## **PB00\* - powercompact** Models PB00(S,Y,F,C,H)(0,6)(0,E,A,H)(N,R,C,B,A,M,L,T,P,Q,S,U,V,X,Y,Z)(1,2,3,4,5,A,B,C,D,E,F)0





#### WARNING: separate as much as possible the probe and digital input signal cables from the cables carrying inductive loads and power cables to avoid possible electromagnetic disturbance. Never run power cables (including the electrical panel wiring) and signal cables in the same conduits.



41.7

# Panel mounting



#### Panel mounting: by two countersun screws, max diameter 3.9 mm

### Wiring diag

diagrams	
PBOOC PANEL MOUNTING IP65 USE	COPPER CONDUCTORS ONLY
EN60730-1 UL 873 250 V- 250 V-	11 12 13 14 15 16 17 18 19 20 21 15.20 V- 15.20 V- 15
PB00F0E PANEL MOUNTING IP65	USE COPPER CONDUCTORS ONLY
	t4 15 t6 17 t8 19 20 21

#### Option codes

CODE	DESCRIPTION
IRTRRES000	small remote control
IROPZ48500	RS485 serial inteface
IROPZ485S0	RS485 serial board interface with automatic recognition of the polarity +/-
IROPZDSP00	remote display interface
PST00VR100	remote repeater display
IR00RG0000	remote repeater display ir33 range green display
IR00RR0000	remote repeater display ir33 range red display
PSTCON01B0	repeater display connection cables 1,5 m
PSTCON03B0	repeater display connection cables 3 m
PSTCON05B0	repeater display connection cables 5 m
PSOPZKEY00	parameter programming key with extended memory and 12 V batteries included
<b>PSOPZKEYA0</b>	parameter programming key with 230 Vac power supply
IROPZKEY00	parameter programming key with 12 V battery included
<b>IROPZKEYA0</b>	parameter programming key with extended memory and external 230 Vac power supply
VPMSTDKY*0	key programming kit
	Tab. 1

#### Display

vercompact uses a built-in display terminal with three LED digits and icon, to display the opera ting status. An additional display can be connected to the powercompact controller, via a suitable interface for example to display the reading of a third probe.

#### Signals on the display

lcon	Function		Normal operation		Start up
icon	Function	ON	OFF	blink	Start up
0	COMPRESS.	compressor ON	compressor OFF	compressor request	
S	FAN	fan ON	fan OFF	fan request	
<u>.404</u>	DEFROST	defrost ON	defrost OFF	defrost request	
AUX	AUX	auxiliary output AUX active	auxiliary output AUX not active	anti-sweat heater function active	
A	ALARM	delayed external alarm (before the expiry of the time 'A7')	no alarm present	alarms in normal operation (e.g. high/ low temperature) or alarm from external digital input, imme- diate or delayed	
$\bigcirc$	CLOCK	if at least 1 timed defrost has been set	no timed defrost is	clock alarm present	ON if real- time clock present
<del>ک</del>	LIGHT	auxiliary output LIGHT active	auxiliary output LIGHT not active	anti-sweat heater function active	
X	SERVICE		no malfunction	malfunction (e.g. EEPROM error or probe fault)	
HACCP	HACCP	HACCP function enabled	HACCP function not enabled	HACCP alarm (HA and/or HF)	
**	CONTINUOUS CYCLE	CONTINUOUS CYCLE enabled	CONTINUOUS CYCLE not enabled	CONTINUOUS CYCLE request	
					Tab. 2

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

#### Buttons on the keypad

Fig. 1

			Normal operation		Request
lcon	Button	Pressing the button alone other	Pressing together with buttons address	Start-up	automatic assignment
and the second	HACCP	enters the menu to display and delete the HACCP alarms			
0	ON/OFF	if pressed for more than 5 s, switches the unit on/off			
Prg mute	PRG/ MUTE	if pressed for more than 5 s, accesses the menu for setting type "F" (frequent) para- meters in the event of alarm: silences the audible alarm (buzzer) and disables the alarm relay	<ul> <li>SET: if pressed for more than 5 s together with the SET button accesses the menu for setting the type"C" (configuration) or downloading the parameters</li> <li>UP/CC: if pressed for more than 5 s toge- ther with the UP/CC button, resets any active alarms with manual reset</li> </ul>	if pressed for more than 5 s at start-up, enables the procedure for setting the default values	if pressed for more than 1 s, enters the automatic serial address assignment procedure
۱	UP/CC	if pressed for more than 5 s, enables/ disables continuous cycle operation	<ul> <li>SET: if pressed for more than 5 s together with the SET button, starts the procedure for printing the reports (function available, with management to be implemented)</li> <li>PRG/MUTE: if pressed for more than 5 s to- gether with the PRG/MUTE button, resets any active alarms with manual reset</li> </ul>		
<u>ې</u>	LUCE	if pressed for more than 1 s, enables/disa- bles auxiliary AUX2			
aux	AUX	if pressed for more than 1 s, enables/disa- bles auxiliary AUX1			
v.	DOWN/ DEF	if pressed for more than 5 s, enables/ disables a manual defrost			
) set	SET	if pressed for more than 1 s, displays and/ or sets the set point	<ul> <li>PRG/MUTE: if pressed for more than 5 s together with the PRG/MUTE button accesses the menu for setting the type "C" (configuration) or downloading the parameters UP/CC: if pressed for more than 5 s together with the UP/CC button, starts the procedure for printing the reports (function available, with management to be implemented)</li> </ul>		Tab. 3
					Iab. 3

#### Setting the set point (desired temperature value)

To display or set the set point, proceed as follows: 1. press the "set" button for more than 1 second to display the set point;

- 2. increase or decrease the value of the set point, using the 3 and 3 and 3 buttons respectively, until
- reaching the desired value; 3. press the "set" button again to confirm the new value.

#### Alarms with manual reset

The alarms with manual reset can be reset by pressing the  $\frac{prg}{mute}$  and  $\frac{res}{res}$  buttons together for more

#### Manual defrost

than 5 s.

As well as the automatic defrost function, a manual defrost can be enabled, if the temperature conditions allow, by pressing  $\sqrt[3]{4}$  for 5 seconds.

If "Hdn" < > 0: 1: switch the instrument off; 2: switch the instrument back on, holding the  $\frac{prg}{mate}$ button until the value 0 is shown on the display; 3: select the set of default parameters, between 0 and "Hdn", using the ward and the buttons;

LEGGI E CONSER

READ AND SAVE THESE INSTRUCTIONS

4. press the  $\frac{prg}{mute}$  button until the message "Std" is shown on the display

#### Automatic assignment of the serial address

This is a special procedure that, using an application installed on a PC, allows setting and managing simply the addresses of all instruments (featuring this function) connected to the CAREL network. The procedure is very simple:

- 1. Using the remote application. The "Network definition" procedure started; the application sends a special message ('<!ADR>') across the CAREL network, containing the network address.
- Pressing the mute on an instrument connected to the network recognises the message sent by the remote application, automatically sets the address to the desired value and sends a confirmation message to the application, containing the unit code and firmware revision (message 'V'). When
- the message sent by the remote application is recognised, the instrument shows the message 'Add' on the display for 5 seconds, followed by the value of the serial address assigned; The application, on receiving the confirmation message from the units connected to the network saves the information received in its database, increases the serial address and sends the message
- '<!ADR>' again: At this point, the procedure starting from point 2 can be repeated on another unit connected to
- the network, until defining all the network addresses.
- Note: once the address has been assigned to an instrument, the operation, for safety reasons, is disabled on the same instrument for 1 minute, preventing a different address from being assigned to the instrument.

#### Accessing the configuration parameters (type C)

- Press the *mute* and "set" buttons at the same time for more than 5 seconds; the display will show the number "00" (password prompt).
- Press the Or the button until displaying the number "22" (parameter access password)

3. Confirm by pressing the "set" button.

4. The display shows the code of the first modifiable "C" parameter.

#### Accessing the configuration parameters (type F)

 Hold the mute button for more than 5 s (if there are active alarms, first mute the buzzer), the display will show the first modifiable "F" parameter.

#### Modifying the parameters

- when scrolling, an icon appears on the display representing the category the parameter belongs to.
- 2. Alternatively, press the mule button to display a menu that is used to quickly access the category of parameters to be modified.
- Scroll the menu with the and a state of the various categoria. es of parameters (see the Summary of operating parameters), accompanied by the display of the corresponding icon (if present).
- Once having reached the desired category, press"set" to go directly to the first parameter in the chosen category (if no parameter is visible, pressing the "set" button will have no effect).
- 5. At this stage, modify the parameters or return to the "Categories" menu, using the mode button.
- Press "set" to display the value associated with the parameter.
   Increase or decrease the value using the buttons respectively.
- Press"set" to temporarily save the new value and return to the display of the parameter.
   Repeat the operations from point 1 or point 2.
- 10. If the parameter has sub-parameters, press "set" to display the first sub-parameter.
   11. Press the or the button to display all the sub-parameters.
   12. Press " set" to display the associated value.

13. Increase or decrease the value using the  $\frac{1}{200}$  or  $\frac{1}{100}$  button respectively.

14. Press'set" to temporarily save the new value and return to the display of the sub-parameter code.  $\frac{prg}{mut}$  to return to the display of the parent parameter.

#### Saving the new values assigned to the parameters

To definitively save the new values of the modified parameters, press the multiple button for more than 5 seconds, thus exiting the parameter setting procedure.

All the modifications made to the parameters, temporarily saved in the RAM, can be cancelled and "normal operation" resumed by not pressing any button for 60 seconds, thus allowing the parameter setting session to expire due to timeout. If the instrument is switched off before pressing the  $\frac{prg}{mute}$ 

button, all the modifications made to the parameters and temporarily saved will be lost

#### Directly accessing the parameters by selecting the category

The configuration parameters can also be accessed, in addition to the mode described above, via the category (see the icons and abbreviations in the table below), according to the list on the display with 

Category	Parameters	Message	lcon
Probe parameters	/	'Pro'	Ľ
Control parameters	r	'CtL	*
Compressor parameters	С	'CMP'	0
Defrost parameters	d	'dEF'	<del>334</del>
Alarm parameters	A	'ALM'	A
Fan parameters	F	'FAn'	SS SS
Configuration parameters	Н	configuration 'CnF'	AUX
HACCP parameters	H HACCP	'HcP'	HACCP
RTC parameters	rtc	'rtc'	Q

#### Probe configuration (/A2.../A5)

In the powercompact series, these parameters are used to configure the operating mode of the

0.0003. 0 = probe absent; 1 = product probe (used for display only); 2 = defrost probe; 3 = condenser probe; 4 = antifreeze probe.

## Configuration of the digital inputs (A4, A5, A9)

In the powercompact series, this parameter and the model of controller used define the meaning of the digital input:

0 = input not active; immediate external alarm, normally closed: open = alarm; 1 =

delayed external alarm, normally closed; enable defrost from external contact: open= disabled (an external contact can be connected to the multifunction input to enable or disable the defrost); 2 =

- 3 =
- 4 = 5 = start defrost from external contact;

door switch with stopping of compressor and fans: open = open door

# After having displayed the parameter, either type "C" or type "F", proceed as follows: 1. Press the or view button to scroll the parameters, until reaching the parameter to be modified;



SERIAL INTERF

TO CARES

Fig. 2

Fig. 4









#### **ON/OFF** button

Pressing this button for 5 s switches the unit on/off. When the controller is turned off, it actually goes into standby, and therefore, when carrying out maintenance on the device, it must be disconnected from the power supply

#### **HACCP** function

powercompact is compliant with the HACCP standards in force since it allows the monitoring of the temperature of the stored food. "HA" alarm = exceeded maximum threshold: up to three HA events are saved (HA, HA1, HA2) respectively from the more recent (HA) to the oldest (HA2) and a HAn signal that displays the number of occurred HA events. "HF" alarm = power failure lasting over a minute and exceeded AH maximum threshold: up to three HF events are saved (HF, HF1, HF2) respectively from the more recent (HF) to the oldest (HF2) and a HFn signal that displays the number of occurred HF events. HA/HF alarm setting: AH parameter (high temperature threshold); Ad and Htd (Ad+Htd = HACCP alarm activation delay). Display of the details: access to HA or HF parameters pressing the "HACCP" button and use 🤲 or 📲 buttons to glance over. HACCP alarm erasing: press the "HACCP" button for more than 5 s, the message 'res' indicates that the alarm have been deleted. To cancel the saved alarms press the "HACCP" and <sup>1</sup> buttons for more than 5 s.

#### Continuous cycle

Pressing the button 🏾 for more than 5 seconds enables the continuous cycle function. During
operation in continuous cycle, the compressor continues to operate for the time 'cc' and it stops
when reaches the 'cc' time out or the minimum temperature envisaged (AL = minimum temperature
alarm threshold). Continuous cycle setting: "cc" parameter (continuous cycle duration): "cc" = 0 never
active; "c6" parameter (bypassing the alarm after the continuous cycle): it avoids or delays the low
temperature alarm after the continuous cycle.

#### Procedure for setting the default parameter values

To set the default parameter values on the controller, proceed as follows

If "Hdn" = 0: 1: switch the instrument off; 2: switch the instrument back on, holding the  $\frac{prg}{mute}$ button until the message "Std" is shown on the display.

Note: the default values are only set for the visible parameters (C and F). For further details see table"Summary of operating parameters"

- curtain switch: close = lowered curtain; low pressure switch input for pump-down: open = low pressure 8 = door switch with stopping of fans only: open = open door 9 = verse cycle operation: open = 11 = light sensor; 
   12 =
   AUX output enabling (if configured with H1 o H5 parameters): opening = enabling

   13 =
   door switch with compress. and fans OFF, with light not managed;
  - 14 = door switch with fans OFF and light not managed

#### Configuration of the relay outputs AUX1 (H1) and AUX2 (H5)

Establishes whether relays AUX1 and AUX2 (present only if envisaged by the model) are used as auxiliary outputs (e.g. demister fan or other ON/OFF actuator), an alarm output, a light output, a defrost actuator for the auxiliary evaporator, pump-down valve control or output for the condenser fan.

0 =	alarm output: normally energised; the relay is de-energised when an alarm occurs;							
1 =	alarm output: normally de-energised; the relay is energised when an alarm occurs;							
2 =	auxiliary output;							
3 =	light output;							
4 =	auxiliary evaporator defrost output;							
5 =	pump-down valve output;							
б=	condenser fan output;							
7 =	delayed compressor output;							
8 =	auxiliary output with OFF shutdown;							
9 =	light output with OFF shutdown;							
10 =	disabled output;							
11 =	reverse output in dead zone control;							
12 =	second compressor step output;							
13 =	second compressor step output with rotation.							

ing: the mode H1/H5=0 is useful for signalling the alarm status even in case of power failure.

Note: in the models fitted with only one auxiliary output, to associate the button " performed using the programming kit PSOPZPRG00 and the programming key PSOPZKEY00/A0.

Optional connection	ns:	I				0= no	event;	day for defrost event (parameters to 17= MondaySunday; 8= from Monday to F		
								ay to Sunday; 1= every day.		
								of operating parameters of measure; Def. = Default value.		
						<u>Symb.</u>	Pw	Parameter Password	Models MSYF	U
			:				/2	Measurement stability Probe display response	MSYF MSYF	╞
				IROP	2 ZKEY**:		/4 /5 /6	Virtual probe Select °C or °F Display decimal point	MSYF MSYF MSYF	1
		•••••	<b></b>	Chiave di pro	ogrammazione nming key		/tl	0: with tenths of a degree degree degree	MSYF	
			Ş	l -			7.0	1: virtual probe         2: probe 1           3: probe 2         4: probe 3           5: probe 4         6: probe 5	Mon	
		IROPZDSP00 Opzione interfa display		Interfaccia	Z485S0: scheda seriale ntelligente		/tE	7: set point Display on external terminal 0: remote terminal not present 1: virtual probe 2: probe 1	MSYF	+
		Display interface of	option	Smart se	erial board ce RS485 Fig. 9	X.	/P	1: virtual probe         2: probe 1           3: probe 2         4: probe 3           5: probe 4         6: probe 5           Select type of probe	MSYF	_
Technical specific	ation							0: NTC standard with range -50T90 °C 1: NTC enhanced with range -40T150 °C 2: PTC standard with range -50T150 °C		
	Model	Voltage 230 V~ (+10%, -15	%), 50/60 Hz	Power			/A2	Configuration of probe 2 (S2) 0: Probe absent	YF MS	
	E	230 V~ (+10%, -10% (vers. 16 A, 8A, 8A)	), 50/60 Hz	3 VA, 25 mA~ ma	x.			1: Product probe (display only) 2: Defrost probe 3: Condenser probe		
Power supply	А	115 V~ (+10%, -15 115 V~ (+10%, -10%	%), 50/60 Hz ), 50/60 Hz	3 VA, 50 mA~ ma	х.		/A3	4: Antifreeze probe	MSYF	┝
	н	(vers. 16 A, 8A, 8A) 115 to 230 V~ (swit (+10%,-15%), 50/60	ching)	6 VA, 50 mA~ ma:	x.		/A4 /A5	Configuration of probe 4 (S4, DI2) As for /A2 Configuration of probe 5 (S5, DI3) As for /A2	MSYF MSYF	E
		12 V~ (+10%, -15%		3 VA, 300 mA~ m To use only the tr			/c2	Calibration of probe 1 Calibration of probe 2	MSYF MSYF MSYF	9
	0	12 Vdc, 12 to 18 Vd		TRA12VDE00 with slow-blow fuse in	n 315 mA		/c4 St	Calibration of probe 3 Calibration of probe 4 Temperature set point	MSYF	0
	E, A, H	insulation in refere to very low voltage		reinforced 6 mm on surface 3750 \	in air, 8 mm / insulation		rd rn	Control delta Dead band	SYF SYF	0
Insulation guaranteed		insulation from rel		primary 3 mm in on surface 1250 V	/ insulation		rr r1 r2	Reverse differential for control with dead band Minimum set point allowed Maximum set point allowed	SYF MSYF MSYF	0
by the power supply	0	insulation in refere to very low voltage		externally guaran by safety transfor	mer		r2 r3	Operating mode 0: Direct (cooling) with defrost control	SYF	1
	C1	insulation from rela		primary 3 mm in on surface 1250 V	air, 4 mm / insulation	*		1: Direct (cooling) 2: Reverse-cycle (heating)		
	S1 S2	NTC or PTC, depen	ding on the	model			r4 r5	Automatic night-time set point variation Enable temperature monitoring	MSYF MSYF	1
Inputs	DI1/S3	free contact, conta NTC or PTC, depen	ding on the	model			rt	0: Disabled 1: Enabled Temperature monitoring interval	MSYF	
inputs	DI2 / S4 Maximum distan	free contact, conta NTC or PTC, depen	ding on the	model	irrent 6 mA		rH rL	Maximum temperature read Minimum temperature read	MSYF MSYF SYF	9
	Note: During inst	tallation keep the po outs, repeater displa	ower and loa	d connections sep	arate probe		<u>c0</u> <u>c1</u> c2	Comp., fan and AUX delay on start-up in Minimum time between successive starts Minimum compressor OFF time	SYF SYF SYF	
	NTC high temperature	50 k <b>Ω</b> at 25 °C, range from -40T15		measurement err 1.5 °C in the -40T 4 °C in the extern -20T115 °C	150 °C range		C3 C4 CC C6	Minimum compressor ON time Duty setting Continuous cycle duration Alarm bypass after continuous cycle	SYF SYF SYF SYF	1
Probe type	Std. CAREL NTC	10 k <b>Ω</b> at 25 °C, range from –50T90 °C		measurement err 1 °C in the -50T50 3 °C in the -50T90	0 °C range	0	<u>с7</u> с8	Maximum pump down time Comp. start delay after open PD valve (factory default= 0, not visible from display)	SYF SYF	
	Std. CAREL PTC (specific model)	) range from -50T150 °C		measurement error: 2 °C in the -50T50 °C range 4 °C in the -50T150 °C range			<u>c9</u> c10	Enable autostart function in PD Select Pump down by time or pressure 0: Pump down by pressure 1: Pump down by time	SYF SYF	1
	depending on th	EN60730-1		UL 8			c11 d0	Second compressor delay Type of defrost SYF	SYF SYF	
		250 V~	operating cycles	250 V~ 5 A resistive 1 FLA	operating cycles			0: Electric heater defrost by temperature 1: Hot gas defrost by temperature		
	5 A *	5 (1) A 8 (4) A on N.O. 6	100000	6 LRA C 300	30000			2: Electric heater defrost by time 3: Hot gas defrost by time		
	8 A *	(4) A on N.C. 2 (2) A if the N.C. and N.O. contacts are	100000	8 A resistive 2 FLA 12 LRA C300	30000 Uscite relè		dl dt1 dt2	4: Electric heater defrost thermostat by time Interval between defrosts End defrost temperature, evaporator End defrost temperature, aux evap.	SYF SYF SYF	9
Relay outputs		connected con- temporaneously 10 (4) A up to 60 °C		12 A resistive			dP1 dP2	Maximum defrost duration, evaporator Maximum defrost duration, aux evap	SYF SYF	
	16 A*	on N.O. 12 (2) A on N.O. and N.C.	100000	5FLA 30 LRA C300	30000		d3 d4	Defrost start delay Enable defrost on start-up 0: No defrost is performed when the	SYF SYF	1
	2 Hp insulation from v	10 (10) A	100000	12 A resistive 12 FLA 72 LRA 5 mm in air, 8 mm o	30000			instrument is switched on 1: A defrost is performed when the instrument		
	parts insulation betwe		3750 V insu				d5 d6	is switched on Defrost delay on start-up Display on hold during defrost	SYF SYF	Þ
* relay not suitable for	outputs	· · · ·	1250 V insu	lation		<u></u>		0: Alternating display of dEF and probe value 1: Display of the last temp. shown	- JIF	
capacitors. Fluorescent used, within the operat	lamps with electr	ronic control device	es or without				dd	2: Display of dEF steady Dripping time after defrost	SYF	╞
	Type of connect		Cross-secti	on	Maximum current		d8d	Alarm bypass after defrost Alarm bypass after door open	SYF SYF	
Connections	blocks faston wit The installer has	emovable for screw th crimped contacts to provide the corre n between the instru	L ct dimensior	om 0.5 to 2.5 mm² ning of the power s	12 A supply and ad and max		d9	Defrost priority over compressor protectors 0: The protection times c1, c2 and c3 are observed 1: The protection times c1, c2 and c3 are not	SYF	1
Case		conditions, cables ra	ated for oper dimensions	ation at up to 105 36x167x75 mm			d/1	observed Display of defrost probe 1	MSYF	0,
			mount-in d using screw	epth 64 mm /s from front panel			d/2 dC	Display of defrost probe 2 Time base for defrost	MSYF SYF	1
Mounting	panel drilling ten		29x138.5 m screws 153.	m distance betwee	en fastening		d10	0: dl in hours, dP1 and dP2 in minutes 1: dl in minutes, dP1 and dP2 in seconds Compressor running time	SYF	╞
Correction in the second	fastening screws		maximum	39.4x183x75 mm			d11 d12	Running time temperature threshold Advanced defrost	SYF SYF	9
Case (wide version)	plastic on smooth, hard	and indeformable	mounting o	depth 63 mm	hackets		dn dH	Nominal defrost duration Proportional factor, variation in dl	SYF SYF MSYF	-
	panel		dimensions	s from 138.5x29 to	150x31		A0 A1	Alarm and fan differential Type of threshold 'AL' and 'AH 0: AL and AH are relative thresholds to the	MSYF	1
Installation (wide version)	drilling template		spacing bet or 153.5 mr countersun	tween fastening sc	rews 165 mm hread diameter		AL	set point 1: AL and AH are absolute thresholds Low temperature alarm threshold	MSYF	9
	digits		flat head w 3 digit LED	ith max. thread dia	meter 3 mm		AH Ad A4	High temperature alarm threshold Low and high temperature signal delay Digital input 1 configuration	MSYF MSYF SYF	
Display	display range operating status		from -99 to	999 y graphic icons on	the display		A4	0: Input not active 1: Immediate external alarm	M	
Keypad Infrared receiver	8 rubber silicon b			, <u></u>				2: Delayed external alarm 3: Enable defrost (model M probe selection)		
Clock with backup battery		ding on the model						4: Start defrost 5: Door switch with compressor and fan		
Buzzer	available on all m error at 25 ℃	nodels	+10 ppg /	-53 min/mar				6: Remote on/off 7: Curtain switch		
	error at 25 °C error in the temp -10T60 °C	erature range		±5,3 min/year) ?7 min/year)				8: Low pressure switch 10: Direct/reverse 9: Door switch with fan stop only 11: Light sensor		
Clock	ageing		< ±5 ppm (	±2,7 min/year)				12: Activation of the		
	discharge time recharge time		6 months (max. 8 months) typical 5 hours (<8 hours max.)					AUX output and light not managed 14: Door switch with fans only off and light		

b.		of measure; Def. = De Parameter	lault value.	Models	UOM	Type	Min	Max	Def.
	Pw /2	Password Measurement stability		MSYF MSYF	-	C	0	200	22
		Probe display response Virtual probe	2	MSYF MSYF	-	C	0	15 100	0
	/5 /6	Select °C or °F Display decimal point		MSYF MSYF	flag flag	C	0	1	0
		0: with tenths of a degree	1: without tenths of a degree						
	/tl	Display decimal point 1: virtual probe	2: probe 1	MSYF	-	С	1	7	1
		3: probe 2 5: probe 4	4: probe 3 6: probe 5						
	/tE	7: set point Display on external ter	minal	MSYF	-	С	0	6	0
		0: remote terminal not 1: virtual probe							
		3: probe 2 5: probe 4	4: probe 3 6: probe 5						
`	/P	Select type of probe 0: NTC standard with r		MSYF	-	С	0	2	0
		1: NTC enhanced with 2: PTC standard with ra	range -40T150 °C						
	/A2	Configuration of probe		YF MS	-	C C	0	4	2
		0: Probe absent 1: Product probe (disp	lay only)	IVID			0	-	
		2: Defrost probe 3: Condenser probe 4: Antifreeze probe							
	/A3 /A4	Configuration of probe Configuration of probe		MSYF MSYF	-	C	0	3	0
	/A5	Configuration of probe Calibration of probe 1		MSYF	- °C/°F	C	0	3	0.0
	/c2	Calibration of probe 2 Calibration of probe 3		MSYF	°C/°F °C/°F	C	-20 -20	20 20 20	0.0
_	/c4 St	Calibration of probe 4 Temperature set point		MSYF	°C/°F °C/°F	C	-20 r1	20 r2	0.0
	rd rn	Control delta Dead band		SYF SYF	°C/°F °C/°F	F	0.1	20 60	2.0
	rr r1	Reverse differential for Minimum set point all	control with dead band	SYF MSYF	°C/°F °C/°F	C C	0.1 -50	20 r2	2.0 -50
	r2 r3	Maximum set point all Operating mode	owed	MSYF SYF	°C/°F flag	C	r1 0	200 2	60 0
)		0: Direct (cooling) with 1: Direct (cooling)							
	r4	2: Reverse-cycle (heati Automatic night-time		MSYF	°C/°F	С	-20	20	3.0
	r5	Enable temperature m 0: Disabled		MSYF	flag	C	0	1	0
	rt rH	Temperature monitori Maximum temperature	ng interval e read	MSYF MSYF	ore °C/°F	F	0	999	-
	rL c0	Minimum temperature Comp., fan and AUX de	e read elay on start-up in	MSYF SYF	°C/°F min	F	-	- 15	-
	c1 c2	Minimum time betwee Minimum compressor	OFF time	SYF SYF	min min	C	0	15 15	0
	с3 с4	Minimum compressor Duty setting	ON time	SYF SYF	min min	C	0	15 100	0
	сс сб	Continuous cycle dura Alarm bypass after cor	tinuous cycle	SYF SYF	ore	C	0	15 250	0
	<u>с7</u> с8	Maximum pump down Comp. start delay after	open PD valve	SYF SYF	S S	C	0	900 60	0 5
		(factory default= 0, no Enable autostart funct	ion in PD	SYF	flag	С	0	1	0
	c10	Select Pump down by 0: Pump down by pres	sure	SYF	flag	C	0	1	0
	c11	1: Pump down by time Second compressor de		SYF	S	С	0	250	4
d0		Type of defrost SYF 0: Electric heater defro		SYF	flag	С	0	4	0
		1: Hot gas defrost by t 2: Electric heater defro	st by time						
		3: Hot gas defrost by t 4: Electric heater defro	st thermostat by time						
	dl dt1	Interval between defro End defrost temperatu	re, evaporator	SYF SYF	ore °C/°F	F	0 -50	250 200	8
	dt2 dP1	End defrost temperatu Maximum defrost dura	SYF SYF	°C/°F min	F	-50	200 250	4.0	
	dP2 d3 d4	Maximum defrost dura Defrost start delay	SYF SYF SYF	min min	F C	1 0 0	250 250 1	30 0 0	
	<u>d</u> 4	Enable defrost on start 0: No defrost is perforr	STF	flag	C	0		0	
		instrument is switched 1: A defrost is perform is switched on	ed when the instrument						
	d5 d6	Defrost delay on start-		SYF SYF	min	C	0	250	0
-	uo		of dEF and probe value	STE	-		0	2	
		1: Display of the last to 2: Display of dEF stead	у	C) /F		-		15	
	dd d8 d8d	Dripping time after de Alarm bypass after def Alarm bypass after doo	rost	SYF SYF SYF	min ore min	F F C	0 0 0	15 250 250	1
	d9	Defrost priority over co 0: The protection time	ompressor protectors	SYF	flag	C	0	1	0
		observed	s c1, c2 and c3 are not						
	d/1	observed Display of defrost prob		MSYF	°C/°F	F	-	-	-
	d/1 d/2 dC	Display of defrost prob Time base for defrost		MSYF	°C/°F flag	F	-	-	-
	üc	0: dl in hours, dP1 and 1: dl in minutes, dP1 a		511	nug		0		
	d10 d11	Compressor running ti	me	SYF SYF	ore °C/°F	C	0	250 20	0
	d12 dn	Running time tempera Advanced defrost Nominal defrost durati		SYF SYF SYF		C	-20 0 1	20 3 100	0
	dH A0	Proportional factor, val Alarm and fan differen	iation in dl	SYF MSYF	- °C/°F	C	0	100 100 20	50 2.0
	A1	Type of threshold 'AL' a 0: AL and AH are relati	nd 'AH	MSYF	flag	C	0	1	0
		set point 1: AL and AH are abso							
	AL AH	Low temperature alarr High temperature alar	n threshold	MSYF MSYF	°C/°F °C/°F	F	-50 -50	200 200	0.0
	Ad Ad A4	Low and high temperature alar Digital input 1 configu	iture signal delay	MSYF	min -	F C C	0	200 250 14	120 0
		0: Input not active	1: Immediate external alarm	M	-	Č	0	14	3
		2: Delayed external alarm	3: Enable defrost (model M probe selection)						
		4: Start defrost	5: Door switch with compressor and fan						
		6: Remote on/off	stop 7: Curtain switch						
		8: Low pressure switch	9: Door switch with fan stop only						
•		10: Direct/reverse 12: Activation of the	11: Light sensor 13: Door switch with						
		AUX output	compressor and fans off and light not managed						
		14: Door switch with f not managed		<u> </u>					
	A5 A6	Digital input 2 configu Stop compressor from	external alarm	MSYF SYF SYF	- min	C	0	14 100	0
	A7 A8	External alarm detection Enable alarms 'Ed1' and	l'Ed2'	SYF SYF	min flag	C	0	250 1	0
ļ		0: Alarm signals Ed1 ar 1: Alarm signals Ed1 ar	id Ed2 disabled				-	-	0
	A9 Ado	Digital input 3 configu Light management me	ode with door switch	MSYF MSYF	- flag	C	0	14	0
	Ac AE		erature alarm differential	SYF SYF	°C/°F °C/°F	C	0.0	200 20	70.0
	AF	High condenser temp Light sensor OFF time		SYF SYF	min s	C	0	250 250	0
	ALF AdF	Antifreeze alarm thres Antifreeze alarm delay		MSYF MSYF F	°C/°F min flag	C	-50	200	-5.0
	FO	Fan management 0: Fans always on	and the set of the	F	flag	С	0	2	0
		re difference between	ording to the temperatu- the virtual control probe						
			mperature ording to the evaporator						
	F1	temperature Fan start temperature		F	°C/°F	F	-50	200	5.0
	F2	Fan OFF with compres 0: Fans always on		F	flag	С	0	1	1
)		1: Fans off with compr	essor off	F	flag	С	0	1	1
	F3	Fans in defrost							
	F3	Fans in defrost <u>0: Fans operate during</u> 1: Fans do not operate							

HI         Function of AUX1 Alarm output usually de-energized 1: Alarm output usually de-energized 1: Second compressor tateo utput 1: Beverse output is control with dead band 1: Beverse output is beverse 1: Beverse 1: Beverse output is beverse 1:		HO	Serial address	MSYF	-	С	0	207	1
Aux         1: Aurmonoticut usually de-energised         3           3: Lahr anglaud         3: Lahr anglaud         3           4: Lahr anglaud         3: Lahr anglaud         4: Lahr anglaud           5: Condenser fan output         5: Condenser fan output         5: Condenser fan output           7: Delayed compressor output         1: Bearse output in control with dead band         1: Second compressor step output with           11: Bearse output in control with dead band         1: Second compressor step output with         1: Bearse output in control with dead band           11: Bearse output in control with dead band         1: Second compressor step output with         1: Bearse output in control with dead band           11: Bearse output in control with dead band         1: Second compressor step output with         1: Bearse           11: Bearse output in control with dead band         1: Second compressor step output with         1: Bearse           11: Bearse         1: Bearse         1: Bearse         1: Bearse           11: Bearse </th <th></th> <th></th> <th>Function of AUX1</th> <th></th> <th>flag</th> <th></th> <th></th> <th></th> <th>1</th>			Function of AUX1		flag				1
Image: Second control of the second control			0: Alarm output usually energised	-					
AUX         3           3         3           4         2. Light output with Condenset for output 2. Devices compression to auth 1. Devices compression to auth 1. Devices compression to auth 1. Devices compression to auth 1. Devices compression the output 1. Eleverse output output with 1. Devices compression step output with the band 1. Devices compression step output with three band 1. Devices compression step output with three band 1. Devices compression with time band 1. Devices compression t				-					
Auxiliary exaponator definito autiput 6: Condense autiput 6: Condense autiput 7: Delayed compression autiput 7: Delayed compressis autiput 7: Delayed compression autiput 7: Delayed compression a				-					3
S. Pump down value cutput.         S. Pump down value cutput.         S. Pump down value cutput.           2. Delayed compressor step output.         3. Availative output with deactivation when OFF 50. Solution when output with reactivation when output values output with reaction         1. Solution control with dead band.           11.2. Second compressor step output values output with reaction         1. Solution control with dead band.         1. Solution control with dead band.           12. Second compressor step output values output va				-					
Image: Standard compression output:         Image: Standard compression output:         Image: Standard compression output:           It link comparison output:         It link comparison output:         It link comparison output:         It link comparison output:           It link comparison output:         It link comparison output:         It link comparison output:         It link comparison output:         It link comparison output:           It link comparison output:         It link comparison output:         It link comparison output:         It link comparison output:         It link comparison output:           It link comparison output:         It link comparison output:         It link comparison output:         It link comparison output:         It link comparison output:           It link comparison output:         It link comparison output:         It link comparison output:         It link comparison output:         It link comparison output:           It link comparison output:         It link comparison output:         It link comparison output:         It link comparison output:         It link comparison output:         It link comparison output:         It link comparison output:           It link comparison output:         It link comparison output:         It link comparison output:         It link comparison output:         It link comparison output:         It link comparison output:         It link comparison output:         It link comparison output:         It link compari			5: Pump down valve output						
B: Auxiliar output with describition when OFF TO: No function associated with the output T1: Deverse output in control with deadband. T2: Second Compressor site poupout with relation         MSYF         flag         C         0         1           H2: Disable keypad//R         IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII			6: Condenser fan output						
Built of built in control with deaction when OFF         Mail of built in control with deaction when OFF           11: Reverse control in control with dead band.         11: Second compressor step output with introd compressor step output within a band compressor step output with introd compressor step output within a band disabled in the step output within the band disabled in the step output within a band disabled in the step output withinter band dis step output within a band disabled in the step outp			7: Delayed compressor output	-					
AUX         Interction associated with the output         MSYF         flag         C         0         6         1           H2         Disable keypad/R         MSYF         flag         C         0         6         1           H2         Disable keypad/R         MSYF         flag         C         0         6         1           H2         Disable keypad/R         MSYF         flag         C         0         6         1           H2         Disable keypad/R         MSYF         flag         C         0         6         1           H3         Remote control enabling code         MSYF         -         C         0         25         0           H4         Disable buzzer         MSYF         flag         C         0         1         0           H4         Disable buzzer         MSYF         flag         C         0         1         0           H4         Disable buzzer         MSYF         flag         C         0         1         0           H4         Disable buzzer         MSYF         flag         C         0         1         0           H4         Disable buzzer         MSYF				-					
AUX         I::Becreta compressor step output with 13: Second compressor step output with 13: Second compressor step output with 13: Second compressor step output with 14: Disable keypacific         MSYF         flag         C         0         6         1           H2         Disable keypacific         IIII         IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII				-					
Image: second compressor step output with rotation         MSYF         flag         C         0         6         1           H2         Disable keypad/R         MSYF         flag         C         0         6         1           H2         Disable keypad/R         MSYF         flag         C         0         6         1           H2         Disable keypad/R         MSYF         flag         C         0         6         1           H2         Disable keypad/R         MSYF         flag         C         0         6         1           H3         Remote control enabling code         MSYF          C         0         255         0           H3         Remote control enabling code         MSYF         flag         C         0         13         1           H6         lock keypad         Instruction of flag/S - As for H1         MSYF         flag         C         0         13         0           H9         Enable set point variation with time band         MSYF         flag         C         0         10         0           1H3         Disable huzer         MSYF         flag         C         0         13         0				-					
AUX         13:Second compressor step output with tration         MSYF         flag         C         0         6         1           H2         Disable keyspad/IR         MSYF         flag         C         0         6         1           H2         Disable keyspad/IR         MSYF         flag         C         0         6         1           H3         Second compressor step output with training the state of the sta				-					
H2         Disable keypad/R         MSYF         flag         C         0         6         1           AUX         N         N         N         N         N         N         N         N         N           AUX         N         N         N         N         N         N         N         N         N         N           AUX         N				•					
AUX         Image: Second									
Image: state of the		H2	Disable keypad/IR	MSYF	flag	С	0	6	1
Image: state of the									
Image: state of the			dif. a lite						
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H3         Remote control enabling code         MSYF         -         C         0         255         0           H4         Disable buzzer         MSYF         flag         C         0         1         0           H5         Function of relay 5-As for H1         MSYF         flag         C         0         13         1           H6         Lock keypad         MSYF         -         C         0         255         0           H8         Select activation of output config for light         MSYF         flag         C         0         1         0           0: 5et point variation with time band         MSYF         flag         C         0         1         0           V_5 tep oint variation with time band enabled         MSYF         -         C         0         1         0           H40         Anti-weath eater offset         MSYF         -         C         0         1         1         2           HA         Date/time of last HA event         MSYF         -         C         0         9         0           M_1         Month         months         1         12         0         4dys         1         7         0         <			6						
H4         Disable buzzer         MSYF         flag         C         0         1         0           0. Buzzer enabled         1: Buzzer disabled         MSYF         flag         C         0         13         1           H6         Lock keypad         MSYF         flag         C         0         13         1           H6         Lock keypad         MSYF         flag         C         0         13         1           H6         Lock keypad         MSYF         flag         C         0         1         0           H7         Elect activation of uput con for aux         m         n         n         1         0           H7         Estep int variation with time band disabled         MSYF         flag         C         0         1         0           H6A         Anti-sweat heater offset         MSYF         -         C         0         1         7         0           Manth         Month         months         1         1         1         2         0         0         23         0         1         7         0         99         0         n         1         12         0         0         23									
b         Buzzer enabled         1         1         1           H5         Function of relay 5- As for H1         MSYF         Fiac         C         0         13         1           H6         Lock keypad         MSYF         Fiac         C         0         255         0           H8         Select activation of output with time band         MSYF         Flag         C         0         1         0           UTime band linked to output config for light         Time band linked to output config for light         1         0         1         0           H3         Exet point variation with time band esbled         MSYF         -         C         0         1         0           H4h         Anti-sweat heater offset         MSYF         -         C         0         15         0           HA         Date/time of last HA event         MSYF         -         C         0         15         0           M         Month         months         1         1         12         0         0         23         0           M_A         Month         MSYF         -         C         -         -         -         -         -         -					-				
H5         Function of relay 5 - As for H1         MSYF         flag         C         0         13         1           H6         Lock keypad         MSYF         flag         C         0         1         0           H8         Select activation of output config. for light         MSYF         flag         C         0         1         0           1: Time band linked to output con for aux         MSYF         flag         C         0         1         0           H9         Enable set point variation with time band disabled         MSYF         °C         C         0         15         0           1: Set point variation with time band enabled         MSYF         °C         C         0         15         0           HAN Number of Ha events recorded         MSYF         -         C         0         12         0           M_         Month         months         1         12         0         0         23         0           M_         Month         months         1         12         0         0         23         0           M_         Month         months         1         12         0         0         23         0 <t< th=""><th></th><th>H4</th><th></th><th>MSYF</th><th>flag</th><th>C</th><th>0</th><th>1</th><th>0</th></t<>		H4		MSYF	flag	C	0	1	0
H6         Lock keypad         MSYF         -         C         0         255         0           H8         Select activation of output with time band 0: Time band linked to output config. for light 1: Time band linked to output con for aux         MSYF         flag         C         0         1         0           H9         Enable set point variation with time band disabled 1: Set point variation with time band enabled         MSYF         flag         C         0         1         0           HAn         Number of HA events recorded         MSYF         -         C         0         15         0           HA         Date/time of last HA event         MSYF         -         C         0         99         0           HA         Date/time of last HA event         MSYF         -         C         0         99         0           M_         Month         months         1         12         0         0         23         0           h_         Hour         months         0         59         0         23         0           h_         Hour         MSYF         -         C         -         -         -           HA         Datertime of third-to-last HA event         MSYF									
H8         Select activation of output with time band <u>0</u> . Time band linked to output con for aux         MSYF         flag         C         0         1         0           H9         Enable set point variation with time band <u>0</u> . Set point variation with time band enabled         MSYF         flag         C         0         1         0           H4h         Anti-sweat heater offset         MSYF         -C         0         1         0           HAn         Number off AL events recorded         MSYF         -C         0         0         0         0         0           Y         Year         Year         years         0         99         0         0         0         23         0           HAD         Date/time of penultimate HA event         MSYF         -C         -         -         -           HAD         Date/time of last HF event         MSYF         -C         -         -         -           HAD         Date/time of last HF event         MSYF         -C         -         -         -           HAD         Date/time of last HF event         MSYF         -C         C         -         -           HAD         Date/time of last HF event         MSYF					flag				1
0. Time band linked to output config. for light 1. Time band linked to output con for aux         MSYF         I         I         I           H9         Enable set point variation with time band disabled 1. Set point variation with time band enabled         MSYF         C         0         1         0           H4h         Anti-sweat heater offset         MSYF         - C         -         0         0           HAn         Number of HA events recorded         MSYF         - C         -         0         0         99         0           Month         Date/time of last HA event         MSYF         - C         -         -         0         99         0           M_         Month         Month         0         23         0         n         12         0           HAD         Date/time of penultimate HA event         MSYF         - C         -         -         -           HAD         Date/time of file/to-last HA event         MSYF         - C         0         99         0           Minute         minute         MSYF         - C         0         15         0           HAD         Date/time of penultimate HA event         MSYF         - C         0         99         0         0			Lock keypad		-	C			
Image: Interpretation of the set		H8		MSYF	flag	C	0	1	0
H9         Enable set point variation with time band disabled D: Set point variation with time band enabled         MSYF         flag         C         0         1         0           Hdh         Anti-sweat heater offset         MSYF         -         C         -         50         200         0.0           HAn         Number of Ha events recorded         MSYF         -         C         -         0         99           M				-					
O. Set point variation with time band disabled 1: Set point variation with time band enabled Hdh Anti-sweat heater offset HAn Number of HA events recorded MSYF         Set Point Variation with time band enabled MSYF         Set Point Variation North         Maxemptotic Point Variation MSYF         Set Point Variation NSYF         <		110		A ACV/E	A	<i>c</i>	0	1	0
Its point variation with time band enabled         Its         Its           Hdh         Anti-sweat heater offset         MSYF         C/F         C         -0         0.0           HA         Number of HA events recorded         MSYF         -         C         0         15         0           HA         Date/time of last HA event         MSYF         -         C         0         15         0           Y         Year         Years         Years         0         23         0         nonths         1         12         0           d_         Day         days         1         7         0         hours         0         23         0           hund         months         1         17         0         hours         0         23         0           Lizzon         days         1         7         0         hours         0         23         0           HAD         Date/time of bindr-to-last HA event         MSYF         -         C         -         -         -           HACP         Date/time of bindr-to-last HA event         MSYF         -         C         0         13         0         12         0 <t< th=""><th></th><th>п9</th><th></th><th>IVISTE</th><th>nag</th><th>C</th><th></th><th></th><th>0</th></t<>		п9		IVISTE	nag	C			0
Hdh         Anti-sweat heater offset         MSYF         *         CF         C         -50         200         0.0           HAn         Number of HA events recorded         MSYF         -         C         -         0         15         0           HA         Date/time of last HA event         MSYF         -         C         -         0         0         99         0           M			U: Set point variation with time band disabled	-					
HAn         Number of HA events recorded         MSYF         -         C         0         15         0           HA         Date/time of last HA event         MSYF         -         C         0         99         0           M		Hdh		MSYE	°C/°E	C	-50	200	0.0
HA         Date/time of last HA event         MSYF         -         C         -         0         99           M				MSYF	-	Č			
M         Month         months days         1         1         12         0           h         Day         hours         0         23         0           n         Minute         min.         0         59         0           touration         min.         0         59         0           HAC         Date/time of penultimate HA event         MSYF         -         C         -         -           HAC         Date/time of hird-to-last HA event         MSYF         -         C         0         12         0           HAC         Date/time of last HF event         MSYF         -         C         -         -         -           Year         years         0         99         0         0         0         0         99         0           M         Month         months         1         12         0         0         0         1         7         0           M         Year         Ways         1         7         0         1         1         12         0         0         1         1         1         1         0         1         0         1			Date/time of last HA event	MSYF	-	С	-	-	0
d_         Day h_         days Hours         1         7         0           h_         Hours         hours         0         23         0           n_         Minute         min.         0         59         0           HAID Date/time of penultimate HA event         MSYF         -         C         -         -           HAID Date/time of third-to-last HA event         MSYF         -         C         -         -           HFN         Number of HF events recorded         MSYF         -         C         -         -           MCOP         Month         MSYF         -         C         -         -         -           M_         Month         MSYF         -         C         -         -         -           M_         Month         months         1         12         0         0         99         0           M_         Hour         Month         months         1         17         0         1           M_         Hour         hours         0         23         0         0         1         1         0         59         0         -         -         -         -		У							
h         Hours Minute         hours ore         0         23 59         0           HA1         Date/time of penultimate HA event         MSYF         -         C         -         -           HA2         Date/time of third-to-last HA event         MSYF         -         C         -         -         -           HA2         Date/time of third-to-last HA event         MSYF         -         C         -         -         -           HFn         Number of HF events recorded         MSYF         -         C         -         -         -           Year         Date/time of last HF event         MSYF         -         C         -         -         -           Month         months         1         12         0         days         1         7         0           Month         months         1         12         0         days         1         7         0           Minute         min.         0         59         0         23         0         0         1         10         0         59         0         1         1         0         59         0         1         0         13         0         1									
n_         Minute         min.         0         59         0           HA1         Data/time of penultimate HA event         MSYF         -         C         -         -           HA2         Date/time of third-to-last HA event         MSYF         -         C         -         -           HA2         Date/time of third-to-last HA event         MSYF         -         C         -         -           HF         Number of HE events recorded         MSYF         -         C         -         -           Year         years         years         0         59         0         months         1         12         0           Month         months         1         12         0         days         1         7         0           Hour         hours         0         23         0         min.         0         59         0           Lucation         min.te         MSYF         -         C         -         -         -           H41         Date/time of third-to-last HF event         MSYF         -         C         0         23         0           HH71         Date/time of third-to-last HF event         MSYF <td< th=""><th></th><th>a</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>		a							
t         Duration         ore         0         99           HA1         Date/time of penultimate HA event         MSYF         -         C         -         -           HA2         Date/time of third-to-last HA event         MSYF         -         C         -         -           HA1         Date/time of last HF events recorded         MSYF         -         C         -         -           HFn         Number of HE events recorded         MSYF         -         C         -         -           Year         Variant         MSYF         -         C         -         -         -           Year         Wash         Namber of HE events recorded         MSYF         -         C         -         -         -           Year         Wash         Namber of									
HAI         Date/time of penultimate HA event         MSYF         -         C         -         -           HACOP         HFn         Number of HF events recorded         MSYF         -         C         0         15         0           HFn         Number of HF events recorded         MSYF         -         C         0         15         0           Year         years         0         99         0         0         0         99         0           M									
HACCP         HFn         Number of HF events recorded         MSYF         -         C         0         15         0           Y_         Year         Month         MSYF         -         C         -         -         -           Y_         Year         Month         Months         1         12         0         99         0           M_         Month         months         1         12         0         days         1         7         0           h_         Hour         hours         0         23         0         0         1         7         0           Month         months         0         1         7         0         0         99         0           HEI         Date/time of penultimate HF event         MSYF         -         C         -         -         -           HE2         Date/time of third-to-last HF event         MSYF         -         C         0         23         0           HH         HACCP alarm delay         MSYF         min.         C         0         11         0           h         Hour         Mours         0         23         0         0		HA1	Date/time of penultimate HA event			С	-	-	-
HF         Date/time of last HF event         MSYF         -         C         -         -           M			Date/time of third-to-last HA event	MSYF	-	C	-	-	-
yYear         years         0         99         0           MMonth         months         1         12         0           dDay         days         1         17         0           hHour         hours         0         23         0           nMinute         min.         0         59         0           HFI         Date/time of penultimate HF event         MSYF         -         C         -           HF2         Date/time of penultimate HF event         MSYF         -         C         0         20           HH1         Date/CP alarm delay         MSYF         -         C         0         20         0           HH4         HACCP alarm delay         MSYF         -         C         0         20         0           H4         HACP alarm delay         MSYF         -         C         -         -         -           H0         Defost time band 1         SYF         -         C         -         -         -           H0ur         min.         0         59         0         11         0           h	насср				-	C	0	15	0
M         Month         months         1         1         12         0           d         Day         days         1         7         0           h         Hour         hours         0         23         0           n         Minute         min.         0         59         0           t         Duration         ore         0         99         0           HF1         Date/time of penultimate HF event         MSYF         -         C         -         -           HE2         Date/time of third-to-last HF event         MSYF         -         C         0         250         0           td1         Defrost time band 1         SYF         -         C         -         -         -         -           d_         Day         days         0         11         0         h         hours         0         23         0           n         Minute         min.         0         59         0         11         0           h         Hour         mours         0         23         0         11         0           n         Idight/aux on time band / set point varance         SYF				IVISTE	Vearc	C		00	
d_         Day Hours         1 Hours         7 Hours         0 Log           n_         Minute         min.         0         23         0 min.           Minute         Misute         MSYF         -         C         -         -           HF1         Date/time of penultimate HF event         MSYF         -         C         0         29         0           HF1         Date/time of third-to-last HF event         MSYF         -         C         0         20         0           H41         Defrost time band 1         SYF         -         C         0         23         0           h_         Hour         min.         0         59         0         11         0           h_         Hour         min.         0         59         0         11         0           h_         Hour         min.         0         59         0         11         0           td2         Day         Hour         hours         0         23         0         1         0           h         Hour         hours         0         23         0         1         0         1         0         1		M.							
h         Hours Minute         hours min.         0         23 0         0           HF1         Date/time of penultimate HF event         MSYF         -         -         -         -           HF2         Date/time of third-to-last HF event         MSYF         -         C         0         99         0           HF1         Date/time of third-to-last HF event         MSYF         -         C         0         20         0           Htd         HACCP alarm delay         MSYF         -         C         0         25         0           td1         Defrost time band 1         SYF         -         C         -         -         -           d_         Day         hours         0         23         0         11         0           n         Minute         min.         0         59         0         11         0           td2         Defrost time band 28         SYF         -         C         -         -         -           td         Day         days         0         11         0         hours         0         23         0           n         Hure         min.         0         59 </th <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>									
n_         Minute         min.         0         59         0           HT         Duration         ore         0         99         0           HF1         Date/time of penultimate HF event         MSYF         -         C         -         -           HF2         Date/time of third-to-last HF event         MSYF         -         C         0         -         -           Htd         HACCP alarm delay         MSYF         -         C         0         250         0           td1         Defrost time band 1         SYF         -         C         -         -         -           d_         Day         days         0         11         0         hours         0         23         0           n         Minute         min.         0         59         0         -         -         -           td2         Defrost time band 28         SYF         -         C         -         -         -           td3         Day         days         0         11         0         hours         0         23         0           n         Hour         hours         0         23         0		h	Hour		hours				
HF1         Date/time of penultimate HF event         MSYF         .         C         .									
HF2         Date/time of third-to-last HF event         MSYF         -         C         0         -         -           Htd         HACCP alarm delay         MSYF         min         C         0         250         0           td1         Defrost time band 1         SYF         -         C         -         -         -           d         Day         SYF         -         C         -         -         -           h         Hour         hours         0         23         0         min.         0         59         0           td2         Defrost time band 28         SYF         -         C         -         -         -           td8         Day         days         0         11         0         hours         0         23         0           n         Light/aux on time band / set point varance         SYF         -         C         -         -         -           d         Day         days         0         11         0         hours         0         23         0           n         Mour         hours         0         23         0         0         11 <td< th=""><th></th><th></th><th></th><th>MCAL</th><th>ore</th><th>C</th><th>0</th><th>99</th><th>0</th></td<>				MCAL	ore	C	0	99	0
Htd         HACCP alarm delay         MSYF         min         C         0         250         0           td1         Defrost time band 1         SYF         -         C         -         -         -           d_         Day         hours         0         11         0           h_         Hour         hours         0         23         0           n         Minute         min.         0         59         0           td2         Defrost time band 28         SYF         -         C         -         -           td8         SYF         -         C         -         -         -         -           d         Day         days         0         11         0         -         -         -           d         Day         days         0         11         0         -         -         -         -           d         Day         days         0         23         0         -         -         -         -           d         Day         days         0         11         0         -         -         -         -         -         -         <			Date/time of third-to-last HE event				0		-
td1       Defrost time band 1       SYF       -       C       -       -       -         d			HACCP alarm delay		min	(		250	0
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h         Hours         0         23         0           n         Minute         min.         0         59         0           td8         SYF         -         C         -         -           td8         SYF         -         C         -         -           td8         SYF         -         C         -         -           td8         Day         days         0         11         0           h_         Hour         hours         0         23         0           min.         0         59         0         11         0           h_         Hour         hours         0         23         0           min.         0         59         0         11         0           h_         Hour         nours         0         23         0           tc         Rift Clate/time band / set point varance         SYF         -         C         -         -           d         Day         days         0         11         0         59         0           n         Minute         min.         0         59         0         0		d	Day						
td2         Defrost time band 28         SYF         -         C         -         -           ton         Light/aux on time band / set point varance         SYF         -         C         -         -         -           d         Day         days         0         11         0           h         Hour         hours         0         23         0           n         Minute         min.         0         59         0           tof         Light/aux off time band / set point varance         SYF         -         C         -         -           d         Day         days         0         111         0         59         0           tof         Light/aux off time band / set point varance         SYF         -         C         -         -           d         Day         Minute         min.         0         59         0         11         0           n         Minute         min.         0         23         0         0         11         0           v         Year         years         0         0         99         0         0         13         1         1         1									
td8				CVE	min.	6	0		0
ton         Light/aux on time band / set point varance         SYF         -         C         -         -         -           d         Day         days         0         23         0           n         Minute         min.         0         59         0           tof         Light/aux off time band / set point varance         SYF         -         C         -         -           d         Day         days         0         11         0         h         10         11         0           h         Hour         min.         0         59         0         11         0           h         Hour         hours         0         23         0         11         0           h         Hour         hours         0         23         0         0         11         0           h         Hour         hours         0         23         0         0         11         0           h         Hour         hours         0         23         0         0         11         10         1           v         Year         years         0         0         99         0			Derrost time band 28	STF	-	C	-	-	-
d         Day         days         0         11         0           h         Hour         hours         0         23         0           n         Minute         min.         0         23         0           toF         Light/aux off time band / set point varance         SYF         -         C         -         -           d         Day         hours         0         23         0         11         0           h         Hour         hours         0         23         0         11         0           h         Hour         hours         0         23         0         11         0           t         RTC date/time setting         MSYF         -         C         -         -           y         Year         years         0         0         99         0           M_         Mese         months         1         1         12         1           d         Day of the month         days         1         1         11         21         1           u         Day of the week         days         1         1         1         7         6			Light/aux on time band / set point varance	SYE	-	C	-	-	-
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toF         Light/aux off time band / set point varance         SYF         -         C         -         -           d         Day         days         0         11         0           h         Hour         hours         0         23         0           n         Minute         min.         0         59         0           tc.         RTC date/time setting         MSYF         -         C         -         -           y         Year         years         0         0         99         0           M_         Mese         months         1         1         12         1           d         Day of the month         days         1         1         31         1           u         Day of the week         days         1         1         7         6           h         Hour         hours         0         0         23         0           n         Minute         min.         0         0         23         0		h	Hour		hours	_	0	23	0
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h         Hour         hours         0         23         0           n         Minute         min.         0         59         0           tc         RTC date/time setting         MSYF         -         C         -         -           y_         Year         years         0         99         0           M         Mese         months         1         1         12         1           d_         Day of the month         days         1         1         31         1           u_         Day of the week         days         1         1         7         6           h         Hour         hours         0         0         23         0           n         Minute         min.         0         0         59         0	(Y			SYF		C			
n         Minute         min.         0         59         0           tc         RTC date/time setting         MSYF         -         C         -	$\sim$			-					
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uDay of the week         days         1         7         6           h         Hour         hours         0         0         23         0           n         Minute         min.         0         0         59         0			Day of the month						
n Minute min. 0 0 59 0			Day of the week		days				
		<u>n_</u>	Immute		i min.	U	1 0	59	 Tab. 5

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

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

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

Code	lcon the o	on display	Alarm relay	Buzzer	Reset	Description
'rE'	8	flashing	active	active	automatic	virtual control probe fault
'EO'	2	flashing	OFF	OFF	automatic	room probe S1 fault
'E1'	2	flashing	OFF	OFF	automatic	defrost probe S2 fault
'E2'-3-4	2	flashing	OFF	OFF	automatic	probes S3-4-5 fault
LZ - J - H		no	OFF	OFF	automatic	probes 55 4 5 hall
'LO'	A	flashing	active	active	automatic	low temperature alarm
'HI'		flashing	active	active	automatic	high temperature alarm
'AFr'	-					antifreeze alarm
		flashing	active	active	manual	
'IA'	A	flashing	active	active	automatic	immediate alarm from external contact
'dA'		flashing	active	active	automatic	delayed alarm from external contact
'dEF'	***	acceso	OFF	OFF	automatic	defrost running
'Ed1'-2		no	OFF	OFF	autom./man.	defrost on evaporator 1 and 2 ended by timeour
'Pd'		flashing	active	active	autom./man.	maximum time pump-down alarm
'LP'	8	flashing	active	active	autom./man.	low pressure alarm
'AtS'	2	flashing	active	active	autom./man.	autostart in pump-down
'cht'		nessuna	OFF	OFF	autom./man.	high condenser temperature pre-alarm
'CHT'	S.	flashing	active	active	manual	high condenser temperature alarm
'dor'	A	flashing	active	active	automatic	door open for too long alarm
'Etc'	0	flashing	OFF	OFF	autom./man.	real time clock fault
'EE'	2	flashing	OFF	OFF	automatic	EEPROM error, unit parameters
	2					
'EF'	HACCP	flashing	OFF	OFF	automatic	EEPROM error, operating parameters
<u>'HA'</u> 'HF'	HACCP	flashing flashing	OFF	OFF	manual	HACCP alarm, type 'HA' HACCP alarm, type 'HF'
	INVOI		UFF	UFF	manual	Instrument enabled for programming from the
'rCt'		Signal				remote control
(A. 1. 1/		c. 1				Automatic address assignment procedure in
'Add'		Signal				progress
'Prt'		Signal				Printing report
'LrH'		Signal				Activation of the of low relative humidity
		Jignui				procedure
'HrH'		Signal				Activation of the of high relative humidity
'ccb'	-	Signal				procedure Request to start continuous cycle
'ccE'		Signal				Request to start continuous cycle
'dFb'	-	Signal	1	1	1	Request to start defrost
'dFE'	1	Signal	1	1		Request to end defrost
'On'		Signal				Switch ON
'OFF'		Signal				Switch OFF
'rFS'		Signal				Reset alarms with manual reset Reset HACCP
120	<u> </u>	Signal				alarms Reset temperature monitoring
'n1''n6'		flashing	active	active	automatic	Indicates an alarm on unit 1 to 6 present in the
'dnL'	<u> </u>	Signal				network signals download in progress
		DIGUG	1	1	1	Isidiigi an

typical 5 nours (<8 nours max.)
-10T65 °C
<90% r.H. non-condensing
-20T70 °C
<90% r.H. non-condensing
smooth and stiff panel installation with gasket IP65
2 (normal)
printed circuit board 250, insulation 175
long
category D and category B (UL 94-V0)
category II
1.B relay contacts (micro-disconnection)
incorporated control, electronically
Class II, by appropriate incorporation
no
class A
only use neutral detergents and water
external, available on all models
external, available on models with H and 0 power supply
10 mt
available for all models

The powercompact range fitted with the standard CAREL NTC probe is compliant with standard EN 13485 on thermometers for measuring the air temperature in applications on units for the conservation and sale of refrigerated, frozen and deep-frozen food and ice cream. Designation of the instrument: EN13485, air, S, A, 1, - 50790 °C. The standard CAREL NTC probe is identifiable by the printed laser code on "WP" models, or the code "103AT-11" on "HP" models, both visible on the sensor part.

The buzzer is enabled if enabled by the parameter 'H4'. The alarm relay is enabled if one of the auxilia-ry outputs, AUX1 (H1) or AUX2 (H5) has been assigned the alarm relay function (normally energised or normally di-energised). Note: the buzzer can be disabled by the CAREL Supervision System.

Disposal of the product The appliance (or the product) n standards in force on water of The appliance (or the product) must be disposed of separately in compliance with the local standards in force on waste disposal.

IMPORTANT WARNINGS: The CAREL product is a state-of-the-art device, whose operation is specified in the technical documentation supplied with the product or can be downloaded, even prior to purchase, from the website www.carel.com.

he customer (manufacturer, developer or installer of the final equipment) accepts all liability and risk relating to the configuration of the product in order to reach the expected results in relation to the specific installation and/or equipment. The failure to complete such phase, which is required/ indicated in the user manual, may cause the final product to malfunction; CAREL accepts no liability in such cases. The customer must use the product only in the manner described in the documentation relating to the product. The liability of CAREL in relation to its products is specified in the CAREL general contract conditions, available on the website www.carel.com and/or by specific agreements with customers.



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