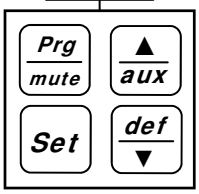
CAREL

**ir33 platform**

**Integrated Electronic Microprocessor Controller**




# *Programming The Instrument*

### *To Modify The Setpoint*

**Set** Press and hold the "SET" key for at least 1 second.

**▲ aux** **def ▼** 2. Use arrow keys ▲ ▼ on temperature controller to increase (or decrease) the setpoint.

**Set** 3. Quickly press and release the "SET" key again.

### *To Modify Defrost, Differential or Other Parameters*

**Prg mute** **Set** 1. Press & hold "Prg" & "SET" keys together for five (5) seconds; display will flash "0", representing password prompt.

**Set** 2. Confirm by pressing "SET" key.

**▲ aux** **def ▼** 3. Press ▲ or ▼ to reach the category to be modified.

**Set** 4. Press "SET" to modify this selected parameter.

**▲ aux** **def ▼** 5. Increase or decrease the value using the ▲ or ▼ button respectively.

**Set** 6. Press the "SET" key to temporarily save the new value and return to the display of the parameter.

**Prg mute** 7. Press & hold the "Prg" key for at least 5 seconds to save changes. This action will also mute the audible alarm (buzzer) & deactivate the alarm relay.

### *How To Change Reading From Fahrenheit (°F) To Celsius (°C)*

**Prg mute** **Set** 1. Press and hold "Prg" and "SET" keys together for at least 5 seconds; display will show "0", representing password prompt.

**Set** 2. Confirm by pressing "SET" key.

**▲ aux** **def ▼** 3. Press ▲ or ▼ until reaching the parameter "/ 5".

**Set** 4. Press "SET" to modify this selected parameter.

**▲ aux** **def ▼** 5. Press ▲ or ▼ to change value to desired setting: "0" for Celsius (°C) or "1" for Fahrenheit (°F).

**Set** 6. Press "SET" key to temporarily save the new value and return to the display of the parameter.

**Prg mute** 7. Press & hold "Prg" key for at least 5 seconds to save changes. ***Note! All values will automatically convert to new scale. No conversion is required.***

### *Warning! Save Your Parameter Settings!*

1. To store the new parameter values, PRESS and HOLD the "Prg" key for at least 5 seconds.
2. All modifications made to parameters will be lost if you do NOT press a button within 60 seconds. Should this "timeout" occur, normal operational settings (prior to modifications being made) will resume.
3. If the instrument is switched off before pressing the "Prg" key, all modifications to parameters will be lost.

**def ▼** ***To Activate Manual Defrost***

Press and hold the "def" key for at least 5 seconds.

**▲ aux** ***To Activate / Deactivate Auxiliary Output***

Press and hold the "aux" key for 1 second.

**Prg mute** **▲ aux** ***To Reset Any Alarms With Manual Reset***

Press and hold the "Prg" and "aux" key for at least 1 second.

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## User Interface - Display

| ICON | FUNCTION | DESCRIPTION | Normal operation ON | Normal operation OFF | Normal operation BLINK | Start up |
|---|---|---|---|---|---|---|
| | COMPRESSOR | ON when the compressor starts. Flashes when the activation of the compressor is delayed by safety times. | Compressor on | Compressor off | awaiting activation | |
| | FAN | ON when the fan starts.Flashes when the activation of the fan is prevented due to external disabling or procedures in progress. | Fan on | Fan off | awaiting activation | |
| | DEFROST | ON when the defrost is activated. Flashes when the activation of the defrost is prevented due to external disabling or procedures in progress. | Defrost in progress | Defrost not in progress | awaiting activation | |
| AUX | AUX | Flashes if the anti-sweat heater function is active, ON when the auxiliary output (1 and/or 2) selected as AUX (or LIGHT in firmware version 3.6) is activated. | AUX auxiliary output active(version 3.6 light auxiliary output active) | AUX auxiliary output not active | Anti-sweat heater function active | |
| | ALARM | ON following pre-activation of the delayed external digital input alarm. Flashes in the event of alarms during normal operation (e.g. high/low temperature) or in the event of alarms from an immediate or delayed external digital input. | Delayed external alarm (before the time 'A7' elapses) | No alarm present | Alarms in norm. operation (e.g. High/low temperature) or immediate or delayed alarm from external digital input | |
| | CLOCK | ON if at least one timed defrost has been set.At start-up, comes ON for a few seconds to indicate that the Real Time Clock is fitted. | If at least 1 timed defrost event has been set | No timed defrost event set | Alarm clock | ON if real-time clock present |
| | LIGHT | Flashes if the anti-sweat heater function is active, ON when the auxiliary output (1 and/or 2) selected as LIGHT is activated (in firmware version 3.6 it does not flash in anti-sweat heater mode and comes on when the dead band output is active). | Light auxiliary output on(version 3.6 dead band auxiliary output active) | Light auxiliary output off | Anti-sweat heater function active(version 3.6 does not flash in anti-sweat heater mode) | |
| | SERVICE | Flashes in the event of malfunctions, for example E2PROM errors or probe faults. | | No malfunction | Malfunction (e.g. E2PROM error or probe fault). Contact service | |
| | CONTINUOUS CYCLE | ON when the CONTINUOUS CYCLE function is activated. Flashes if the activation of the function is prevented due to external disabling or procedures in progress (E.g.: minimum compressor OFF time). | CONTINUOUS CYCLE operation activated | CONTINUOUS CYCLE function not activated | CONTINUOUS CYCLE operation requested | |

## Summary Table of Alarm and Signals: Display, Buzzer and Relay

| Code | Icon on the display | Alarm relay | Buzzer | Reset | Description |
|---|---|---|---|---|---|
| rE | flashing | on | on | automatic | virtual control probe fault |
| E0 | flashing | off | off | automatic | room probe S1 fault |
| E1 | flashing | off | off | automatic | defrost probe S2 fault |
| E2 | flashing | off | off | automatic | probe S3 fault |
| E3 | flashing | off | off | automatic | probe S4 fault |
| E4 | flashing | off | off | automatic | probe S5 fault |
| '___' | No | off | off | automatic | probe not enabled |
| LO | flashing | on | on | automatic | low temperature alarm |
| HI | flashing | on | on | automatic | high temperature alarm |
| AFr | flashing | on | on | manual | antifreeze alarm |
| IA | flashing | on | on | automatic | immediate alarm from external contact |
| dA | flashing | on | on | automatic | delayed alarm from external contact |
| dEF | on | off | off | automatic | defrost running |
| Ed1 | No | off | off | automatic/manual | defrost on evaporator 1 ended by timeout |
| Ed2 | No | off | off | automatic/manual | defrost on evaporator 2 ended by timeout |
| Pd | flashing | on | on | automatic/manual | maximum pump down time alarm |
| LP | flashing | on | on | automatic/manual | low pressure alarm |
| AtS | flashing | on | on | automatic/manual | autostart in pump down |
| cht | No | off | off | automatic/manual | high condenser temperature pre-alarm |
| CHT | flashing | on | on | manual | high condenser temperature alarm |
| dor | flashing | on | on | automatic | door open too long alarm |
| EE | flashing | off | off | automatic | E²prom error, unit parameters |
| EF | flashing | off | off | automatic | E²prom error, operating parameters |
| ccb | Signal | | | | start continuous cycle request |
| ccE | Signal | | | | end continuous cycle request |
| dFb | Signal | | | | start defrost call |
| dFE | Signal | | | | end defrost call |
| On | Signal | | | | switch ON |
| off | Signal | | | | switch OFF |
| rES | Signal | | | | reset alarms w/manual reset / reset HACCP alarms / reset temp. monitoring |

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## *Summary Table of Operating Parameters*

| CODE | PARAMETER | UOM* | TYPE | MINIMUM | MAXIMUM | DEFAULT |
|---|---|---|---|---|---|---|
| /5 | Select Celcius (°C) or Fahrenheit (°F) | flag | C | 0 | 1 | For Case Specific Defaults See Serial Label Located Near Electrical Access On Your Case.<br><br>For Additional Technical Information Call Structural Concepts Technical Service Dept. at 1(800) 433.9489 |
| /c1 | Calibration of probe 1 | °C/°F | C | -20 | 20 | |
| /c2 | Calibration of probe 2 | °C/°F | C | -20 | 20 | |
| St | Temperature set point | °C/°F | F | r2 | r1 | |
| rd | Control delta | °C/°F | F | 20 | 0.1 | |
| dI | Interval between defrosts | hours | F | 0 | 250 | |
| dt1 | End defrost temperature, evaporator | °C/°F | F | -50 | 200 | |
| dP1 | Maximum defrost duration, evaporator | min | F | 1 | 250 | |
| d6 | Display on hold during defrost | - | C | 0 | 2 | |
| dd | Dripping time after defrost | min | F | 0 | 15 | |
| d/1 | Display of defrost probe 1 | °C/°F | F | - | - | |

* Unit Of Measure

## Set Point (cut out temp)

PRESS & hold for 2 sec — Set — Set point value will be displayed

PRESS — ▲ aux or def ▼ — To display required Set Point

PRESS — Set — To confirm and save Set Point

(Or adjust parameter "St")

## HACCP Parameters

To view HACCP alarm details

PRESS — Set & def ▼ — *"HAn"* will be displayed (Follow normal prog steps to view parameters)

To clear HACCP alarm (HACCP Flashing with HA) when in HACCP Menu

PRESS & hold for 5 sec — Set & def ▼ — After 5 seconds *"rES"* will be displayed to indicate the alarm is reset

## Parameter Access

### "F" (frequent parameters)

PRESS & hold for 5 sec — Prg mute — *"St"* will be displayed

### "C" (configuration parameters)

PRESS & hold for 5 sec — Prg mute & Set — *"0"* will be displayed

PRESS — ▲ aux or def ▼ — To display *"22"* (This is the Password)

PRESS — Set — To confirm password entry

**See steps below for parameter modification**

## Parameter Modification

Once level "F" or "C" has been accessed

PRESS — ▲ aux or def ▼ — To display the parameter to be modified (eg rd = diff)

PRESS — Set — To display the value the parameter is set to

PRESS — ▲ aux or def ▼ — To adjust the value of of the parameter (eg rd = 2.0)

PRESS — Set — To display code of the parameter modified eg rd

***Repeat above steps until all required parameters have been programmed***

PRESS & hold for **5 sec** — Prg mute — This is **IMPORTANT.** Without this step your parameters will not be saved!

## Block Level Access

Block programming access allows the user to scroll between menu blocks rather than scrolling through the complete parameter list

Once level "F" or "C" has been accessed and a parameter code is displayed,

PRESS for 1 sec — Prg mute — To display block code eg Pro for Probes, dEF for defrost

PRESS — ▲ aux or def ▼ — To display the next block code (eg FAn for fan)

PRESS — Set

*Follow these steps to adjust individual parameters*

PRESS (At any time to go back to block programming and repeat above) — Prg mute — **IMPORTANT:** Press and hold **PRG** for **5 sec** wher programming is completec


**For technical support contact CAREL Australia Pty Ltd**

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Technical literature can be downloaded from www.carel.com.au


# CAREL IR33 Summary of operating parameters (v1.131 up)

| Code | Block | Parameter | Model | Unit | Type | Min. | Max. | Def. | New |
|---|---|---|---|---|---|---|---|---|---|
| /2 | Pro | Measurement stability | MSC | - | C | 1 | 15 | 4 | |
| /3 | Pro | Probe display speed | MSC | - | C | 0 | 15 | 0 | |
| /4 | Pro | Virtual probe | MSC | - | C | 0 | 100 | 0 | |
| /5 | Pro | Select °C or °F (0 = °C ) | MSC | flag | C | 0 | 1 | 0 | |
| /6 | Pro | Decimal point (0 = decimal point) | MSC | flag | C | 0 | 1 | 0 | |
| /tI | Pro | Sensor shown on controller display (1= Control sen) | MSC | - | C | 1 | 7 | 1 | |
| /tE | Pro | Sensor shown on remote display | MSC | - | C | 0 | 6 | 0 | |
| /P | Pro | Type of probe (0= standard Carel NTC) | MSC | - | C | 0 | 2 | 0 | |
| /A2 | Pro | Probe 2 configuration (eg 2=evap,3=cond) | MSC | - | C | 0 | 4 | 2 | |
| | | | -S-- | - | C | 0 | 4 | 0 | |
| /A3 | Pro | Probe 3 configuration (eg 2=evap,3=cond) | MSC | - | C | 0 | 4 | 0 | |
| /A4 | Pro | Probe 4 configuration(eg 0=absent,2=evap,3=cond) | MSC | - | C | 0 | 4 | 0 | |
| /c1 | Pro | Calibration of probe 1 | MSC | °C/°F | C | -20 | 20 | 0.0 | |
| /c2-4 | Pro | Calibration of probe 2-3-4 /c2=probe 2, /c3=probe 3 | MSC | °C/°F | C | -20 | 20 | 0.0 | |
| **St** | **Ctl** | **Temperature set point** | **MSC** | **°C/°F** | **F** | **r1** | **r2** | **0.0** | |
| **rd** | **Ctl** | **Controller differential** | **-SC** | **°C/°F** | **F** | **0.1** | **20** | **2.0** | |
| rn | Ctl | Dead Zone (when used 1 Heat 1 Cool) | -SC | °C/°F | C | 0 | 60 | 4 | |
| rr | Ctl | Reverse (heat) diff in dead zone control | -SC | °C/°F | C | 0.1 | 20 | 2 | |
| r1 | Ctl | Minimum Set Point allowed | MSC | °C/°F | C | -50 | r2 | -50 | |
| r2 | Ctl | Maximum Set Point allowed | MSC | °C/°F | C | r1 | 200 | 60 | |
| **r3** | **Ctl** | **Mode 0=cool with defrost,1=cool only, 2=heating** | **-SC** | **flag** | **C** | **0** | **2** | **0** | |
| r4 | Ctl | Value to alter Set Point by from Digital Input | MSC | °C/°F | C | -20 | 20 | 3.0 | |
| r5 | Ctl | Enable temperature monitoring | MSC | flag | C | 0 | 1 | 0 | |
| rt | Ctl | Temperature monitoring interval | MSC | hours | F | 0 | 999 | - | |
| rH | Ctl | Max temperature recorded during period rt | MSC | °C/°F | F | - | - | - | |
| rL | Ctl | Min temperature recorded during period rt | MSC | °C/°F | F | - | - | - | |
| c0 | CnP | Comp. and fan start delay at power up | -SC | min | C | 0 | 15 | 0 | |
| c1 | CnP | Minimum time between 2 comp starts | -SC | min | C | 0 | 15 | 0 | |
| c2 | CnP | Minimum compressor OFF time | -SC | min | C | 0 | 15 | 0 | |
| c3 | CnP | Minimum compressor ON time | -SC | min | C | 0 | 15 | 0 | |
| c4 | CnP | Duty setting | -SC | min | C | 0 | 100 | 0 | |
| cc | CnP | Duration of continuous cycle | -SC | hours | C | 0 | 15 | 0 | |
| c6 | CnP | Alarm bypass after continuous cycle | -SC | hours | C | 0 | 15 | 2 | |
| c7 | CnP | Maximum Pump-Down (PD) time | -SC | sec | C | 0 | 900 | 0 | |
| c8 | CnP | Comp. start delay after opening Pump Down valve | -SC | sec | C | 0 | 60 | 5 | |
| c9 | CnP | Enable autostart with Pump Down operation | -SC | flag | C | 0 | 1 | 0 | |
| c10 | CnP | Select Pump-Down by time or pressure switch | -SC | flag | C | 0 | 1 | 0 | |
| c11 | CnP | Second compressor start delay | -SC | s | C | 0 | 250 | 4 | |
| **d0** | **dEF** | **Defrost type (0 = elec / temp,1 = H.Gas / temp** | **-SC** | **flag** | **C** | **0** | **4** | **0** | |
| | | **2 = elec / time, 3 = hot gas / time.....)** | | | | | | | |
| **dI** | **dEF** | **Interval between defrosts (if not using real time)** | **-SC** | **hours** | **F** | **0** | **250** | **8** | |
| **dt1** | **dEF** | **End defrost temperature, (if d0 = 0 or 1)** | **-SC** | **°C/°F** | **F** | **-50** | **200** | **4.0** | |
| dt2 | dEF | End defrost temperature, aux evap (if selected) | -SC | °C/°F | F | -50 | 200 | 4.0 | |
| **dP1** | **dEF** | **Maximum defrost duration** | **-SC** | **min** | **F** | **1** | **250** | **30** | |
| dP2 | dEF | Maximum defrost duration, aux evap. | -SC | min | F | 1 | 250 | 30 | |
| d3 | dEF | Defrost- delay starting defrost after stopping comp | -SC | min | C | 0 | 250 | 0 | |
| d4 | dEF | Defrost at power up (0 = no, 1 = yes) | -SC | flag | C | 0 | 1 | 0 | |

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# IR33 Summary of operating parameters (v1.131) page 2

| Code | Block | Parameter | Model | Unit | Type | Min. | Max. | Def. | New |
|---|---|---|---|---|---|---|---|---|---|
| d5 | dEF | Defrost delay at power up (if d4=1) | -SC | min | C | 0 | 250 | 0 | |
| d6 | dEF | Display during def.(0=dF (flash),1=locked,2=dEF) | -SC | - | C | 0 | 2 | 1 | |
| dd | dEF | Dripping time after defrost | -SC | min | F | 0 | 15 | 2 | |
| d8 | dEF | Bypass alarms after defrost | -SC | hours | F | 0 | 15 | 1 | |
| d9 | dEF | Defrost priority over compressor protection | -SC | flag | C | 0 | 1 | 0 | |
| d/1/d/2 | dEF | Display defrost probe temp d/1=def P1,d/2=def P2) | MSC | °C/°F | F | - | - | - | |
| dC | dEF | Time basis for defrost (0=hr/min, 1=min/sec) | -SC | flag | C | 0 | 1 | 0 | |
| d10 | dEF | Compressor run time for demand defrost | -SC | min | C | 0 | 250 | 0 | |
| d11 | dEF | Comp. run time temp set for demand defrost | -SC | °C/°F | C | -20 | 20 | 1.0 | |
| d12 | dEF | Advanced defrost enable | -SC | - | C | 0 | 3 | 0 | |
| dn | dEF | Nominal defrost duration (smart defrost) | -SC | - | C | 1 | 100 | 65 | |
| dH | dEF | Proportional factor for variation in 'dI' (smart DF) | -SC | - | C | 0 | 100 | 50 | |
| A0 | ALn | Alarm and fan differential | MSC | °C/°F | C | 0.1 | 20 | 2.0 | |
| A1 | ALn | Type of alarm for AL and AH (0=rel. 1=absolute) | MSC | flag | C | 0 | 1 | 0 | |
| **AL** | **ALn** | **Low alarm temp (see A1 for absol. or relative)** | **MSC** | **°C/°F** | **F** | **-50** | **200** | **0.0** | |
| **AH** | **ALn** | **High alarm temp (see A1 for absol. or relative)** | **MSC** | **°C/°F** | **F** | **-50** | **200** | **0.0** | |
| **Ad** | **ALn** | **Low and high temperature alarm delay** | **MSC** | **min** | **F** | **0** | **250** | **120** | |
| A4 | ALn | Configuration of digital input 1 | -SC | - | C | 0 | 15 | 0 | |
| A5 | ALn | Configuration of digital input 2 | MSC | - | C | 0 | 15 | 0 | |
| A6 | ALn | Duty setting for comp from digital in alarm | -SC | min | C | 0 | 100 | 0 | |
| A7 | ALn | External alarm delay if using digital input | -SC | min | C | 0 | 250 | 0 | |
| A8 | ALn | Enable alarms 'Ed1' and 'Ed2' (defrost end on time) | -SC | flag | C | 0 | 1 | 0 | |
| Ado | ALn | Door switch light management mode | MSC | flag | C | 0 | 1 | 0 | |
| Ac | ALn | High condenser temperature alarm set point | -SC | °C/°F | C | 0.0 | 200 | 70.0 | |
| AE | ALn | High cond. temp. alarm differential | -SC | °C/°F | C | 0.1 | 20 | 10.0 | |
| Acd | ALn | High cond. temp. alarm delay | -SC | min | C | 0 | 250 | 0 | |
| AF | ALn | Light sensor off time | -SC | s | C | 0 | 250 | 0 | |
| ALF | ALn | Antifreeze alarm set point | MSC | °C/°F | C | -50 | 200 | -5 | |
| AdF | ALn | Antifreeze alarm delay | MSC | min | C | 0 | 15 | 1 | |
| F0 | Fan | Fan management (0=according to F2,F3,Fd | ---C | flag | C | 0 | 2 | 0 | |
| | | 1 = amb - evap, 2 = evap temp (St + F1) | | | | | | | |
| F1 | Fan | Fan start temperature | ---C | °C/°F | F | -50 | 200 | 5.0 | |
| **F2** | **Fan** | **Fans cycle with comp (0=no, 1=yes)** | **---C** | **flag** | **C** | **0** | **1** | **1** | |
| **F3** | **Fan** | **Fans in defrost (0 = on, 1 = off)** | **---C** | **flag** | **C** | **0** | **1** | **1** | |
| F4 | Fan | Condenser fan off temperature | MSC | °C/°F | C | -50 | 200 | 40.0 | |
| F5 | Fan | Condenser fan differential | MSC | °C/°F | C | 0.1 | 20 | 5.0 | |
| **Fd** | **Fan** | **Fans delay after dripping** | **---C** | **min** | **F** | **0** | **15** | **1** | |
| H0 | CnF | Serial address | MSC | - | C | 0 | 207 | 1 | |
| H1 | CnF | Function of relay 4 (0,1=alarm,2=aux,3=light..) | MSC | flag | C | 0 | 11 | 1 | |
| H2 | CnF | Keypad and IR locking | MSC | flag | C | 1 | 6 | 1 | |
| H3 | CnF | Remote control enabling code | MSC | - | C | 0 | 255 | 0 | |
| H4 | CnF | Disable buzzer (0=enabled, 1 = disabled) | MSC | flag | C | 0 | 1 | 0 | |
| H5 | CnF | Function of relay 5 (IR33DIN & PowerCompact) | MSC | flag | C | 0 | 11 | 1 | |
| H6 | CnF | Buttons to lock when keypad locked | MSC | - | C | 0 | 255 | 0 | |
| H8 | CnF | Select output to activate with time band | MSC | flag | C | 0 | 1 | 0 | |
| HPr | CnF | Print profile | MSC | - | C | 0 | 15 | 0 | |
| H9 | CnF | Enable set point change with time | MSC | flag | C | 0 | 1 | 0 | |
| Hdn | CnF | Number of default paramater sets | MSC | flag | C | 0 | 6 | 0 | |

| Code | Block | Parameter | Model | Unit | Type | Min. | Max. | Def. | New |
|---|---|---|---|---|---|---|---|---|---|
| Hdh | CnF | Anti-sweat heater control offset | MSC | °C/°F | C | -50 | 200 | 0 | |
| HrL | CnF | Enable remote ind. of light status | MSC | flag | C | 0 | 1 | 0 | |
| HrA | CnF | Enable remote ind. of aux status | MSC | flag | C | 0 | 1 | 0 | |
| HsA | CnF | Enable alarms on network devices | MSC | flag | C | 0 | 1 | 0 | |
| In | CnF | Standard control or master or slave | MSC | flag | C | 0 | 6 | 0 | |
| HAn/HFn | HcP | Number of events HA/HF occurred | MSC | - | C | 0 | 15 | - | |
| HA/HF | HcP | Date/time of most recent HA/HF | MSC | - | C | - | - | - | |
| y__ | HcP | Year | **** | years | * | 0 | 99 | - | |
| M__ | HcP | Month | **** | months | * | 1 | 12 | - | |
| d__ | HcP | Day | **** | days | * | 1 | 7 | - | |
| h__ | HcP | Hour | **** | hours | * | 0 | 23 | - | |
| n__ | HcP | Minute | **** | min | * | 0 | 59 | - | |
| t__ | HcP | Duration | **** | hours | * | 0 | 99 | - | |
| Htd | HcP | HACCP alarm delay | MSC | min | C | 0 | 250 | 0 | |
| td1-td8 | rtc | Defrost time band 1/8 | -SC | - | C | - | - | - | |
| d__ | rtc | Day | **** | days | * | 0 | 11 | 0 | |
| h__ | rtc | Hour | **** | hours | * | 0 | 23 | 0 | |
| n__ | rtc | Minute | **** | min | * | 0 | 59 | 0 | |
| ton | rtc | Light/aux ON time setting | -SC | - | C | - | - | - | |
| d__ | rtc | Day | **** | days | * | 0 | 11 | 0 | |
| h__ | rtc | Hour | **** | hours | * | 0 | 23 | 0 | |
| n__ | rtc | Minute | **** | min. | * | 0 | 59 | 0 | |
| tof | rtc | Light/aux OFF time setting | -SC | - | C | - | - | - | |
| d__ | rtc | Day | **** | days | * | 0 | 11 | 0 | |
| h__ | rtc | Hour | **** | hours | * | 0 | 23 | 0 | |
| n__ | rtc | Minute | **** | min. | * | 0 | 59 | 0 | |
| tc | rtc | RTC date/time setting | MSC | - | C | - | - | - | |
| y__ | rtc | Years | **** | years | 0 | 0 | 99 | 00 | |
| M__ | rtc | Month | **** | months | 1 | 1 | 12 | 1 | |
| d__ | rtc | Day of the month | **** | days | 1 | 1 | 31 | 1 | |
| u__ | rtc | Day of the week | **** | days | 6 | 1 | 7 | 6 | |
| h__ | rtc | Hour | **** | hours | 0 | 0 | 23 | 0 | |
| n__ | rtc | Minute | **** | min | 0 | 0 | 59 | 0 | |

| Code | Icon on the display | Alarm relay | Buzzer | Reset | Description |
|---|---|---|---|---|---|
| 'rE' | flashing | active | active | automatic | virtual control probe fault |
| 'E0' | flashing | OFF | OFF | automatic | room probe S1 fault |
| 'E1' | flashing | OFF | OFF | automatic | defrost probe S2 fault |
| 'E2' | flashing | OFF | OFF | automatic | probe S3 fault |
| 'E3' | flashing | OFF | OFF | automatic | probe S4 fault |
| '___' | no | OFF | OFF | automatic | probe not enabled |
| 'LO' | flashing | active | active | automatic | low temperature alarm |
| 'HI' | flashing | active | active | automatic | high temperature alarm |
| 'IA' | flashing | active | active | automatic contact | immediate alarm from external |
| 'dA' | flashing | active | active | automatic | delayed alarm from external contact |

# *ir33:* - Regolatore elettronico per unità frigorifere stand-alone*/Elettronic controller for stand-alone refrigeration units*

CAREL

*Modelli/Models IR33(M,S,Y,F,C)(0,7)(0,L,H,E,A)(N,R,C,B,A,M,L,T)(0,1,2,3,5)0*
*Modelli relè 16A/Models relay 16A IR33(S,Y)(0,7)(E,A)(P,Q,S,U,V,X;Y,Z)(0,1,2,3,5)0*

**LEGGI E CONSERVA QUESTE ISTRUZIONI**
**READ AND SAVE THESE INSTRUCTIONS**

ITA

| | Modello | Tensione | Potenza |
|---|---|---|---|
| Alimentazione | IRxxxxExxxx | 230 V~, 50/60 Hz | 3 VA, 25 mA~ max. |
| | IRxxxxAxxxx | 115 V~, 50/60 Hz | 3 VA, 50 mA~ max. |
| | IRxxxxHxxxx | 115...230 V~, 50/60 Hz | 6 VA, 50 mA~ max. |
| | IRxxxxLxxxx | 12...24 V~, 50/60 Hz, 12...30 Vdc | 3 VA, 300 mA~ /mAdc max. |
| | IRxxxx0xxxx | 12 V~, 50/60 Hz, 12...18 Vdc | Utilizzare esclusivamente alim. tipo SELV |
| Isolamento garantito dall'alimentazione | IRxxxxExxxx IRxxxxAxxxx IRxxxxHxxxx | isolamento rispetto alla bassissima tensione | rinforzato 6 mm in aria, 8 superficiali 3750 V isolamento |
| | | isolamento rispetto alle uscite relè | principale 3 mm in aria, 4 superficiali 1250 V isolamento |
| IRxxxxLxxxx | | isolamento rispetto alla bassissima tensione | da garantire esternamente con trasformatore di sicurezza (SELV) |
| | IRxxxx0xxxx | isolamento rispetto alle uscite relè | rinforzato 6 mm in aria, 8 superficiali 3750 V isolamento |

| | | | | |
|---|---|---|---|---|
| Ingressi | S1 (sonda 1) | NTC (IRxxx0xxxxx) o NTC e PTC (IRxxx7xxxxx) | | |
| | S2 (sonda 2) | NTC (IRxxx0xxxxx) o NTC e PTC (IRxxx7xxxxx) | | |
| | DI1 | contatto pulito, resistenza contatto < 10 Ω, corrente di chiusura 6 mA | | |
| | S3 (sonda 3) | NTC (IRxxx0xxxxx) o NTC e PTC (IRxxx7xxxxx) | | |
| | DI2 | contatto pulito, resistenza contatto < 10 Ω, corrente di chiusura 6 mA | | |
| | S4 (sonda 4) | NTC (IRxxx0xxxxx) o NTC e PTC (IRxxx7xxxxx) | | |
| | Distanza massima sonde ed ingressi digitali minore di 10 m | | | |
| | **Nota:** nell'installazione tenere separati i collegamenti di alimentazione e dei carichi dai cavi delle sonde, ingressi digitali, display ripetitore e supervisore. | | | |
| Tipo sonda | NTC std. CAREL | 10 kΩ a 25 °C, range da –50T90 °C | | |
| | | errore di misura: | 1 °C nel range da –50T50 °C | |
| | | | 3 °C nel range da –50T90 °C | |
| | NTC alta temperatura | 50 kΩ a 25 °C, range da –40T150 °C | | |
| | | errore di misura: | 1,5 °C nel range da –20T115 °C | |
| | | | 4 °C nel range esterno a -20T115 °C | |
| | PTC std. CAREL (modello specifico) | 985 Ω a 25 °C, range da -50T150 °C | | |
| | | errore di misura | 2 °C nel range da –50T50 °C | |
| | | | 4 °C nel range da –50T150 °C | |

Uscite relè — a seconda del modello

| modello | relè | EN60730-1 250 V~ | EN60730-1 cicli di manovra | UL 873 250 V~ | UL 873 cicli di manovra |
|---|---|---|---|---|---|
| IRxxxx(E,A) (P,Q,S,U,V,X,Y,Z)xxx | R2 (*) | 5 (1)A | 100000 | 5 A resistivi 1 FLA 6 LRA C 300 | 30000 |
| IRxxxx(E,A) (N,R,C,B,A,M,L,T)xxx | R3 (*) | 5 (1)A | 100000 | 5 A resistivi 1FLA 6LRA C300 | 30000 |
| IRxxxx(E,A) (N,R,C,B,A,M,L,T)xxx IRxxxx(0,L,H) (N,R,C,B,A,M,L,T)xxx | R1, R2 R2,R3, R4 (*) | 8 (4)A N.O. 6 (4)A N.C. 2 (2)A N.O./N.C. | 100000 | 8 A resistivi 2 FLA 12 LRA C 300 | 30000 |
| IRxxxx(E,A) (P,Q,S,U,V,X,Y,Z)xxx IRxxxx(0,L,H) (N,R,C,B,A,M,L,T)xxx | R1 R1(*) | 12 (2)A N.O./N.C. | 100000 | 12 A resistivi 5 FLA 30 LRA C 300 | 30000 |
| isolamento rispetto la bassissima tensione | | rinforzato: 6 mm in aria, 8 superficiali 3750 V isolamento | | | |
| isolamento tra le uscite relè indipendenti | | principale: 3 mm in aria, 4 superficiali 1250 V isolamento | | | |

| | |
|---|---|
| Uscite SSR | Tensione max di uscita:12 Vdc, Resistenza di uscita: 600 Ω, Corrente di uscita max: 20 mA |

(*): Relè non adatti per carichi fluorescenti (neon,…) che utilizzino starter (ballast) con condensatori di rifasamento. Lampade fluorescenti con dispositivi di controllo elettronici o senza condensatore di rifasamento possono essere utilizzate, compatibilmente con i limiti di funzionamento specificati per ogni tipo di relè.

| Connessioni | Tipo connessione | | | | Sezioni | Corrente max |
|---|---|---|---|---|---|---|
| | Modello | Relè | alimentaz. | sonde | per cavi da 0,5 a 2,5 mm² | 12 A |
| | IRxxxxxx0xx | vite | vite | vite estraibili | | |
| | IRxxxx(E,A)x1xx | faston | faston | estraibili | | |
| | IRxxxxxx2xx | estraibili | estraibili | estraibili | | |
| | IRxxxx(E,A)x3xx | faston | faston | vite | | |
| | IRxxxx(E,A)x5xx | vite verticali | vite verticali | vite verticali | | |

il corretto dimensionamento dei cavi di alimentazione e di collegamento tra lo strumento e i carichi è a cura dell'installatore. A seconda del modello la massima corrente nei morsetti comuni 1,3 o 5 è di 12 A.
Nel caso di utilizzo del controllo alla massima temperatura di funzionamento e a pieno carico, utilizzare cavi con temp. max. di funzionamento di almeno 105 °C.

| | | | | |
|---|---|---|---|---|
| Contenitore | plastico | IRxxxx(E,A)xxxx | dimensioni | 34,4 x 76,2 x 65 mm |
| | | IRxxxx(0,L,H)xxxx | | 34,4 x 76,2 x 79 mm |
| | | IRxxxx(E,A)xxxx | profondità di incasso | 56,5 mm |
| | | IRxxxx(0,L,H)xxxx | | 70,5 mm |
| Montaggio a fine corsa | a pannello liscio, rigido e indeformabile mediante staffe di fissaggio laterali, da pressare fino | | | |
| | dima di foratura | dimensioni 28,8 ± 0,2 x 70,8 ± 0,2 mm | | |
| Display | cifre | 3 digit LED | | |
| | visualizzazione | da –99 a 999 | | |
| | stati di funzionamento | indicati con icone grafiche sul display | | |

| | |
|---|---|
| Tastiera | 4 tasti in gomma siliconica |
| Nessuna opzione | IRxxxxx(N,P)xxx |
| Ricevitore infrarossi | IRxxxxx(R,B,M,T,Q,U,X,Z)xxx |
| Orologio con batteria tampone | IRxxxxx(C,B,L,T,S,U,Y,Z)xxx |
| Relè allarme o ausiliario | IRxxxxx(A,M,L,T,V,X,Y,Z)xxx |
| Personalizzaz. param. e firmware | IRccxxxxxnx; cc identificazione ciente; n progressivo personalizzazione |
| Imballo | IRxxxxxxxx; blank imballo singolo; 1 o 5 imballo multiplo; k imballo kit con sonde |
| Buzzer | disponibile in tutti i modelli |

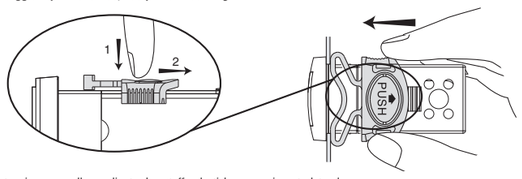
| Orologio | | |
|---|---|---|
| | errore a 25 °C | ±10 ppm (±5,3 min/anno) |
| | errore nel range di temperatura -10T60 °C | -50 ppm (-27 min/anno) |
| | invecchiamento | < ±5 ppm (±2,7 min/anno) |
| | tempo di scarica | 6 mesi tipico (8 mesi max) |
| | tempo di ricarica | 5 ore tipico (< di 8 ore max) |

| | |
|---|---|
| Temperatura di funzionamento | -10T60 °C per tutte le versioni |
| Umidità di funzionamento | <90% U.R. non condensante |
| Temperatura di immagazzinamento | -20T70 °C |
| Umidità di immagazzinamento | <90% U.R. non condensante |
| Grado di protezione frontale | montaggio a pann. liscio e indeform. con guarniz. IP65 |
| Grado di inquinamento ambientale | 2 (situazione normale) |
| PTI dei materiali di isolamento | circuiti stampati 250 plastica e materiali isolanti 175 |
| Periodo delle sollecitazioni elettriche delle parti isolanti | lungo |
| Categoria di resistenza al calore e al fuoco | categoria D e categoria B (UL 94-V0) |
| Classe di protezione contro le sovratensione | categoria II |
| Tipo di azione e disconnessione | contatti relè 1.B (microdisconnessione) |
| Costruzione del dispositivo di comando | incorporato, elettronico |
| Classificazione secondo la protezione contro le scosse elettriche | Classe II, per mezzo di appropriata incorporazione |
| Dispositivo destinato ad essere tenuto in mano o incorporato in apparecchiatura destinata ad essere tenuta in mano | no |
| Classe e struttura del software | classe A |
| Pulizia frontale dello strumento | utilizzare esclusivamente detergenti neutri e acqua |
| Interfaccia seriale per rete CAREL | esterna, disponibile in tutti i modelli |
| Interfaccia per display ripetitore | esterna, disponibile in IRxxxx(0,L,H)xxxx |
| Massima distanza tra interfaccia e display | 10 m |
| Chiave di programmazione | disponibile in tutti i modelli |

La gamma IR33 equipaggiata con sonda modello NTC standard CAREL, risulta conforme alla norma EN 13485 relativa ai termometri per la misurazione della temperatura dell'aria per applicazioni su unità di conservazione e di distribuzione di alimenti refrigerati, congelati, surgelati e dei gelati. Designazione dello strumento: EN13485, aria, S, A, 1,- 50T90°C. La sonda NTC standard CAREL è identificabile per il codice stampato laser nei modelli "WP", o per la sigla "103AT-11" nei modelli "HP", entrambi visibili nella parte sensore.

**Normative di sicurezza:** conforme alle normative europee in materia.
**Precauzioni d'installazione:**
- i cavi di collegamento devono garantire l'isolamento fino a 90 °C; e, se necessario, fino a 105 °C
- bloccare adeguatamente i cavi di connessione delle uscite per evitare contatti con componenti in bassissima tensione.

**Montaggio a pannello ir33/*ir33 panel mounting:***




Montaggio a pannello mediante due staffe plastiche a scorrimento laterale
*Panel mounting by two lateral sliding plastic brackets* Fig. 1

**Connessioni opzionali/*Optional connections:***

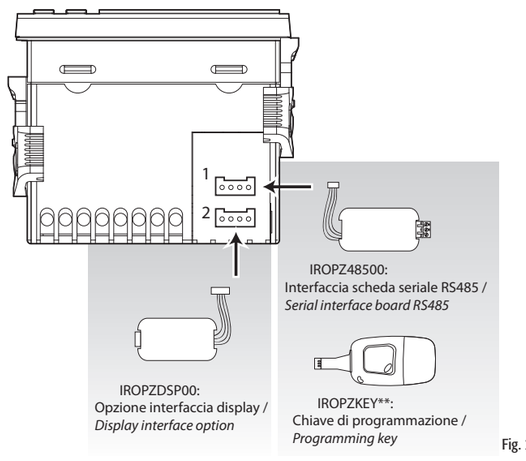



Fig. 2

**Dimensioni (mm) /*Dimensions (mm)***

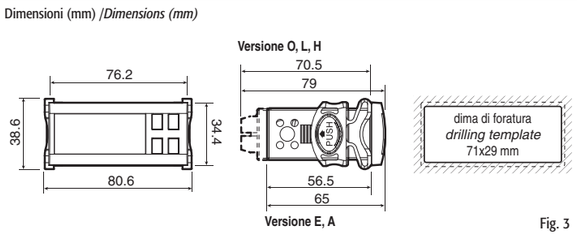



Fig. 3

## Segnalazioni sul display

Lo stato di lampeggio indica una richiesta di attuazione non eseguibile fino allo scadere delle temporizzazioni che la ritardano.

| Icona | Funzione | Normale funzionamento ON | OFF | Lampeggiante | Startup |
|---|---|---|---|---|---|
| | COMPRESS. | compressore acceso | compress. spento | compress. richiesto | |
| | VENTILATORE | ventilatore acceso | ventilatore spento | ventilatore richiesto | |
| | SBRINAMENTO | sbrinam. in atto | sbrinam. non richiesto | sbrinamento richiesto | |
| AUX | AUX | uscita ausiliaria AUX attiva | uscita ausiliaria AUX non attiva | attiva funzione anti-sweat heater | |
| ! | ALLARME | allarme esterno ritardato (prima dello scadere del tempo 'A7') | nessun allarme presente | allarmi in funz. norm. (es. alta/bassa temp.) o allarme da ingresso digitale esterno immediato o ritardato | |
| | OROLOGIO | se è stato impostato almeno uno sbrinam. temporizzato | non è presente alcuno sbrinamento temporizzato | allarme orologio | ON se Real-Time Clock presen. |
| | LUCE | uscita ausiliaria LUCE attiva | uscita ausiliaria LUCE non attiva | attiva funzione anti-sweat heater | |
| | ASSISTENZA | | nessun malfunzionam. | malfunzionam. (es. errore EEPROM o sonde guaste) | |
| HACCP | HACCP | funzione non abilitata | funzione abilitata (HA e/o HF) | allarme HACCP memorizzato | |
| | CICLO CONT. | funzione attivata | funzione non attivata | funzione richiesta | |

Tab. 1

## Pulsanti sulla tastiera

| Tasto | Pressione del singolo tasto | Pressione combinata ad altri tasti | Start-up: | Assegnazione autom. indirizzo |
|---|---|---|---|---|
| *Prg* / *mute* | • se premuto per più di 5 s, dà accesso al menu di impostazione dei parametri di tipo "F" (Frequenti)<br>• **in caso d' allarme:** tacita l'allarme acustico (buzzer) e disattiva il relè d'allarme | • se premuto per più di 5 s insieme al tasto **SET**, dà accesso al menu di impostazione dei parametri di tipo "C" (Configurazione) o al download dei parametri<br>• se premuto per più di 5 s insieme al tasto **UP/AUX** resetta gli eventuali allarmi a ripristino manuale default seriale | se premuto per più di 5 s allo start-up, attiva la procedura impostazione parametri | se premuto per più di 1 s entra nella procedura di assegnazione automatica dell'indirizzo |
| ▲ *aux* | se premuto per più di 1 s, attiva/disattiva l'uscita ausiliaria. | • se premuto per più di 5 s con il tasto **DOWN/DEF**, attiva/disattiva il funzionamento a ciclo continuo.<br>• se premuto per più di 5 s con il tasto **SET**, attiva la procedura di stampa del report (funzione disponibile ma gestione da implementare)<br>• se premuto per più di 5 s con il tasto **PRG/MUTE**, resetta gli eventuali allarmi a ripristino manuale. | | |
| ▼ *def* | se premuto per più di 5 s, attiva/disattiva uno sbrinamento manuale | • se premuto per più di 5 s con il tasto **UP/AUX**, attiva/disattiva il funzionamento a ciclo continuo.<br>• se premuto per più di 1 s con il tasto **SET,** visualizza sul display, un sottomenu con i parametri allarme HACCP (HA, HAn, HF, HFn). | | |
| ***Set*** | se premuto per più di 1 s, visualizza e/o imposta il set point | • se premuto per più di 5 s con il tasto **PRG/MUTE**, dà accesso al menu di impostazione dei parametri di tipo "C" (Configurazione) o al download dei parametri<br>• se premuto per più di 1 s con il tasto **DOWN/DEF**, visualizza sul display, un sottomenu con i param. allarme HACCP (HA, HAn, HF, HFn)<br>• se premuto per più di 5 s con il tasto **UP/AUX**, attiva la procedura di stampa del report (funzione disponibile ma gestione da implementare) | | |

Tab. 2

## Riepilogo parametri di funzionamento (U.M.= Unità di misura; Def.= Valore di fabbrica)

| Simbolo | Cod. | Parametro | Modelli | U.M. | Tipo | Min | Max | Def. |
|---|---|---|---|---|---|---|---|---|
| | Pw | Password | MSYF | - | C | 0 | 200 | 22 |
| | /2 | Stabilità misura | MSYF | - | C | 1 | 15 | 4 |
| | /3 | Rallentamento visualizzazione sonda | MSYF | - | C | 0 | 15 | 0 |
| | /4 | Sonda virtuale | MSYF | - | C | 0 | 100 | 0 |
| | /5 | Selezione °C o°F<br>0:°C<br>1.°F | MSYF | flag | C | 0 | 1 | 0 |
| | /6 | Visualizzazione punto decimale<br>0: con decimo di grado<br>1: senza decimo di grado | MSYF | flag | C | 0 | 1 | 0 |
| | /tI | Visualizzazione su terminale interno<br>1: sonda virtuale<br>2: sonda 1<br>3: sonda 2<br>4: sonda 3<br>5: sonda 4<br>6: sonda 5<br>7: set point | MSYF | - | C | 1 | 7 | 1 |
| | /tE | Visualizzazione su terminale esterno<br>terminale remoto non presente<br>1: sonda virtuale<br>2: sonda 1<br>3: sonda 2<br>4: sonda 3<br>5: sonda 4<br>6: sonda 5 | MSYF | - | C | 0 | 6 | 0 |
| | /P | Selezione tipo di sonda<br>0: NTC standard con range -50T90 °C<br>1: NTC enhanced con range -40T150 °C<br>2: PTC standard con range -50T150 °C | MSYF | - | C | 0 | 2 | 0 |
| | /A2 | Configurazione sonda 2 (S2)<br>0: Sonda assente<br>1: Sonda prodotto (solo visualizzazione)<br>2: Sonda sbrinamento<br>3: Sonda condensazione<br>4: Sonda antifreeze | YF<br>MS | -<br>- | C<br>C | 0<br>0 | 4<br>4 | 2<br>0 |
| | /A3 | Configurazione sonda 3 (S3/ DI1)<br>Come /A2 | MSYF | - | C | 0 | 4 | 0 |
| | /A4 | Configurazione sonda 4 (S4/ DI2)<br>Come /A2 | MSYF | - | C | 0 | 4 | 0 |
| | /c1 | Calibrazione sonda 1 | MSYF | °C/°F | C | -20 | 20 | 0.0 |
| | /c2 | Calibrazione sonda 2 | MSYF | °C/°F | C | -20 | 20 | 0.0 |
| | /c3 | Calibrazione sonda 3 | MSYF | °C/°F | C | -20 | 20 | 0.0 |
| | /c4 | Calibrazione sonda 4 | MSYF | °C/°F | C | -20 | 20 | 0.0 |

| Simbolo | Cod. | Parametro | Modelli | U.M. | Tipo | Min | Max | Def. |
|---|---|---|---|---|---|---|---|---|
| | St | Set point temperatura | MSYF | °C/°F | F | r1 | r2 | 0.0 |
| | rd | Delta Regolatore | SYF | °C/°F | F | 0.1 | 20 | 2.0 |
| | rn | Zona neutra | SYF | °C/°F | C | 0.0 | 60 | 4.0 |
| | rr | Delta regolatore reverse con zona neutra | SYF | °C/°F | C | 0.1 | 20 | 2.0 |
| | r1 | Set minimo ammesso | MSYF | °C/°F | C | -50 | r2 | -50 |
| | r2 | Set massimo ammesso | MSYF | °C/°F | C | r1 | 200 | 60 |
| | r3 | Modalità di funzionamento<br>Termostato Direct (freddo) con controllo sbrinam.<br>Termostato Direct (freddo)<br>Termostato riverse (caldo) | SYF | flag | C | 0 | 2 | 0 |
| | r4 | Variazione automatica set point notturno | MSYF | °C/°F | C | -20 | 20 | 3.0 |
| | r5 | Abilitazione monitoraggio temperatura<br>0: Disabilitato<br>1: Abilitato | MSYF | flag | C | 0 | 1 | 0 |
| | rt | Intervallo monitoraggio temperatura | MSYF | ore | F | 0 | 999 | - |
| | rH | Massima temperatura letta | MSYF | °C/°F | F | - | - | - |
| | rL | Minima temperatura letta | MSYF | °C/°F | F | - | - | - |

| Simbolo | Cod. | Parametro | Modelli | U.M. | Tipo | Min | Max | Def. |
|---|---|---|---|---|---|---|---|---|
| | c0 | Ritardo start compressore. ,ventole e aux zona neutra all'accensione | SYF | min | C | 0 | 15 | 0 |
| | c1 | Tempo minimo tra accensioni successive | SYF | min | C | 0 | 15 | 0 |
| | c2 | Tempo minimo di Off del compressore | SYF | min | C | 0 | 15 | 0 |
| | c3 | Tempo minimo di On del compressore | SYF | min | C | 0 | 15 | 0 |
| | c4 | Duty setting | SYF | min | C | 0 | 100 | 0 |
| | cc | Durata ciclo continuo | SYF | ore | C | 0 | 15 | 0 |
| | c6 | Esclusione allarme dopo ciclo continuo | SYF | ore | C | 0 | 250 | 2 |
| | c7 | Tempo massimo di pump down | SYF | s | C | 0 | 900 | 0 |
| | c8 | Ritardo start comp. dopo apert. valvola PD (impostato in fabbrica a 0 e non visibile) | SYF | s | C | 0 | 60 | 5 |
| | c9 | Abil. funz. di autostart con funz.in PD | SYF | flag | C | 0 | 1 | 0 |
| | c10 | Selez. pump down a tempo o pressione<br>0: Pump down a pressione<br>1: Pump down a tempo | SYF | flag | C | 0 | 1 | 0 |
| | c11 | Ritardo secondo compressore | SYF | s | C | 0 | 250 | 4 |

| Simbolo | Cod. | Parametro | Modelli | U.M. | Tipo | Min | Max | Def. |
|---|---|---|---|---|---|---|---|---|
| | d0 | Tipo di defrost<br>0: Sbrinamento a resistenza in temperatura<br>1: Sbrinamento a gas caldo in temperatura<br>2: Sbrinamento a resistenza a tempo<br>3: Sbrinamento a gas caldo a tempo<br>4: Sbrinamento termostato a resistenza a tempo | SYF | flag | C | 0 | 4 | 0 |
| | dI | Intervallo tra i defrost | SYF | ore | F | 0 | 250 | 8 |
| | dt1 | Temperatura di fine defrost evap. | SYF | °C/°F | F | -50 | 200 | 4.0 |
| | dt2 | Temperatura di fine defrost evap. aux | SYF | °C/°F | F | -50 | 200 | 4.0 |
| | dP1 | Durata massima defrost evaporatore | SYF | min | F | 1 | 250 | 30 |
| | dP2 | Durata massima defrost evap. aux | SYF | min | F | 1 | 250 | 30 |
| | d3 | Ritardo inserimento defrost | SYF | min | C | 0 | 250 | 0 |
| | d4 | Abilitazione defrost allo start up<br>0: Non c'è sbrinam. all'accensione dello strumento<br>1: Viene eseguito uno sbrinamento all'accensione | SYF | flag | C | 0 | 1 | 0 |
| | d5 | Ritardo defrost allo start up | SYF | min | C | 0 | 250 | 0 |
| | d6 | Blocco display durante il defrost<br>0: Visualizzazione alternativa scritta dEF e valore sonda<br>1: Visualizzazione dell'ultima temp. mostrata<br>2: Visualizzazione fissa scritta dEF | SYF | - | C | 0 | 2 | 1 |
| | dd | Tempo di gocciolamento dopo il defrost | SYF | min | F | 0 | 15 | 2 |
| | d8 | Esclusione allarmi dopo il defrost | SYF | ore | F | 0 | 250 | 1 |
| | d8d | Esclusione allarmi dopo porta aperta | SYF | min | C | 0 | 250 | 0 |
| | d9 | Priorità defrost su protezioni compressore<br>0: rispettati tempi di protezione c1, c2 e c3<br>1: non rispettati tempi di protezione c1, c2 e c3 | SYF | flag | C | 0 | 1 | 0 |
| | d/1 | Visualizzazione sonda defrost 1 | MSYF | °C/°F | F | - | - | - |
| | d/2 | Visualizzazione sonda defrost 2 | MSYF | °C/°F | F | - | - | - |
| | dC | Base dei tempi per defrost<br>0: dI in ore, dP1 e dP2 in minuti<br>1: dI in minuti, dP1 e dP2 in secondi | SYF | flag | C | 0 | 1 | 0 |
| | d10 | Running time del compressore | SYF | ore | C | 0 | 250 | 0 |
| | d11 | Soglia di temperatura di running time | SYF | °C/°F | C | -20 | 20 | 1.0 |
| | d12 | Defrost avanzati | SYF | - | C | 0 | 3 | 0 |
| | dn | Durata nominale defrost | SYF | - | C | 1 | 100 | 65 |
| | dH | Fattore proporzionale variazione di dI | SYF | - | C | 0 | 100 | 50 |

Tab. 3

| Simbolo | Cod. | Parametro | Modelli | U.M. | Tipo | Min | Max | Def. |
|---|---|---|---|---|---|---|---|---|
| ! | A0 | Differenziale allarmi e ventole | MSYF | °C/°F | C | 0.1 | 20 | 2.0 |
| | A1 | Tipo di soglia AL e AH<br>0: AL e AH soglie relative al set point<br>1: AL e AH soglie assolute | MSYF | flag | C | 0 | 1 | 0 |
| | AL | Soglia di allarme di bassa temperatura | MSYF | °C/°F | F | -50 | 200 | 0.0 |
| | AH | Soglia di allarme di alta temperatura | MSYF | °C/°F | F | -50 | 200 | 0.0 |
| | Ad | Ritardo segnalazione bassa e alta temperatura | MSYF | min | F | 0 | 250 | 120 |
| | A4 | Configurazione ingresso digitale 1 (DI1)<br>0: Ingresso non attivo<br>1: Allarme esterno immediato<br>2: Allarme esterno con ritardo attuazione<br>3: Se modello M selezione sonde<br>3: Altri modelli abilitazione sbrinamento<br>4: Inizio sbrinamento<br>5: Switch porta con off di compressore e ventilatori<br>6: On/off remoto<br>7: Switch tenda<br>8: Pressostato di bassa pressione<br>9: Switch porta con off dei soli ventilatori<br>10: Direct/riverse<br>11: Sensore di luce<br>12: Attivazione uscita aux<br>13: Switch porta con spegnimento di compressore e ventole, luce non gestita<br>14: Switch porta con spegnimento di solo le ventole, luce non gestita | SYF<br>M | -<br>- | C<br>C | 0<br>0 | 14<br>14 | 0<br>3 |
| | A5 | Configurazione ingresso digitale 2 (DI2)<br>Come A4 | MSYF | - | C | 0 | 14 | 0 |
| | A6 | Blocco compressore da allarme esterno | SYF | min | C | 0 | 100 | 0 |
| | A7 | Ritardo rilevazione allarme esterno | SYF | min | C | 0 | 250 | 0 |
| | A8 | Abilitazione allarmi Ed1 ed Ed2<br>0: Segnalazioni Ed1 e Ed2 abilitate<br>1: Segnalazioni Ed1 e Ed2 disabilitate | SYF | flag | C | 0 | 1 | 0 |
| | Ado | Modalità gestione luce con switch porta | MSYF | flag | C | 0 | 1 | 0 |
| | Ac | Allarme alta temperatura condensatore | SYF | °C/°F | C | 0.0 | 200 | 70.0 |
| | AE | Differenziale allarme alta temp. cond. | SYF | °C/°F | C | 0.1 | 20 | 10 |
| | Acd | Ritardo allarme alta temperatura condensatore | SYF | min | C | 0 | 250 | 0 |
| | AF | Tempo spegnimento con sensore di luce | SYF | s | C | 0 | 250 | 0 |
| | ALF | Soglia di allarme antifreeze | MSYF | °C/°F | C | -50 | 200 | -5.0 |
| | AdF | Ritardo allarme antifreeze | MSYF | min | C | 0 | 15 | 1 |

| Simbolo | Cod. | Parametro | Modelli | U.M. | Tipo | Min | Max | Def. |
|---|---|---|---|---|---|---|---|---|
| | F0 | Gestione ventilatori<br>0: Ventilatori sempre accesi<br>1: Ventilatori accesi in base alla differenza tra la s. virtuale di regolazione e la temperatura evaporatore<br>2: Ventilatori accesi in base alla temp. dell'evaporatore | F | flag | C | 0 | 2 | 0 |
| | F1 | Temperatura accensione ventilatore | F | °C/°F | F | -50 | 200 | 5.0 |
| | F2 | Ventilatore off con compressore off<br>0: Ventilatori funzionano sempre<br>1: Ventilatori fermi se compressore fermo | F | flag | C | 0 | 1 | 1 |
| | F3 | Ventilatore in sbrinamento<br>0: Ventilatori funzionano durante lo sbrinamento<br>1: Ventilatori non funzionano durante lo sbrinamento | F | flag | C | 0 | 1 | 1 |
| | Fd | Spegnimento ventole dopo gocciolamento | F | min | F | 0 | 15 | 1 |
| | F4 | Temperatura spegnimento ventilatore condensatore | MSYF | °C/°F | C | -50 | 200 | 40 |
| | F5 | Differenziale accensione ventilatore condensatore | MSYF | °C/°F | C | 0.1 | 20 | 5.0 |

| Simbolo | Cod. | Parametro | Modelli | U.M. | Tipo | Min | Max | Def. |
|---|---|---|---|---|---|---|---|---|
| | H0 | Indirizzo seriale | MSYF | - | C | 0 | 207 | 1 |
| | H1 | Funzionalità uscita AUX1<br>0: Uscita di allarme normalmente eccitato<br>1: Uscita di allarme normalmente diseccitato<br>2: Uscita ausiliario<br>3: Uscita luce<br>4: Uscita sbrinamento evaporatore ausiliario<br>5: Uscita valvola di pump down<br>6: Uscita ventola condensatore<br>7: Uscita compressore ritardato<br>8: Uscita ausiliaria con disattivaz. nello stato di OFF<br>9: Uscita luce con disattivazione nello stato di OFF<br>10: Nessuna funzione associata all'uscita<br>11: Uscita riverse in regolazione con zona neutra<br>12: Uscita gradino secondo compressore<br>13: Uscita gradino secondo compress. con rotazione | MSYF | flag | C | 0 | 13 | 1 |
| | H2 | Disabilitazione tastiera/ir | MSYF | flag | C | 0 | 6 | 1 |
| | H3 | Codice abilitazione telecomando | MSYF | - | C | 0 | 255 | 0 |
| | H4 | Disabilitazione buzzer<br>0: Buzzer abilitato<br>1: Buzzer disabilitato | MSYF | flag | C | 0 | 1 | 0 |
| | H6 | Blocco tasti | MSYF | - | C | 0 | 255 | 0 |
| | H8 | Selezione uscita attivazione con fascia oraria<br>0: Fascia oraria legata all'uscita configurata luce<br>1: Fascia oraria legata all'uscita configurata aux | MSYF | flag | C | 0 | 1 | 0 |
| | H9 | Abilitazione variaz. del set point con fascia oraria<br>0: Variazione set point con fascia oraria disabilitata<br>1: Variazione set point con fascia oraria abilitata | MSYF | flag | C | 0 | 1 | 0 |
| | Hdh | Offset anti-sweat heater | MSYF | °C/°F | C | -50 | 200 | 0.0 |

AUX — Funzionalità tastiera

| Parametro "H2" | LUCE | ON/OFF | AUX | HACCP | PRG/MUTE (mute) | UP/CC | DOWN/DEF | SET | Modifica parametri F | Modifica set point | Modifica da telecomando |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | • | • | |
| 1 | | | | | | | | | | | |
| 2 | | | | | | | | | • | • | • |
| 3 | | | | | | | | | | | • |
| 4 | | • | | | | • | • | | • | | |
| 5 | | • | | | | • | • | | • | • | |
| 6 | | | | | | • | • | | • | • | |

"•" = Disabilitati

| Simbolo | Cod. | Parametro | Modelli | U.M. | Tipo | Min | Max | Def. |
|---|---|---|---|---|---|---|---|---|
| | HAn | Numero di eventi HA intervenuti | MSYF | - | C | 0 | 15 | 0 |
| | HA | Data/ora dell' ultimo evento HA | MSYF | - | C | | - | - |
| | y__ | Anno | | anni | | 0 | 99 | 0 |
| | M__ | Mese | | mesi | | 1 | 12 | 0 |
| | d__ | Giorno | | giorni | | 1 | 7 | 0 |
| | h__ | Ora | | ore | | 0 | 23 | 0 |
| | n__ | Minuto | | min. | | 0 | 59 | 0 |
| | t__ | Durata | | ore | | 0 | 99 | 0 |
| | HA1 | Data/ora del penultimo evento HA | MSYF | - | C | - | - | - |
| | HA2 | Data/ora del terzultimo evento HA | MSYF | - | C | - | - | - |
| | HFn | Numero di eventi HF intervenuti | MSYF | - | C | 0 | 15 | 0 |
| | HF | Data/ora dell' ultimo evento HF | MSYF | - | C | - | - | - |
| | y__ | Anno | | anni | | 0 | 99 | 0 |
| | M__ | Mese | | mesi | | 1 | 12 | 0 |
| | d__ | Giorno | | giorni | | 1 | 7 | 0 |
| | h__ | Ora | | ore | | 0 | 23 | 0 |
| | n__ | Minuto | | min. | | 0 | 59 | 0 |
| | t__ | Durata | | ore | | 0 | 99 | 0 |
| | HF1 | Data/ora del penultimo evento HF | MSYF | - | C | - | - | - |
| | HF2 | Data/ora del terzultimo evento HF | MSYF | - | C | 0 | - | - |
| | Htd | Ritardo allarme HACCP | MSYF | min | C | 0 | 250 | 0 |

| Simbolo | Cod. | Parametro | Modelli | U.M. | Tipo | Def. | Max | Min |
|---|---|---|---|---|---|---|---|---|
| | td1 | Fascia oraria defrost 1 | SYF | - | C | - | - | - |
| | d__ | Giorno | | giorni | | 0 | 11 | 0 |
| | h__ | Ora | | ore | | 0 | 23 | 0 |
| | n__ | Minuto | | min. | | 0 | 59 | 0 |
| | td2 | Fascia oraria defrost 2 | SYF | - | C | - | - | - |
| | td3 | Fascia oraria defrost 3 | SYF | - | C | - | - | - |
| | td4 | Fascia oraria defrost 4 | SYF | - | C | - | - | - |
| | td5 | Fascia oraria defrost 5 | SYF | - | C | - | - | - |
| | td6 | Fascia oraria defrost 6 | SYF | - | C | - | - | - |
| | td7 | Fascia oraria defrost 7 | SYF | - | C | - | - | - |
| | td8 | Fascia oraria defrost 8 | SYF | - | C | - | - | - |
| | ton | Fascia oraria accensione luce/aux, variazione set point | SYF | - | C | - | - | - |
| | d__ | Giorno | | giorni | | 0 | 11 | 0 |
| | h__ | Ora | | ore | | 0 | 23 | 0 |
| | n__ | Minuto | | min. | | 0 | 59 | 0 |
| | toF | Fascia oraria spegnimento luce/aux e set point | SYF | - | C | - | - | - |
| | d__ | Giorno | | giorni | | 0 | 11 | 0 |
| | h__ | Ora | | ore | | 0 | 23 | 0 |
| | n__ | Minuto | | min. | | 0 | 59 | 0 |
| | tc | Impostazione Data/Ora RTC | MSYF | - | | - | - | - |
| | y__ | Anno | | anni | | 0 | 99 | 0 |
| | M__ | Mese | | mesi | | 1 | 12 | 1 |
| | d__ | Giorno del mese | | giorni | | 1 | 31 | 1 |
| | u__ | Giorno della settimana | | giorni | | 1 | 7 | 6 |
| | h__ | Ora | | ore | | 0 | 23 | 0 |
| | n__ | Minuto | | min. | | 0 | 59 | 0 |

**Avvertenza importante:** affinchè i tempi impostati diventino immediatamente operativi, bisogna spegnere e riaccendere lo strumento. Nel caso non si spenga lo strumento, la temporizzazione diventerà operativa al suo successivo utilizzo, in fase di impostazione dei timer interni.

"L'apparecchiatura (o il prodotto) deve essere oggetto di raccolta separata in conformità alle vigenti normative locali in materia di smaltimento"

## Tabella allarmi e segnalazioni: display, buzzer e relè

Di seguito la tabella che riporta gli allarmi e le segnalazioni del controllo, con relativa descrizione, stato del buzzer, del relè di allarme e la modalità di ripristino.

| Codice | Icona sul display | Relè allarme | Buzzer | Ripristino | Descrizione |
|---|---|---|---|---|---|
| 'rE' | lampeggiante | attivo | attivo | automatico guasta | sonda virtuale di regolazione |
| 'E0' | lampeggiante | spento | spento | automatico | sonda ambiente S1 guasta |
| 'E1' | lampeggiante | spento | spento | automatico | sonda sbrinamento S2 guasta |
| 'E2'-3-4 | lampeggiante | spento | spento | automatico | sonda S3-4-5 guasta |
| '____' | nessuna | spento | spento | automatico | sonda non abilitata |
| 'LO' | lampeggiante | attivo | attivo | automatico | allarme bassa temperatura |
| 'HI' | lampeggiante | attivo | attivo | automatico | allarme alta temperatura |
| 'AFr' | lampeggiante | attivo | attivo | manuale | allarme antifreeze |
| 'IA' | lampeggiante | attivo | attivo | automatico | allarme immediato da contatto esterno |
| 'dA' | lampeggiante | attivo | attivo | automatico esterno | allarme ritardato da contatto |
| 'dEF' | acceso | spento | spento | automatico | def

## (ENG) TECHNICAL SPECIFICATIONS

| | Model | Voltage | Power |
|---|---|---|---|
| Power supply | IRxxxxExxxx | 230 V~, 50/60 Hz | 3 VA, 25 mA~ max. |
| | IRxxxxAxxxx | 115 V~, 50/60 Hz | 3 VA, 50 mA~ max. |
| | IRxxxxHxxxx | 115 to 230 V~, 50/60 Hz | 6 VA, 50 mA~ max. |
| | IRxxxxLxxxx | 12 to 24 V~, 50/60 Hz, 12 to 30 Vdc | 3 VA, 300 mA~ /mAdc max. |
| | IRxxxxOxxxx | 12 V~, 50/60 Hz, 12 to 18 Vdc | Use only SELV power supply |
| Insulation guaranteed by the power supply | IRxxxxExxxx IRxxxxAxxxx | insulation in reference to very low voltage parts | reinforced 6 mm clearance, 8 mm creepage 3750 V insulation |
| | IRxxxxHxxxx | insulation from relay outputs | basic 3 mm clearance, 4 mm creepage 1250 V insulation |
| | IRxxxxLxxxx IRxxxxOxxxx | insulation in reference to very low voltage parts | externally guaranteed by safety transformer (SELV power supply) |
| | | insulation from relay outputs | reinforced 6 mm clearance, 8 mm creepage 3750 V insulation |
| Inputs | S1 (probe 1) | NTC (IRxxx0xxxxx) o NTC e PTC (IRxxx7xxxxx) | |
| | S2 (probe 2) | NTC (IRxxx0xxxxx) o NTC e PTC (IRxxx7xxxxx) | |
| | DI1 | free contact, contact resistance < 10 Ω, closing current 6 mA | |
| | S3 (probe 3) | NTC (IRxxx0xxxxx) o NTC e PTC (IRxxx7xxxxx) | |
| | DI2 | free contact, contact resistance < 10 Ω, closing current 6 mA | |
| | S4 (probe 4) | NTC (IRxxx0xxxxx) o NTC e PTC (IRxxx7xxxxx) | |
| | Maximum ditance of probes and digital inputs less than 10 m. **Note:** during installation keep the power and loads connection separate from probe cables, digital inputs, repeater display and supervisory system. | | |
| Probe type | Std. CAREL NTC | 10 kΩ at 25 °C, –50T90 °C range | |
| | | measurement error: | 1 °C in the –50T50 °C range |
| | | | 3 °C in the –50T90 °C range |
| | NTC high temperature | 50 kΩ at 25 °C, –40T150 °C range | |
| | | measurement error: | 1,5 °C in the –20T115 °C range |
| | | | 4 °C in the –20T115 °C range |
| | PTC std. CAREL (specific model) | 985 Ω a 25 °C, range da -50T150 °C | |
| | | measurement error: | 2 °C in the –50T50 °C range |
| | | | 4 °C in the –50T150 °C range |

Relay outputs — depending on the model

| model | EN60730-1 relay | EN60730-1 250 V~ | EN60730-1 operating cycles | UL 873 250 V~ | UL 873 operating cycles |
|---|---|---|---|---|---|
| IRxxxx(E,A) (P,Q,S,U,V,X,Y,Z)xxx | R2 (*) | 5 (1)A | 100000 | 5 A resistive 1FLA 6 LRA C 300 | 30000 |
| IRxxxx(E,A) (N,R,C,B,A,M,L,T)xxx | R3 (*) | 5 (1)A | 100000 | 5 A resistive 1FLA 6 LRA C 300 | 30000 |
| IRxxxx(E,A) (N,R,C,B,A,M,L,T)xxx IRxxxx(0,L,H) (N,R,C,B,A,M,L,T)xxx | R1, R2 R2, R3, R4 (*) | 8 (4)A N.O. 6 (4)A N.C. 2 (2)A N.O./N.C. | 100000 | 8 A resistive 2 FLA 12 LRA C300 | 30000 |
| IRxxxx(E,A) (P,Q,S,U,V,X,Y,Z)xxx IRxxxx(0,L,H) (N,R,C,B,A,M,L,T)xxx | R1 R1 (*) | 12 (2)A N.O./N.C. | 100000 | 12 A resistive 5 FLA 30 LRA C300 | 30000 |
| insulation from very low voltage parts | | | | reinforced 6 mm clearance, 8 mm creepage 3750 V insulation | |
| insulation between the relay outputs indipendent | | | | basic 3 mm clearance, 4 mm creepage 1250 V insulation | |

SSR outputs: Max output voltage :12 Vdc, Output resistance: 600 Ω, Max output current: 20 mA

(*): Relay not suitable for fluorescent loads (neon lights, ...) that use starters (ballasts) with phase-shift capacitors. Fluorescent lamps with electronic control devices or without phase-shift capacitors can be used, within the operating limits specified for each type of relay.

| | Type of connection | | | Cross-section Max. current |
|---|---|---|---|---|
| Connessioni | Relay | P. Supply | Probes | for wires from 12 A 0.5 a 2.5 mm² |
| Model | screw | screw | screw | |
| IRxxxxxx0xx | faston | faston | removable | |
| IRxxxx(E,A)x1xx | removable | removable | removable | |
| IRxxxxxx2xx | faston | faston | screw | |
| IRxxxx(E,A)x3xx | vertical screw | vertical screw | vertical screw | |
| IRxxxx(E,A)x5xx | | | | |

the installer has to provide the correct dimensioning of the power supply and cable connection between the instruments and the loads. Depending on the model, the maximum current in the common terminals 1, 3 or 5 is 12 A. When using the controller at maximum operating temperature and full load, use cables featuring a maximum operating temperature of 105 °C at least.

| | | | | |
|---|---|---|---|---|
| Case | plastic | IRxxxx(E,A)xxxx | dimensions | 34.4 x 76.2 x 65 mm |
| | | IRxxxx(0,L,H)xxxx | | 34.4 x 76.2 x 79 mm |
| | | IRxxxx(E,A)xxxx | mount-in | 56.5 mm |
| | | IRxxxx(0,L,H)xxxx | depth | 70.5 mm |
| Mounting | smooth and stiff panel | using side fastening brackets, pressed until stop | | |
| | drilling template | dimensions 28.8 ± 0.2 x 70.8 ± 0.2 mm | | |
| Display | digits | 3 digit LED | | |
| | display range | from –99 to 999 | | |
| | operating status | indicated by graphic icons on the display | | |
| Keypad | 4 rubber silicon buttons | | | |
| No options | IRxxxxx(N,P)xxx | | | |
| Infrared receiver | IRxxxxx(R,B,M,T,Q,U,X,Z)xxx | | | |
| Clock with backup battery | IRxxxxx(C,B,L,T,S,U,Y,Z)xxx | | | |
| Alarm or auxiliary relay | IRxxxxx(A,M,L,T,V,X,Y,Z)xxx | | | |
| Custom param. or firmware | IRccxxxxnx; cc customer; n custom made parameters list | | | |
| Package | IRxxxxxxxxi: blank singol; 1 or 5 multiple; K kit with probes | | | |
| Buzzer | available on all the models | | | |
| Clock | error at 25 °C | ±10 ppm (±5.3 min/year) | | |
| | error in the temperature range -10T60 °C | -50 ppm (-27 min/year) | | |
| | ageing | < ±5 ppm (±2.7 min/year) | | |
| | discharge time | typical 6 months (max. 8 months) | | |
| | recharge time | typical 5 hours (< max. 8 hours) | | |

| | |
|---|---|
| Operating temperature | -10T60 °C for all versions |
| Operating humidity | <90% r.H. non-condensing |
| Storage temperature | -20T70 °C |
| Storage humidity | <90% r.H. non-condensing |
| Front panel degree of protection | smooth and stiff panel installation with gasket IP65 |
| Control pollution status | 2 (normal situation) |
| PTI of the insulating material | printed circuit board 250, insulation 175 |
| Period of electric stress across insulating parts | long |
| Heat and fire resistance category | category D and category B (UL 94-V0) |
| Class of protection against voltage surges | category II |
| Type of disconnection or interruption | 1.B relay contacts (micro-disconnection) |
| Construction of control | incorporated control, electronically |
| Classification according to protection against electric shock | Class II, by appropriate incorporation |
| The control is either to be hand-held or is intented for a hand-held equipment | no |
| Software class and structure | Class A |
| Front panel cleaning | use only neutral detergents and water |
| Serial interface for CAREL network | external, available on all models |
| Interface for repeater display | external, available on IRxxxx(0,L,H)xxx |
| Maximum distance between interface and display | 10 m |
| Programming key | available on all models |

*The IR33 range fitted with the standard CAREL NTC probe is compliant with standard EN 13485 on thermometers for measuring the air temperature in applications on units for the conservation and sale of refrigerated, frozen and deep-frozen food and ice cream. Designation of the instrument: EN13485, air, S, A, 1, - 50T90 °C. The standard CAREL NTC probe is identifiable by the printed laser code on "WP" models, or the code "I03AT-11" on "HP" models, both visible on the sensor part.*

***Safety standards:*** *compliant with the European reference standards.*

***Precautions for installation:***

- *the connection cables must guarantee insulation at up to 90 °C; and, if necessary, up to 105 °C*
- *adequately secure the connection cables to the outputs so as to avoid contact with very low voltage components.*

## Signals on the display

*The blinking status indicates a request for activation that cannot be implemented until the end of the corresponding delay times.*

| Icon | Function | ON | OFF | blink | Startup |
|---|---|---|---|---|---|
| | COMPRESS. | compressor ON | comp. OFF | compressor request | |
| | FAN | fan ON | fan OFF | fan request | |
| | DEFROST | defrost in progress | defrost not required | defrost request | |
| AUX | AUX | auxiliary output AUX active | auxiliary output AUX not active | anti-sweat heater function active | |
| | ALARM | delayed external alarm (before the expiry of the time 'A7') | no alarm present | alarms in normal operation (eg. high/low temp.) or alarm from ext. digital input immediate or delayed | |
| | CLOCK | at least one timed defrost has been set | no timed defrost is present | clock alarm | ON if Real-Time Clock pre-sent |
| | LIGHT | auxiliary output LIGHT ACTIVE | auxiliary output LIGHT NOT ACTIVE | anti-sweat heater function active | |
| | SERVICE | | no malfunction | malfunction (eg. EEPROM error or probe fault) | |
| HACCP | HACCP | HACCP function | HACCP function enabled | HACCP alarm (HA and/or HF) not enabled | |
| | CONTINUOUS CYCLE | enabled | not enabled | request | |

*Tab. 1*

## Buttons on the keypad

*Normal operation*

| Button | Press. the button alone | Pressing together with other buttons | | |
|---|---|---|---|---|
| **Prg** mute | • if pressed for more than 5 s accesses the menu for setting type "F" (frequent) parameters<br>• **in the event of alarm:** silences the audible alarm (buzzer) and disables the alarm relay | • if pressed for more than 5 s together with the **SET** button, accesses the menu for setting the type "C" (configuration) or downloading the parameters<br>• if pressed for more than 5 s together with the **UP/AUX** button resets any alarm with manual reset | **Start-up:** if pressed for more than 5 s at start-up, starts the default parameter setting | **Automatic address assignment:** if pressed for 1 s enters the automatic serial address assigning procedure |
| aux | if pressed for more than 1 s, enables/disables the auxiliary output | • if pressed for more than 5 s together with **DOWN/DEF** button, enables/disables the continuous cycle operation<br>• if pressed for more than 5 s with **SET** button, starts the procedure for printing the reports (function available, with management to be implemented)<br>• if pressed for more than 5 s together with **PRG/MUTE** button, resets any active alarm with manual reset | | |
| def | if pressed for more than 5 s, enables/disables a manual defrost | • if pressed for more than 5 s together with **UP/AUX** button, enables/disables the continuous cycle operation<br>• if pressed for more than1 s together with SET button, displays a submenu with the HACCP alarm parameters (HA, HAn, HF, HFn) | | |
| **Set** | if pressed for more than 1 s, displays and/or set the set point | • if pressed for more than 5 s together with **PRG/MUTE** button, accesses the menu for setting the type "C" parameters "C" (configuration) or downloading the parameters<br>• if pressed for more than 1 s together with **DOWN/DEF** button, displays a submenu with the **HACCP** alarm parameters (HA, HAn, HF, HFn)<br>• if pressed for more than 5 s together with UP/AUX, starts the procedure for printing the report (function available, with management to be implemented) | | |

*Tab. 2*

## Summary of operating parameters *(UOM = Unit of measure; Def. = Default value).*

| Symbol | Code | Parameter | Models | UOM | Type | Min | Max | Def. |
|---|---|---|---|---|---|---|---|---|
| | Pw | Password | MSYF | - | C | 0 | 200 | 22 |
| | /2 | Measurement stability | MSYF | - | C | 1 | 15 | 4 |
| | /3 | Probe display response | MSYF | - | C | 0 | 15 | 0 |
| | /4 | Virtual probe | MSYF | - | C | 0 | 100 | 0 |
| | /5 | Select °C or °F<br>0: °C<br>1: °F | MSYF | flag | C | 0 | 1 | 0 |
| | /6 | Display decimal point with tenths of a degree without tenths of a degree | MSYF | flag | C | 0 | 1 | 0 |
| | /tI | Display on internal terminal<br>1: virtual probe<br>2: probe 1<br>3: probe 2<br>4: probe 3<br>5: probe 4<br>6: probe 5<br>7: set point | MSYF | - | C | 1 | 7 | 1 |
| | /tE | Display on external terminal remote terminal not present<br>1: virtual probe<br>2: probe 1<br>3: probe 2<br>4: probe 3<br>5: probe 4<br>6: probe 5 | MSYF | - | C | 0 | 6 | 0 |
| | /P | Select type of probe<br>0: NTC standard with range -50T90 °C<br>1: NTC enhanced with range -40T150 °C<br>2: PTC standard with range -50T150 °C | MSYF | - | C | 0 | 2 | 0 |
| | /A2 | Configuration of probe 2 (S2)<br>0: Probe absent<br>1: Product probe (display only)<br>2: Defrost probe<br>3: Condenser probe<br>4: Antifreeze probe | YF<br>MS | -<br>- | C<br>C | 0<br>0 | 4<br>4 | 2<br>2 |
| | /A3 | Configuration of probe 3 (S3, DI1) As for /A2 | MSYF | - | C | 0 | 4 | 0 |
| | /A4 | Configuration of probe 4 (S4, DI2) As for /A2 | MSYF | - | C | 0 | 4 | 0 |
| | /c1 | Calibration of probe 1 | MSYF | °C/°F | C | -20 | 20 | 0.0 |
| | /c2 | Calibration of probe 2 | MSYF | °C/°F | C | -20 | 20 | 0.0 |
| | /c3 | Calibration of probe 3 | MSYF | °C/°F | C | -20 | 20 | 0.0 |
| | /c4 | Calibration of probe 4 | MSYF | °C/°F | C | -20 | 20 | 0.0 |

| Symbol | Code | Parameter | Models | UOM | Type | Min | Max | Def. |
|---|---|---|---|---|---|---|---|---|
| | St | Temperature set point | MSYF | °C/°F | F | r1 | r2 | 0.0 |
| | rd | Control delta | SYF | °C/°F | F | 0.1 | 20 | 2.0 |
| | rn | Dead band | SYF | °C/°F | C | 0.0 | 60 | 4.0 |
| | rr | Reverse differential for control with dead band | SYF | °C/°F | C | 0.1 | 20 | 2.0 |
| | r1 | Minimum set point allowed | MSYF | °C/°F | C | -50 | r2 | -50 |
| | r2 | Maximum set point allowed | MSYF | °C/°F | C | r1 | 200 | 60 |
| | r3 | Operating mode<br>0: Direct (cooling) with defrost control<br>1: Direct (cooling)<br>2: Reverse-cycle (heating) | SYF | flag | C | 0 | 2 | 0 |
| | r4 | Automatic night-time set point variation | MSYF | °C/°F | C | -20 | 20 | 3.0 |
| | r5 | Enable temperature monitoring<br>0: Disabled<br>1: Enabled | MSYF | flag | C | 0 | 1 | 0<br>0<br>1 |
| | rt | Temperature monitoring interval | MSYF | hours | F | 0 | 999 | - |
| | rH | Maximum temperature read | MSYF | °C/°F | F | - | - | - |
| | rL | Minimum temperature read | MSYF | °C/°F | F | - | - | - |

| Symbol | Code | Parameter | Models | UOM | Type | Min | Max | Def. |
|---|---|---|---|---|---|---|---|---|
| | c0 | Comp., fan and AUX delay on start-up in dead band | SYF | min | C | 0 | 15 | 0 |
| | c1 | Minimum time between successive starts | SYF | min | C | 0 | 15 | 0 |
| | c2 | Minimum compressor OFF time | SYF | min | C | 0 | 15 | 0 |
| | c3 | Minimum compressor ON time | SYF | min | C | 0 | 15 | 0 |
| | c4 | Duty setting | SYF | min | C | 0 | 100 | 0 |
| | cc | Continuous cycle duration | SYF | hours | C | 0 | 15 | 0 |
| | c6 | Alarm bypass after continuous cycle | SYF | hours | C | 0 | 250 | 2 |
| | c7 | Maximum pump down time | SYF | s | C | 0 | 900 | 0 |
| | c8 | Comp. start delay after open PD valve (factory default= 0, not visible from display) | SYFs | C | 0 | 65 | | |
| | c9 | Enable autostart function in PD | SYF | flag | C | 0 | 1 | 0 |
| | c10 | Select Pump down by time or pressure<br>Pump down by pressure<br>Pump down by time | SYF | flag | C | 0 | 1 | 0 |
| | c11 | Second compressor delay | SYF | s | C | 0 | 250 | 4 |

| Symbol | Code | Parameter | Models | UOM | Type | Min | Max | Def. |
|---|---|---|---|---|---|---|---|---|
| | d0 | Type of defrost<br>0: Electric heater defrost by temperature<br>1: Hot gas defrost by temperature<br>2: Electric heater defrost by time<br>3: Hot gas defrost by time<br>4: Electric heater defrost thermostat by time | SYF | flag | C | 0 | 4 | 0 |
| | dI | Interval between defrosts | SYF | hours | F | 0 | 250 | 8 |
| | dt1 | End defrost temperature, evaporator | SYF | °C/°F | F | -50 | 200 | 4.0 |
| | dt2 | End defrost temperature, aux evap. | SYF | °C/°F | F | -50 | 200 | 4.0 |
| | dP1 | Maximum defrost duration, evaporator | SYF | min | F | 1 | 250 | 30 |
| | dP2 | Maximum defrost duration, aux evap. | SYF | min | F | 1 | 250 | 30 |
| | d3 | Defrost start delay | SYF | Min | C | 0 | 250 | 0 |
| | d4 | Enable defrost on start-up<br>0: No defrost is performed when the instrument is switched on<br>1: A defrost is performed when the instrument is switched on | SYF | flag | C | 0 | 1 | 0<br>0<br>1 |
| | d5 | Defrost delay on start-up | SYF | min | C | 0 | 250 | 0 |
| | d6 | Display on hold during defrost<br>0: Alternating display of dEF and probe value<br>1: Display of the last temp. shown<br>2: Display of dEF steady | SYF | - | C | 0 | 2 | 1 |
| | dd | Dripping time after defrost | SYF | min | F | 0 | 15 | 2 |
| | d8 | Alarm bypass after defrost | SYF | hours | F | 0 | 250 | 1 |
| | d8d | Alarm bypass after door open | SYF | min | C | 0 | 250 | 0 |
| | d9 | Defrost priority over compressor protectors<br>0: The protection times c1, c2 and c3 are observed<br>1: The protection times c1, c2 and c3 are not observed | SYF | flag | C | 0 | 1 | 0 |
| | d/1 | Display of defrost probe 1 | MSYF | °C/°F | F | - | - | - |
| | d/2 | Display of defrost probe 2 | MSYF | °C/°F | F | - | - | - |
| | dC | Time base for defrost<br>0: dI in hours, dP1 and dP2 in minutes<br>1: dI in minutes, dP1 and dP2 in seconds | SYF | flag | C | 0 | 1 | 0 |
| | d10 | Compressor running time | SYF | hours | C | 0 | 250 | 0 |
| | d11 | Running time temperature threshold | SYF | °C/°F | C | -20 | 20 | 1.0 |
| | d12 | Advanced defrost | SYF | - | C | 0 | 3 | 0 |
| | dn | Nominal defrost duration | SYF | - | C | 1 | 100 | 65 |
| | dH | Proportional factor, variation in dI | SYF | - | C | 0 | 100 | 50 |

| Symbol | Code | Parameter | Models | UOM | Type | Min | Max | Def. |
|---|---|---|---|---|---|---|---|---|
| | A0 | Alarm and fan differential | MSYF | °C/°F | C | 0.1 | 20 | 2.0 |
| | A1 | Type of threshold 'AL' and 'AH'<br>0: AL and AH are relative thresholds to the set point<br>1: AL and AH are absolute thresholds | MSYF | flag | C | 0 | 1 | 0 |
| | AL | Low temperature alarm threshold | MSYF | °C/°F | F | -50 | 200 | 0.0 |
| | AH | High temperature alarm threshold | MSYF | °C/°F | F | -50 | 200 | 0.0 |
| | Ad | Low and high temperature signal delay | MSYF | min | F | 0 | 250 | 120 |
| | A4 | Digital input 1 configuration (DI1)<br>0: Input not active<br>1: Immediate external alarm<br>2: Delayed external alarm<br>3: If model M, probe selection<br>3: Other models enable defrost<br>4: Start defrost<br>5: Door switch with compressor and fan stop<br>6: Remote on/off<br>7: Curtain switch<br>8: Low pressure switch<br>9: Door switch with fan stop only<br>10: Direct/reverse<br>11: Light sensor<br>12: Activation of the AUX output<br>13: Door switch with compressor and fans off and light not managed<br>14: Door switch with fans only off and light not managed | SYF<br>M | -<br>- | C<br>C | 0<br>0 | 14<br>14 | 0<br>3 |
| | A5 | Digital input 2 configuration (DI2) As for A4 | MSYF | - | C | 0 | 14 | 0 |
| | A6 | Stop compressor from external alarm | SYF | min | C | 0 | 100 | 0 |
| | A7 | External alarm detection delay | SYF | min | C | 0 | 250 | 0 |
| | A8 | Enable alarms 'Ed1' and 'Ed2'<br>0: Alarm signals Ed1 and Ed2 enabled<br>1: Alarm signals Ed1 and Ed2 disabled | SYF | flag | C | 0 | 1 | 0 |
| | Ado | Light management mode with door switch | MSYF | flag | C | 0 | 1 | 0 |
| | Ac | High condenser temperature alarm | SYF | °C/°F | C | 0.0 | 200 | 70.0 |
| | AE | High condenser temperature alarm differential | SYF | °C/°F | C | 0.1 | 20 | 10 |
| | Acd | High condenser temperature alarm delay | SYF | min | C | 0 | 250 | 0 |
| | AF | Light sensor OFF time | SYF | sec | C | 0 | 250 | 0 |
| | ALF | Antifreeze alarm threshold | MSYF | °C/°F | C | -50 | 200 | -5.0 |
| | AdF | Antifreeze alarm delay | MSYF | min | C | 0 | 15 | 1 |

| Symbol | Code | Parameter | Models | UOM | Type | Min | Max | Def. |
|---|---|---|---|---|---|---|---|---|
| | F0 | Fan management<br>0: Fans always on<br>1: Fans controlled according to the temperature difference between the virtual control probe and the evaporator temperature<br>Fans controlled according to the evaporator<br>2: temperature | F | flag | C | 0 | 2 | 0 |
| | F1 | Fan start temperature | F | °C/°F | F | -50 | 200 | 5.0 |
| | F2 | Fan OFF with compressor OFF<br>0: Fans always on<br>1: Fans off with compressor off | F | flag | C | 0 | 1 | 1 |
| | F3 | Fans in defrost<br>Fans operate during defrosts<br>Fans do not operate during defrosts | F | flag | C | 0 | 1 | 1<br>0<br>1 |
| | Fd | Fan OFF after dripping | F | min | F | 0 | 15 | 1 |
| | F4 | Condenser fan stop temperature | MSYF | °C/°F | C | -50 | 200 | 40 |
| | F5 | Condenser fan start differential | MSYF | °C/°F | C | 0.1 | 20 | 5.0 |

| Symbol | Code | Parameter | Models | UOM | Type | Min | Max | Def. |
|---|---|---|---|---|---|---|---|---|
| | H0 | Serial address | MSYF | - | C | 0 | 207 | 1 |
| | H1 | Function of AUX output<br>0: Alarm output usually energised<br>1: Alarm output usually de-energised<br>2: Auxiliary output<br>3: Light output<br>4: Auxiliary evaporator defrost output<br>5: Pump down valve output<br>6: Condenser fan output<br>7: Delayed compressor output<br>8: Auxiliary output with deactivation when OFF<br>9: Light output with deactivation when OFF<br>10: No function associated with the output<br>11: Reverse output in control with dead band<br>12: Second compressor step output<br>13: Second compressor step output with rotation | MSYF | flag | C | 0 | 13 | 1 |
| | H2 | Disable keypad/IR | MSYF | flag | C | 0 | 6 | 1 |

| Parameter "H2" | LIGHT | ON/OFF | AUX | HACCP | PRG/MUTE (mute) | UP/CC | DOWN/DEF | SET | Parameter F modification | Set point modification | Remote control modification |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | • | • | |
| 1 | | | | | | | | | | | |
| 2 | | | | | | | | | • | • | • |
| 3 | | | | | | | | | | | • |
| 4 | | • | | | | • | • | | • | | |
| 5 | | • | | | | • | • | | • | • | |
| 6 | | | | | | • | • | | • | • | |

Keypad function "•" = Disabled

| | | | | |
|---|---|---|---|---|
| | H3 | Remote control enabling code | MSYF | - | C | 0 | 255 | 0 |
| | H4 | Disable buzzer<br>Buzzer enabled<br>Buzzer disabled | MSYF | flag | C | 0 | 1 | 0<br>0<br>1 |
| | H6 | Lock keypad | MSYF | - | C | 0 | 255 | 0 |
| | H8 | Select activation of output with time band<br>Time band linked to output configured for light<br>Time band linked to output configured for aux | MSYF | flag | C | 0 | 1 | 0<br>0<br>1 |
| | H9 | Enable set point variation with time band<br>Set point variation with time band disabled<br>Set point variation with time band enabled | MSYF | flag | C | 0 | 1 | 0<br>0<br>1 |
| | Hdh | Anti-sweat heater offset | MSYF | °C/°F | C | -50 | 200 | 0.0 |

| Symbol | Code | Parameter | Models | UOM | Type | Min | Max | Def. |
|---|---|---|---|---|---|---|---|---|
| | HAn | Number of HA events recorded | MSYF | - | C | 0 | 15 | 0 |
| | HA | Date/time of last HA event | MSYF | - | C | | - | - |
| | y__ | Year | | years | | 0 | 99 | 0 |
| | M__ | Month | | months | | 1 | 12 | 0 |
| | d__ | Day | | days | | 1 | 7 | 0 |
| | h__ | Hour | | hours | | 0 | 23 | 0 |
| | n__ | Minute | | min. | | 0 | 59 | 0 |
| | t__ | Duration | | hours | | 0 | 99 | 0 |
| | HA1 | Date/time of penultimate HA event | MSYF | - | C | - | - | - |
| | HA2 | Date/time of third-to-last HA event | MSYF | - | C | - | - | - |
| | HFn | Number of HF events recorded | MSYF | - | C | 0 | 15 | 0 |
| | HF | Date/time of last HF event | MSYF | - | C | - | - | - |
| | y__ | Year | | years | | 0 | 99 | 0 |
| | M__ | Month | | months | | 1 | 12 | 0 |
| | d__ | Day | | days | | 1 | 7 | 0 |
| | h__ | Hour | | hours | | 0 | 23 | 0 |
| | n__ | Minute | | min. | | 0 | 59 | 0 |
| | t__ | Duration | | hours | | 0 | 99 | 0 |
| | HF1 | Date/time of penultimate HF event | MSYF | - | C | - | - | - |
| | HF2 | Date/time of third-to-last HF event | MSYF | - | C | 0 | - | - |
| | Htd | HACCP alarm delay | MSYF | min | C | 0 | 250 | 0 |

| Symbol | Code | Parameter | Models | UOM | Type | Min | Max | Def. |
|---|---|---|---|---|---|---|---|---|
| | td1 | Defrost time band 1 | SYF | - | C | - | - | - |
| | d__ | Day | | days | | 0 | 11 | 0 |
| | h__ | Hour | | hours | | 0 | 23 | 0 |
| | n__ | Minute | | min. | | 0 | 59 | 0 |
| | td2 | Defrost time band 2 | SYF | - | C | - | - | - |
| | td3 | Defrost time band 3 | SYF | - | C | - | - | - |
| | td4 | Defrost time band 4 | SYF | - | C | - | - | - |
| | td5 | Defrost time band 5 | SYF | - | C | - | - | - |
| | td6 | Defrost time band 6 | SYF | - | C | - | - | - |
| | td7 | Defrost time band 7 | SYF | - | C | - | - | - |
| | td8 | Defrost time band 8 | SYF | - | C | - | - | - |
| | ton | Light/aux on time band,set point varance | SYF | - | C | - | - | - |
| | d__ | Day | | days | | 0 | 11 | 0 |
| | h__ | Hour | | hours | | 0 | 23 | 0 |
| | n__ | Minute | | min. | | 0 | 59 | 0 |
| | toF | Light/aux off time band, set point varance | SYF | - | C | - | - | - |
| | d__ | Day | | days | | 0 | 11 | 0 |
| | h__ | Hour | | hours | | 0 | 23 | 0 |
| | n__ | Minute | | min. | | 0 | 59 | 0 |
| | tc | RTC date/time setting | MSYF | - | C | - | - | - |
| | y__ | Year | | years | | 0 | 99 | 0 |
| | M__ | Month | | months | | 1 | 12 | 1 |
| | d__ | Day of the month | | days | | 1 | 31 | 1 |
| | u__ | Day of the week | | days | | 1 | 7 | 6 |
| | h__ | Hour | | hours | | 0 | 23 | 0 |
| | n__ | Minute | | min. | | 0 | 59 | 0 |

***Important:*** *for the set times to become immediately operational, the instrument must be turned off and on again, otherwise the timers will become operational when the instrument is next started, during the setting of the internal timers.*

*"The appliance (or the product) must be disposed of separately in accordance with the local waste disposal legislation in force"*

## Table of alarms and signals: display, buzzer and relay

*The following table describes the alarms and the signals on the controller, with the corresponding description, status of the buzzer, the alarm relay and the reset mode.*

| Code | Icon on the display | Alarm relay | Buzzer | Reset | Description |
|---|---|---|---|---|---|
| 'rE' | flashing | active | active | automatic | virtual control probe fault |
| 'E0' | flashing | OFF | OFF | automatic | room probe S1 fault |
| 'E1' | flashing | OFF | OFF | automatic | defrost probe S2 fault |
| 'E2' | flashing | OFF | OFF | automatic | probe S3 fault |
| 'E3' | flashing | OFF | OFF | automatic | probe S4 fault |
| 'E4' | flashing | OFF | OFF | automatic | probe S5 fault |
| '___' | no | OFF | OFF | automatic | probe not enabled |
| 'LO' | flashing | active | active | automatic | low temperature alarm |
| 'HI' | flashing | active | active | automatic | high temperature alarm |
| 'AFr' | flashing | active | active | manual | antifreeze alarm |
| 'IA' | flashing | active | active | automatic | immediate alarm from external contact |
| 'dA' | flashing | active | active | automatic | delayed alarm from external contact |
| 'dEF' | ON | OFF | OFF | automatic | defrost running |
| 'Ed1' | no | OFF | OFF | autom./ man | defrost on evaporator 1 ended by timeout |
| 'Ed2' | no | OFF | OFF | autom./ man. | defrost on evaporator 2 ended by timeout |
| 'Pd' | flashing | active | active | autom./ man. | maximum time pump-down alarm |
| 'LP' | flashing | active | active | autom./ man | low pressure alarm |
| 'AUS' | flashing | active | active | autom./ man. | autostart in pump-down |
| 'cht' | no | OFF | OFF | autom./ man. | high condenser temperature pre-alarm |
| 'CHT' | flashing | active | active | manual | high condenser temperature alarm |
| 'dor' | flashing | active | active | automatic | door open for too long alarm |
| 'Etc' | flashing | OFF | OFF | autom./ man. | real time clock fault |
| 'EE' | flashing | OFF | OFF | automatic | EEPROM error, unit parameters |
| 'EF' | flashing | OFF | OFF | automatic parameters | EEPROM error, operating |
| 'HA' | HACCP flashing | OFF | OFF | manual | HACCP alarm, type 'HA' |
| 'HF' | HACCP flashing | OFF | OFF | manual | HACCP alarm, type 'HF' |
| 'rCr' | Signal | | | | Instrument enabled for programming from the remote control |
| 'Add'Signal | | | | | Automatic address assignment procedure in progress |
| 'Prt' | Signal | | | | Printing report |
| 'LrH'Signal | | | | | Activation of the of low relative humidity procedure |
| 'HrH'Signal | | | | | Activation of the of high relative humidity procedure |
| 'ccb' | Signal | | | | Request to start continuous cycle |
| 'ccE'Signal | | | | | Request to end continuous cycle |
| 'dFb'Signal | | | | | Request to start defrost |
| 'dFE'Signal | | | | | Request to end defrost |
| 'On' | Signal | | | | Switch ON |
| 'OFF'Signal | | | | | Switch OFF |
| 'rES'Signal | | | | | Reset alarms with manual reset<br>Reset HACCP alarms<br>Reset temperature monitoring |
| 'n1'... 'n6' | flashing | active | active | automatic | Indicates an alarm on unit 1 to 6 present in the network |
| 'dnL' | signal | | | | signals download in progress |
| 'd1'... 'd6' | flashing | OFF | OFF | automatic | Signals download with errors on unit 1 to 6 |

*Tab. 4*

*The buzzer is enabled if enabled by the parameter 'H4'.*
*The alarm relay is enabled if one of the AUX auxiliary outputs, 1 ('H1') has been assigned the alarm relay function (normally energized or normally de-energized).*

***Note:*** *the buzzer is disabled by the CAREL Supervision System.*

Schemi elettrici / Electrical wiring:

IRxxY(0,7) H (N,R,C,B) (0,2)xx senza/without R3
IRxxY(0,7) H (A,M,L,T) (0,2)xx

Corrente massima totale su terminale 3: 12A
Maximum current on terminal 3: 12A

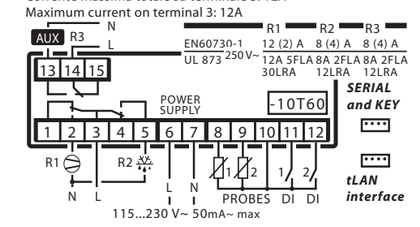



Fig. 12

IRxxC(0,7) H (N,R,C,B) (0,2)xx
Corrente massima totale su terminale 3: 12A
Maximum current on terminal 3: 12A

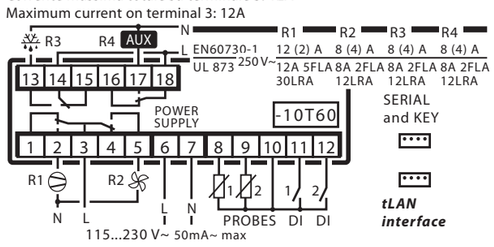
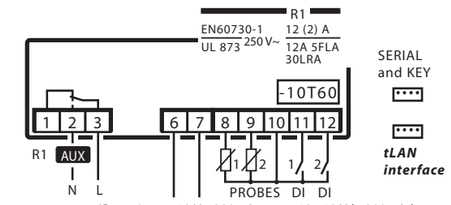



Fig. 13

IRxxM(0,7) (L) (N,R,C,B) (0,2)xx senza/without R1
IRxxM(0,7) (0,L) (A,M,L,T) (0,2)xx

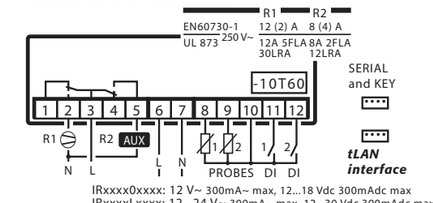



IRxxxx0xxxx: 12 V~ 300mA~ max, 12...18 Vdc 300mAdc max
IRxxxxLxxxx: 12...24 V~ 300mA~ max, 12...30 Vdc 300mAdc max

Fig. 14

IRxxS(0,7) (0,L) (N,R,C,B) (0,2)xx senza/without R2
IRxxS(0,7) (0,L) (A,M,L,T) (0,2)xx

Corrente massima totale su terminale 3: 12A
Maximum current on terminal 3: 12A

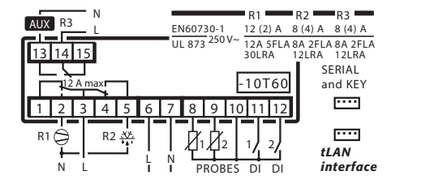



IRxxxx0xxxx: 12 V~ 300mA~ max, 12...18 Vdc 300mAdc max
IRxxxxLxxxx: 12...24 V~ 300mA~ max, 12...30 Vdc 300mAdc max

Fig. 15

IRxxY(0,7) (0,L) (N,R,C,B) (0,2)xx senza/without R3
IRxxY(0,7) (0,L) (A,M,L,T) (0,2)xx

Corrente massima totale su terminale 3: 12A
Maximum current on terminal 3: 12A




IRxxxx0xxxx: 12 V~ 300mA~ max, 12...18 Vdc 300