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Pages incl. this one:	1				
Init.:	HJM				
Date:	100416				
Approved:	BC	Drawing No.:	7220019	Version:	01
Supplier:					
Subject:	Dixell styring XR50CX til AKG 377, 2 føler og alarm				
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Se vedhæftede.

Digital controller with 2 temperature probes XR50CX – 7220019-02

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1. GENERAL WARNING

1.1 PLEASE READ BEFORE USING THIS MANUAL

- This manual is part of the product and should be kept near the instrument for easy and quick reference.
- The instrument shall not be used for purposes different from those described hereunder. It cannot be used as a safety device.
- Check the application limits before proceeding.

1.2 SAFETY PRECAUTIONS

- Check the supply voltage is correct before connecting the instrument.
- Do not expose to water or moisture: use the controller only within the operating limits avoiding sudden temperature changes with high atmospheric humidity to prevent formation of condensation
- Warning: disconnect all electrical connections before any kind of maintenance.
- Fit the probe where it is not accessible by the End User. The instrument must not be opened.
- In case of failure or faulty operation send the instrument back to the distributor or to "Dixell S.p.A." (see address) with a detailed description of the fault.
- Consider the maximum current which can be applied to each relay (see Technical Data).
- Ensure that the wires for probes, loads and the power supply are separated and far enough from each other, without crossing or intertwining.
- In case of applications in industrial environments, the use of mains filters (our mod. FT1) in parallel with inductive loads could be useful.

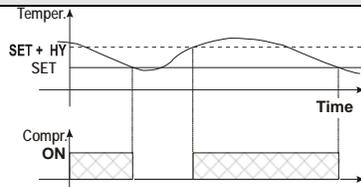
2. GENERAL DESCRIPTION

Model XR50CX, format 32 x 74 mm, is microprocessor based controller, suitable for applications on medium or low temperature refrigerating units. It has 3 relay outputs to control compressor, fan and alarm. It is also provided with 2 NTC or PTC probe inputs, the first one for temperature control, the second one to alarm signalling. The digital input can operate as fourth temperature probe. The HOT KEY output allows to connect the unit, by means of the external module XJ485-CX, to a network line ModBUS-RTU compatible such as the dixell monitoring units of X-WEB family. It allows to program the controller by means the HOT KEY programming keyboard. The instrument is fully configurable through special parameters that can be easily programmed through the keyboard.

3. CONTROLLING LOADS

3.1 COMPRESSOR

The regulation is performed according to the temperature measured by the thermostat P1 probe with a positive differential from the set point: if the temperature increases and reaches set point plus differential the compressor is started and then turned off when the temperature reaches the set point value again.



In case of fault in the thermostat probe the start and stop of the compressor are timed through parameters "CO_n" and "CO_F".

3.2 DEFROST

Defrost is performed through a simple stop of the compressor. Parameter "IdF" controls the interval between defrost cycles, while its length is controlled by parameter "MdF". The defrost end can be timed or controlled by the first probe (P1).

4. FRONT PANEL COMMANDS



SET: To display target set point; in programming mode it selects a parameter or confirm an operation.

DEF (snowflake icon): To start a manual defrost // Push and release to see the value of the second probe (P2)

UP (up arrow icon): In programming mode it browses the parameter codes or increases the displayed value.
DOWN (down arrow icon): In programming mode it browses the parameter codes or decreases the displayed value.

Power (power icon): To switch the instrument off, if onF = oFF.

Sun (sun icon): Not enabled.

KEY COMBINATIONS:

UP + DOWN: To lock & unlock the keyboard.

SET + DOWN: To enter in programming mode.

SET + UP: To return to the room temperature display.

4.1 USE OF LEDS

Each LED function is described in the following table.

LED	MODE	FUNCTION
	ON	Compressor enabled
	Flashing	Anti-short cycle delay enabled
	ON	Defrost enabled
	ON	An alarm is occurring
	ON	Energy saving enabled
°C/°F	ON	Measurement unit
°C/°F	Flashing	Programming phase

5. MAIN FUNCTIONS

5.1 HOW TO SEE THE SETPOINT

- SET** (pointing hand icon)
1. Push and immediately release the SET key: the display will show the Set point value;
 2. Push and immediately release the SET key or wait for 5 seconds to display the probe value again.

5.2 HOW TO CHANGE THE SETPOINT

1. Push the SET key for more than 2 seconds to change the Set point value;
2. The value of the set point will be displayed and the "°C" or "°F" LED starts blinking;
3. To change the Set value push the **UP** or **DOWN** arrows within 10s.
4. To memorise the new set point value push the SET key again or wait 10s.

5.3 HOW TO SEE THE SECOND PROBE (P2)

- DEF** (pointing hand icon)
- Push AND release the DEF key: immediately the controller will display the value of the second probe for few seconds.

5.4 HOW TO START A MANUAL DEFROST

- DEF** (pointing hand icon)
- Push the DEF key for more than 2 seconds and a manual defrost will start.

5.4 HOW TO CHANGE A PARAMETER VALUE

To change the parameter's value operate as follows:

1. Enter the Programming mode by pressing the Set + **DOWN** keys for 3s (the "°C" or "°F" LED starts blinking).
 2. Select the required parameter. Press the "SET" key to display its value
 3. Use "UP" or "DOWN" to change its value.
 4. Press "SET" to store the new value and move to the following parameter.
- To exit:** Press SET + UP or wait 15s without pressing a key.
NOTE: the set value is stored even when the procedure is exited by waiting the time-out to expire.

5.5 THE HIDDEN MENU

The hidden menu Includes all the parameters of the instrument.

5.5.1 HOW TO ENTER THE HIDDEN MENU

1. Enter the Programming mode by pressing the Set + **DOWN** keys for 3s (the "°C" or "°F" LED starts blinking).
2. Released the keys, then push again the Set+ **DOWN** keys for more than 7s. The Pr2 label will be displayed immediately followed from the HY parameter.
NOW YOU ARE IN THE HIDDEN MENU.
3. Select the required parameter.
4. Press the "SET" key to display its value

5. Use ▲ or ▼ to change its value.
 6. Press "SET" to store the new value and move to the following parameter.
To exit: Press SET + ▲ or wait 15s without pressing a key.
NOTE1: if none parameter is present in Pr1, after 3s the "noP" message is displayed. Keep the keys pushed till the Pr2 message is displayed.
NOTE2: the set value is stored even when the procedure is exited by waiting the time-out to expire.

5.5.2 HOW TO MOVE A PARAMETER FROM THE HIDDEN MENU TO THE FIRST LEVEL AND VICEVERSA.

Each parameter present in the HIDDEN MENU can be removed or put into "THE FIRST LEVEL" (user level) by pressing "SET + ▼".
 In HIDDEN MENU when a parameter is present in First Level the decimal point is on.

5.6 HOW TO LOCK THE KEYBOARD

- Keep pressed for more than 3 s the UP + DOWN keys.
- The "POF" message will be displayed and the keyboard will be locked. At this point it will be possible only to see the set point or the MAX o Min temperature stored
- If a key is pressed more than 3s the "POF" message will be displayed.

5.7 TO UNLOCK THE KEYBOARD

Keep pressed together for more than 3s the ▲ and ▼ keys, till the "Pon" message will be displayed.

5.8 THE CONTINUOUS CYCLE

When defrost is not in progress, it can be activated by holding the "▲" key pressed for about 3 seconds. The compressor operates to maintain the "ccS" set point for the time set through the "CCt" parameter. The cycle can be terminated before the end of the set time using the same activation key "▲" for 3 seconds.

5.9 THE ON/OFF FUNCTION

 With "onF = oFF", pushing the ON/OFF key, the instrument is switched off. The "OFF" message is displayed. In this configuration, the regulation is disabled.
 To switch the instrument on, push again the ON/OFF key.

WARNING: Loads connected to the normally closed contacts of the relays are always supplied and under voltage, even if the instrument is in stand by mode.

6. PARAMETERS

REGULATION

- Hy** Differential: (0.1 + 25.5°C / 1+255 °F) Intervention differential for set point. Compressor Cut IN is Set Point + differential (Hy). Compressor Cut OUT is when the temperature reaches the set point.
- LS** Minimum set point: (-50°C÷SET/-58°F÷SET): Sets the minimum value for the set point.
- US** Maximum set point: (SET+110°C/SET+230°F). Set the maximum value for set point.
- Ot** Thermostat probe calibration: (-12.0±12.0°C; -120±120°F) allows to adjust possible offset of the thermostat probe.
- P2P** Second probe presence: n= not present; the defrost stops by time; y= present: the defrost stops by temperature.
- OE** Second probe calibration: (-12.0±12.0°C; -120±120°F). allows to adjust possible offset of the second probe.
- P3P** Third probe presence (P3): n= not present; the terminal operates as digital input.; y= present; the terminal operates as third probe.
- O3** Third probe calibration (P3): (-12.0±12.0°C; -120±120°F). allows to adjust possible offset of the third probe.
- OdS** Outputs activation delay at start up: (0÷255min) 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.
- AC** Anti-short cycle delay: (0÷50 min) minimum interval between the compressor stop and the following restart.
- on** Minimum time compressor on: (0÷30min)
- r2P** Regulation with 2 probes:
 with r2P = n: standard regulation is performed according to the temperature of the probe P1.
 with r2P = y: compressor cut in: P1 or P2 > SET + Hy;
 compressor cut out: P1 and P2 < SET
- CO**n Compressor ON time with faulty probe: (0÷255 min) time during which the compressor is active in case of faulty thermostat probe. With CO=0 compressor is always OFF.
- COF** 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.
- CH** Type of action: CL = cooling; HT = heating.

DISPLAY

- CF** Temperature measurement unit: °C=Celsius; °F=Fahrenheit. **WARNING:** When the measurement unit is changed the SET point and the values of the parameters Hy, LS, US, Ot, ALU and ALL have to be checked and modified if necessary.
- rES** Resolution (for °C): (in = 1°C; dE = 0.1 °C) allows decimal point display.
- Lod** Instrument display: (P1; P2, P3, P4, SET, dtr): it selects which probe is displayed by the instrument: P1 = Thermostat probe; P2 = Second probe; P3 = Third probe(only for model with this option enabled); P4 = Fourth probe, SET = set point; dtr = percentage of visualization.
- dLy** Display delay: (0 ÷20.0m; risul. 10s) when the temperature changes, the display is updated of 1 °C/1°F after this time.

DEFROST

- dFP** Probe selection for defrost termination: nP = no probe; P1 =thermostat probe; P2 = second probe; P3 =configurable probe; P4 = Probe on Hot Key plug.
- dte** Defrost termination temperature: (-50+50 °C/ -58+122°F) (Enabled only when dFP<>nP) sets the temperature measured by the probe set in dFP, which causes the end of defrost.
- IdF** Interval between defrost cycles: (0÷120h) Determines the time interval between the beginning of two defrost cycles.
- MdF** (Maximum) length for defrost: (0÷255min) with timed defrost it sets the defrost duration, with defrost end based on temperature it sets the maximum length for defrost.
- dFd** Temperature displayed during defrost: (rt = real temperature; it = temperature at defrost start; Set = set point; dEF = "dEF" label)
- dAd** MAX display delay after defrost: (0÷255min). Sets the maximum time between the end of defrost and the restarting of the real room temperature display.

FIRST TEMPERATURE ALARM (detected by the first probe)

- ALP** Probe selection for first temperature alarm: : nP = no probe; P1 =thermostat probe; P2 = second probe; P3 =configurable probe; P4 = Probe on Hot Key plug.
- ALC** Temperature alarms configuration: (Ab; rE)
 Ab= absolute temperature: alarm temperature is given by the ALL or ALU values. rE = temperature alarms are referred to the set point. Temperature alarm is enabled when the temperature exceeds the "SET+ALU" or "SET-ALL" values.
- ALU** MAXIMUM temperature alarm: (SET+110°C; SET+230°F) when this temperature is reached the alarm is enabled, after the "Ald" delay time.
- ALL** Minimum temperature alarm: (-50.0 ÷ SET°C; -58÷230°F) when this temperature is reached the alarm is enabled, after the "Ald" delay time.
- AFH** Differential for temperature alarm recovery: (0,1÷25,5°C; 1÷45°F) Intervention differential for recovery of temperature alarm.
- Ald** Temperature alarm delay: (0÷255 min) time interval between the detection of an alarm condition and alarm signalling.
- dAO** Exclusion of temperature alarm at startup: (from 0.0 min to 23.5h) time interval between the detection of the temperature alarm condition after instrument power on and alarm signalling.

SECOND TEMPERATURE ALARM (detected by the second probe)

- AP2** Probe selection for temperature alarm of condenser: nP = no probe; P1 =thermostat probe; P2 = second probe; P3 =configurable probe; P4 = Probe on Hot Key plug.
- AL2** Low temperature alarm of condenser: (-55÷150°C) when this temperature is reached the LA2 alarm is signalled, possibly after the Ad2 delay.
- Au2** High temperature alarm of condenser: (-55÷150°C) when this temperature is reached the HA2 alarm is signalled, possibly after the Ad2 delay.
- AH2** Differential for temperature condenser alarm recovery: (0,1÷25,5°C; 1÷45°F)
- Ad2** Condenser temperature alarm delay: (0÷255 min) time interval between the detection of the condenser alarm condition and alarm signalling.
- dA2** Condenser temperature alarm exclusion at start up: (from 0.0 min to 23.5h, res. 10min)

ALARM RELAY

- tbA** Alarm relay silencing (with oA1=Alr):
 (n= silencing disabled: alarm relay stays on till alarm condition lasts, y =silencing enabled: alarm relay is switched OFF by pressing a key during an alarm).
- AO**p Alarm relay polarity: it set if the alarm relay is open or closed when an alarm happens. CL= terminals 1-2 closed during an alarm; oP = terminals 1-2 open during an alarm

DIGITAL INPUT

- i1P** Digital input polarity: oP: the digital input is activated by opening the contact; CL: the digital input is activated by closing the contact.
- i1F** Digital input configuration: EAL = external alarm: "EA" message is displayed; bAL = serious alarm "CA" message is displayed. PAL = pressure switch alarm, "CA" message is displayed; dor = door switch function; dEF = activation of a defrost key; AUS =not enabled; Htr = kind of action inversion (cooling – heating); Fan = not set it; ES = Energy saving.
- did:** (0÷255 min) with i1F= EAL or i1F = bAL digital input alarm delay: delay between the detection of the external alarm condition and its signalling.
 with i1F= dor: door open signalling delay
 with i1F= PAL: time for pressure switch function: time interval to calculate the number of the pressure switch activation.
- nPS** Pressure switch number: (0 ÷15) Number of activation of the pressure switch, during the "did" interval, before signalling the alarm event (i2F= PAL).
 If the nPS activation in the did time is reached, switch off and on the instrument to restart normal regulation.
- odc** Compressor status when open door: no; Fan = normal; CPr; F_C = Compressor OFF.
- rrd** Outputs restart after doA alarm: no = outputs not affected by the doA alarm; yES = outputs restart with the doA alarm;
- HES** Temperature increase during the Energy Saving cycle : (-30,0°C÷30,0°C/22÷86°F) it sets the increasing value of the set point during the Energy Saving cycle.

OTHER

- Adr** Serial address (1÷244): Identifies the instrument address when connected to a ModBUS compatible monitoring system.
- PbC** Type of probe: it allows to set the kind of probe used by the instrument: PbC = PBC probe, ntc = NTC probe.
- onF** on/off key enabling: nu = disabled; oFF = enabled; ES = not set it.
- dP1** Thermostat probe display
- dP2** Second probe display
- dP3** Third probe display- optional
- dP4** Fourth probe display.
- rSE** Real set point: (readable only), it shows the set point used during the energy saving cycle or during the continuous cycle.
- rEL** Software release for internal use.
- Ptb** Parameter table code: readable only.

7. DIGITAL INPUT (ENABLED WITH P3P = N)

The free voltage digital input is programmable in different configurations by the "i1F" parameter.

7.1 DOOR SWITCH INPUT (i1F = dor)

It signals the door status and the corresponding relay output status through the "odc" parameter: no, Fan = normal (any change); CPr, F_C = Compressor OFF.
 Since the door is opened, after the delay time set through parameter "did", the door alarm is enabled, the display shows the message "dA" and the regulation restarts is rtr = yES. The alarm stops as soon as the external digital input is disabled again. With the door open, the high and low temperature alarms are disabled.

7.2 GENERIC ALARM (i1F = EAL)

As soon as the digital input is activated the unit will wait for "did" time delay before signalling the "EAL" alarm message. The outputs status don't change. The alarm stops just after the digital input is de-activated.

7.3 SERIOUS ALARM MODE (i1F = bAL)

When the digital input is activated, the unit will wait for "did" delay before signalling the "CA" alarm message. The relay outputs are switched OFF. The alarm will stop as soon as the digital input is de-activated.

7.4 PRESSURE SWITCH (i1F = PAL)

If during the interval time set by "did" parameter, the pressure switch has reached the number of activation of the "nPS" parameter, the "CA" pressure alarm message will be displayed. The compressor and the regulation are stopped. When the digital input is ON the compressor is always OFF.

If the nPS activation in the did time is reached, switch off and on the instrument to restart normal regulation.

7.5 START DEFROST (i1F = dFr)

It starts a defrost if there are the right conditions. After the defrost is finished, the normal regulation will restart only if the digital input is disabled otherwise the instrument will wait until the "MdF" safety time is expired.

7.6 INVERSION OF THE KIND OF ACTION: HEATING-COOLING (i1F = Htr)

This function allows to invert the regulation of the controller: from cooling to heating and viceversa.

7.7 ENERGY SAVING (i1F = ES)

The Energy Saving function allows to change the set point value as the result of the SET+ HES (parameter) sum. This function is enabled until the digital input is activated.

7.8 DIGITAL INPUTS POLARITY

The digital input polarity depends on the "i1P" parameter.

i1P=CL: the input is activated by closing the contact.

i1P=OP: the input is activated by opening the contact

8. TTL SERIAL LINE - FOR MONITORING SYSTEMS

The TTL serial line, available through the HOT KEY connector, allows by means of the external TTL/RS485 converter, XJ485-CX, to connect the instrument to a monitoring system ModBUS-RTU compatible such as the X-WEB500/3000/300.

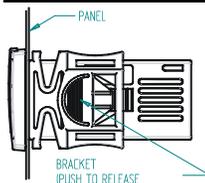
9. X-REP OUTPUT - OPTIONAL

As optional, an X-REP can be connected to the instrument, through the HOY KEY connector. The X-REP output **EXCLUDES** the serial connection.



To connect the X-REP to the instrument the following connectors must be used CAB-51F(1m), CAB-52F(2m), CAB-55F(5m),

10. INSTALLATION AND MOUNTING



Instrument XR50CX shall be mounted on vertical panel, in a 29x71 mm hole, and fixed using the special bracket supplied.

The temperature range allowed for correct operation is 0÷60 °C. Avoid places subject to strong vibrations, corrosive gases, excessive dirt or humidity. The same recommendations apply to probes. Let air circulate by the cooling holes.

11. ELECTRICAL CONNECTIONS

The instrument is provided with screw terminal block to connect cables with a cross section up to 2,5 mm². Before connecting cables make sure the power supply complies with the instrument's requirements. Separate the probe cables from the power supply cables, from the outputs and the power connections. Do not exceed the maximum current allowed on each relay, in case of heavier loads use a suitable external relay.

11.1 PROBE CONNECTION

The probes shall be mounted with the bulb upwards to prevent damages due to casual liquid infiltration. It is recommended to place the thermostat probe away from air streams to correctly measure the average room temperature. Place the defrost termination probe among the second fins in the coldest place, where most ice is formed, far from heaters or from the warmest place during defrost, to prevent premature defrost termination.

12. HOW TO USE THE HOT KEY

12.1 HOW TO PROGRAM A HOT KEY FROM THE INSTRUMENT (UPLOAD)

1. Program one controller with the front keypad.
2. When the controller is ON, insert the "Hot key" and push ▲ key: the "uPL" message appears followed a by flashing "End"
3. Push "SET" key and the End will stop flashing.
4. Turn OFF the instrument remove the "Hot Key", then turn it ON again.

NOTE: the "Err" message is displayed for failed programming. In this case push again ▲ key if you want to restart the upload again or remove the "Hot key" to abort the operation.

12.2 HOW TO PROGRAM AN INSTRUMENT USING A HOT KEY (DOWNLOAD)

1. Turn OFF the instrument.
2. Insert a programmed "Hot Key" into the 5 PIN receptacle and then turn the Controller ON.
3. Automatically the parameter list of the "Hot Key" is downloaded into the Controller memory, the "doL" message is blinking followed a by flashing "End".
4. After 10 seconds the instrument will restart working with the new parameters.
5. Remove the "Hot Key"..

NOTE the message "Err" is displayed for failed programming. In this case turn the unit off and then on if you want to restart the download again or remove the "Hot key" to abort the operation.

13. ALARM SIGNALS

Message	Cause	Outputs
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Message	Cause	Outputs
"P1"	Room probe failure	Compressor output acc. to par. "Con" and "COF"
"P2"	Second probe failure	Outputs unchanged
"P3"	Third probe failure	Outputs unchanged
"P4"	Fourth probe failure	Outputs unchanged
"HA"	Maximum temperature for first alarm	Outputs unchanged.
"LA"	Minimum temperature for first alarm	Outputs unchanged.
"HA2"	Maximum temperature second alarm	It depends on the "Ac2" parameter
"LA2"	Minimum temperature for second alarm	It depends on the "bLL" parameter
"dA"	Door open	Compressor according to rrd
"EA"	External alarm	Output unchanged.
"CA"	Serious external alarm (i1F=bAL)	All outputs OFF.
"CA"	Pressure switch alarm (i1F=PAL)	All outputs OFF

13.1 ALARM RECOVERY

Probe alarms "P1", "P2", "P3" and "P4" start some seconds after the fault in the related probe: they automatically stop some seconds after the probe restarts normal operation. Check connections before replacing the probe.

Temperature alarms "HA", "LA", "HA2" and "LA2" automatically stop as soon as the temperature returns to normal values.

Alarms "EA" and "CA" (with i1F=bAL) recover as soon as the digital input is disabled.

Alarm "CA" (with i1F=PAL) recovers only by switching off and on the instrument.

13.2 OTHER MESSAGES

Pon	Keyboard unlocked.
PoF	Keyboard locked
noP	In programming mode: none parameter is present in Pr1 On the display or in dP2, dP3, dP4: the selected probe is nor enabled
noA	None alarm is recorded.

14. TECHNICAL DATA

Housing: self extinguishing ABS.

Case: XR50CX frontal 32x74 mm; depth 60mm;

Mounting: XR50CX panel mounting in a 71x29mm panel cut-out

Protection: IP20: Frontal protection: XR50CX IP65

Connections: Screw terminal block ≤ 2,5 mm² wiring.

Power supply: according to the model: 12Vac/dc, ±10%; 24Vac/dc, ±10%; 230Vac ±10%, 50/60Hz, 110Vac ±10%, 50/60Hz

Power absorption: 3VA max

Display: 3 digits, red LED, 14,2 mm high; Inputs: Up to 4 NTC or PTC probes.

Digital input: free voltage contact

Relay outputs: compressor SPST 8(3) A, 250Vac; or 20(8)A 250Vac

alarm: SPDT 8(3) A, 250Vac

fan SPST 5 A

Data storing: on the non-volatile memory (EEPROM).

Kind of action: 1B: Pollution grade: 2:Software class: A:

Rated impulsive voltage: 2500V; Overvoltage Category: II

Operating temperature: 0÷60 °C;Storage temperature: -30÷85 °C.

Relative humidity: 20÷85% (no condensing)

Measuring and regulation range: NTC probe: -40÷110°C (-40÷230°F);

PTC probe: -50÷150°C (-58÷302°F)

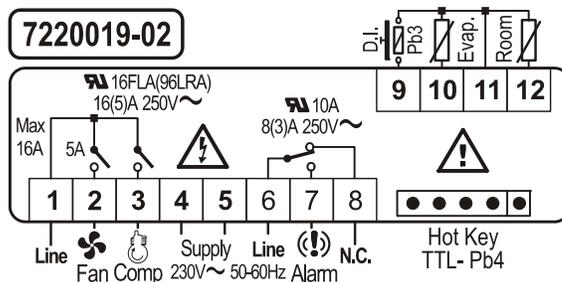
Resolution: 0,1 °C or 1 °C or 1 °F (selectable); Accuracy (ambient temp. 25°C): ±0,7 °C ±1 digit

15. CONNECTIONS

The X-REP output excludes the TTL output.. It's present in the following codes:

XR50CX- xx2xx, XR50CX -xx3xx;

15.1 XR50CX - 20A COMPRESSOR



12Vac/dc supply: connect to the terminals 4 and 5.

24Vac/dc supply: connect to the terminals 4 and 5.

120Vac supply: connect to the terminals 4 and 5.

16. DEFAULT SETTING VALUES

Label	Name	Range	Value	Level
Set	Set point	LS=US	2	
Hy	Differential	0,1÷25.5°C/ 1÷ 255°F	2	Pr1
LS	Minimum set point	-50°C÷SET/-58°F÷SET	1	Pr2
US	Maximum set point	SET÷110°C/ SET ÷ 230°F	3	Pr2
Ot	Thermostat probe calibration	-12÷12°C /-120÷120°F	0	Pr1
P2P	Second probe presence	n=not present; Y=pres.	y	Pr1
OE	Second probe calibration	-12÷12°C /-120÷120°F	0	Pr2
P3P	Third probe presence	n=not present; Y=pres.	n	Pr2
O3	Third probe calibration	-12÷12°C /-120÷120°F	0	Pr2
OdS	Outputs delay at start up	0÷255 min	0	Pr2
AC	Anti-short cycle delay	0 ÷ 50 min	5	Pr1
on	Minimum time compressor on	0÷30min	0	Pr1
r2P	2 probes regulation	n=not present; Y=pres.	n	Pr2
COOn	Compressor ON time with faulty probe	0 ÷ 255 min	3	Pr2
COF	Compressor OFF time with faulty probe	0 ÷ 255 min	5	Pr2
CH	Kind of action	CL=cooling; HL= heating	cL	Pr1
CF	Temperature measurement unit	°C ÷ °F	°C	Pr2
rES	Resolution	in=integer; dE= dec.point	in	Pr1
Lod	Probe displayed	P1-P2	P1	Pr2
dLy	Display temperature delay	0 ÷ 20.0 min (10 sec.)	2.0	Pr2
dFP	Probe selection for defrost termination	nP; P1; P2; P3; P4	P1	Pr2
dTE	Defrost termination temperature	-50 ÷ 50 °C	4	Pr2
IdF	Interval between defrost cycles	1 ÷ 120 ore	6	Pr2
MdF	(Maximum) length for defrost	0 ÷ 255 min	30	Pr2
dFd	Displaying during defrost	rt, it, SET, DEF	it	Pr2
dAd	MAX display delay after defrost	0 ÷ 255 min	15	Pr2
ALP	Probe for first temperature alarm	nP; P1; P2; P3; P4	P1	Pr2
ALc	Temperat. alarms configuration	rE= related to set; Ab = absolute	Ab	Pr2
ALU	MAXIMUM temperature alarm	Set÷110.0°C; Set÷230°F	9	Pr1
ALL	Minimum temperature alarm	-50.0°C÷Set/ -58°F÷Set	1	Pr1
AFH	Differential for temperat. alarm recovery	(0,1°C÷25,5°C) (1°F÷45°F)	1	Pr2
ALd	Temperature alarm delay	0 ÷ 255 min	15	Pr2
dAO	Delay of temperature alarm at start up	0 ÷ 23h e 50'	01:30	Pr2
AP2	Probe for temperat. alarm of condenser	nP; P1; P2; P3; P4	P2	Pr2
AL2	Condenser for low temperat. alarm	(-55 ÷ 150°C) (-67 ÷ 302°F)	1	Pr2
AU2	Condenser for high temperat. alarm	(-55 ÷ 150°C) (-67 ÷ 302°F)	9	Pr2
AH2	Differ. for condenser temp. alar. recovery	[0,1°C ÷ 25,5°C] [1°F ÷ 45°F]	1	Pr2
Ad2	Condenser temperature alarm delay	0 ÷ 254 (min.) , 255=nU	15	Pr2
dA2	Delay of cond. temper. alarm at start up	0.0 ÷ 23h 50'	01:30	Pr2
tbA	Alarm relay disabling	n=no; y=yes	y	Pr2
AoP	Alarm relay polarity (oA1=ALr)	oP; cL	CL	Pr2
i1P	Digital input polarity	oP=opening;CL=closing	CL	Pr1
i1F	Digital input configuration	EAL, bAL, PAL, dor; dEF; Htr, AUS	dor	Pr1
did	Digital input alarm delay	0÷255min	15	Pr1
Nps	Number of activation of pressure switch	0 ÷15	15	Pr2
odc	Compress status when open door	no: Fan; CPR; F_C	no	Pr2
rrd	Regulation restart with door open alarm	n - Y	y	Pr2
HES	Differential for Energy Saving	(-30°C÷30°C) (-54°F÷54°F)	0	Pr2
Adr	Serial address	0=247	1	Pr2
PbC	Kind of probe	Ptc; ntc	ntC	Pr2
onF	on/off key enabling	nu, oFF; ES	OFF	Pr2
dP1	Room probe display	--	-	Pr2
dP2	Second probe display	--	-	Pr2
dP3	Third probe display	--	-	Pr2
dP4	Fourth probe display	--	-	Pr2
rSE	Valore set operativo	actual set	-	Pr2
rEL	Software release	--	-	Pr2
Ptb	Map code	--	-	Pr2

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Probes	HES	Differential for Energy Saving	0	0	Pr2	-30	30	°C
Other	Adr	Serial address	1	1	Pr2	1	247	
Probes	PbC	Kind of probe	ntC	ntC	Pr2			
Configuration	OnF	On/off key configuration	OFF	OFF	Pr2			
Other	dP1	Room probe display	0	0	Pr2			
Other	dP2	Evaporator probe display	0	0	Pr2			
Other	dP3	Third probe display	0	0	Pr2			
Other	dP4	Fourth probe display	0	0	Pr2			
Other	rSE	Real set point	0	0	Pr2			
Other	rEL	Software release	0	0	Pr2			
Other	Ptb	Map code	3	3	Pr2	0	65535	
Regulation	SEt	Set point	2	2		1	3	°C