UNIVERSAL–XR

GREAT FEATURES of the Universal-XR

- **ONE CONTROL FOR MANY APPLICATIONS**

  This one control can be programmed by the push of a button for most Medium to Low Temperature Refrigeration and Heating applications.

- **QUICK AND SAFE START UP FUNCTION SELECTION**

  Direct selection of the controller functionality by pressing a dedicated button, during a fixed time interval at start up, locking in the application.

- **EASY ONE BUTTON DETECTION OF PROBE TYPE**

  By pressing the down button after the map has been selected the control will automatically detect the probe type connected ***ntc/ptc.***

- **EASY XWEB/ MONITORING SYSTEM CONNECTION**

  Adding a XJR485CX key the control can be interfaced with XWEB systems, the WEISS DX-Touch, or any other BMS or your own interface. Contact Weiss Instruments for the MODbus/RTU documents for 3rd party systems.

1. INDEX

2. GENERAL WARNING

WARNING: The Universal-XR should always be installed by qualified personnel, in accordance with the NEC and local codes for electrical and refrigeration. Take time to read the instructions. Do not exceed the relay ratings. The Universal-XR should not be considered a safety device, use suitable safety cutout devices when appropriate.

- 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.
- Dixell Srl reserves the right to change the composition of its products, even without notice, ensuring the same and unchanged functionality.

2.1 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.
- The instrument must not be opened.
- Fit the probes where they are not accessible by the End User.
- In case of failure or faulty operation send the instrument back to the distributor with a detailed description of the fault.
- Do not exceed the maximum current that can be applied to each relay (see Technical Data).
- Ensure that the wires for probes, electrical loads and the power supply are separated and far enough away to each other, without crossing or intertwining.
- In case of applications in industrial environments, the use of mains filters (our mod. DIXL930) in parallel with inductive loads could be useful.
- **Heating applications** – *Do not exceed 230°F* with the NTC probes supplied. For higher temperatures *(up to a maximum of 302°F)* use special PTC probes.

3. GENERAL DESCRIPTION

Model **Universal-XR** is a 71x29 mm format microprocessor based controller, suitable for applications on high, medium or low temperature refrigeration units. It is provided with three relay outputs to control compressor, defrost - which can be both electrical or hot gas - and evaporator fans. It can work with PTC or NTC probes. Where defrost is being terminated by time, it can operate with just one thermostat probe. Where defrost is being terminated by temperature, it has an input for an evaporator probe(s).
The **Universal-XR** is equipped with a flashing visual alarm and buzzer.
Each instrument is fully configurable through special parameters that can be easily programmed through the keypad.

4. QUICK START UP PROCEDURE – Up and running in 5 easy steps

This Quick Start Up section is designed to get you up and running with the minimum of fuss. Just follow these 5 simple steps.

STEP 1		Install the new Universal-R, connect the correct number of probes and connect the wiring - See below: 1. *Table 1: parameter tC settings* 2. *Section 5: Typical connections*
STEP 2	⚠	Turn on power, *THEN WITHIN 1 MINUTE COMPLETE STEPS 3, 4 AND 5.*
STEP 3	☞ ▽	Press the "**DOWN**" key for 3 seconds and the controller will automatically recognise and adjust itself to the type of probes connected. (The display briefly shows **tPd** followed by **ntC** or **PtC**).
STEP 4	☞ **AUX** **tC**	Press the "**AUX/tC**" key for 3 seconds and the setting of parameter **tC** is displayed. Use the **UP** or **DOWN** keys to adjust to required setting then confirm by pressing **SET** *(see table 1 below)*.
STEP 5	☞ **SET**	Press **SET** for 3 seconds until the **°C** or **°F** icon starts to flash, then adjust the SET POINT using the **UP** or **DOWN** keys, then press **SET** again to confirm.

- **Notes:**
1. All probes must be of the same type, either PTC or NTC;
2. Probes must be at between --58 to 140°F for auto recognition to work;
3. If 1 minute expires before you have completed quick set up, either turn OFF / ON power to start set up again or enter parameter as per the instructions and adjust your parameter settings manually (see Section 9).

Table 1: parameter "tC" settings

Parameter tC	Type of Control	Models Replaced	Required probes
1	On / Off thermostat – Heating	XR110C, XR01CX, XR10C, XR10CX	**x 1**
2	Off cycle defrost (timed)	XR120C, XR02CX, XR20C, XR20CX	**x 1**
3	Off Cycle defrost time initiated / temperature terminated	XR120C, XR02CX, XR20C-E	**x 2**
4	Off Cycle defrost time initiated / temperature terminated, Alarm Relay	XR130C, XR03CX, XR30CX	**x 2**
5	Electrical / Hot Gas defrost, time initiated / temperature terminated	XR140C, XR04CX, XR40CX	**x 2**
6	Electrical / Hot Gas defrost, time initiated / temperature terminated + evap. Fan delay and control	XR160C, XR06CX, XR60CX	**x 2**
7	Full open map of parameters configure your own control	Your determination	**1 to 3**

Note: *As you change parameter tC, defaults change and should be approximately correct for that application but we strongly recommend you check all parameter default values listed in these instructions to ensure they suit your particular application and make further adjustments if necessary. Read the following sections for information about programming.*

5. TYPICAL CONNECTIONS - FOR GENERAL GUIDANCE ONLY

Table 2: typical connections

TC=1 Heating

TC=2 Cooling, Off Cycle Defrost, Time Ended

TC=3 Cooling, Off Cycle Defrost, Temperature Ended

TC=4 Cooling, Off Cycle Defrost, Temperature Ended, Alarm Relay

TC=5 Cooling, Electric or Hot Gas Defrost Temperature Ended

TC6= Low Temp, Elec. Or Hot Gas Defrost, Temp. Ended, Fan Control

TC7= Open Map to be Configured for any application

Actual Label on The Control in the Box.
Load1 is always Comp, or Heat.
Load2 is OAA and Load3 is OAb.

6. PARAMETER TABLE and factory default settings

IMPORTANT: Always set parameter "**tC**" first. As you move "**tC**" between settings 1 to 7, all non-relevant parameters will be masked. After setting "**tC**", it will be possible to modify all the other relevant parameters.

<mark>**Once the program is completed you may want to save the parameter map to a Hot Key. If the "tC" is changed after final programming the parameters will be changed back to the default listed belo**</mark>w.

> WARNING!!
> Always switch the power OFF and then ON at the end of programming to update any parameter changes.
> Make sure you connect the correct number of probes to suit the setting of parameter tC. Failure to do this will cause probe alarms
>
> | tC setting | No. Probes | Type |
> |---|---|---|
> | 1, 2 | 1 | Room only |
> | 3, 4, 5, 6 | 2 | Room + Evaporator 1 |
> | 7 | 3 | Room + Evaporator 1 + Display or AUX |
>
> **Any probe alarms can be cleared by turning off / on the power**

Table 3: default controller parameters

Description	Label	Adjustment Range	tC1	tC2	tC3	tC4	tC5	tC6	tC7
Type (category) of controller	tC	1 = On / Off Thermostat	1						
		2 = Off cycle defrost		2					
		3 = Time / time defrost			3				
		4 = Time / temp defrost + alarm				4			
		5 = Time / temp defrost					5		
		6 = Time / temp defrost + fan delay						6	
		7 = Full Open Map Configurable							7
Set Point		LS to US	40.0°C; 104°F	2.0°C; 36°F	2.0°C; 36°F	2.0°C; 36°F	2.0°C; 36°F	2.0°C; 36°F	2.0°C; 36°F
Probe type	PbC	PTC=0 NTC=1	1	1	1	1	1	1	1
Differential	HY	0.1 to 25.5°C; 1 to 45°F	2.0°C; 2°F	2.0°C; 2°F	2.0°C; 2°F	2.0°C; 2°F	2.0°C; 2°F	2.0°C; 2°F	2.0°C; 2°F
Minimum Set Point limit	LS	-55°C to Set Point; -67°F to Set Point	-50.0°C; -58°F	-50.0°C; -58°F	-50.0°C; -58°F	-50.0°C; -58°F	-50.0°C; -58°F	-50.0°C; -58°F	-50.0°C; -58°F
Maximum Set Point limit	US	Set Point to 150°C; Set Point to 302°F	50.0°C; 122°F	50.0°C; 122°F	50.0°C; 122°F	50.0°C; 122°F	50.0°C; 122°F	50.0°C; 122°F	50.0°C; 122°F
Anti-short cycle delay	AC	0 to 50 min	1	1	1	1	1	1	0
Second compressor start delay	AC1	0 to 255 sec							0
Temperature alarm configuration	ALC	rE (0)= Relative to Set Point; Ab (1) = Absolute	1	1	1	1	1	1	1
High temperature alarm	ALU	0 to 50°C (Rel); ALL to 150°C (Abs) 0 to 90°F (Rel); ALL to 302°C (Abs)	50.0°C; 122°F	50.0°C; 122°F	50.0°C; 122°F	50.0°C; 122°F	50.0°C; 122°F	50.0°C; 122°F	50.0°C; 122°F
Low temperature alarm	ALL	0 to 50°C (Rel); -55°C to ALU (Abs); 0 to 90°C (Rel); -67°C to ALU (Abs)	-50.0°C; -58°F	-50.0°C; -58°F	-50.0°C; -58°F	-50.0°C; -58°F	-50.0°C; -58°F	-50.0°C; -58°F	-50.0°C; -58°F
Temperature alarm delay	ALd	0 to 255 min	15	15	15	15	15	15	15
Delay of temperature alarm at start up	dAo	0 to 720 min	90	90	90	90	90	90	90
Outputs activation delay at start up	odS	0 to 255 min	0	0	0	0	0	0	0
Thermostat override	CCt	0 to 990 min		0	0	0	0	0	0
Set point for continuous cycle	CCS	-55 to 150°C; -67 to 302°F		2.0°C; 36°F	2.0°C; 36°F	2.0°C; 36°F	2.0°C; 36°F	2.0°C; 36°F	2.0°C; 36°F
Defrost delay after thermostat override	dAF	0 to 255 min		2	2	2	2	2	2
Interval between defrosts	idF	1 to 250 hours		4	6	6	6	4	4
Delay start of defrost	dSd	0 to 255 min		0	0	0	0	0	0
Maximum duration of defrost	MdF	0 to 255 min		15	15	30	30	30	30
Defrost termination temperature	dtE	-55 to 50°C; -67 to 122°F			8.0°C 46°F	8.0°C 46°F	8.0°C 46°F	8.0°C 46°F	8.0°C 46°F
Maximum duration of defrost (second evaporator)	MdS	0 to 255 min						30	30
Defrost termination temperature (second evaporator)	dtS	-55 to 50°C; -67 to 122°F						8.0°C 46°F	8.0°C 46°F

Description	Label	Adjustment Range	tC1	tC2	tC3	tC4	tC5	tC6	tC7
Display during defrost	dFd	Rt (0) = Real temp. it (1) = Temp. at defrost start sEt (2) = Set Point dEF (3) = "DEF" label dEG (4) = "DEG" label		3	3	3	3	3	3
Defrost display time out	dAd	0 to 255 min		10	10	10	10	10	10
Defrost type (forced)	tdF	El (0) = Electrical rE (1) = Hot Gas					0	0	0
Drain down time	Fdt	0 to 255 min					0	2	2
First defrost after power on	dPo	Y (0) = Immediate N (1) = After normal interval		1	1	1	1	1	1
Evaporator fan operating mode	FnC	C_n (0) =On with Comp, off with defrost O_n (1) =On regardless of comp, off w/ defrost C_y (2) =On with comp, on with defrost O_y (3) =Always on						1	1
Evaporator fan stop temperature	FSt	-55 to 50°C; -67 to 122°F						8°C; 46°F	8°C; 46°F
Evaporator fan delay after defrost	Fnd	0 to 255 min						7	7
Fan ON time	Fon	0 to 15 min						0	0
Fan Off time	FoF	0 to 15 min						0	0
Thermostat probe calibration	ot	-12.0 to 12.0°C; -21 to 21°F	0.0°C; 0°F	0.0°C; 0°F	0.0°C; 0°F	0.0°C; 0°F	0.0°C; 0°F	0.0°C; 0°F	0.0°C; 0°F
Evaporator probe presence	P2P	N (0) = evaporator probe not present Y (1) = evaporator probe present			1	1	1	1	1
Evaporator probe calibration	oE	-12.0 to 12.0°C; -21 to 21°F			0.0°C; 0°F	0.0°C; 0°F	0.0°C; 0°F	0.0°C; 0°F	0.0°C; 0°F
Third probe presence	P3P	n (0) = third probe not present, Y (1) = third probe present.	1	1	1	1	1	1	1
Third probe calibration	o3	-12.0 to 12.0°C; -21 to 21°F	0.0°C; 0°F	0.0°C; 0°F	0.0°C; 0°F	0.0°C; 0°F	0.0°C; 0°F	0.0°C; 0°F	0.0°C; 0°F
Display Resolution	rES	Y (0) = With decimal point in °C only N (1) = No decimal point	1	1	1	1	1	1	1
Temperature measurement unit (°C/°F)	CF	**°C (0)** = °Celsius **°F (1)** = °Fahrenheit	1	1	1	1	1	1	1
Instrument display	Lod	P1 (0)= Thermostat probe P2 (1) = Evaporator probe P3 (2) = Third probe sEt (3) = SET-POINT	0	0	0	0	0	0	0
Display delay	dLY	0 to 20min0sec, res. 10sec	0	0	0	0	0	0	0
Type of action	CH	Cl (0) = cooling Ht (1) = heating	1	0					0
Compressor ON time with faulty probe	Con	0 to 255 min	15	15	15	15	15	15	15
Compressor OFF time with faulty probe	CoF	0 to 255 min	30	30	30	30	30	30	30
Alarm muting configuration for buzzer & relay	tbA	n (0) = Mute buzzer only Y (1) = Mute buzzer & relay	1	1	1	1	1	1	1
Second Digital input configuration	i2F	dEF(0) = Start defrost dor (1)= Door switch AUS (2) = Auxiliary relay ES (3) = Energy saving onF (4) = Remote On/OFF EAl (5) = Generic alarm bAl (6) = Serious alarm	5	5	5	5	5	5	5
Second Digital input polarity	i2P	Cl (0) = Closed circuit oP (1) = Open circuit	0	0	0	0	0	0	0
Digital input 2 delay	di2	0 to 255 min	0	0	0	0	0	0	0
Door open – compressor / fan status	odC	No (0) = No change FAn (1) = Fan off CPr (2) = Compressor off F_C (3) = Compressor & Fan off	0	0	0	0	0	0	0

Defrost relay configuration	OAA	Alr (0) = Alarm;
		db (1) = Dead Band;
		AUS (2) = Auxiliary;
		CP2 (3) = Second compressor output;
		liG (4) = Light output;
		dF2 (5) = Second defrost output.
		dEF (6) =1st Defrost output
		Fan (7) =Fan output
								6	6	6

Description	Label	Adjustment Range	tC1	tC2	tC3	tC4	tC5	tC6	tC7

Auxiliary relay configuration	oRb	Alr (0) = Alarm;
		db (1) = Dead Band;
		AUS (2) = Auxiliary;
		CP2 (3) = Second compressor output;
		liG (4) = Light output;
		dF2 (5) = Second defrost output.
		dEF (6) =1st Defrost output
		Fan (7) =Fan output
			0	0	0	0	7	7	7

Alarm relay polarity	AoP	Cl (0)= [11 -12] closed with alarm oP (1) = [11 -12] open with alarm	0	0	0	0	0	0	0
Exclude temperature alarm - door open	dot	0 to 255 min	20	20	20	20	20	20	20
Restart regulation with door open alarm	rrd	n (0) = No Y (1) = Yes	0	0	0	0	0	0	0
Probe selection for Condenser Alarm	AP2	nP (0) =No Probe selected P1 (1) =Probe 1 P2 (2) =Probe 2 P3 (3) =Probe3	0	0	0	0	0	0	0
Low temperature alarm of condenser	AL2	-55 to 150°C; -67 to 302°F	-40°C; -40°F	-40°C; -40°F	-40°C; -40°F	-40°C; -40°F	-40°C; -40°F	-40°C; -40°F	-40°C; -40°F
High temperature alarm of condenser	AU2	-55 to 150°C; -67 to 302°F	110°C; 230°F	110°C; 230°F	110°C; 230°F	110°C; 230°F	110°C; 230°F	110°C; 230°F	110°C; 230°F
Differential for temperature condenser alarm recovery	AH2	0.1 to 25.5°C; 1 to 45°F	5°C; 5°F	5°C; 5°F	5°C; 5°F	5°C; 5°F	5°C; 5°F	5°C; 5°F	5°C; 5°F
Condenser temperature alarm delay	Ad2	0 to 254 min, 255 = nU	15	15	15	15	15	15	15
Condenser temperature alarm exclusion at start up	dA2	0 to 720 min, res.10min	90	90	90	90	90	90	90
Compressor off with low temperature alarm of condenser	bLL	n (0) = No y (1) = Yes	0	0	0	0	0	0	0
Compressor off with high temperature alarm of condenser	AC2	n (0) = No y (1) = Yes	0	0	0	0	0	0	0
Temperature deviation from normal Set Point during Energy Saving	HES	-30.0 to 30°C; -54 to 54°F	0°C; 0°F	0°C; 0°F	0°C; 0°F	0°C; 0°F	0°C; 0°F	0°C; 0°F	0°C; 0°F
ON / OFF key enabling	onF	nU (0) = Disabled OFF(1) = Enabled ES (2) = Energy saving	0	0	0	0	0	0	0
Buzzer enabling	bEn	n (0) = Disabled Y (1) = Enabled	1	1	1	1	1	1	1
Parameter table	Ptb	For factory use only	-	-	-	-	-	-	-
Software release number	rEL	Read only	-	-	-	-	-	-	-
Evaporator probe temperature	dP2	Read only				-	-	-	-
Third probe temperature	dP3	Read only	-	-	-	-	-	-	-

READ ON IF YOU NEED MORE DETAIL

7. PARAMETERS – THEIR FUNCTIONS IN DETAIL

Table 4: controller parameters in detail

Display visualisation	Description
tC	**Type of Controller:** tells the Universal-XR which type of controller it will be operating as. **1** = on/off Heating thermostat – 1 relay & 1 probe; **2** = Combined thermostat with off cycle defrost timer – 1 relay & 1 probe; **3** = Combined thermostat with time initiated & time terminated defrost – 2 relays & 2 probe; **4** = Combined thermostat with time initiated & temperature terminated defrost – 2 relays & 2 probes; alarm **5** = Combined thermostat with time initiated, temperature terminated defrost + 2 relays & 2 probes; defrost **6** = Combined thermostat with time initiated, temperatures terminated defrost + evaporator fans control with delay after defrost – 3 relays & 3 probes; **7** = Combined thermostat with time initiated, temperatures terminated defrost + evaporator fans control with delay after defrost – 3 relays & 3 probes. Fully open map
PbC	**Probe Type:** configures the controller to work with PTC or NTC probes. **0= ptC** = PTC, **1= ntC** = NTC.
HY	**Differential:** (1 to 50) sets the degrees above Set Point at which the compressor cuts in. **Note: when tC = 1** (heating applications) the **tC** value is automatically set below the Set Point. If the temperature decreases and reaches set point minus differential the regulation output is activated and then turned off when the temperature reaches the set point value again.
LS	**Minimum set point limit:** (-55°C to SET or -67°F to SET) sets the lower limit of set point adjustment.
US	**Maximum set point limit:** (SET to 150°C or SET to 302°F) sets the upper limit of set point adjustment.
AC	**Anti-short cycle delay:** (0 to 50min) minimum interval between the compressor stop and the next possible restart.

Parameter	Description
AC1	**Second compressor start delay:** (0 to 255sec)
ALC	**Temperature alarm configuration:** **rE** = Related to Set Point; **Ab** = Absolute. **Note: Relative** means alarms are linked to the Set Point and will follow it if it is adjusted. In this case **ALU** & **ALL** set the temp over & under Set Point for alarm. **Absolute** means **ALU** & **ALL** are fixed alarm temperatures, which are not affected by any Set Point adjustment.
ALU	**High temperature alarm:** **ALC = rE →** [0 to 50°C] or [0 to 90°F]; **ALC = Ab →** [ALL to 150°C] or [ALL to 302°F].
ALL	**Low temperature alarm:** **ALC = rE →** [0 to 50°C] or [0 to 90°F]; **ALC = Ab →** [-55°C to ALU] or [-67 to ALU].
ALd	**Temperature alarm delay:** (0 to 255min) time interval between an alarm condition occurring and the alarm is signalling.
dAo	**Delay of temperature alarm at start-up:** (from 0 to 720min; res. 10min) time delay of any temperature alarm during pull down following "power on".
odS	**Outputs activation delay at start up:** (0 to 255min) time delay before any output relay activates following "power on".
CCt	**Thermostat override:** (0 to 990min; res. 10min) period during which the compressor will run continuously, regardless of temperature. Setting this parameter to **0** disables this function.
CCS	**Set point for continuous cycle:** (-55 to 150 °C or -67 to 302°F) it sets the set point used during the continuous cycle.
dAF	**Defrost delay after fast freezing:** (0 to 255min) time interval between the end of the thermostat override period and the start of the following defrost related to it.
idF	**Interval between defrosts:** (0 to 255hours) time interval between the beginning of two consecutive defrosts.
dSd	**Delay start of defrost:** (0 to 255min) delay between reaching the defrost interval time (as defined by parameter **idF**) and when the defrost actually starts. Used to stagger defrosts between multiple systems.
MdF	**(Maximum) duration of defrost:** (0 to 255min) time duration of a defrost when only one probe is in use, or defrost time out override when second (evaporator) probe is in use. Set it to zero to disable defrost cycles.
dtE	**Defrost termination temperature:** (-55 to 50°C or -67 to 122°F) sets the defrost termination temperature. Measured by the evaporator probe.
MdS	**(Maximum) length for second defrost:** (0 to 255min) when **P3P = 0**, (not evaporator probe: timed defrost) it sets the defrost duration, when **P3P = 1** (defrost end based on temperature) it sets the maximum length for defrost. *** Only if being used with tC7*** **Note:** The P3 probe will be automatically set as second evaporator probe by the **tC** parameter.
dtS	**Second termination temperature:** (-55 to 50°C or -67 to 122°F) sets the temperature measured by the second evaporator probe (P3), which causes the end of defrost.
dFd	**Display during defrost:** **0= rt** = real temperature; **1= it** = temperature at defrost start; **2= sEt** = set point; **3= dEF** = **dEF** label; **4= dEG** = **dEG** label.
dAd	**Defrost display time out:** (0 to 250min) after a defrost, the controller will revert to current temperature display when the temperature is back down within its normal working range, or after the time set in this parameter, whichever is the sooner.
tdF	**Defrost type:** **0= El** = electrical heater; **1= rE** = hot gas, compressor runs during defrost.
Fdt	**Drain down time:** (0 to 255min) drain down time. Runs concurrently with **Fnd** (Fan delay after defrost time).Both fan and compressor are off during this time period.
dPo	**First defrost after power-on:** 0= **Y** = immediately; **1= n** = after the **idF** interval time.
FnC	**Fan operating mode:** **0= C_n** = cycles on/off with the compressor, OFF during defrost; **1= O_n** = continuous mode, OFF during defrost; **2= C_Y** = cycles on/off with the compressor, ON during defrost; **3= O_Y** = continuous mode, ON during defrost;
FSt	**Fan stop temperature:** (-55 to 50°C or -67 to 122°F) temperature above which the evaporator fan stops (during the normal refrigeration cycle).

Code	Description
Fnd	**Fan delay after defrost:** (0 to 255min) the time interval between the end of a defrost and evaporator fans starting. Runs concurrently with **Fdt** (Drain down time). Always keep **Fnd** longer that **Fdt**.
Fon	**Fan ON time:** (0 to 15min) used to set an On/Off cycle of the evaporator fans while the compressor is off. With **FnC = 0** or **FnC = 2**, it sets the evaporator fan ON cycling time when the compressor is OFF. With **Fon = 0** and **FoF ≠ 0**, the fans are always off. With **Fon = 0** and **FoF = 0** the fans are always off.
FoF	**Fan OFF time:** (0 to 15min) used to set an On/Off cycle of the evaporator fans while the compressor is off. With **FnC = 0** or **FnC = 2**, it sets the evaporator fan OFF cycling time when the compressor is OFF. With **Fon = 0** and **FoF ≠ 0**, the fans are always off. With **Fon = 0** and **FoF = 0** the fans are always off.
ot	**Thermostat probe calibration:** (-12.0 to 12.0°C or -21 to 21°F) adjustment for thermostat probe (**Room**) offset.
P2P	**Evaporator probe presence** (Evap on the label): **0= n** = not present; **1= Y** = present.
oE	**Evaporator probe calibration:** (-12.0 to 12.0°C or -21 to 21°F) adjustment for evaporator probe offset.
P3P	**Third probe presence (probe named Evap.2 on the label):** **0= n** = not present, the third input (the one signed with label "D.I. / Pb3") Input operates as digital input; **1= Y** = present, the third input (the one signed with label "D.I. / Pb3") Input operates as third probe.
o3	**Third probe calibration:** (-12.0 to 12.0°C or -21 to 21°F) adjustment for third probe offset.
rES	**Display resolution (Only available in Celsius):** **0= dE** = with decimal point; **1= in** = without decimal point.
CF	**Temperature measurement unit:** **0= °C** = Celsius; **1= °F** = Fahrenheit. **Warning:** If you alter the setting of parameter **rES** (decimal point on/off) re-check the settings of all temperature related parameters **Set Point**, **HY**, **LS**, **US**, **ALU**, **ALL**, **dtE**, **FSt**, **ot** & **oE**, as they can be effected.
Lod	**Probe for Display:** **0= P1** = Thermostat probe; **1= P2** = Evaporator probe; **2= P3** = Third probe; **3= sEt** = DISPLAY ONLY SHOWS THE SET-POINT. THE ACTUAL TEMPERATURE CAN BE SEEN BY PRESSING THE SET BUTTON.
dLY	**Display delay:** (0 ÷ 20min0sec; resolution 10 sec) when the temperature increases, the display is updated of 1°C or 1°F after this time.
CH	**Type of action: 0**= CI = cooling; **1=** Ht = heating.
Con	**Compressor ON time with faulty probe:** (0 to 255min) If there is a P1 probe failure the controller will automatically cycle the compressor on/off according to **Con** & **CoF** to maintain basic cooling. **Con** is the compressor "ON" time.
CoF	**Compressor OFF time with faulty probe:** (0 to 255min) If there is a P1 probe failure the controller will automatically cycle the compressor on/off according to **Con** & **CoF** to maintain basic cooling. **CoF** is the compressor "OFF" time.
tbA	**Alarm muting:** **0= n** = Alarm relay remains active when alarm buzzer is muted; **1= Y** = Alarm relay is cancelled when alarm buzzer is muted.
i2F	**Second digital input operating mode:** configures the second digital input function: **0** = Starts a defrost; **1** = Input from a door switch (see parameter **odC**); **2** = Activates the auxiliary relay; **3** = Starts Energy Saving (Control Point becomes Set Point +/- value in **HES**); **4** = Remote On/OFF (puts the controller into standby); **5** = Generic external alarm (normal regulation continues); **6** = Serious external alarm (regulation is stopped).
i2P	**Configurable second digital input polarity:** **0** = the digital input is activated by closing the circuit; **1** = the digital input is activated by opening the circuit.
di2	**Time interval/delay for digital input 2 alarm:** (0 to 255min) it defines the time delay between the detection and the subsequent signalling of the alarm.
odC	**Compressor and fan status when open door:** **0= no** = normal; **1= FAn** = Fan OFF; **2= CPr** = Compressor OFF; **3= F_C** = Compressor and fan OFF.

0AA	**Defrost relay configuration: Only on tC=7** **0= AIr** = Alarm; **1= db** = Dead Band; **2= AUS** = Auxiliary; **3= Cp2** = Second compressor output; **4= LIG** = Light output; **5= dF2** = Second defrost output.
oAb	**Auxiliary relay configuration:** **1= AIr** = Alarm; **2= db** = Dead Band; **3= AUS** = Auxiliary; **4= Cp2** = Second compressor output; **5= LIG** = Light output; **6= dF2** = Second defrost output.
AoP	**Alarm relay polarity:** **0= CL** = contact [13 – 14] closed with alarm; **1= oP** = contact [13 – 14] open with alarm.
dot	**Temperature alarm exclusion with door open:** 0 to 255min.
rrd	**Regulation restart with door open alarm:** **0= n** = no; **1= Y** = yes, regulation will restart after "door open" alarms.
AP2	**Probe selection for Condenser Alarm** : **0= nP**=No Probe selected **1= P1**=Probe 1 **2= P2**=Probe 2 **3= P3**=Probe3 ***normally P3 would be used***
AL2	**Low temperature alarm of condenser:** (-55 to 150°C or -67 to 302°F) when this temperature is reached, the **HA2** alarm will be raised (after the **Ad2** delay time has expired).
AU2	**High temperature alarm of condenser:** (-55 to 150°C or -67 to 302°F) when this temperature is reached, the **LA2** alarm will be raised (after the **Ad2** delay time has expired).
AH2	**Differential for temperature condenser alarm recovery:** 0.1 to 25.5°C or 1 to 45°F.
Ad2	**Condenser temperature alarm delay:** (0 to 255min) time interval between the detection of an alarm condition at the condenser and the relative alarm signalling.
dA2	**Condenser temperature alarm exclusion during start-up:** (0 to 720min, resolution 10min).
bLL	**Compressor off when a low temperature alarm of the condenser is active:** **0= n** = the compressor keeps on working if a low temperature alarm at the condenser is active; **1= Y** = the compressor is switched off while the low temperature alarm is active. The regulation will restart after elapsing **AC** delay time.
AC2	**Compressor off when an high temperature alarm of the condenser is active:** **0= n** = the compressor keeps on working if a low temperature alarm at the condenser is active; **1= Y** = the compressor is switched off while the low temperature alarm is active. The regulation will restart after elapsing **AC** delay time.
HES	**Temperature set point change during the Energy Saving cycle:** (-30.0 to 30.0°C or -54 to 54°F) sets the deviation from the normal set point during the Energy Saving cycle.
onF	**ON / OFF key enabling:** **0= nu**= key functionality disabled; **1= OFF** = On Off function enabled; **2= ES** = Energy Saving function enabled.
bEn	**Buzzer enabling:** **0= n** = disabled; **1= Y** = enabled.
Ptb	**Parameter table:** read only – for factory use.
rEL	**Software release:** read only – shows the software release.
dP2	**Evaporator probe:** shows the current temperature sensed by the evaporator probe.
dP3	**Third probe temperature:** shows the current temperature sensed by the third probe.

8. BUTTONS AND THEIR FUNCTIONS

8.1 SINGLE BUTTON FUNCTIONS

Table 5: single button functions

BUTTON	FUNCTION
🔒 tC	**Type Controller menu:** keep this button pressed for at least 3 sec within 1 min after power on to enter the "Type Controller Menu" (**tC**). **AUX output control:** Switches the AUX relay output (if enabled as such).
❄	**Manual Defrost:** keep this button pressed for 3 s to start a manual defrost cycle. The defrost icon will illuminate. (Not possible if parameter **tC** = 1).
SET	**Display current set point:** after pressing and releasing this button, the set point will be displayed for 5 sec. This will not allow the set point to be altered. **Changing set point value:** keep this button pressed for at least 2 sec. Set point change mode is entered indicated by the small led's flashing. Change the set point using the **UP** and **DOWN** buttons. The new value can be stored either by pressing **SET** button (the instrument restores temperature display) or by waiting the exit time-out to expire (15 sec).
⌃	**(UP):** to see the max stored temperature; in programming mode it browses the parameter codes or increases the displayed value.
⌄	**(DOWN):** to see the min stored temperature; in programming mode it browses the parameter codes or decreases the displayed value. Keep press 3sec just after powering on the device (and within the first 60sec) to start automatic probe recognising.
☀☽	**Energy Saving:** Allows the control to use the HES offset parameter to change the set point.

8.2 BUTTON COMBINATION FUNCTIONS

Table 6: button combination functions

COMBINATION	FUNCTION
⌃ + ⌄	**Lock & unlock the keyboard:** keeping both buttons pressed for 3 sec will lock or unlock the keyboard. The display will flash **PoF** or **Pon** for a few seconds to confirm locking or unlocking respectively.
SET + ⌄	**Enter programming mode:** keep both buttons pressed for 3 sec, release them and then press them again for 8 sec. The first label of **Pr2** level will be displayed.
SET + ⌃	**Exit programming mode:** press together to return to normal display.

9. PROGRAMMING MODE

9.1 USER PROGRAMMING LEVEL – PR1

To enter programming level **Pr1** (user programming level), keep both **SET** and **DOWN** buttons pressed for 3 sec. The first parameter label will appear. Browse parameter list by using the **UP** or **DOWN** keys. Press **SET** to see a parameter's current value and **UP** or **DOWN** keys to alter its value. Press **SET** to confirm change (the display will blink for 3 sec and then the next parameter will appear) or by waiting for the menu timeout to expire (15 sec). If no parameter is available for changes in **Pr1** level, a **noP** label will be show.

9.2 PROTECTED PROGRAMMING LEVEL – PR2 (ALL VISIBLE PARAMETERS CAN BE FOUND HERE)

First enter **Pr1** level (as described above) then with any parameter label displayed keep both **SET** and **DOWN** buttons pressed for 8 sec. The first parameter label will appear. Browse parameter list by using the **UP** or **DOWN** keys. Press **SET** to see a parameter's current value and **UP** or **DOWN** keys to alter its value. Press **SET** to confirm change (the display will blink for 3 sec and then the next parameter will appear) or by waiting for the menu timeout to expire (15 sec).

From **Pr2** level it is also possible to add or remove any parameter to / from **Pr1** by pressing both **SET** & **DOWN** while its label is displayed. Accessibility of any particular parameter via **Pr1** level is confirmed by the alarm LED lighting up while its label is displayed

WARNING: if no button is pressed for 15 sec, any modified value will be stored into memory and the controller will return to the normal display mode.

10. OTHER FEATURES OF THE UNIVERSAL-XR

As well as the main digital display, there are some small icons on the front panel. These are used to indicate the status of the loads controlled by the instrument. Each icon function is described in the following table.

Table 7: display signalling description

ICON	FUNCTION	MEANING
☀	ON	Light (AUX) output enabled.
❄	ON	Cooling enabled.
	FLASHING	Anti-short cycle delay in progress.
❁	ON	Fan enabled.
	FLASHING	Delay time on fan activation is running (**Fnd > 0**)
❄	ON	Defrost in progress.
	FLASHING	Drip time in progress (**Fdt > 0**) or delay on start defrosting is running (**dSd > 0**).
AUX	ON	Auxiliary output activated.
☾❀	ON	Energy Saving activated.
⊛	ON	Thermostat override enabled.
(!)	ON	**ALARM signal:** when in programming mode and in Pr2 level, this icon lights up notifying this parameter is also accessible in the Pr1 level.
°C	ON	All measurement units are in Celsius degrees.
	FLASHING	Programming mode.
°F	ON	All measurement units are in Fahrenheit degrees.
	FLASHING	Programming mode.

11. THERMOSTAT OVERRIDE (not available when parameter tC = 1)

For rapid chilling or freezing, the thermostat can be overridden by pressing the **UP** button until the ⊛ icon lights up. The compressor will run in continuous mode, for the time period set in parameter **CCt**. Normal operation will then resume automatically after the **CCt** is exhausted or when the **CCS** is exhausted (Continuous Cycle Set Point). The cycle can also be terminated manually by pressing the **UP** button again for about 3 seconds.

12. DEFROST TYPES

tC parameter value	Action
1	No defrost
2 or 3	Off cycle defrost by timer
4, 5, 6 or 7	Forced type of defrost: Electrical or Hot Gas

- **tdF = 0**: defrost is electrical;
- **tdF = 1**: defrost is by hot gas.

13. EVAPORATOR FAN CONTROL (only when parameter tC = 6 or 7)

The fan control mode is selected by means of the "**FnC**" parameter:

FnC parameter	Action
C_n	Fans will cycle ON and OFF with the compressor and **be off** during defrost cycle.
O_n	Fans will run continuously, but **be off** during defrost cycle.
C_Y	Will switch ON and OFF with the compressor and **be on** during defrost cycle (*****).
O_Y	Fans will run continuously and **be on** during defrost cycle (*****).

(*) Note: Fans will stop if the temperature value set in parameter "**FSt**" is exceeded.
Parameter **FSt** sets the fan stop temperature. This is the maximum temperature, detected by the evaporator probe, above which the evaporator fans will stop.
Leave **FSt** above ambient temperature during commissioning to avoid fan short cycle.
After finishing the defrost phase, there is a stand still drain time, set by parameter **Fdt**. When this period has expired, the refrigeration cycle commence but the evaporator fans remain off until **Fnd** (fan delay) times out.

14. SPECIAL APPLICATIONS – DEAD BAND CONTROL

14.1 DEAD BAND CONTROL (COOLING & HEATING) *tc=7*

With [**oAb = db**], the compressor relay controls cooling as normal but the 3rd (auxiliary/ fan) relay is used to control a heater. The value entered in parameter **HY** will now be set equal on both sides of the **SET POINT**. Example: if [**HY = 1°C**] that will create a 2°C Dead Band.

At [**SET POINT + HY**], cooling switches on. At [**SET POINT – HY**], heating switches on. Either cooling or heating switch off when temperature returns to **SET POINT**.

15. ALARMS

Message	Message – Mode	Cause	Outputs
EE	Flashing	Data or memory failure	Alarm output ON; Other outputs unchanged.
P1	Flashing	Thermostat probe failure	Alarm output ON; Compressor output according to parameters **Con** and **CoF**.
P2	Alternating with room temperature	Evaporator probe failure	Alarm output ON; Other outputs unchanged; End defrost is timed.
P3	Alternating with room temperature	Second evaporator probe failure	Alarm output ON; Other outputs unchanged; End defrost is timed.
HA	Alternating with room temperature	High temperature alarm	Alarm output ON; Other outputs unchanged.
LA	Alternating with room temperature	Minimum temperature alarm	Alarm output ON; Other outputs unchanged.
HA2	Alternating with room temperature	Condenser max temp alarm	Alarm output ON; Other outputs unchanged.
LA2	Alternating with room temperature	Condenser max temp alarm	Alarm output ON; Other outputs unchanged.
dA	Alternating with room temperature	Door open alarm	Alarm output ON: Outputs re-start if parameter **rrd = 1**.
EA	Alternating with room temperature	Generic external alarm	Alarm output ON; Other outputs unchanged.
bAL	Alternating with room temperature	Serious external alarm	Alarm output ON; Other outputs OFF.

15.1 MUTING ALARM BUZZER & RELAY

The alarm buzzer can be muted, by pressing any button. The controller will briefly show the reset "**rES**" label. Parameter **tbA** defines how the alarm relay will respond to the muting of the buzzer.

- **tbA = n**: the alarm relay will remain active until the alarm condition is rectified;
- **tbA = Y**: the alarm relay de-activates when the buzzer is muted.

In either case, the display will flash an alarm label until the condition is rectified.

15.2 ALARM "EE"

The Dixell Universal-XR is provided with an internal watchdog verifying data and memory integrity. Alarm "**EE**" will flash after detecting a failure in data or in the internal memory. In this case, the alarm output is enabled.

WHAT TO DO

1. Cancel the alarm by pressing a key.
2. Check the value of all parameters and restore correct values when wrong.
3. Check the correct instrument operation and in case of further errors replace it.

15.3 ALARM RECOVERY

Probe alarms "**P1**", "**P2**" and "**P3**" start 30 seconds after a fault in probe is detected; they automatically stop 30 seconds after the probe restarts normal operation. Check connections before replacing the probe.

Temperature alarms "**HA**" and "**LA**" automatically stop as soon as the thermostat temperature returns to normal values and when defrost starts. Temperature alarms "**HA2**" and "**LA2**" automatically stop as soon as the condenser temperature returns to normal values.

16. REMOVING SECURITY LEVEL PROTECTION

It is possible to allow access to any parameter from **Pr1** level. To do this, go into **Pr2** as previously described. Scroll to the label of the parameter you require and then press the **SET** and **DOWN** buttons in quick succession. The decimal point LED will be on indicating that access to this particular parameter is now possible from **Pr1** level. Its label will now appear when in **Pr1** programming level and its value can be altered. To restore security level protection, use the same procedure (the decimal point LED will go out after pressing both buttons).

17. MOUNTING

The Universal-XR should be mounted in a panel, in a 29mm (1.14") x 71mm(2.8") hole, and fixed using the special brackets supplied. Ambient temperature for correct operation is 32 to 140°F. Avoid places subject to strong vibrations, corrosive gases, excessive dirt or humidity (20 to 85% non-condensing RH is the recommended working range). Make sure air can freely circulate through the cooling holes slots at the rear side of the controller.

18. 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 from the power connections. Do not exceed the maximum current rating for each relay; in case of heavier loads use a suitable external relay.

19. PROBES

It is recommended to place the thermostat probe away from rapid 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.

20. TECHNICAL DATA

Housing:	Self extinguishing ABS
Size:	Frontal 32x74 mm; depth 70mm
Mounting:	Panel mounting in a 71x29 mm panel cut-out
Frontal protection:	IP65
Connections:	Screw terminal block ≤ 2.5 mm² wiring
Power supply:	120Vac, -10% +15% or 230Vac, -10% +15%
Power absorption:	4 VA max
Display:	3 digits, red LED, 14.2mm high
Inputs:	a maximum of 3 temperature probes, PTC or NTC type.
Probes (supplied):	2 x NTC, range-50 TO 110°C (-58 to 230°F) with 1.5 meter (4.98') cables
Relay outputs:	**Amps Resistive**
Compressor:	SPST relay 16FLA / 96LRA, 250Vac
Defrost:	SPDT relay 10A, 250Vac
Fans:	SPST relay 5A, 250Vac
Other output:	Buzzer for acoustic signalling of alarms
Data storing:	Non-volatile memory (EEPROM)
Ambient temperature:	0 to 60°C (32 to 140°F)
Ambient humidity:	20 to 85% (non condensing)
Storage temperature:	-30 to 85°C (-22 to 185°F)
Operating range:	**PTC:** -50 to 150°C (-58 to 302°F); **NTC:** -50 to 110°C (-40 to 230°F)
Resolution:	0.1°C or 1°F (selectable)
Accuracy at 25°C:	(range -40 to 50°C) ±0.5 °C ±1 digit

21. TROUBLESHOOTING

Problem	Possible reason	Notes
Display flashing **HA**	• Temperature too high.	• Check cooling system. • Check alarm settings.
Display flashing **LA**	• Temperature too low.	• Check cooling system. • Check alarm settings.
Display flashing **HA2**	• Condenser temperature too high.	• Check condenser cooling system. • Check alarm settings.
Display flashing **LA2**	• Condenser temperature too low.	• Check condenser cooling system. • Check alarm settings.
Display flashing **P1**	• Fault with thermostat probe. • Wrong type of probe fitted (NTC/PTC).	• Check probe connections and resistance value. • Change probe type or alter parameter **PbC**.
Display flashing **P2**	• Fault with evaporator probe. • Wrong type of probe fitted (NTC/PTC). • Parameter **tC** has been set to 4, 5 or 6 without evaporator probe fitted.	• Check probe connections and resistance value. • Change probe type or alter parameter **PbC**. • Fit evaporator probe or alter parameter **tC**.
Display flashing **P3**	• Fault with third probe. • Wrong type of probe fitted (NTC/PTC). • Parameter **tC** has been set to 6 without third probe fitted.	• Check probe connections and resistance value. • Change probe type or alter parameter **PbC**. • Fit evaporator probe or alter parameter **tC**.
Display flashing **EE**	Data corruption.	Check for electrical spikes and interference. Fit filters DIXL930 & DIXL932. Ensure probe cables are separated from power cables. Re-check all parameter settings. Replace controller if still not working.
Display flashing **dA**	Door has been left open too long.	Shut the door.
Display flashing **EA**	A non serious external alarm has been detected by the digital input.	Trace and rectify the external problem.

Display flashing **bAL**	A serious external alarm has been detected by the digital input.	Trace and rectify the external problem.	
Buttons will not work	Buttons have been locked.	Unlock buttons by pressing both **UP** & **DOWN** buttons until display flashes **Pon**.	
Parameter cannot be adjusted over its full range	Some other parameter is conflicting and preventing further adjustment.	Check other parameter settings.	
Power on but no output operates Small LED's flashing	Anti short cycle delay in progress, all relays being held off until it expires.	Wait or adjust parameters **AC** or **odS**.	
Evaporator fan short cycling	Parameter **FSt** set too low.	Adjust **FSt** to a higher setting. During commissioning, set it above ambient until pull down is complete, then re-set to a more suitable temperature.	

22. ENTER YOUR SETTINGS HERE FOR FUTURE REFERENCE (tC=7 SET UP AS DEAD BAND CONTROL)

Label	Description	Edit	Original	Vis. Level	Min	Max	Comment
tC	Parameter map selection		7	Pr2	1	7	
PbC	Kind of probe		ntC	Pr2			
Hy	Differential		4	Pr1	1	45	
LS	Minimum set point value		-50	Pr2	-67	75	
US	Maximum set point value		230	Pr2	75	302	
AC	Anti-short cycle delay		1	Pr2	0	50	
AC1	Second compressor start delay		0	Pr2	0	255	
ALP	Probe selection for temperature alarms		0	Pr2			
ALC	Temperature alarm configuration		Ab	Pr2			
ALU	High temperature alarm		230	Pr1	-50	302	
ALL	Low temperature alarm		-50	Pr1	-67	230	
AFH	Differential for temperature alarm recovery		1	Pr1	1	45	
ALd	Temperature alarm delay		15	Pr2	0	255	
dAo	Delay before activating a temperature alarm at start up		90	Pr2	0	720	
odS	Delay before activating outputs at start up		0	Pr2	0	255	
CCt	Continuous cycle duration		0	Pr2	0	990	
CCS	Set point for continuous cycle		0	Pr2	-67	302	
dAF	Defrost delay after fast freezing		2	Pr2	0	255	
idF	Interval between defrost cycles		6	Pr1	0	250	
dSd	Start defrost delay		0	Pr2	0	255	
dFP	Probe selection for first defrost		3	Pr2			
MdF	(Maximum) length for first defrost		30	Pr1	0	255	

Label	Description	Edit	Original	Vis. Level	Min	Max	Comment
dtE	Defrost termination temperature (first evaporator)		46	Pr1	-67	122	

Label	Description	Edit	Original	Vis. Level	Min	Max	Comment
dSP	Probe selection for second defrost		0	Pr2			
MdS	(Maximum) length for second defrost		0	Pr2	0	255	
dtS	Defrost termination temperature (second evaporator)		0	Pr2	-67	122	
dFd	Display during defrost		3	Pr2			
dAd	Max display delay after defrost		10	Pr2	0	255	
tdF	Defrost type		0	Pr2			
Fdt	Drain down time		2	Pr1	0	255	
dPo	First defrost after start-up		0	Pr2			
FnC	Fan operating mode		1	Pr2			
FSt	Fan stop temperature		46	Pr1	-67	122	
Fnd	Fan delay after defrost		5	Pr1	0	255	
Fon	Fan on time with compressor off		0	Pr2	0	15	
FoF	Fan off time with compressor off		0	Pr2	0	15	
FAP	Probe selection for fan management		1	Pr2			
FCt	Differential of temperature to force fan activation		5	Pr2	0	90	
FSU	Fan management		0	Pr2			
ot	Thermostat probe calibration		0	Pr2	-21	21	
P2P	Evaporator probe presence		1	Pr2			
oE	Evaporator probe calibration		0	Pr2	-21	21	
P3P	Third probe presence		0	Pr2			
o3	Third probe calibration		0	Pr2	-21	21	
rES	Display resolution		1	Pr2			
CF	Temperature measurement unit		1	Pr2			
Lod	Display visualization		0	Pr2			
dLy	Delay before updating the displayed temperature		0.00	Pr2			
CH	Kind of action: heating or cooling		0	Pr2			
Con	Compressor ON time with faulty probe		15	Pr2	0	255	
CoF	Compressor OFF time with faulty probe		310	Pr2	0	255	
tbA	Alarm output disabling by pushing any button		0	Pr2			
i2F	Digital input 2 configuration		5	Pr2			
i2P	Digital input 2 polarity		0	Pr2			
di2	Digital input 2 alarm delay		0	Pr2	0	255	
odC	Compressor and fan status when the door is open		0	Pr2			
oAA	First output configuration		0	Pr2			
oAb	Second output configuration		3	Pr2			
Label	Description	Edit	Original	Vis. Level	Min	Max	Comment
AoP	Alarm relay polarity		0	Pr2			

dot	Temperature alarm exclusion with door open		20	Pr2	0	255	
rrd	Regulation restart with door open alarm		0	Pr2			
AP2	Probe selection for condenser temperature alarms		0	Pr2			
AL2	Condenser low temperature alarm		0	Pr2	-67	302	
AU2	Condenser high temperature alarm		0	Pr2	-67	302	
AH2	Differ. for condenser temp. alarm recovery		1	Pr2	1	45	
Ad2	Condenser temperature alarm delay		0	Pr2			
dA2	Delay of condenser temper. alarm at start up		0	Pr2	0	720	
bLL	Compressor off for condenser low temperature alarm		0	Pr2			
AC2	Compressor off for condenser high temperature alarm		0	Pr2			
HES	Differential for Energy Saving		0	Pr2	-54	54	
onF	On/off key configuration		2	Pr2			
bEn	Buzzer enabling		1	Pr2			
Ptb	Map code **READ ONLY**			Pr2	0	655 35	
Adr	Serial address		1	Pr2	1	247	
SEt	Set point		75		-50	230	

NOTES:

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