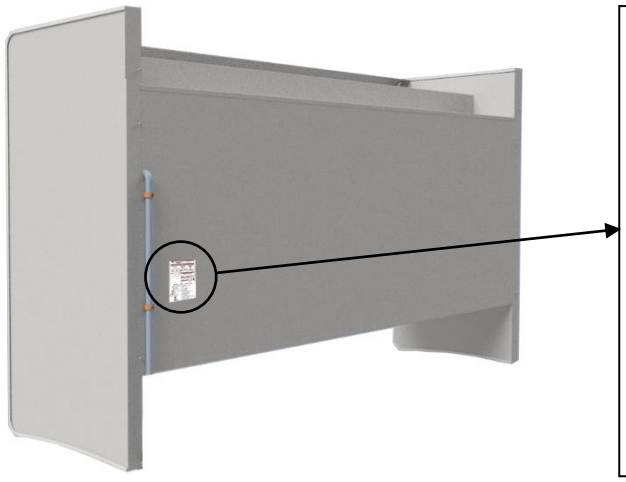


Fig. 2 – Minimum Distances for Installation

5. Electrical Connection

NOTES:

- Connect the appliance to an outlet that has contact with the ground. This connection is required.
- Check if the power source's voltage and respective frequency correspond to the recommendations in the appliance's characteristics label on the back (Fig. 3).



Technical information on characteristics label:
- Series number
- Designation and type of equipment
- Nominal current and electric power
- Nominal voltage and frequency
- Consumption
- Gross and net volume
- Climate classification*
- Refrigerant and quantity used
- Electrical diagram
- Other technical information.

Fig.3 - Location of Characteristics Label

Climate classification*	ºC	%Hr
3	25	60
4	30	55
5	40	40

WARNING

- Work on the electrical system, repairs, or replacements must be done by authorized technicians.
- Do not use inappropriate adapters, power strips, or extension cords. They may cause overheating and burn. The manufacturer will deny any liability for damages caused to people or objects resulting from noncompliance with this regulation.

6. Operation

This equipment is projected to operate at a certain room temperature and relative humidity found in the climate classification indicated on the characteristics label. Make sure that the wall and floor racks are always inside the equipment.

NOTES:

- All the equipment in the series come with glass doors. The doors are necessary for the equipment to operate appropriately. They should only be opened to place and remove products.

- In equipment with the automatic defrost feature, defrost times are predetermined in the control panel. It defrosts automatically every day during the night. Instructions for manual regulation are found under “7.1 Manual Defrosting.”
- During the defrosting period, the products do not suffer any damages as the temperatures prescribed in the regulation are not exceeded.

CAUTION

- Do not climb on or get inside the equipment. The material could break and presents a risk of physical damages and damages to the equipment.

6.1. Loading

For freezers, they must be on and have been in operation for approximately 2 hours in order to reach the intended internal temperature before placing the products inside. After this time, the previously frozen or refrigerated products can be loaded inside.

On the other hand, for refrigerators, they must be on and have been in operation for approximately 1 hour before placing the products. After this time, the products can be loaded inside.

CAUTION

In the compartment designated for freezing products, ice burns may develop on hands upon loading products into the equipment. The use of safety gloves is required!

The equipment must be loaded up to the load limits indicated on the inside of the equipment (see Fig. 4).



Fig.4 – Load Limit

Over the load limits, the adjusted storage temperature is no longer guaranteed.

7. Control Panel

The appliances come with predetermined factory temperature settings. To activate manual defrosting (in case it has this feature), follow the instructions in this chapter below.

NOTE:

- All the instructions in this chapter refer to the standard control panel (Carel IR33+) used in the equipment.



Fig.5 - Carel IR33+ Control Panel

Key	Press Key
PRG/MUTE	Press down for more than 3 seconds, access the "F" parameters (frequent) or the menu to define the password or access the “C” (settings) parameters menu; If there is an active alarm, silence the alarm.
ON-OFF/UP	Press down for more than 3 seconds to turn OFF the control panel; Press down for more than 1 second to turn ON the control panel; Upon defining parameters, increase the amount exhibited or switch over to the next parameter.
AUX/DOWN	Press down for more than 1 second to activate/deactivate the auxiliary output (lighting); Upon defining parameters, decrease the amount exhibited or switch over to the previous parameter.
SET/DEF	Press down for more than 1 second to view and/or allow the user to define the set point; Press down for more than 5 seconds to initiate manual defrosting.

7.1. Manual Defrosting

Aside from automatic defrosting, it is possible to activate manual defrosting when the temperature conditions exist by pressing the SET DEF key for 5 seconds.

7.2. Adjust Clock

Go into Parameters:

- Press the PRG key for 3 seconds.
- Introduce the corresponding password: “22”.
- Confirm by pressing the SET DEF key.

Navigate through the corresponding parameters by pressing the keys and/or AUX and modify according to the following table.

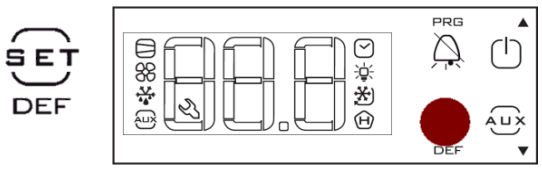
Parameters for modification	Meaning	Action
Tc-y	Current year	Validate with SET DEF key
Tc-m	Current month	
Tc-d	Current day of the month	
Tc-u	Current day of the week	
Tc-h	Current hour	
Tc-n	Current minute	

NOTES:

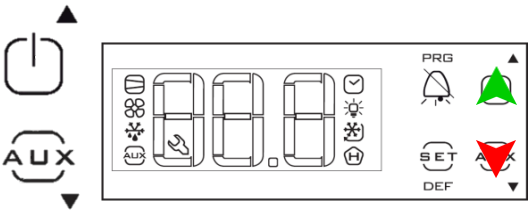
- After modifying all the parameters, record them by pressing down the PRG key continuously until the temperature appears.
- During new installation, adjust the clock; otherwise, it may defrost outside of the time determined. Also adjust the time for turning the light on/off.

7.3. Set Point Adjustment

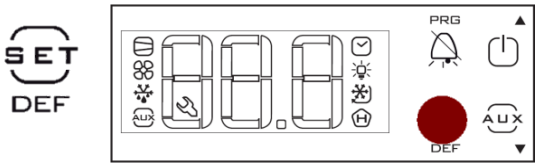
- Press the SET button
  (simply push the button)



- Change the Set Point value



- Confirm with the SET button
  (simply push the button)



NOTE:

- Pay attention to the preservation temperature specified for your products.

8. Maintenance and Cleaning

WARNING

Before any cleaning or maintenance operation, disconnect the appliance from the power source by removing the plug from the source outlet.

Do not use sharp metallic objects to remove the ice. Do not use hair dryers or other electrical heating appliances for defrosting. The use of these appliances may destroy the electrical insulators and damage the refrigerant circuit and presents a risk of electric shock and refrigerant leaks. The equipment must be completely dry before connection to the power source.

To ensure normal operation of the food preservation equipment, the following aspects need to be observed:

- Do not obstruct the free circulation of air around the appliance.
- Do not use mechanical devices that are not recommended by the manufacturer to accelerate defrosting.
- Do not destroy the refrigerator circuit.

- Do not operate electrical appliances that are not recommended by the manufacturer in the compartment for storing products.

For hygienic reasons, complete defrosting of the equipment once or twice a year is recommended to remove any accumulated ice and then clean the equipment's interior. Ice accumulation is a normal phenomenon. The quantity and speed in which ice accumulates depend on environmental conditions and the frequency in which the doors are opened.



CAUTION

The use of gloves is required during cleaning. The sharp extremities of the equipment may cause cuts on hands.

Cleaning the Interior:

- Remove all products from inside the appliance.
- Disconnect the equipment from the electrical current for the time needed to defrost the appliance walls completely.
- Clean the equipment with a soft cloth upon defrosting.
- Wash the interior with pure water, to which a little neutral detergent may be added.
- Dry with a soft cloth.
- Connect and wait for the appliance to reach operational temperature once again.
- Place the products inside.

Cleaning the Exterior:

- Clean the equipment's exterior with a soft sponge soaked in warm water and soap.
- Then clean with a soft cloth and dry.
- The refrigerator circuit's exterior (compressor, condenser, connection tubes, and remaining components) must be cleaned with a soft brush or vacuum cleaner.

- Pay special attention while cleaning the condenser. If obstructed, it will affect the equipment’s performance.
- While cleaning, be careful not to twist the tubes or disconnect cords.

Cleaning Glass Doors:

- Cleaning with cloth with abrasive microfibers and all types of coarse sponges is prohibited.
- Make sure that large quantities of water are not applied on the glass surfaces to be cleaned and that the surfaces are thoroughly dry afterward.
- The inner part of the lid can only be cleaned with a soft cotton cloth soaked with a solution of 90% distilled water and 10% isopropyl alcohol. Clean the entire area. Cleaning products can destroy the covering.
- Cleaning with cloth with abrasive microfibers and all types of coarse sponges is prohibited.
- The outer part of the door can be cleaned with normal cleaning products.

NOTES:

- Do not use abrasive materials or mops as they will definitively damage the appliance’s surface.
- Do not remove fixed parts for cleaning. If necessary, they must be cleaned by qualified personnel.

Power Cord Replacement:

If the power cord is damaged, it must be replaced by personnel qualified for this task so as to prevent dangerous situations.

9. Problem Resolution Guide

The Equipment Does Not Operate

- Check if there is an electric current.
- Check if the plug is properly inserted in the source outlet and if the voltage and frequency are appropriate for operation.

Temperature is Unsatisfactory

- Check if the equipment has been connected long enough to have reached operable temperature.
- Check if the appliance is not near heat sources.
- Check if the doors are properly closed.
- Check the temperature regulation.
- Check if the products do not exceed the load limit.
- Check if the room and defrosting probe thermostats are turned on correctly.
- Check if the condenser fan is operating.
- Check if the condenser is unobstructed.

Very Noisy Equipment

- Check if the appliance is placed on an even surface.
- Check if vents are unobstructed.
- Check if the screws and nuts are perfectly secure.
- Check if the cooling fan has any problems/does not operate properly.
- Check if the compressor has any problems/does not operate properly.
- Check if any of the condenser’s support parts are loose/broken.

Lighting Does Not Operate

- Check if lighting has power.
- Check if lighting was turned off by timer (Carel Control Panel).

Lots of Ice on Equipment Walls

- Check if the AD equipment executes automatic defrosting.
- Check if the doors' sealing is correct.
- Check if the local temperature and relative humidity conditions exceed the equipment's climate classification (found on the characteristics label).

High Electric Energy Consumption

- Check if the set point is at maximum.
- Check if the condenser is blocked.
- Check if the doors are properly closed.
- Check if the local conditions exceed the equipment's climate classification (found on the characteristics label).
- Check the equipment's ventilation channels (correct distance between objects or if cooling fan motor is operating).

Condensation in Equipment

- Check if the set point is at maximum.
- Check if the products are over the load limit.
- Check if the glass is dirty or obstructed with adhesives.
- Check if the external conditions exceed the limit of the equipment's normal operation.

If none of the above scenarios applies, we advise that you contact an authorized dealer.

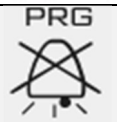


WARNING

- Never attempt to repair the equipment or its electrical components by your own means. Any repairs made by an unauthorized individual are dangerous to the user and may result in the warranty's nullification.
- In case of gas leaks or fire, do not use water to extinguish the flames. Use only dry fire extinguishers.

11. Common Carel IR33+ controller errors

Table with the most common errors that may appear on the controller display.

Code on the display	Description	Flashing icon on the display	Possible solution
E0	Faulty ambient probe		Damaged probe cable. Check that the probe is well connected to the controller.
E1	Defective defrost probe		Damaged probe cable. Check that the probe is well connected to the controller.
LO	Low temperature alarm.		Refer to point 10.2.
HI	High temperature alarm.		Refer to point 10.2.
ETC	Defective clock.		Refer to point 8.2.
EE	EEPROM error parameter unit.		Call technical assistance.

For more information about the controller, you can contact the supplier technical assistance or access the Carel controller support website.

12. Prolonged Non-Operation

If you intend to **disconnect** the equipment for a long period of time, you must proceed as follows:

- Remove the products from inside the equipment.
- Disconnect the equipment by removing the power cord from the outlet.
- Open the doors and let it adapt to room temperature.
- Clean the equipment.
- Leave the doors slightly opened to prevent odors.

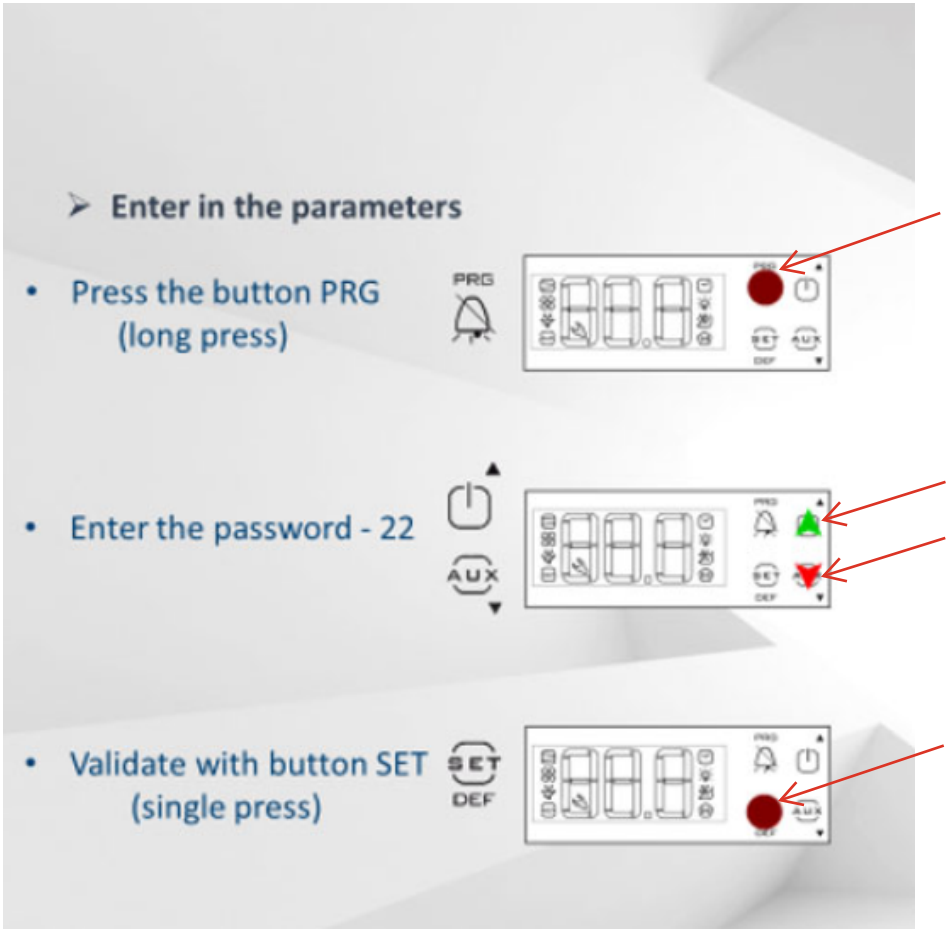
When you intend to **activate** your equipment again after not using it for more than 6 months, it is possible that the clock needs to be adjusted. To consult the instructions for adjusting the clock, see Chapter “8.2 Adjust Clock”.

Island Cabinet Light Timer Set-up

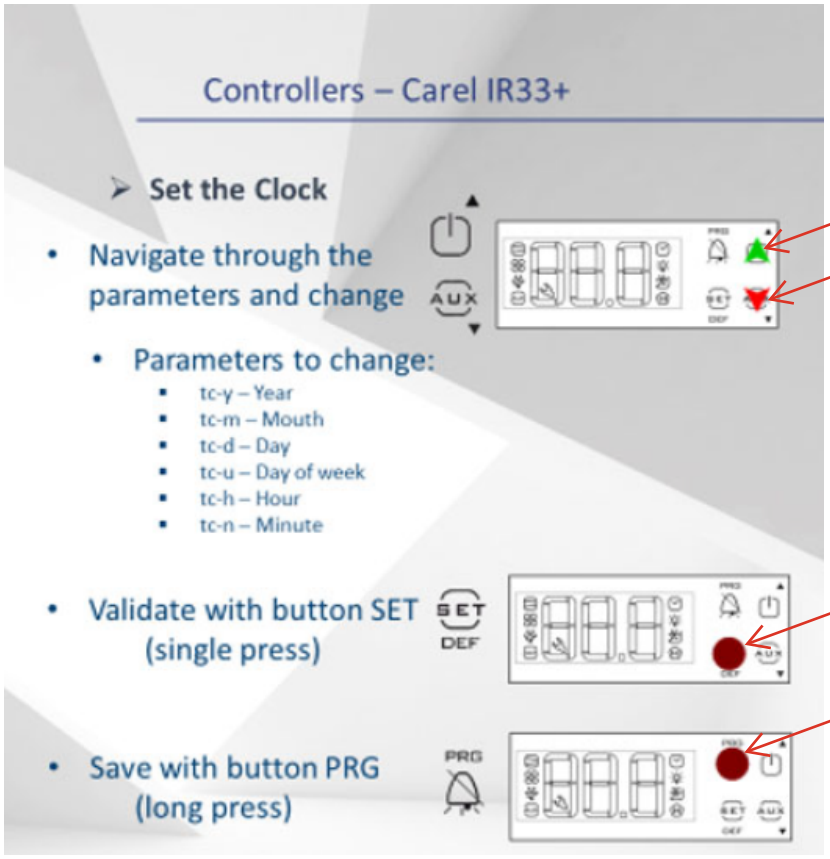


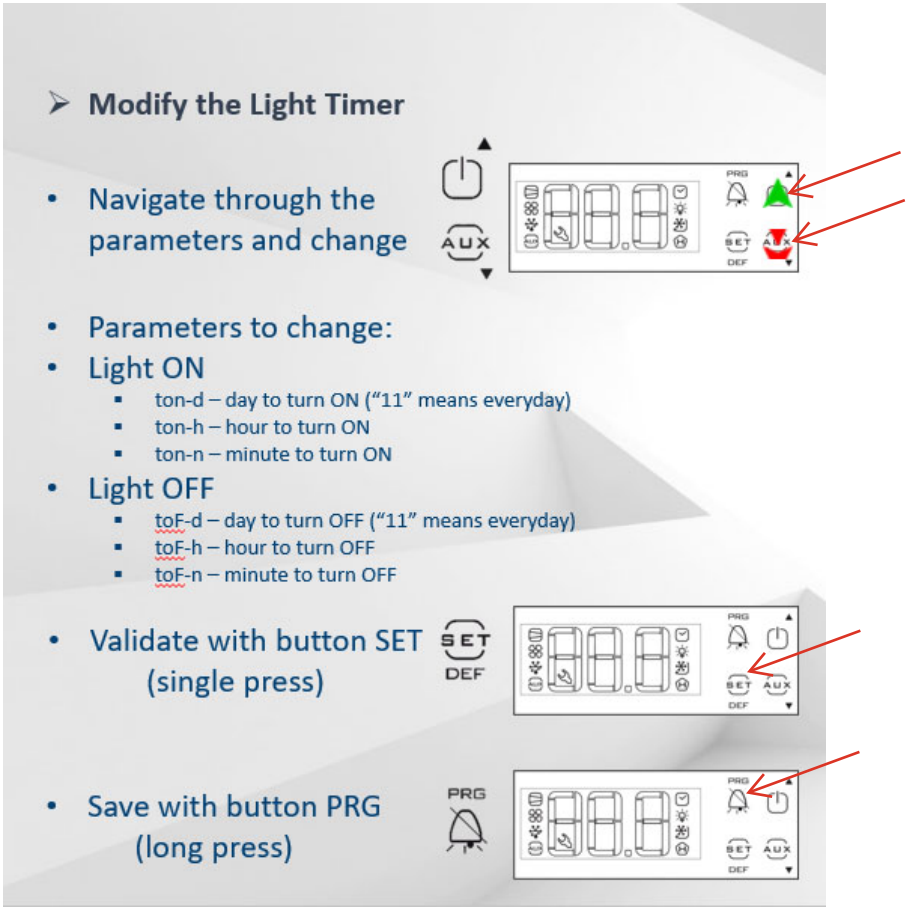


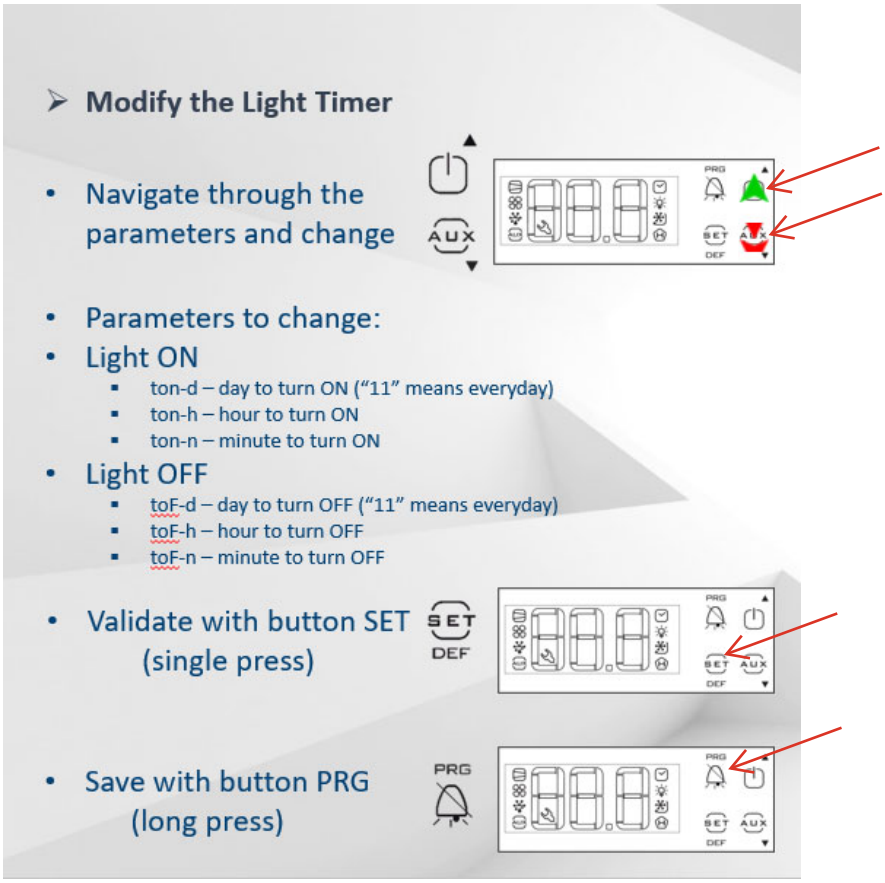
Enter Clock Mode



Set Clock Parameter






Modify the Light Timer
Navigate through the parameters and change
AUX
Parameters to change:
Light ON
ton-d – day to turn ON ("11" means everyday)
ton-h – hour to turn ON
ton-n – minute to turn ON
Light OFF
toF-d – day to turn OFF ("11" means everyday)
toF-h – hour to turn OFF
toF-n – minute to turn OFF
Validate with button SET (single press)
SET
DEF
Save with button PRG (long press)
PRG

CONTACT YOUR PROVIDER