EVCO
Every Control Group

EVXV 800 series - Controllers for blast chillers (which can be integrated into the unit)
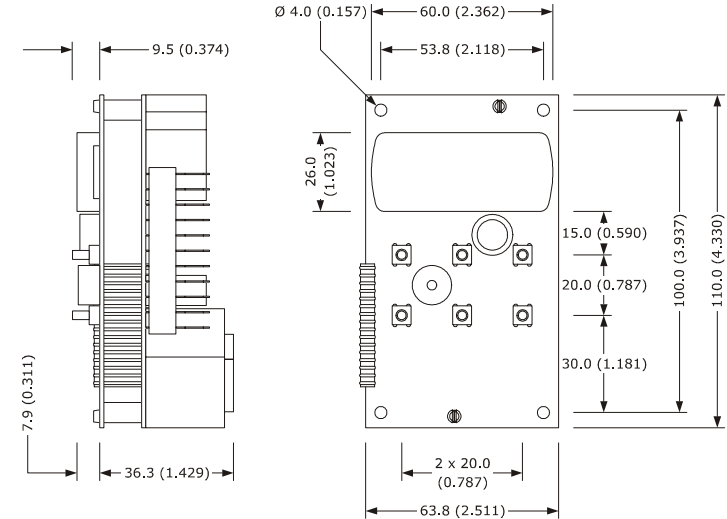
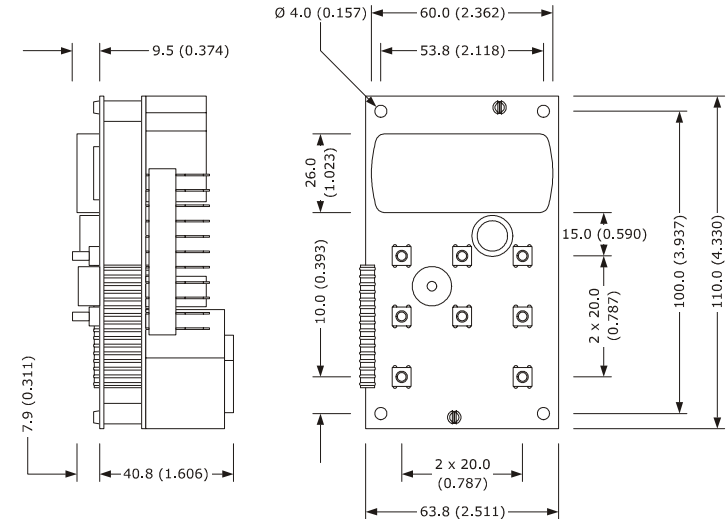## SIZE AND INSTALLATION

Size and installation EVXV802 and EVXV812

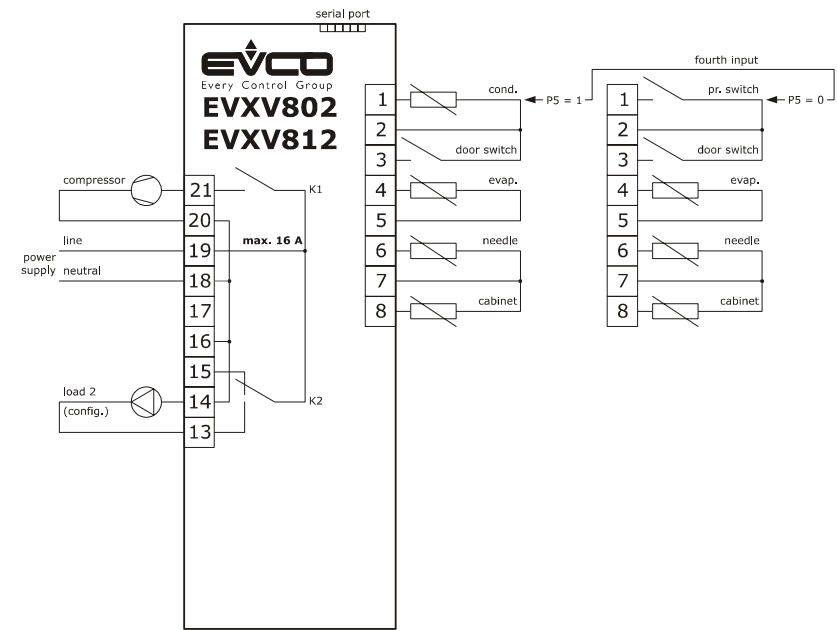Size in mm (in); installation is by back panel, with M3 threaded studs.

Size and installation EVXV805 and EVXV815

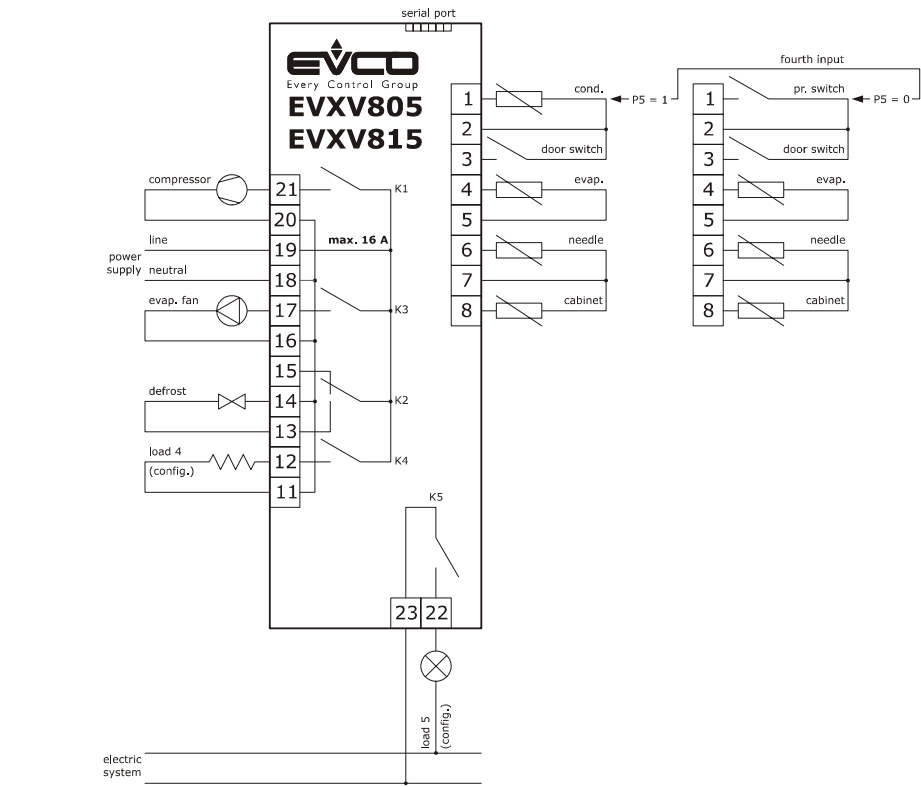Size in mm (in); installation is by back panel, with M3 threaded studs.

ELECTRICAL CONNECTION

Electrical connection EVXV802 and EVXV812

Electrical connection EVXV805 and EVXV815

GB ENGLISH

IMPORTANT

Read this document carefully before installing and using the device and follow all the additional information; keep this document close to the device for future consultations.
For further information consult the "Installer manual".

The device must be disposed according to the local legislation about the collection for electrical and electronic equipment.

1 SIZE AND INSTALLATION

1.1 Additional information for the installation

- make sure the working conditions of the device (operating temperature, operating humidity, etc.) are in the limits indicated; look at chapter "TECHNICAL DATA"
- do not install the device close to heating sources (heaters, hot air ducts, etc.), devices having big magnetos (big speakers, etc.), locations subject to direct sunlight, rain, humidity, dust, mechanical vibrations or bumps
- according to the safety legislation, the protection against possible contacts with the electrical parts must be ensured by a correct installation of the device; all the parts which ensure the protection must be fixed so that you can not remove them if not by using a tool.
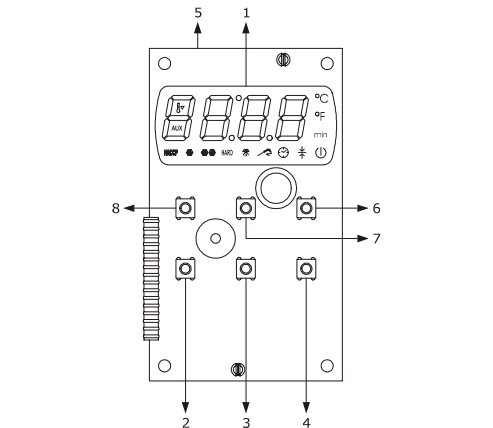
2 ELECTRICAL CONNECTION

2.1 Additional information for electrical connection

- do not operate on the terminal blocks of the device using electrical or pneumatic screwers
- if the device has been moved from a cold location to a warm one, the humidity could condense on the inside; wait about an hour before supplying it
- make sure the power supply voltage, the electrical frequency and the electrical power of the device correspond to those of the local power supply; look at chapter "TECHNICAL DATA"
- disconnect the power supply of the device before servicing it
- do not use the device as safety device
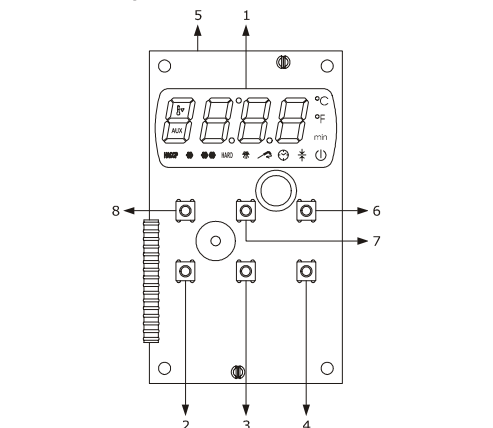- for the repairs and for information about the device please contact the EVCO sales network.

3 DESCRIPTION

3.1 Description EVXV802 and EVXV812

Part	Meaning
1	display
2	button BLAST CHILLING
3	button BLAST FREEZING
4	button HARD / SOFT
5	serial port
6	button START / STOP
7	button UP
8	button DOWN

3.2 Description EVXV805 and EVXV815

Part	Meaning
1	display
2	button BLAST CHILLING
3	button BLAST FREEZING
4	button HARD / SOFT
5	button AUXILIARY
6	serial port
7	button START / STOP
8	button DEFROST
9	button UP
10	button DOWN

4 USER INTERFACE

4.1 Preliminary information

There are the following operating status:
- status "off" (the device is not powered)
- status "stand-by" (the device is powered but it is switched off)
- status "on" (the device is powered, it is switched on and it is waiting an operating cycle is started)
- status "run" (the device is powered, it is switched on and an operating cycle is running).

Hereinafter, "switching on the device" means moving from status "stand-by" to status "on" and "switching off the device" means moving from status "on" to status "stand-by".

4.2 Switching on / off the device

Operate as follows:
1. Make sure the keyboard is not locked and no procedure is running.
2. Press and hold button START / STOP 1 s: LED (I) will switch on / off.

4.3 The display

During status "off" and during status "stand-by" the display is switched off.
During status "on" the display shows the room temperature.
During status "run" the device will work as follows:
- if a temperature controlled blast chilling or a temperature controlled blast freezing is running, the display will show the temperature read by the needle probe
- if a time controlled blast chilling or a time controlled blast freezing is running, the display will show the count down of their duration
- if a storing is running, the display will show the room temperature.

4.4 Showing the room temperature

Operate as follows:
1. Make sure the keyboard is not locked and no procedure is running.
2. Press and hold button DOWN 1 s: the display will show the first available label.
3. Press and release button UP or button DOWN to select "**Pb1**".
4. Press and release button BLAST CHILLING: the display will show the room temperature.

To quit the procedure operate as follows:
5. Press and release button BLAST CHILLING or do not operate 15 s: the display will show "**Pb1**" again.
6. Press and release button UP or button DOWN as long as the display shows the variable indicated in the paragraph "The display" or do not operate 60 s.

4.5 Showing the temperature read by the needle probe

Operate as indicated in the paragraph "Showing the room temperature" to select "**Pb2**".
If the needle probe is not enabled, the label "**Pb2**" will not be shown.

4.6 Showing the evaporator temperature

Operate as indicated in the paragraph "Showing the room temperature" to select "**Pb3**".
If the evaporator probe is not enabled, the label "**Pb3**" will not be shown.

4.7 Showing the condenser temperature

Operate as indicated in the paragraph "Showing the room temperature" to select "**Pb4**".
If the condenser probe is not enabled, the label "**Pb4**" will not be shown.

4.8 Activating the defrost by hand

Operate as follows:
1. Make sure the device is in status "on" or a storing is running.
2. Make sure the keyboard is not locked and no procedure is running.
3.1 In the model EVX802 and in the model EVX812 press and hold button UP 4 s: LED will switch on.
3.2 In the model EVX805 and in the model EVX815 press and hold button DEFROST 4 s: LED will switch on.

If the evaporator probe is enabled and to the defrost activation the evaporator temperature is above the defrost cut off temperature, the defrost will not be activated.

4.9 Switching on / off the room light by hand (only in the model EVX805 and in the model EVX815)

Operate as follows:
1. Make sure the function is enabled.
2. Make sure no procedure is running.

3. Press and release button AUXILIARY: LED **AUX** will switch on / off.

4.10 Locking / unlocking the keyboard

To lock the keyboard operate as follows:
1. Make sure no procedure is running.
2. Press and hold button DOWN and button START / STOP 1 s: the display will show "**Loc**" 1 s.

To unlock the keyboard operate as follows:
3. Make sure no procedure is running.
4. Press and hold button DOWN and button START / STOP 1 s: the display will show "**UnL**" 1 s.

4.11 Silencing the buzzer

Operate as follows:
1. Make sure no procedure is running.
2. Press and release a button.

5 OPERATION

5.1 Blast chilling and storing

To start the cycle operate as follows:
1. Make sure the device is in status "on".
2. Make sure the keyboard is not locked and no procedure is running.
3. Press and release button BLAST CHILLING: LED and LED will flash; according to the model, press and release button BLAST CHILLING again to start the cycle time controlled.
4.1 According to the model, the display will show the working setpoint during the blast chilling or the blast chilling cut off temperature.
4.2 Press and release button UP or button DOWN in 15 s to modify these values.
5. Press and release button START / STOP: LED will firmly remain switched on and it will be started the test for the verification of the proper insertion of the needle probe.
5.1 If the test is successfully completed, the cycle will be started.
5.2 If the test is not successfully completed, the cycle will be started time controlled.

To stop the cycle operate as follows:
6. Press and release button START / STOP.

5.2 Hard blast chilling and storing

To start the cycle operate as follows:
1. Make sure the device is in status "on".
2. Make sure the keyboard is not locked and no procedure is running.
3. Press and release button BLAST CHILLING: LED and LED will flash; according to the model, press and release button BLAST CHILLING again to start the cycle time controlled.
4. Press and release button HARD / SOFT: LED **HARD** will flash.
5.1 According to the model, the display will show the working setpoint during the blast chilling or the blast chilling cut off temperature.
5.2 Press and release button UP or button DOWN in 15 s to modify these values.
6. Press and release button START / STOP: LED and LED **HARD** will firmly remain switched on and it will be started the test for the verification of the proper insertion of the needle probe.
6.1 If the test is successfully completed, the cycle will be started.
6.2 If the test is not successfully completed, the cycle will be started time controlled.

To stop the cycle operate as follows:
7. Press and release button START / STOP.

5.3 Blast freezing and storing

To start the cycle operate as follows:
1. Make sure the device is in status "on".
2. Make sure the keyboard is not locked and no procedure is running.
3. Press and release button BLAST FREEZING: LED , LED , LED **HARD** and LED will flash; according to the model, press and release button BLAST CHILLING again to start the cycle time controlled.
4.1 According to the model, the display will show the working setpoint during the blast freezing or the blast freezing cut off temperature.
4.2 Press and release button UP or button DOWN in 15 s to modify these values.
5. Press and release button START / STOP: LED , LED and LED **HARD** will firmly remain switched on and it will be started the test for the verification of the proper insertion of the needle probe.
5.1 If the test is successfully completed, the cycle will be started.
5.2 If the test is not successfully completed, the cycle will be started time controlled.

To stop the cycle operate as follows:
6. Press and release button START / STOP.

5.4 Soft blast freezing and storing

To start the cycle operate as follows:

1. Make sure the device is in status "on".
2. Make sure the keyboard is not locked and no procedure is running.
3. Press and release button BLAST FREEZING: LED ❄, LED ❄❄, LED **HARD** and LED ⟋ will flash; according to the model, press and release button BLAST CHILLING again to start the cycle time controlled.
4. Press and release button HARD / SOFT: LED **HARD** will switch off.
5.1 According to the model, the display will show the working setpoint during the blast freezing or the blast freezing cut off temperature.
5.2 Press and release button UP or button DOWN in 15 s to modify these values.
6. Press and release button START / STOP: LED ❄ and LED ❄❄ will firmly remain switched on and it will be started the test for the verification of the proper insertion of the needle probe.
6.1 If the test is successfully completed, the cycle will be started.
6.2 If the test is not successfully completed, the cycle will be started time controlled.

To stop the cycle operate as follows:

7. Press and release button START / STOP.

5.5 Starting the precooling

To start the precooling operate as follows:

1. Make sure the device is in status "on".
2. Make sure no procedure is running.
3. According to the model, switch on the device or press and hold button BLAST CHILLING 1 s: LED ⫯ will flash.

To stop the precooling operate as follows:

4. Press and hold button BLAST CHILLING 1 s or start an operating cycle.

5.6 Switching on the UV light for the cycle of sterilization (only in the model EVX805 and in the model EVX815)

Operate as follows:

1. Make sure the function is enabled.
2. Make sure the device is in status "on" and the door is closed, or the door switch input is not active.
3. Make sure the keyboard is not locked and no procedure is running.
4. Press and hold button AUXILIARY 1 s: LED **AUX** will switch on.

5.7 Needle probe heating (only in the model EVX805 and in the model EVX815)

Operate as follows:

1. Make sure the function is enabled.
2. Make sure the device is in status "on" or a storing is running and the door is open, or the door switch input is active.
3. Make sure the keyboard is not locked and no procedure is running.
4. Press and hold button AUXILIARY 1 s: LED ⟋ will flash and LED **AUX** will switch on.

6 SIGNALINGS AND INDICATIONS

6.1 Signalings

LED	Meaning
❄	LED blast chilling
❄❄	LED blast freezing
HARD	LED hard blast chilling / blast freezing
⟋	LED temperature controlled blast chilling / temperature controlled blast freezing
☺	LED time controlled blast chilling / time controlled blast freezing
‡	LED storing
❄	LED defrost
⫯	LED precooling
AUX	LED auxiliary (only in the model EVXV805 and in the model EVXV815)
HACCP	LED HACCP
°C	LED Celsius degree
°F	LED Fahrenheit degree
min	LED minutes
⏻	LED on / stand-by

6.2 Indications

Code	Meaning
Loc	The keyboard is locked; look at paragraph "Locking / unlocking the keyboard"
UnL	The keyboard has been unlocked; look at paragraph "Locking / unlocking the keyboard"

7 ALARMS

7.1 Alarms

Code	Meaning
tiME	Alarm temperature controlled blast chilling or temperature controlled blast freezing not concluded within the maximum duration (HACCP alarm)
AL	Low temperature alarm
AH	High temperature alarm (HACCP alarm)
id	Open door alarm
HP	High pressure alarm
PF	Lack of power supply alarm (HACCP alarm; only in the model EVXV812 and in the model EVXV815)
COH	Overheated condenser alarm
CSd	Locked compressor alarm
ESt	Alarm download of the configuration parameters not successfully completed
CEr	Alarm firmwares of the configuration parameters contained in EVKEY not coinciding with that of the device
Erd	Alarm upload of the configuration parameters not successfully completed

8 Errors

8.1 Errors

Code	Meaning
Pr1	Room probe error
Pr2	Needle probe error
Pr3	Evaporator probe error
Pr4	Condenser probe error
rtc	Real time clock error (only in the model EVXV812 and in the model EVXV815)

9 TECHNICAL DATA

9.1 Technical data

Purpose of the devices: controllers for blast chillers.

Execution: open frame board.

Size:

- 63.8 x 110.0 x 45.8 mm (2.511 x 4.330 x 1.803 in; W x H x D) for EVXV802 and EVXV812
- 63.8 x 110.0 x 50.3 mm (2.511 x 4.330 x 1.980 in; W x H x D) for EVXV805 and EVXV815.

Installation: by back panel, with M3 threaded studs.

Index of protection: IP00.

Connections: faston 6.3 mm (0.248 in) wide (power supply and outputs), fixed screw terminal block (inputs), 6 poles connector (serial port).

Operating temperature: from 0 to 55 °C (from 32 to 131 °F).

Storage temperature: from -25 to 60 °C (from -13 to 140 °F).

Operating humidity: from 10 to 90% of relative humidity not condensing.

Pollution situation: 2.

Power supply:

- 230 VAC (±10%), 50 / 60 Hz, 2.3 VA max. or 115 VAC (±10%), 50 / 60 Hz, 2.3 VA max. in EVXV802 and in EVXV812
- 230 VAC (±10%), 50 / 60 Hz, 2.8 VA max. or 115 VAC (±10%), 50 / 60 Hz, 2.8 VA max. in EVXV805 and in EVXV815.

Overvoltage category: III.

Real time clock:

- not available in EVXV802 and in EVXV805
- incorporated (with capacitor) in EVXV812 and in EVXV815.

Battery autonomy in the event of lack of power supply: 24 h with battery fully charged.

Battery charging time: 2 min (the battery is charged by the power supply of the device).

Signaling and alarm buzzer: incorporated.

Analog inputs: 3 inputs (room probe, needle probe and evaporator probe), which can be set via configuration parameter for PTC / NTC probes.

PTC analog inputs (990 Ω @ 25 °C, 77 °F)

Kind of sensor:	KTY 81-121.
Working range:	from -50 to 150 °C (from -58 to 302 °F).
Resolution:	0.1 °C (1 °F).
Protection:	none.

NTC analog inputs (10K Ω @ 25 °C, 77 °F)

Kind of sensor:	ß3435.
Working range:	from -40 to 105 °C (from -40 to 220 °F).
Resolution:	0.1 °C (1 °F).
Protection:	none.

Digital inputs: 1 input (door switch), which can be set via configuration parameter for normally open / normally closed contact (free of voltage contact, 5 VDC, 2 mA).

Digital inputs

Power supply:	none.
Protection:	none.

Other inputs: 1 input which can be set via configuration parameter for analog input (condenser probe) / digital input (high pressure), with the same technical features illustrated previously.

Displays: 4 digits custom display, with function icons.

Digital outputs:

2 outputs (electromechanical relays) in EVXV802 and in EVXV812

- 1 SPST 30 res. A @ 250 VAC output (K1) for compressor management
- 1 SPDT 8 res. A @ 250 VAC output (K2) for defrost or evaporator fan management.

5 outputs (electromechanical relays) in EVXV805 and in EVXV815

- 1 SPST 30 res. A @ 250 VAC output (K1) for compressor management
- 1 SPDT 8 res. A @ 250 VAC output (K2) for defrost or evaporator fan management
- 2 SPST 8 res. A @ 250 VAC outputs (K3 and K4) for evaporator fan management and for door heater or condenser fan management
- 1 SPST 5 res. A @ 250 VAC output (K5) for room light, needle probe heater or UV light management.

The maximum current allowed on the loads is 16 A.

Type of actions and additional features: 1C.

Communication ports: 1 TTL serial port with MODBUS communication protocol.