XM664K

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 (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

The **XM664K** is microprocessor controller suitable for medium and low temperature multiplexed cabinet applications composed of as many as 8 sections. This makes it possible to create a LAN (local area network) made up of the instruments which, depending on the programming, can operate as single controllers or managing the controls which arrive from one or more sections. The XM664K is equipped with 6 relay outputs which control the compressor, the defrost 1 and 2 (which can be either electric or with hot gas, the evaporator fans, the lights and an ON/OFF output. It is supplied with three NTC probe inputs, one for thermostating, one for temperature control at the end of defrost on evaporator 1 and one for end of defrost 2 control. There are also two digital inputs which can be configured by parameters.
The two LAN outputs provide an easy connection between the various controllers while the TTL connector programs the complete parameter list by means of a programming key called "**Hot Key**".

3. CONTROLLING LOADS

3.1 COMPRESSOR

The regulation is performed according to the temperature measured by the thermostat 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 **Con** and **CoF**.

3.2 DEFROST

There are three types of defrost available that can be selected with the parameter **tdF**: defrost with electric heater (**tdF=EL**), with hot gas (**tdF=in**) or disabled (**tdF=oFF**). When defrost is over, the dripping time starts, which is managed by the parameter **Fdt**.
Management of two defrosts is configured by parameters **dMo**, **dd1**, **dEM** and **dEn**. In particular:

dMo **Defrost 1-2 management mode**: (ind; 2-1; dEL) if **dMo=ind** defrost 1 e 2 managements are independent; if **dMo=2-1** activation of defrost 2 entails activation of defrost 1; if **dMo=dEL** activation of defrost 2 entails activation of defrost 1 with delay set by parameter **dd1;**
dd1 **Defrost 1 activation delay compared to defrost 2**: (0 to 255 min) as previously mentioned, it describes the activation delay of defrost 1 after activation of defrost 2 if **dMo=dEL**;
dEM **Defrost synchronisation in LAN**: (ind; Sin) if **dEM=ind** the end of defrosts is independent. If **dEM=Sin**, the end of defrosts is synchronised;
dEn **Synchronisation of local defrost end (def1 and def2)**: (ind; Sin) if **dEM=ind** the end of defrosts is independent. If dEM=Sin, the end of defrosts is synchronised.

The start of a defrost cycle can be controlled locally (manual activation by the keyboard, digital input or at the end of the time interval). Otherwise the command can arrive from any controller inserted in the LAN. In this last case, the controller will start a defrost cycle and will bring it to the end following the indications present in its programming parameters. But at the end of the cycle, it will wait for all the controllers present in the LAN to finish before returning to normal temperature regulation.

3.3 CONTROL OF EVAPORATOR FANS

The fan control mode is selected by means of the **FnC** parameter:
- **FnC = C_n:** fans will switch ON and OFF with the compressor and **not run** during defrost;
- **FnC = o_n:** fans will run even if the compressor is off, and not run during defrost.

After defrost, there is a timed fan delay allowing for drip time, set by means of the **Fnd** parameter:
- **FnC = C_Y:** fans will switch ON and OFF with the compressor and **run** during defrost;
- **FnC = o_Y:** fans will run continuously also during defrost.

An additional parameter **FSt** provides the setting of temperature, detected by the evaporator probe, above which the fans are always OFF. This is used to make sure circulation of air only if his temperature is lower than set in **FSt**.

4. FRONT PANEL COMMANDS

set	To display and modify target set point; in programming mode it selects a parameter or confirm an operation. By holding it pressed for 3 sec when max or min temperature is displayed it will be erased.
	To see the max stored temperature value. In programming mode it browses the parameter codes or increases the displayed value. By holding it pressed for 3s it gives access to the "Section" menu.
	To see the min stored temperature value. In programming mode it browses the parameter codes or decreases the displayed value.
	By holding it pressed for 3 sec the defrost is started.
	Switch ON and OFF the room light.
	Keep it pressed more than 3 sec to switch ON and OFF the instrument.

KEY COMBINATIONS

set +	To enter the programming mode.
set +	To exit the programming mode.

4.1 USE OF LEDS

Each LED function is described in the following table.

LED	MODE	Function
❄	ON	Compressor enabled
	Flashing	Programming phase (flashing with the LED 🌀) Anti-short cycle delay enabled
🌀	ON	Fans enabled
	Flashing	Programming phase (flashing with the LED ❄)
❄	ON	Defrost enabled
	Flashing	Defrost or drip time enabled
	ON	The controller is working in "ALL" mode
	Flashing	The controller is working in remote virtual display mode
	ON	An alarm is active

4.2 HOW TO SEE AND MODIFY THE SET POINT

1. Push for about 3 sec the **SET** key: the display will show the Set point value;
2. The measurement unit starts blinking;
3. To change the **SET** value push the **o** or **n** arrows within 10 sec.
4. To store the new set point value push the **SET** key again or wait 10 sec.

4.3 HOW TO START A MANUAL DEFROST

1. Push the **DEF** key for more than 3 seconds and a manual defrost will start.
2. Use the **UP** and **DOWN** keys to select the dEF1 or the dEF2.

4.4 TO ENTER IN PARAMETERS LIST "PR1"

To enter the parameter list "Pr1" (user accessible parameters) operate as follows:

1. Enter the Programming mode by pressing the **SET+DOWN** key for few seconds (🌀 and ❄ start blinking).
2. The instrument will show the first parameter present in "Pr1".

4.5 TO ENTER IN PARAMETERS LIST "PR2"

To access parameters in "**Pr2**":
1. Enter the "Pr1" level.
2. Select "Pr2" parameter and press the **SET** key.
3. The "**PAS**" flashing message will be displayed shortly, followed by "0 - -" with a flashing zero.
4. Use **o** or **n** to input the security code in the flashing digit; confirm the figure by pressing **SET**. The security code is "321".
5. If the security code is correct the access to "Pr2" is enabled by pressing **SET** on the last digit.

Another possibility is the following: after switching ON the instrument the user can push **SET+DOWN** keys within 30 sec.

NOTE: each parameter in "Pr2" can be removed or put into "Pr1" (user level) by pressing **SET+DOWN**. When a parameter is present in "Pr1" LED (🔔) is on.

4.6 HOW TO CHANGE THE PARAMETER VALUE

1. Enter the Programming mode.
2. Select the required parameter with **o** or **n** .
3. Press the **SET** key to display its value (measurement unit starts blinking).

4. Use **o** or **n** to change its value.
5. Press **SET** to store the new value and move to the following parameter.

To exit: Press **SET+UP** or wait for 15 sec without pressing any key.
NOTE: the new programming is stored even when the procedure is exited by waiting the time-out.

4.7 ON/OFF FUNCTION

By pushing the **ON/OFF** key, the instrument shows "OFF". During the OFF status, all the relays are switched OFF and the regulations are stopped; if a monitoring system is connected, it does not record the instrument data and alarms.

N.B. During the OFF status the Light and AUX buttons are active.

4.8 TO VIEW THE VALUE OF THE PROBES

1. Enter the protected menu "**Pr2**".
2. Using the keys **o** or **n** , select the parameter "**dP1**" for probe 1, "**dP2**" for the evaporator probe and "**dP3**" for the display probe.
3. Press the **SET** key to view the relative value.
4. Press the **SET** key to pass to the next parameter.

5. SECTIONS MENU

This menu allows to access the special function (characteristic of the XM series) relative to the LAN (Local Area Network) of the controllers. Depending on how a keyboard is programmed, it can assume control of the section it is connected to, control any of the other sections of the LAN or control all the sections.
To enter the sections menu, do as follows:

1. Press **o** more than 3 sec
2. The message corresponding to the current programming of the keyboard is displayed.
3. With keys **o** or **n** select the section you wish to control.
4. Press the **SET** key to confirm and exit programming.

The following messages appear on the display:
LOC: The keyboard shows the measured temperature values, the states of the outputs and the alarms of the section to which it is connected. All the commands given by the keyboard will be carried out only by the local section.
SE1...SE8: the keyboard controls the section of the LAN corresponding to the number (remote control) and shows the values of the measured temperature, the states of the outputs and the alarms corresponding to that section. All the commands given by the keyboard will be carried out by that section alone.

ALL: The keyboard shows the measured temperature values, the states of the outputs and the alarms of the section to which it is connected, but the commands given by the keyboard are transferred to all the sections making up the LAN.

In the event of an alarm, the label "Asn" will appear on the display, with "n" standing for the number of the section in alarm. To view the type of alarm in detail, program the keyboard so that it takes control of the corresponding section

6. HOW TO CHANGE THE ACTIVE MAP

This device is provided with 5 parameter maps. Passage from one parameter map to another takes place by entering a password and selecting the index of the desired map. When the map is selected, the instrument performs a reset to load the new functioning settings.
The procedure for changing maps is as follows:

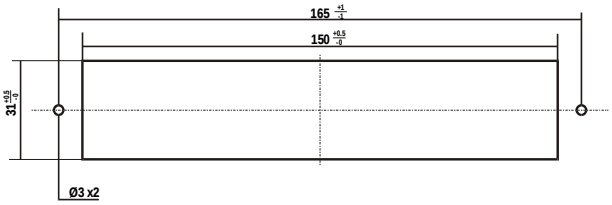
1. enter in parameter programming and search for the parameter **MAP**;
2. press **SET**;
3. enter the password "019";
4. select the index of the map desired and press **SET** once again;
5. The label "- - -" will appear on the display to indicate a reset of the instrument after changing map.

7. INSTALLATION AND ASSEMBLY

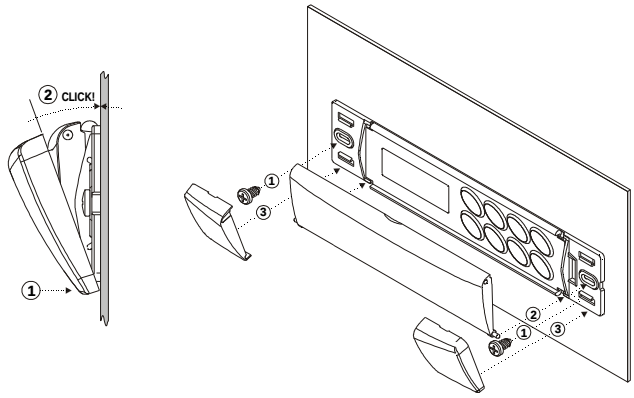
The **XM664K** must be installed inside the machine with two or more through screws and connected to the keyboard by means of two ∅ 1mm cables. The allowed temperature range for correct functioning is between 0 and 60°C. Avoid places subject to heavy vibrations, corrosive gas, excessive filth or humidity. The same instructions hold for the probes as well. Leave the area near the cooling louvers ventilated.

7.1 CUT OUT

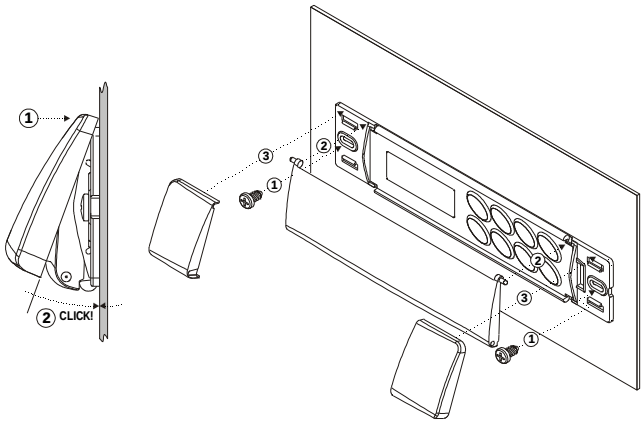
The **T640** keyboard shall be mounted on vertical panel, in a 150x31 mm hole, and fixed using two screws ∅ 3 x 2mm. To obtain an IP65 protection grade use the front panel rubber gasket (mod. RG-L).



7.2 MOUNTING WITH KEYBOARD COVER OPENING UPWARD



7.3 MOUNTING WITH KEYBOARD COVER OPENING DOWNWARD



8. ELECTRICAL CONNECTIONS

The **XM664K** power modules are provided with screw terminal block to connect cables with a cross section up to 2.5 mm². Relays and power supply have Fast-on type connection (6.3 mm). Heat-resistant cables have to be used. 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.
N.B. Maximum current allowed for all the loads is 20A.

8.1 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 evaporator 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.

9. TTL SERIAL LINE

The TTL connector allows, by means of the external module **XJ485**, to connect the unit to a network line **ModBUS-RTU** compatible as the dIXEL monitoring system XWEB.
The same TTL connector is used to upload and download the parameter list of the "**Hot Key** ".

10. HOW TO USE THE HOT KEY

10.1 DOWNLOAD (FROM THE "HOT KEY" TO THE INSTRUMENT)

1. Turn OFF the instrument by means of the ON/OFF key, remove the TTL serial cable if present, insert the **"Hot Key"** and then turn the Wing ON.
2. Automatically the parameter list of the **"Hot Key"** is downloaded into the Wing memory, the "**DoL**" message is blinking. After 10 seconds the instrument will restart working with the new parameters.
3. Turn OFF the instrument and remove the **"Hot Key"**; plug the TTL serial cable (if was previously present) and then turn it ON again.

At the end of the data transfer phase the instrument displays the following messages:

- "**End**": for right programming. The instrument starts regularly with the new programming.
- "**Err**": 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.

10.2 UPLOAD (FROM THE INSTRUMENT TO THE "HOT KEY")

1. Turn OFF the instrument by means of the ON/OFF key and remove the TTL serial cable if present; then turn it ON again.
2. When the unit is ON, insert the "**Hot key**" and push O key; the "**uPL**" message will appear.
3. Push **SET** key to start the UPLOAD; the "**uPL**" message will start blinking.
4. Turn OFF the instrument and remove the "**Hot Key**"; plug the TTL serial cable (if was previously present) and then turn it ON again.

At the end of the data transfer phase the instrument displays the following messages:

- "**End**": for right programming.
- "**Err**": for failed programming. In this case push **SET** key if you want to restart the programming again or remove the not programmed "**Hot key**".

11. ALARMS

The alarm signals displayed on the keyboard can be divided into 2 groups:
1. Local alarms, including all the alarms relating to the section directly controlled by the keyboard.
2. Remote alarms, including all those alarms relating to the LAN.

The signal on the display remains until the alarm condition has ceased. All of the alarm signals flash, alternating with the probe temperature, except for "P1" which is always flashing.
The "EE" alarm can be cancelled by pressing any key during the alarm signal. Then the message "**rSt**" is displayed for about 3s before going back to normal functioning.

11.1 LOCAL ALARMS

Messagge	Cause	Outputs
PoF	Keyboard locked	
Pon	Keyboard unlocked	
rst	Alarm muting	
noP	Probe not present	
noL	Absence of communication keyboard-main unit	
P1	Room probe failure	Compressor output acc. to par. **Con** and **CoF**
P2	Evaporator probe failure	Outputs unchanged
P3	Auxiliary probe failure	Outputs unchanged
HA	Maximum temperature alarm	Outputs unchanged
LA	Minimum temperature alarm	Outputs unchanged
MSn	Serious alarm because of reaching the max number of pauses	
rtF	Real time clock board failure	Alarm output ON; other outputs unchanged
rtc	Real time clock alarm	Outputs unchanged
EA	External alarm	Outputs unchanged
CA	Compressor alarm	Regulation outputs deactivated
PAL	Pressure sensor alarm	
dA	Door open alarm	
StP	Stop regulation	
EE	Eeprom failure	

11.2 REMOTE ALARMS

Mess.	Cause
"AS*n*"	Section *n* is in alarm, with *n* = serial LAN address ("LAN" parameter). this alarm is displayed only if the keyboard is in "ALL" mode. This is a generic indication of the state of alarm. To have more detailed information, set the keyboard so that it controls that specific section.
"nL*n*"	No link alarm (no communication) with section *n* ("Lan" parameter)
"nLn"	No link alarm (no communication) while a remote probe is viewed. This alarm appears only if the LdS parameter of the section is set at "y".
"rPE"	Remote viewer error. More than one keyboard has been set for remote control

11.3 BUZZER SILENCING AND ALARM EXIT

Once the alarm signal has been detected, the buzzer and alarm exit can be deactivated by pressing any key. However the signal on the display remains until the alarm condition has ceased. It is possible to inhibit the alarm relay deactivation by setting the parameter **tbA=n**. In this way the alarm relay remains active as long as the alarm condition lasts.
The signal buzzer is found in the keyboard **T640**.

11.4 "EE" ALARM

The instruments of the Dixell series are equipped with an internal control which checks the integrity of the data. The flashing "EE" alarm which alternates with the temperature signals the presence of a data anomaly. .

11.5 MODE FOR CEASING ALARMS

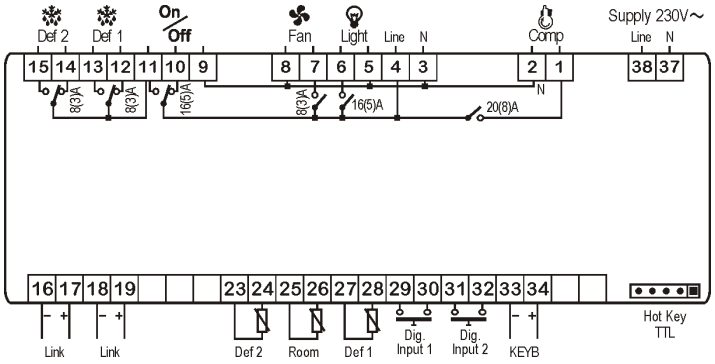
The **probe alarms** "**P1**", "**P2**" and "**P3**" are triggered about 10 sec after the probe failure. They automatically cease 10 sec after the probe goes back to regular functioning. Before replacing a probe, it is recommended to check the connections.
The **temperature probes** "**HA**" and "**LA**" automatically cease as soon as the thermostat temperature goes back to normal, when defrost starts or when the door opens.
The **No link alarms** "**nL*n***" **and** "**nLn**" cease automatically as soon as correct communication is re-established between the sections
The **digital input alarms** "**EAL**" and "**BAL**" cease automatically when the input is deactivated.

12. TECHNICAL DATA

Keyboard
Housing: self extinguishing ABS.
Case: facia 38x185 mm; depth 23mm.
Mounting: panel mounting in a 150x31 mm panel cut-out with two screws. ∅ 3 x 2mm.
Distance between the holes 165mm.
Frontal protection: IP65 with frontal gasket mod RG-L (optional).
Connections: Screw terminal block ≤ 2.5 mm² heat-resistant wiring.
Power supply: from **XM664K** power module.
Display: 3 digits, red LED, 14.2 mm high.
Optional output: buzzer.

Mounting	Din
Housing	self extinguishing ABS
Dimensions	8 Din
Connections	Screw ≤ 1,6mm² and FASTON 6,3mm
Power Supply	230Vac ± 10%
Power absorption	9VA max.
Display	NO
Temperature inputs	3 sensors: NTC (10KΩ at 25°C); PTC (806Ω at 0°C) -40 to +150°C; Pt1000 sensor
Digital inputs	Two free voltage digital inputs
Relay outputs	SPST 20 (8) A
Relay Defrost 1	SPST 8 (3) A
Relay Defrost 2	SPST 8 (3) A
Relay Fans	SPST 8 (3) A
Relay Light	SPDT 16 (5) A
Relay ON/OFF	SPDT 16 (5) A
Data storing	On the non-volatile memory (EEPROM)
Kind of action	1B
Pollution degree	Normal
Software class	A
Operating temperature	0 to 60°C
Storage temperature	-25 to 60°C
Relative humidity	20 to 85% (not condensing)
Measuring and regulation range	NTC probe: -40 to 110°C PTC probe: -50 to 150°C
Resolution	0.1°C
Accuracy	±0.5°C ±1 digit

13. CONNECTIONS



14. DEFAULT SETTING VALUES

FACTORY DEFAULT PARAMETER TABLE
The indication for just one of the 5 available parameter maps is carried.
(*) Parameters visible on Pr1 level.

	LABEL	VALUE	DESCRIPTION	RANGE
	SET	-20	Regulation set point	LS to US
	MAP	- - -	Parameter map switch	1 to 5
	AtA	- - -	Alternative parameter map access	- - -
			REGULATION	
❄	**Hy**	2,0	HY is the ON/OFF heat regulation differential	[0.1 to 25.5°C]
❄	**LS**	-30	Minimum Set-Point that can be set by keyboard	[-55.0°C to SET]
❄	**US**	10	Maximum Set-Point that can be set by keyboard	[SET to 150.0°C]
❄	**odS**	0	Delay in minutes until switch-on before all regulation outputs are activated.	0 to 255 min
❄	**AC**	1	Anti-short cycle delay of relay cold regulation output	0 to 60 min
❄	**CCt**	0	Duration of continuous cycle	0.0 to 24h00min, res. 10 min
❄	**CCS**	0	Continuous cycle set point	[-55.0 to 150°C]
❄	**Con**	15	Time compressor ON with probe failure.	0 to 255 min
❄	**CoF**	30	Time compressor OFF with probe failure.	0 to 255 min
❄	**CH**	cL	Type of regulation action	CL; Ht
❄	**CF**	°C	Temperature measurement unit: °C or °F	°C; °F
❄	**rES**	In	Display resolution	dE; in
	Lod	P1	Display probe: from P1 to P3. tEr= not used dEF=not used. If Err appears on the display, the probe is in error, or nP=not present in parameter P1C..P3C.	nP; P1; P2; P3; tEr; dEF
	dLy	0.0	Delay in minutes/ seconds of the display of temperature rise to limit effects of too quick variations of a temperature sensor.	0.0 to 24h00min, res. 10 min
			DEFROST	
❄	**dPA**	P2	Selection of 1st defrost probe input: from P1 to P3, nP=not present.	nP; P1; P2; P3
❄	**dPb**	nP	Selection of 2nd defrost probe input: from P1 to P3, nP=not present.	nP; P1; P2; P3
❄	**tdF**	In	Defrosting mode	EL – in - OFF
❄	**tbO**	0	Time duration of black-out/stand-by reset of intervals between defrosts (0=instant reset). If tb0 is different than 0, use	0 to 255 min
❄	**dtE**	8	Probe dPA defrost 1 end temperature	[-55.0°C ÷ 50.0°C]
❄	**dtS**	8	Probe dPb defrost 2 end temperature	[-55.0°C ÷ 50.0°C]
❄	**idF**	8	Defrost 1 interval if EdF=in (intervals) If idF=0 defrost is forced manually only, from serial, from outside contact, from coordinated defrost LAN.	0 to 120 hours
❄	**IdS**	0	Defrost 2 interval if EdF=in (intervals) If idS=0 defrost is forced manually only, from serial, from outside contact, from coordinated defrost LAN.	0 to 120 hours
❄	**MdF**	8	Maximum duration forcing defrost 1 end if it is not cut-off before the dTE temperature.	0 to 255 min
❄	**MdS**	0	Maximum duration forcing defrost 2 end if it is not cut-off before the dTS temperature.	0 to 255 min
❄	**dMo**	Ind	Defrost management mode (independent, 2 force 1, 1 delayed compared to activation of 2)	Ind; 2-1; dEL
❄	**dd1**	0	Defrost 1 activation delay compared to start of 2	0 to 255 min
❄	**dEM**	Ind	Defrost end synchronisation in LAN (independent – synchronised)	ind; Sin
❄	**dEn**	Ind	Local 1-2 defrost end synchronisation (independent – synchronised)	ind; Sin
❄	**dSd**	0	Defrost delay from call	0 to 255 min
❄	**dFd**	rt	Display during defrost	rt; it; Set; dEF
❄	**dAd**	60	Temperature display delay after defrost blocking display.	0 to 255 min
❄	**Fdt**	0	Post-defrost dripping time keeping the ventilation outputs and heat regulation stopped.	0 to 255 min
❄	**dPo**	n	Defrost at switch-on (yes /no)	n; Y
❄	**dAF**	0	Defrost delay after continuous cycle	0.0 to 24h00min, res. 10 min
			FAN REGULATION	
	FPA	P2	Fan probe control input selection: from P1 to P3, nP=not present.	nP; P1; P2; P3
	FnC	O-n	Fans functioning mode. C= active only with cold output ON, O= always active, n= stopped for defrost, Y= active for defrost.	C-n; O-n; C-Y; O-Y
	Fnd	1	Fan switch-on delay after defrost	0 to 255 min
	FSt	10	Fan block temperature on FPA fan probe	[-55.0 to 50.0°C]
	FHy	1	Return differential from fans stop FSt set	[0.1 to 25.5°C]
	Foo	10	Time fans on after instrument OFF	0 to 255 min
	Fon	15	Time fans ON with compressor off	0 to 15 min
	FoF	15	Time fans OFF with compressor off	0 to 15 min
			TEMPERATURE ALARMS	
	rAL	P1	Probe selection for HA and LA temperature alarm	nP; P1; P2; P3

	ALC	Ab	Alarms: rE=relating to temperature set point [SET+ALU] and [SET-ALL]; Ab= absolute value ALU or ALL within scale limits of selected sensor	rE; Ab
	ALU	60	High temperature alarm threshold generating HA message after Ald minutes.	[0.0 to 50.0°C or ALL to 150.0°]
	ALL	-50	Low temperature alarm threshold generating LA message after Ald minutes.	[0.0 to 50.0°C or -55.0°C to ALU]
	AHy	2	Temperature alarms differential	[0.1 to 25.5°C]
	ALd	15	HA and LA temperature alarm signal delay	0 to 255 min
	dAo	1.3	Alarm signal delay at hour switch-on.10 minutes.	0.0 to 24h00min, res. 10 min
	EdA	30	Exclusion of temperature alarm after defrost in minutes.	0 to 255 min
	dot	30	Duration of exclusion of temperature alarm after door closing.	0 to 255 min
	tbA	n	Silencing of alarm relay by pressing any key on the keyboard.	n; Y
			CONFIGURATION OF RELAY OUTPUTS: Cpr=cold output, dEF=defrost, dF2=defrost2 FAn=fans, ALr=alarm, LiG=light, AUS=auxiliary, OnF=ON/OFF	
	oA2	dEF	Configuration of 2nd relay function	CPr; dEF; dF2; FAn; ALr; LiG; AUS; OnF
	oA5	dF2	Configuration of 5th relay function	CPr; dEF; dF2; FAn; ALr; LiG; AUS; OnF
	AOP	oP	Relay output polarity configured as alarm. OP= alarm with open contact.	OP; CL
	iAU	n	Auxiliary relay output independent from ON/OFF status of board.	n; Y
			DIGITAL INPUTS Key: EAL=external alarm, Bal=regulation block alarm, PAL=do not use, dor=door switch, dEF=external defrost contact, AUS= auxiliary relay, LiG=light relay, OnF= On/OFF board, ES=energy saving, AtA=alternative map activation CbL= compressor block	
	i1P	CL	Input polarity DI1 CL=active for closed contact	OP; CL
	i1F	dor	Digital input function configuration DI1	EAL; bAL; PAL; dor; dEF; AUS; LiG; OnF; ES; ATA; CbL
	d1d	0	Alarm delay for configurable digital input DI1	0 to 255 min
	i2P	CL	Input polarity DI2 CL=active for closed contact	OP; CL
	i2F	AtA	Digital input function configuration DI2	EAL; bAL; PAL; dor; dEF; AUS; LiG; OnF; ES; ATA; CbL
	d2d	0	Alarm delay for configurable digital input DI2	0 to 255 min
	nPS	10	Number of interventions at status before block	0 to 15
	OdC	FAn	Loads control with door open: Fan=fans, Cpr=compressor, F-C fans and compressor. Valid if one of the parameters i1,2F= dor	no; FAn; CPr; F-C
	rrd	30	Forcing of fan compressor restart after door opening Valid if one of the parameters i1,2F= dor	0 to 255 min
			KEYBOARD CONFIGURATION	
	bbC	6bb	6-key or 8-key keyboard configuration	6bb; 8bb
			LAN MANAGEMENT	
	rdA	y	Remote function management activation (RVD)	n; Y
	SEb	y	Sections that can be selected from keyboard	n; Y
	LSn	- - -	Number of devices detected in LAN	1 to 8
	LAn	- - -	Serial addresses of devices detected in LAN	1 to 247
	L1d	y	Defrost 1 synchronisation in LAN	n; Y
	L2d	y	Defrost 2 synchronisation in LAN	n; Y
	LSP	n	Y= forcing of same set point for all boards, n= independent set point.	n; Y
	LdS	n	Y= Synchronise board display n= independent display.	n; Y
	LOF	n	Y= Synchronise ON/OFF n= ON/OFF independent	n; Y
	LLi	y	Y= Synchronise Light n= Light independent	n; Y
	LAU	n	Y= Synchronise AUX n= AUX independent	n; Y
	LES	n	Y= Synchronise Energy Saving n= Energy Saving independent	n; Y
	LSd	n	Y= Remote probe display n= no remote probe display	n; Y
			INPUT CONFIGURATION. NTC (10KΩ at 25°C), Ptc (806Ω at 0°C)	
	P1C	Ntc	Probe P1 Configuration nP= not present	nP; PtC; ntC
	Ot	0	Probe P1 calibration	[-12.0 to 12.0°C]
	P2C	Ntc	Probe P2 Configuration nP= not present	nP; PtC; ntC
	oE	0	Probe P2 calibration	[-12.0 to 12.0°C]
	P3C	nP	Probe P3 Configuration nP= not present	nP - Ptc - ntc
	O3	0	Probe P3 calibration	[-12.0 to 12.0°C]
			SERVICE	
	Adr	1	Cold output opening ON/OFF percentage	1 to 247
	OnF	OFF	ON/OFF key function configuration (not used – ON/OFF – Energy saving)	nu; OFF; ES
	LPC	LiG	Light key function configuration (not used – Light – auxiliary – FHU not used)	nu; LiG; AUS; FHU
	dPC	dEF	Defrost key function configuration (defrost – auxiliary)	dEF; AUS
			SERVICE DISPLAY	
	rEL	1.1	Firmware release code (read only)	Read only
	Ptb		EEPROM map identification	Read only
	Pr2	- - -	PR2 MENU input (protected parameters)	(Protected parameters input)
	dP1	- - -	Probe 1 display	Read only
	dP2	- - -	Probe 2 display	Read only

	dP3	- - -	Probe 3 display	Read only
	L°t	- - -	Minimum temperature display	Read only
	H°t	- - -	Maximum temperature display	Read only
			ALTERNATIVE PARAMETER MAP	
	SET	4	Set point	LS to US
❄	**Hy***	3	HY is the ON/OFF heat regulation differential	[0.1 to 25.5°C]
❄	**LS***	0	Minimum Set-Point that can be set by keyboard	[-55.0 to SET]
❄	**US***	20	Maximum Set-Point that can be set by keyboard	[SET to 150.0°C]
❄	**tdF***	OFF	Defrosting mode	EL; in; OFF
❄	**dtE***	8	Probe dPA defrost 1 end temperature	[-55.0 to 50.0°C]
❄	**dtS***	8	Probe dPb defrost 2 end temperature	[-55.0 to 50.0°C]
❄	**idF***	8	Defrost 1 interval if EdF=in (intervals) If idF=0 defrost is forced manually only, from serial, from outside contact, from coordinated defrost LAN.	0 to 120 hours
❄	**idS***	0	Defrost 2 interval if EdF=in (intervals) If idS=0 defrost is forced manually only, from serial, from outside contact, from coordinated defrost LAN.	0 to 120 hours
❄	**MdF***	30	Maximum duration forcing defrost 1 end if it is not cut-off before the dTE temperature.	0 to 255 min
❄	**MdS***	0	Maximum duration forcing defrost 2 end if it is not cut-off before the dTS temperature.	0 to 255 min
❄	**dFd***	rt	Display during defrost	rt; it; Set, dEF
	FnC*	O-y	Fans functioning mode. C= active only with cold output ON, O= always active, n= stopped for defrost, Y= active for defrost.	C-n; O-n; C-Y; O-Y
	Fnd*	0	Fan switch-on delay after defrost	0 to 255 min
	FSt*	10	Fan block temperature on fan probe	[-55.0 to 50.0°C]
	Ot*	0	Probe P1 calibration	[-12.0 to 12.0°C]
	P1C*	Ntc	Probe P1 Configuration nP= not present	nP; PtC; ntC
	P2C*	nP	Probe P2 Configuration nP= not present	nP; PtC; ntC
	P3C*	nP	Probe P3 Configuration nP= not present	nP; PtC; ntC

dixell
EMERSON
Climate Technologies
Dixell S.r.l. - 32010 Pieve d'Alpago (BL) ITALY - Z.I. Via dell'Industria, 27
Tel. +39.0437.9833 r.a. - Fax +39.0437.989313 - www.dixell.com - dixell@emerson.com