

LIST OF PARAMETERS

- Hy** **Differential:** (maximum width 50°C/90°F; resolution 1°C/°F or 0.1°C). Intervention differential for set point, always positive. Compressor cut IN is Set Point Plus Differential (Hy). Compressor cut OUT is when the temperature reaches the set point.
- L5** **Minimum set point:** (-50°C÷SET / -60°F÷SET): Sets the minimum value that can be input for the set point, to prevent the end user from setting incorrect temperature values.
- U5** **Maximum set point:** (SET ÷ 50°C / SET ÷ 122°F). Set the maximum acceptable value for set point.
- AC** **Anti-short cycle delay:** (0÷30 min) minimum interval between the compressor stop and the following restart.
- Ods** **Outputs activation delay at start up:** (0÷30min) This function is enabled at the initial start up of the instrument and inhibits any output activation for the period of time set in the parameter.
- ALC** **Set point alarms configuration:** (0=related to set point; 1=absolute) determines if temperature alarms are relative to set point or if alarms are referred to absolute temperatures.
- ALU** **MAXIMUM temperature alarm:** (when ALC =0 from 0 to 50 °C or from 0 to 90°F above the set point; when ALC = 1 from ALL to 50°C or from ALL to 122°F). When this temperature is reached the alarm is enabled, (possibly after the "ALd" delay time).
- ALL** **Minimum temperature alarm:** (when ALC = 0 from 0 to 50 °C or from 0 to 90°F below the set point; when ALC = 1 from -50 °C to ALU or from -58 °F to ALU). When this temperature is reached the alarm is enabled, (possibly after the "ALd" delay time).
- ALd** **Temperature alarm delay:** (0÷255 min) time interval between the detection of an alarm condition and alarm signalling.
- dAD** **Delay of temperature alarm at start-up:** (from 0 min to 23h 50 min) time interval between the detection of the temperature alarm condition after instrument power on and alarm signalling.
- EdA** **Alarm delay at the end of defrost** (0÷255 min) Time interval between the detection of the temperature alarm condition at the end of defrost and alarm signalling.
- CCt** **Compressor ON time during fast freezing:** (0÷24 hours) allows to set the length of the fast freezing. Can be used, for instance, when the room is filled with new products.
- dAF** **Defrost delay after fast freezing:** (0÷23 h 50 min) time interval between the end of the fast freezing and the following defrost related to it.
- ldF** **Interval between defrost cycles:** (1÷99 hours) Determines the time interval between the beginning of two defrost cycles. It is used in case of Real Time Clock fault.
- ndF** **Maximum length for defrost:** (0÷255 min) When EdF = 0 (timed defrost) it sets the defrost duration, when EdF = 1 or 2 (defrost termination based on temperature) it sets the maximum length for defrost.
- SdF** **Set point for SMARTFROST:** (-30÷30 °C/ -22÷86 °F) evaporator temperature which starts ldF counting (interval between defrosts) in SMARTFROST mode.
- dtE** **Defrost termination temperature:** (-50÷50 °C/ -58÷122 °F) Sets the temperature measured by the evaporator probe, which terminates the defrost.
- dFd** **Temperature displayed during defrost:** (0 = real temperature; 1 = temperature at defrost start; 2 = set point; 3 = "dEF" label)
- dAd** **MAX display delay after defrost:** (0÷255 min). Sets the maximum time between the end of defrost and the restarting of the real room temperature display.
- EdF** **Defrost type:** (0 = electrical heater; 1 = hot gas).
- EdF** **Defrost mode:**
EdF = 0 Time controlled defrost. The defrost lasts for the duration of time set in parameter MdF. On termination the drip down time starts (param. Fdt)
EdF = 1 Temperature controlled defrost. Defrost terminates when the evaporator reaches the temperature set in parameter dtE (defrost termination temperature).

NOTE: If at the start of defrost the evaporator temperature is higher than dtE then the defrost will be skipped.

EdF = 2 SMARTFROST mode. The time IdF (interval between defrosts) is increased when the compressor is running (even non consecutively) and the evaporator temperature is less than the value in "SdF" (set point for SMARTFROST). Defrost terminates on temperature.

- Fdt Drip time:** (0÷60 min) Time interval between reaching defrost termination temperature and the restoring of the controllers' normal operation. This time allows the evaporator to eliminate water drops that might have formed during defrost.
- dPD First defrost after start-up:** (0 = Immediately; 1 = after the IdF time) Used in case of Real Time Clock fault only.
- FnC Fans operating mode:** (0 = runs with the compressor; 1 = continuous mode)
- Fnd Fan delay after defrost:** (0 to 255 min) The time interval between end of defrost and evaporator fans start.
- FSt Fan stop temperature:** (-50÷50°C/-60÷122°F) if the temperature, detected by the evaporator probe is above FSt the fan is stopped. Serves to avoid blowing warm air around the room.
- [3 Third probe configuration:** (0 = not present; 1 = for analogue output; 2 = for remote display: the instrument shows the temperature measured by the first probe, the remote display shows the temperature measured by the third probe)
- ROS Analogue output start point:** (-50÷50°C or -58°÷122 °F). Sets the temperature at which the analogue output begins.
- APb Analogue output band width:** (-50÷50°C or -90÷90°F) sets the width of the regulation band for the analogue output. If APb is **positive** then it is above the start point and the kind of action is direct (condenser application). If APb is **negative** then it is below the start point and the kind of action is inverse (evaporator application). See also "**Analogue Output**" chapter.
- [RD Input type for the analogue output:** four input types can be selected:
 0 = room probe temperature: T1
 1 = temperature difference between the room probe and the evaporator probe: T1 - T2
 2 = temperature of the third probe T3
 3 = temperature difference between the ambient probe and the third probe T1 - T3
 The analogue output will be proportional to these quantities. Attention shall be paid in adjusting the other parameters of the analogue output in compliance with the choice made, once the input quantity has been chosen.
- 0t Thermostat probe calibration:** (-30÷30°C, resolution 0.1 °C; or -54÷54 °F, resolution 1 °F) Permits calibration of the thermostat probe.
- 0E Evaporator probe calibration:** (-30÷30°C, resolution 0.1 °C; or -54÷54 °F, resolution 1 °F). Permits calibration of the of the evaporator probe.
- 03 Third probe calibration:** (-30÷30°C resolution 0.1 °C; or -54÷54 °F, resolution 1 °F) Permits calibration the third probe.
- 0r3 Remote display Offset:** (-30÷30°C resolution 0.1 °C; or -54÷54 °F, resolution 1 °F) Permits to adjust the temperature shows by the remote display.
- rES Resolution (for °C):** (0 = 1°C; 1 = 0.1 °C) allows decimal point display.
- [F Temperature measurement unit:** 0 = Celsius; 1 = Fahrenheit.
 NOTE: if you change from Celsius to Fahrenheit degrees, the controller automatically changes the temperature values.
- [On Compressor ON time with faulty probe:** (0÷255 min) time during which the compressor is active in case of faulty thermostat probe. With COn=0 compressor is always OFF.
- [OF Compressor OFF time with faulty probe:** (0÷255 min) time during which the compressor is off in case of faulty thermostat probe. With COF=0 compressor is always active.
- dIC Digital input #1 operating mode:** four operating modes can be selected:
0 = generic alarm: the buzzer and the alarm output are enabled, the flashing message "EA" is displayed, the other outputs are not modified;
1 = klixon alarm: the buzzer and the alarm output are enabled, the flashing message "CA" is displayed, the other outputs are set to OFF state;
2 = serious alarm mode: same as for Klixon alarm, but the flashing "OFF" message is displayed.

3 = external consent for defrost end: when the temperature of defrost end is reached (par. EdF), the controller checks the state of the digital input; if it is ON, the drain time starts (par. Fdt) and the normal regulation is stopped. When the digital input is switched OFF, the controller re-starts the normal regulation. In any case the normal regulation re-starts when the maximum length for defrost (par. MdF) is expired.

- did Digital input #1 delay: (configurable alarm)** (0÷255 min) delay between the detection of the external alarm condition (input #1) and its signalling.
- dDA Open door alarm delay - Digital input #2** (0÷255 min) (Only models XR672C and XR675D) delay between the detection of the open door condition (input #2) and its signalling: the flashing message “dA” is displayed.
- tBA Buzzer and alarm relay silencing:** (0 = mute disabled, 1 = mute enabled).
- Ad 1..Ad2 RS485 serial address (0+94):** identifies the instrument within a control or supervising system.
- Ptb Parameter table:** (read only) shows the factory default settings.

RTC (Real Time Clock) Parameters

To disable a defrost cycle set it to zero. E.g. If Ld6=0.0 then the sixth defrost cycle is disabled.

- Ld 1..Ld6 Working days defrost start 1..6:** (00.0 ÷ 24.0; res. 10 min; 00.0 disabled). These parameters set the beginning of the six programmable defrost cycles during working days. Ex. When Ld2 = 12.4 the second defrost starts at 12.40 during working days (Monday...Saturday). NOTE: if the parameter is set to “00.0” the related defrost cycle is disable.
- Sd 1..Sd6 Sundays defrost start 1..6:** (00.0 ÷ 24.0 ; resolution 10 min; 00.0 disabled). These parameters set the beginning of the six programmable defrost cycles on Sundays. Ex. When Sd2 = 3.4 the second defrost starts at 3.40 on Sundays. NOTE: if the parameter is set to “00.0” the related defrost cycle is disable.
- ILE Energy Saving cycle start during working days:** (00.0 ÷ 24.0; resolution 10 min; 00.0 disabled). During the Energy Saving cycle the set point is increased by the value in HES so that the operation set point is SET + HES. Obviously the operation set point shall comply with the product preservation requirements. During the Energy Saving cycle the temperature display flashes.
- dLE Energy Saving cycle length during working days:** (0 ÷ 23; resolution 1 hour). Sets the duration of the Energy Saving cycle on working days. Ex. When ILE = 20.2 and dLE = 11 the Energy Saving cycle starts at 20.20 and ends at 7.20 (11 hours later) of the following morning on working days (from Monday to Friday).
- ISE Energy Saving cycle start on Saturdays:** (00.0 ÷ 24.0; resolution 10 min; 00.0 disabled). The Energy Saving cycle on Saturdays can last up to 72 hours. If the Energy Saving cycle on Saturday shall be automatically linked to the working days cycle, set “ISE” (starting time) to a time before the end of the working days Energy Saving cycle.
I. E.: ILE = 20.2 [20.20 P.M.] (Energy Saving cycle start during working days)
dLE = 11 [hours] (Energy Saving cycle length during working days)
ISE=06.0 [6.00 A. M.] (Energy Saving cycle start on Saturdays)
dSE=49 [49 hours] (Energy Saving cycle length on Saturdays)
The Energy Saving cycle starts at 20.20 and ends at 7.20 (11 hours later) of the following morning on working days (from Monday to Friday). On Saturday morning at 6 o'clock the Energy saving cycle of Saturday starts and lasts for 49 hours (until 7 a. m. of Monday).
- dSE Energy Saving cycle length on Saturdays:** (0 ÷ 72; resolution 1 hour)
- HES Temperature increase during the Energy Saving cycle** (0 ÷ 30°C or 0÷54 °F). Sets the increase of the set point during the Energy Saving cycle. If, for instance, SET = -20°C and HES = 2, the operation set point during the Energy Saving cycle will be SET = -18°C.
- ddd Current day:** (1 ÷ 7; resolution 1 day). When Monday = 1... Sunday = 7.
- HHH Current hour:** (0 ÷ 23; resolution 1 hour)
- mm Current minute:** (0 ÷ 59; 1 minute)