EVJ 500 series

Temperature/humidity, sanitising and maturing controllers

17.5 °C **60** %

Door Open

MENU | ⏻ | ∨ | ∧ AUX | 💡 | SET ⏻

⚠ **AVVERTIMENTO**

Leggere e comprendere appieno il manuale prima di utilizzare questo dispositivo.

Il mancato rispetto di queste istruzioni può provocare morte o gravi infortuni.

Operating manual

CONTENTS

IMPORTANT LEGAL INFORMATION

LIABILITY AND RESIDUAL RISKS

EVCO assumes no liability for any damage caused by the following (by way of example; this is not an exhaustive list):

- Installation/use for purposes other than those specified and, in particular, not adhering to the safety provisions set out by current regulations in the country in which the product is installed and/or contained in this manual;
- Use in appliances that do not guarantee sufficient protection against electric shocks, water and dust within the installation conditions created;
- Use in appliances that allow access to hazardous parts without the use of a keyed or tooled locking mechanism when accessing the instrument;
- Tampering and/or modifying the product;
- Installation/use in appliances which do not comply with current regulations in the country in which the product is installed.

The customer/manufacturer is responsible for ensuring their machine complies with these regulations.
EVCO's responsibility is limited to the correct and professional use of the product in accordance with regulations and the instructions contained in this manual and other product support documents.

To comply with EMC standards, observe all the electrical connection instructions. As it depends on the wiring configuration as well as the load and the installation type, compliance must be verified for the final machine as specified by the relevant product standard.

DISCLAIMER

This document is the exclusive property of EVCO. It contains a general description and/or a description of the technical specifications for the services offered by the products listed herein. This document should not be used to determine the suitability or reliability of these products in relation to specific user applications. Each user or integration specialist should conduct their own complete and appropriate risk analysis, in addition to carrying out a product evaluation and test in relation to its specific application or use. Users can send us comments and suggestions on how to improve or correct this publication.

Neither EVCO nor any of its associates or subsidiaries shall be held responsible or liable for improper use of the information contained herein.

EVCO has a policy of continuous development; therefore, EVCO reserves the right to make changes and improvements to any product described in this document without prior notice.

The images in this document and other documentation supplied with the product are provided for illustrative purposes only and may differ from the product itself.

The technical data in this manual is subject to change without prior notice.

TERMS AND CONDITIONS OF USE

Permitted use

The device must be installed and used in accordance with the instructions provided and, in particular, hazardous live parts must not be accessible under normal conditions.

The device must be suitably protected from water and dust with regard to its application and must also only be accessible with the aid of a tool (with the exception of the front panel).
Only qualified personnel may install the product or perform technical support procedures on it.

The customer must only use the product as described in the documentation relating to that product.

Prohibited use

Any use other than those described in the "**Permitted use**" section and in the product support documentation is prohibited.

DISPOSAL

The device must be disposed of in accordance with local regulations regarding the collection of electrical and electronic appliances.

CONSIDER THE ENVIRONMENT

The company works towards protecting the environment, while taking account of customer requirements, technological innovations in materials and the expectations of the community to which we belong. EVCO places great importance on respecting the environment, encouraging all associates to become involved with company values and guaranteeing safe, healthy and functional working conditions and workplaces.
Please consider the environment before printing this document.

IMPORTANT SAFETY INFORMATION

Please read this document carefully before installation; study all the warnings before using the device. Only use the device in accordance with the methods described in this document. The following safety messages may be repeated several times in the document, to provide information regarding potential hazards or to attract attention to information which may be useful in explaining or clarifying a procedure.

SYMBOLS USED IN THIS MANUAL

This symbol is used to indicate a risk of electric shock.
It is a safety indication and as such, should be observed to avoid potential accidents or fatalities.

This symbol is used to indicate a risk of serious personal injury.
It is a safety indication and as such, should be observed to avoid potential accidents or fatalities.

SAFETY MESSAGES

⚡ ⚠ DANGER
DANGER indicates a situation of imminent danger which, if not avoided, **will lead to death or serious injury**.

⚠ WARNING
WARNING indicates a situation of imminent danger which, if not avoided, **may lead to death or serious injury**.

⚠ CAUTION
CAUTION indicates a potentially hazardous situation which, if not avoided, **could cause minor or moderate injury.**

NOTICE
NOTICE indicates a situation not related to physical injuries but which, if not avoided, could damage the equipment**.**

NOTE: the maintenance, repair, installation and use of the equipment must only be entrusted to qualified personnel.

QUALIFIED PERSONNEL

Only suitably trained and experienced personnel capable of understanding the content of this manual and all documentation regarding the product are authorised to work on and with this equipment. Furthermore, the personnel must have completed courses in safety and must be able to recognise and prevent the implied dangers. The personnel must have suitable training, knowledge and experience at a technical level, and be capable of anticipating and detecting potential risks caused by using the product, as well as changing the settings and modifying the mechanical, electric and electronic equipment for the entire system in which the product is used. All personnel working on and with the product must be entirely familiar with the relevant standards and directives, as well as safety regulations.

UNAUTHORISED PERSONNEL

The equipment must **not** be used by persons (including children) with reduced physical, sensory or mental capabilities or persons with no experience or knowledge.

SAFETY PRECAUTIONS CONCERNING THE PRODUCT AND ITS USE

Before carrying out any work on the equipment, read these instructions carefully, making sure you understand everything.

⚡ ⚠ DANGER

RISK OF ELECTRIC SHOCK, EXPLOSION OR ELECTRIC ARC

- Only use electrically insulated measuring devices and equipment.
- Do not install the equipment while the power supply is connected.
- Cut off the power supply to all equipment, including any connected devices, before installing/uninstalling the device.
- Always use a properly calibrated Voltmeter to make sure the system is powered off.
- Do not touch the unshielded components or the terminals while they are live.
- Do not open, disassemble, repair or modify the product.
- Do not expose the equipment to liquids or chemicals.
- All 12…24 Vac/dc models must be powered individually.
- Before applying voltage to the equipment:
  - Make sure all protective elements, such as covers, hatches and grilles, are fitted and/or closed.
  - Check all wiring connections.

⚡ ⚠ DANGER

RISK OF ELECTRIC SHOCK AND FIRE

- Do not use the device with loads greater than those indicated in the technical data section.
- Do not exceed the temperature and humidity ranges indicated in the technical data section.
- Use the required safety interlocks (fuses and/or magnetothermal switches) of a suitable size.

⚡ ⚠ DANGER

RISK OF ELECTRIC SHOCK OR MALFUNCTIONING OF THE EQUIPMENT

Do not use damaged products or accessories.

⚠ WARNING

MALFUNCTIONING OF THE EQUIPMENT

- Perform the wiring carefully, in compliance with electromagnetic compatibility requirements.
- Make sure the wiring is correct for its application.
- Use shielded cables for all I/O signal and communication cables.
- Minimise the length of the connections as much as possible, to avoid winding the cables around electrically connected parts.
- The signal (digital and analogue inputs, communication and corresponding power supplies) and power cables for the device must be routed separately.
- Before applying the power supply, check all the wiring connections.
- Use the necessary safety interlocks wherever the risk of injury to personnel and/or equipment damage exists.
- Install and use this device in a cabinet of a suitable class for the intended environment, protected by a keyed locking mechanism or other suitable instruments.
- In terms of connection and the fuses used in the circuits for the power supply and output lines, observe local and national regulatory requirements relating to the nominal current and voltage for the equipment in use.
- Do not use this equipment for machine functions that are critical to safety.
- Do not disassemble, repair or modify the equipment.
- Do not connect wires to unused terminals and/or terminals marked with the text "No connection" ("N.C.").

Models with non-HC relay

This device was designed to operate in non-hazardous environments, excluding applications that generate, or could potentially generate, hazardous atmospheres. Only install this device in areas and for applications which are reliably free from hazardous atmospheres.

⚠ DANGER

RISK OF EXPLOSION

- Only install and use this device in sites that are not at risk.
- Do not install or use this device in applications which are capable of generating hazardous atmospheres, such as applications that use flammable refrigerants.

INFORMATION CONCERNING THE DOCUMENT

PURPOSE OF THE DOCUMENT

This document describes the **EVJ 500** series of controllers and the corresponding accessories. The information provided includes:

- Safety;
- Installation;
- Wiring;
- Commissioning;
- Usage;
- Configuration of the controller.

As described below (see *"1. Introduction" on page 9*) the **EVJ 500** series consists of the following controllers:

- **EVJ 506**;
- **EVJ 526**;
- **EVJ 536**;
- **EVJ 556**.

NOTE: Read this document - and all related documents - carefully before installing, operating or servicing the controller.

CONVENTIONS

- When some information applies to all models, the generic name of the **EVJ 500** series may be used, or no name specified at all; in any case the information applies to all models.
- When some information applies to a specific model only, the relevant model is **expressly** indicated.

INTENDED READERS

This manual is intended for readers in different countries. Both metric and imperial units of measurement are used in the manual.

APPLICATION AND VALIDITY

This manual is only valid for the **EVJ 500** series of controllers.

RELATED TECHNICAL DOCUMENTS

Document	Code (p/n)	Language
EVJ 500 series operating manual, EN	**114J500E4**	ENGLISH
EVJ 500 series instruction sheet, EN-IT	**104J500A3**	MULTILINGUAL (EN-IT)
EVJ 500 series instruction sheet, FR	**104J500F3**	FRENCH
EVJ 500 series instruction sheet, DE	**104J500G4**	GERMAN

1. INTRODUCTION

1.1 DESCRIPTION

EVJ 500 series controllers represent a complete solution by EVCO, suitable for the management of:

- Temperature;
- Time-Temperature-Humidity;
- Humidity;
- Food sanitising;
- Cold room sterilisation; and
- Maturing of foods.

1.2 AVAILABLE MODELS

The **EVJ 500** series includes 4 controllers:

- **EVJ 506** - Temperature and humidity controller;
- **EVJ 526** - Temperature, humidity and sanitising function using UV lamps or ozone generators;
- **EVJ 536** - Temperature, humidity and maturing function controller;
- **EVJ 556** - Universal controller that can be configured for time-temperature-humidity management.

1.3 FEATURES
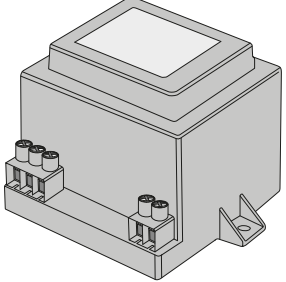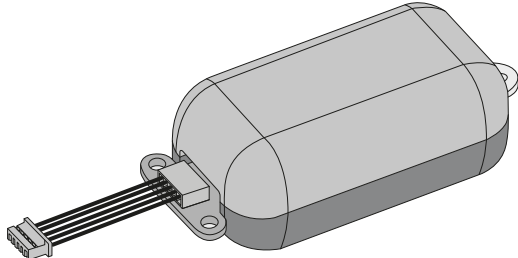
The main features of the **EVJ 500** series are:
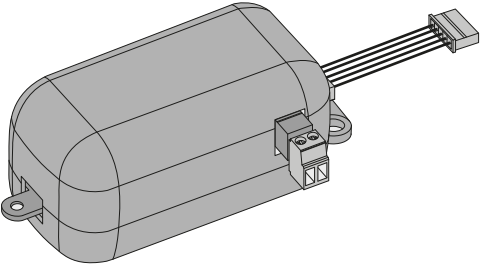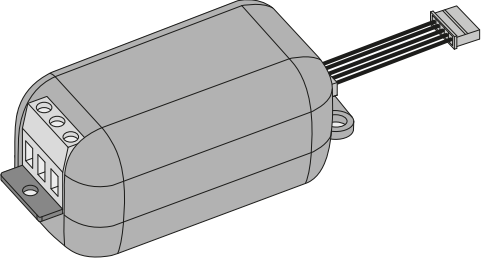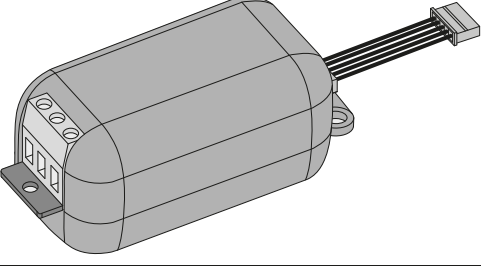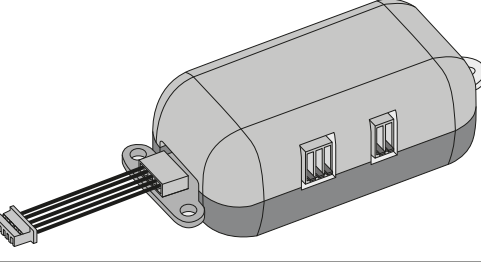
- 2 analogue inputs, of which:
  - 1 is an analogue inputs for temperature;
  - 1 is an analogue input for humidity;
- 2 volt-free digital inputs, of which:
  - 1 is a digital input that can be configured as parameter-based analogue input;
- 6 non-sealed relay outputs (also available in sealed version on request);
- 1 TTL serial port;
- *EPoCA*-compatible; and
- Compatible with BMS interfacing via Modbus protocol.

NOTE: for further information regarding input and output specifications, please refer to paragraph *"2.1 Technical specifications" on page 11*.

1.4 ACCESSORIES

The accessories available for the **EVJ 500** series are:

Type	P/n	Description
	3801000023	230/12 Vac insulated transformer
	---	NTC/PTC temperature probes
	EVIF25TBX	BLE module for connection to EVconnect APP

Type	P/n	Description
	EVIF25TWX	Wi-Fi module
	EVIF22TSX	Module for TTL/RS-485 serial interface
	EVIF23TSX	Module for TTL/RS-485 serial interface with built-in clock
	EVJKEY	Programming flash drive for **EVJ** models

2. TECHNICAL DATA

All the system components of **EVJ 500** controllers satisfy European Community (EC) requirements for open systems. They must be installed in casing or another location designated on the basis of specific environmental conditions and in order to minimise the risk of involuntary contact with hazardous voltage. Use metal casing to improve **EVJ 500** system immunity to electromagnetic fields. This equipment satisfies the EC requirements as indicated in the tables below.

⚠ WARNING
MALFUNCTIONING OF THE EQUIPMENT
Do not exceed any of the nominal values specified in this section.

2.1 TECHNICAL SPECIFICATIONS

2.1.1 EVJ 500 series

Type	Description
The product complies with the following harmonised standards:	EN60730-1 and EN60730-2-9
Device construction:	Incorporated electronic device
Device purpose:	Operating control device
Type of action:	1
Pollution category:	2
Overvoltage category:	III
Nominal pulse voltage:	4000 V
Power supply:	12 Vac/dc, ±10 %, 50/60 Hz
Consumption:	10 VA maximum
Ambient operating conditions:	0 ... 55 °C (32 ... 131 °F) 10 ... 90 % RH non-condensing
Transportation and storage conditions:	-25 ... 70 °C (-13 ... 158 °F) 10 ... 90 % RH non-condensing
Software class:	A
Protection degree provided by the casing:	IP65 (front panel)
RTC:	Built-in lithium battery
RTC drift:	≤ 60 s/month at 25 °C (77 °F)
Battery life:	> 6 months at 25 °C (77 °F)
Battery charging time:	24 h using instrument power supply

2.2 I/O SPECIFICATIONS

2.2.1 EVJ 506

Type	Description
Digital inputs:	• If **Pr3=0**, 2 voltage-free digital inputs • If **Pr3≠0**, 1 voltage-free digital input
Analogue inputs for temperature:	• If **Pr3=0**, 1 analogue input for NTC or PTC probes • If **Pr3≠0**, 2 analogue inputs for NTC or PTC probes
Analogue inputs for humidity:	1 analogue input for humidity probe
Low voltage (SELV) digital output:	6 hazardous voltage digital outputs
Serial port:	1 TTL serial port

Analogue input specifications

	Default	NTC 10 kΩ at 25 °C BETA 3435	PTC KTY 81-121 990 Ω at 25 °C	RH EVHTP5•0	Digital input
Pb1	Temperature probe	•	•	---	---
Pb2	Humidity probe (EVHTP5•0)	---	---	•	---
Pb3	**(If Pr3=5)** Evaporator probe	•	•	---	•

		NTC	PTC	RH	Digital input
Range	---	-50...120 °C (-58...248 °F)	-50...150 °C (-58...302 °F)	5 ...95 % RH	---
Resolution	---	0.1 °C (1 °F)		1 %	---
Input impedance	---	10 kΩ	990 Ω	---	---

Digital output specifications

Relay output	Default	Description	Load (at 250 Vac)	Load type
Out1	Compressor	SPST	30 A	Resistive
Out2	Hot	SPDT	8 A	Resistive
Out3	Light	SPST	16 A	Resistive
Out4	Humidify	SPST	8 A	Resistive
Out5	Fans	SPST	5 A	Resistive
Out6	Defrost	SPDT	8 A	Resistive

2.2.2 EVJ 526

Type	Description
Digital inputs:	• If **Pr3=0**, 2 voltage-free digital inputs • If **Pr3≠0**, 1 voltage-free digital input
Analogue inputs for temperature:	• If **Pr3=0**, 1 analogue input for NTC or PTC probes • If **Pr3≠0**, 2 analogue inputs for NTC or PTC probes
Analogue inputs for humidity:	1 analogue input for humidity probe
Low voltage (SELV) digital output:	6 hazardous voltage digital outputs
Serial port:	1 TTL serial port

Analogue input specifications

	Default	NTC 10 kΩ at 25 °C BETA 3435	PTC KTY 81-121 990 Ω at 25 °C	RH EVHTP5•0	Digital input
Pb1	Temperature probe	•	•	---	---
Pb2	Humidity probe (EVHTP5•0)	---	---	•	---
Pb3	**(If Pr3=5)** Evaporator probe	•	•	---	•
Range	---	-50...120 °C (-58...248 °F)	-50...150 °C (-58...302 °F)	5 ...95 % RH	---
Resolution	---	0.1 °C (1 °F)		1 %	---
Input impedance	---	10 kΩ	990 Ω	---	---

Digital output specifications

Relay output	Default	Description	Load (at 250 Vac)	Load type
Out1	Compressor	SPST	30 A	Resistive
Out2	Hot	SPDT	8 A	Resistive
Out3	Light	SPST	16 A	Resistive
Out4	Humidify	SPST	8 A	Resistive
Out5	Evaporator fans	SPST	5 A	Resistive
Out6	Defrost	SPDT	8 A	Resistive

2.2.3 EVJ 536

Type	Description
Digital inputs:	• If **Pr3=0**, 2 voltage-free digital inputs • If **Pr3≠0**, 1 voltage-free digital input
Analogue inputs for temperature:	• If **Pr3=0**, 1 analogue input for NTC or PTC probes • If **Pr3≠0**, 2 analogue inputs for NTC or PTC probes
Analogue inputs for humidity:	1 analogue input for humidity probe
Low voltage (SELV) digital output:	6 hazardous voltage digital outputs
Serial port:	1 TTL serial port

Analogue input specifications

	Default	NTC 10 kΩ at 25 °C BETA 3435	PTC KTY 81-121 990 Ω at 25 °C	RH EVHTP5•0	Digital input
Pb1	Temperature probe	•	•	---	---
Pb2	Humidity probe (EVHTP5•0)	---	---	•	---
Pb3	**(If Pr3=5)** Evaporator probe	•	•	---	•
Range	---	-50...120 °C (-58...248 °F)	-50...150 °C (-58...302 °F)	5 ...95 % RH	---
Resolution	---	0.1 °C (1 °F)		1 %	---
Input impedance	---	10 kΩ	990 Ω	---	---

Digital output specifications

Relay output	Default	Description	Load (at 250 Vac)	Load type
Out1	Compressor	SPST	30 A	Resistive
Out2	Hot	SPDT	8 A	Resistive
Out3	Light	SPST	16 A	Resistive
Out4	Humidify	SPST	8 A	Resistive
Out5	Evaporator fans	SPST	5 A	Resistive
Out6	Defrost	SPDT	8 A	Resistive

2.2.4 EVJ 556

Type	Description
Digital inputs:	• If **Pr3=0**, 2 voltage-free digital inputs • If **Pr3≠0**, 1 voltage-free digital input
Analogue inputs for temperature:	• If **Pr3=0**, 1 analogue input for NTC or PTC probes • If **Pr3≠0**, 2 analogue inputs for NTC or PTC probes
Analogue inputs for humidity:	1 analogue input for humidity probe
Low voltage (SELV) digital output:	6 hazardous voltage digital outputs
Serial port:	1 TTL serial port

Analogue input specifications

	Default	NTC 10 kΩ at 25 °C BETA 3435	PTC KTY 81-121 990 Ω at 25 °C	RH EVHTP5•0	Digital input
Pb1	Temperature probe	•	•	---	---
Pb2	Humidity probe (EVHTP5•0)	---	---	•	---
Pb3	**(If Pr3=5)** Defrost probe	•	•	---	•
Range	---	-50...120 °C (-58...248 °F)	-50...150 °C (-58...302 °F)	5 ...95 % RH	---
Resolution	---	0.1 °C (1 °F)		1 %	---
Input impedance	---	10 kΩ	990 Ω	---	---

Digital output specifications

Relay output	Default	Description	Load (at 250 Vac)	Load type
Out1	Compressor	SPST	30 A	Resistive
Out2	Hot	SPDT	8 A	Resistive
Out3	Light	SPST	16 A	Resistive
Out4	Humidify	SPST	8 A	Resistive
Out5	Evaporator fans	SPST	5 A	Resistive
Out6	Defrost	SPDT	8 A	Resistive

3. MECHANICAL ASSEMBLY

3.1 BEFORE YOU START

Read this manual carefully before installing the system.

In particular, the safety instructions, electrical requirements and current regulations for the machine or the process in which this device is involved must be observed. The use and application of the information contained herein requires experience in the design and programming of automated control systems. Only the user, integrator or manufacturer of the machine can be familiar with all the conditions and factors which arise during installation and configuration, operation and maintenance of the machine or the process, and as such can identify the relevant automation equipment and the corresponding interlocks and safety systems which can be used effectively and appropriately. When selecting automation and control equipment and other connected equipment and software, for a particular application, you must consider all applicable local, regional and national standards and/or regulations.

⚠ WARNING
REGULATORY INCOMPATIBILITY
Make sure all the equipment used and the systems conform to all applicable local, regional and national regulations and standards.

3.2 INFORMATION CONCERNING INSTALLATION AND THE SURROUNDING ENVIRONMENT

Before carrying out any work on the equipment, read these instructions carefully, making sure you understand everything.

⚡ ⚠ DANGER
RISK OF ELECTRIC SHOCK, EXPLOSION OR ELECTRIC ARC
• Only use electrically insulated measuring devices and equipment.
• Do not install the equipment while the power supply is connected.
• Cut off the power supply to all equipment, including any connected devices, before installing/uninstalling the device.
• Always use a properly calibrated Voltmeter to make sure the system is powered off.
• Do not touch the unshielded components or the terminals while they are live.
• Do not open, disassemble, repair or modify the product.
• Do not expose the equipment to liquids or chemicals.
• Before applying voltage to the equipment:
• Make sure all protective elements, such as covers, hatches and grilles, are fitted and/or closed.
• Check all wiring connections.

Models with non-HC relay

This device was designed to operate in non-hazardous environments, excluding applications that generate, or could potentially generate, hazardous atmospheres. Only install this device in areas and for applications which are reliably free from hazardous atmospheres.

⚠ DANGER
RISK OF EXPLOSION
• Only install and use this device in sites that are not at risk.
• Do not install or use this device in applications which are capable of generating hazardous atmospheres, such as applications that use flammable refrigerants.

⚠ WARNING

MALFUNCTIONING OF THE EQUIPMENT

- Perform the wiring carefully, in compliance with electromagnetic compatibility and safety requirements.
- Make sure the wiring is correct for its application.
- Use shielded cables for all I/O signal and communication cables.
- Minimise the length of the connections as much as possible, to avoid winding the cables around electrically connected parts.
- The signal (digital and analogue inputs, communication and corresponding power supplies) and power cables for the device must be routed separately.
- Before applying the power supply, check all the wiring connections.
- Use the necessary safety interlocks wherever the risk of injury to personnel and/or equipment damage exists.
- Install and use this device in a cabinet of a suitable class for the intended environment, protected by a keyed locking mechanism or other suitable instruments.
- In terms of connection and the fuses used in the circuits for the power supply and output lines, observe local and national regulatory requirements relating to the nominal current and voltage for the equipment in use.
- Do not use this equipment for machine functions that are critical to safety.
- Do not disassemble, repair or modify the equipment.
- Do not connect wires to unused terminals and/or terminals marked with the text "No connection" ("N.C.").

3.3 DIMENSIONS

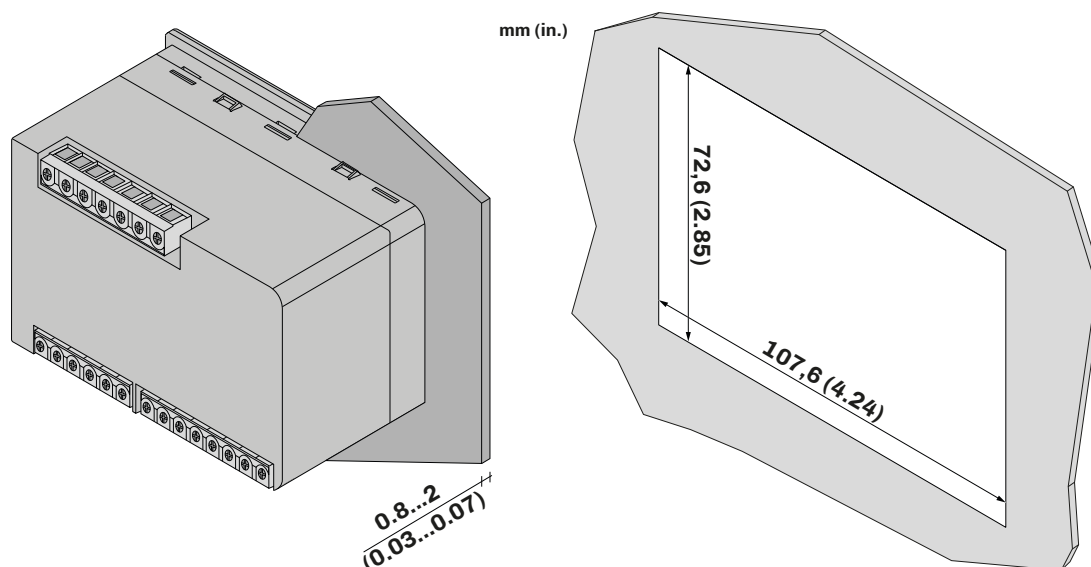*Fig. 1.   EVJ 500 series dimensions*

3.4 INSTALLATION

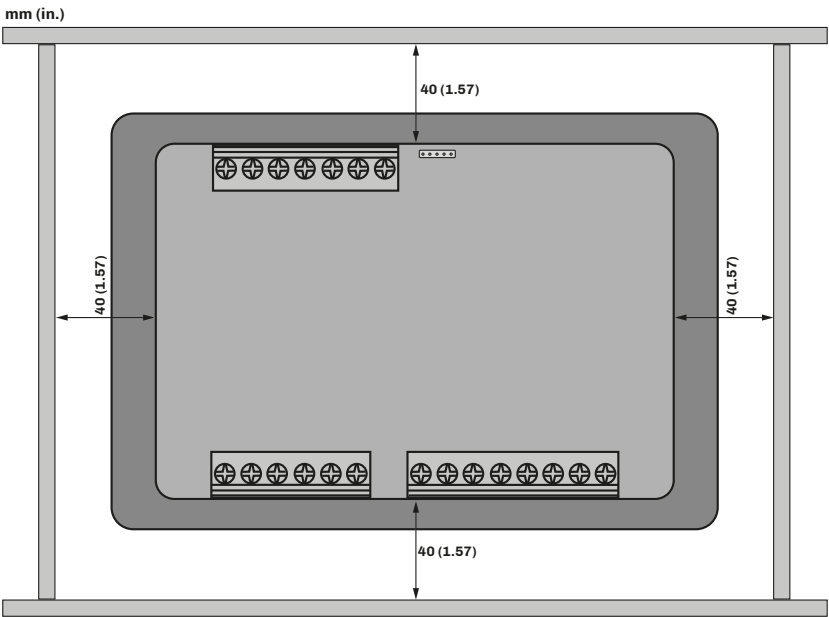*Fig. 2.   EVJ 500 series installation*

3.4.1 Minimum distances

mm (in.)

40 (1.57)

40 (1.57)

40 (1.57)

40 (1.57)

Fig. 3. *Minimum distances for **EVJ 500 series** installation*

4.1 WIRING BEST PRACTICES

The following information describes the wiring guidelines and best practices which should be observed when using the equipment described in this user manual.

⚠ ⚠ DANGER

RISK OF ELECTRIC SHOCK, EXPLOSION OR ELECTRIC ARC

- Only use electrically insulated measuring devices and equipment.
- Do not install the equipment while the power supply is connected.
- Cut off the power supply to all equipment, including any connected devices, before installing/uninstalling the device.
- Always use a properly calibrated Voltmeter to make sure the system is powered off.
- Do not touch the unshielded components or the terminals while they are live.
- Do not open, disassemble, repair or modify the product.
- Do not expose the equipment to liquids or chemicals.
- Before applying voltage to the equipment:
  - Make sure all protective elements, such as covers, hatches and grilles, are fitted and/or closed.
  - Check all wiring connections.

4.1.1 Wiring guidelines

When wiring the controllers, observe the following standards:

- The I/O and communication wiring must be kept separate from the power supply wiring. These two types of wiring must be routed in separate ducts.
- Make sure the operating environment and conditions fall within the specified values.
- Use wires with the correct diameter, suited to the voltage and current requirements.
- Use copper conductors (compulsory).
- Use shielded twisted pair cables for analogue/digital I/O connections.

Use correctly earthed shielded cables for all inputs or analogue outputs and for communication connections. If shielded cables are not used for these connections, electromagnetic interference may cause signal degradation. Degraded signals can result in unpredictable operation of the controller or the modules and connected equipment.

⚠ WARNING

MALFUNCTIONING OF THE EQUIPMENT

- Perform the wiring carefully, in compliance with electromagnetic compatibility and safety requirements.
- Make sure the wiring is correct for its application.
- Use shielded cables for all I/O signal and communication cables.
- Minimise the length of the connections as much as possible, to avoid winding the cables around electrically connected parts.
- The signal (digital and analogue inputs, communication and corresponding power supplies) and power cables for the device must be routed separately.
- Before applying the power supply, check all the wiring connections.
- Use the necessary safety interlocks wherever the risk of injury to personnel and/or equipment damage exists.
- Install and use this device in a cabinet of a suitable class for the intended environment, protected by a keyed locking mechanism or other suitable instruments.
- In terms of connection and the fuses used in the circuits for the power supply and output lines, observe local and national regulatory requirements relating to the nominal current and voltage for the equipment in use.
- Do not use this equipment for machine functions that are critical to safety.
- Do not disassemble, repair or modify the equipment.
- Do not connect wires to unused terminals and/or terminals marked with the text "No connection" ("N.C.").

4.1.2 Guidelines for screw terminals

Suitable wiring for power supply and SELV I/O

Passo 5,08 mm (0.199 in.)
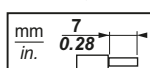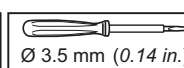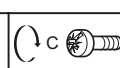
mm / in.	7 / 0.28								Ø 3.5 mm (0.14 in.)	C		N•m	0.5...0.6
												lb-in	4.42...5.31
mm²	0.2...2.5	0.2...2.5	0.25...2.5	0.25...2.5	2 x 0.2...1	2 x 0.2...1.5	2 x 0.25...1	2 x 0.5...1.5					
AWG	24...14	24...14	22...14	22...14	2 x 24...18	2 x 24...16	2 x 22...18	2 x 20...16					

Fig. 4. *Suitable wiring for power supply and SELV I/O*

4.1.3 Permitted cable lengths

NOTICE
INOPERABLE EQUIPMENT • When connecting the probes, the digital inputs and the power supply, use cables that are no longer than 10 m (32.80 ft.). • When connecting the TTL serial port, use cables that are no longer than 1 m (3.28 ft.). • When connecting the controller power supply and the relay outputs, use cables that are no longer than 10 m (32.80 ft.).

4.2 WIRING DIAGRAM

4.2.1 EVJ 500 series
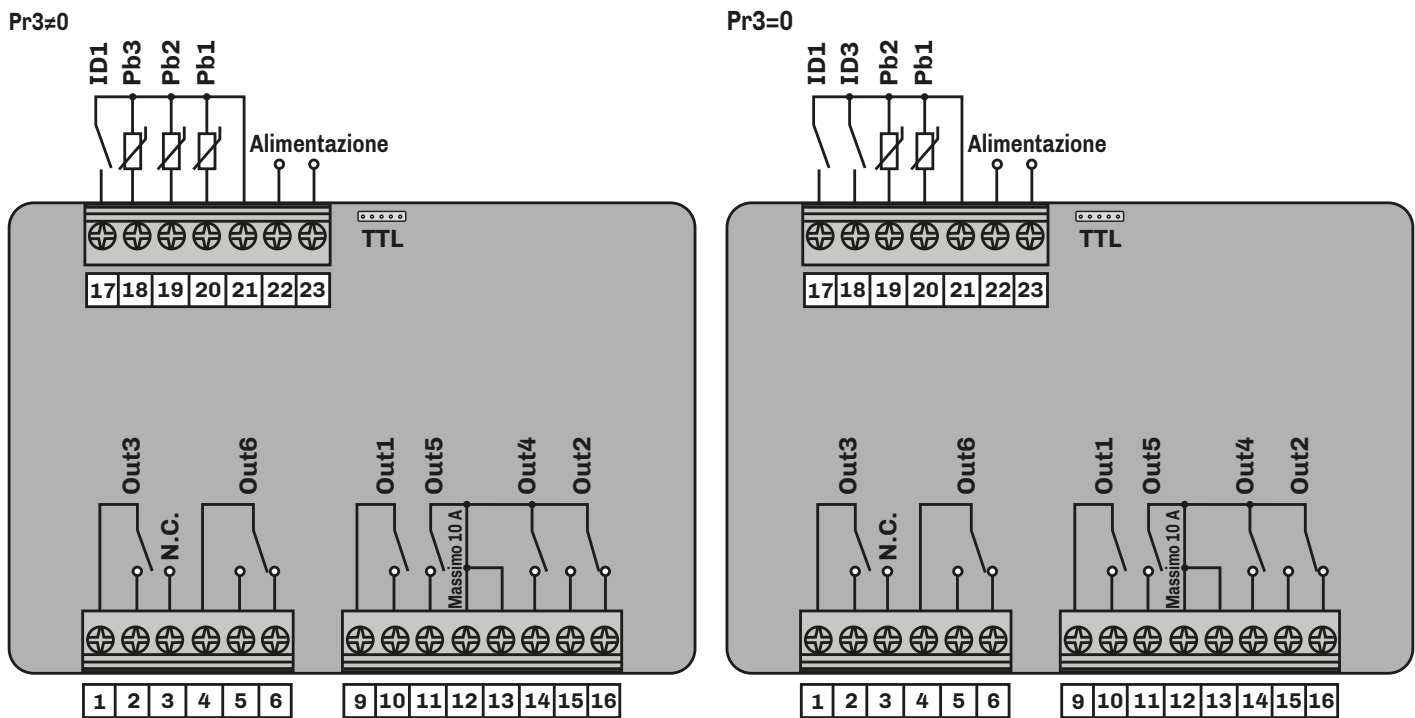
Fig. 5. *EVJ 500* series wiring diagram

TERMINALS			
1-2	**Out3** relay output (Light)	12-15-16	**Out2** relay output (Heat)
3	No connection **N.C.**	17-21	**ID1** digital input
4-5-6	**Out6** relay output (Defrost)	18-21	**ID3** digital input if **Pr3**=0 **Pb3** probe input if **Pr3**≠0
8-10	**Out1** relay output (Compressor)	19-21	**Pb2** probe input (Humidity)
11-12	**Out5** relay output (Fans)	20-21	**Pb1** probe input (Temperature)
12-14	**Out4** relay output (Humidifying)	22-23	Power supply input

5. USER INTERFACE

5.1 INTERFACE
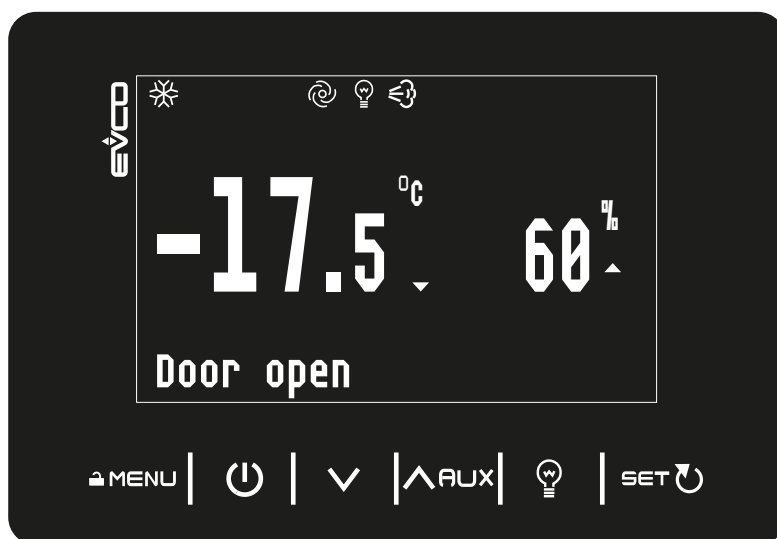
Fig. 6.   EVJ 500 series user interface

5.2 TOUCH KEYS

The touch key functions are described below:

Keys...	Tap and release to...	Tap and hold for at least 3 seconds to...
⌂ MENU	If **P30** = 2, access the program selection menu	**From standby**: Access the programming menu
⏻	• Go back a level • Exit a function	• Switch the instrument on/off • Stop regulation
⋁	• Decrease a value • Navigate within the menus	---
⋀AUX	• Increase a value • Navigate within the menus • Access the AUX menu (**EVJ 506**, **EVJ 526**, **EVJ 536**)	**EVJ 556:** Press and hold for at least 10 seconds to access the AUX menu
☼	Activate/Deactivate the Light relay	**EVJ 556:** If **uc1**..**uc6** = 17 and **u9** ≠ 0, the RUN function starts up
SET ↻	• Confirm the selected value/function • Access the setpoint menu	---

5.3 ICONS

Icon	Lit steadily	Flashing	OFF
❄	• Cold request • Dehumidification request	Protection delay ON	Compressor OFF
❄	Defrost active	• Defrost delay ON • Dripping ON	---
☄	Evaporator fans ON	• Evaporator fan activation delay ON • Humidification/dehumidification cycle ON	Evaporator fans OFF
☁	• Humidification request • Humidification digital output ON	---	---
◌	• Dehumidification request • Dehumidification digital output ON	Dehumidification delay with compressor ON	---
ᴟ	• Hot request • Hot digital output ON	---	---
HACCP	HACCP alarm in memory	New HACCP alarm registered	---
◍	Energy saving ON	---	Energy saving OFF
✕	Maintenance request	Remote connection	---
C	Temperature shown in °C	---	---

Icon	Lit steadily	Flashing	OFF
F	Temperature shown in °F	---	---
%	Humidity shown in %	---	---
AUX	• AUX function ON • AUX digital output ON	---	AUX function OFF
💡	Light relay ON from key	Light relay ON from door switch	Light relay OFF
⚠	---	Alarm in progress	---
▽△	• Probe value below the setpoint • Probe value above the setpoint	---	---
🔒	Keypad locked	---	---
🔓	Keypad unlocked	---	---
🚪	Door switch open	Door switch closed	---
↺	Cycle active	Cycle suspended due to the activation of another function	Cycle not active
╫	**EVJ 526 ONLY** Sanitising in progress with the instrument ON	Sanitising interval (if instrument is ON)	Sanitising OFF

5.4 USING THE CONTROLLER

5.4.1 Controller ON/OFF

To switch the controller on/off, press and hold ⏻ for at least 3 seconds.
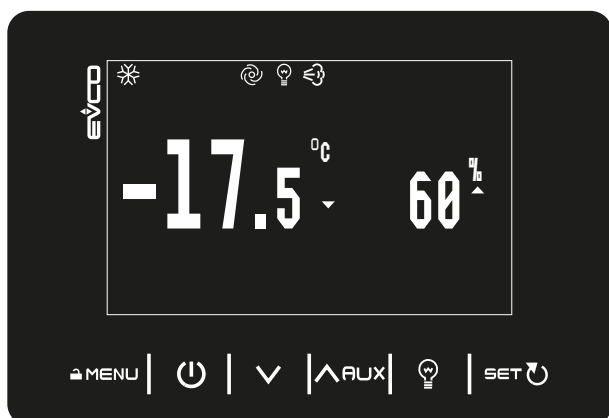
Fig. 7.   Main screen display

Fig. 8.   View of controller switching off

NOTE: the display will show the ⏻ icon for a few seconds, as per **"Fig. 8. View of controller switching off" on page 22**, and will then switch off. When one of the keys is pressed, the ⏻ icon appears.

5.4.2 Changing the setpoint

To change the setpoint:
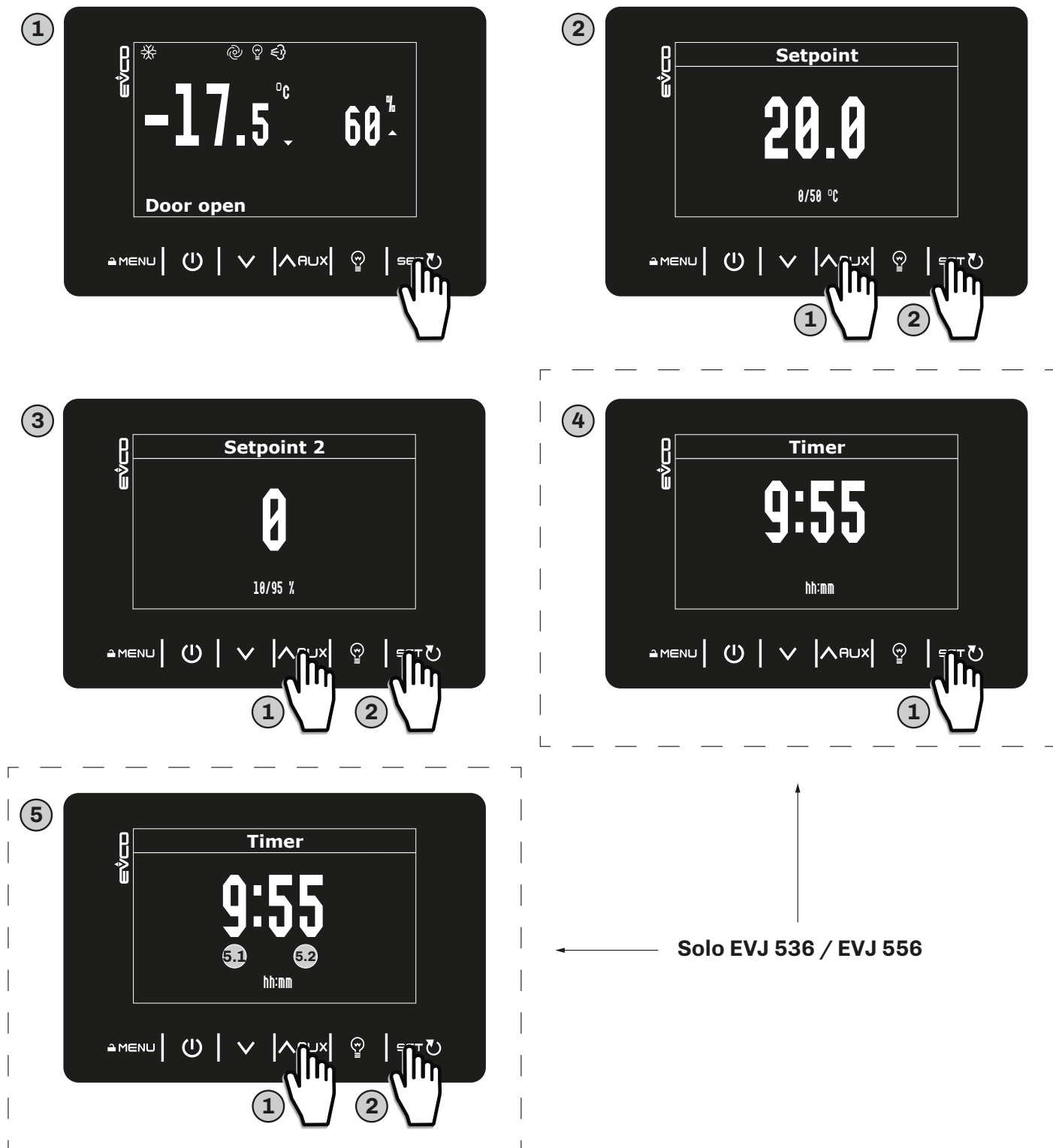
Fig. 9.   Changing the setpoint

NOTE: changing the Timer (4 and 5) is only possible in models **EVJ 536** and **EVJ 556**.

5.4.3 Setting the clock

To set the instrument clock (date and time):
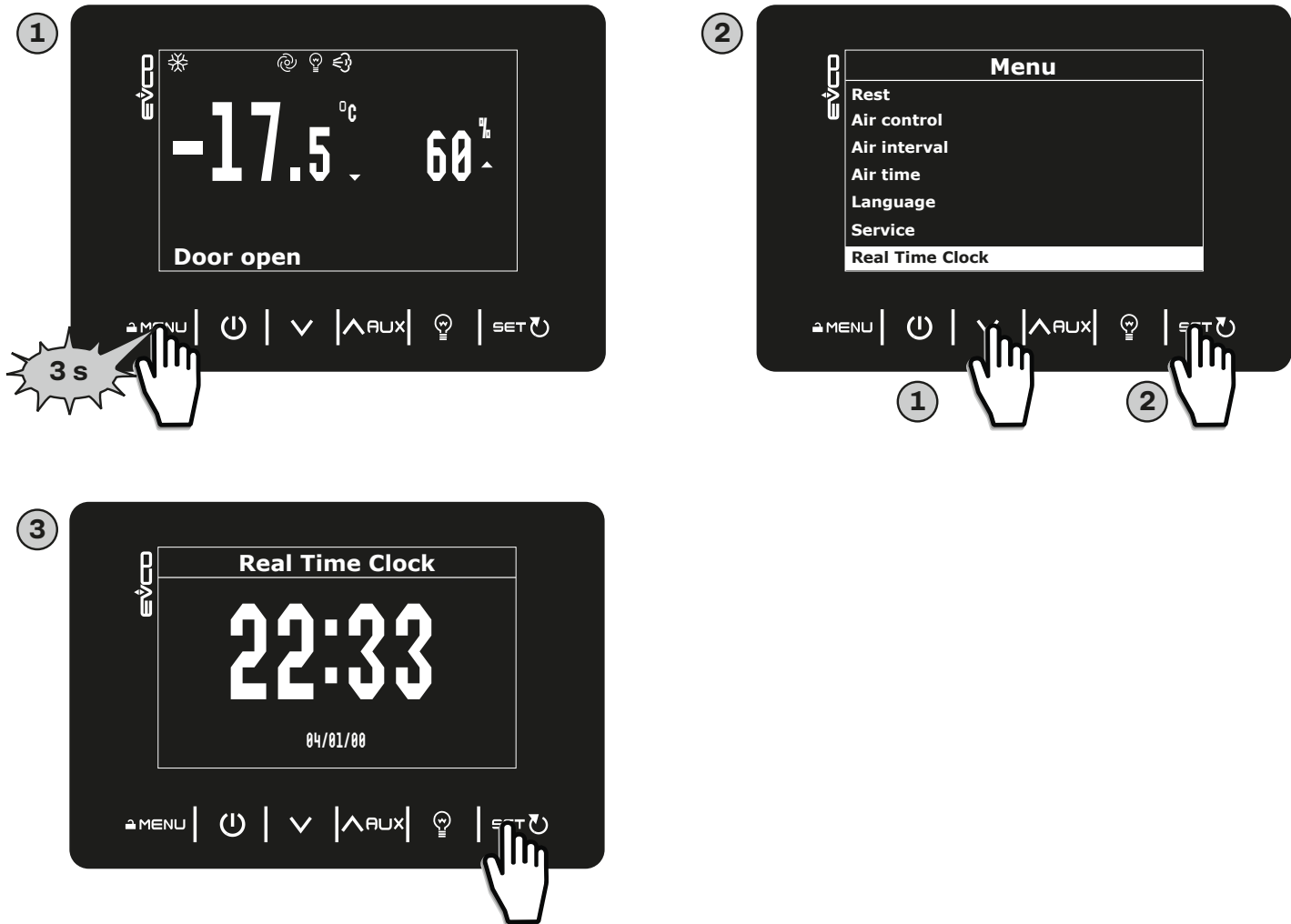
Fig. 10. *Configuring the clock*

Confirm with SET, then proceed with configuring the clock, in the following order (to scroll values, press SET):

1. Year;
2. Month;
3. Day;
4. Hours;
5. Minutes.

5.4.4 AUX menu - key-activated functions

The **EVJ 500 series** offers the option of activating, by tapping ∧AUX, the following functions:

Menu option	Description	EVJ 506	EVJ 526	EVJ 536	EVJ 556	Visible if...
Sanitising	Activates the sanitising function	---	√	---	---	**u10** ≠ 0
Defrost	Starts a manual defrost	√	√	√	√	**P30** = 0
Over Temp	Forces setpoint 1 (Temperature)	√	√	√	√	**P30** = 0
Extra rh	Forces setpoint 2 (Humidity)	√	√	---	---	**P30** = 0
Skip	Skips a stage in the program and moves to the next stage	---	---	√	√	**P30** = 2
Air	Activates the air exchange function	---	---	√	---	**P30** = 2
Recovery	Activates the Rest function	---	---	√	---	**P30** = 2
Energy Saving	Activates the energy saving function	√	√	√	√	**HE2** ≠ 0
Aux	Activates the AUX relay output	√	√	√	---	**u6** = 2

Select the function by tapping SET and confirm by tapping SET again.

NOTE: in **EVJ 556**, to access the AUX menu, press and hold ∧AUX for approximately 10 seconds.

5.4.5 Accessing the parameters

To access the parameters and edit them:
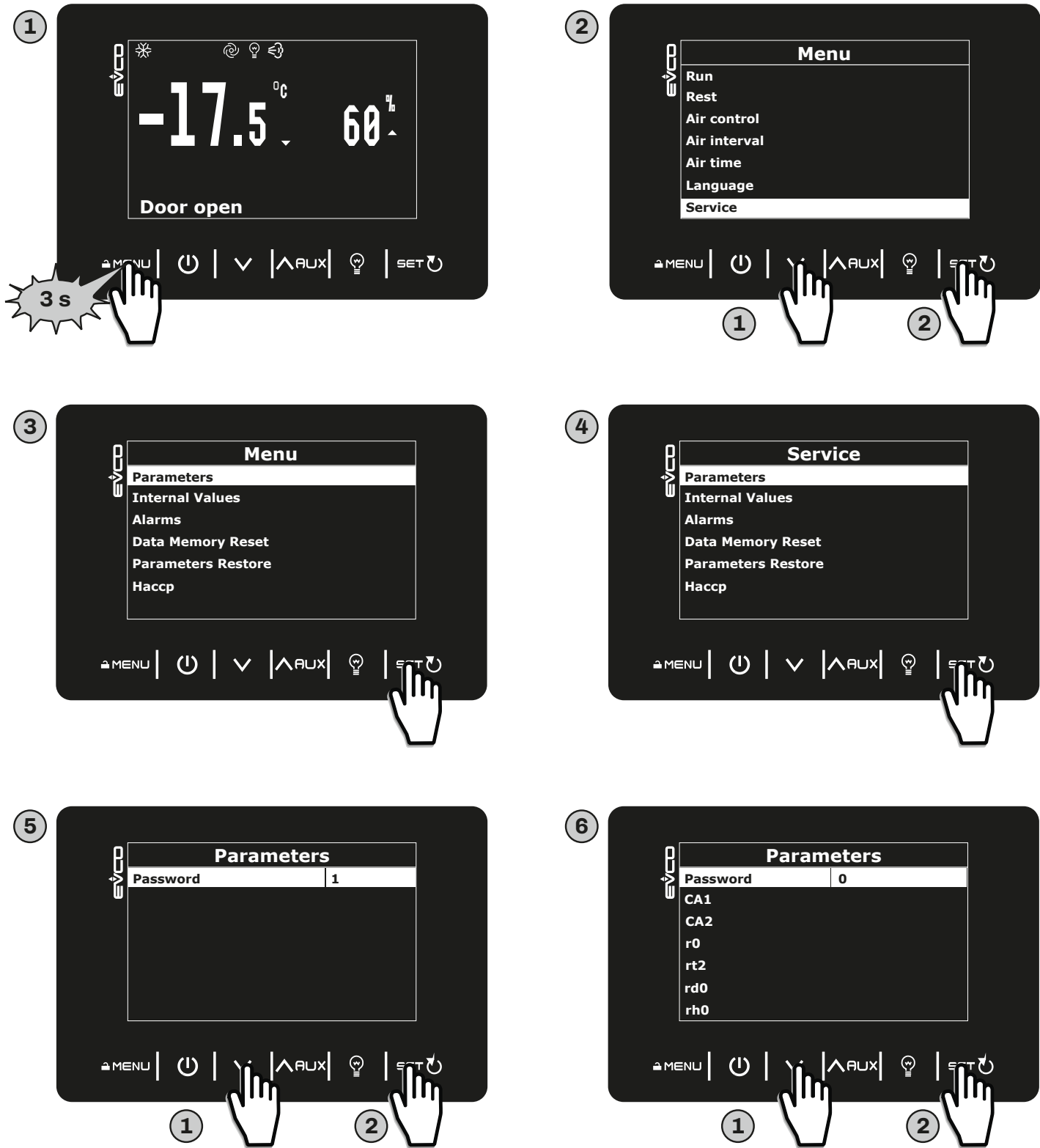
Fig. 11. *Accessing the parameters*

5.4.6 Programming menu

To access the programming menu, press and hold 🔒 MENU for at least 3 seconds. The following options will appear:

Menu option	EVJ 506	EVJ 526	EVJ 536	EVJ 556	Visible if...
Program 0x[(*)]	---	---	√	√	**P30** ≠ 0
Run	---	---	√	√[(**)]	**P30** = 2
Rest	---	---	√	---	**P30** = 2
Air Control	---	---	√	---	**P30** = 2
Air Interval	---	---	√	---	**P30** = 2
Air Time	---	---	√	---	**P30** = 2
Language	√	√	√	√	Always visible
Service	√	√	√	√	Always visible
Real Time Clock	√	√	√	√	**Hr0** = 1

[(*)] **Program 0x** ("x" depending on the program in use, from 01...06)
[(**)] Function available via key.

Program 0x
This section is used to edit the program in use. See *"5.4.8 Editing the pre-set program in use in EVJ 536" on page 27*.

Run
This section can be used to change the regulation duration:
- 0...99 h.

Rest
This section can be used to set/change the regulation pause duration at the end of Steaming.

Air Control / Air Interval
The **Air Control** section can be used to set the air exchange method from the following options:
- **0** = Active in all 3 processes (default),
- **1** = Active in processes 1 (Steaming) and 2 (Drying);
- **2** = Active in processes 2 (Drying) and 3 (Maturing);
- **3** = Active in processes parts 1 (Steaming) and 3 (Maturing).

The **Air Interval** section is used to set the air exchange duration:
- 0...99 h.

Language
Set the controller language in this section. Choose from:
- English;
- Italiano (Italian);
- German;
- French;
- Spanish;
- Polish;
- Traditional Chinese;
- Simplified Chinese.

Service
The service menu offers the following options:
- **Parameters**, for accessing the list of parameters;
- **Internal Values**, for showing the temperature of the probes and statuses;
- **Alarms**, for showing current alarms;
- **Data Memory Reset**, for resetting the instrument to its factory values;
- **Parameters Restore**, for resetting the parameters to their factory values;
- **HACCP**, for viewing HACCP alarms registered with a date and time before the alarms are reset.

5.4.7 Selecting a pre-set program (EVJ 536 / EVJ 556 only)

To select one of the 6 pre-set operating programs:
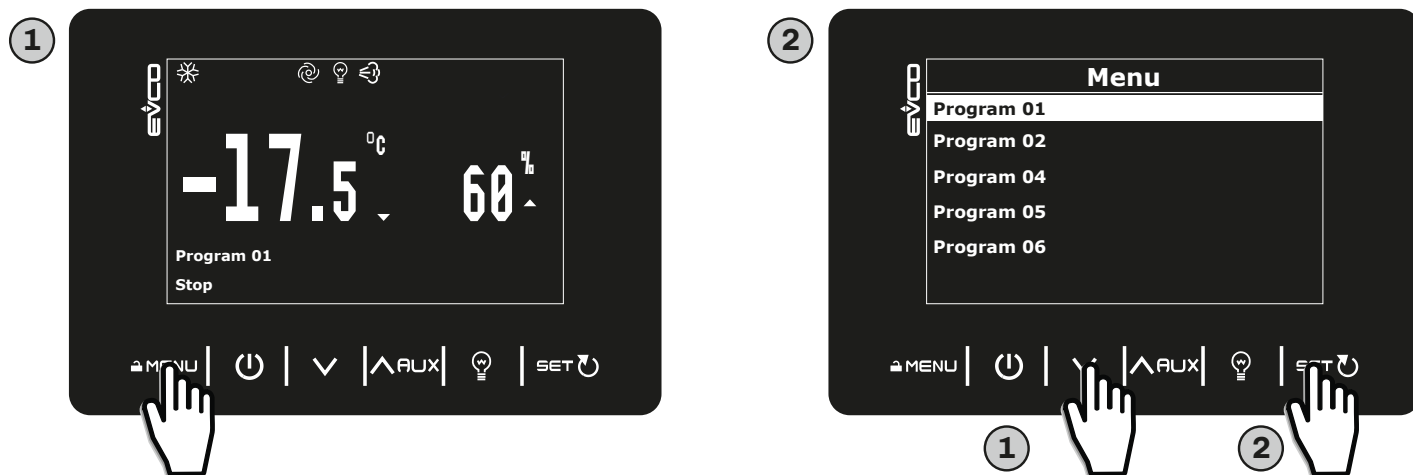
*Fig. 12. Selecting an operating program (**EVJ 536 / EVJ 556** only)*

To select the number of programs and stages to view and use, edit parameter **P19** (see *"5.4.5 Accessing the parameters" on page 25*).

5.4.8 Editing the pre-set program in use in EVJ 536

To edit the pre-set program in use in **EVJ 536**:
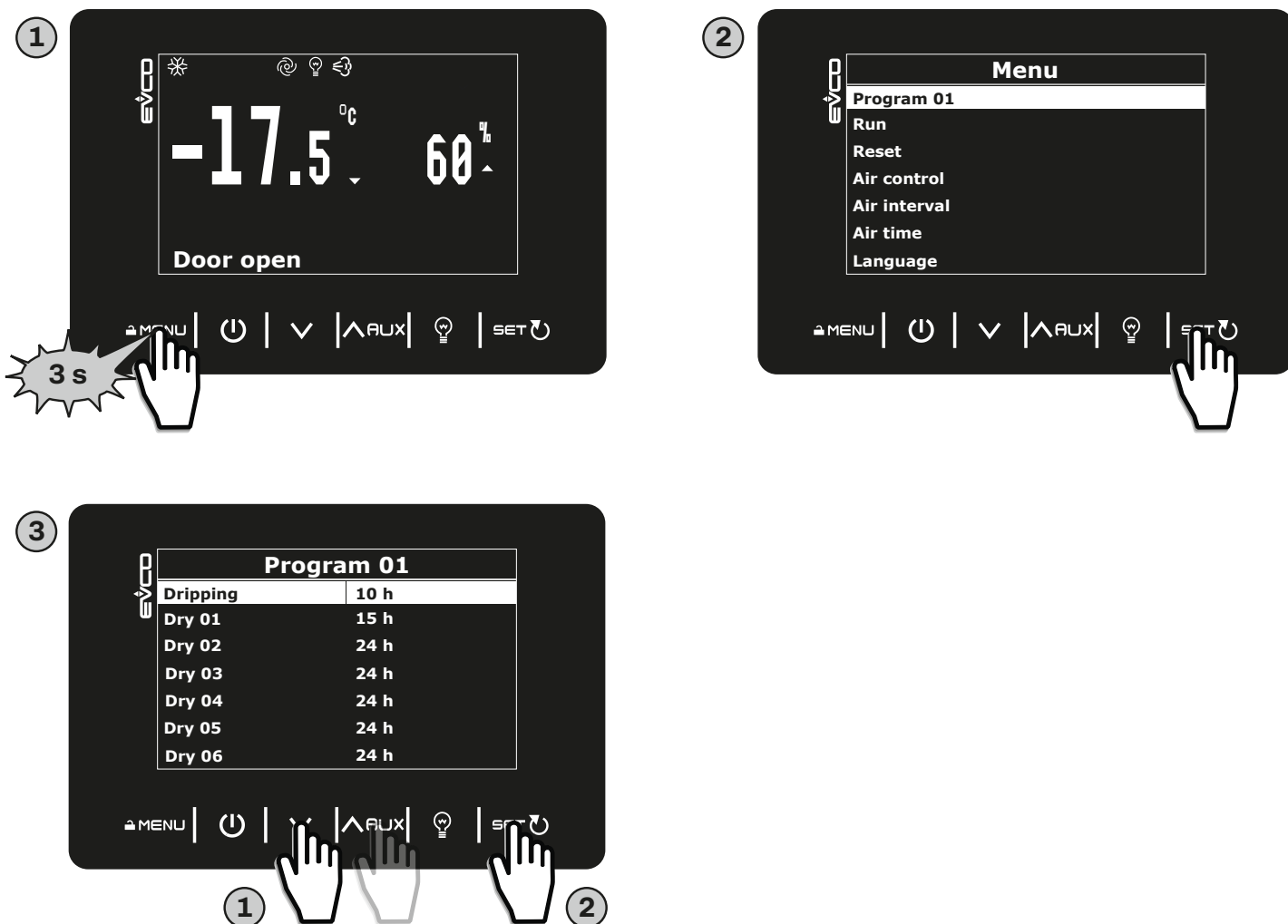
*Fig. 13. Editing the program in use in **EVJ 536***

Once in the program in use (in *"Fig. 13"* **Program 01**) scrolling with the ⋁ or ⋀AUX keys allows you to choose the function to edit.

5.4.9 Editing the pre-set program in use in EVJ 556

To edit the pre-set program in use in **EVJ 556**:
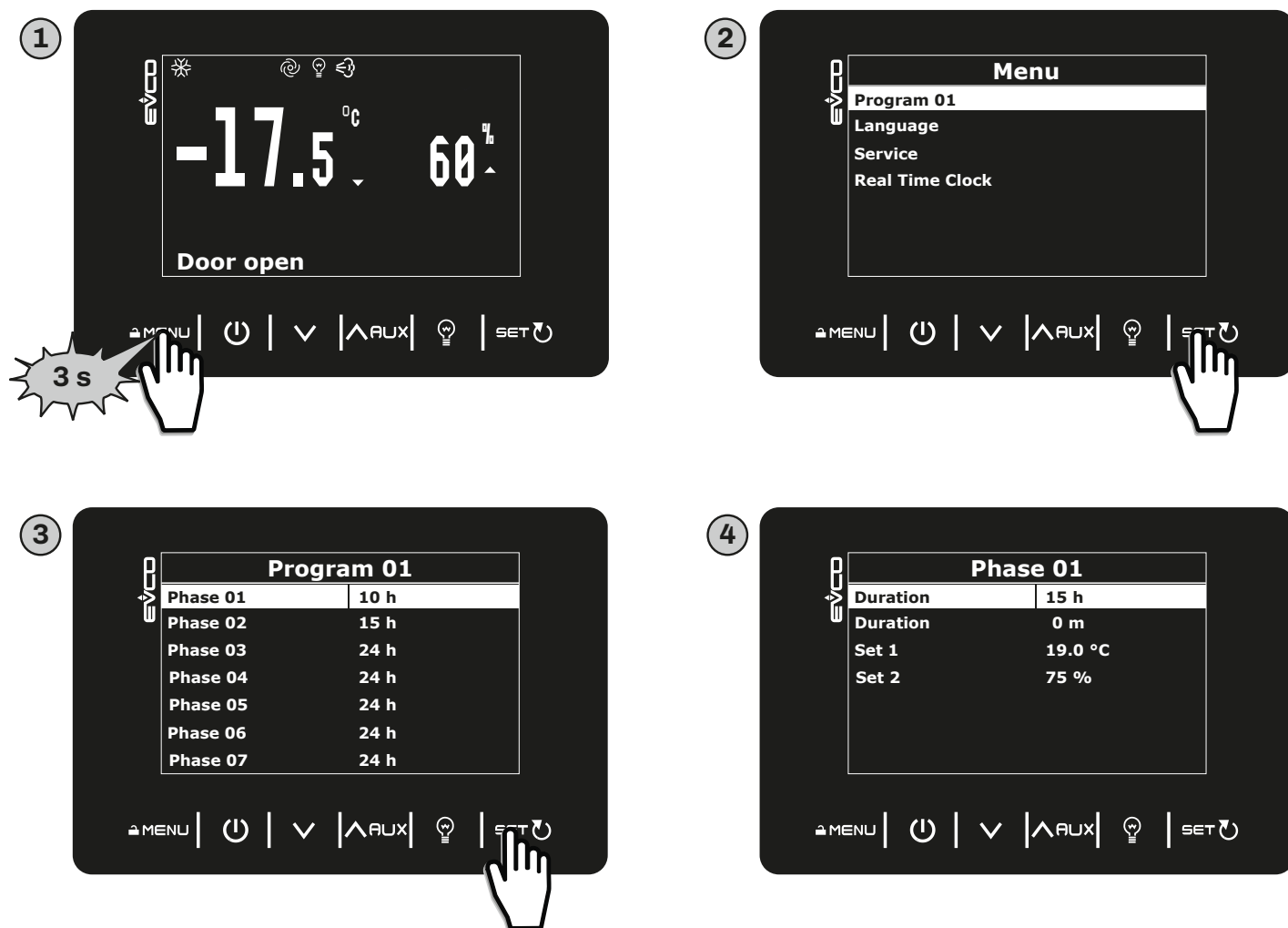
*Fig. 14. Editing the program in use in **EVJ 556***

5.4.10 Stopping a cycle in progress (EVJ 536 / EVJ 556 only)

To stop a cycle in progress, press and hold ⏻ for at least 3 seconds; the text STOP will appear on the display for a few seconds, as per *"Fig. 15. Stopping a cycle in progress (EVJ 536 / EVJ 556 only)" on page 28*.

*Fig. 15. Stopping a cycle in progress (**EVJ 536** / **EVJ 556** only)*

6. DEFROST

6.1 INTRODUCTION

Defrosting is used to remove ice from the surface of the evaporator.
By default defrost is set to manual operation **d0** = 0. For automatic operation, set **d0** > 0.

The defrost configuration parameters are:

Par.	Description	MU	Range
d0	Defrost interval.	h	0...99
d1	Defrost type. **0** = Electric heaters; **1** = Cycle inversion (hot gas); **2** = On compressor stoppage.	---	0...3
d2	Evaporator temperature over which defrost ends with evaporator probe (**Pr3** = 5).	°C/°F	-99.0...99.0
d3	Defrost duration.	min	0...99
d4	Enable defrost at device switch-on. **0** = No; **1** = Yes, activate defrost at switch-on; **2** = Activate defrost after over-cooling; **3** = Activate defrost at switch-on and after over-cooling.	---	0...3
d5	Time that elapses between device switch-on and the start of the defrost.	min	0...99
d6	Value shown on the display during a defrost. **0** = Regulation; **1** = Display locked; **2** = Reserved.	---	0...2
d7	Evaporator drip time after a defrost.	min	0...15
d11	Enable alert for defrost end due to maximum duration. **0** = No; **1** = Yes.	---	0/1
d13	Defrost during operating pause (recovery). **0** = No; **1** = Yes. (**EVJ 536** only).	---	0/1
d15	Consecutive compressor ON time before hot gas defrost.	min	0...99

Defrost starts once the time set in **d0** has elapsed, with the method set by **d1**.

The defrost duration is determined by **d3**, while the temperature threshold for the end of defrosting is determined by **d2**, if **Pr3** = 5 (evaporator probe active).

To keep the coils clean, a forced defrost can be set for when the controller switches on using parameter **d4**.

Parameter **d5** can be used to set a delay in minutes between instrument switch-on and the start of a defrost.

With **d11** = 1, an alert appears on the display (**dFd**), if the defrost has a duration greater than **d3** (only if **Pr3** = 5).

(**EVJ 536** only) Set parameter **d13** = 1, to carry out a forced defrost during the pause in operation between several drying stages.

When **d15** = 0, the function is disabled. If **d15** > 0, the compressor is forced to ON for the set time.

6.1.1 Operating conditions

Defrosting starts automatically, if the following conditions are met:
- Pb3 temperature below **d2**;
- Interval **d0** elapsed and Pb3 temperature under **d2**.

If a manual defrost is active or one of these two conditions is not satisfied, defrosting **does not** start automatically.
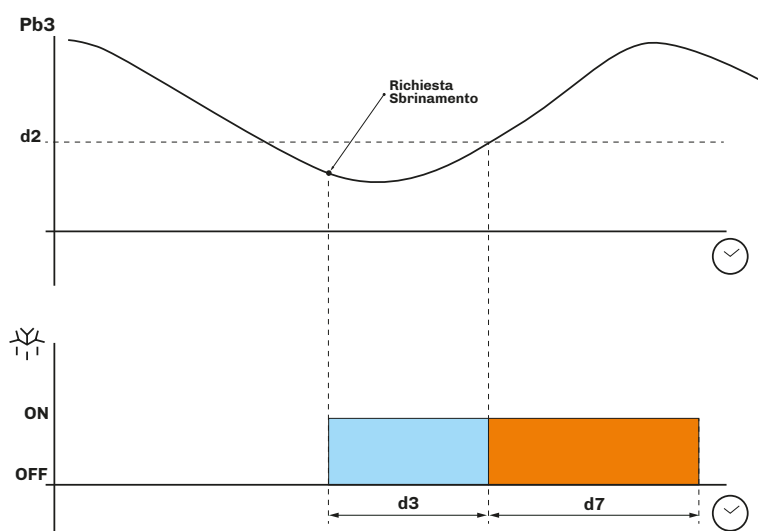
Fig. 16. *Defrost with **Pr3** = 5*

6.1.2 Dripping interval

A dripping interval can be set following a defrost, by setting **d7** > 0, to prevent water from accumulating inside the evaporator and then freezing.

6.1.3 Defrost types

The **EVJ 500** series features 2 types of defrost:
- Modular defrost;
- Standard defrost.

6.2 MODULAR DEFROST: RTC

If parameters **hd1..hd6** > 0, defrosting is independent of the program in progress and, as such, intervenes at pre-established intervals and days. In case of an rtc alarm, the defrost starts on the basis of interval **d0**.

The defrost configuration parameters are:

Par.	Description	MU	Range
Hd1	Defrost 1 activation time. "**- - - -**" = Disabled.	h	----, 0...23
Hd2	Defrost 2 activation time. "**- - - -**" = Disabled.	h	----, 0...23
Hd3	Defrost 3 activation time. "**- - - -**" = Disabled.	h	----, 0...23
Hd4	Defrost 4 activation time. "**- - - -**" = Disabled.	h	----, 0...23
Hd5	Defrost 5 activation time. "**- - - -**" = Disabled.	h	----, 0...23
Hd6	Defrost 6 activation time. "**- - - -**" = Disabled.	h	----, 0...23

6.3 STANDARD DEFROST

To use this mode, set parameter **d1**.
Defrosting takes place by means of evaporator heating using one of the following methods:

Par.	Description	MU	Range
d1	Defrost type. **0** = Electric heaters; **1** = Cycle inversion (hot gas); **2** = On compressor stoppage.	---	0...3

6.3.1 Electric heater defrost

Electric heater defrost is achieved by setting **d1** = 0.

Defrost activation

When defrosting is activated:
- The compressor stops;
- The relay output to which the electric heaters are connected (configured as a defrost output) is activated.

Defrost end conditions

The defrost end conditions are:
- The defrost duration **d3** is reached;
- The defrost end temperature **d2** is reached.

The electric heater defrost configuration parameters are:

Par.	Description	MU	Range
C0	Compressor ON delay from power-on.	min	0...240
C2	Minimum compressor OFF time.	min	0...240
d0	Defrost interval.	h	0...99
d1	Defrost type. **0** = Electric heaters; **1** = Cycle inversion (hot gas); **2** = On compressor stoppage.	---	0...3
d2	Evaporator temperature over which defrost ends with evaporator probe (**Pr3** = 5).	°C/°F	-99.0...99.0
d3	Defrost duration.	min	0...99
d7	Evaporator drip time after a defrost.	min	0...15

Fig. 17. *Electric heater defrost - Defrost end due to temperature*
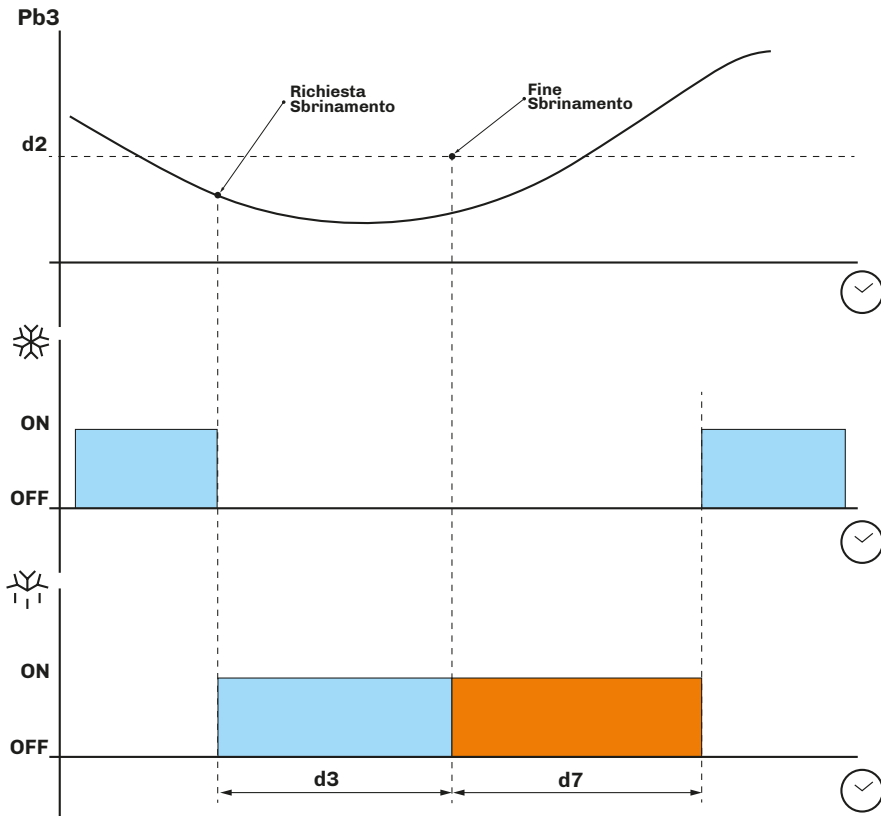
Fig. 18. *Electric heater defrost - Defrost end due to maximum time*

6.3.2 Cycle inversion (hot gas) defrost

Cycle inversion defrost is achieved by setting **d1** = 1.

Defrost activation

When defrosting is activated:
- The compressor is activated (or it has already been active for a time period **d15**) and remains so for the duration of the defrost;
- The relay output to which the valve is connected (solenoid if the system operates with a thermostatic valve) is activated.

Defrost end conditions

The defrost end conditions are:
- The maximum defrost duration, set via parameter **d3**, is reached.
- The defrost end temperature, set via parameter **d2**, is reached.

The cycle inversion defrost configuration parameters are:

Par.	Description	MU	Range
C0	Compressor ON delay from power-on.	min	0...240
C2	Minimum compressor OFF time.	min	0...240
d0	Defrost interval.	h	0...99
d1	Defrost type. **0** = Electric heaters; **1** = Cycle inversion (hot gas); **2** = On compressor stoppage.	---	0...3
d2	Evaporator temperature over which defrost ends with evaporator probe (**Pr3** = 5).	°C/°F	-99.0...99.0
d3	Defrost duration.	min	0...99
d7	Evaporator drip time after a defrost.	min	0...15
d15	Consecutive compressor ON time before hot gas defrost.	min	0...99
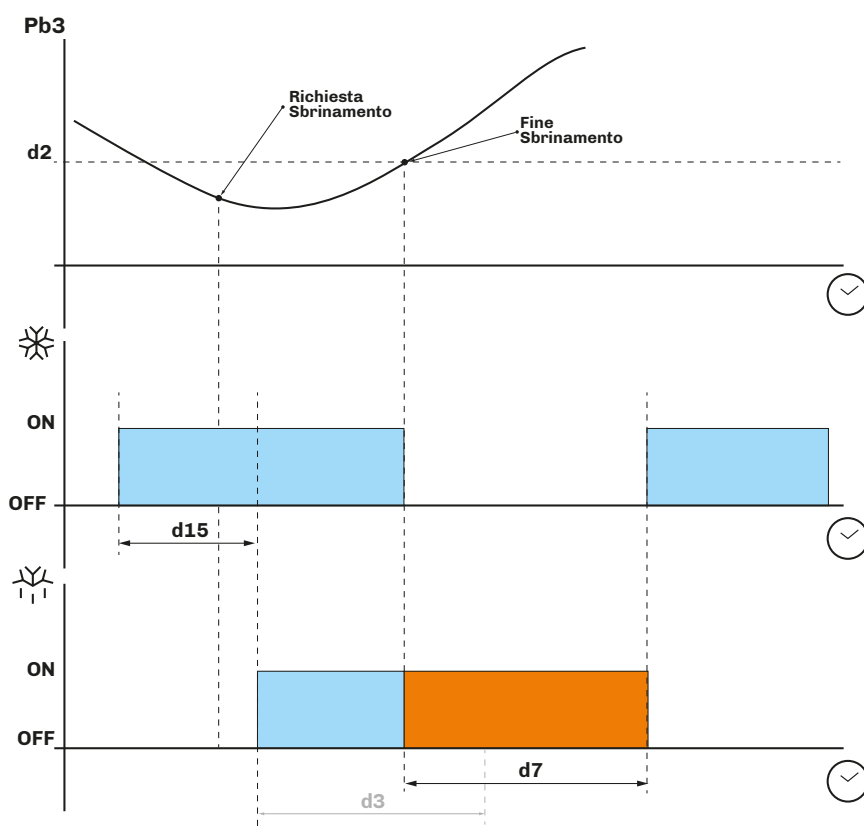
Fig. 19. *Cycle inversion defrost - Defrost end due to temperature*
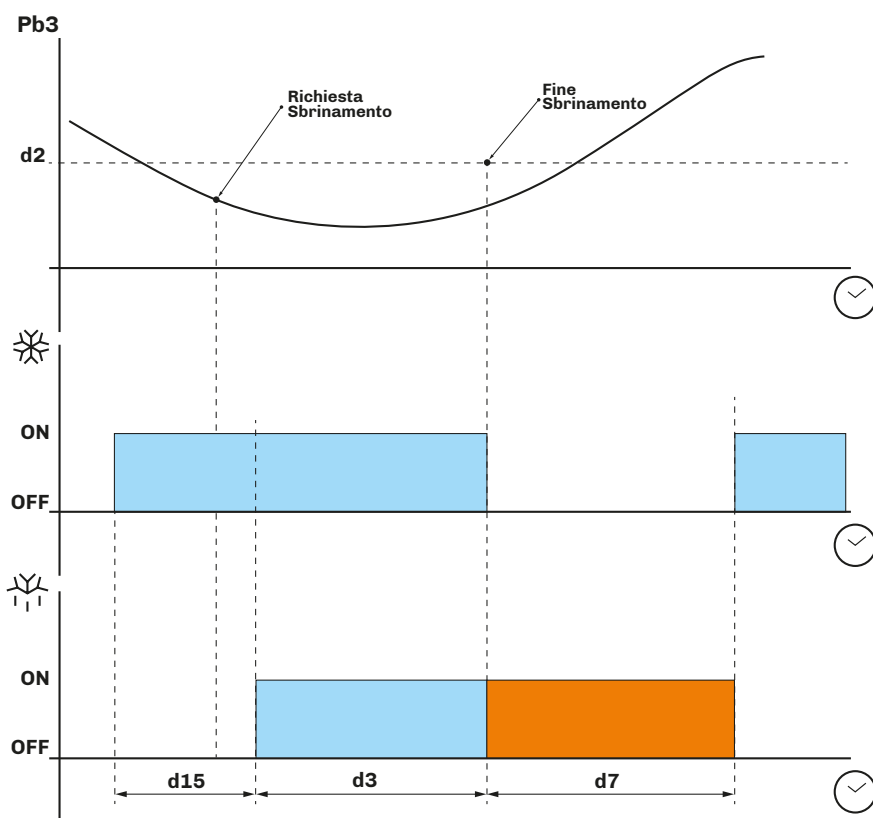
Fig. 20. *Cycle inversion defrost - Defrost end due to maximum time*

6.3.3 Defrost on compressor stoppage

Compressor stoppage defrost is achieved by setting **d1** = 2.

The cycle inversion defrost configuration parameters are:

Par.	Description	MU	Range
d0	Defrost interval.	h	0...99
d1	Defrost type. **0** = Electric heaters; **1** = Cycle inversion (hot gas); **2** = On compressor stoppage.	---	0...3
d3	Defrost duration.	min	0...99
d7	Evaporator drip time after a defrost.	min	0...15
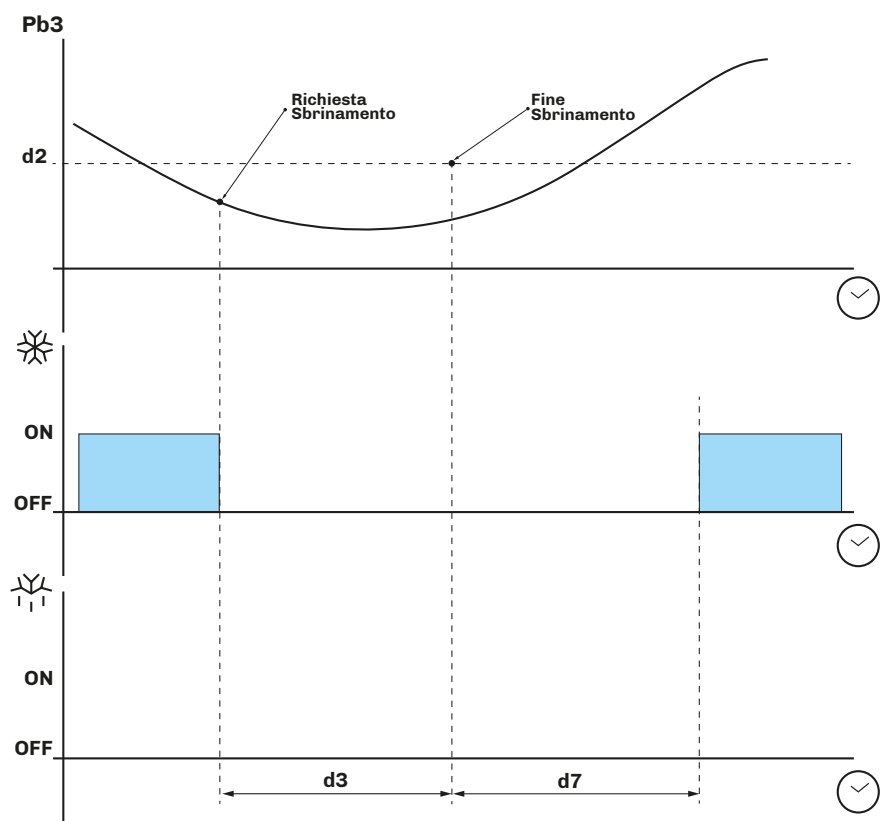
Fig. 21. *Cycle inversion defrost - Defrost end due to maximum time*

7. REGULATORS

7.1 HOT/COLD TEMPERATURE

The temperature regulation configuration parameters are:

Par.	Description	MU	Range
r0	Cold temperature regulation differential, to be added to setpoint 1 (setpoint 1 + **r0**).	°C/°F	0.1...25.0
r1	Minimum value that can be assigned to setpoint 1.	°C/°F	-30.0...**r2**
r2	Maximum value that can be assigned to setpoint 1.	°C/°F	**r1** = 99.0
r12	Hot temperature regulation differential, to be subtracted from setpoint 1 (setpoint 1 - **r12**)	°C/°F	-25.0...-0.1

7.1.1 Operation

The controller manages the temperature on the basis of the type of request (Hot/Cold).
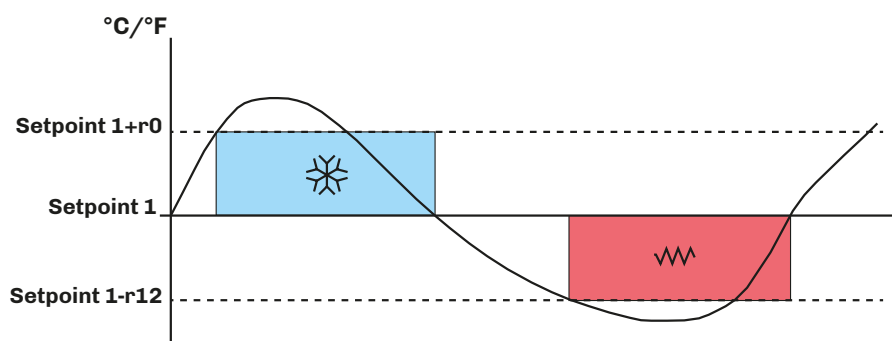
Fig. 22. *Temperature regulator operation*

Cold

If the controller receives a cold request:
   • Cold output (compressor) between **Setpoint 1** and **Setpoint 1 + r0**.

When the temperature read by Pb1 reaches the value of **Setpoint 1 + r0**, the controller activates the compressor output to produce a cold effect until the temperature falls below the threshold set by **Setpoint 1**.

Hot

If the controller receives a hot request:
   • Hot output (heaters) between **Setpoint 1** and **Setpoint 1 - R12**.

When the temperature read by Pb1 reaches the value of **Setpoint 1 - R12**, the controller activates the heater output to produce a hot effect until the temperature rises above the threshold set by **Setpoint 1**.

7.2 HOT/COLD TEMPERATURE WITH NEUTRAL ZONE

The temperature regulation configuration parameters for the neutral zone are:

Par.	Description	MU	Range
r0	Cold temperature regulation differential, to be added to setpoint 1 (Setpoint 1 + **r0**)	°C/°F	0.1...25.0
r1	Minimum value that can be assigned to Setpoint 1	°C/°F	-30.0...**r2**
r2	Maximum value that can be assigned to Setpoint 1	°C/°F	**r1** = 99.0
r11	Neutral zone value to be added to the differential. With **r11**>0 the value is active for hot (**r11**) and cold management (**r0**), with **r11**<0 for hot management only (**r12**).	°C/°F	0.0...10.0
r12	Hot temperature regulation differential, to be subtracted from setpoint 1 (Setpoint 1 - **r12**)	°C/°F	-25.0...-0.1

7.2.1 Operation

Regulation in the neutral zone occurs if **r11** ≠ 0 (if **r11** < 0, the neutral zone is activated in hot request).
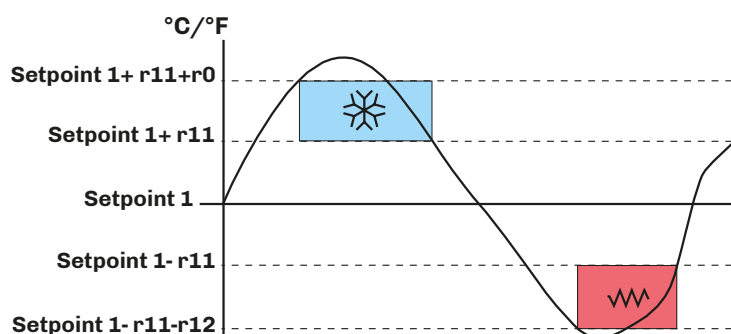
Fig. 23. *Temperature regulator operation in the neutral zone*

Cold

If the controller has received a cold request:

- Cold output (compressor) between **Setpoint 1 + r11 + r0** and **Setpoint 1 + r11**.

When the temperature read by Pb1 reaches the value of **Setpoint 1 + r11 + r0**, the controller activates the compressor output until the temperature falls below the threshold set by **Setpoint 1 + r11**.

Hot

If the controller has received a hot request:

- Hot output (heaters) between **Setpoint 1 - r11 - r12** and **Setpoint 1 - r11**.

When the temperature read by Pb1 reaches the value of **Setpoint 1 - r11 - r12**, the controller activates the heater output to produce a hot effect until the temperature rises above the threshold set by **Setpoint 1 - r11**.

7.3 TEMPERATURE AND DEHUMIDIFICATION WITH COMPRESSOR

The temperature regulation configuration parameters are:

Par.	Description	MU	Range
rd4	Compressor-only dehumidification or with compressor and heaters (hot). **0** = Disabled; **1** = Compressor; **2** = Compressor and hot.	---	0...2

7.3.1 Operation

- If **rd4** = 1, the dehumidification with compressor function is activated.
- If **rd4** = 2, the dehumidification with compressor function and the heaters output (hot) is activated.

7.3.2 Temperature priority over dehumidification

If **rd4** = 1, 2 the dehumidification function is active and works in conjunction with the Compressor and Heaters outputs.
As a result, you need to set the regulation priority for the controller.

The parameter used to configure the regulation priority is as follows:

Par.	Description	MU	Range
r14	Temperature priority in relation to dehumidification with compressor and hot output. **0** = No priority, regulations are independent; **1** = Drift in hot takes priority over dehumidification until the temperature value is re-established; **2** = Drift in hot and cold takes priority over dehumidification until the temperature value is re-established; **3** = Drift in cold takes priority over dehumidification until the temperature value is re-established.	---	0...3

7.4 HUMIDITY

The humidity regulation configuration parameters are:

Par.	Description	MU	Range
rd0	Dehumidification regulation differential, to be added to setpoint 2 (setpoint 2 + **rd0**).	%	1...25
h1	Minimum value that can be assigned to setpoint 2.	%	0...**h2**
h2	Maximum value that can be assigned to setpoint 2.	%	**h1** = 100
rh0	Humidification regulation differential, to be added to setpoint 2 (setpoint 2 + **rh0**).	%	-25...-1

7.4.1 Operation

The controller manages humidification and dehumidification requests by setting parameters **rd0** and **rh0**.
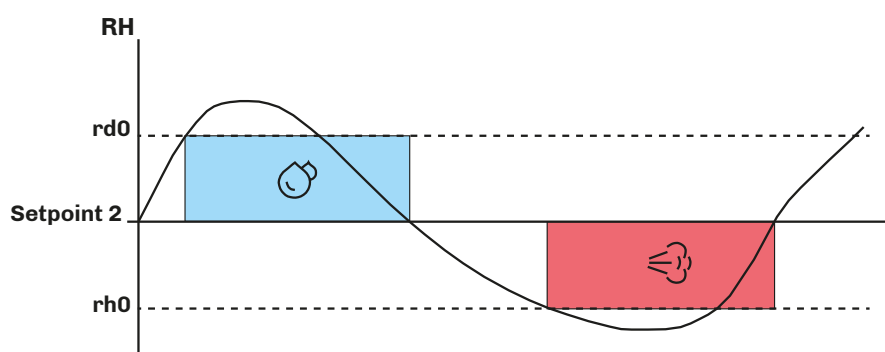
Fig. 24. *Temperature regulator operation*

7.5 HUMIDITY WITH NEUTRAL ZONE

The humidity regulation configuration parameters with a neutral zone are:

Par.	Description	MU	Range
rd0	Dehumidification regulation differential, to be added to setpoint 2 (Setpoint 2 + **rd0** + **rd1**).	%	1...25
h1	Minimum value that can be assigned to Setpoint 2.	%	0...**h2**
h2	Maximum value that can be assigned to Setpoint 2.	%	**h1** = 100
rh0	Humidification regulation differential, to be added to Setpoint 2 (Setpoint 2 + **rh0** + **rh1**).	%	-25...-1
rd1	Dehumidification neutral zone Setpoint 2 - **rd1**.	%	0...10
rh1	Humidification neutral zone Setpoint 2 - **rh1**.	%	0...10

7.5.1 Operation

Regulation in the neutral zone occurs if:
- For humidification, if **rh1** ≠ 0;
- For dehumidification, if **rd1** ≠ 0.
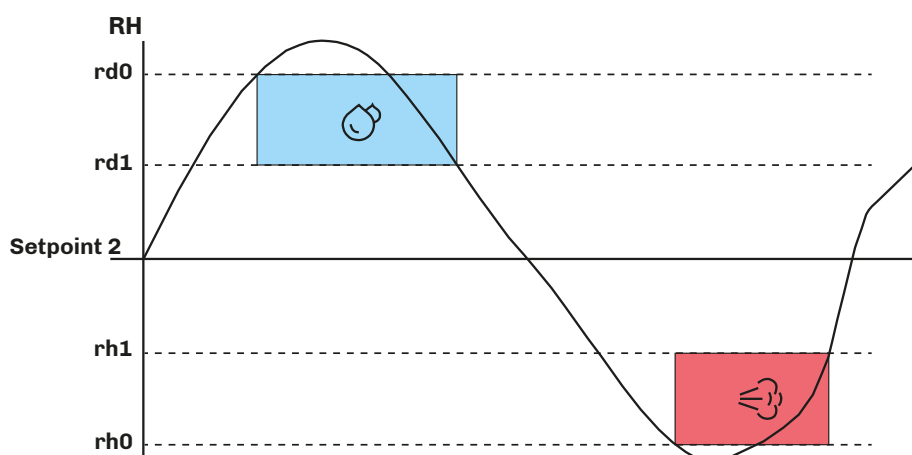
Fig. 25.   *Temperature regulator operation*

7.6 COMPRESSOR

The compressor regulator is running when at least one relay output is configured as compressor **uc1**...**uc6** = 4.

Compressor switch-on/off is regulated by:
- Temperature read by probe Pb1;
- Temperature adjustment configuration;
- Defrosting and dripping.

Activation conditions
The compressor is activated automatically, if the following conditions are met:
- The controller is on (regulation is inhibited while the controller is in standby);
- Probe Pb1 working;
- Compressor activation delay time from switch-on **C0** elapsed;
- Compressor switch-on delay time **C2** between 2 consecutive activations;
- If **d1** = 0, 2, defrosting and dripping must be completed.

If a delay time **C0** or **C2** is set and there is a compressor activation request, the controller waits for the delay time to elapse before activating the compressor. During this wait period, the ❄ icon flashes until the compressor is activated, after which it remains lit steadily.

The compressor regulation configuration parameters are:

Par.	Description	MU	Range
C0	Compressor ON delay from power-on.	min	0...240
C2	Minimum compressor OFF time.	min	0...240
C3	Minimum compressor ON time.	s	0...240
C4	Compressor OFF time in cold room probe alarm mode.	min	0...240
C5	Compressor ON time in cold room probe alarm mode.	min	0...240
C6	Condensation temperature over which the condenser overheat alarm is triggered.	°C/°F	0...199

Par.	Description	MU	Range
C7	Condenser temperature over which the compressor lock alarm is triggered, once time period **C8** has elapsed.	°C/°F	0...199
C8	Compressor lock alarm activation delay from when threshold **C7** was exceeded.	min	0...15
C10	Compressor maintenance days.	days	0...990
C11	Compressor 2 switch-on delay from compressor 1 switch-on.	s	0...240

7.6.1 Operating diagrams

Normal compressor operation
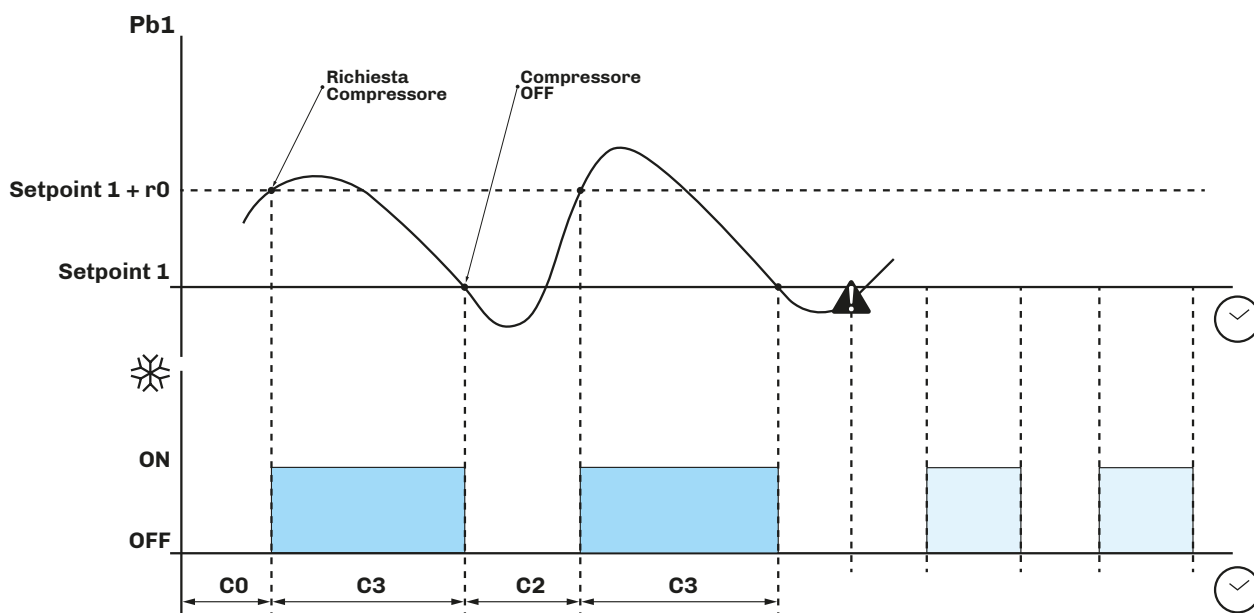
Fig. 26. *Normal compressor operation*

Compressor operation with probe alarm
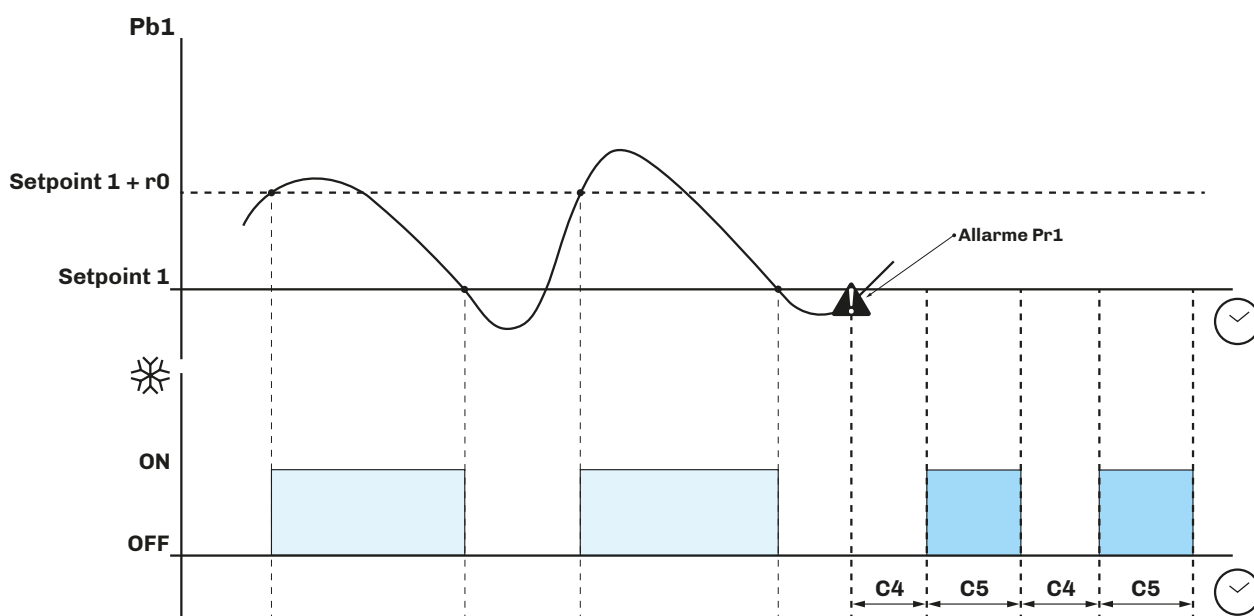
Fig. 27. *Compressor operation with probe alarm*

7.7 DUAL COMPRESSOR

If one of the digital outputs is set as compressor 2, **uc1**...**uc6** = 10, the controller manages 2 compressors.

Compressor 2 activation

Compressor 2 starts up after a delay period **C11** after compressor 1 is switched on.

If active, compressor 2 uses:

- Setpoints;
- Differentials;
- Delay periods; and
- Protections;

set for compressor 1.

7.7.1 Operating diagram
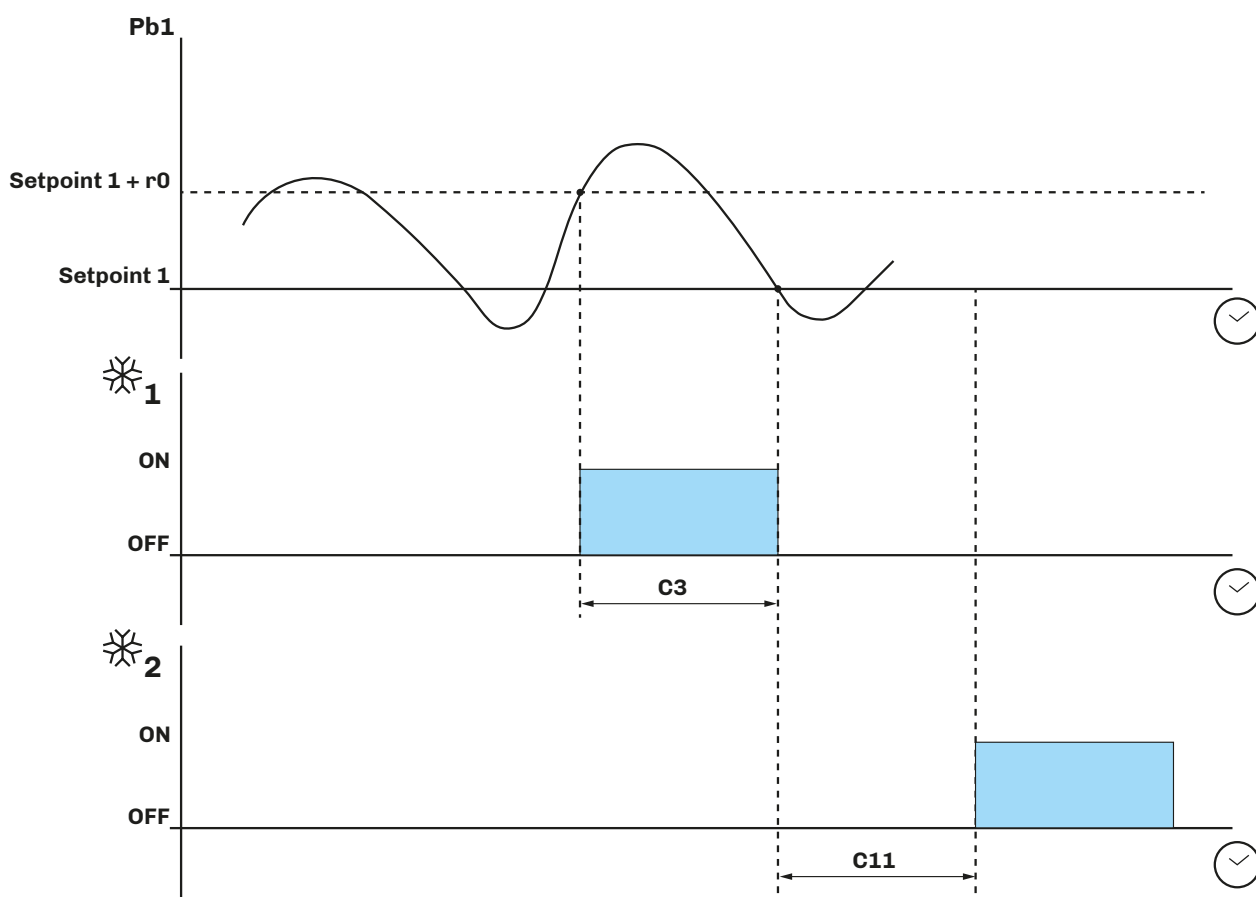
Fig. 28.   *Normal compressor 2 operation*

7.8 EVAPORATOR FANS

The evaporator fan regulator is activated on the basis of the following conditions:
- Delay **F3** has elapsed in the event of dripping end;
- The temperature of evaporator probe Pb3 exceeds the threshold **F1** (if **F0** = 3, 4);
- The fans are not deactivated during defrost **F2** = 0;
- Dripping **d7** is not active.

7.8.1 Regulator operation

Evaporator fan regulator activation can take place according to requests made by other regulators in the following ways:
- On the compressor's request, to encourage the production and distribution of cold temperatures (temperature control function);
- To regulate/limit hot air distribution during a defrost request;
- On the humidifying/dehumidifying regulator's request, to propagate or limit the distribution of humidity.

7.8.2 Operating modes

The evaporator fans run in accordance with parameter **F0**:

Par.	Description	MU	Range
F0	Evaporator fans in normal operating mode. With **F0** = 0 the cycles can be managed by setting **F11**, **F12**, **rd2**, **rd3**, **rh2**, **rh3**. **0** = Cyclical; **1** = Always ON; **2** = Active depending on loads; **3** = Temperature-controlled (**F1** relating to temperature regulation); **4** = Active depending on loads and temperature-controlled (**F1** relating to temperature regulation).	---	0...4

Cyclical evaporator fans with F11 > 0
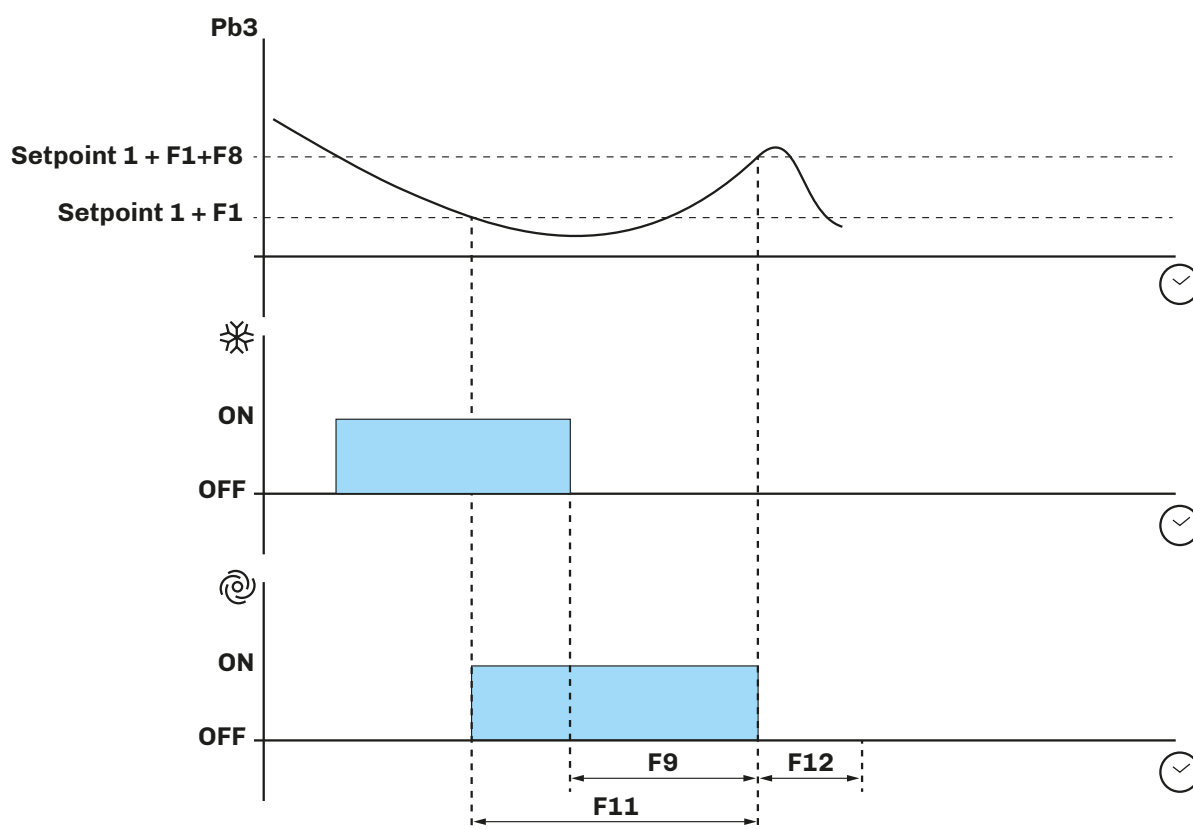
*Fig. 29.   Evaporator fan operation with **F11** > 0*

7.8.3 Operation during a defrost

Evaporator fan operation during a defrost depends on **F2**.

Par.	Description	MU	Range
F2	Evaporator fan mode during defrosting. **0** = OFF; **1** = ON; **2** = Depends on **F0**.	---	0...2

7.8.4 Evaporator fan operation during dripping

During a dripping phase, the evaporator fans remain off for the time set in **d7**, plus a further delay **F3** can be set for the activation of evaporator fans after dripping. In this case the fans will be activated once **F3** has elapsed.

7.9 CONDENSER FANS

7.9.1 Operation

The condenser fans are activated on the basis of the following conditions:
- A digital output **uc1**…**uc6** = 6 (configured as condenser fans);
- If Pb3 ≠ 1, the condenser fans are activated in parallel with the compressor;
- If **Fc3** = 0, the fans are activated at the threshold **Fc1+Fc2** and switch off at the threshold **Fc1** (Operation in parallel with the compressor and temperature-controlled);
- If **Fc3** > 0, the fans are activated at the threshold **Fc1+Fc2** and switch off at the threshold **Fc1** (Operation independent of the compressor and temperature-controlled);
- During hot gas defrosting, they are activated if the temperature of Pb3 exceeds alarm threshold **C6**;

7.10 ENERGY SAVING

7.10.1 Operation

Energy saving can be activated via:
- Digital input **iC1** = 1
- Key (see **"5.4.9 Editing the pre-set program in use in EVJ 556" on page 28**);
- Door open duration if > **i10** energy saving is activated for a time period **HE2**;
- RTC, by enabling energy saving every day, at the time **H01** for a time period **H02**.

With energy saving active:
- **Setpoint 1** *should be replaced by* Setpoint 1 + r4.

The energy saving configuration parameters are:

Par.	Description	MU	Range
r4	Offset setpoint in energy saving added to the setpoint value.	°C/°F	0.0…99.0
HE2	Manual energy saving duration.	min	0…999
H01	Energy saving temperature daily start schedule.	h	0…23
H02	Energy saving temperature daily duration.	h	0…24
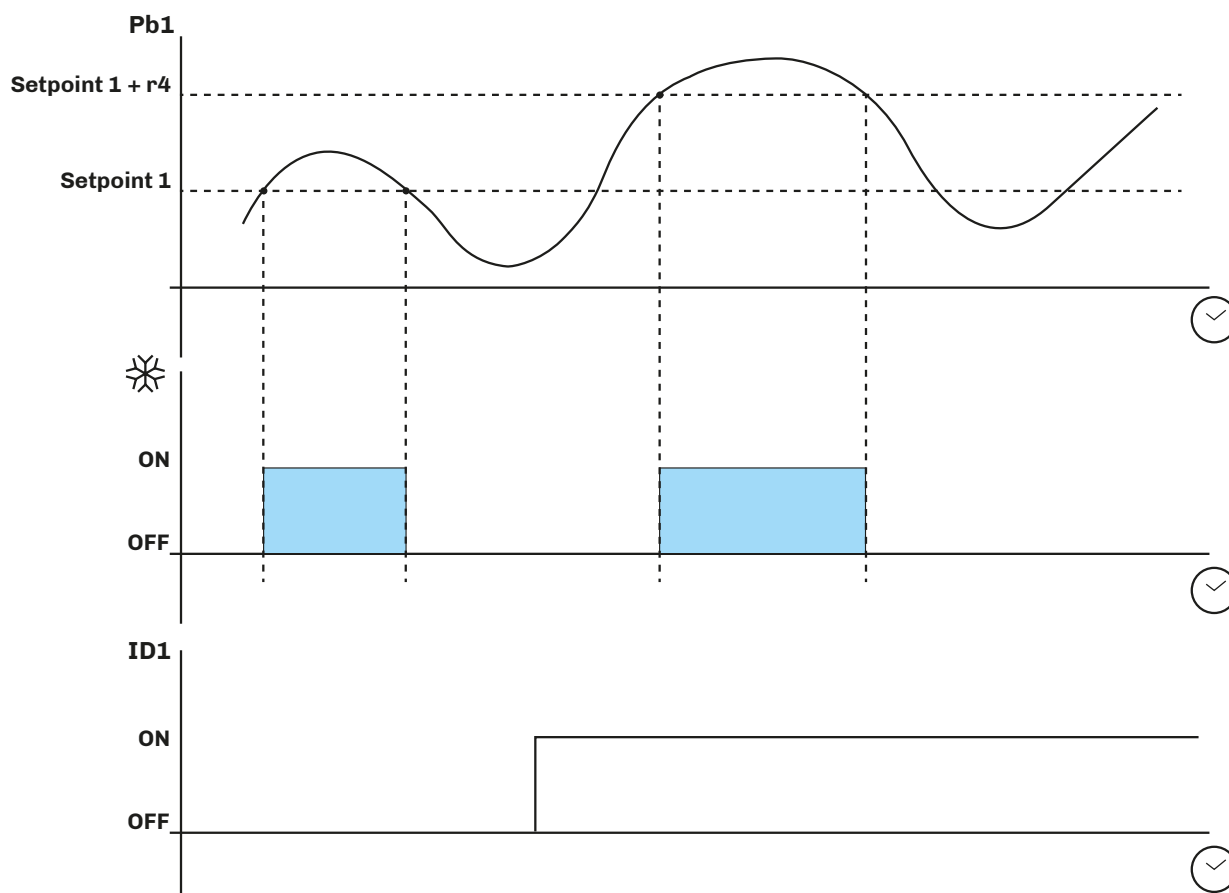
Fig. 30.   *Operation in Energy Saving mode*

8. FUNCTIONS

8.1 SANITISING (EVJ 526 ONLY)

The sanitising cycle, only available in model **EVJ 526**, is used for:
- Sanitising food using UV-C lamps;
- Sterilising cold rooms using ozone generators.

Sanitising using UV-C lamps eliminates viruses and bacteria from food without contaminating it.

Sterilising using ozone generators stops the proliferation of viruses and bacteria inside the cold room, keeping it hygienic.

The function is activated through functions, via a key - see - and can be used when at least one relay output is configured as Sanitising (**uc1**...**uc6** = 16).

During the sanitising process, the ╪ icon is lit steadily, while during the interval between two consecutive sanitising cycles, the icon flashes.

The sanitising configuration parameters are:

Par.	Description	MU	Range
u10	Sanitising cycle duration.	min	0...99
u11	Interval between 2 consecutive sanitising cycles.	min	0...999
u12	Evaporator fan status during sanitising. **0** = Independent; **1** = Active.	---	0/1
u13	Sanitising in standby. **0** = UV lamps; **1** = Ozone generator in standby, temperature/humidity regulation off; **2** = Ozone generator in standby and running, temperature/humidity regulation paused;	---	0...2

8.2 MATURING (EVJ 536 ONLY)

The Maturing function is only available in **EVJ 536** models.

EVJ 536 has 6 factory-set programs.

Each of the 6 programs consists of 3 processes in the following order:
- Steaming (or Dripping);
- Drying in 6 stages;
- Maturing.

For each of these 3 processes, the following can be set:
- Duration (if set to 0 h, the next stage begins);
- Temperature setpoint (**SET 1**);
- Humidity setpoint (**SET 2**);
- Activate/deactivate reduced ventilation; and
- Activate/deactivate the operating pause between the end of a stage and the start of the next stage.

Defaults for the 6 pre-set programs
Each of the 6 pre-set programs has the following mapping by default:

	Steaming	Drying						Maturing
		1	2	3	4	5	6	
Duration (*)	10 h	15 h	24 h	24 h	24 h	24 h	24 h	1 d
Set 1	20 °C	19 °C	19 °C	18 °C	17 °C	16 °C	15 °C	14 °C
Set 2	0 %	75 %	68 %	65 %	68 %	72 %	76 %	82 %
Reduced ventilation	No	No	No	No	No	No	No	No
Recovery	No	Yes	Yes	Yes	Yes	Yes	Yes	No
Defrost	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual
Air exchange	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual

8.3 COPYING PARAMETERS

8.3.1 Introduction

EVJKEY connects to the TTL serial port and can be used to upload and/or download the parameters map.

For further information, refer to the instruction sheet for p/n 104JKEYA304.

8.3.2 Uploading parameters from the controller to EVJKEY

While **EVJKEY** is connected to the TTL serial port:

1. Set DIP switches 1, 2 and 3 to OFF;
2. Power the controller;
3. The EVJKEY recognition process begins automatically (the OK and ERROR LEDs are lit steadily);
4. Once recognition is compete, data uploading takes place automatically.

The process can take a few seconds.

If the procedure is successful, the OK LED remains lit steadily while the ERROR LED switches off; otherwise if the procedure is not successful, the OK LED switches off while the ERROR LED remains lit steadily; repeat the procedure.

8.3.3 Downloading the EVJKEY parameters to the controller

While **EVJKEY** is connected to the TTL serial port:

1. Set DIP switches 1, 2 and 3 to ON;
2. Power the controller;
3. The EVJKEY recognition process begins automatically (the OK and ERROR LEDs are lit steadily);
4. Once recognition is compete, data uploading takes place automatically.

The process can take a few seconds.

If the procedure is successful, the OK LED remains lit steadily while the ERROR LED switches off; otherwise if the procedure is not successful, the OK LED switches off while the ERROR LED remains lit steadily; repeat the procedure.

8.4 RUN (EVJ 556 ONLY)

The RUN function is only available in **EVJ 556** models.

The RUN function is used to start a set time period manually via a key or after a specific interval regardless of the programs (if enabled) and without enabling the light output.

The RUN function configuration parameters are:

Par.	Description	MU	Range
u9	RUN function. **0** = auto (not available); **1** = manual **>1** = timed	°C/°F	0.1...15.0
uc1 ... uc6	Configure **out1...out6** relay output. **17** = Run (**EVJ 556 only**);	---	0...18

8.4.1 Display screen

Fig. 31. *RUN function display screen (**EVJ 556** only)*

The display shows the function activation time and the text:

- Run timer: if the function is time-activated;
- Run manual: if the function is activated manually.

8.5 MIXER (EVJ 556 ONLY)

The mixer function is only available in **EVJ 556** models.

The mixer function is used to control a Mixer during regulation (active loads) or during the pause (inactive loads).

The mixer function configuration parameters are:

Par.	Description	MU	Range
u10	Mixer duration.	**u12**	0...999
u11	Mixer interval.	min	0...999
u12	Mixer duration unit of measurement. **0** = Seconds; **1** = Minutes.	---	0/1
u13	Mixer function in regulation. **0** = Mixer ON for load ON; **1** = Mixer ON for compressor ON and cyclical for heat ON; **2** = Mixer ON via key.	---	0...2
u14	Mixer function in regulation pause (without programs). **0** = Mixer ON; **1** = Mixer in ON/OFF cycle; **2** = Mixer OFF.	---	0...2
uc1 ... uc6	Configure **out1...out6** relay output. **16** = Mixer (**EVJ 556**).	---	0...18

8.5.1 Operation

Mixer ON for load ON (u13 = 0) and Mixer OFF in regulation pause (u14 = 2)
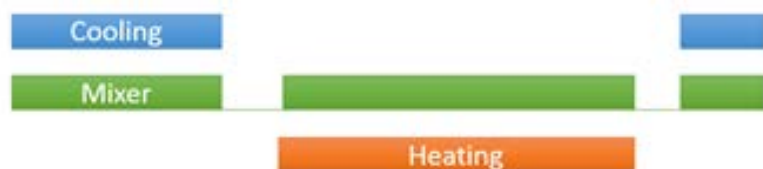
Mixer ON for load ON (u13 = 0) and Mixer ON/OFF in regulation pause (u14 = 1)

Mixer ON via Key (u13 = 2)

From the **AUX** menu, select the **Mixer** function to activate output **uc1**...**uc6** = 16 (**Mixer**) for time period **u10**.

Mixer ON during the programming phase

With **P30** > 0 mixer activation management in regulation is set during programming, while management during pause depends on **u14**.

The following regulation options are managed:

ON = Always on during regulation;

ON-OFF = Cyclical **u10** - **u11**;

OFF = Off.

8.6 REGULATION INHIBITED DUE TO OVERTEMPERATURE (EVJ 556 ONLY)

The inhibit regulation due to overtemperature function is only available in **EVJ 556** models.

This function inhibits regulation when the temperature read by the control probe exceeds the inhibiting threshold.

Inhibit regulation operating conditions
- **Pr3** = 4;
- **uc1**...**uc6** = 15.

With parameter **u5** = 1, when the auxiliary function is active it inhibits the main regulation in according to configuration correspondence specified in parameter u6.
- **u6** = 0: when the auxiliary function is active and calls for heat, it inhibits main cooling.
- **u6** = 1: when the auxiliary function is active and calls for cooling, it inhibits the main heat relay.

Regulation reactivation will depend on the load call status and the protection timers when it resumes operation.

If probe Pr3 is experiencing an error the function is disabled.

9. PARAMETERS

Description of columns in the Table of Parameters
- **Par.**: list of configurable device parameters;
- **Description**: indicates parameter operation and any possible selections;
- **MU**: measurement unit relating to the parameter;
- **Range**: describes the interval of values that the parameter can assume. This can be correlated with other instrument parameters (indicated with the parameter code).
  NOTE: *if the actual value is outside the permitted limits for that parameter (for example, because other parameters defining the aforementioned limits have been altered), the value of the violated limit is displayed instead of the actual value;*
- **Default**: indicates the pre-set factory configuration;
  NOTE: if ☐ is shown, this indicates that the parameter is not present in the model in question.
- **PW**: indicates the access level for the parameter.

9.1 TABLE OF CONFIGURATION PARAMETERS

9.1.1 EVJ 506 parameters

Par.	Description	MU	Range	Default	PW
	ANALOGUE INPUT group				
CA1	Ambient temperature offset.	°C/°F	-25.0...25.0	0.0	1
CA2	Humidity probe offset.	°C/°F	-25.0...25.0	0.0	1
CA3	Auxiliary probe offset.	°C/°F	-25.0...25.0	0.0	2
P0	Probe type. **0** = PTC + EVHTP500; **1** = NTC + EVHTP500; **2** = PTC + EVHTP520; **3** = NTC + EVHTP520.	---	0...3	1	2
P1	Enable decimal point in °C. **0** = No; **1** = Yes.	---	0/1	1	2
P2	Temperature unit of measure (changing value means that the temperature parameter limits will need to be reset manually). **0** = °C; **1** = °F.	---	0/1	0	2
Pr3	Probe Pb3 configuration. **0** = **ID3** digital input; **1** = Condensation probe; **2** = Needle probe (view only); **3** = Outside air probe (display only); **4** = Auxiliary probe; **5** = Defrost probe 2.	---	0...5	5	2
P5	Large display 1 value. **0** = No display (display off); **1** = Analogue input 1; **2** = Analogue input 2; **3** = Analogue input 3; **4** = Setpoint 1 (Temperature); **5** = Setpoint 2 (Humidity).	---	0...5	1	2
P6	Small display 2 value. Same as **P5**.	---	0...5	2	2
P8	Display 1 refresh time. Increases or decreases by 1 digit per interval selected.	s/10	0...250	5	2
P9	Display 2 refresh time. Increases or decreases by 1 digit per interval selected.	S/10	0...250	5	2
P10	Cabinet probe filter. **0** = Minimum filtering; **15** = Maximum filtering.	---	0...15	0	2
P11	Humidity probe filter. **0** = Minimum filtering; **15** = Maximum filtering.	---	0...15	0	2
	TEMPERATURE MANAGEMENT group				
r0	Setpoint cold differential.	°C/°F	0.1...25.0	2.0	1
r1	Minimum setpoint.	°C/°F	-30.0...**r2**	0.0	2
r2	Maximum setpoint.	°C/°F	**r1**...99.0	50.0	2
r4	Offset setpoint in energy saving added to the setpoint value.	°C/°F	0.0...99.0	0.0	2
r5	Disables humidity regulation in OverTemp function. **0** = No; **1** = Yes.	---	0/1	0	2
r6	Threshold relating to temperature Setpoint 1 in OverTemp function.	°C/°F	-40.0...99.0	0.0	2
r7	Duration of the OverTemp function.	min	0...240	0	2

Par.	Description	MU	Range	Default	PW
r11	Neutral zone value to be added to the differential.	°C/°F	-10.0...10.0	0.0	2
r12	Hot differential.	°C/°F	-25.0...-0.1	-2.0	1
r13	Throttle Hot output. **60** = Always ON.	s	0...60	60	2
r14	Temperature priority. **0** = No priority, regulations are independent; **1** = Hot regulation takes priority over dehumidification until the temperature falls within the set values; **2** = Hot and cold regulation takes priority over dehumidification until the temperature falls within the set values; **3** = Cold regulation takes priority over dehumidification until the temperature falls within the set values.	---	0...3	2	2
	HUMIDIFICATION/DEHUMIDIFICATION group				
h1	Humidity setpoint 2 minimum.	%	0...**h2**	10	2
h2	Humidity setpoint 2 maximum.	%	**h1**...100	95	2
h4	Extra humidity setpoint activated via AUX key. Value **h4** replaces Setpoint 2 for time period **h5**.	%	0...100	0	2
h5	Extra humidity setpoint **h4** duration. **0** = function disabled.	min	0...240	0	2
rd0	Dehumidification differential.	%	1...25	3	1
rd1	Dehumidification neutral zone.	%	0...10	0	2
rd2	Fans ON duration in dehumidification with **F0** = 0. **0** = fans stopped.	s	0...240	60	2
rd3	Fans OFF duration in dehumidification with **F0** = 0. If **rd3** = 0 and **rd2** ≠ 0 the fans are always on.	s	0...240	0	2
rd4	Dehumidifies with compressor or with compressor and hot. **0** = Disabled; **1** = Compressor; **2** = Compressor and hot.	---	0...3	1	2
rd5	Heats and Dehumidifies with defrost output. **0** = No; **1** = Yes.	---	0/1	0	2
rh0	Humidification differential.	%	-25...-1	-3	1
rh1	Humidification neutral zone.	%	0...10	0	2
rh2	Humidification output on duration (or fans if RH output not configured). With **rh2** = 0 the fans are stopped.	s	0...240	60	2
rh3	Humidification output off duration (or fans if RH output not configured). With **rh3** = 0 and **rh2** > 0 the fans are always on.	s	0...240	0	2
	COMPRESSOR group				
C0	Compressor ON delay from power-on.	min	0...240	0	2
C2	Minimum compressor OFF time.	min	0...240	3	2
C3	Minimum compressor ON time.	s	0...240	0	2
C4	Compressor OFF time in cold room probe alarm mode.	min	0...240	10	2
C5	Compressor ON time in cold room probe alarm mode.	min	0...240	10	2
C6	Condensation temperature over which the condenser overheat alarm is triggered.	°C/°F	0...199	80.0	2
C7	Condenser temperature over which the compressor lock alarm is triggered, once time period **C8** has elapsed.	°C/°F	0...199	90.0	2
C8	Compressor lock alarm activation delay from when threshold **C7** was exceeded.	min	0...15	0	2
C10	Compressor maintenance days.	day	0...990	0	2
C11	Compressor 2 switch-on delay from compressor 1 switch-on.	s	0...240	10	2
	DEFROST group				
d0	Defrost interval.	h	0...99	8	1
d1	Defrost type. **0** = Electric heaters; **1** = Cycle inversion (hot gas); **2** = On compressor stoppage.	---	0...3	0	2
d2	Evaporator temperature over which defrost ends with evaporator probe (**Pr3** = 5).	°C/°F	-99.0...99.0	8.0	1
d3	Defrost duration.	min	0...99	30	1

Par.	Description	MU	Range	Default	PW
d4	Enable defrost at device switch-on. **0** = No; **1** = Yes, activate defrost at switch-on; **2** = Activate defrost after over-cooling; **3** = Activate defrost at switch-on and after over-cooling.	---	0...3	0	2
d5	Time that elapses between device switch-on and the start of the defrost.	min	0...99	0	2
d6	Value shown on the display during a defrost. **0** = Regulation; **1** = Display locked; **2** = Reserved.	---	0...2	1	2
d7	Evaporator drip time after a defrost.	min	0...15	0	2
d11	Enable alert for defrost end due to maximum duration (code **dFd**). **0** = No; **1** = Yes.	---	0/1	0	2
d15	Compressor ON time before hot gas defrost.	min	0...99	0	2
	ALARMS group				
A1	Low temperature alarm threshold.	°C/°F	-99.0...99.0	0.0	2
A2	Low Temperature Alarm type. **0** = Disabled; **1** = Relative SET; **2** = Absolute.	---	0...2	2	2
A4	High temperature alarm threshold.	°C/°F	-99.0...99.0	50.0	2
A5	High temperature alarm type. **0** = Disabled; **1** = Relative SET; **2** = Absolute.	---	0...2	2	2
A6	Temperature and humidity alarm activation delay from when threshold was exceeded at device startup.	min	0...240	120	2
A7	Minimum and maximum temperature alarms delay.	min	0...240	15	2
A8	Delay in alarm activation to indicate threshold exceeded after a defrost.	min	0...240	15	2
A9	Delay in alarm activation to indicate threshold exceeded after door closure.	min	0...240	15	2
A10	Power failure duration for alarm recording.	min	0...240	15	2
A11	Hysteresis referring to **A1** and **A4** for determining alarm reset threshold.	°C/°F	0.1...15	1.0	2
AH1	Alarm relating to SET2 low humidity.	%	0...100	50	2
AH4	Alarm relating to SET2 high humidity.	%	0...100	50	2
AH7	Humidity and probe saturation alarm delay.	min	0...240	30	2
	EVAPORATOR/CONDENSER FAN group				
F0	Evaporator fans in normal operating mode. With **F0** = 0 the cycles can be managed by setting **F11, F12, rd2, rd3, rh2, rh3.** **0** = Cyclical; **1** = Always ON; **2** = Active depending on loads; **3** = Temperature-controlled (**F1** relating to temperature regulation); **4** = Active depending on loads and temperature-controlled (**F1** relating to temperature regulation).	---	0...4	1	2
F1	Evaporator fan regulation threshold with **F0** = 3, 4 (relative to the setpoint).	°C/°F	-99.0...99.0	99.0	2
F2	Evaporator fan mode during defrosting. **0** = OFF; **1** = ON; **2** = Depends on **F0**.	---	0...2	0	2
F3	Maximum evaporator fan post-dripping stoppage time.	min	0...15	0	2
F7	Threshold relative to the setpoint for fan restart after a defrost.	°C/°F	-99.0...99.0	99.0	2
F8	Evaporator setpoint differential.	°C/°F	0.1...15.0	2.0	2
F9	Evaporator fan switch-off delay from compressor switch-off.	s	0...240	5	2
F11	Fan ON time in the absence of regulation with **F0** = 0. **F11** = 0 fans remain stopped.	s	0...240	60	2
F12	Fan OFF time in the absence of regulation with **F0** = 0. **F12** = 0 and **F11** > 0 fans are always on.	s	0...240	0	2
Fc1	Condenser fans OFF threshold.	°C/°F	0.0...99.0	25.0	2
Fc2	Condenser fans ON differential.	°C/°F	0.1...15.0	5.0	2
Fc3	Condenser fans switch-off delay.	s	0...240	5	2
	DIGITAL INPUT PROPERTIES group				
i1	Lock display with door open and after closing.	min	0...240	0	2

Par.	Description	MU	Range	Default	PW
i2	Alarm indication delay from door opening. **-1** = Disabled.	min	-1...120	15	2
i3	Maximum regulation inhibition time with door open according to configuration **ic1** = 7, 8, 9. **-1** = Disabled.	min	-1...120	15	2
i5	Multifunctional input alarm delay.	min	0...120	0	2
i6	High pressure events count interval **Pr3** = 0 and **ic3** = 1. From the first intervention, **i8** events are counted for a manual reset.	min	0...120	60	2
i7	Thermal switch events count interval **ic1** = 5. From the first intervention, **i8** events are counted for a manual reset.	min	0...120	60	2
i8	Digital input events count for pressure switch and/or thermal switch alarm. **0** = Always automatic; **1** = Always manual.	---	0...15	1	2
	AUXILIARY OUTPUT group				
u6	Auxiliary output configuration. Manual control is via the AUX key. **0** = Hot; **1** = Cold; **2** = Manual.	---	0...2	0	2
u7	Auxiliary setpoint if **u6** = 0, 1.	°C/°F	-99.0...99.0	0.0	2
u8	Differential for auxiliary set **u7**.	°C/°F	0.1...15.0	1.0	2
u9	RUN function. **0** = auto (not available); **1** = manual **>1** = timed	°C/°F	0.1...15.0	1.0	2
	DIGITAL INPUT CONFIGURATION unit				
iC1	Digital input 1 function. **0** = Disabled; **1** = Energy Saving; **2** = Multifunctional alarm; **3** = Reserved; **4** = Standby; **5** = Thermal switch 1; **6** = Thermal switch 2; **7** = Compressor and fans OFF, Light ON; **8** = Fans OFF, Light ON; **9** = Light ON; **10** = Compressor and fans OFF; **11** = Fans OFF.	---	0...11	7	2
iP1	Multifunctional input 1 (Polarity) activation. **0** = Closed contact (NC); **1** = Open contact (NO).	---	0/1	0	2
iC3	Digital input 3 function. **0** = Disabled; **1** = High pressure switch.	---	0/1	0	2
iP3	Multifunctional input 3 (Polarity) activation. **0** = Closed contact (NC); **1** = Open contact (NO).	---	0/1	0	2

Par.	Description	MU	Range	Default	PW
	DIGITAL OUTPUT CONFIGURATION group				
uc1	Configure **out1** relay output. **0** = Disabled; **1** = Humidity (RH); **2** = Dehumidify (dRH); **3** = Alarm; **4** = Compressor 1; **5** = Hot; **6** = Condenser fan; **7** = ON/OFF; **8** = Air exchange; **9** = Light; **10** = Compressor 2; **11** = Evaporator fans; **12** = Defrost; **13** ... **14** = Reserved; **15** = Auxiliary; **16** ... **18** = Reserved.	---	0...18	4	2
uc2	Configure **out2** relay output. Same as **uc1**.	---	0...18	5	2
uc3	Configure **out3** relay output. Same as **uc1**.	---	0...18	9	2
uc4	Configure **out4** relay output. Same as **uc1**.	---	0...18	1	2
uc5	Configure **out5** relay output. Same as **uc1**.	---	0...18	11	2
uc6	Configure **out6** relay output. Same as **uc1**.	---	0...18	12	2
	KEY CONFIGURATION group				
POF	Enable standby key (ON/OFF). **0** = Disabled; **1** = Enabled.	---	0/1	1	2
PLi	Enable light key in standby. **0** = Disabled; **1** = Enabled.	---	0/1	1	1
PSr	Deactivate alarm output with buzzer silencing. **0** = Do not deactivate; **1** = Deactivate.	---	0/1	1	1
Pbu	Buzzer operation configuration. **0** = Buzzer deactivated; **1** = Alarm indication only; **2** = Alarm indication and keypad feedback.	---	0...2	2	2
SEn	Capacitive keypad threshold.	---	60...120	70	2
PLo	Keypad inactivity time after which it becomes locked.	s	0...240	60	2
	PASSWORD group				
PAS	Level 2 (Installer) parameters password.	---	-99... 999	-19	2
PS1	Level 1 (User) parameters password.	---	-99... 999	1	2
PA1	EVlink/EVconnect user password (not via instrument).	---	-99... 999	426	2
PS2	EVlink/EVconnect password service.	---	-99... 999	824	2
	CLOCK group				
Hr0	Enable clock. **0** = Disabled; **1** = Enabled.	---	0/1	0	2
	REMOTE COMMUNICATION group				
BLE	Communication type. **0** = Local (Modbus); **1** = Remote (EVLINK) (do not change parameters **LA**, **Lb** and **LP**).	---	0/1	1	2
rE0	Recording interval.	min	0...240	15	2
rE1	Value to record. **0** = No value to record; **1** = Probe Pb1 value only; **2** = Probe Pb2 value only; **3** = Probe Pb3 value only; **4** = Probe Pb1 and Pb2 value; **5** = Value of all probes.	---	0...5	4	2

Par.	Description	MU	Range	Default	PW
	DEFROST RTC CONFIGURATION group				
Hd1	Defrost 1 activation time. "- - - -" = Disabled.	h	----, 0...23	----	2
Hd2	Defrost 2 activation time. "- - - -" = Disabled.	h	----, 0...23	----	2
Hd3	Defrost 3 activation time. "- - - -" = Disabled.	h	----, 0...23	----	2
Hd4	Defrost 4 activation time. "- - - -" = Disabled.	h	----, 0...23	----	2
Hd5	Defrost 5 activation time. "- - - -" = Disabled.	h	----, 0...23	----	2
Hd6	Defrost 6 activation time. "- - - -" = Disabled.	h	----, 0...23	----	2
	MODBUS CONFIGURATION group				
LA	Modbus protocol controller address.	---	0...247	247	2
Lb	Modbus transmission speed (baud rate). **0** = 2400; **1** = 4800; **2** = 9600; **3** = 19200.	baud	0...3	3	2
LP	Modbus parity bit. **0** = None; **1** = Odd; **2** = Even.	---	0...2	2	2
	ENERGY SAVING group				
HE2	Manual energy saving duration.	min	0...999	0	2
H01	Energy saving temperature daily start schedule.	h	0...23	0	2
H02	Energy saving temperature daily duration.	h	0...24	0	2

9.1.2 Parameters other models

Par.	Description	MU	Range	EVJ ... default 526	EVJ ... default 536	EVJ ... default 556	PW
	ANALOGUE INPUT group						
CA1	Ambient temperature offset.	°C/°F	-25.0...25.0	0.0	0.0	0.0	1
CA2	Humidity probe offset.	°C/°F	-25.0...25.0	0.0	0.0	0.0	1
CA3	Auxiliary probe offset.	°C/°F	-25.0...25.0	0.0	0.0	0.0	2
P0	Probe type. **0** = PTC + EVHTP500; **1** = NTC + EVHTP500; **2** = PTC + EVHTP520; **3** = NTC + EVHTP520.	---	0...3	1	1	3	2
P1	Enable decimal point in °C. **0** = No; **1** = Yes.	---	0/1	1	1	1	2
P2	Temperature unit of measure (changing value means that the temperature parameter limits will need to be reset manually). **0** = °C; **1** = °F.	---	0/1	0	0	0	2
Pr2	Enable **Pb2** humidity probe. **0** = Humidity probe disabled; **1** = Humidity probe enabled.	---	0/1			1	2
Pr3	Probe Pb3 configuration. **0** = **ID3** digital input; **1** = Condensation probe; **2** = Needle probe (view only); **3** = Outside air probe (display only); **4** = Auxiliary probe; **5** = Defrost probe 2.	---	0...5	5	5	5	2
P5	Large display 1 value. **0** = No display (display off); **1** = Analogue input 1; **2** = Analogue input 2; **3** = Analogue input 3; **4** = Setpoint 1 (Temperature); **5** = Setpoint 2 (Humidity).	---	0...5	1	1	1	2
P6	Small display 2 value. Same as **P5**.	---	0...5	2	2	2	2
P8	Display 1 refresh time. Increases or decreases by 1 digit per interval selected.	s/10	0...250	5	5	5	2
P9	Display 2 refresh time. Increases or decreases by 1 digit per interval selected.	S/10	0...250	5	5	5	2
P10	Keypad configuration. **0** = Standard; **1** = Custom.	---	0/1			0	2
P20	Enable humidity regulation. **0** = Humidity regulation disabled; **1** = Humidity regulation enabled.	---	0/1			1	2
P30	Enable programs. **0** = No program. Continuous regulation without start/stop; **1** = Generic humidification program; **2** = Up to 6 programs with generic or maturing steps.	---	0...2			2	2
P31	Enable changing the setpoint for the program in progress and times during active cycle. **0** = No; **1** = Yes.	---	0/1		1	1	2
P32	If **P31** = 1, enables saving setpoint changes, even in the program. Timer variations are not included. **0** = No; **1** = Yes.	---	0/1		0	0	2
	TEMPERATURE MANAGEMENT group						
r0	Setpoint cold differential.	°C/°F	0.1...25.0	2.0	2.0	2.0	1
r1	Minimum setpoint.	°C/°F	-30.0...**r2**	0.0	0.0	0.0	2
r2	Maximum setpoint.	°C/°F	**r1**...99.0	50.0	50.0	50.0	2
r4	Offset setpoint in energy saving added to the setpoint value.	°C/°F	0.0...99.0	0.0	0.0	0.0	2
r5	Disables humidity regulation in OverTemp function. **0** = No; **1** = Yes.	---	0/1	0			2
r6	Threshold relating to temperature Setpoint 1 in OverTemp function.	°C/°F	-40.0...99.0	0.0			2
r7	Duration of the OverTemp function.	min	0...240	0			2

Par.	Description	MU	Range	EVJ ... default 526	EVJ ... default 536	EVJ ... default 556	PW
r11	Neutral zone value to be added to the differential.	°C/°F	-10.0...10.0	0.0	0.0	0.0	2
r12	Hot differential.	°C/°F	-25.0...-0.1	-2.0	-2.0	-2.0	1
r13	Throttle Hot output. **60** = Always ON.	s	0...60	60	60	60	2
r14	Temperature priority. **0** = No priority, regulations are independent; **1** = Hot regulation takes priority over dehumidification until the temperature falls within the set values; **2** = Hot and cold regulation takes priority over dehumidification until the temperature falls within the set values; **3** = Cold regulation takes priority over dehumidification until the temperature falls within the set values.	---	0...3	2	2	2	2
	HUMIDIFICATION/DEHUMIDIFICATION group						
h1	Humidity setpoint 2 minimum.	%	0...**h2**	10	10	10	2
h2	Humidity setpoint 2 maximum.	%	**h1**...100	95	95	95	2
h4	Extra humidity setpoint activated via AUX key. Value **h4** replaces Setpoint 2 for time period **h5**.	%	0...100	0			2
h5	Extra humidity setpoint **h4** duration. **0** = function disabled.	min	0...240	0			2
rd0	Dehumidification differential.	%	1...25	3	3	3	1
rd1	Dehumidification neutral zone.	%	0...10	0	0	0	2
rd2	Fans ON duration in dehumidification with **F0** = 0. **0** = fans stopped.	s	0...240	60	60	60	2
rd3	Fans OFF duration in dehumidification with **F0** = 0. If **rd3** = 0 and **rd2** ≠ 0 the fans are always on.	s	0...240	0	0	0	2
rd4	Dehumidifies with compressor or with compressor and hot. **0** = Disabled; **1** = Compressor; **2** = Compressor and hot.	---	0...3	1	1	1	2
rd5	Heats and Dehumidifies with defrost output. **0** = No; **1** = Yes.	---	0/1	0	0	0	2
rh0	Humidification differential.	%	-25...-1	-3	-3	-3	1
rh1	Humidification neutral zone.	%	0...10	0	0	0	2
rh2	Humidification output on duration (or fans if RH output not configured). With **rh2** = 0 the fans are stopped.	s	0...240	60	60	60	2
rh3	Humidification output off duration (or fans if RH output not configured). With **rh3** = 0 and **rh2** > 0 the fans are always on.	s	0...240	0	0	0	2
	COMPRESSOR group						
C0	Compressor ON delay from power-on.	min	0...240	0	0	0	2
C2	Minimum compressor OFF time.	min	0...240	3	3	3	2
C3	Minimum compressor ON time.	s	0...240	0	0	0	2
C4	Compressor OFF time in cold room probe alarm mode.	min	0...240	10	10	10	2
C5	Compressor ON time in cold room probe alarm mode.	min	0...240	10	10	10	2
C6	Condensation temperature over which the condenser overheat alarm is triggered.	°C/°F	0...199	80.0	80.0	80.0	2
C7	Condenser temperature over which the compressor lock alarm is triggered, once time period **C8** has elapsed.	°C/°F	0...199	90.0	90.0	90.0	2
C8	Compressor lock alarm activation delay from when threshold **C7** was exceeded.	min	0...15	0	0	0	2
C10	Compressor maintenance days.	day	0...990	0	0	0	2
C11	Compressor 2 switch-on delay from compressor 1 switch-on.	s	0...240	10	10	10	2
	DEFROST group						
d0	Defrost interval.	h	0...99	8	8	8	1
d1	Defrost type. **0** = Electric heaters; **1** = Cycle inversion (hot gas); **2** = On compressor stoppage.	---	0...3	0	0	0	2
d2	Evaporator temperature over which defrost ends with evaporator probe (**Pr3** = 5).	°C/°F	-99.0...99.0	8.0	8.0	8.0	1
d3	Defrost duration.	min	0...99	30	30	15	1

Par.	Description	MU	Range	EVJ ... default 526	EVJ ... default 536	EVJ ... default 556	PW
d4	Enable defrost at device switch-on. **0** = No; **1** = Yes, activate defrost at switch-on; **2** = Activate defrost after over-cooling; **3** = Activate defrost at switch-on and after over-cooling.	---	0...3	0	0	0	2
d5	Time that elapses between device switch-on and the start of the defrost.	min	0...99	0	0	0	2
d6	Value shown on the display during a defrost. **0** = Regulation; **1** = Display locked; **2** = Reserved.	---	0...2	1	1	0	2
d7	Evaporator drip time after a defrost.	min	0...15	0	0	0	2
d11	Enable alert for defrost end due to maximum duration (code **dFd**). **0** = No; **1** = Yes.	---	0/1	0	0	0	2
d13	Defrost during operating pause (recovery). **0** = No; **1** = Yes.	---	0/1		0	0	2
d15	Compressor ON time before hot gas defrost.	min	0...99	0	0	0	2
	ALARMS group						
A1	Low temperature alarm threshold.	°C/°F	-99.0...99.0	0.0	0.0	0.0	2
A2	Low Temperature Alarm type. **0** = Disabled; **1** = Relative SET; **2** = Absolute.	---	0...2	2	2	2	2
A4	High temperature alarm threshold.	°C/°F	-99.0...99.0	50.0	50.0	50.0	2
A5	High temperature alarm type. **0** = Disabled; **1** = Relative SET; **2** = Absolute.	---	0...2	2	2	2	2
A6	Temperature and humidity alarm activation delay from when threshold was exceeded at device startup.	min	0...240	120	120	120	2
A7	Minimum and maximum temperature alarms delay.	min	0...240	15	15	15	2
A8	Delay in alarm activation to indicate threshold exceeded after a defrost.	min	0...240	15	15	15	2
A9	Delay in alarm activation to indicate threshold exceeded after door closure.	min	0...240	15	15	15	2
A10	Power failure duration for alarm recording.	min	0...240	15	15	15	2
A11	Hysteresis referring to **A1** and **A4** for determining alarm reset threshold.	°C/°F	0.1...15	1.0	1.0	1.0	2
A12	Enable Power failure alarm. **0** = Alarm disabled; **1** = Alarm enabled; **2** = Alarm enabled and buzzer delayed.	---	0/1			0	2
AH1	Alarm relating to SET2 low humidity.	%	0...100	50	50	50	2
AH4	Alarm relating to SET2 high humidity.	%	0...100	50	50	50	2
AH7	Humidity and probe saturation alarm delay.	min	0...240	30	30	30	2
	EVAPORATOR/CONDENSER FAN group						
F0	Evaporator fans in normal operating mode. With **F0** = 0 the cycles can be managed by setting **F11, F12, rd2, rd3, rh2, rh3**. **0** = Cyclical; **1** = Always ON; **2** = Active depending on loads; **3** = Temperature-controlled (**F1** relating to temperature regulation); **4** = Active depending on loads and temperature-controlled (**F1** relating to temperature regulation).	---	0...4	1	1	1	2
F1	Evaporator fan regulation threshold with **F0** = 3, 4 (relative to the setpoint).	°C/°F	-99.0...99.0	99.0	99.0	99.0	2
F2	Evaporator fan mode during defrosting. **0** = OFF; **1** = ON; **2** = Depends on **F0**.	---	0...2	0	0	0	2
F3	Maximum evaporator fan post-dripping stoppage time.	min	0...15	0	0	0	2
F7	Threshold relative to the setpoint for fan restart after a defrost.	°C/°F	-99.0...99.0	99.0	99.0	99.0	2
F8	Evaporator setpoint differential.	°C/°F	0.1...15.0	2.0	2.0	2.0	2
F9	Evaporator fan switch-off delay from compressor switch-off.	s	0...240	5	5	5	2
F11	Fan ON time in the absence of regulation with **F0** = 0. **F11** = 0 fans remain stopped.	s	0...240	60	60	60	2
F12	Fan OFF time in the absence of regulation with **F0** = 0. **F12** = 0 and **F11** > 0 fans are always on.	s	0...240	0	0	0	2

Par.	Description	MU	Range	EVJ ... default 526	536	556	PW
F30	Evaporator fan status during air exchange. **0** = Off; **1** = On.	---	0/1		0	0	2
F31	Air exchange 1 activation schedule. "**- - - -**" = Disabled.	h	----, 0...24		24		2
F32	Air exchange 2 activation schedule. "**- - - -**" = Disabled.	h	----, 0...24		24		2
F33	Air exchange 3 activation schedule. "**- - - -**" = Disabled.	h	----, 0...24		24		2
F34	Air exchange 4 activation schedule. "**- - - -**" = Disabled.	h	----, 0...24		24		2
F35	Air exchange 5 activation schedule. "**- - - -**" = Disabled.	h	----, 0...24		24		2
F36	Air exchange 6 activation schedule. "**- - - -**" = Disabled.	h	----, 0...24		24		2
Fc1	Condenser fans OFF threshold.	°C/°F	0.0...99.0	25.0	25.0	25.0	2
Fc2	Condenser fans ON differential.	°C/°F	0.1...15.0	5.0	5.0	5.0	2
Fc3	Condenser fans switch-off delay.	s	0...240	5	5	5	2
	DIGITAL INPUT PROPERTIES group						
i1	Lock display with door open and after closing.	min	0...240	0	0	0	2
i2	Alarm indication delay from door opening. **-1** = Disabled.	min	-1...120	15	15	15	2
i3	Maximum regulation inhibition time with door open according to configuration **ic1** = 7, 8, 9. **-1** = Disabled.	min	-1...120	15	15	15	2
i5	Multifunctional input alarm delay.	min	0...120	0	0	0	2
i6	High pressure events count interval **Pr3** = 0 and **ic3** = 1. From the first intervention, **i8** events are counted for a manual reset.	min	0...120	60	60	60	2
i7	Thermal switch events count interval **ic1** = 5. From the first intervention, **i8** events are counted for a manual reset.	min	0...120	60	60	60	2
i8	Digital input events count for pressure switch and/or thermal switch alarm. **0** = Always automatic; **1** = Always manual.	---	0...15	1	1	1	2
	AUXILIARY OUTPUT group						
u5	Door heater activation threshold. (**EVJ 526** only).	°C/°F	-99.0...99.0	0			2
u5	Main regulation inhibited. (**EVJ 556** only). **0** = No; **1** = Yes. • **u6** = 0 with AUX active, inhibits main heat output; • **u6** = 1 with AUX active, inhibits main compressor output.	---	0/1			0	2
u6	Auxiliary output configuration. Manual control is via the AUX key. **0** = Hot; **1** = Cold; **2** = Manual.	---	0...2	0	0	0	2
u7	Auxiliary setpoint if **u6** = 0, 1.	°C/°F	-99.0...99.0	0.0	0.0	0.0	2
u8	Differential for auxiliary set **u7**.	°C/°F	0.1...15.0	1.0	1.0	1.0	2
u9	RUN function. **0** = auto (not available); **1** = manual **>1** = timed	°C/°F	0.1...15.0	1.0	1.0	1.0	2
u10	Sanitising cycle duration.	min	0...99	0			2
u11	Interval between 2 consecutive sanitising cycles.	min	0...999	0			2
u12	Evaporator fan status during sanitising. **0** = Independent; **1** = Active.	---	0/1	0			2
u13	Sanitising in standby. **0** = UV lamps; **1** = Ozone generator in standby, temperature/humidity regulation off; **2** = Ozone generator in standby and running, temperature/humidity regulation paused.	---	0...2	0			2
	Mixer unit (EVJ 556 ONLY)						
u10	Mixer duration.	**u12**	0...999			0	2
u11	Mixer interval.	min	0...999			0	2
u12	Mixer duration unit of measurement. **0** = Seconds; **1** = Minutes.	---	0/1			0	2
u13	Mixer function in regulation. **0** = Mixer ON for load ON; **1** = Mixer ON for compressor ON and cyclical for heat ON; **2** = Mixer ON via key.	---	0...2			0	2

Par.	Description	MU	Range	EVJ ... default			PW
				526	536	556	
u14	Mixer function in regulation pause (without programs). **0** = Mixer ON; **1** = Mixer in ON/OFF cycle; **2** = Mixer OFF.	---	0...2			0	2
	DIGITAL INPUT CONFIGURATION unit						
iC1	Digital input 1 function. **0** = Disabled; **1** = Energy Saving; **2** = Multifunctional alarm; **3** = Reserved; **4** = Standby; **5** = Thermal switch 1; **6** = Thermal switch 2; **7** = Compressor and fans OFF, Light ON; **8** = Fans OFF, Light ON; **9** = Light ON; **10** = Compressor and fans OFF; **11** = Fans OFF.	---	0...11	7	7	7	2
iP1	Multifunctional input 1 (Polarity) activation. **0** = Closed contact (NC); **1** = Open contact (NO).	---	0/1	0	0	0	2
iC3	Digital input 3 function. **0** = Disabled; **1** = High pressure switch.	---	0/1	0	0	0	2
iP3	Multifunctional input 3 (Polarity) activation. **0** = Closed contact (NC); **1** = Open contact (NO).	---	0/1	0	0	0	2
	DIGITAL OUTPUT CONFIGURATION group						
uc1	Configure **out1** relay output. **0** = Disabled; **1** = Humidity (RH); **2** = Dehumidify (dRH); **3** = Alarm; **4** = Compressor 1; **5** = Hot; **6** = Condenser fan; **7** = ON/OFF; **8** = Air exchange; **9** = Light; **10** = Compressor 2; **11** = Evaporator fans; **12** = Defrost; **13** = Door frame (**EVJ 526 only**); **14** = Evaporator 2 fans (**EVJ 526 / EVJ 536 only**); **15** = Auxiliary; **16** = Sanitising (**EVJ 526**) / Mixer (**EVJ 556**); **17** = Run (**EVJ 556 only**); **18** = Reserved.	---	0...18	4	4	4	2
uc2	Configure **out2** relay output. Same as **uc1**.	---	0...18	5	5	5	2
uc3	Configure **out3** relay output. Same as **uc1**.	---	0...18	9	9	9	2
uc4	Configure **out4** relay output. Same as **uc1**.	---	0...18	1	1	1	2
uc5	Configure **out5** relay output. Same as **uc1**.	---	0...18	11	11	11	2
uc6	Configure **out6** relay output. Same as **uc1**.	---	0...18	12	12	12	2
	KEY CONFIGURATION group						
POF	Enable standby key (ON/OFF). **0** = Disabled; **1** = Enabled.	---	0/1	1	1	1	2
PLi	Enable light key in standby. **0** = Disabled; **1** = Enabled.	---	0/1	1	1	1	1

Par.	Description	MU	Range	EVJ ... default 526	EVJ ... default 536	EVJ ... default 556	PW
PSr	Deactivate alarm output with buzzer silencing. **0** = Do not deactivate; **1** = Deactivate.	---	0/1	1	1	1	1
Pbu	Buzzer operation configuration. **0** = Buzzer deactivated; **1** = Alarm indication only; **2** = Alarm indication and keypad feedback.	---	0…2	2	2	2	2
SEn	Capacitive keypad threshold.	---	60…120	70			2
PLo	Keypad inactivity time after which it becomes locked.	s	0…240	60			2
	PASSWORD group						
PAS	Level 2 (Installer) parameters password.	---	-99… 999	-19	-19	-19	2
PS1	Level 1 (User) parameters password.	---	-99… 999	1	1	1	2
PA1	EVlink/EVconnect user password (not via instrument).	---	-99… 999	426	426	426	2
PS2	EVlink/EVconnect password service.	---	-99… 999	824	824	824	2
	CLOCK group						
Hr0	Enable clock. **0** = Disabled; **1** = Enabled.	---	0/1	0	0	0	2
	REMOTE COMMUNICATION group						
BLE	Communication type. **0** = Local (Modbus); **1** = Remote (EVLINK) (do not change parameters **LA**, **Lb** and **LP**).	---	0/1	1	1	1	2
rE0	Recording interval.	min	0…240	15	15	15	2
rE1	Value to record. **0** = No value to record; **1** = Probe Pb1 value only; **2** = Probe Pb2 value only; **3** = Probe Pb3 value only; **4** = Probe Pb1 and Pb2 value; **5** = Value of all probes.	---	0…5	4	4	4	2
	DEFROST RTC CONFIGURATION group						
Hd1	Defrost 1 activation time. "- - - -" = Disabled.	h	----, 0…23	----	----	----	2
Hd2	Defrost 2 activation time. "- - - -" = Disabled.	h	----, 0…23	----	----	----	2
Hd3	Defrost 3 activation time. "- - - -" = Disabled.	h	----, 0…23	----	----	----	2
Hd4	Defrost 4 activation time. "- - - -" = Disabled.	h	----, 0…23	----	----	----	2
Hd5	Defrost 5 activation time. "- - - -" = Disabled.	h	----, 0…23	----	----	----	2
Hd6	Defrost 6 activation time. "- - - -" = Disabled.	h	----, 0…23	----	----	----	2
	MODBUS CONFIGURATION group						
LA	Modbus protocol controller address.	---	0…247	247	247	247	2
Lb	Modbus transmission speed (baud rate). **0** = 2400; **1** = 4800; **2** = 9600; **3** = 19200.	baud	0…3	3	3	3	2
LP	Modbus parity bit. **0** = None; **1** = Odd; **2** = Even.	---	0…2	2	2	2	2
	ENERGY SAVING group						
HE2	Manual energy saving duration.	min	0…999	0	0	0	2
H01	Energy saving temperature daily start schedule.	h	0…23	0	0	0	2
H02	Energy saving temperature daily duration.	h	0…24	0	0	0	2

10. DIAGNOSTICS

The table below lists alarms with corresponding solutions. Indication takes place via the alarm LED ⚠ and the buzzer. Each alarm is recorded in the Alarms menu.

10.1 TABLE OF ALARMS

Code	Description	Cause	Effects	Solution
Pr1	Probe in error	• Probe not working • Probe not connected properly • Incorrect probe type	• Showing code **Pr1** • Compressor regulation based on **C4** and **C5** • Hot regulation paused	• Check the probe type (**PO**) • Check the probe wiring • Change the probe type
Pr2			• Showing code **Pr2** • Humid./dehumid. paused. For saturation the regulator applies a time period **AH7** before generating the alarm	
Pr3			• Showing code **Pr3** • If Pr3 = 5, defrost end is due to timeout	
AL	Pb1 low temperature alarm	Pb1 temperature > **A1** for time period **A7**	• Code **AL** shown • No effect on regulation	Wait for the temperature read by Pb1 to fall below the alarm threshold (**A1**-**A11**)
AH	Pb1 high temperature alarm	Pb1 temperature > **A4** for time period **A7**	• Code **AH** shown • No effect on regulation	Wait for the temperature read by Pb1 to rise above the alarm threshold (**A4**+**A11**)
AL2	Pb2 low humidity alarm	Pb5 humidity > **AH1** for time period **AH7**	• Showing code **AL2** • No effect on regulation	Wait for the temperature read by Pb2 to fall below the alarm threshold (**AH1**-**2%**)
AH2	Pb2 high humidity alarm	Pb5 humidity > **AH4** for time period **AH7**	• Showing code **AH2** • No effect on regulation	Wait for the temperature read by Pb2 to rise above the alarm threshold (**AH4**+**2%**)
id	Door open alarm	Digital input activated for a time period > **i2**	• Showing code **id** • Inhibits regulators on the basis of the function active in **iC1** = 7, 8 or 9	• If **i2** = -1 the alarm is disabled; • Check **i2** and **iP1**
COH	Condenser overheat indication	Condenser temperature > **C6**	• Code **COH** shown • No effect on regulation	Check **C6**
CSd	High condensation alarm	Condenser temperature > **C7** for time period **C8**	• Showing code **CSd** • Compressor inhibited	• Switch the instrument off and on again; • Check **C7** and **C8**
iA	Multifunctional input alarm	Digital input activated (**iC1** = 2) for time period **i5**	• Showing code **iA** • No effect on regulation	Check **i5**
dFd	Defrost timeout alarm	Defrost ended due to timeout instead of temperature **d2** being reached	• Showing code **dFd** • Alarm icon ⚠ flashing • No effect on regulation	• Tap any key • Check **d2**, **d3** and **d11**
HP	Digital pressure switch alarm	Pressure switch alarm caused by the digital pressure switch	• Compressor and dehumidification inhibited • The regulator counts, from the first event, the number of events **i8** within the time period **i6**	Check for and remove the cause of the alarm on the digital input (automatic reset with **i6** = 0)
CtH	Thermal alarm 1	Digital input activated (**iC1** = 5)	The regulator counts, from the first event, the number of events **i8** within the time period **i7**	If **i7** = 0 resetting is always automatic
rtc	RTC alarm	RTC not working alarm	Functions connected to the RTC not present or not synchronised with the actual time	Set the correct time. If the error persists, replace the instrument (RTC battery exhausted)
PF	Power outage alarm	Power outage for time period > **A10**	Recording of code **PF**	Check the power supply wiring

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