

ETC-974 Operation Instructions

1. Working conditions:

- 1.1. Power supply: 230VAC±10% 50/60Hz
- 1.2. Rated current of the relays (refrigeration, defrost and fan): 8A/220VAC
- 1.3. Use temperature: -5°C ~ 55°C Relative humidity: 10% ~ 90% RH (not condensing)
- 1.4. Storage temperature: -30°C ~ 85°C

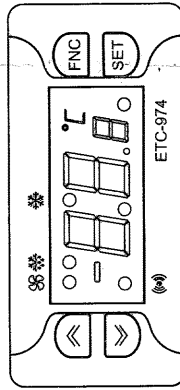
2. Specification:

- 2.1. Product: Length 77× Width 34.5 × Depth 58 (mm)
- 2.2. Mounting size: Length 71 × Width 29 (mm)
- 2.3. Probe wire length: 2M (including the probe)

3. Technical Parameters:

- 3.1. Temperature controlling range: NTC probe: -50...110°C (-58...230°F) PTC probe: -55...140°C (-67...284°F)
- 3.2. Display resolution: 1°C/0.1°C (With the switch mode between integer and decimal)
- 3.3. Accuracy: NTC: ±0.5°C (-30°C~50°C), others, ±1°C PTC: ±1°C (-30°C~50°C), others, ±2°C
- 3.4. Probe type: NTC (-50°C~120°C) PTC (-50°C~150°C)

4. Operation and display panel:



FNC key: Exit SET key: Set
≈ key: Up ≈ key: Down

| Position | Related Function | Status |
|----------|------------------|---|
| ※ | Compressor | ON when the compressor is started up; blinking in case of delay, protection or blocked enabling |
| ※ | Defrost | ON when defrosting; blinking in case of manual enabling |
| ⊕ | Alarm | ON when the alarm is enabled; blinking when the alarm is silenced |
| ⊗ | Fans | ON when the fan is working |

5. Controller parameters and operation:

5.1. Set the temperature setpoint

To access the user menu, press and quickly release the "set" key. If alarms are not present, the label "SET" appears. By using the "UP" and "DOWN" keys you can scroll through the other folders in the menu:

-Pb1: probe 1 value folder; -Pb2: probe 2 value folder; -SET: Setpoint setting folder.

The step of setting the temperature is as below:

- 5.1.1. When it displays the measured temperature in the display panel, press SET key, it will display Set.
- 5.1.2. At this time, press SET key, you could view the current temperature setpoint.
- 5.1.3. Press ≈ key or ≈ key to modify the setpoint.
- 5.1.4. Press FNC key, it will display the measured temperature, and exit from the temperature setting. If high/low temperature alarm happens, user could inquiry alarm type through parameter folders "AL".

5.2. Parameter setting

ETC-974 has classified all parameters into seven folders according to the objects and functions: CP, Def, FAn, AL, diS, CnF, FPr, the method to enter the folder is as below:

5.2.1. When it displays the measured temperature in the display panel, press SET key for at least five seconds, it will display the first parameter folder code CP.

5.2.2. At this time, press SET key, it enters the parameter folder CP, and it will display the first parameter diF.

5.2.3. Press ≈ key or ≈ key, it will display all parameters under the folder of CP in circulation.

5.2.4. If need to view or modify one of the parameters, when it displays the parameter code in the display panel, press SET key to view the parameter setpoint, and then press ≈ key or ≈ key to modify the setpoint.

5.2.5. Press FNC key, it will exit from the parameter folder of CP and it will restore to display the parameter CP. Press FNC, it will restore to display the measured temperature value and exit from parameter setting.

5.3. Enter the parameter folders of, Def, FAn, AL, diS, CnF, FPr
5.3.1. When it displays the first parameter folder code CP, press ≈ key or ≈ key, it will display each parameter folder code in circulation.

5.3.2. Select the desired parameter folder code and press SET key, and it will display first parameter of the current parameter folder.

5.3.3. The method to view, modify and exit the parameter value will be the same as above.

5.4. Copy card

ETC-974 provides a copy card interface, if the user has Elitech copy card, it could conveniently set the parameters in batch.

The activation of copy key functions: When it displays the parameter code UL/dL/FR, press SET key, if the function of UL/dL/FR is activated, it displays "y"; if not activated, it displays "n".

If the function of dL is activated, the instrument will work according to the new parameters.

If the function of Fr is activated, the default parameters of the instrument will be downloaded to the copy card.

Note: Insert the copy card when the power is switched off, and then switch on the power, the instrument will download the data of the copy card. If it is successfully loaded, it will display "dLY" for five seconds; if loading in failure, it will display "DLn" for five seconds.

5.5. Manual activation of the defrosting cycle

To manually activate the defrosting cycle, press the "UP" key for 5 seconds. If defrosting conditions are not present, (for example the evaporator probe temperature is higher than defrost stop temperature), and the display will blink three times, in order to indicate that the operation will not be performed.

5.6. Password setting

ETC-974 has a parameter PA1 which permits user setting a number as the password to enter the parameter folders. In this way, if uses press SET key for five seconds, it will not display the first parameter folder CP, instead, it displays parameter code PA1. Press SET key and then press ≈ key or ≈ key, input the correct password, it will display parameter folder CP. Other operation is the same as "parameter setting".

5.7. Alarm codes

5.7.1. E1: Probe 1 in failure

5.7.2. E2: Probe 2 in failure

Note: If simultaneous, they will be showed on the display alternately, every 2 seconds.

5.7.3. EE: Eeprom data storage error

5.7.4. AH1: High temperature alarm

5.7.5. AL1: Low temperature alarm

Note: To silence alarms press any key.

6. Parameter table:

| COMPRESSOR REGULATOR (folder with "CP" label) | | | | |
|---|--|---------------|---------------|-------|
| Parameter code | Description | Set range | Default value | Unit |
| 1 diF | differential. Relay compressor tripping differential. The compressor stops on reaching the Setpoint value (as indicated by the adjustment probe), and restarts at temperature value equal to the Setpoint plus the value of the differential. Note: the value 0 cannot be assumed. | (0.1...30.0) | 2.0 | °C/°F |
| 2 HSE | Higher SET. Maximum possible setpoint value. | (LSE...302) | 99.0 | °C/°F |
| 3 LSE | Lower SET. Minimum possible setpoint value. | (-55.0...HSE) | -50.0 | °C/°F |
| 4 Ont | On time (compressor). Compressor activation time in the event of faulty probe. If set to "1" with Off at "0" the compressor is always on, while at Off >0 it functions always in duty cycle mode. | (0...250) | 0 | min |
| 5 OFt | OFF time (compressor). Compressor in disabled state time in the event of a faulty probe. If set to "1" with Ont at "0" the compressor is always off, while at Ont >0 it functions always in duty cycle mode. | (0...250) | 1 | min |
| 6 dOn | delay (at) On compressor. Delay time in activating the compressor relay after switch-on of instrument. | (0...250) | 0 | S |
| 7 dOF | delay (after power) OFF. Delay after switch off; the indicated time must elapse between switch-off of the compressor relay and the successive switch-on. | (0...250) | 0 | min |
| 8 dbi | delay between power-on. Delay between switch-ons; the indicated time must elapse between two successive switch-ons of the compressor. | (0...250) | 0 | min |
| 9 OdO | delay Output (from power) On. Delay time in activating the outputs after switch-on of the instrument or after a power failure. | (0...250) | 0 | min |