Please read carefully before use and keep it properly
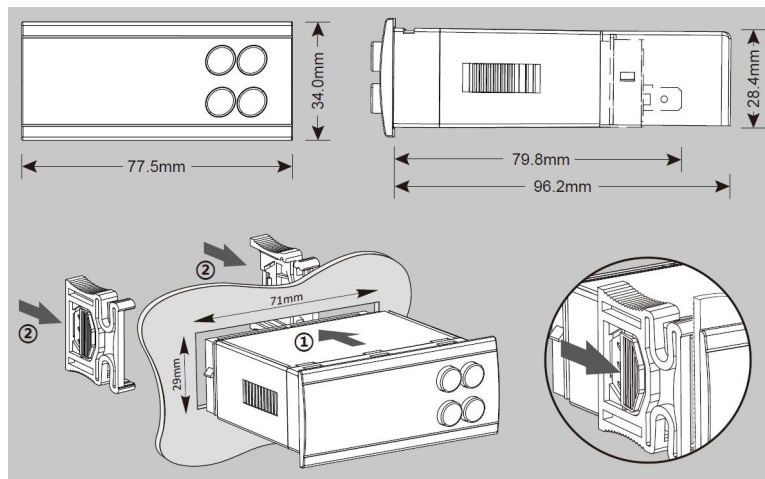
MEC-18x

1.Dimensions and Panel mounting

Installation Precautions

-The thickness of the mounting panel should be in the range from 0.8 to 2.0mm;

-Please ensure that the working environment of the controller meets the requirements in the technical parameters before installation;

-Do not install the instrument in damp or dirty places; in fact, it is suitable for use in places with ordinary or normal levels of pollution. Keep the area around the instrument cooling slots adequately ventilated.

2.Wiring diagrams
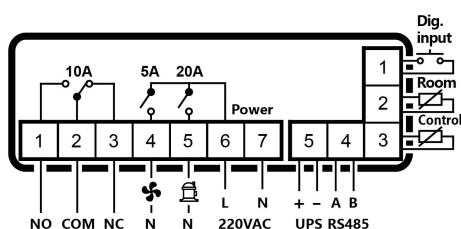
3.Panel and operation
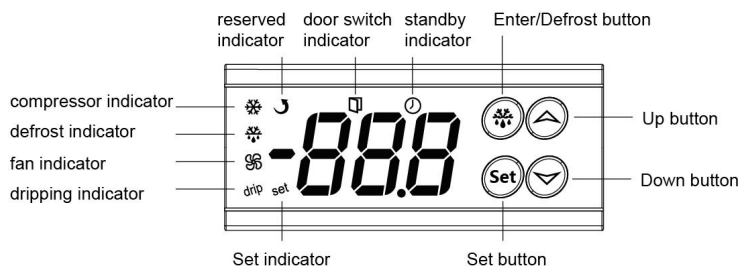
3.1 Indicator light description

-Compressor:Lights up when Compressor is working, flashes when the compressor starts with a delay, and goes out the rest of the time;

-Defrost:Lights up when the defrost is working, and goes out the rest of the time;

-Fan：Lights up when the　fan is working, and goes out the rest of the time;

-Drip：Lights up when dripping, and goes off the rest of the time;

-Set：Lights up when the shutdown temperature or other parameters are set, and goes off the rest of the time;

-Door：Lights up when the door is open, and goes off when the door is closed;

3.2 Key function

Set button | Set

-Pressing SET button for 3s to display the value of set point;

-Switch menu and display interface;

-Press and hold the setting interface for 3 seconds to enter the recorder time setting interface;

Up button | △

-Scrolls through menu items and decreases values;

-Transfer the data from the controller to copy key;

Down button | ▽

-Scrolls through menu items and decreases values;

-Transfer the date from the copy key to the controller;

Enter/Defrost button | ❄

-Check the temperature of evaporator sensor (If enabled);

-Save the parameters and exit the parameter setting interface;

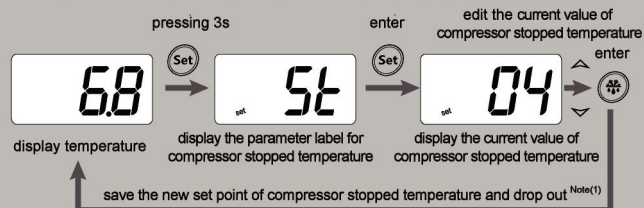-Pressing the key for 3 seconds to start manual defrost, or manually terminate defrost/defrost drip state;

Key combination | △ + ▽

-Press 5S to display "cFg", configure the recorder parameters, clear the previously recorded data, and start recording.
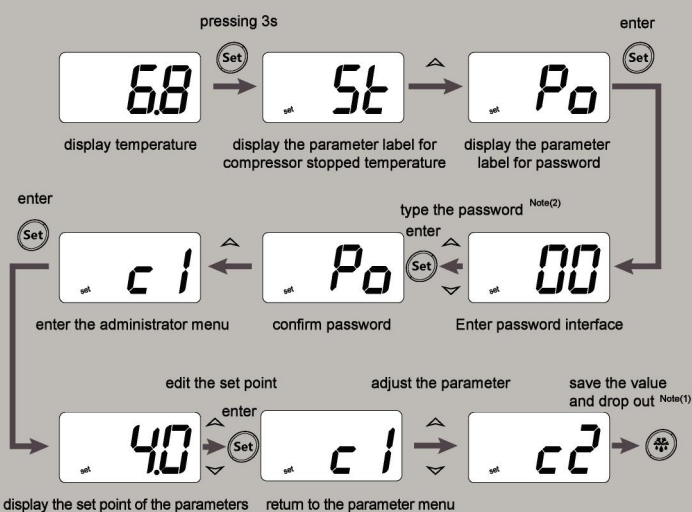
3.3 Normal operations

How to change the shutdown temperature and other parameters

Note(1):If there is no operation for more than 30 seconds, give up parameter modification and exit parameter modification;

Note(2):If you forget your password, please call the manufacturer.

How to view the control probe temperature

When C9=1 and the control sensor is normal, press the SET button to display the temperature of the control sensor.

How to check the temperature of the evaporation probe

Press the ❄ key, the evaporation probe temperature will be displayed, and the normal display will be restored after 1 second.

Note: Only when the evaporation probe is enabled (d1=1) and the evaporation probe is normal (no E2 fault) can you view the evaporation probe temperature, otherwise there will be no response when you press the key.

How to manually start or stop the defrost

Press and hold the ❄ key for 3 seconds to manually start or stop the defrost.

How to set the recorder clock

In the parameter setting interface,Pressing SET button for 3s to display "Yea", △ and ▽ to switch between year, month, day, hour, minute and second.

And press the SET key again to switch between parameter items and parameter values; After pressing the SET key, if the clock has changed, modify the recorder clock and exit the setting mode; Otherwise, the clock will not be changed.

 If there is no key operation within 30 seconds, it will automatically exit the setting interface without setting the clock.

Note：Every time you reset the recording clock and parameters, the previously recorded data will be cleared. Please pay attention to data storage before operation.

Quickly clear and re record data

After Pressing △ + ▽ button for 5s to display the "cFg", and the current data of the recorder will be cleared. At the same time, the recorder will be reconfigured according to the current parameters, and new data recording will be started again.

Tips for USB flash disk exporting data

Insert the USB stick into the recorder and start exporting data.

During the export process, the controller displays the current progress (0~100%) every 3 seconds, the recorder gives a short sound every 2.5 seconds, and the blue indicator flashes.

After the data export is completed, the controller displays "OK", the recorder buzzer sounds for a long time, and the blue indicator is always on. At this time, you can remove the USB flash disk.

Note(1): During data export, please ensure that the main power supply is stable, and do not pull out the U disk in advance;

Note(2): It is prohibited to export data from the USB flash disk when the main power is off.

Power failure prompt

Display: When the mains power is cut off, the controller will display and prompt once every 6 seconds. The display temperature accuracy is adjusted to 1.

Alarm: When A13=0, the controller prohibits noise reduction;

When A13=1, press any key to silence.

4.Parameter table

Menu	Functions	Setting range	Default	Unit
St	Temperature set value	Upper limit ~ Lower limit	4	℃/℉
Po	Administrator menu Password	00 ~ 99	00	/
C1	Hysteresis value	0.5℃ ~ 9.0℃	4.0	℃/℉
		1℉ ~ 20℉		
C2	Compressor start Min interval	0 ~ 60	5	min
C3	Compressor initial start Min interval	0 ~ 90	5	min
C4	Cabinet sensor calibration	-10.0℃ ~ 10.0℃	0.0	℃/℉
		-20℉ ~ 20℉		
C5	Temperature set lower limit	-50℃ ~ temperature set value	-2	℃/℉
		-58℉ ~ temperature set value		
C6	Temperature set upper limit	temperature set value ~ 85℃	22	℃/℉
		temperature set value ~ 185℉		

Menu	Functions	Setting range	Default	Unit
C7	Max.standby time after finishing compressor start Min. interval (note①)	0~90 0:Max.standby time calculation is forbidden	0	Min
C8	Refrigeration Min. running time	0~90 0: Refrigeration Min.running time calculation is forbidden	0	min
C9	Condenser sensor selection	0: Disabled 1: Enabled	1	/
C10	Condenser sensor calibration	-10.0℃ ~ 10.0℃	0.0	℃/℉
		-20℉ ~ 20℉		
C11	Reserve	0~99	0	/
d1	Evaporator sensor selection	0: Disabled 1: Enabled	0	/
d2	Evaporator sensor calibration	-10.0℃ ~ 10.0℃	0.0	℃/℉
		-20℉ ~ 20℉		
d3	Defrost cycle calculation	0: accumulated refrigeration time 1: natural time	1	/
d4	Defrost cycle	0~90 0: Defrost forbidden	6	hour
d5	Defrost status display	0:Display cabinet temperature 1:Display dEF during defrost and defrost time delay, display cabinet temperature after finishing defrost time delay. 2:Always display dEF during defrost and defrost dripping 3:Always display start-defrost cabinet temperature during defrost and defrost dripping	2	/
d6	The maximum time of defrost	1~90	25	min
d7	Defrost termination temperature	0℃ ~ 50℃	12	℃/℉
		32℉ ~ 122℉		
d8	Dripping time after defrost	0~60 0: Defrost dripping time forbidden	2	min
d9	Cabinet temperature display time delay after defrost	0~90	10	min
d10	Time delay after defrost start	0~60 0:Defrost start time delay is canceled	0	min
d11	Defrost type	0:Electric heating defrost 1:Hot gas defrost	0	/
F1	Fan running mode	0:Fan and compressor run or stop synchronically 1:Fan runs continuously, stops during defrost 2: Fan runs continuously, stops during defrost and defrost dripping	5	/

Menu	Functions	Setting range	Default	Unit
F1	Fan running mode	4:Controlled by defrost sensor, fan stops during defrost. 5:Fan runs continuously	5	/
F2	Fan initial start time delay after electrified	0~60	4	min
F3	Fan start time delay after defrost	0~60 0: Fan time delay canceled	2	min
F4	Fan working lowest temp.	-50℃ ~ Fan working highest temp. -58℉ ~ Fan working highest temp.	-12	℃/℉
F5	Fan working highest temp.	Fan working lowest temp. ~ 85℃ Fan working lowest temp. ~ 185℉	-5	℃/℉
A1	Compressor run and stop in a proportional time after cabinet sensor failure	0: Cancel the mode of "Run/stop in a proportional time" 1: Start the mode of "Run/stop in a proportional time"	1	/
A2	Compressor stop time in the mode of "Run/stop in a proportional time"	1~60	5	min
A3	Compressor running time in the mode of "Run/stop in a proportional time"	1~60	30	min
A4	Buzzer alarm output switch	0: Buzzer output disabled 1: Buzzer output enabled	1	/
A5	Cabinet temperature lower limit alarm value	-50℃ ~ Cabinet temperature upper limit alarm value -58℉ ~ Cabinet temperature upper limit alarm value	-10℃	℃/℉
A6	Cabinet temperature upper limit alarm value	Cabinet temperature lower limit alarm value ~ 85℃ Cabinet temperature lower limit alarm value ~ 185℉	24℃	℃/℉
A7	Cabinet over tempera-ture alarm time delay	0~60	20	3min
A8	The initial cabinet over temperature alarm time delay after electrified	0~60	40	3min
A9	Over temperature ala-rm upper deviation	1℃ ~ 30℃ 1℉ ~ 60℉	10℃	℃/℉
A10	Over temperature alarm lower deviation	1℃ ~ 30℃ 1℉ ~ 60℉	5℃	℃/℉
A11	Over temperature alarm mode	0: Absolute temperature point 1:set value+ over temperature alarm deviation	0	/
A12	Power outage mute mode	0: Disabled 1: Enabled	0	/
do1	Control output of door switch	0:Door switch is canceled 1:Close fan during door open		

Menu	Functions	Setting range	Default	Unit
do1	Control output of door switch	2: Turn on the light when door open, turn off the light when door closed 3:Close fan and turn on the light when door open, Turn off the light when door closed 4: When door is open, it is the synchronous signal input of defrost, defrost will start.	1	/
do2	Buzzer response when door open	0:NO 1:YES	1	/
do3	Buzzer response delay time when opening the door	0~99	2	min
do4	Repeat alarm delay	0~99	30	min
cd1	Condenser sensor selection	0:Disabled 1:Enabled	0	/
cd2	Condenser high temperature alarm start value	30℃ ~ 90℃ 86℉ ~ 194℉	30℃	℃/℉
cd3	Lower hysteresis of condenser high temperature alarm	1℃ ~ 15℃ 2℉ ~ 30℉	5℃	℃/℉
adr	controller address	00 ~ 127	01	/
un1	The controller area address	00 ~ 127	01	/
*u1	Celsius /Fahrenheit selection (note②)	00：Fahrenheit 01：Celsius	01	/
*r1	Recorder selection	0: Disabled 1: Enabled	00	/
*r2	Select Chinese and English for export file	0:Chinese 1:English	00	/
r3	Select the latest data to export	0: Export All 1-9: Export records in recent r3 months	0	/
*r4	Recording interval	1~999	2	5S
*r1n	Recorder overtemperature alarm selection	0: Disabled 1: Enabled	1	/
*r1u	Upper limit of recorder control temperature alarm	r1p ~ 85℃ r1p ~ 185℉	30	℃/℉
*r1p	Lower limit of recorder control temperature alarm	-50℃ ~ r1u -58℉ ~ r1u	-30	℃/℉
*r2n	Recorder cabinet temperature alarm	0: Disabled 1: Enabled	1	/
*r2u	Upper limit of recorder cabinet temperature alarm	r2p ~ 85℃ r2p ~ 185℉	30	℃/℉
*r2p	Lower limit of recorder cabinet temperature alarm	-50℃ ~ r2u -58℉ ~ r2u	-30	℃/℉

Note1:Please reconfirm the temperature related parameters after the temperature mode conversion!

Note2:The controller shall prevail if the parameters are subject to change without notice.

Note3:Note the parameters marked with "*". When changing these parameters, the recorder data will be cleared. Please backup the data in advance!

5.Err Code

Code	Description
E1	Control cabinet temperature sensor fault
E4	Cabinet temperature sensor fault
EE	Recorder communication failure
FF	The recording function is turned on, but the recording is not turned on
rH	Cabinet temperature high temperature alarm
rL	Cabinet temperature low temperature alarm
Er	Copy card programming failed
EP	The data format of the copy card does not match
cFg	Clear the recorder data, reconfigure the recorder parameters, and start a new record

6.Technical data sheet

Material of shell: PC : light window -PC

      Back shell -ABS (Flammability rating: UL94-V0)

      Water proof cover (option)-ABS (UL94-V0)

Dimensions and Panel mounting：

      please check the No.1 chapter

Sizer of the connector insert：

      Power supply and outputs：   Screw terminal

      Connector type for probe and door switch：   PH-2A connector

      UPS interface：   XH-2A connector

      Recorder interface：   PH-2*2A connector

Power supply：   220VAC±10%，50/60Hz

      or 110VAC±10%，50/60Hz

power consume：   5.0VA max

Display ：   Three-digit digital tube and symbol light

      (red/white/blue optional),

Resolution：   0.1℃ or 1℉

Temperature measurement range and accuracy：

      -50℃～90℃,-40℃～50℃@±1℃, others ±2℃

Input :   2 NTC probes and 1 single input (switch door)

Outputs: Refer to the wiring diagram

Working temperature: 0℃～55℃

Storage temperature: -25℃～75℃

Relative humidity: 20%～85% (no frost)