

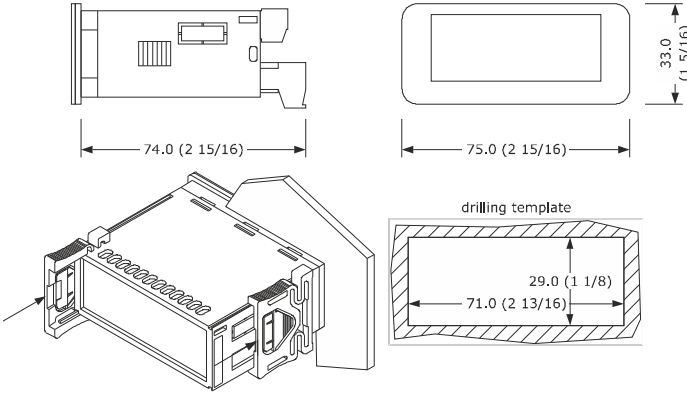


E ENGLISH

- Controllers for low temperature units.
- Power supply 115... 230 VAC.
- Incorporated clock.
- Cabinet probe and evaporator probe (PTC/NTC).
- Door switch input.
- Compressor relay 16 A res. @ 250 VAC.
- Alarm buzzer.
- RS-485 MODBUS master port for network of 10 EPoCA-compatible controllers.
- plug and play Ethernet port for Internet gateway.
- Cooling or heating operation.

1 MEASUREMENTS AND INSTALLATION

Measurements in mm (inches). To be fitted to a panel, snap-in brackets provided.

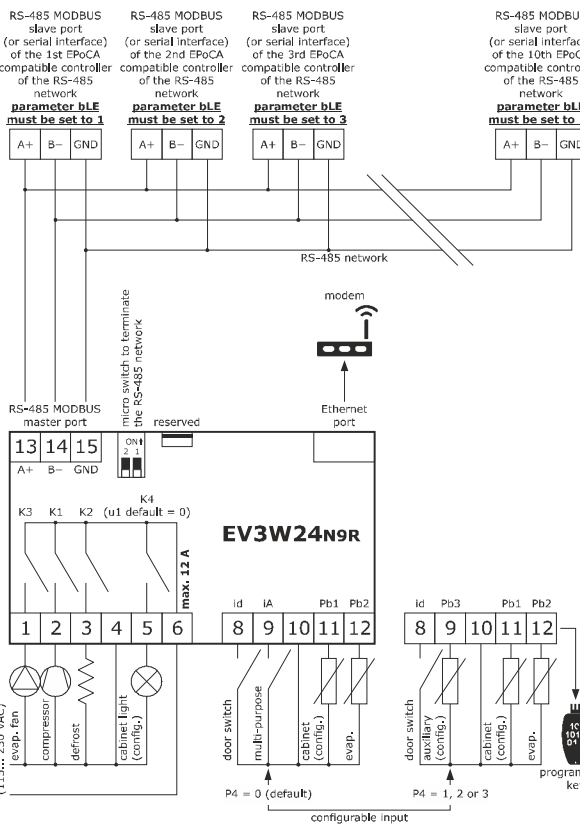


INSTALLATION PRECAUTIONS

- The thickness of the panel must be between 0.8 and 2.0 mm (1/32 and 1/16 in)
- Ensure that the working conditions are within the limits stated in the *TECHNICAL SPECIFICATIONS* section.
- Do not install the device close to heat sources, equipment with a strong magnetic field, in places subject to direct sunlight, rain, damp, excessive dust, mechanical vibrations or shocks.
- In compliance with safety regulations, the device must be installed properly to ensure adequate protection from contact with electrical parts. All protective parts must be fixed in such a way as to need the aid of a tool to remove them.

2 ELECTRICAL CONNECTION

- N.B.
- Use cables of an adequate section for the current running through them.
 - To reduce any electromagnetic interference connect the power cables as far away as possible from the signal cables
 - Connect the RS-485 using a twisted pair.



Fit the termination of the first and last controller of the RS-485 network. The device is always the first controller of the network: to fit the termination, place micro-switch 1 in position ON.

PRECAUTIONS FOR ELECTRICAL CONNECTION

- If using an electrical or pneumatic screwdriver, adjust the tightening torque.
- If the device has been moved from a cold to a warm place, the humidity may have caused condensation to form inside. Wait about an hour before switching on the power.
- Make sure that the supply voltage, electrical frequency and power are within the set limits. See the section *TECHNICAL SPECIFICATIONS*.
- Disconnect the power supply before doing any type of maintenance.
- Do not use the device as safety device.
- For repairs and for further information, contact the EVCO sales network.

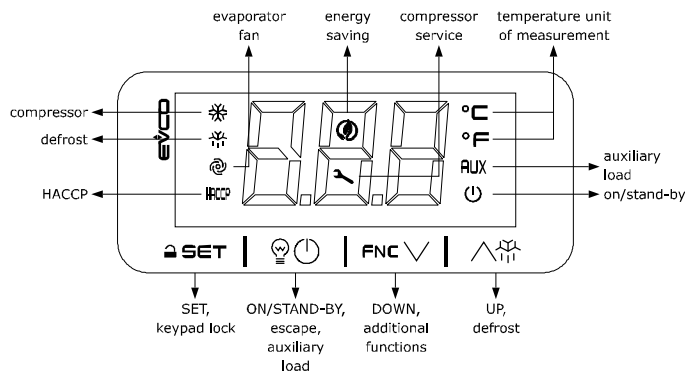
3 FIRST-TIME

1. Install following the instructions given in the section *MEASUREMENTS AND INSTALLATION*.
2. Power up the device as shown in the section *ELECTRICAL CONNECTION* and an internal test will be run. The test normally takes a few seconds, when it is finished the display will switch off.
3. Configure the device as shown in the section *Setting configuration parameters*. Recommended configuration parameters for first-time use.

PAR.	DEF.	PARAMETER	MIN... MAX.
SP	0.0	setpoint	r1... r2
P0	1	probe type	0 = PTC 1 = NTC
P2	0	temperature unit of measurement	0 = °C 1 = °F
d1	0	defrost type	0 = electric 1 = hot gas 2 = compressor stopped

3. Then check that the remaining settings are appropriate: see the section *CONFIGURATION PARAMETERS*.
4. Disconnect the device from the mains.
5. Make the electrical connection as shown in the section *ELECTRICAL CONNECTION* without powering up the device.
6. Power up the device.

4 USER INTERFACE AND MAIN FUNCTIONS



4.1 Switching the device on/off

1. If POF = 1, touch the ON/STAND-BY key for 4 s. If the device is switched on, the display will show the P5 value ("cabinet temperature" default); if the display shows an alarm code, see the section *ALARMS*.

LED	ON	OFF	FLASHING
☀	compressor on	compressor off	- compressor protection active - setpoint setting active
☂	defrost or pre-dripping active	-	- defrost delay active - dripping active
🌀	evaporator fan on	evaporator fan off	evaporator fan stop active
🚨	saved HACCP alarm	-	-
🔧	energy saving active	-	-
🔧	request for compressor service	-	- settings active - access to additional functions active
°C/°F	view temperature	-	overcooling or overheating active
AUX	auxiliary load on	auxiliary load off	- auxiliary load on by digital input - auxiliary load delay active
🔌	device off	device on	device on/off active

If Loc = 1 (default) and 30 s have elapsed without the keys being pressed, the display will show the "Loc" label and the keypad will lock automatically.

4.2 Unlock keypad

Touch a key for 1 s: the display will show the label "UnL".

4.3 Set the setpoint

Check that the keypad is not locked.

1. Touch the SET key.
2. Touch the UP or DOWN key within 15 s to set the value within the limits r1 and r2 (default "-50... 50°")
3. Touch the SET key (or do not operate for 15 s).

4.4 Activate manual defrost (if r5 = 0, default)

Check that the keypad is not locked and that overcooling is not active.

1. Touch the UP key for 2 s. If P3 = 1 (default), defrost is activated provided that the evaporator temperature is lower than the d2 threshold.

4.5 Cabinet light on/off (if u1 = 0, default)

1. Touch the ON/STAND-BY key.
 - if u1 = 1, the **demisting** switch on for the u6 duration.
 - if u1 = 2 and the keypad is not locked, the **button-operated load** switches on/off.

4.6 Silence buzzer

Touch a key. If u1 = 3 and u4 = 1, the alarm output switches off.

5 ADDITIONAL FUNCTIONS

5.1 Activate/deactivate overcooling, overheating and manual energy saving

Check that the keypad is not locked.

1. Touch the DOWN key.
- | FUNCTION | CONDITION | CONSEQUENCE |
|---------------|---------------------------------------|---|
| overcooling | r5 = 0, r8 = 1 and defrost not active | the setpoint becomes "setpoint - r6", for the r7 duration |
| overheating | r5 and r8 = 1 | the setpoint becomes "setpoint + r6", for the r7 duration |
| energy saving | r5 = 0 and r8 = 2 | the setpoint becomes "setpoint + r4", at maximum for HE2 duration |

5.2 View/delete compressor functioning hours and view comp. start-up number

Check that the keypad is not locked.

1. Touch the DOWN key for 4 s.
 2. Touch the UP or DOWN key within 15 s to select a label.
- | LAB. | DESCRIPTION |
|------|--|
| CH | view compressor functioning hours (hundreds) |
| rCH | delete compressor functioning hours |
| nS1 | compressor start-up number (thousands) |
3. Touch the SET key.
 4. Touch the UP or DOWN key to set "149" (when label "rCH" is selected).
 5. Touch the SET key.
 6. Touch the ON/STAND-BY key (or do not operate for 60 s) to exit the procedure.

5.3 View the temperature detected by the probes

Check that the keypad is not locked.

1. Touch the DOWN key for 4 s.
 2. Touch the UP or DOWN key within 15 s to select a label.
- | LAB. | DESCRIPTION |
|------|--|
| Pb1 | cabinet temperature (if P4 = 0, 1 or 2)
inlet air temperature (if P4 = 3) |
| Pb2 | evaporator temperature (if P3 = 1 or 2) |
| Pb3 | auxiliary temperature (if P4 = 1, 2 or 3) |
| Pb4 | calculated product temperature (CPT; if P4 = 3) |

3. Touch the SET key.
 4. Touch the ON/STAND-BY key (or do not operate for 60 s) to exit the procedure.
- 6 SETTINGS**
- 6.1 Setting configuration parameters**
1. Touch the SET key for 4 s: the display will show the label "PA".
 2. Touch the SET key.
 3. Touch the UP or DOWN key within 15 s to set the PAS value (default "-19").
 4. Touch the SET key (or do not operate for 15 s): the display will show the label "SP".
 5. Touch the UP or DOWN key to select a parameter.
 6. Touch the SET key.
 7. Touch the UP or DOWN key within 15 s to set the value.
 8. Touch the SET key (or do not operate for 15 s).
 9. Touch the SET key for 4 s (or do not operate for 60 s) to exit the procedure.

6.2 Set the date, time and day of the week

- N.B.
- do not disconnect the device from the mains within two minutes since the setting of the time and day of the week.
 - if you set the date, time and day of the week of a controller of the RS-485 network (also by the EPoCA remote monitoring system) this setting will automatically be updated in all the controllers of the network

Check that the keypad is not locked.

1. Touch the DOWN key for 4 s.
 2. Touch the UP or DOWN key within 15 s to select the label "rtc".
 3. Touch the SET key: the display will show the label "yy" followed by the last two figures of the year.
 4. Touch the UP or DOWN key within 15 s to set the year.
 5. Repeat actions 3. and 4. to set the next labels.
- | LAB. | DESCRIPTION OF THE NUMBERS FOLLOWING THE LABEL |
|------|--|
| n | month (01... 12) |
| d | day (01... 31) |
| h | time (00... 23) |
| n | minute (00... 59) |

6. Touch the SET key: the display will show the label for the day of the week.
 7. Touch the UP or DOWN key within 15 s to set the day of the week.
- | LAB. | DESCRIPTION |
|------|-------------|
| Mon | Monday |
| tuE | Tuesday |
| UEd | Wednesday |
| thu | Thursday |
| Fri | Friday |
| Sat | Saturday |
| Sun | Sunday |

8. Touch the SET key: the device will exit the procedure.
9. Touch the ON/STAND-BY key to exit the procedure beforehand.

6.3 Restore the factory settings (default) and store customized settings as default

- N.B.
- Check that the factory settings are appropriate: see the section *CONFIGURATION PARAMETERS*.
 - the storing of customized settings overwrites the default.

1. Touch the SET key for 4 s: the display will show the label "PA".
2. Touch the SET key.
3. Touch the UP or DOWN key within 15 s to set the value.

VAL.	DESCRIPTION
149	value to restore the factory settings (default)
161	value to store customized settings as default

4. Touch the SET key (or do not operate for 15 s): the display will show the label "DEF" (when value "149" is set) or the label "MAP" (when value "161" is set).
5. Touch the SET key.
6. Touch the UP or DOWN key within 15 s to set "4".
7. Touch the SET key (or do not operate for 15 s): the display will show for 4 s " - - - " flashing, then the device will exit the procedure.
8. Interrupt the power supply to the device.
9. Touch the SET key 2 s before action 6. to exit the procedure beforehand.

7 CONFIGURATION PARAMETERS

N.	PAR.	DEF.	SETPOINT	MIN... MAX.
1	SP	0.0	setpoint	r1... r2
N.	PAR.	DEF.	ANALOGUE INPUTS	
2	CA1	0.0	cabinet probe offset	-25... 25 °C/°F if P4 = 3, air in probe offset
3	CA2	0.0	evaporator probe offset	-25... 25 °C/°F
4	CA3	0.0	auxiliary probe offset	-25... 25 °C/°F
5	P0	1	probe type	0 = PTC 1 = NTC
6	P1	1	enable °C decimal point	0 = no 1 = yes
7	P2	0	temperature unit of measurement	0 = °C 1 = °F
8	P3	1	evaporator probe function	0 = disabled 1 = defrost + fan 2 = fan
9	P4	0	configurable input function	0 = digital input 1 = condenser probe 2 = critical temperature probe 3 = air out probe if P4 = 3, regulation temperature = product temperature (CPT)
10	P5	0	value displayed	0 = regulation temperature 1 = setpoint 2 = evaporator temperature 3 = auxiliary temperature 4 = air in temperature

