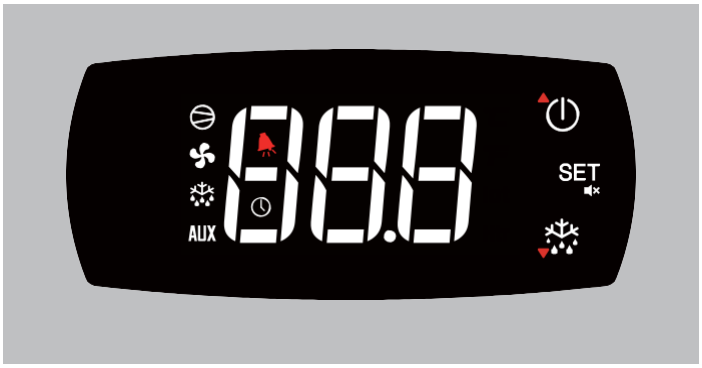


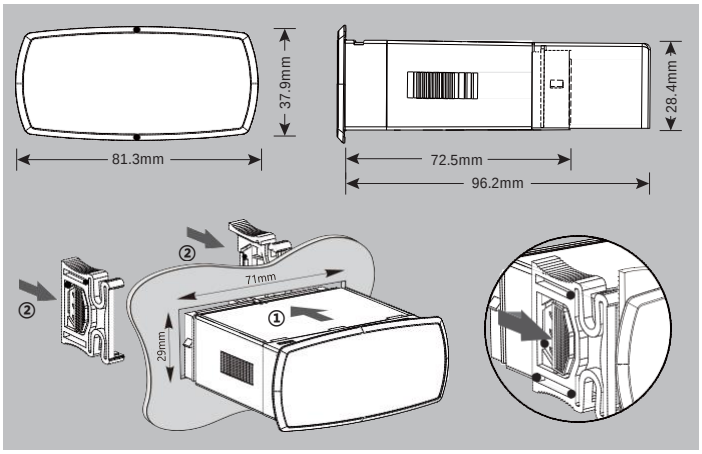
Models and features

control of compressor functions

control of compressor, defrost functions

control of compressor, defrost, fan functions

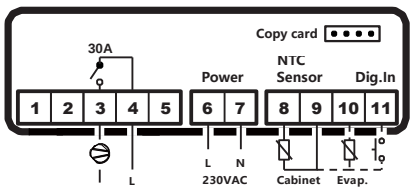
Dimensions and assembly

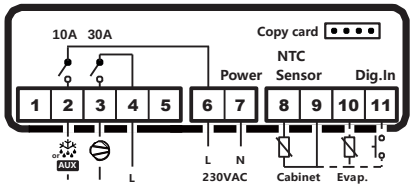


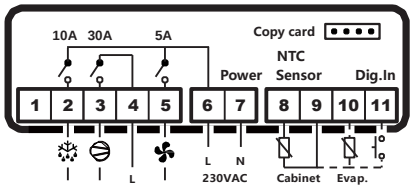
Installation

- Suitable for mounting panels with thickness between 0.8 and 2.0mm;
- Before installation, ensure that the working environment of the controller meets the requirements in the technical parameters;
- Do not place the equipment near heat source, strong magnetic equipment;

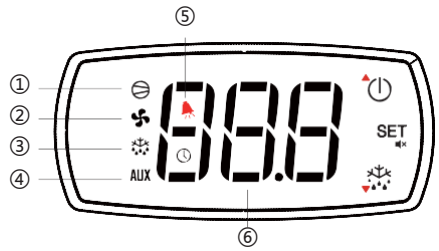
Wiring diagrams







User interface



No.	function	Indicator lights state			remark
		ON	OFF	FLASH	
1	compressor	on	off	call	
2	fan	on	off	call	
3	defrost	on	off	call	
4	auxiliary	on	off	-	
5	alarm	alarm	no alarm	-	E0/E1/dr/Lo/HI alarm
6	digits	display value and code			

Keypad

button	normal operation		start up	
	pressing the button alone	pressing with		
	more than 3s: switch ON/OFF	pressed together display temperature of evaporator sensor	-	
	more than 3s: activates/ deactivates the defrost		pressed together activate parameter reset procedure	-
SET	-1s: display/sets the set point -more than 3s: accesses the parameter setting menu (enter password 22) -mutes the audible alarm	-		

Set point setting (desired temperature value)

- press SET for 1 s, the set value will start flashing;
- increase or decrease the value using ⏻ or ❄ ;
- press SET to confirm the new value;

Accessing the type F parameters

- press the SET button for more than 3 s (if there are active alarms, mute the buzzer). The display shows the parameter code "PS" (password);
- use the ⏻ and ❄ buttons to scroll the parameters, press SET to display the value associated with the parameter;
- increase or decrease the value using the ⏻ or ❄ button respectively;
- press SET to temporarily save the new value and display the parameter again;
- repeat the procedure for any other parameters that need to be modified;
- press the SET button for more than 3 s to permanently save the parameters and exit the parameter setting procedure;

Accessing the type C parameters

- press the SET button for more than 3 s, the display shows the parameter code "PS" (password);
- press the SET button to access the password setting;
- use the ⏻ and ❄ buttons to scroll the numbers until displaying "22" (password to access the parameters);
- press the SET button to confirm the password;
- use the ⏻ and ❄ buttons to scroll the parameters, press SET to display the value associated with the parameter;
- increase or decrease the value using the ⏻ or ❄ button respectively;
- press SET to temporarily save the new value and display the parameter again;
- repeat the procedure for any other parameters that need to be modified;
- press the SET button for more than 3 s to permanently save the parameters and exit the parameter setting procedure.。

Note: if no button is pressed for 60 s, all the changes made to the parameters,

temporarily saved in the RAM, will be cancelled and the previous settings restored。

Manual defrost

- Press ❄ for more than 3 s to activated/deactivated defrost(only if the temperature conditions are right);

Display evaporator sensor temperature

- Press ⏻ and ❄ toghether;

On and off

- press ⏻ for more than 3 s to switching the instrument ON/OFF;

Parameter table

Par.	Disp.	Description	Type	Min	Max	Def.	Unit
PS	PS	password	F	0	200	22	-
/2	r2	probe measurement stability	C	1	15	4	-
/3	r3	probe display rate	F	0	15	4	-
/4	r4	select probe displayed	F	1	3	1	-
/5	r5	select °C/°F (0:centi degree 1:fahrenheit)	F	0	1	0	-
/6	r6	disable decimal point (0:disable dp.)	F	0	1	0	-
/7	r7	enable probe 2 alarm(1:alarm) (reserved)	F	0	1	0	-
/C1	rC1	probe 1 offset	F	-50	50	0.0℃	℃/℉
/C2	rC2	probe 2 offset	F	-50	50	0.0℃	℃/℉
/C3	rC3	probe 3 offset	F	-50	50	0.0℃	℃/℉
/P	rP	select type of probe(reserved)	C	0	1	0	-
St	St	set point	F	r1	r2	4.0℃	℃/℉
rd	rd	differential	F	0	19	2.0	℃/℉
r1	r1	minimum set point value	C	-50	r2	-2℃	℃/℉
r2	r2	maximum set point value	C	r1	200	8℃	℃/℉
r3	r3	select direct/reverse operation (0: direct with defrost 1: direct without defrost 2: reverse without defrost)	C	0	2	0	-
r4	r4	night-time set point delta	C	-50	50	3.0℃	℃/℉
c0	c0	compressor and fan start delay on	C	0	100	0	min
c1	c1	minimum time between consecutive compressor starts	C	0	100	0	min
c2	c2	minimum compressor off time	C	0	100	0	min
c3	c3	minimum compressor on time	C	0	100	0	min
c4	c4	compressor on time with duty setting (0:off,100:always on)	C	0	100	0	min
cc	cc	continuous cycle duration(reserved)	C	0	15	0	h
c6	c6	temperature alarm bypass after continuous cycle (reserved)	C	0	15	2	h
c11	c11	second compressor delay(reserved)	C	0	250	4	s
d0	d0	type of defrost (0=heater, end by temperature 1=hot gas, end by temperature 2=heater, end by time 3=hot gas, end by time 4=heater with temperature control , end by time)	C	0	4	0	-
dI	dI	interval between defrosts	F	0	199	8	h/min
dt	dt	end defrost temperature set point	F	-50	130	4.0	℃/℉
dP	dP	maximum defrost duration	F	1	199	30	min/s
d4	d4	defrost when switching the instrument on (0:disable 1:enable)	C	0	1	0	-
d5	d5	defrost delay on power-up or when enabled by digital input	C	0	199	0	min
d6	d6	freeze control temperature display during defrost (0: display the message "dF" alternating with the temperature measured by the control probe; 1: freeze the display on the last temperature measured before the defrost)	C	0	1	1	-
dd	dd	dripping time	F	0	15	2	min
d8	d8	alarm bypass time after defrost	F	0	15	1	h
d9	d9	defrost priority over compressor protectors (0: protection times observed 1: protection times ignored)	C	0	1	0	-
d/	dr	defrost probe reading	F	-	-		℃/℉
dC	dC	time base (0:dI uint=hour, dP unit=min 1:dI uint=min, dP unit=second)	C	0	1	0	-
A0	A0	alarm and fan temperature differential (A0≤0, AL and AH expressed as absolutes A0>0, AL and AH expressed relative to the set point)	C	-20	20	2.0	℃/℉
AL	AL	absolute/relative temperature for low temperature alarm	F	-50	250	0	℃/℉
AH	AH	absolute/relative temperature for high temperature alarm	F	-50	250	0	℃/℉
Ad	Ad	temperature alarm delay	C	0	199	0	min
A4	A4	3rd input configuration (0:Input not active 1:External alarm(Input open=alarm) 2:reserved 3:Start defrost when input change from open to closed (4:Curtain switch or night-time operation (Input closed=night-time set point, Input open= normal set point) 5:Remote ON-OFF (Input closed=ON, Input open=OFF) 6:reserved 7:Door switch with evaporator fans off (Input closed=door closed, Input open= door open) 8:Door switch with evaporator fans and compressor off (Input closed=door closed, Input open= door open) 9:Direct / reverse operating mode (input closed=reverse, (input open=direct + defrost) 10:Probe for dirty condenser alarm 11:Product probe 12:Door switch with evaporator fans off and light on (Input closed=door closed, Input open= door open)	C	0	12	0	-
A7	A7	digital alarm input delay (only A4=1,7,8,12 available)	C	0	199	0	min
A8	A8	enable alarm" Ed" (end defrost by timeout)	C	0	1	0	-
Ac	Ac	dirty condenser alarm set point	C	-50	250	70	℃/℉
AE	AE	dirty condenser alarm differential	C	0.1	20.0	5	℃/℉
Acd	Acd	dirty condenser alarm delay	C	0	250	0	min
Ad0	Ad0	door management algorithm(reserved)	C	-	-	-	-
F0	F0	enable evaporator fan control (0:the fan is on; 1:the fan is controlled based on a set point (see parameter F1). If the evaporator probe is faulty, the fan operates)	C	0	1	0	-
F1	F1	evaporator fan control set point (When F0= 1,evaporator temperature < F1–A0, the fan is ON; evaporator temperature > F1, the fan is off)	F	-50	130	5	℃/℉
F2	F2	stop evaporator fans if compressor stops 0:the fan operates according to F0 even when the compressor is off ; 1:the fan is off when the compressor is off ; 2:the fan is managed in cyclical on/off mode. The on and off times can be configured by parameters F4 and F5 respectively. The on and off sequence after control is deactivated starts with the ON phase, so as to exploit the fact that the evaporator is still cold.	C	0	2	2	-

F3	F3	evaporator fan status during defrost (0:the fan is on during the defrost (1:the fan is off during the defrost.)	C	0	1	1	-
Fd	Fd	post-dripping time	F	0	15	1	min
F4	F4	fan ON time (when F2=2)	C	0	100	5	min
F5	F5	fan OFF time (when F2=2)	C	0	100	10	min
H0	H0	serial address(reserved)	C	0	207	1	-
H1	H1	AUX output ON time	C	2	1	60	sec
H2	H2	AUX output OFF time	C	2	1	60	min
H4	H4	disable buzzer	F	0	1	0	-
H5	H5	ID code (read-only) (reserved)	C	1	199	1	-
H6	H6	select control associated with UP + DOWN buttons(reserved) (0:start/stop continuous cycle; (1:start/stop defrost.)	C	0	1	0	-
H7	H7	management of fourth relay/serial communication (reserved) (0:fourth relay disabled and serial communication enabled; (1:fourth relay enabled and serial communication disabled)	C	0	1	0	-
EZY	EZY	rapid parameter set selection(reserved)	C	0	4	0	-
tEn	tEn	enable RTC(reserved)	C	0	1	0	-

*F: frequently parameters, no need password

*C: configurable parameters, need password

Error code

Error code	Disp.	Description	Related parameters
E0		probe 1 error=control	-
E1(*)		probe 2 error=defrost	[d0=0/1]
dr(*)		door open alarm	
Lo		low temperature alarm	[AL][Ad][A0]
HI		high temperature alarm	[AH][Ad][A0]

(*)only valid for series C/Y

Technic data

Sizer of the connector insert：Screw terminal block
Power supply：220VAC±10%，50/60Hz
power consume：3.0VA max
Display：Three-digit digital tube and symbol light
Temperature measurement range：-50℃～90℃
Input：2 NTC probes and 1 digital input
Outputs:Refer to the wiring diagram
Working temperature: 0℃～55℃
Storage temperature: -25℃～75℃
Relative humidity:20%～85% (no frost)