



ECF-28, ECF-35

Compressor Freezer

Instruction Manual

Please read this operating manual carefully before starting the device. Keep it in a safe place for future reference. If the device is passed on to another person, this operating manual must be handed over to the user along with it.

The manufacturer cannot be held liable for damage resulting from **improper usage** or **incorrect operating**.

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1 Explanation of symbols

DANGER!

Safety instruction: Failure to observe this instruction will cause fatal or serious injury.

WARNING!

Safety instruction: Failure to observe this instruction can cause fatal or serious injury.

CAUTION!

Safety instruction: Failure to observe this instruction can lead to injury.

NOTICE!

Failure to observe this instruction can cause material damage and impair the function of this product.

NOTE

Supplementary information for operating the product.

Action: This symbol indicated that action is required on your part. The required action is described step-by-step.

This symbol describes the result of an action.

This refers to an element in an illustration. In this case, item 5 in figure 1 on page 3.

2 Safety instructions

2.1 General safety

WARNING!

- Do not operate the device if it is visibly damaged.
- This device may only be repaired by qualified personnel.
- Improper repairs can lead to considerable hazards.
- Persons(including children) whose physical, sensory or mental capacities or whose lack of experiences or knowledge prevent them from using this product safety should not operate it without the supervision or instruction of a responsible person.
- **Electrical devices are not toys.**
- Always keep and use the device out of the reach of children.
- Children must be supervised to ensure that they do not play with the device.
- If this device's power cable is damaged, it must be replaced by the manufacturer, customer service or a similar qualified person in order to prevent safety hazards.
- Do not store any explosive substances such as spray cans with propellants in the device.

CAUTION!

- Disconnect the device from the mains
 - before cleaning and maintenance
 - after use
- Food may only be stored in its original packaging or in suitable containers.

NOTICE!

- Only connect the device as follows:
 - -With the DC cable to a DC plug socket in the vehicle(e.g. cigarette lighter)
 - -Or external AC adaptor to the 100-240V AC mains supply - Option
- Check that the voltage specification on the type plate corresponds to that of the energy supply.
- The cooling device is not suitable for transporting caustic materials or materials containing solvents.
- Never pull the plug out of the socket by the cable.

- If the freezer is connected to the DC socket: Disconnect the cooler and other power consuming devices from the battery before connecting the quick charging device.
- If the freezer is connected to the DC socket: Disconnect the cooler or switch it off when you turn off the engine. Otherwise you may discharge the battery.

2.2 Operating the device safely

DANGER!

- Do not touch exposed cables with your bare hands. This especially applies when operating the device with an AC mains power supply.

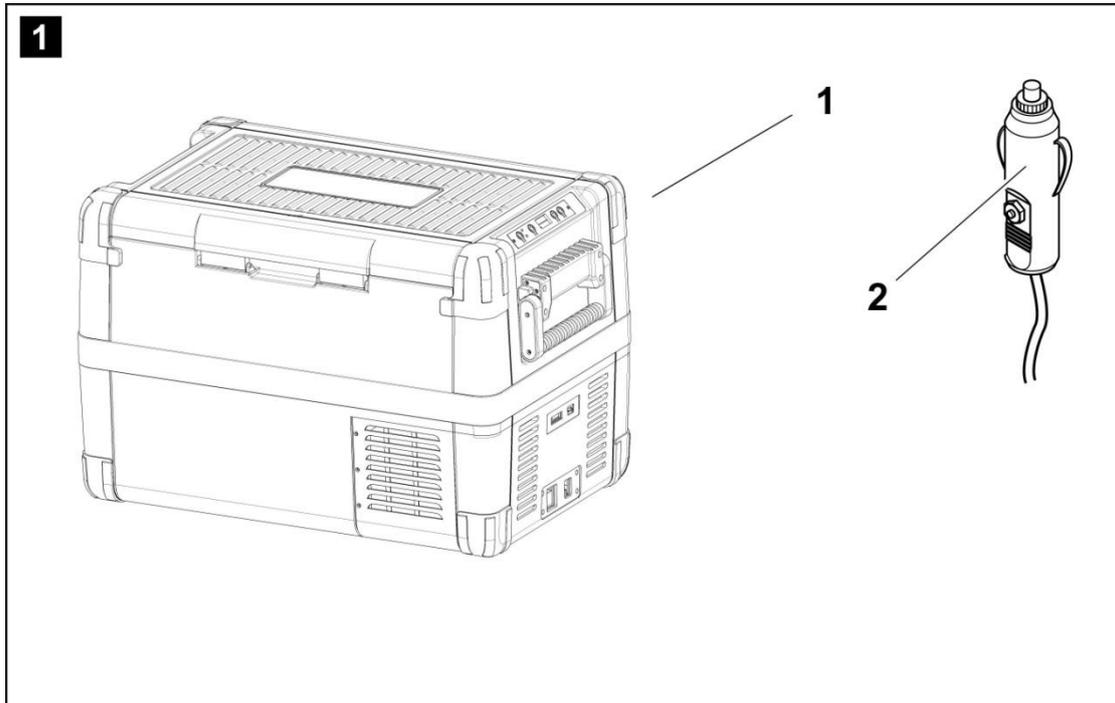
CAUTION!

- ◆ Before starting the device, ensure that the power supply line and the plug are dry.

NOTICE!

- Do not use electrical devices inside the cooler unless they are recommended by the manufacturer for the purpose.
- Do not place the device near naked flames or other heat sources (heaters, direct sunlight, gas ovens etc.).
- Danger of overheating!
- Ensure at all times that there is sufficient ventilation so that the heat that arises during operating does not build up. Make sure that the device is sufficiently far away from walls and other objects so that the air can circulate.
- Ensure that the ventilation slots are not covered.
- Do not fill the inner container with ice or fluid.
- Never immerse the device in water.
- Protect the device and the cable against heat and moisture.

3 Scope of delivery



Item	Quantity	Description
1	1	Cooler
2	1	DC cable for 12/24 V
-	1	AC adaptor for 100V-240 V ~ Option
-	1	Operating manual

4 Intended use

The Freezer is suitable for cooling and freezing foods. The device is also suitable for use on boats.

The device is designed to be operated from a 12V---or 24V---on-board supply socket of a vehicle (e.g. cigarette lighter), boat for caravan

CAUTION! Health hazard!

Please check if the cooling capacity of the device is suitable for storing the food or medicine you wish to cool.

5 Function description

The Freezer can chill products, keep them cool as well as freeze them. A low maintenance refrigerant circuit with compressor provides the cooling. The generous insulation and powerful compressor ensure efficient and fast cooling.

The freezer is portable.

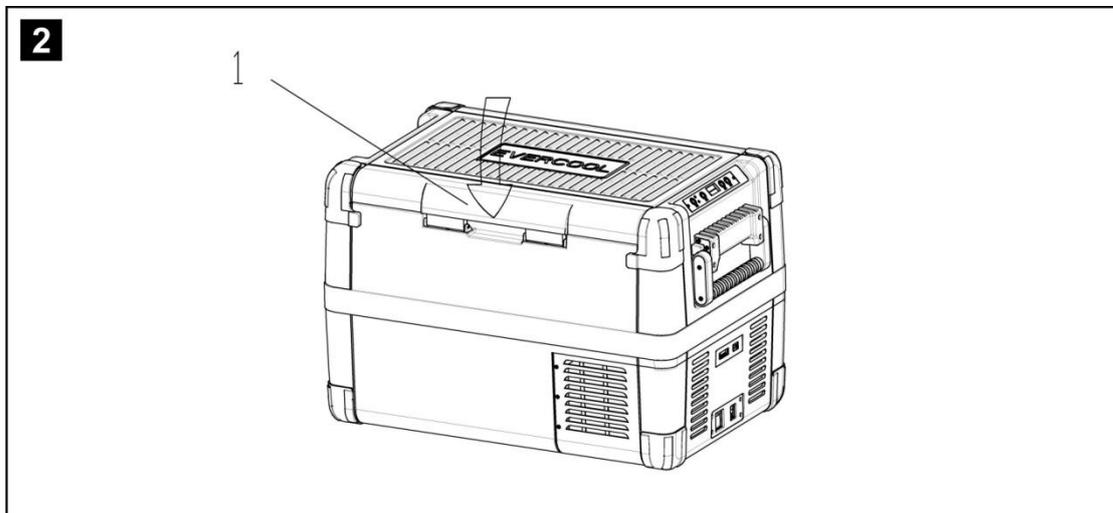
The freezer can withstand a constant heel (inclination) of 30°, for example when used on boats.

5.1 Scope of functions

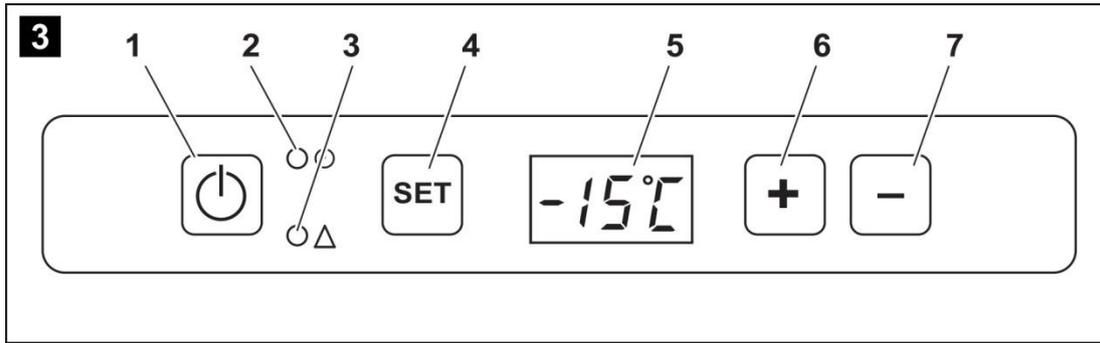
- Power supply with priority circuit for connecting to the AC mains
- Three-level battery monitor to protect the vehicle battery
- Display with temperature gauge in °C and °F
- Switches off and automatically at low battery voltage
- Temperature setting: With two buttons in steps of 1°C(2°F)
- Foldable carrying handles
- Emergency switch (where fitted)
- Removable wire basket

5.2 Operating and display elements

Latch for lid, fig.2



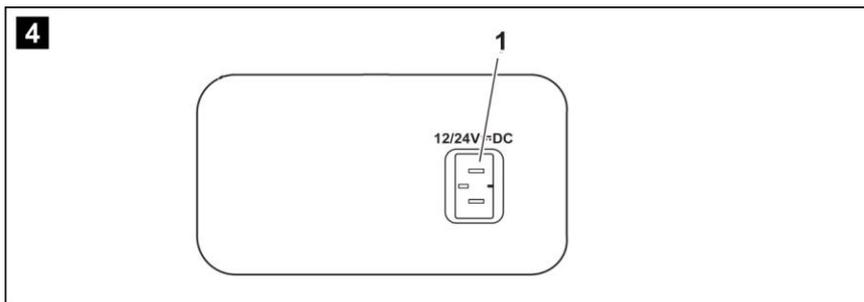
Operating panel, fig3



Item	Description	Explanation	
1	ON OFF	Switches the cooler on or off when the button is pressed for between one and two seconds	
2	POWER 	Status indication	
		LED lights up green: Compressor is on	
		LED lights up orange: Compressor is off	
3	ERROR	Number of flashes	Error Type
	LED flashes red	5	Thermal cut-out of controller
		4	Minimum motor speed error
		3	Motor start error
		2	Fan over-current cut-out
		1	Battery protection cut-out

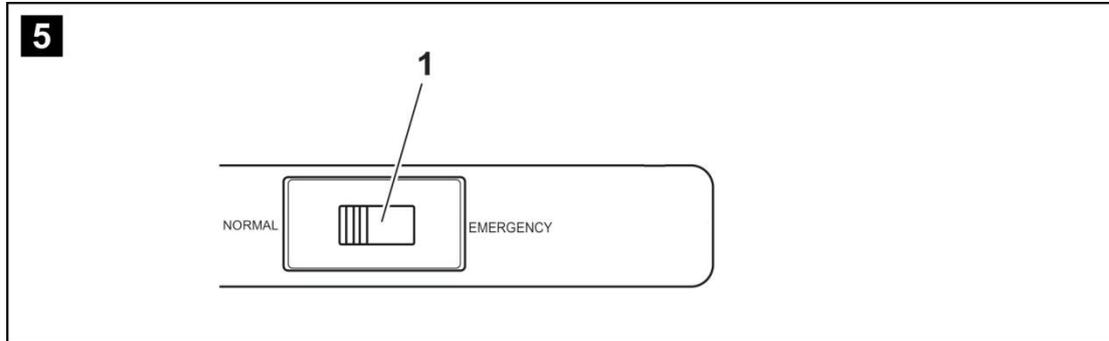
Item	Description	Explanation
4	SET	Selects the input mode -Temperature setting -Celsius or Fahrenheit display -Set battery monitor
5	-	Display, shows the information
6	UP+	Press once to increase the value
7	DOWN-	Press once to decrease the value

Connection sockets, fig4



Item	Description
1	Connection socket DC voltage supply

Emergency switch (when fitted), fig5



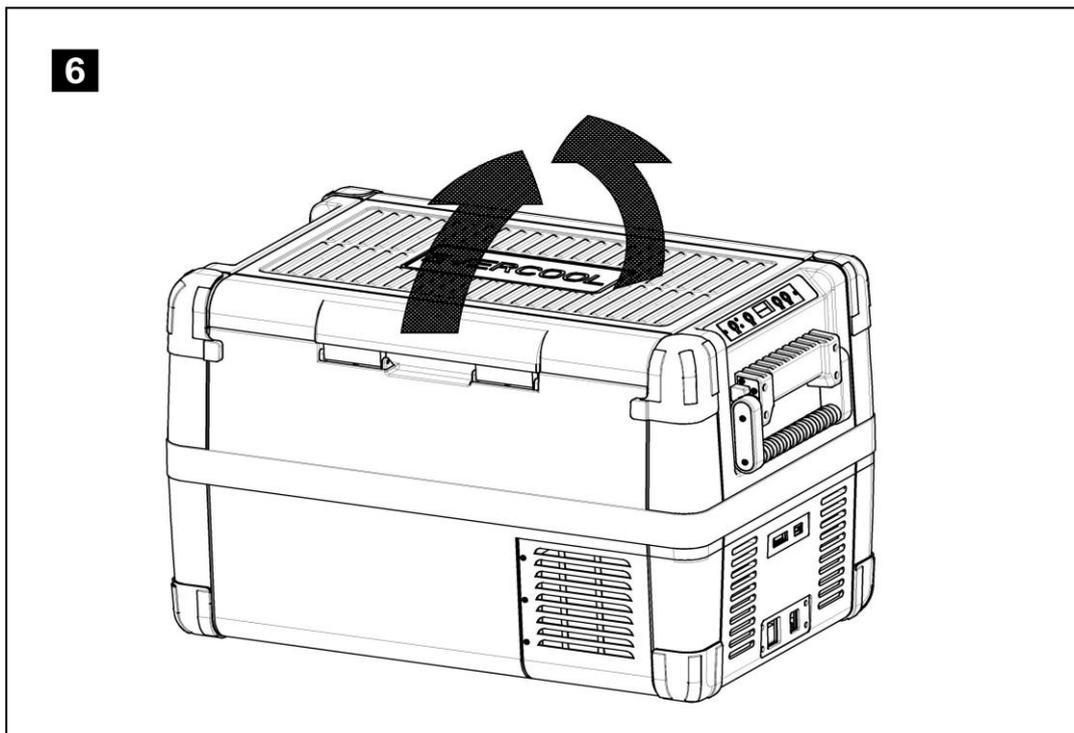
Item	Description
1	Emergency switch

6 Operation

6.1 Before initial use

NOTE

Before starting your new cooler for the first time, you should clean it inside and outside with a damp cloth for hygienic reasons (please also refer to the “cleaning and maintenance” on page 19).



Selecting the temperature units

Temperature display units can be switched between Celsius and Fahrenheit as follows:

- Switch on the cooler.
 - Press the “SET” button (fig. **3** 4, page 9) twice.
 - Use the “UP+ (fig. **3** 6, page 9)” or “DOWN – (fig. **3** 7, page 9)” buttons to select Celsius or Fahrenheit.
- ✓ The selected temperature units then appear in the display for a few seconds. The display flashes several times before it returns to the current temperature.

6.2 Energy saving tips

- Choose a well ventilated installation location which is protected against direct sunlight
- Allow warm food to cool down first before placing it in the device to keep cool.
- Do not open the cooling device more often than necessary.
- Do not leave the cooler unit open for longer than necessary.
- Defrost the cooler once a layer of ice forms.
- Avoid unnecessary low temperatures.

6.3 Connecting the cooler

Connecting to a battery (Vehicle or boat)

The cooler can be operated with 12 V or 24 V \equiv

Notice! Danger of damage!

Disconnect the cooler and other consumer units from the battery before you connect the battery to a quick charging device.

Overvoltage can damage the electronics of the device.

For safety reasons the cooler is equipped with an electronic system to prevent the polarity reversal. This protects the cooler against short-circuiting when connecting to a battery.

- Plug the 12/24 V connection cable into the device DC voltage socket (fig. **1** 2, page 7) and also into a 12 V or 24 V cigarette lighter socket.

6.4 Using the battery monitor

The device is equipped with a multi-level battery monitor that protects your vehicle battery against excessive discharging when the device is connected to the on-board 12/24 V supply.

If the cooler is operated when the vehicle ignition is switched off, the cooler switches off automatically as soon as the supply voltage falls below a set level. The cooler will switch back on once the battery has been recharged to the restart voltage level.

NOTICE! Danger of damage!

When switched off by the battery monitor, the battery will no longer be fully charged. Avoid starting repeatedly or operating current consumers without longer charging phases. Ensure that the battery is recharged!

In “HIGH” mode, the battery monitor responds faster than at the levels “LOW” and “MED” (see the following table).

Battery monitor mode	LOW	MED	HIGH
Switch-off voltage at 12V	10.1 V	11.4V	11.8V
Restart voltage at 12 V	11.1V	12.2V	12.6V
Switch-off voltage at 24V	21.5V	24.1V	24.6V
Restart voltage at 24V	23.0V	25.3V	26.2V

The battery monitor mode can be selected as follows:

Switch on the cooler.

- Press the “SET” button (fig. **3** 4, page 9) three times
- Use the “UP+ (fig. **3** 6, page 9)” or “DOWN – (fig. **3** 7, page 9)” buttons to select the battery monitor mode.
- Digital display will be as follows:
Lo (LOW), Md(MED), Hi(HIGH)
- ✓ The selected mode then appears in the display for a few seconds. The display flashes several times before it returns to the current temperature.

NOTE

When the cooler is supplied by the starter battery. Select the battery monitor mode “HIGH”. If the cooler is connected to a supply battery, the battery monitor mode “LOW” will suffice.

6.5 Using the freezer

NOTICE! Danger of overheating!

Ensure at all times that there is sufficient ventilation so that the heat that generated during operation can dissipate. Ensure that the ventilation slots are not covered. Make sure that the device is sufficiently far away from walls and other objects so that the air can circulate.

➤ Place the Freezer on a firm foundation.

Make sure that the ventilation slots are not covered and that the heated air can dissipate.

NOTE

Place the freezer as shown (fig. **1**, Page 7). If you operate the box in a different position it can be damaged.

➤ Close the freezer, see “Connecting the Freezer” on page.

NOTICE! Danger from excessively low temperature!

Ensure that the only those objects are placed in the cooler that are intended to be cooled at the selected temperature.

- Press the “ON/OFF” button (fig. **3** 1, page 9) for between one and two seconds.
- The LED lights up (fig. **3** 2, page 9)
- The display (fig. **3** 5, page 9) switches on and shows the current cooling temperature.

NOTE

Displayed temperature

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The temperature displayed is that of the middle of the large interior compartment

All models:

Temperature elsewhere in the compartment (sway from centre) will deviate from displayed temperature.

The freezer starts cooling the interior.

NOTE

When operating with the battery, the display switches off automatically if the battery voltage is low. The LED flashes orange.

Latching the cooler lid

- ◆ Close the lid.
- ◆ Press the latch (fig. **2** 1, page 9) down, until it latches in place audibly.

6.6 Setting the temperature

- Press the “SET” button (fig. **3** 4, page 9) once.
- Use the “UP + (fig. **3** 6, page 9)” and “DOWN – (fig. **3** 7, page 9)” buttons to select the cooling temperature.
- ✓ The cooling temperature appears in the display for a few seconds. The display flashes several times then the current temperature is displayed again.

6.7 Using the emergency switch (where fitted)

The emergency switch (fig. **5** 1, page 10) is located below the control panel. For normal operation the switch is in the “NORMAL USE” position.

- ✓ If an electronic control failure occurs, slide the switch to “EMERGENCY OVERRIDE” position

NOTE

If the switch is in the “EMERGENCY OVERRIDE” position, the cooler freezes with full cooling capacity.

6.8 Switching off the Freezer

- Empty the Freezer.
- Switch the Freezer off.
- Pull out the connection cable.

If you do not want to use the freezer for a longer period of time:

- ✓ Leave the cover slightly open. This prevents odour build-up.

6.9 Defrosting the cooler

Humidity can form frost in the interior of the cooling devices or on the evaporator. This reduces the cooling capacity. Defrost the device in good time to avoid this.

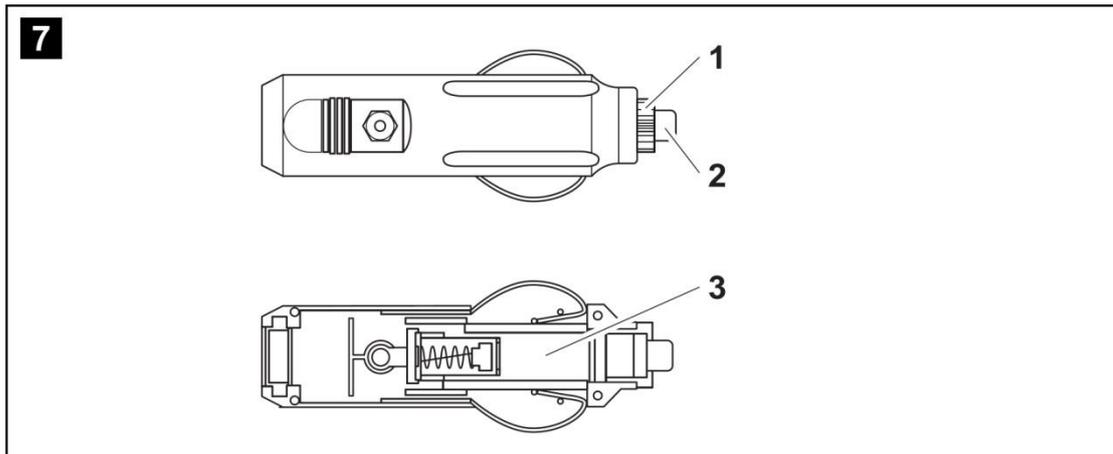
NOTICE! Danger of damage!

Never use hard or pointed tools to remove ice or to loosen objects which have frozen in place.

To defrost the freezer, proceed as follows:

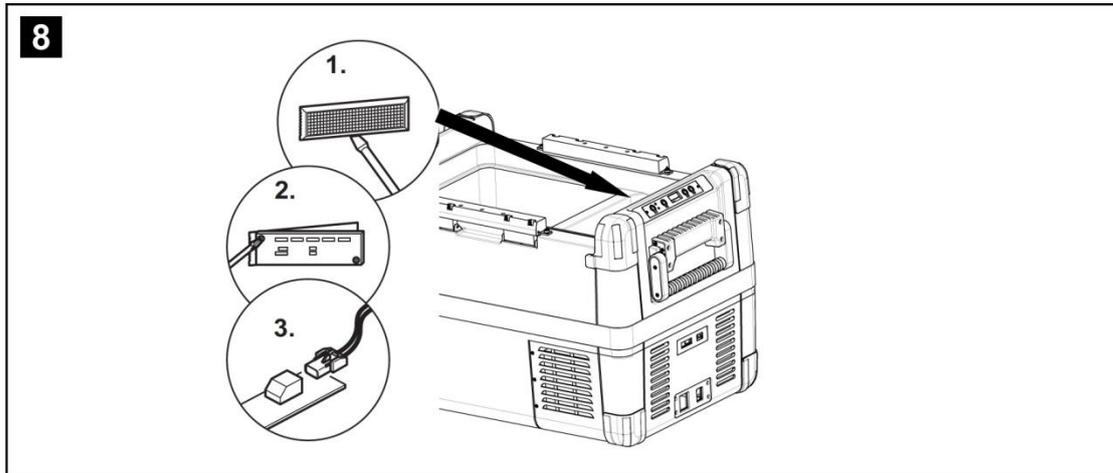
- Take out the contents of the cooling device.
- If necessary, place them in another cooling device to keep them cool.
- Switch off the device.
- Leave the lid open
- Wipe off the defrosted water

6.10 Replacing the plug fuse (12/24 V)



- Turn anticlockwise the cap (fig. **7** 1) to move it and pin (fig. **7** 2) from the plug.
- Press one end of defective fuse (fig. **7** 3) with a new one that has the same rating
- Re-assemble the plug in the reverse order.

6.11 Replacing the light PCB



- Pry out the transparent cover with a screwdriver (fig. **8** 1)
- Unscrew the PCB mounting screws (fig. **8** 2)
- Pull out the plug from the PCB (fig. **8** 3)
- Replace the defective light PCB with a new one.
- Fit new PCB using reverse of removal instructions.
- Press the transparent cover back into the housing.

7 Cleaning and maintenance

WARNING!

Always disconnect the device from the mains before you clean and service it.

NOTICE! Risk of damage

- Never clean the cooler under running water or in dish water.
- Do not use abrasive cleaning agents or hard objects during cleaning as these can damage the cooler.
- ✓ Occasionally clean the device interior and exterior with a damp cloth.

8 Troubleshooting

Fault	Possible cause	Suggested remedy
Device does not function, LED does not glow	There is no voltage present in the 12/24 V socket (cigarette lighter) in your vehicle.	The ignition must be switched on in most vehicles to apply current to the cigarette lighter.
The device does not cool (plug is inserted "POWER" LED is lit).	Defective compressor	This can only be repaired by an authorized customer services unit.
The device does not cool (plug is inserted, "POWER" LED flashed orange, display is switched off).	Battery voltage is too low.	Test the battery and charge it as needed.
When operating from the 12/24-V socket (cigarette lighter): The ignition is on and the device is not working and the LED is not lit. Pull the plug out of the socket and make the following checks	The cigarette lighter socket is dirty. This results in a poor electrical contact	If the plug of your cooler becomes very warm in the cigarette lighter socket, either the lighter socket must be cleaned or the plug has not been assembled correctly
	The fuse of the 12/24 V plug has blown.	Replace the fuse(10A) in the 12/24 V plug, see " Replacing the plug fuse(12/24 V)" on page 18
	The Vehicle fuse has blown	Replace the vehicle's 12/24 V socket fuse (usually 15 A). Please refer your vehicle's operating manual
The display shows an error message (e.g. "Err1") and the appliance does not cool.	The appliance has switched off due to an internal fault	This can only be repaired by an authorized repair centre.

9 Technical data

Item No.	ECF28	ECF35
Connection voltage:	DC 12/24V 	
Power consumption	DC 12V  3.2A DC 24V  1.6A	DC 12V  3.8A DC 24V  1.9A
Cooling capacity:	-18°C to +10°C	
Category:	1	
Gross volume:	28L	35L
Climate class:	N, T	
Ambient temperature:	+16°C to +43°C	
Noise emission:	43 dB(A)	
Dimensions(W*H*D)in mm:	557*374*367	557*374*407
Weight:	12.0KGS	14.0KGS

NOTE

If the ambient temperature is above +32° C(+90° F), the minimum temperature cannot be attained.

The cooling circuit contains R -1234yf.