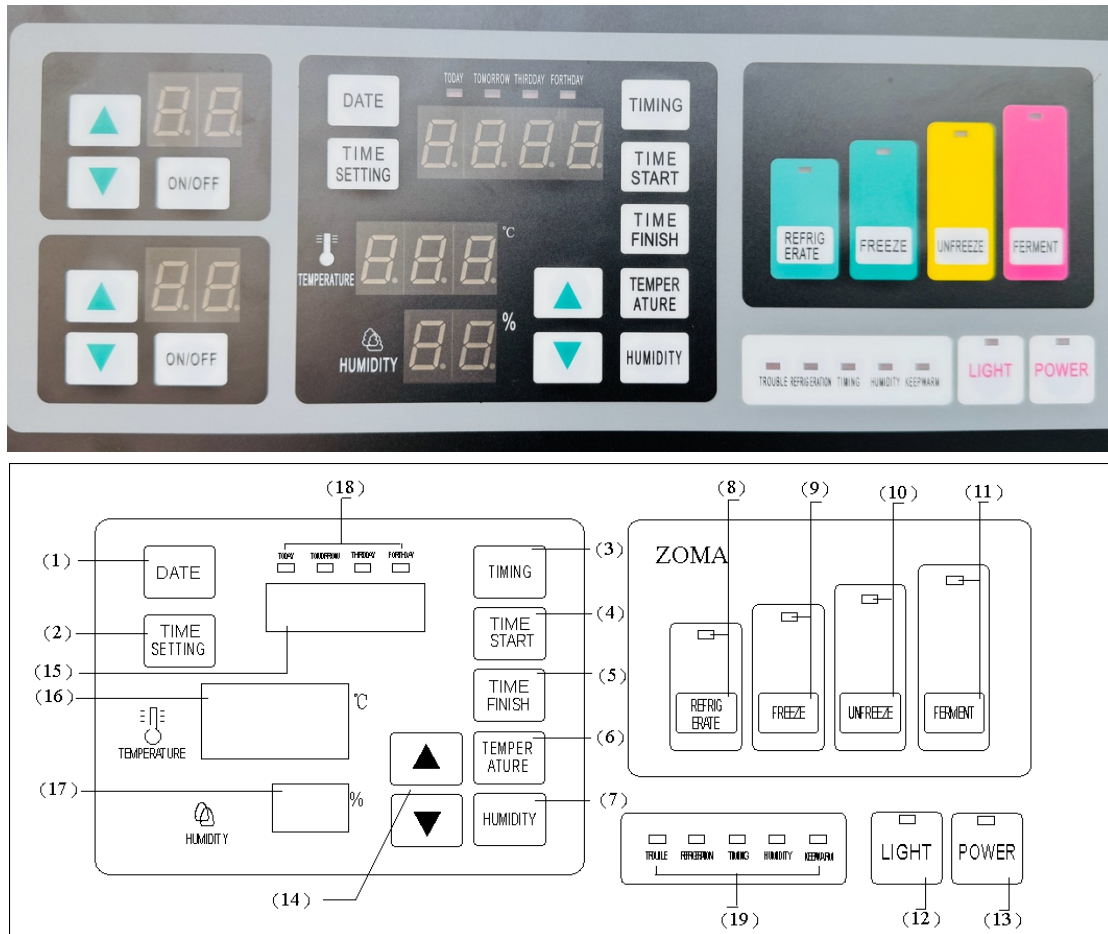


ZM-DCXFB CONTROLLER USER MANUAL

I .Controller panel



Operation Panel Description:

On the left side of the color image are the newly added two timer functions. Press the up and down arrows accordingly. Set the timing for the head button. Press the timing button to start the timing.

- (1) Freezing and Refrigeration Date Setting: After starting the freezing or refrigeration timer, by pressing **DATE** key, you can select to keep the freezing or refrigeration time for up to four days. This is indicated by the (18) indicator light.)
- (2) Clock setting: Press **TIME SETTING** key once to set the hour, press it again to set the minute, press (14) to add or subtract the parameters, and press it three times to complete the clock setting.
- (3) Start the freezing or refrigeration timer: In the freezing or refrigeration mode, press **TIMING** key to start the freezing or refrigeration timer.

- (4) Setting of start fermentation time: Press **TIME START** key once to set it in hours, press it again to set it in minutes, press (14) to add or subtract the parameters, and press it three times to complete the setting of the start fermentation time.
- (5) Setting of end fermentation time: Press **TIME FINISH** key once to set it in hours, then press it again to set it in minutes. Press (14) to add or subtract the parameters and press it three times to complete the setting of the end fermentation time.
- (6) Setting of proofing temperature: During the proofing process, press **TEMPERATURE** key once to set the proofing temperature. Use the (14) keys to increase or decrease the parameter, and then press this key again to complete the temperature setting.
- (7) Setting of fermentation humidity: During the fermentation process, press **HUMIDITY** key once to set the fermentation humidity. Use the (14) keys to increase or decrease the parameters, and then press this key again to complete the humidity setting.
- (8) Refrigeration start, refrigeration temperature setting: Press **REFRIGERATE** key to start the refrigeration process. The corresponding indicator light will illuminate. If no timing is set, it can be used for long-term refrigeration; if timing is set, the refrigeration will remain in the set timing period until it enters the fermentation state automatically.
After starting the refrigeration, press **REFRIGERATE** key for 5 seconds to set the refrigeration temperature. At this time, the (16) window will flash. Use (14) to add or subtract the parameters, and then press **REFRIGERATE** key to complete the setting of the refrigeration temperature.
- (9) Freezing start, freezing temperature setting: Press **FREEZE** key to start the freezing process. The corresponding indicator light will turn on. If no timing is set, it can be frozen for a long time; if timing is set, the freezing process will automatically enter the **UNFREEZE** state after the set timing is completed. After starting the freezing, press **FREEZE** key for a long time to set the freezing temperature. At this time, the (16) window will flash. Use the (14) plus and minus buttons to adjust the parameters, and then press **FREEZE** key to complete the freezing temperature setting.
- (10) Unfreezing start, unfreezing temperature setting: Press **UNFREEZE** key to start defrosting. After starting the defrosting process, press and hold this key to set the defrosting temperature. At this time, the (16) window will flash. Use the (14) plus and minus buttons to adjust the parameters, and then press **UNFREEZE** key to complete the defrosting temperature setting.
- (11) Proofing Start: Press **FERMENT** button to initiate proofing, and then press it

again to stop the proofing process.

- (12) Lighting switch: Press this key repeatedly to turn on and off the lighting.
- (13) Power switch: Press this key repeatedly to turn on or off the power.
- (14) Parameter addition and subtraction: Add or subtract parameters when setting the parameters.
- (15) Clock display window: Displays the time.
- (16) Temperature display window: Displays the temperature.
- (17) Humidity display window: Displays the humidity.
- (18) Date indication for freezing and refrigeration preservation: Four indicator lights respectively indicate that the freezing or refrigeration should be maintained until the current day, for one day, for two days, or for three days.
Once the time reaches that day, the fermentation will be automatically initiated according to the set start time.
- (19) Action Indicators: Five indicator lights respectively indicate faults, start of refrigeration, timed start, humidification and heating.

II. Technical Specifications

- 1. Three sets of digital tubes display: time, temperature, and humidity.
- 2. Longest preservation time in freezer: 4 days in automatic mode, 4 days in manual mode in the long term
- 3. Control range of proofing time: 0 to 24 hours
- 4. Refrigeration temperature setting range: -18 to 5 degrees Celsius
- 5. Refrigeration temperature setting range: -12 to -10 degrees Celsius
- 6. Defrosting temperature setting range: 0-25 °C
- 7. Setting range for fermentation temperature: 0 - 45 °C
- 8. Setting range for proofing humidity: 20 - 95%
- 9. Output Control: 1 channel for temperature control, 1 channel for auxiliary temperature control with AC220V/20A.
- 10. Refrigeration control: 1 channel, AC 220V/2A
- 11. Humidification control: 1 channel, AC 220V/2A
- 12. Lighting control: 1 channel, AC 220V/2A
- 13. Fan control: 1 channel, AC 220V/2A
- 14. Alarm indication: 1 channel, AC 220V / 2A
- 15. Signal Input: 1 dedicated temperature and humidity sensor channel
- 16. Temperature display resolution: 1°C
- 17. Temperature setting resolution: 1°C
- 18. Humidity display resolution: 1%
- 19. Humidity setting resolution: 1%
- 20. Input power: AC 220V ≤ 10%, 50Hz
- 21. Working environment temperature: < 50°C
- 22. The humidity of the working environment is less than 85% RH.

III. Parameter Settings

1. Clock setting:

When setting the time, press **TIME SETTING** to set it, then press (14) to adjust the parameters. After completion, press **TIME SETTING** to set the minutes, then press (14) to adjust the parameters, and after completion, press **TIME SETTING** to exit the setting.

2. Timed Settings:

Please follow the steps below:

A. First, set the start time of the fermentation in hours by pressing **TIME START** once.

Then, set the start time of the fermentation in minutes by pressing **TIME START** again.

Next, press once to complete the setting of the start time for the fermentation. Finally, adjust the parameters by pressing (14).

B. Press **TIME FINISH** once to set the end proofing hour, then press **TIME FINISH** once to set the end proofing minute, then press once again to set the end proofing time, press (14) to adjust the parameters.

C. Start the refrigeration or freezing process by pressing **REFRIGERARTE** or **FREEZE**.

D. Start the timer by pressing **TIMING**.

E. Select refrigeration or freezing period by pressing **DATE**, maximum of four days.

After completing the above settings, the controller can automatically perform storage based on the number of days for refrigeration or freezing. Once the start time for fermentation arrives, it will automatically initiate the fermentation process.

3. Refrigeration temperature setting:

Press **REFRIGERATE**, and the corresponding indicator light will turn on, entering the refrigeration mode. Press **REFRIGERATE** for a longer period until the temperature display window (16) flashes to show the set temperature value. Then press (14) to adjust the refrigeration temperature, complete the operation, then press **REFRIGERATE** to exit the setting. Otherwise, the setting will automatically exit after a 5-second delay. Temperature range: -12 to -10 °C

4. Freezing temperature setting:

Press **FREEZE**, and the corresponding indicator light will turn on, entering the freezing mode. Press **FREEZE** for a longer time until the temperature display window (16) flashes to show the set temperature value. Then press (14) to adjust the refrigeration temperature, then press **FREEZE** to exit the setting. Otherwise, the

system will automatically exit the setting after a 5-second delay. Temperature range: -18 to -5 °C

5. Defrosting temperature setting:

Press **UNFREEZE**, and the corresponding indicator light will turn on, entering the defrosting mode. Press **UNFREEZE** again for a long time until the temperature display window (16) flashes to show the set temperature value. Then press (14) to adjust the refrigeration temperature, then press **UNFREEZE** to exit the setting. Otherwise, it will automatically exit the setting after a 5-second delay.

Temperature Range: 0-25° C

6. Setting of rising temperature and humidity:

Press the corresponding indicator light **FERMENT** and it will light up, entering the rising state: Press **TEMPERATURE** to make the temperature display window (16) flash and display the set temperature value. Press (14) to adjust the fermentation temperature. After completing the setting, press **TEMPERATURE** to complete the temperature setting. Press **HUMIDITY** to make the humidity display window (17) flash and display the set humidity value. Press (14) to adjust the fermentation humidity. After completing the setting, press **HUMIDITY** to complete the humidity setting.

7. Humidification cycle setting:

In the waiting state, press and hold **TEMPERATURE** for a long time until the temperature display window (16) flashes. Then, adjust the humidification cycle by pressing (14), and after completion, press **TEMPERATURE** to exit.

8. Setting of humidification duration:

In the waiting state, press and hold **HUMIDITY** until the humidity display window (17) flashes. Then, adjust the humidification cycle by pressing (14). After completion, press **HUMIDITY** to exit.

IV. Startup and Operation

1. Single proofing:

After powering on the machine, follow the settings described in (3.6) to complete the setting of the fermentation temperature and humidity parameters. Then, it will enter the fermentation operation mode.

2. Single Refrigeration:

After powering on, follow the settings described in (3.3) to complete the setting of the refrigeration temperature. Then, the refrigeration operation mode will be activated.

3. Single Freezing:

After powering on the device, follow the settings as described in (3.4) to complete the setting of the freezing temperature. Once the freezing temperature is set, the device will enter the freezing operation mode.

4. Single deforst(unfreeze):

After powering on, follow the settings as described in (3.5) to complete the setting of the thawing temperature. Then, the thawing operation will commence.

5. Refrigeration - Proofing:

After turning on the machine, set the refrigeration temperature as described in (3.3), and complete the timing setting according to the method. Then, it will enter the refrigeration - proofing working state (3.6) After setting the parameters for fermentation temperature and humidity, proceed as per (3.2)

6. Freezing - Proofing:

After turning on the machine, set the freezing temperature as described in (3.4), and complete the timing setting according to the method. Then, it will enter the freezing-fermentation working state. (3.6) After setting the parameters for fermentation temperature and humidity, proceed as per (3.2)。

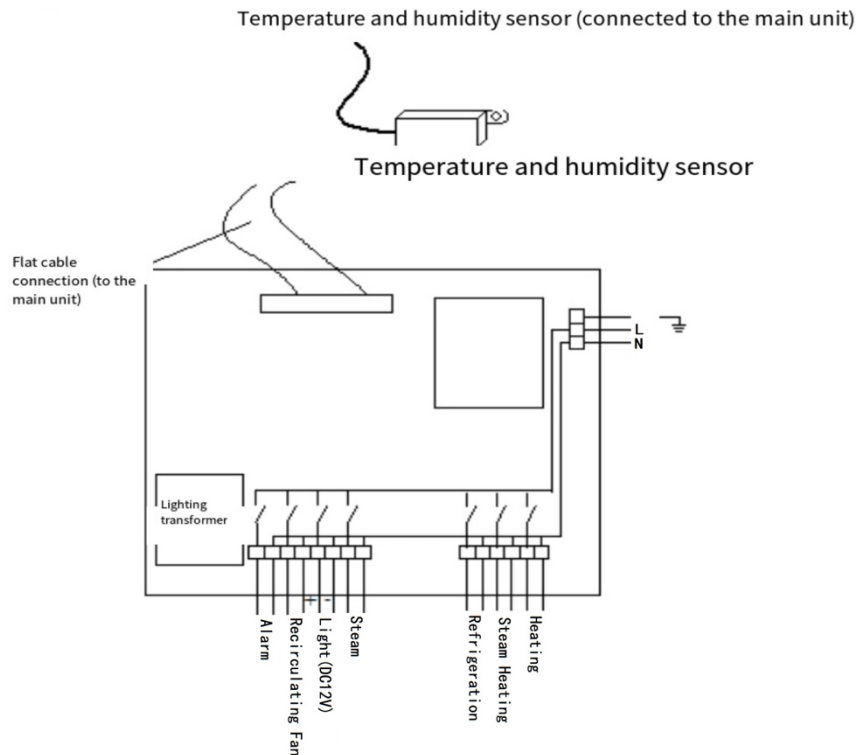
V. Alarm Status

1.If the temperature probe is short-circuited or disconnected, it will display "--".

2. When the temperature exceeds the alarm threshold, display "HHH".

When making the alarm call, all heating, steam heating, cooling and humidification functions are turned off.

VI、 Wiring Diagram



VII. Installation - Selecting the Placement Environment

1. No flying dust.
2. No corrosive gases.
3. It is not suitable for installation on equipment with significant mechanical vibration or tremors.
4. Avoid working directly in strong sunlight.
5. Stay away from strong electromagnetic fields to avoid interference from the controller.
6. The controller should be installed flatly on the proofing box to prevent the surface panel of the controller from deforming and affecting the user's operation.
7. Prevent water, oil and other splashing substances from interfering with the normal operation of the product.

ZM-DCXF Temperature and Humidity Freeze Storage and Proofing Box Controller Internal Parameter Settings

When the power is off, long press the "DATE" button until the time window shows "0000" and the temperature window shows "in". Then press the "Add" and "Subtract" keys to select the internal parameter password and set the internal parameters. After entering the password "0005", press the date key to enter the internal parameter setting mode. Then, press the date key to set the next parameter. Press the time setting key to set the previous parameter. Press and hold the date key to exit.

Internal parameters:

1. Temperature sensor correction value (-50 to 50) °C
"I-01 " Factory value: -2
2. Heating method (0 - 1) 0: Proportional 1: PID
"I-02 " Factory value: 0
3. Heating ratio (0 - 99) °C 0: Two-position type 1: Proportional
"I-03 " Factory value: 5
4. Heating output period (1 - 99) seconds
" I-04 " Factory value: 30"
5. Heating dead zone (0 - 9.9) °C below the set temperature
"I-05 " Factory value: 2.0
6. Refrigeration startup delay (1 - 9 minutes)
"I-06 " Factory Value: 1
7. Freezing zone (1 - 10) °C above the set temperature
"I-07 " Factory value: 4
8. Defrosting cycle (0 - 12) hours
" I-08 xx" Factory value: 6
9. Defrosting time (0 - 60) minutes
"I-09 " Factory value: 15
10. Defrosting temperature (-10 - 0) °C
"I-10 " Factory value: 0
11. The first time for the rising process and water addition time (0 - 99) seconds
"I-11 " Factory default value: 10
12. Humidity sensor correction (-50 - 50) %
"I-12 " Factory value: 0
13. Temperature and humidity display filtering (0-9) 0: Not used
"I-13 " Factory value: 1
14. Steam period (1 - 999) seconds
"I-14 " Factory value: 30
15. Steam output time (0 - 99) seconds
" I-15 " Factory value: 3
16. Lighting time (0 - 9.9) minutes 0: No time control
"I-16 " Factory value: 0

17. Alarm temperature (0 - 99) °C 0:

"I-17 " Factory value: 45

18. Refrigeration ends, heating humidity, heating steam, delay time (0 - 10) minutes

0: Fermentation is not under cooling control

"I-18 " Factory value: 0

19. Proportion of thawing time during 19-hour delayed proofing (0 - 100) %

"I-19" Factory value: 20"

20. Temperature and Humidity Operating Mode

(0 - Normal, 1 - Humidity follows temperature work together)

"I-20" Factory value :0

21. If humidity cannot achieve, temperature will not work, percentage (0 - 100%) to judge setting

"I-21 " Factory value: 0

22. Humidity cannot achieve, alarm time (0 - 99) minutes. 0: Cancel

"I-22 " Factory value: 20

After typing the password "0001", press the DATE key to enter the actual temperature display mode Press and hold the DATE key to exit.

After typing the password "0002", press the DATE key to enter the actual humidity display mode. Press and hold the DATE key to exit

After typing the password "0011", press the DATE key to enter the detection display state. Press and hold the DATE key to exit.

After typing the password "0012", press the DATE key to enter the detection output state. Press the UP key to select the next output line. Press the DOWN key to switch the output line. Long press the DATE key to exit.

Installation Requirements

The Retarder Prover is supplied with all necessary connection pipes. Installation requirements are as follows:

- **Electrical supply:** The unit requires a standard 13 A plug connection.
- **Waste connection:** The waste outlet is gravity-fed and should be connected to a suitable waste outlet.
- **Water supply:** The water inlet uses the same type of fitting commonly used for standard washing machines and ice machines.
- **Pipes:** All required connection pipes are supplied with the unit.