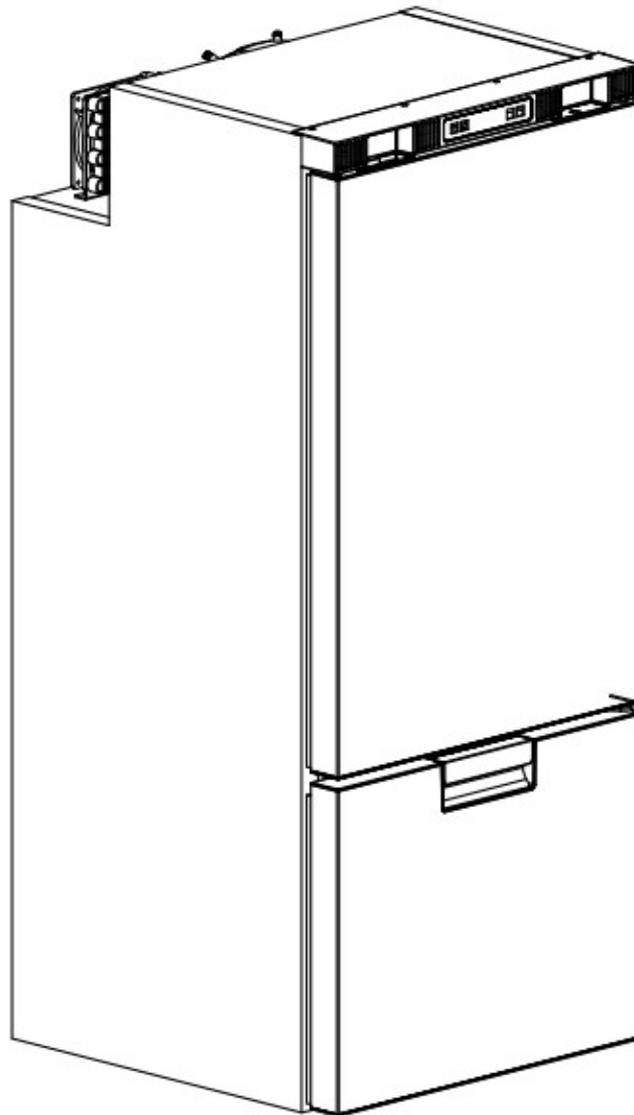


Belluna DC Compressor Refrigerator

User Manual

Model: 176 Liter



Congratulations on choosing our high-efficiency DC compressor refrigerator. We are confident that its reliable performance and innovative features will provide you with outstanding cooling convenience for years to come. Please read this manual thoroughly before initial use to ensure optimal operation and safety.

1.Safety Instructions & Important Warnings



WARNING: Failure to follow these instructions may result in electric shock, fire, equipment damage, or personal injury.

1.1 Electrical Safety

- Use **ONLY 12V/24V DC** power sources within the specified voltage range (12V: 10.5V-17V; 24V: 21V-30V).
- Ensure correct polarity when connecting to the DC power supply to prevent controller damage.
- Always use undamaged power cords and a properly rated fuse in the circuit.
- Avoid using unstable or poor-quality power inverters, which may cause compressor failure.

1.2 Installation & Ventilation

This refrigerator is designed for built-in installation in RVs. Adequate ventilation is essential and must be provided by the vehicle's dedicated ventilation system.

- Ventilation: The refrigeration system is located at the rear of the unit. Sufficient ventilation space around it must be ensured. Do not block ventilation openings.
- Installation: Install the unit on a stable, level surface within its compartment. Do not tilt beyond 10° during operation.
- Warning: Inadequate ventilation is a common cause of overheating and reduced performance

1.3 Prohibited Actions & Items

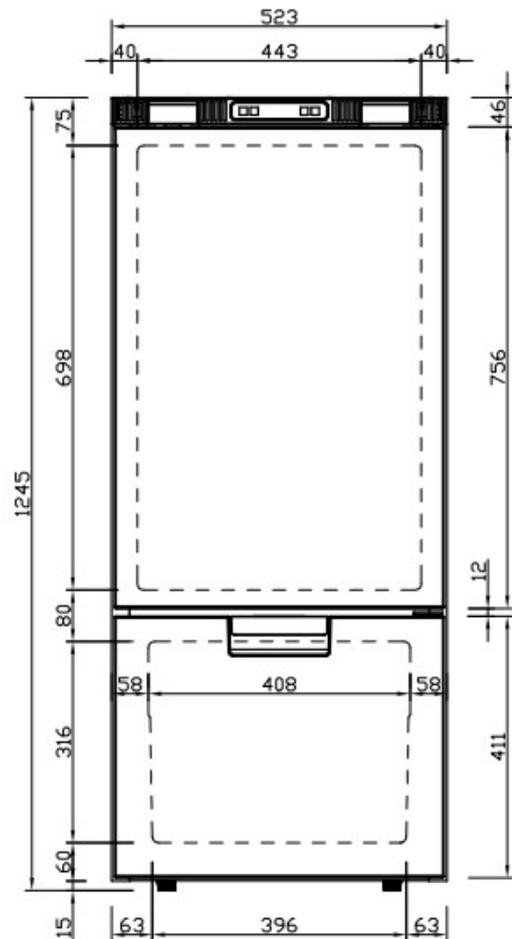
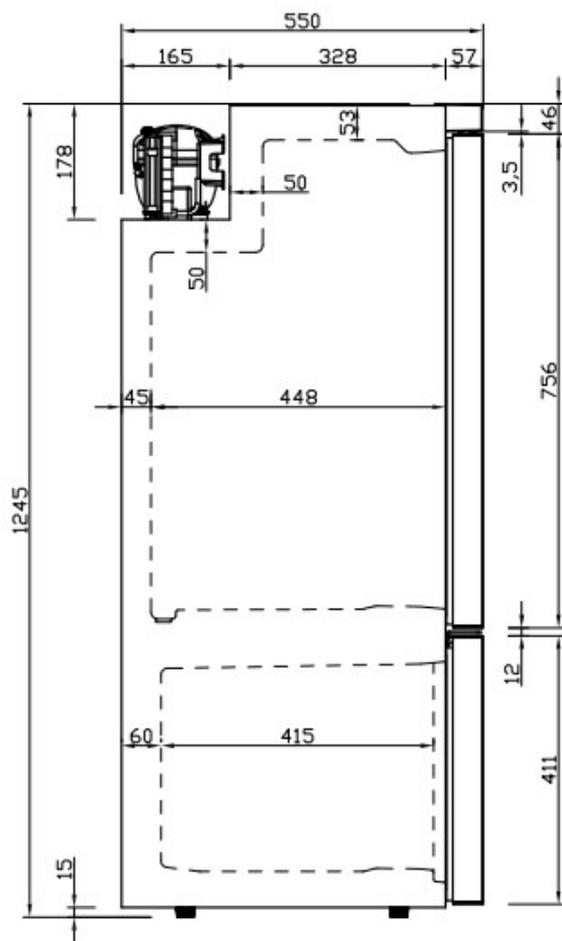
- Do not disassemble or attempt to repair the refrigerant system. It contains pressurized gas (R600a). All service must be performed by authorized personnel.
- Never store flammable substances (e.g., gasoline, aerosol cans), corrosive chemicals, or dry ice inside the refrigerator.
- Do not allow children to play with or climb inside the appliance.

2.Initial Use

- After transportation, keep the refrigerator upright for at least 4 hours before connecting to power.
- Clean the interior with a soft, damp cloth and mild detergent. Dry thoroughly.
- Connect to a stable DC power source within the specified voltage range.
- Set the desired temperature. It may take 4-6 hours for the compartments to reach their set temperatures.

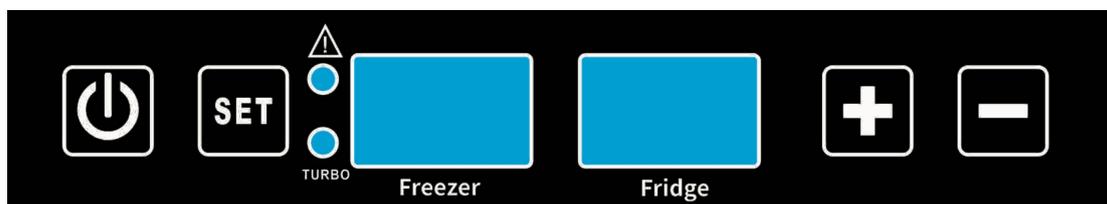
3.Main Technical Parameter

Model No.	176 L
Capacity	123L Freezer, 54L Fridge
Voltage	DC 12/24V
Input power	Normal : 45W - Turbo : 65W
Refrigerant	R600a/40g
Isolation	C-Pentane
Climate class	Normal : ST - Turbo : T
CO2 equivalent	0.00012t
Freezer temperature	From -40°C to +40°C
Fridge temperature	From -40°C to +40°C
Product dimension	H1245 x W523 x D550 x mm



4. Operating the Refrigerator

4.1 Control panel



Turn ON/OFF.



Short Press: Switches control between Freezer and Fridge compartment temperature settings.

Long Press (3s): Activates/Deactivates Turbo Mode (indicator light  will illuminate).



Temperature Rise



Temperature Drop

After adjusting the temperature, the display will automatically revert to showing the actual interior temperature if no further buttons are pressed. The screen data will disappear after one minute of inactivity. Press any button to restore brightness.

4.2 Mounting the drain-pipe

- Lay the refrigerator on its side in order to access the bottom side.
- Connect and secure the drainage pipe to the bottom drainage outlet.

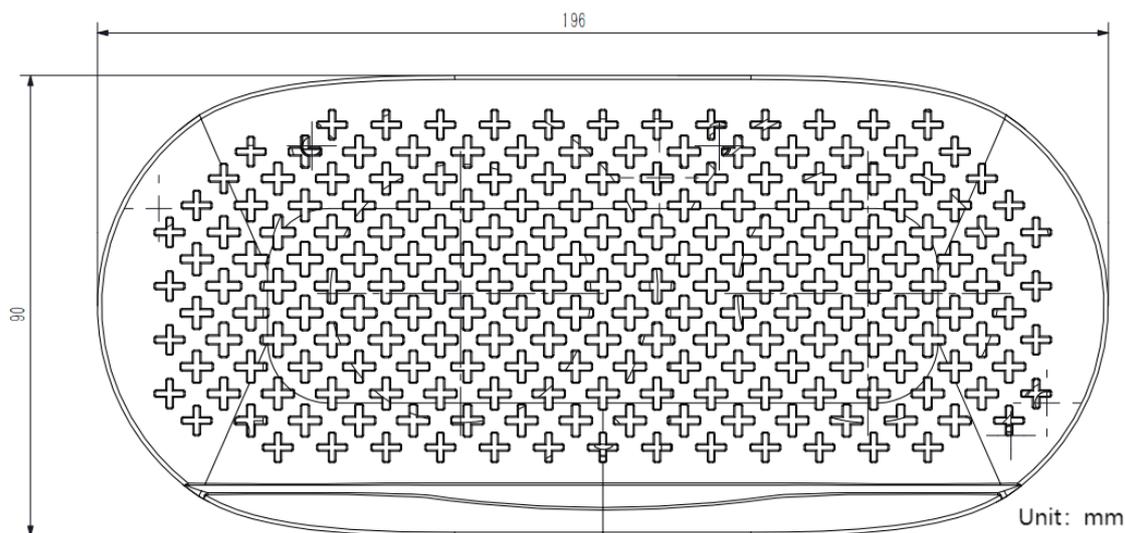
4.3 Partitioned Energy-Saving Management

To conserve energy when one compartment is not in use, you can turn it off independently.

- Turn OFF Freezer: Long press the  button for 3 seconds.
- Turn OFF Fridge: Long press the  button for 3 seconds.
- Restart: Repeat the same long-press operation on the corresponding button.

4.4 Internal Circulation Fan

The fans are installed inside the fridge compartment to facilitate rapid air circulation, ensuring uniform and stable temperature distribution throughout the interior. The fans operate when the door is closed and automatically pause when the door is opened. When the door remains closed and the set temperature is reached—causing the compressor to stop—the fan continues running to optimize internal airflow.



4.5 Auto Defrost Function

When the refrigerator's compressor has accumulated 8 hours of operation, the auto defrost program will activate automatically. During this cycle, the compressor will pause for 10 minutes. Two minutes after the compressor stops, the defrost heating element will automatically turn on and operate for 5 minutes before shutting off. The entire defrost process is completed automatically and requires no manual intervention.

4.6 Changing the direction of opening the door

The freezer door original standard is opened from left to right. You can also change the hinge of the door, so that it opens to the left rather than to the right.

Remove the door hinges and reposition them to the opposite side to switch the opening direction.

Tutorial: <https://belluna.eu/scharnierwechsel/>

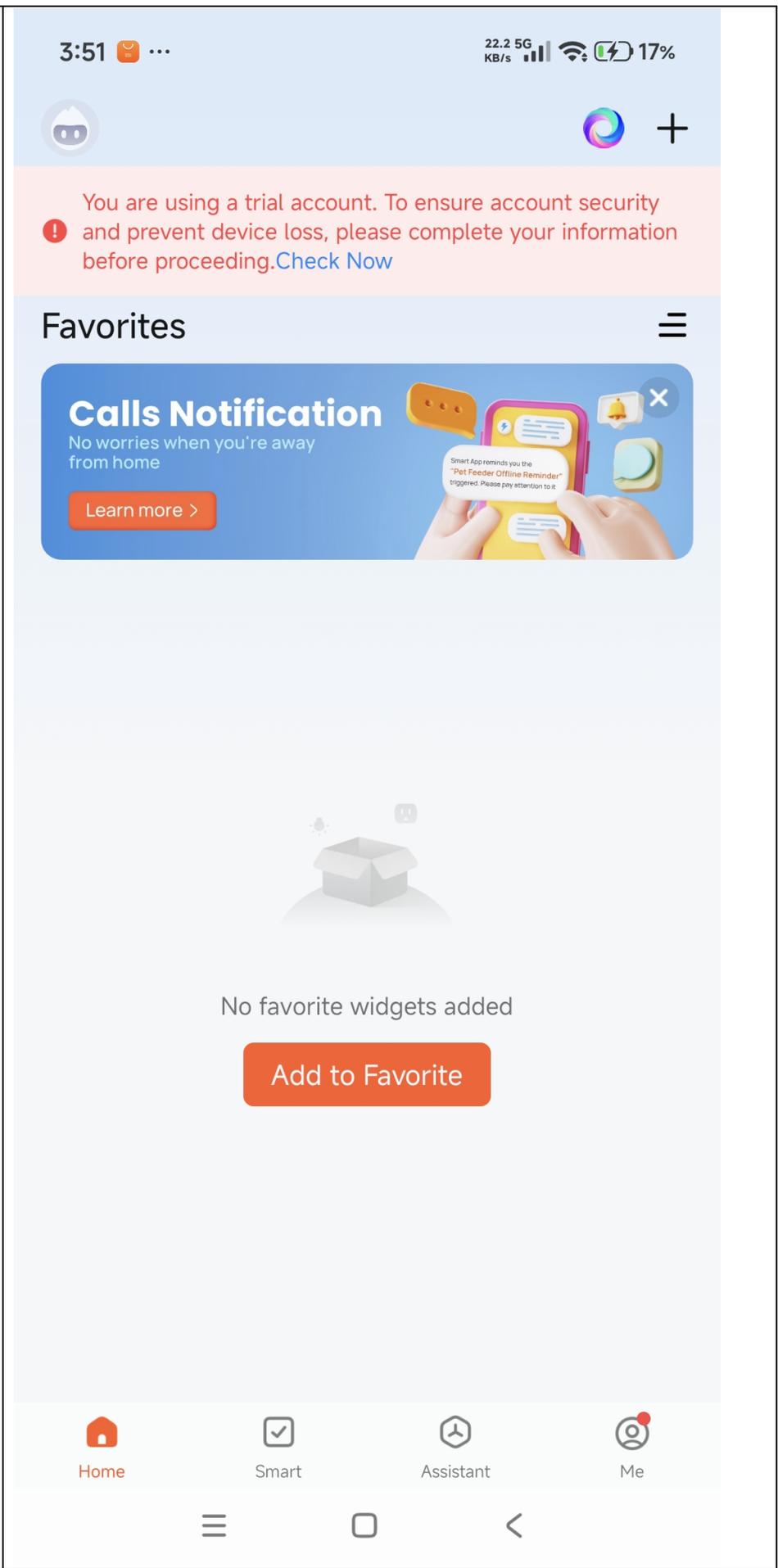
5. Software application

The refrigerator is equipped with wireless control function.

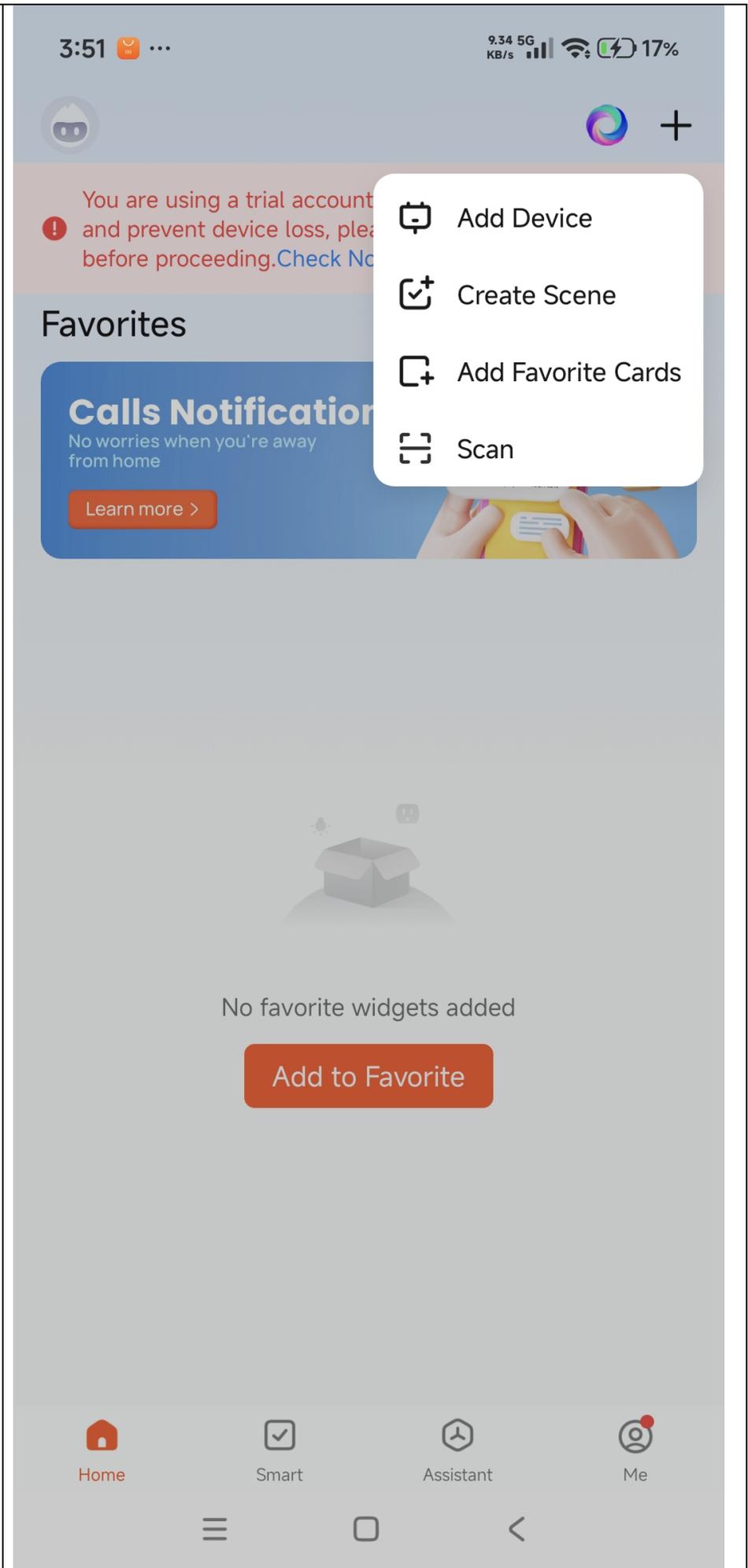
How to connect

- Download the **TUYA Smart** app, Open it and complete user registration. We recommend skipping the registration
- Press and hold the  and  button on for 3 more seconds until "**APP**" words appears on the display screen.

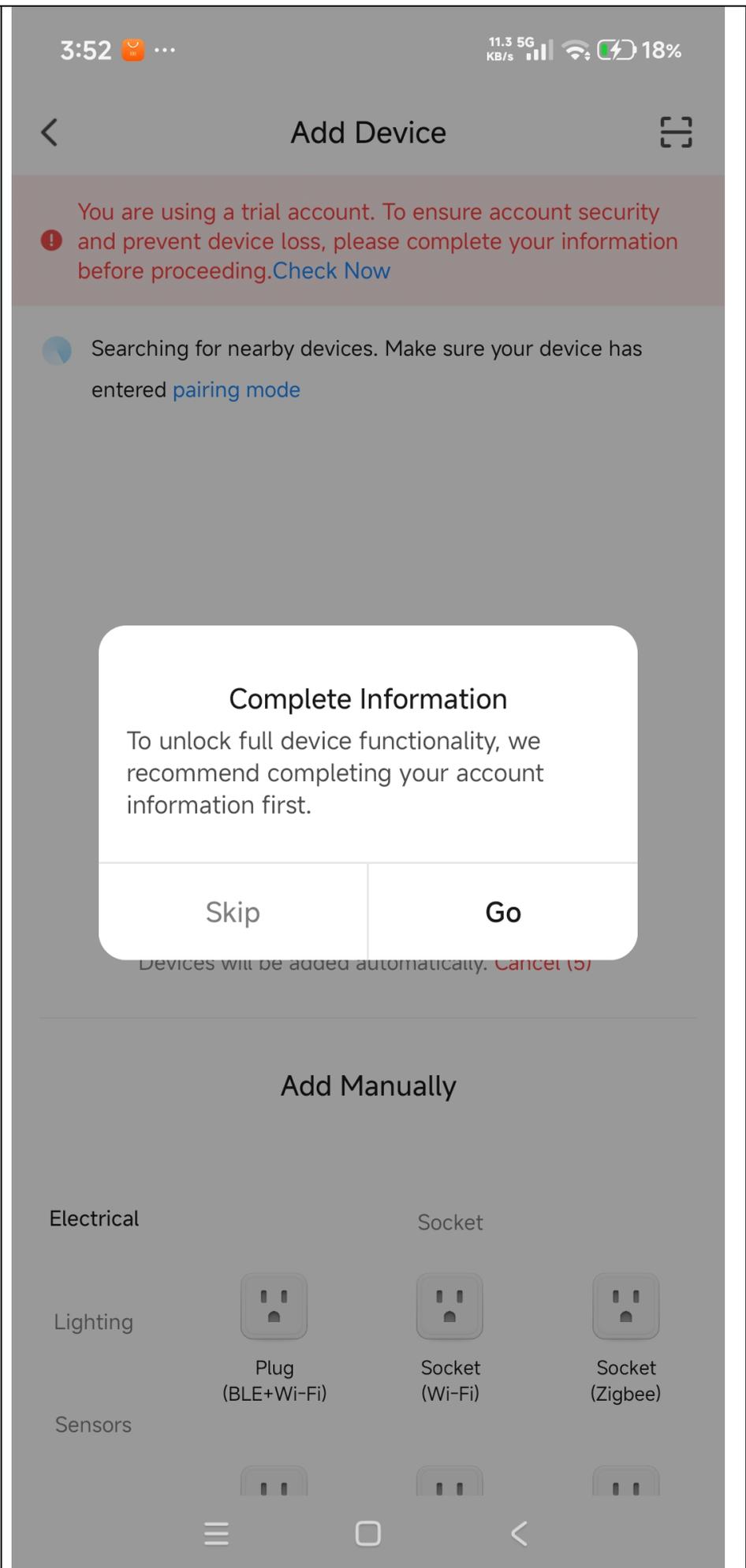
In the App you will see this picture. Click on the plus (+) sign on the top right corner



Click on Add device after you have pressed the SET and + button on the control panel of your fridge. The panel should display “App”

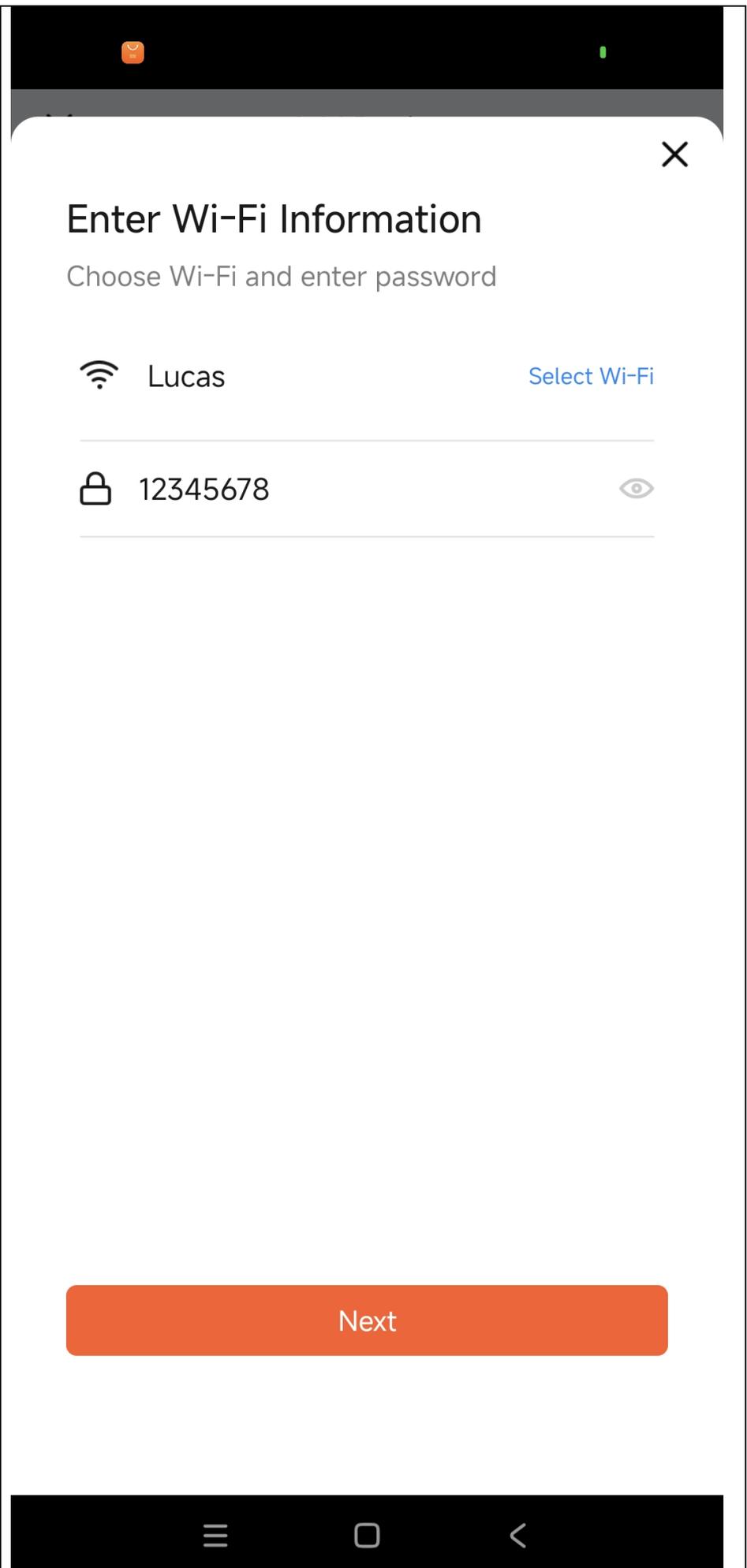


At this stage we recommend to skip the registration. You can register at a later stage. The registration gives you the option of being notified if something goes wrong with the fridge. For example when the desired target temperature is missed by the current temperature. These functions are payable though. You can add them later if you want. For the moment we recommend to skip this step. All the other functions are free of charge with the current licence.



Enter / choose here the Wi-Fi and the password of the router or Hotspot you want to connect the fridge to. Your device must be at this moment connected to the same hotspot.

In our example the Router SSID is called Lucas and the password is 12345678.



The screenshot shows a mobile application interface with a dark status bar at the top containing an orange notification icon and a green battery indicator. The main content area is white and features a dialog box titled "Enter Wi-Fi Information" with a close button (X) in the top right corner. Below the title, the instruction "Choose Wi-Fi and enter password" is displayed. The first input field contains a Wi-Fi icon, the text "Lucas", and a blue "Select Wi-Fi" link to its right. The second input field contains a lock icon, the text "12345678", and an eye icon to its right. At the bottom of the dialog, there is a prominent orange button labeled "Next". The bottom of the screen shows a dark navigation bar with three icons: a hamburger menu, a square home button, and a left-pointing arrow.

Enter Wi-Fi Information

Choose Wi-Fi and enter password

 Lucas [Select Wi-Fi](#)

 12345678 

Next

3:54

8.66 5G
KB/s



Add Device

1 device(s) added successfully



Belluna fridge 6

Added successfully



0 device(s) being added

Done

After the fridge has been detected it will be displayed.

Click Done



Name of the device:
Belluna fridge 6

Power: on

Current temperature of
the freezer -19°C
Target temperature of
the freezer: -18°C
Freezer: on

Current temperature of
the fridge +2°C
Target temperature of
the fridge: +5°C
Freezer: on

Turbo is turned off
Dual Zone is turned on

Switching range: 4°C
If the fridge is set to
+5°C then the
compressor turns off
when it reaches +5°C
and it turns back on
when it reaches +9°C
(5+4=9)

Schedule: press it to be
able to set temperatures
depending on day of the
week and time of the
day

3:54 16.5 5G KB/s 18%

< Belluna fridge 6 >

  Power

Freezer -19°C - -18 +  Freezer_on

Fridge 2°C - 5 +  Fridge_on

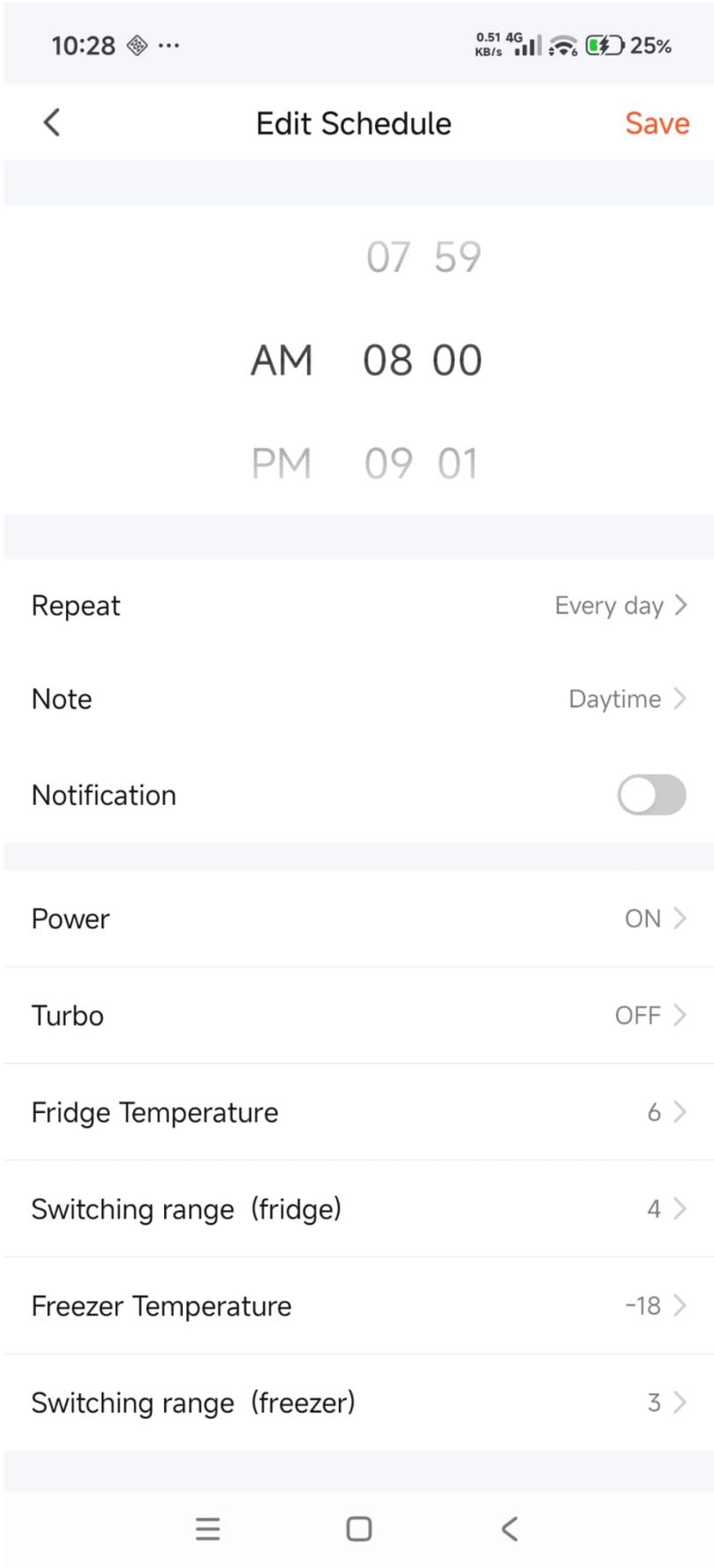
 Turbo  Dual Zone

 Switching range (fridge) 4 >

 Switching range (freezer) 4 >

 Schedule >

[Handbooks and more available at:www.belluna.eu](http://www.belluna.eu)

<p>Start of the schedule</p> <p>The schedule can be set for each individual day or every day</p> <p>Name of the schedule</p> <p>Check if you want to be notified of something goes wrong</p> <p>Set Power to ON</p> <p>We recommend: OFF</p> <p>Fridge target temperature</p> <p>Fridge hysteresis</p> <p>Freezer target temperature</p> <p>Freezer hysteresis</p>	 <p>10:28 0.51 4G KB/s 25%</p> <p>< Edit Schedule Save</p> <p>07 59</p> <p>AM 08 00</p> <p>PM 09 01</p> <p>Repeat Every day ></p> <p>Note Daytime ></p> <p>Notification <input type="checkbox"/></p> <p>Power ON ></p> <p>Turbo OFF ></p> <p>Fridge Temperature 6 ></p> <p>Switching range (fridge) 4 ></p> <p>Freezer Temperature -18 ></p> <p>Switching range (freezer) 3 ></p> <p>≡ □ <</p>
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3:59

0.51 5G KB/s    20%



Schedule

Time variance is $\pm 30s$

AM 8:00

Day

Every day



Power:ON Freezer Temperature:-18 Switching range (fridge):3
Turbo:OFF Fridge Temperature:6 Switching range (freezer):3

PM 10:00

Night

Every day



Power:ON Freezer Temperature:-16 Switching range (fridge):4
Turbo:OFF Fridge Temperature:10 Switching range (freezer):3

Add Schedule



In this example we have added two schedules that we named Day

respectively Night

In this example we have chosen to repeat this schedule every day at certain times of and we have chosen different temperatures and different hysteresis (switching ranges)

You can add as many schedules as you like according to your preferences.

6. Trouble shooting

Fault Code	Problem Possible Cause	Solution
E1	Battery protection (Input voltage is lower or higher than the set value)	Ensure that the input voltage is within the range 12V: 10.5V~17V 24V: 21V~30V
E2	Fan overcurrent (Fan load exceeds 1A current)	Replace the fan
E3	Compressor motor startup error	Turn off and wait a few minutes, it can be resolved by restarting the machine. If the problem persists, please contact the seller
E4	Compressor motor speed error	
E5	Compressor controller thermal protection (System overload or ambient temperature too high, causing controller overheating)	
E6	Freezer compartment temperature sensor fault	Contact the seller
E7	Fridge compartment temperature sensor fault	Contact the seller

- It is best to contact the seller as soon as a fault code appears, provide refrigerator fault information, and work together to solve the problem

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