902 Operation Instructions

1. Working conditions:
1.1. Power supply: 230VAC±10% 50/60Hz
1.2. Rated current of relays: 8A/220VAC
1.3. Ambient temperature: -15℃～60℃ Relative humidity: 20%～85% (No condensate)
1.4. Storage temperature: -15℃～60℃

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

3. Technical Parameters:
3.1. Temperature controlling range: -50℃ ~ 99℃
3.2. Display resolution: 1℃/0.1℃ (With the switch mode between integer and decimal)
3.3. Accuracy: NTC: ±0.5℃ (-30℃-50℃), others, ±1℃
   PTC: ±2℃ (-30℃-50℃), others, ±3℃
3.4. Sensor type: NTC (-50℃ ~ 120℃) PTC (-50℃ ~ 150℃)

4. Operation and display panel:
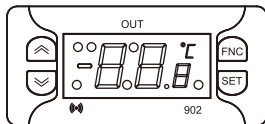
FNC key: Exit SET key: Set

≈ key: Up key ≋ key: Down Key

OUT Compressor icon: During compress time delay, this icon blinks; when compressor works, this icon is
   constantly on;

(•) alarm icon: When over temperature range or sensor failure, this icon is constantly on;

℃ Celsius degree icon: When Celsius degress is selected, this icon will be on.

5. Controller parameters and operation:
5.1. Set the temperature setpoint
   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.
5.2. Parameter setting
   902 has classifies all parameters into four folders according to the objects and functions: CP、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 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.

6. Parameter table:

Parameter code	Description	Set range	Default value	Unit
Parameter folder CP				
diF	Temperature differential	1~30	2	℃/°F
HSE	Highest temperature setting value	LSE~99	99	℃/°F
LSE	Lowest temperature setting value	-55~HSE	-55	℃/°F
HC	Output mode selection H=heating, C=cooling	H/C	H	/
Ont	When temperature sensor failure, compressor works in duty cycle mode: Ont: continuous working time; OFt: Stop working time Ont=0, OFt=1: output: not work;	0~250	0	Minute
OFt	Ont=1, OFt=0: output: work all the time; Ont≠0, OFt≠0: output: work according to the set time of Ont and Oft in cycle (First work then stop)	0~250	1	Minute
dOn	Compressor startup time delay	0~250	0	Second
dOF	The time interval between the switch off and the successive switch on of compressor	0~250	0	Minute
dbi	The time interval between two successive switch-on of compressor	0~250	0	Minute
OdO	Time delay after the switch-on the instrument	0~250	0	Minute
Parameter folder diS				
LOC	SEt Setpoint modification keyboard locking y=lock, n=unlock If LOC=y, press ≈ key or ≋, it will not modify the setpoint Of Set.	n/y	n	/
PA1	User password	0~250	0	/
ndt	Decimal point display, y = yes; n = no.	n/Y	n	/
CA1	Temperature calibration	-12~12	0	℃/°F
dro	Temperature display readout unit 0=℃, 1=°F	0/1	0	/
Parameter folder CnF				
H00	Sensor type selection 0=PTC, 1=NTC	0/1	1	/
rEL	Device version, read only parameter	/	/	/
tAb	Table of parameter, read only parameter	/	/	/
Parameter folder FPr				
UL	Upload the data from the instrument to copy card	/	/	/
dL	Download the data from copy card to the instrument	/	/	/

Note: SEt (setpoint) is between the lowest set point LSE and highest setpoint HSE.For example, if the
current HSE is"10", then Setpoint could not be more than 10.If the current LSE is"-10", then Set point
could be less than -10.

7. Compressor control:

7.1. When the sensor work properly (meet the following conditions at the same time):

7.1.1. When the controller power switch-on time exceeds OdO (time delay after the switch-on the instrument, if Odo is 0, the time delay will be two seconds; if it is more than 0, the time delay is the set value), the following timing could start;

7.1.2. Compress off-cycle time exceeds Dof (the time interval between the switch off and the successive switch on of compressor);

7.1.3. Compressor time delay exceeds the set time delay dOn (If Odo is 0, the time delay will be two seconds; if it is more than 0, the time delay is the set value);

7.1.4. Two successive switch-on of compressor should meet the time interval dbi;

7.1.5. Meeting compressor output conditions (for example: SEt=20℃、diF=3℃、HC=cooling, when temperature >23℃ (SEt+diF), compressor starts, and when the temperature <20℃ (SEt), compressor stops; SEt=20℃、diF=3℃、HC=heating, when temperature <20℃ (SEt), the output starts, and when the temperature >23℃ (SEt+diF), the output stops);

7.2. When the sensor fails (meet the following conditions at the same time):

7.2.1. If there is no output, then the compressor will work according to the set Ont and Oft in duty cycle mode (First work then stop);

7.2.2. If the compressor works in time delay or has worked, then the compressor will work according to the set Ont and Oft in duty cycle mode (First stop then work);

7.2.3. Meet compressor switch-on condition when the sensor works properly.

8. Other operation:

8.1. Copy card:

902 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), press SET key, if the function of UL(dL) 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.

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.

8.2. Password setting:

902 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 PAI. 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".

Note：Once the user sets the parameter PA1, please remember the set password, in case that you forget the password and could not view or modify the parameters.

8.3. When one of the following cases happens, 902 displays the alarm code E1:

8.5.1. The sensor is not consistent with the type selected in the parameter H00；

8.5.2. Wrong connection between the sensor and the instrument；

8.5.3. Sensor in failure (measure the resistance value)

If user needs the buzzer alarm function of the instrument, please inform us when you place the order.

8.4. Buzzer alarm cancel:

Press any key to cancel the buzzer alarm.

9. Wiring Diagram:

★Caution:

1. Confirm whether the power voltage meets the requirements of controller power supply, or else, the instrument might work improper even burnout.

2. Sensor down-leads and power wires should be kept for a proper distance to avoid possible interference.

Appendix 1 Character Set: