



12 RESPONSIBLE
CONSUMPTION
AND PRODUCTION



Vestfrost Solutions is working towards reaching the UN - Global Sustainable Development Goals by 2030.

The Sustainable Development Goals are the blueprint to achieve a better and more sustainable future for all. In order to implement Goal no 12 "Responsible Consumption and Production", this manual has been printed on recycled paper.



VF-EMD/EMS L2/3 2.0

WARNING

WARNING:

Keep ventilation openings in the appliance's cabinet or in the built-in structure clear of obstruction.

WARNING:

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

WARNING:

Do not damage the refrigerant circuit.

WARNING:

Do not use **electrical appliances** inside the storage compartment, unless they are of a type recommended by the manufacturer.



WARNING:

Danger: Risk of fire or explosion. Flammable refrigerant is used. To be repaired only by trained personnel.

WARNING:

When positioning the appliance, ensure the power cable is not trapped or damaged.

WARNING:

Do not locate multiple portable socket-outlets or portable power supplies at the rear of the appliance.

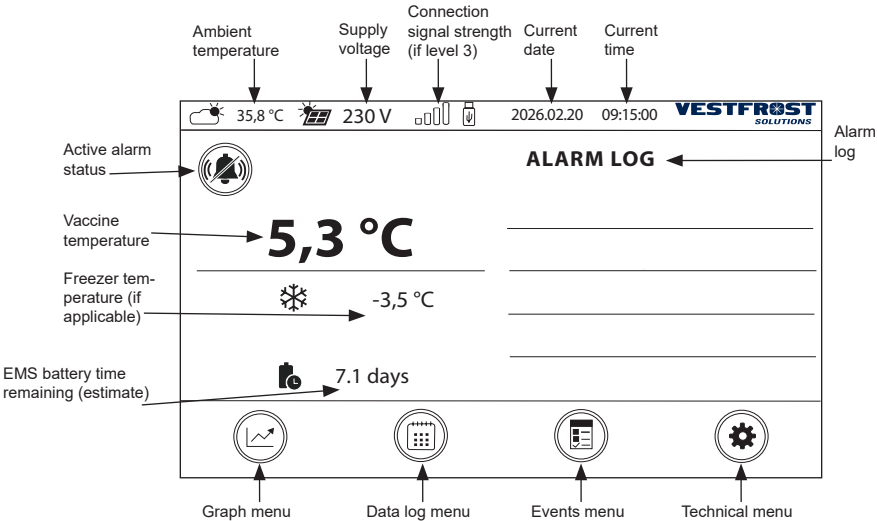
- Always keep the keys in a separate place and out of reach of children.
- Children should be supervised to ensure that they do not play with the appliance.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Before servicing or cleaning the appliance, unplug the appliance from the mains or disconnect the electrical power supply.

- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent, or similarly qualified persons in order to avoid a hazard.
- Frost formation on the interior evaporator wall and upper parts is a natural phenomenon. Therefore, the appliance should be defrosted during normal cleaning or maintenance.
- Please note that changes to the appliance construction will cancel all warranty and product liability.
- This appliance is intended to be used in household and similar applications.
- Do not store explosives, such as aerosol cans with flammable propellants in the unit.

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Description



EMS Dashboard

Temperature

35,8 °C

230 V

2026.02.20

09:15:00

VESTFROST
SOLUTIONS

5,3 °C

-3,5 °C

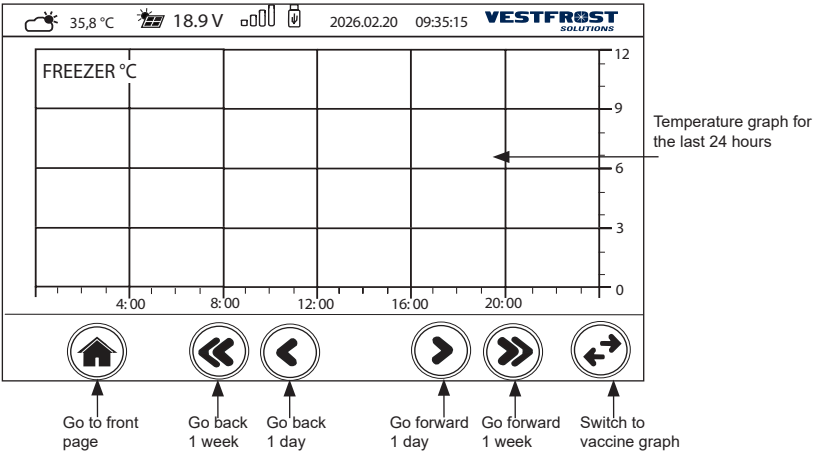
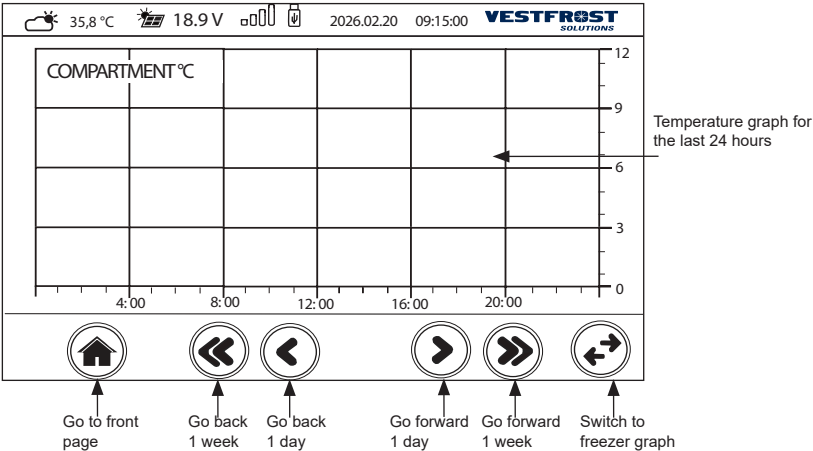
7.1 days

ALARM LOG

2026.02.20. 13.10.07
Freezer Temp High Code: _____

2026.02.20. 13.05.08
Freezer Temp High Code: _____

Temperature and Graph



Event log

When you press the Event log icon on the main screen you will get this screen

 35,8 °C  18,9 V  2026.02.20 09:35:15 VESTFRÖST SOLUTIONS						
Day	Date	Maximal	Minimal	AlarmH	AlarmL	Status
0	2026.02.20					ERR
-1	2026.02.19					N/A
-2	2026.02.18					N/A
-3	2026.02.17					N/A
-4	2026.02.16					N/A
-5	2026.02.15					N/A
-6	2026.02.14					N/A
-7	2026.02.13					N/A
-8	2026.02.12					N/A
-9	2026.02.11					N/A




Swipe up/down for more data

Switch to freezer compartment log

Shows relative date, maximum vaccine temperature, minimum temperature, high temperature alarms, low temperature alarms and status alarms

Same as above, only freezer.

 35,8 °C  18,9 V  2026.02.20 09:36:04 VESTFRÖST SOLUTIONS						
Day	Date	Maximal	Minimal	AlarmH	AlarmL	Status
0	2026.02.20					ERR
-1	2026.02.19					N/A
-2	2026.02.18					N/A
-3	2026.02.17					N/A
-4	2026.02.16					N/A
-5	2026.02.15					N/A
-6	2026.02.14					N/A
-7	2026.02.13					N/A
-8	2026.02.12					N/A
-9	2026.02.11					N/A


FREEZER


Events menu

Displays the past events recorded by the EMS.

 35,8 °C

 18.9 V





2026.02.20 09:35:15



Date Time	Relative	Information
06:45:10	327217	USB not detected
06:44:27	327174	USB not detected





2026.02.20



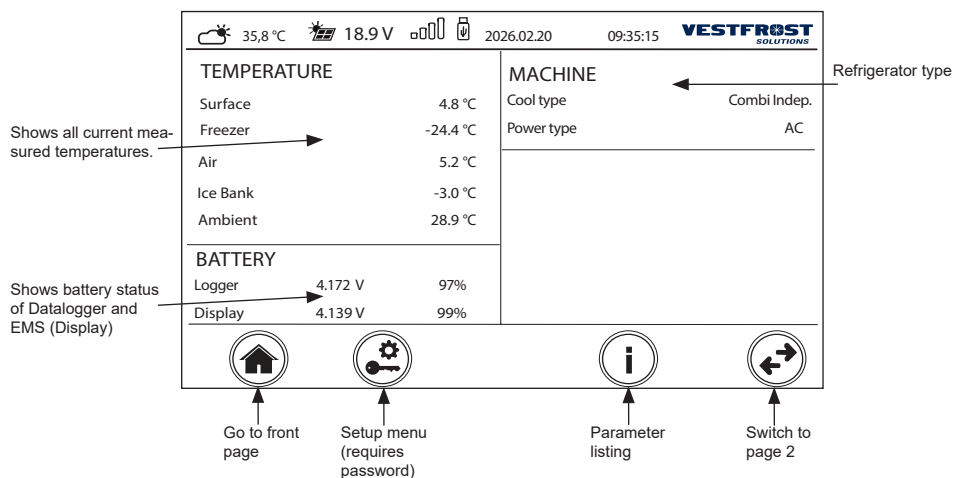


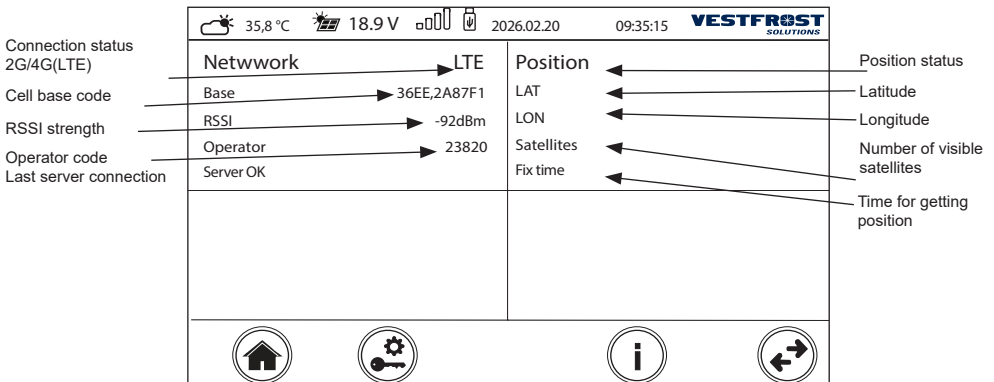
Filter to only show critical events

Sensors and setpoints

Page 1

When you press the Settings icon on the main screen you will get this screen.:





Network - GSM

BASE: The ID of the base station the EMS is connected to.

RSSI: Received Signal Strength Indicator (RSSI) of the GSM network.

OPERATOR: The ID of the operator of the base station.

SERVER OK: The date and time when the EMS last time connected to the server.

GPS

LAT: The latitude of the position of the EMS.

LON: The longitude of the position of the EMS.

SATELLITES: Number of satellites the EMS can see.

List of parameters

Swipe up/down for more data

 35,8 °C  18.9 V   2026.02.20 09:35:15 	
Name	Value
EMFR	Vestfrost Solutions
EMOD	VF-EMS
ESER	D7914F212200000150
EDOP	2006.02.19
EMSV	v1.3.0.TUV
EMSV	v4.2.0
EPQS	EOXX/XXX
EID	
AMFR	Vestfrost Solutions
AMOD	VLS 086A AC - EMS
	

NOTE:

Contact your administrator for correct password.

35,8 °C

18.9 V

2026.02.20

09:15:00

Pincode check

1

2

3

4

5

6

7

8

9

0

Technicians menu - Change settings

Warning: Do not alter the parameters unless absolutely necessary. The parameters are set by the factory to ensure that the vaccines are stored as per WHO guidelines.

Compressor setpoint and compressor hysteresis: Controls the temperature of the ice bank.

Heater setpoint and hysteresis: Controls the vaccine temperature.

When you enter the Technicians menu, you will get to the Change Settings screen with the TEMPERATURE tab open.

If the temperature exceeds SETPOINT + the HYSTERESIS, the compressor will be turned ON. The compressor will remain ON, until the fridge temperature drops below SETPOINT.

NOTE:

It is the SURPAGE TEMPERATURE which is used to start/stop the compressor.

Temperature control parameters

Swipe for more data

35,8°C 18.9V 2026.02.20 09:55:55 VESTFROST SOLUTIONS					
Controls	Offsets	Alarms	Device	Remote	Hardware
Compressor hysteresis		—	2.3°C		+
Heater setpoint		—	5.0°C		+
Heater hysteresis		—	0.0°C		+
Freezer setpoint		—	2.3°C		+
Freezer hysteresis		—	1.3°C		+
Synced					

When changing parameters, remember to press the save button

Shows that parameters are synchronized with the datalogger/temperature controller

SENSOR

SUREFACE SENSOR

FREEZER SENSOR

SENSOR

AIR SENSOR

SENSOR

Offser/Temperature sensor calibration

☁ 35,8 °C ☀ 18.9 V 🔋 📶 📅 2026.02.20 🕒 09:57:53 VESTFROST SOLUTIONS					
Controls	Offsets	Alarms	Device	Remote	Hardware
Surface		—		0.0°C	+
Freezer		—		0.0°C	+
Air		—		0.0°C	+
Icebank		—		1.0°C	+
Ambient		—		0.0°C	+
🏠 ℹ 💾			Synced		

Warning: Do not change the alarm set points. The alarms are set by the factory to ensure that the vaccines are stores as per WHO guidelines.

Alarm TAB

Swipe for more data

☁ 35,8 °C ☀ 18.9 V 🔋 📶 📅 2026.02.20 🕒 09:58:03 VESTFROST SOLUTIONS					
Controls	Offsets	Alarms	Device	Remote	Hardware
Fridge high temperature value		—		10.0°C	+
Fridge high temperature delay		—		10m	+
Fridge low temperature value		—		0.0°C	+
Fridge low temperature delay		—		1m	+
Freezer high temperature value		—		0.0°C	+
🏠 ℹ 💾			Synced		

Warning: When changing the password, please remember the new password as there is no password recovery service.

Alarm monitoring state: It is possible to disable all alarm if the refrigerator is not used for vaccine storage.

Password: The refrigerator comes with a standard password.

Date and time: The refrigerator comes as standard with relatively time set by the factory. Time is set automatically to UTC (Greenwich time) if GPS signals are available. Please set the time zone and daylight saving manually.

Unit: Change between Celcius and Fahrenheit

Language: OK

Device parameters

Swipe for more data

35,8 °C 18.9 V 2026.02.20 09:58:03 VESTFROST SOLUTIONS					
Controls	Offsets	Alarms	Device	Remote	Hardware
Alarm monitoring state				Enabled	
Password					
Date and time				UTC +0	
Unit				°C	
Language				English	

If date and time is not acquires through GPS connections, it can be manually set here.

Time zone must always be set manual


35,8 °C


18.9 V





2026.02.20

09:35:15



2026.02.20			09:35:08			UTC +1
+ + + Year Month Day	+ + + Hour Minute Second	+ Hour				
- - -	- - -	-				





UNIX TIME: 1772092154

Please set date and time!

In the Technicians menu, you can enter the REMOTE tab.

Here you can check

LTE antenna. It is possible to connect an external antenna to the refrigerator to improve the signal strength. Please remember to switch to external antenna.

Switch between automatical selection of 2G/4G connection or manually force either 2G or 4G

35,8 °C

18.9 V

2026.02.20 09:58:03

Controls	Offsets	Alarms	Device	Remote	Hardware
LTE antenna				Internal	
RAT preferred				4G/2G	

Synced

In the Technicians menu, you can enter the **HARDWARE** tab.

Manual control: In this sub menu it is possible to manually turn on the compressor and heater for fault diagnosis. Normal temperature regulation is disabled

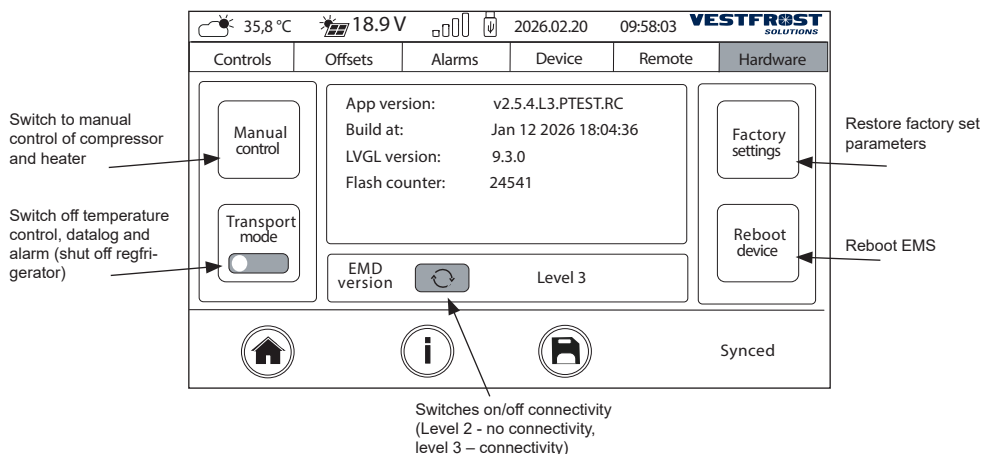
Warning. Remember to return the control to automatic when leaving manual control

Transport mode. When the refrigerator is no longer in use, please switch the switch to transport mode to ensure that the back battery is not drained and alarms are muted. When the power is removed from the refrigerator, the temperature control, datalog and connectivity will turn off until power is restored.

EMD version: Switches between level 2 (no connectivity) and level 3 (2G/4G(LTE) connectivity). **Warning:** Switching on connectivity will automatically start a data subscription.

Factory setting: Restores all parameters to factory set values.

Reboot device: In the event that the EMD is not responding properly, it is possible to reboot the EMD (does not affect the cooling performance or datalog)



In the Technicians menu, you can enter the **HARDWARE** tab.

MANUAL - Control

COMPRESSOR A: Slide the **COMPRESSOR** slider to the right to manually turn the compressor ON or to the left to manually turn it OFF.

COMPRESSOR B: Slide the **COMPRESSOR** slider to the right to manually turn the compressor ON or to the left to manually turn it OFF.

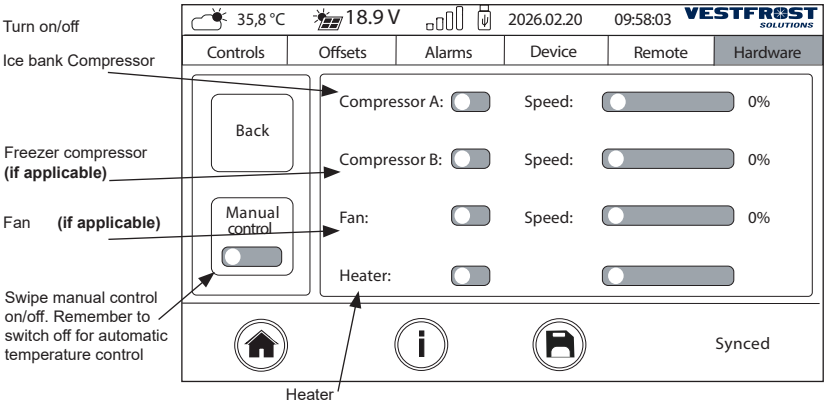
FAN: Slide the **FAN** slider to the right to manually turn the FAN ON or to the left to manually turn it OFF.

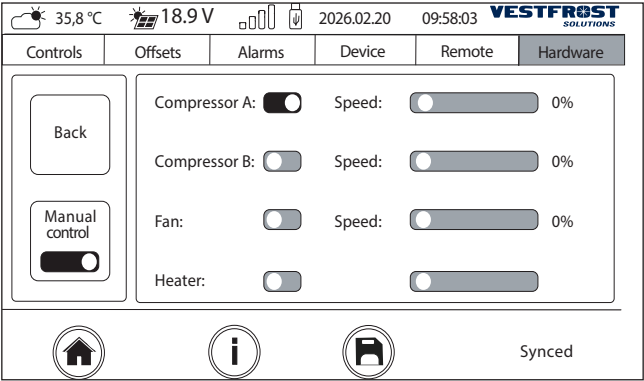
HEATER: Slide the **HEATER** slider to the right to manually turn the HEATER ON or to the left to manually turn it OFF.

NOTE:

When you leave the Change Settings screen the **COMPRESSOR** will return to automatic mode controlled by the **SURFACE** temperature.

REBOOT: If you press the **REBOOT** button the device will restart it self. All settings are kept.





On some models it is possible to control the speed of the compressors via the sliders

Restoring factory set parameters



LTE Antenna Installation

LTE Antenna Installation Recommendation (EMS Level 3)

EMS Level 3 equipment relies on cellular network communication (GSM/LTE) for remote monitoring, alarm notifications, GPS positioning, and transmission of temperature and operational data to the online monitoring platform.

For reliable operation, installation of the supplied LTE antenna is strongly recommended.

Why the LTE Antenna is Required

The LTE antenna improves signal reception and communication stability between the EMS unit and the cellular network. Proper antenna installation helps ensure:

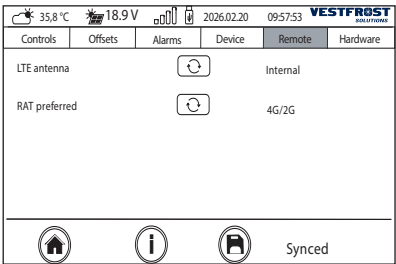
- Continuous transmission of temperature and equipment status data.
- Reliable delivery of alarm notifications.
- Stable GPS and remote monitoring functionality.
- Reduced risk of communication interruptions caused by weak network coverage.
- Faster synchronization with the EMS server and online dashboard.

Installation Guidelines

1. Connect the LTE antenna securely to the designated antenna connector on the EMS unit.
2. Position the antenna in a location with the strongest available cellular signal.
3. Avoid placing the antenna behind metal surfaces, inside electrical cabinets, or near large sources of electromagnetic interference.

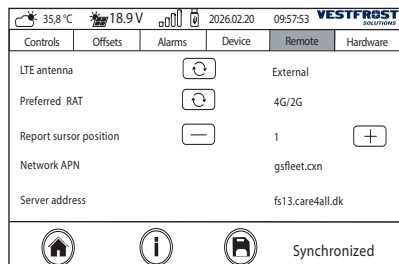
4. Where possible, mount the antenna vertically and away from refrigeration system components.
5. Verify network connectivity on the EMS display after installation.

Here you can configure the LTE antenna settings. The appliance supports connection of an external antenna, which can significantly improve signal strength and connection reliability, especially in areas with weak cellular coverage. For optimal performance, connecting an external antenna is strongly recommended. You can choose Automatic network selection (2G/4G) or manually force 2G or 4G LTE.



LTE antenna. It is recommended to connect the external antenna to the appliance to improve the signal strength.

IMPORTANT - The LTE antenna in the Remote menu should be manually adjusted to “External” by pressing the  button.



Important

If the LTE antenna is not installed, or if it is installed in an area with poor cellular coverage, EMS Level 3 remote monitoring functions may be limited or unavailable. Local monitoring functions will continue to operate, but alarm transmission, remote data access, and online reporting may be affected.

For optimal EMS performance, always ensure that the antenna is installed correctly and that adequate cellular network coverage is available at the installation site.

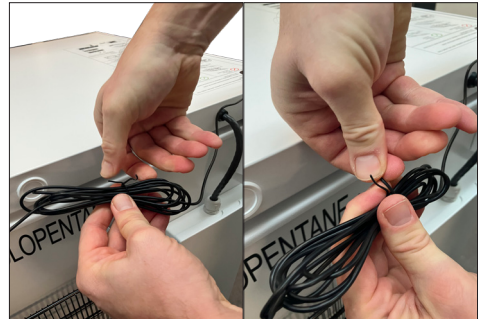
External antenna



1. Place the cable from the external antenna



2. The external antenna is to be wired from the back of the unit



3. The cable is being gathered. The cable tie is being tightened around the bundled cable to keep it organized and fixed in place.



4. Place the external antenna as high up as possible in order to receive the best GSM signal available



