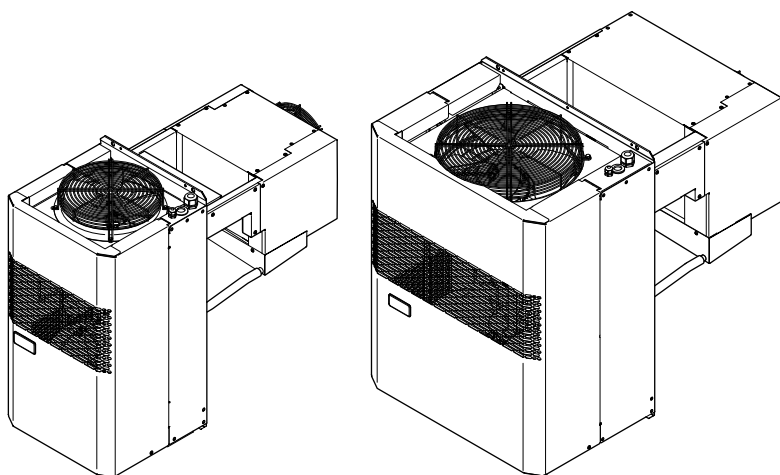




ZANOTTI

Operation manual

PS wall refrigeration monoblock



MPS1107YA11A
MPS1110YA11A
MPS3112YA11A
BPS3112YA11A
BPS3115YA11A
MPS3220YA11A
BPS3224YA11A
BPS3230YA11A

Operation manual
PS wall refrigeration monoblock

English

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1 About this document

Thank you for purchasing this product. Please:

- Keep the documentation for future reference.

Target audience

End users

Documentation set

This document is part of a documentation set. The complete set consists of:

- Installation manual:**
 - Installation instructions
- Operation manual:**
 - Format: Paper (in the box of the unit).

Latest revisions of the supplied documentation may be available via your installer.

The original instructions are written in English. All other languages are translations of the original instructions.

Technical engineering data

- The **full set** of the latest technical data is available on the Daikin Business Portal (authentication required).
- A printed version of the declaration of conformity, the wiring- and piping diagrams is included with the unit.






2 General safety precautions

2.1 About the documentation

- The original instructions are written in English. All other languages are translations of the original instructions.
- The precautions described in this document cover very important topics, follow them carefully.
- The installation of the system, and all activities described in the installation manual must be performed by an authorised installer.

2.1.1 Meaning of warnings and symbols


The action-related warnings are there to warn you against residual risks and precede a dangerous action step.


	DANGER Indicates a situation that results in death or serious injury.
	WARNING Indicates a situation that could result in death or serious injury.
	CAUTION Indicates a situation that could result in minor or moderate injury.
	NOTICE Indicates a situation that could result in equipment or property damage.
	INFORMATION Indicates useful tips or additional information.

2.2 For the user

General

If you are NOT sure how to install or operate the unit, contact your dealer.

	INFORMATION Equipment meets the requirement for commercial and light-industrial location when professionally installed and maintained.
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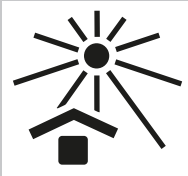
	WARNING For storage: <ul style="list-style-type: none"> Isolate the unit from energy sources in order to prevent fire and explosion hazards. Position the unit so that there is sufficient space to move it safely.
---	---

- Use the proper handling and lifting equipment.
- Store the unit avoiding exposure to atmospheric agents, temperature and humidity conditions that can damage the packaging and the unit itself.
- Place the unit on a stable, solid supporting surface with characteristics so as to withstand the weight of the unit and the equipment involved.



WARNING

Keep away from sunlight.



WARNING

Keep any required ventilation openings clear of obstructions. This applies to the unit itself and to the structure in which it is built-in.



WARNING

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



WARNING

Do not use electrical appliances inside the food storage compartments (cold room), unless they are of the type recommended by the manufacturer.



WARNING

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction

concerning use of the appliance in a safe way and understand the hazards involved.

Children **SHALL NOT** play with the appliance.

Cleaning and user maintenance **SHALL NOT** be made by children without supervision.



WARNING

Before operating the unit, be sure the installation has been carried out correctly by an installer.



WARNING

Do not damage the refrigerant circuit.



WARNING



This unit uses R290 as refrigerant (refrigerant of group A3). This is a flammable gas. Inhaling vapors can cause asphyxiation and affect the central nervous system. Direct contact with skin or eyes can lead to serious injuries and burns.



WARNING: FLAMMABLE MATERIAL



Fire hazard from flammable refrigerant. Take measures to prevent a dangerous, explosive atmosphere and keep ignition sources away.



WARNING



This unit contains electrical and hot parts.

2 General safety precautions

WARNING



Stop operation and shut OFF the power if anything unusual occurs (burning smells etc.).

Leaving the unit running under such circumstances may cause breakage, electrical shock or fire. Contact your dealer.

WARNING



To prevent electrical shocks or fire:

- Do NOT rinse the unit.
- Do NOT operate the unit with wet hands.
- Do NOT place any objects containing water on the unit.

WARNING



Do NOT modify, disassemble, remove, reinstall or repair the unit yourself as incorrect dismantling or installation may cause an electrical shock or fire. Contact your dealer.

WARNING



Do NOT install operating ignition sources (example: open flames, an operating gas appliance or an operating electric heater) in the duct work.

WARNING



Zanotti is not responsible for cold room safety.

Make sure that no people are left in the cold room before you close the doors:

- Risk of suffocation. Be sure to keep enough empty volume inside the cold room to guarantee safety conditions.
- Risk of frostbite.
- Risk of freezing to death.

CAUTION



Do NOT insert fingers, rods or other objects into the air inlet or outlet. Do NOT remove the fan guard. When the fan is rotating at high speed, it will cause injury.

CAUTION



Do NOT touch the heat exchanger fins. These fins are sharp and could result in cutting injuries. Wear safety gloves if you have to work on or around the heat exchanger fins.

CAUTION



- NEVER touch the internal parts of the controller.
- Do NOT open up the controller. Some parts inside are dangerous to touch and appliance problems may happen.

CAUTION



- Do NOT place any objects or equipment on top of the unit.
- Do NOT sit, climb or stand on the unit.

CAUTION



In case there is ice formation on the unit, do not use hot water or any mechanical tools or objects to remove the ice. This could cause damage and a potential leak.

Refrigerant

The unit is factory charged with refrigerant, no additional charging of refrigerant is required.

DANGER



This unit uses R290 as refrigerant. Do NOT discharge refrigerant in the atmosphere, it must be recovered by specialised technicians using suitable equipment.

DANGER



Take sufficient precautions in case of refrigerant leakage. If refrigerant gas leaks, immediately switch off the power supply (for each unit) and ventilate the area. Possible risks:

- Carbon dioxide poisoning.
- Asphyxiation.
- Fire.

WARNING



- NEVER directly touch any accidental leaking refrigerant. This could result in severe wounds caused by frostbite.

- Do NOT touch the refrigerant pipes during and immediately after operation as the refrigerant pipes may be hot or cold, depending on the condition of the refrigerant flowing through the refrigerant piping, compressor, and other refrigerant cycle parts. Your hands may suffer burns or frostbite if you touch the refrigerant pipes. To avoid injury, give the pipes time to return to normal temperature or, if you must touch them, be sure to wear proper gloves.

WARNING

- Do NOT pierce or burn refrigerant cycle parts.
- Do NOT use cleaning materials or means to accelerate the defrosting process other than those recommended by the manufacturer.
- Be aware that the refrigerant inside the system is odourless.

INFORMATION



R290 is denser than air, so in open air it sinks to floor level.

Electrical

DANGER: RISK OF ELECTROCUTION

- Turn OFF all power supply before removing the switch box cover, connecting electrical wiring or touching electrical parts.
- Disconnect the power supply for more than 10 minutes, and measure the voltage at the power supply terminals of the compressor inverter before servicing. The voltage MUST be less than 50 V DC before you can touch electrical components.
- Do NOT touch electrical components with wet hands.
- Do NOT leave the unit unattended when the service cover is removed.

! WARNING



NEVER replace a fuse with a fuse of a wrong ampere rating or other wires when a fuse blows out. Use of wire or copper wire may cause the unit to break down or cause a fire.

! WARNING



- After finishing the electrical work, confirm that each electrical component and terminal inside the electrical components box is connected securely.
- Make sure all covers are closed before starting up the unit.

! WARNING



NEVER touch the person receiving an electrical shock, or you could suffer one too. Do NOT touch the person until you are sure power is turned off. Electrical shocks always need emergency medical attention, even if the person seems to be fine.

! WARNING



A magneto thermal circuit breaker, having a contact separation in all poles providing full disconnection under overvoltage category III condition, MUST be installed in the fixed wiring. In case of multiple units each unit must have its own circuit breaker. Note that this magneto thermal circuit breaker should not be used to turn the unit on and off under normal operating conditions. For that, one should use the controller.

3 About the unit and options

3.1 About the system

The MPS and BPS units are refrigeration indoor units which allow to refrigerate air through vaporising a liquid refrigerant (Hydrocarbon R290 type) at low pressure in a heat exchanger (evaporator). The resulting vapour is brought back to liquid state by mechanical compression at a higher pressure, followed by cooling in another heat exchanger (condenser).

Defrosting takes place automatically in pre-set cycles, by injecting hot gas; manual defrosting is also possible.



INFORMATION

The A-weighted sound pressure level of the unit is less than 70 dBA.

The measurement complies with UNI EN ISO 3746: 2010.

3.2 About the different models

MPS1107YA11A + MPS1110YA11A	MPS3112YA11A + BPS3112YA11A + BPS3115YA11A + MPS3220YA11A + BPS3224YA11A + BPS3230YA11A

In this document, the model MPS1110YA11A is shown as illustration in the instructions, unless there is a need to treat both models separately.

Product nomenclature

PS -WALL TYPE									
a	b	c	d	e	f	g	h	i	j
M	P	S	1	1	0	7	Y	A	1
a	Cold room working range								
	▪ M = +10°C/-5°C								
	▪ B = -15°C/-25°C								
b	Series								
	▪ PS (New wall mounted R290 ON/OFF straddle-type monoblock)								
c	Frame type								
	▪ 1 - 3								
d	Number of refrigerating circuits								
	▪ 1 or 2								
e	Model ID								
	▪ Capacity index								
f	Refrigerant								
	▪ Y = R290								
g	Supply voltage								
	▪ A = 230 V, 1P+N 50 Hz								

Product nomenclature	
h	Condensation type <ul style="list-style-type: none"> 1 = Air cooled, axial fan
i	Refrigeration system accessories <ul style="list-style-type: none"> 1 = Without crankcase heater, without condenser fan pressure switch
j	Evaporator characteristics <ul style="list-style-type: none"> A = Suitable for 100 mm and 150 mm insulating panel – Basic configuration

3.3 Safety systems



WARNING

Removal of protections during machine operation is absolutely forbidden. They have been developed to safeguard the operator's safety.

Mechanical safety devices:

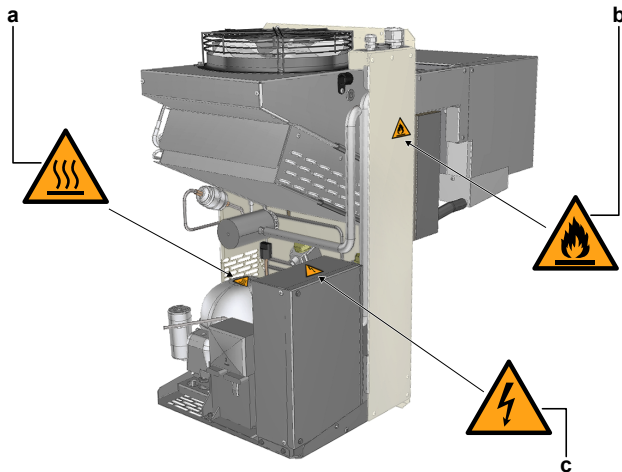
- Fixed upper and side protections for evaporator and condensing unit, secured by locking screws.
- External fan protections placed on the evaporating and condensing units, secured with screws.

Electrical safety devices:

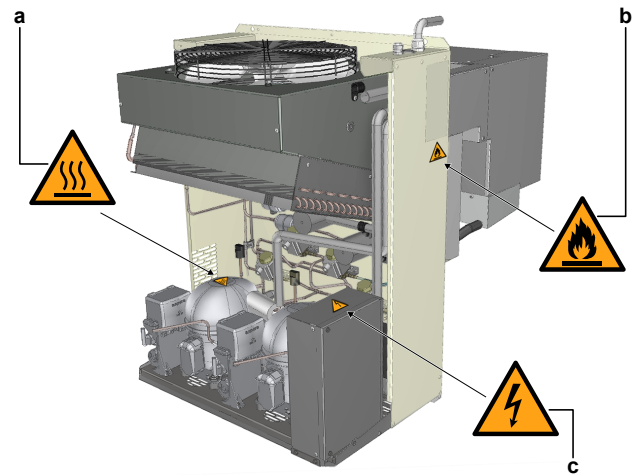
- Fan motor protection (against high power absorption) with automatic reset.
- High pressure switch to protect against excessive pressure with automatic reset.
- Alarm:
 - A buzzer or alarm lamp (if option is installed) goes on when an alarm occurs (see "4 User interface" [p 8]).
- Fuses, located in the electrical box.

3.4 Safety symbols location

MPS1107YA11A + MPS1110YA11A + MPS3112YA11A + BPS3112YA11A + BPS3115YA11A



MPS3220YA11A + BPS3224YA11A + BPS3230YA11A



- a Thermal hazard
- b Flammable materials
- c Electrical hazard

3.5 Possible options for the unit



INFORMATION

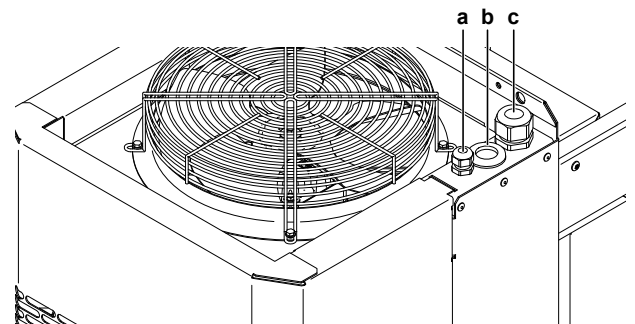
Certain options may NOT be available in your country.



NOTICE

The use of accessories and/or options other than those approved by Zanotti may cause system malfunctions and automatically void the warranty, relieving the manufacturer from any damage caused to persons, animals and/or property.

Three cable glands (a, b and c) are provided to bring the option cables into the unit.



For MT units:

- a Door switch, pre-wired (5 m)
- b Optional
- c Power supply, pre-wired (5 m)

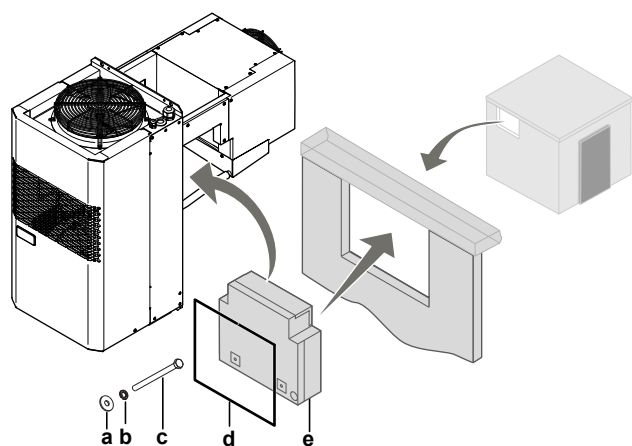
For LT units:

- a Door switch
- b Power supply cable
- c Door heater + optionals

Insulation pad

The insulation pad is mandatory for wall mounting installation.

4 User interface



- a Flat washer (×2)
- b Spring washer (×2)
- c Metric bolt M8 (×2)
- d Self-adhesive gasket
- e Insulation pad

- 1KGM032ACC: kit insulation panel 110 mm for MPS1107YA11A and MPS1110YA11A
- 1KGM033ACC: kit insulation panel 150 mm for MPS1107YA11A and MPS1110YA11A
- 1KGM025ACC: kit insulation panel 110 mm for MPS3220YA11A, BPS3224YA11A and BPS3230YA11A
- 1KGM026ACC: kit insulation panel 150 mm for MPS3220YA11A, BPS3224YA11A and BPS3230YA11A
- 1KGM027ACC: kit insulation panel 110 mm for MPS3112YA11A, BPS3112YA11A and BPS3115YA11A
- 1KGM028ACC: kit insulation panel 150 mm for MPS3112YA11A, BPS3112YA11A and BPS3115YA11A

Door switch (3MCT014ACC)

To reduce frost on the evaporator, the door switch (RDS) interrupts the unit operation when the cold room door is open. It also controls the cell light. The door switch is an accessory.

If the door remains open for longer than the value of parameter d2d, control resumes in any case. The light remains on, the buzzer and the alarm relay (if enabled) are activated, and the temperature alarms are enabled with delay dot. See "4.3.2 Parameters" ► 13].

Door heater

For low temperature applications it is suggested to install a door heater. It prevents the door from freezing. The choice for the most appropriate door heater is left to the installer or cold room manufacturer. Sometimes the door heater is already included in the pre-fabricated door kit.

Cell light (1KIT862ACC)

The light is ON when the cold room door is open. It is controlled by the user interface. The cell light is an accessory.

Alarm (2KIT026ACC)

An alarm feature can be installed (light or sound).

"Man in cold room" alarm (1KGM030ACC)

A "Man in cold room" emergency alarm can be connected through the Normally Closed Contact of the audible-visual alarm kit (optional) on the cold room.

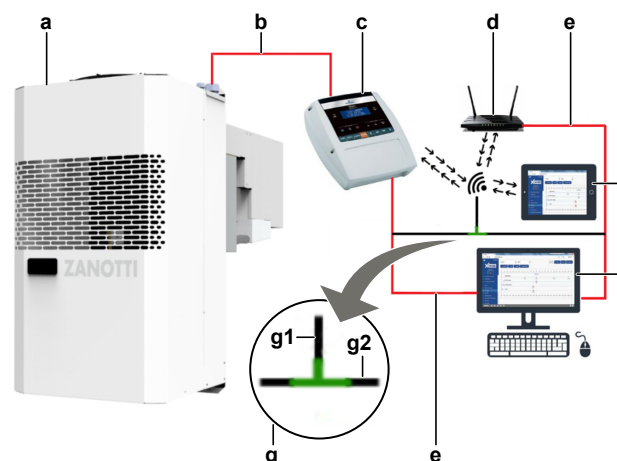
Remote panel (1KGM031ACC)

The remote panel allows remote control of the PS unit(s).

Router (3UNM042ACC/3UNM043ACC/1KGM029ACC)

The unit (or multiple units) can be connected to the network through a router, available as an option.

XWEB



- a PS unit
- b RS485 cable
- c Gateway XWEB
- d Router
- e LAN – Ethernet cable
- f Devices
- g Choice between WiFi (g1) or LAN (g2) cable

4 User interface



CAUTION



- NEVER touch the internal parts of the controller.
- Do NOT open up the controller. Some parts inside are dangerous to touch and appliance problems may happen.

This operation manual offers a non-exhaustive overview of the main functions of the system.



INFORMATION

Use only those combinations of controls and programs which are mentioned in the manufacturer's instruction manual.

4.1 Overview

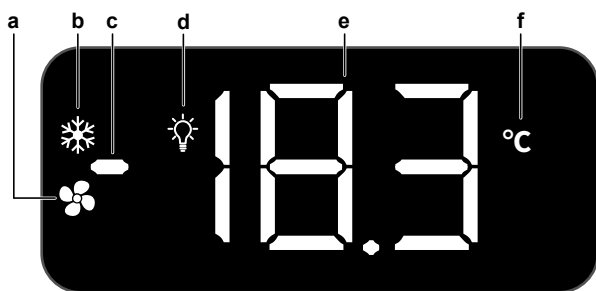
The user interface display features three digits, with a sign for below-zero temperatures and a decimal point. It has a built-in alarm buzzer and nine icons/buttons.



INFORMATION

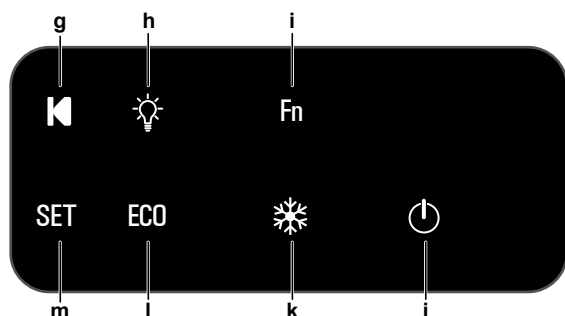
When pressing any button on the HMI, the alarm (light or sound, if installed) will also be switched off.

Icons



- a Fan
- b Defrost
- c Below zero temperature
- d Light
- e 3 digits (e.g. cold room temperature)
- f Unit of measurement (e.g. °C)

Buttons



- g Return arrow
- h Light
- i Continuous cycle mode
- j ON/OFF
- k Defrost
- l ECO mode
- m SET

Meaning of signals that appear on the display

Signals are messages shown on the display to notify the user of the control procedures in progress (e.g. defrost) or to confirm keypad input.

Message	Meaning
ALL	To access complete parameter list
inF	To scroll all the I/O variables (probes, digital inputs, digital outputs, ...)
GrP	To access parameter groups
LoC	Device locked
OFF	Off
PAS	To insert the password to access the service parameters
PrG	To change the parameters
SEt	To change the setpoint temperature

4.2 Basic functions

4.2.1 To unlock the user interface

To unlock the user interface

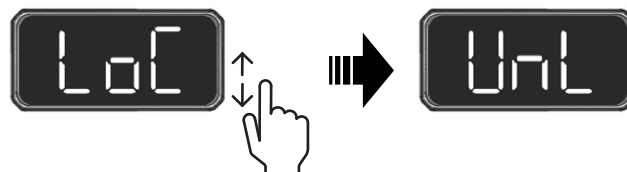


- 1 Vertically swipe from the home screen to unlock the HMI.

Result: The "LoC"(locked) screen appears.



- 2 Vertically swipe to change the screen to "UnL" (unlock)



- 3 Press the "UnL" (unlock) screen until it starts blinking.



Result: The home screen appears and the HMI is unlocked.



To lock the user interface

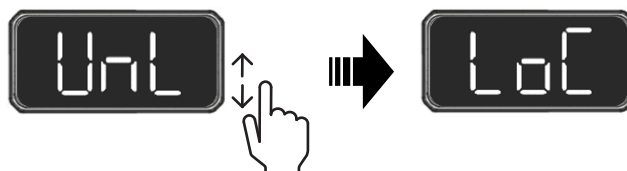


- 1 Vertically swipe from the home screen to lock the HMI.

Result: The "UnL" (unlocked) screen appears.



- 2 Vertically swipe to change the screen to "LoC" (lock)



- 3 Press the "LoC" (lock) screen until it starts blinking.



Result: The home screen appears and the HMI is locked.

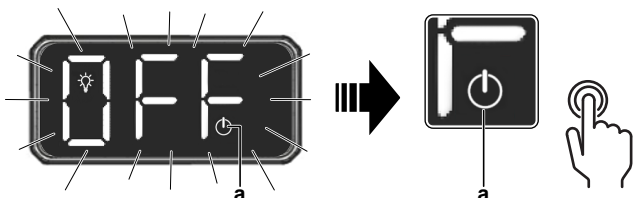
4 User interface



4.2.2 To start up

- 1 Power on the unit

Result: OFF blinks on the display.



- 2 Unlock the user interface. See ["4.2.1 To unlock the user interface"](#) [p 9].
- 3 Turn the unit on by pushing the on-off/ button (a) on the user interface.

Result: The unit starts up.



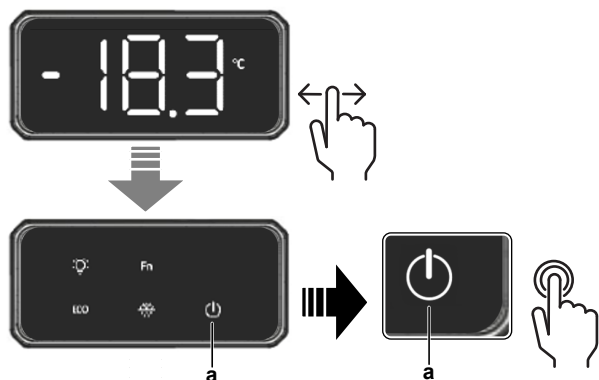
INFORMATION

In the off status of the unit, the maximum interval between consecutive defrosts is always updated, in order to maintain the cyclical nature of this interval. If a defrost interval expires while the unit is off, the event is recorded. When the unit is switched on again, a defrost request is then generated.

4.2.3 To shut down

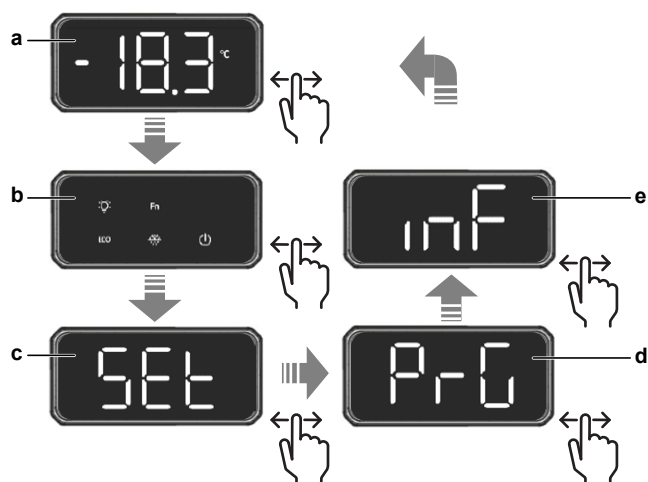
- 1 If necessary, unlock the user interface. See ["4.2.1 To unlock the user interface"](#) [p 9].
- 2 Navigate to the virtual keyboard screen by swiping horizontally through the screens.
- 3 On the virtual keyboard screen, press the ON/OFF button (a).

Result: The unit shuts off.



4.2.4 To navigate between screens

- 1 If necessary, unlock the user interface. See ["4.2.1 To unlock the user interface"](#) [p 9].
- 2 Navigate through the screens by swiping horizontally.



- 3 Press anywhere on the screen you want to enter, and hold for 3 seconds to enter.

- Home screen (a)
 - This screen shows the cold room temperature value, unit of measurement and active alarms. It is the first screen after powering on or after exiting from any other status.
- Virtual keyboard (b)
 - This screen shows available functions. Any activated function(s) blink when this screen is visualized.
- SET screen (c)
 - This screen enables the modification of the temperature setpoint value. See ["4.2.5 To set the temperature"](#) [p 11].
- PrG screen (d)
 - This programming mode screen enables the modification of parameters.
- inF screen (e)
 - This info menu screen allows to scroll all I/O variables and status (probes, digital inputs, digital outputs, ...).



INFORMATION

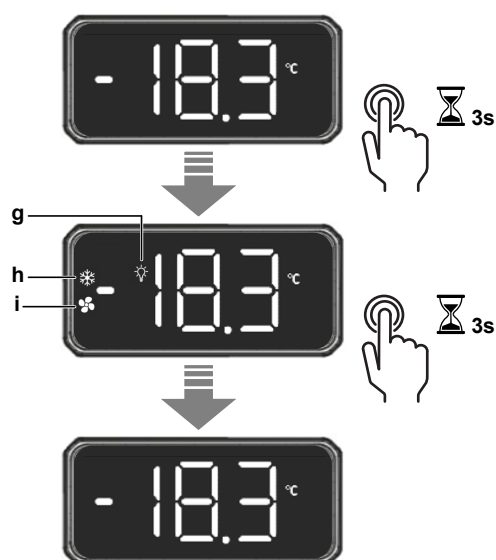
To access the service parameters, the password must be entered.

- 4 Press the "return arrow" (f) on the screen and hold for 1 second to exit the screen.



- 5 To enter the status visualization screen, from the home screen, press anywhere on the screen and hold for 3 seconds.

Result: The status visualization screen appears.



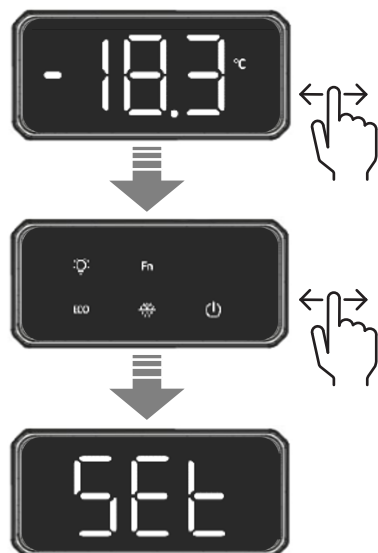
This screen shows activated functions and outputs icons overlapped with temperature value.

- Light icon (g); if visible then the cold room light is ON.
- Defrost icon (h); if visible then defrost is going on.
- Fan icon (i); if visible then evaporator fan is ON.

4.2.5 To set the temperature

- 1 Unlock the user interface. See ["4.2.1 To unlock the user interface"](#) [p. 9].
- 2 Swipe horizontally to navigate to the SET screen (see ["4.2.4 To navigate between screens"](#) [p. 10]).

Result: This screen enables the modification of the temperature setpoint value.



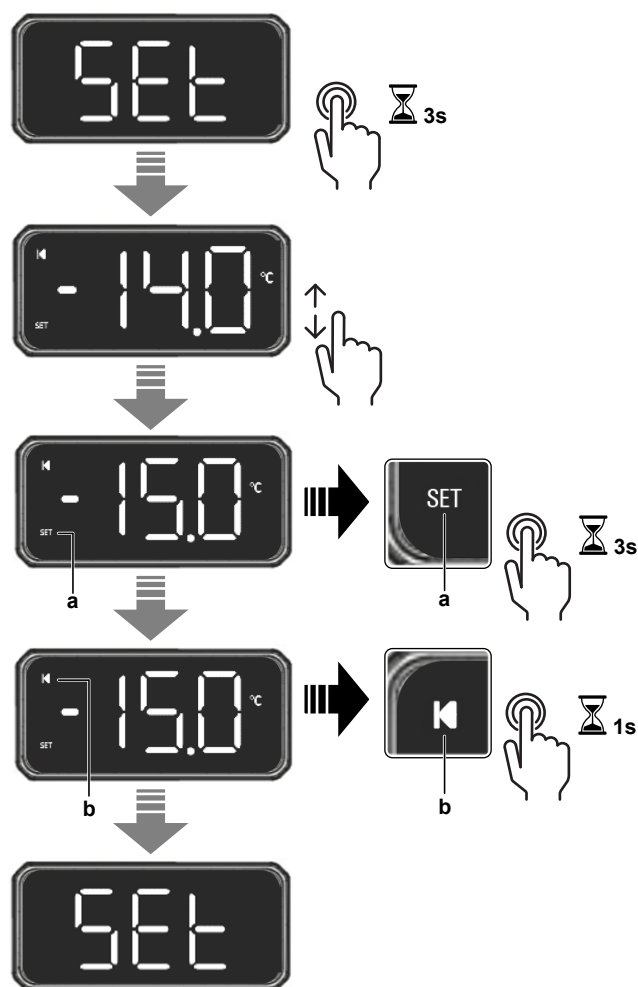
- 3 On the setpoint temperature (SET) screen, press anywhere on the screen and hold for 3 seconds to enter the programming menu.

- 4 Swipe vertically to change the setpoint temperature.

- 5 Press the SET button (a) and hold for 3 seconds.

Result: The new setpoint temperature value is saved.

- 6 Press the "return arrow" (b) on the screen and hold for 1 second to return to the previous menu.



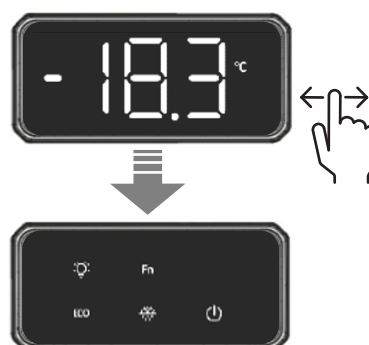
4.2.6 To change the status of an actuator



INFORMATION

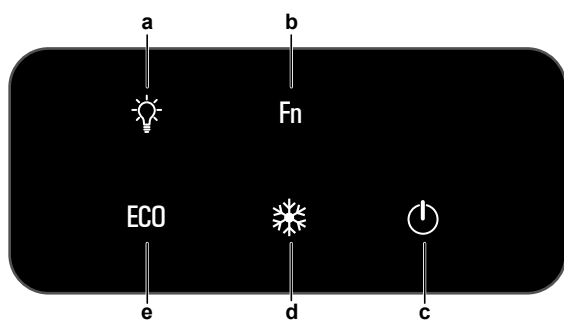
If no button is pressed, the terminal will return to the standard display after 7 seconds.

- 1 If necessary, unlock the user interface. See ["4.2.1 To unlock the user interface"](#) [p. 9].
- 2 Navigate to the virtual keyboard screen by swiping horizontally through the screens.



- 3 On the virtual keyboard screen, you can press any of these 5 buttons:

4 User interface



- Light button (a); to switch cold room light ON or OFF.
- Continuous cycle button (b); is enabled by holding the Fn button (b) for 3 seconds.
 - When this mode is on, the unit will work with the CCS and CCT parameters on.
- ON/OFF button (c); to turn the unit ON or OFF.
- Defrost button (d); to start defrost manually.
- ECO mode button; is enabled by holding the ECO button (e) for 3 seconds.
 - When this mode is on, the unit will work with the HES parameter on.

4.3 Configuration

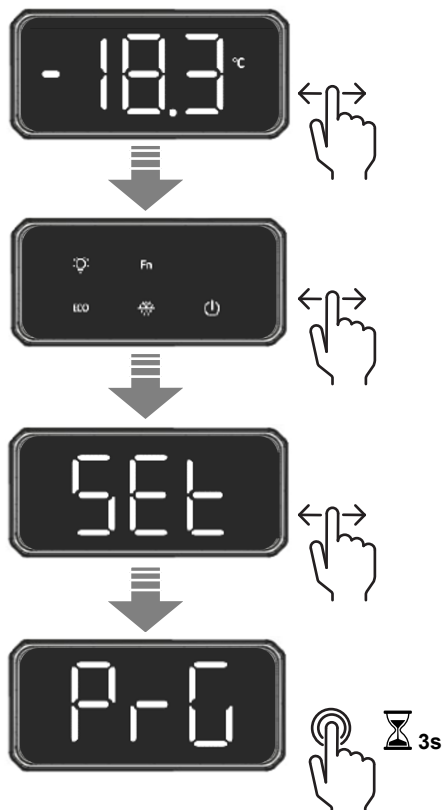


INFORMATION

Use only those combinations of controls and programs which are mentioned in the manufacturer's instruction manual.

4.3.1 To change the parameters

- 1 Navigate to the programming screen (PrG) by swiping horizontally through the screens.
- 2 On the programming screen (PrG), press anywhere on the screen and hold for 3 seconds to enter the programming menu.



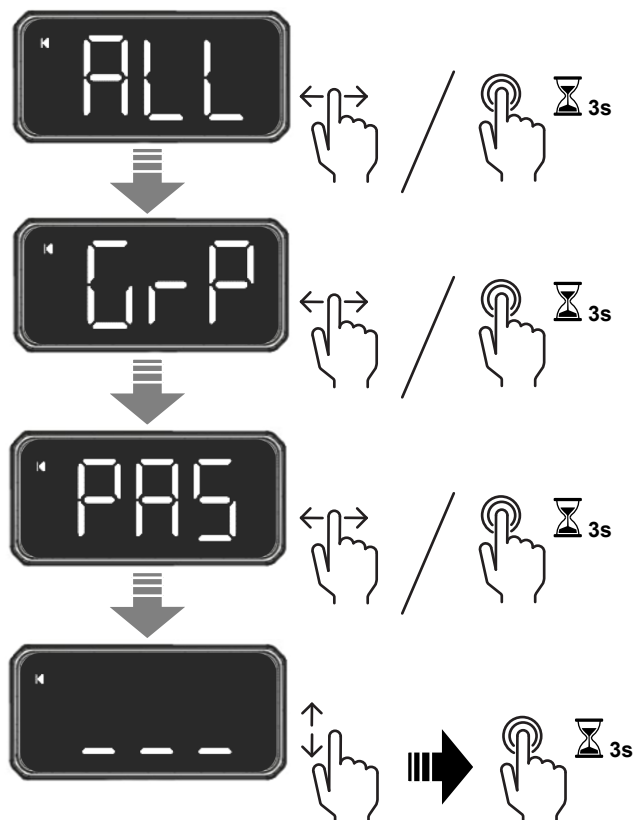
- 3 Navigate through the programming screen menu by swiping horizontally through the screens.



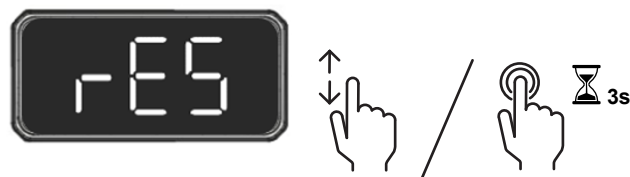
INFORMATION

To access the service parameters, the password must be entered.

- 4 Press anywhere on one of the screens and hold for 3 seconds to enter one of the menus.
 - ALL = Complete parameters list
 - GrP = Parameter's groups
 - PAS = Password
 - ___ = Parameter's name

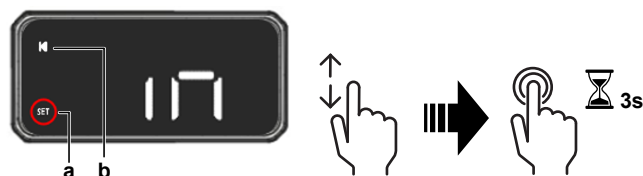


- 5 Vertically swipe through the menus to find the parameter that has to be changed (e.g. rES).



- 6 Press anywhere on the screen of the parameter that has to be changed (e.g. rES) and hold for 3 seconds.

Result: The parameter becomes editable (the "SET" (a) and "Return arrow" (b) indications light up).



- 7 Vertically swipe to change the parameter setting.
- 8 Press "SET" (a) on the screen and hold for 3 seconds to save the new setting.

- 9 Press the "return arrow" (b) on the screen and hold for 1 second to return to the previous menu.

4.3.2 Parameters

Name	Description	Default	Min.	Max.	Unit of measure	Menu
CCS	Set point for continuous cycle: it sets the set point used during the continuous cycle.	-3	-5.0 (MPS) / -25 (BPS)	10.0 (MPS) / -15 (BPS)	°C	rEG
CCt	Compressor ON time during continuous cycle: (0.0+24.0h; resolution 10min) Allows to set the length of the continuous cycle. Can be used, for instance, when the room is filled with new products	00:00	00:00	24:00	Hrs (resolution 10 min)	rEG
rES	Resolution: (in = 1°C/1°F; dE= 0.1°C/0.1°F) allow decimal point display	dE	-	-	-	rEG
Set	Temperature set point	0.0 (MPS) / -20 (BPS)	-5.0 (MPS) / -25 (BPS)	10.0 (MPS) / -15 (BPS)	°C	rEG

4.4 To set the shared functions for multiple units



INFORMATION

To change parameters related to this functionality, "Service" level access is required.



INFORMATION

If one of the secondary unit controllers is offline, the other controllers will keep all functions working, without taking care of the specific secondary unit controller that is no longer available (network regulation, network defrost, door,...).

Lights

Lights can be connected to all controllers in the network and the light status is always synchronised. Each controller will turn the lights on and off simultaneous -or not, depending on the LLI parameter setting.

- LLi to set LAN light synchronisation. This parameter states if the light command of the section will act on all the other ones too:
 - y = the light command is sent to all the other sections
 - n = the light command acts only in the local section

On/Off command

- LOF to set LAN if the On/Off command will be shared through the LAN:
 - y = the On/Off command is sent to all the other sections
 - n = the On/Off command acts only on the local section

Energy saving synchronisation

- LES to set LAN energy saving synchronisation. This parameter states if the energy saving command of the section will act on all the other ones too:
 - y = the Energy Saving command is sent to all the other sections
 - n = the Energy Saving command acts only in the local section

Network temperature regulation

- Depending on StM parameter setting:
 - y = a generic cooling request coming from LAN activates the cooling mode
 - n = cooling request is NOT shared via LAN

Synchronized defrost

It is possible to enable/disable this functionality for each controller separately.

Defrost can be synchronized between the primary unit controller and secondary unit controllers. It can be managed from any of the (LAN) connected unit's HMI.

All the units can start "defrost" in a synchronized way.



INFORMATION

The Adr parameter cannot be duplicated, because in that case the "defrost" cannot be managed correctly.

Use these parameters to set the synchronized defrost:

- LMd to set defrost synchronisation:
 - y = the section sends a command to start defrost to the other controllers
 - n = the section does not send a global defrost command
- IdF to set the interval between defrosts: (0+255h) Determines the time interval between the beginning of two defrost cycles.
The IdF timer is reinitialized after the defrost cycle and at every "power-on".
- dSd to delete the defrost start time of each unit.

Set point synchronisation

- LSP to set LAN set-point synchronisation:
 - y = the set-point, when modified, is updated to the same value for all the other controllers connected to the LAN
 - n = the set-point value is modified only in the local controller

4.5 About the alarms

When a malfunction is detected:

- The error code is shown on the display, alternating with the home screen. This allows immediate identification of the malfunction.
- The HMI buzzer is activated.
- The relay concerning the external alarm (optional) is powered.

Take into account that:

- If more than one warning/alarm occurs, they are displayed in sequence.
- Alarms and warnings are identified by error codes. See ["4.5.1 Overview of the error codes"](#) ▶ 13].

4.5.1 Overview of the error codes

In case an error code appears on the indoor unit user interface display (HMI), check the alarm description, effect and troubleshooting.

4 User interface

For your reference, a list with error codes is provided here below. You can (depending on the level of the error code) reset the code by pushing the ON/OFF button.

In case the alarm persist, contact your installer and inform him about the error code, the unit type and serial number (you can find this information on the nameplate of the unit).

4.5.2 Error codes

Error code	Description	Trigger	Effect	Reset	Trouble shooting
nod, noL	The keyboard is not able to communicate with the controller	Communication error between the controller and the keyboard	Normal operation	Automatic	Contact your dealer/installer
noP	Controller configuration is not present or not available	Selection of a sensor is not present in the unit in the info menu	Normal operation	Automatic	Contact your dealer/installer
P1	Sensor Th1 (cold room temperature) brake down, value out of range or sensor incorrectly configured	Th1 probe faulty or disconnected	Normal operation, compressor will be controlled with predefined ON-OFF cycles.	Automatic	Contact your dealer/installer
P2	Sensor Th2 (defrost end temperature) brake down, value out of range or sensor incorrectly configured	Th2 probe faulty or disconnected	Normal operation	Automatic	Contact your dealer/installer
HA	High temperature in the cold room	High temperature limit reached in the cold room: $Th1 \geq Set+ALU$ for more than ALd	Normal operation	Automatic according with parameter settings (Alarm is deactivated when $Th1 < Set+ALU-AHy$)	Check if the door of the cold room closes adequately, avoiding outside air to enter into the cold room Check if the cold room temperature is dropping If the problem persists contact your dealer/installer
LA	Low temperature in the cold room	Low temperature limit reached in the cold room: $Th1 \leq Set-ALL$ for more than ALd	Normal operation	Automatic according with parameter settings (Alarm is deactivated when $Th1 > Set-ALL+AHy$)	Open the cold room door to allow the temperature to rise Check if the cold room temperature is rising If the problem persists contact your dealer/installer
dA	Door open	Door has been opened and door switch has been activated for more than dot parameter (15 minutes as default).	Unit operation restarts with the door open	Automatic when the door is closed	Close the cold room door If the warning persists when the door is closed, check if in this condition the door microswitch is correctly actuated Check if the polarity of the digital input (parameter i2P) is suitable for the door switch installed If the problem persists, contact your dealer/installer

Error code	Description	Trigger	Effect	Reset	Trouble shooting
PA	High pressure or man in cold room	HPS or man in cold room alarm has been activated	Unit is stopped	Automatic reset or manual if enabled for more than 4 times in 15 minutes	<p>Check if the condenser is properly cleaned from dust and dirt</p> <p>Check if the air inlet and outlet of the unit are obstructed, causing a reduction of airflow to the condenser</p> <p>Check that no one has activated the man in cold room alarm</p> <p>If the problem persists contact your dealer/installer</p>
EE	EEPROM serious problem	EEPROM operating and/or unit parameters damaged.	Total shutdown	Controller should be replaced	Contact your dealer/installer
Err	Error with upload/download parameters	Error in writing parameters	Parameters not saved	Automatic	Contact your dealer/installer

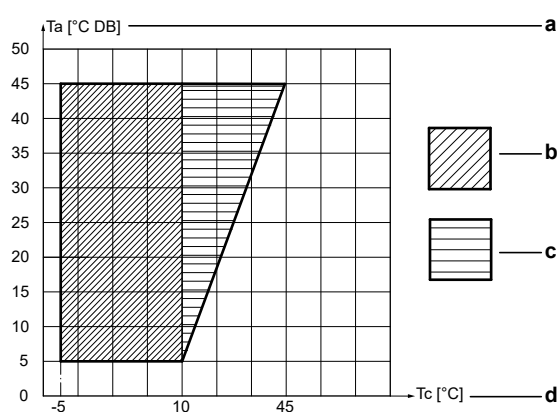
5 Operation

5.1 Operation range

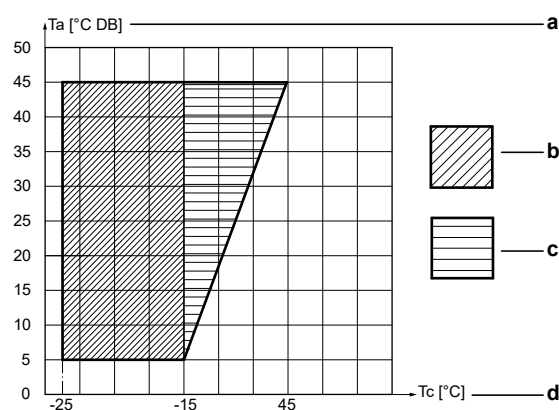
Temperature type		Temperature range
Ambient temperature		+5~+45°C
Cooling temperature*	Low temperature setting (freezer)	From -25°C up to -15°C
	Medium temperature setting (cooler)	From -5°C up to +10°C

* LT type units can operate as a freezer.

MT (MPS1107YA11A, MPS1110YA11A, MPS112YA11A, MPS3220YA11A)



LT (BPS3112YA11A, BPS3115YA11A, BPS3224YA11A, BPS3230YA11A)



- a Ambient temperature (Ta)
- b Operation range
- c Pull-down area
- d Cold room temperature (Tc)

5.2 Operation procedure

- Read the documentation carefully before operating the unit to ensure the best possible performance.



NOTICE

Check the evaporator condition 24 hours after starting. If ice has formed, the defrost frequency should be increased. In low temperature units the evaporator condition should be checked every week during the first month of operation.

- A door micro switch interrupts the unit operation and turns on and off the cold room lamp when the cold room door is opened. The cold room lamp can also be switched on and off via the user interface.
- Multiple units (up to 8) can be combined within one cold room. They will then operate according to the primary/secondary principle.

Advantages:

- Higher cooling capacity.
- Redundancy should a unit break down.
- Better airflow.

6 Energy saving and optimum operation

5.3 Storing the goods



NOTICE

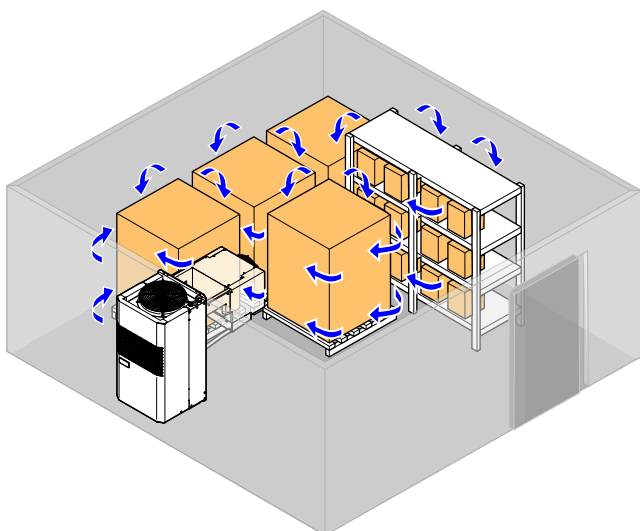
Do not cover the air intake and outlet openings towards the condenser and evaporator of the unit.

Maintaining the right temperature guarantees the preservation of the quality of the stored goods.

Air circulation is of absolute importance to keep a uniform temperature throughout the entire cold room. Insufficient air circulation can cause heat pockets or ice formation.

For this reason:

- Use pallets or racks that facilitate air circulation under the goods.
- Place the goods away from the cold room walls. Use spacers if necessary.
- Leave a space of approximately 20 cm between the goods and the cold room ceiling.
- Stack heat generating products, such as fruit and vegetables, in a way to create sufficient space to remove the generated heat by cold air circulation.
- Stack products which do not generate heat, such as meat and frozen foods, close to each other toward the center of the cold room.



WARNING



Zanotti is not responsible for cold room safety.

Make sure that no people are left in the cold room before you close the doors:

- Risk of suffocation. Be sure to keep enough empty volume inside the cold room to guarantee safety conditions.
- Risk of frostbite.
- Risk of freezing to death.

6 Energy saving and optimum operation

If circumstances allow:

- Do not place unfrozen liquids or foodstuffs in the cold room (when used as freezer).
- Reduce the opening frequency of the cold room doors.

Always:

- Reduce the opening time of the cold room doors.
- Make sure that cold room doors are perfectly tight.
- Make sure that a good airflow is possible between the stored goods.
- Check that the evaporator is ice-free. Ice forms on the evaporator preventing air from flowing regularly. If necessary increase defrost termination temperature by some degrees or increase frequency of defrosts.

7 Maintenance and service



INFORMATION

Suitable maintenance is crucial for obtaining longer life, perfect working conditions and high efficiency of the unit. It also ensures the proper functioning of the safety devices provided by the manufacturer.

7.1 Cleaning the unit

7.1.1 To clean the exterior

Clean with a soft cloth. If it is difficult to remove stains, use water or neutral detergent and wipe with a dry cloth.

7.1.2 To clean the interior



DANGER: RISK OF ELECTROCUTION

- Turn OFF all power supply before removing the switch box cover, connecting electrical wiring or touching electrical parts.
- Disconnect the power supply for more than 10 minutes, and measure the voltage at the terminals of main circuit capacitors or electrical components before servicing. The voltage **MUST** be less than 50 V DC before you can touch electrical components. For the location of the terminals, see the wiring diagram.
- Do NOT touch electrical components with wet hands.
- Do NOT leave the unit unattended when the service cover is removed.



CAUTION



Do NOT touch the heat exchanger fins. These fins are sharp and could result in cutting injuries. Wear safety gloves if you have to work on or around the heat exchanger fins.



WARNING

Do NOT use water for cleaning. Use of water can damage electrical components.

Good operation of the unit requires the condenser and evaporator to be clean. The frequency of cleaning depends on the environment where the unit is installed.



INFORMATION

Under normal working conditions the condenser and evaporator should only be cleaned during scheduled maintenance inspections.

Condenser heat exchanger cleaning

- 1 Turn off the unit.
- 2 Clean the condenser heat exchanger with a long-haired brush or by blowing (low pressure) air from the inside outwards.



NOTICE

Do not use high-pressure air to clean the condenser heat exchanger fins. It will damage them and prevent proper operation of the condenser heat exchanger.



WARNING

Do NOT use water for cleaning. Use of water can damage electrical components.

Should the fins nevertheless get bent:

- 3 Straighten them carefully using a fin comb for cleaning/straightening.

Evaporator heat exchanger cleaning

- 1 Set the unit at minimum operating temperature and wait for ice build-up.
- 2 Activate the unit manual Defrost mode.
- 3 Check if the evaporator heat exchanger is clean.
- 4 Turn off the unit.
- 5 Clean the evaporator heat exchanger with a long-haired brush or by blowing (low pressure) air from the inside outwards or with (low pressure) water spray.



NOTICE

Do not use high-pressure water or air to clean the evaporator heat exchanger fins. It will damage them and prevent proper operation of the evaporator heat exchanger.



INFORMATION

It is allowed to use water spray for cleaning the evaporator heat exchanger. Water will go through the drain pipe. Make sure the drain pipes are NOT clogged with dirt coming out of the evaporator heat exchanger.

7.2 Scheduled maintenance

Periodically check wear condition of electrical contacts and remote switches. If necessary have them replaced by a qualified technician.



NOTICE

NEVER service or repair the unit by yourself. Ask a qualified service person to perform this work.

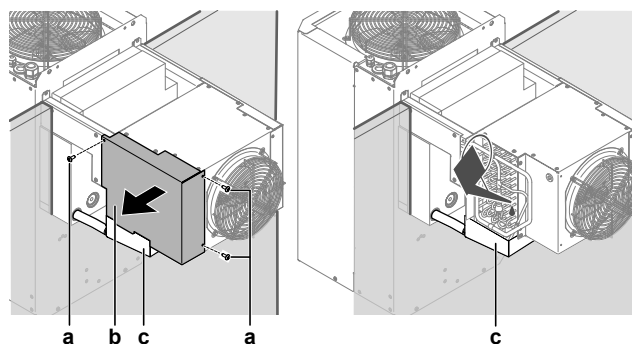
Under no circumstances the user is allowed to:

- Replace electrical components.
- Work on the electric equipment.
- Repair mechanical parts.
- Work on the refrigerating system.
- Work on the control panel, ON/OFF and emergency switches.
- Work on protection and safety devices.

Every 6 months	Inspection and maintenance programs
•	Check the condenser and clean if necessary.
•	Check the evaporator and clean if necessary.
•	Check drain pipe, see "7.3 To check the drain pan pipe" [p 17] .

7.3 To check the drain pan pipe

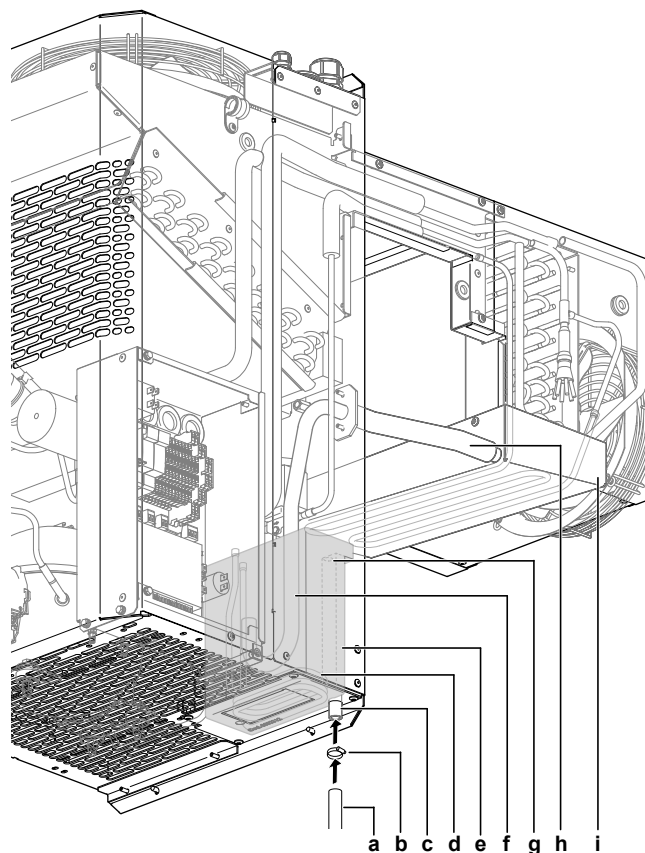
A clogged drain pan pipe will cause condensation water to flow over the edge of the drain pan.



- a Screw
- b Side plate
- c Drain pan

- 1 Remove the 3 screws (a) and remove the side plate (b) of the evaporator.

- 2 Pour water into the drain pan (c).



- a Drain pipe or hose (external)
- b Pipe clamp
- c External drain connection (Ø 14 mm)
- d Hot refrigerant pipes
- e Overflow tank
- f Drain pipe (internal)
- g Overflow opening
- h Drain pan pipe
- i Drain pan

- 3 Check that the water evacuates through the drain pan pipe (f), towards the overflow tank (e) in the condenser.

Result: If necessary; unclog the drain pan pipe.


- 4 Reinstall the side plate with the 3 screws on the evaporator. Tighten the screws to a torque of 1.5 N•m.

8 Troubleshooting

8 Troubleshooting

If one of the following malfunctions occurs, take the measures shown below and contact your dealer.


WARNING



Stop operation and shut OFF the power if anything unusual occurs (burning smells etc.).

Leaving the unit running under such circumstances may cause breakage, electrical shock or fire. Contact your dealer.

WARNING



If the internal wiring or the supply cable is damaged, it has to be replaced by the manufacturer, its service agent or similarly qualified persons.

The system **MUST** be repaired by a qualified service person.

Malfunction	Measure
If a safety device such as a fuse, a breaker or an earth leakage breaker frequently actuates.	Turn OFF the main power switch. Notify your installer and report the malfunction.
If water leaks from the condenser side of the unit.	Stop the operation. <ul style="list-style-type: none"> Check that the drain pan pipe has no leaks. Check that the external drain pan pipe is properly connected. Check that all the thermal insulation sponges provided with the unit are properly installed.
If water leaks from the drain pan under the evaporator.	Check that the drain pan pipe is not clogged.
The operation switch does NOT work well.	Turn OFF the power supply.
If the user interface display indicates an alarm.	See "4.5.1 Overview of the error codes" [p 13]. Notify your installer and report the error code.

If the system does NOT operate properly except for the above mentioned cases and none of the above mentioned malfunctions is evident, investigate the system in accordance with the following procedures.

Malfunction	Measure
If the system does not operate at all.	<ul style="list-style-type: none"> Check if there is no power failure. Wait until power is restored. If power failure occurs during operation, the system automatically restarts immediately after power is restored. Check if no fuse has blown or breaker is activated. Change the fuse or reset the breaker if necessary. Check if the mains cable is still connected properly. Check if the user interface in the remote control panel is still connected properly.

Malfunction	Measure
Unit does not start operating when pressing ON/OFF key, the display however is turned on. Notice that the compressor starts up after a pre-set delay. This function is useful to protect the compressor and the relay from power cycling in the event of repeating power outages. Defrosting (if required) also starts after this delay.	<ul style="list-style-type: none"> Check the door micro switch. The switch must be actuated and the NO contact must be closed when the door is closed. If the installed door switch works with another logic, verify if it is necessary to change the polarity of the digital input (parameter i2P).
Compressor stops. The unit is equipped with an overtemperature device which stops the compressor in case of overload. Possible causes are: <ul style="list-style-type: none"> Insufficient ventilation of the room where the unit is installed. Unit working outside the operating range. Anomaly in mains voltage. Faulty operation of condenser fan. Device reset is automatic after temperature dropped to normal.	<ul style="list-style-type: none"> Make sure to have installed all the metalsheet panels of the unit and check if air inlet or outlet of the unit condenser is not blocked by obstacles. Remove any obstacles and make sure the air can flow freely. Make sure to operate in the unit operation range (see "5.1 Operation range" [p 15]). Make sure that the unit has been installed properly. Refer to "General installation guidelines" in the installation manual. Check power supply (voltage). Correct if necessary. Check operation of the condenser fan. If it is not working, contact your dealer.
The system stops immediately after starting operation.	<ul style="list-style-type: none"> Check if the plug has been installed properly. Check the legend for the cable labelling in the manual and make sure to properly connect each conductor line terminal in the plug. Make sure that the protections applied to the electrical supply are compliant with national standards. If the problem persists, contact your dealer.

Malfunction	Measure
The system operates but cooling is insufficient.	<ul style="list-style-type: none"> Check if air inlet or outlet of the unit evaporator is not blocked by obstacles. Remove any obstacles and make sure the air can flow freely. Check if the evaporator inside the cold room is not frosted up. Defrost the unit manually. Check if there are not too many articles inside the cold room, see "5.3 Storing the goods" [p 16]. Don't overload the cold room. Check if there is smooth air circulation inside the cold room. Reorganise the articles inside the cold room, see "5.3 Storing the goods" [p 16]. Check if there is not too much dust on the condenser. Remove the dust, see "7.1.2 To clean the interior" [p 16]. To clean the interior. Check if there is cold air leaking out of the cold room. Stop the air from leaking outside. Check if you did not set the temperature too high. Set the setpoint appropriately, see "4.2.5 To set the temperature" [p 11]. Check if there are no high-temperature articles stored in the cold room. Always store articles after they have cooled down. Check if the door is not opened too long. Reduce the opening time of the door.

After checking all the items above, if it is impossible to fix the problem yourself, contact your installer and state the symptoms, the complete model name of the unit (with manufacturing number if possible) and the installation date.

9 Disposal

Wooden, plastic and polystyrene packing must be disposed of according to the regulations in force in the country where the unit is used.



NOTICE

Do NOT try to dismantle the system yourself: dismantling of the system, treatment of the refrigerant, oil and other parts MUST comply with applicable legislation.

Final disposal of the unit must be done by an authorised area technical assistance service, that has proper training, equipment and instructions for the dismantling. They are also responsible for reuse, recycling and recovery.



CAUTION



There are potential environmental hazards involved in dismantling the unit.

10 Glossary

Accessories

Labels, manuals, information sheets and equipment that are delivered with the product and that need to be installed according to the instructions in the accompanying documentation.

Applicable legislation

All international, European, national and local directives, laws, regulations and/or codes that are relevant and applicable for a certain product or domain.

Authorised installer

Technical skilled person who is qualified to install the product.

Dealer

Sales distributor for the product.

Field supply

Equipment NOT made by Zanotti that can be combined with the product according to the instructions in the accompanying documentation.

Installation manual

Instruction manual specified for a certain product or application, explaining how to install, configure and maintain it.

Maintenance instructions

Instruction manual specified for a certain product or application, which explains (if relevant) how to install, configure, operate and/or maintain the product or application.

Operation manual

Instruction manual specified for a certain product or application, explaining how to operate it.

Optional equipment

Equipment made or approved by Zanotti that can be combined with the product according to the instructions in the accompanying documentation.

Service company

Qualified company which can perform or coordinate the required service to the product.

User

Person who is owner of the product and/or operates the product.



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