CJLC-9007 Temperature and humidity control meter Operation Instruction

I. Survey

Thanks for your using CJLC-9007 control meter.

This handbook provides users for installing, running, operating, parameter-setting, exception diagnosing attentions and so on, in order to run stable for the CJLC-9007 Intelligence Temperature and humidity control meter, please read this manual carefully and hold it well.

CJLC-9007 Intelligence temperature and humidity control meter is a new product developed by Yuyao Changjiang Temperature Meter Factory on the base of its rich supporting technology and advanced scientific consciousness, years of developing and applying experience in instruments and meters, under the consultation of the new and old consumers and several key technologies of itself. The products are on top of the identical products inland that its qualification and performance have reached the advanced level in the world and it has high cost performance.

CJLC-9007 Intelligence temperature and humidity control meter is a new-style intelligence Temperature and humidity control meter made of advanced CPU, large scale integrated circuit and figure LCD; It all adopts intelligence PID control. and with high control precision; otherwise. it with the function of curve print and data print (work in micro-printer); with expanding (RS485 communication module) interface communication, to carry out long distance network management.

CJLC-9007 Intelligence temperature and humidity control meter has the character of small capacity, low power consumption, high accuracy, strong versatility, operating stable and credibility, a;d has a widely application in fossil Oil, chemical industry, paper manufacture, pharmaceutical industry, metallurgy, electric power, ring protection, food substance and many other trades currently.

II. Technical Data

2.1. Input
PT100+high molecular

2.2. Output
Support kinds of output control method. as the client request
Relay output: Contact capacity AC250V 3A (load resistance)
SSR voltage output: 12VDC/I 5mA (for driving SSR solid relay)
Controllable silicon trigger output: can trigger 5~500A both-way controllable silicon;
2 one-way controllable silicons backward parallel connection.

2.3. Precision
Temperature measuring precision ±O.5%F·S±I.O Humidity measuring precision
±2%F·S±I.O

2.4. Alarm
Relay output, Contact capacity AC250V 0,3A (load resistance)

2.5. Communication
Extended function, explain before order.
Support RS485 communication mode, baud rate support the below choice, 1200bps, 4800bps, 7200bps, 9600bps

2.6. Screen
Display resolution ratio: 192x64, Refresh frequency: 1Hz 2.7Power supply AC85-242V, 50/60Hz

2.8. External dimensions

External dimensions: 160mm (width) x80mm (height> x48mm (depth)
Installation hole: 152mm×76mm

2.9. Net weight

<= 0,5kg

2.10. Working condition:

Humidity: 1O%~85%RH (no coagulation)
Forbid working under corrosive environment, forbid liquid or conductive body entering into the inner of the meter, make sure good ventilation.

2.11. Storage condition

Temperature: -20~60°C, avoid sunlight Humidity: <85%RH (no coagulation)

III Installation and Connection

3.1. External dimension and Installation hole

3.2. Connection

IV. Running and Operation

4.1. Keyboard

CJLC-9007 has 8 keys, as show in figure 4.1-1. The function of them is different on the different display screen. Reference details are in table 4.1-1.

Figure4.1-1.

Description	Function	
Symbol	**Operator window**	**Remark**
	Cursor shift	
	Switch operation	
	1. Press it for more than 3s. enter into the system parameter setting menu. 2. System inner parameter menu switch	
	Exit any setting menu. return to the running menu.	
	1. During the running menu, press it for more than 3s. directly enter into setting value correction state. 2. Increase value on the cursor position	Long time press to increase the value rapidly.
	1. During the running menu, press it for more than 3s. directly enter into setting, value correction state 2. Increase value on the cursor position	Long time press to decrease the value rapidly.
	Select the previous parameter	
	1. Select the next parameter 2. Humidity and temperature switch	

4.2. Running menu

When the power is on. the meter will enter into the running menu, it includes the menu of system detect. system password, temperature and humidity parameter setting, print setting, system time setting.

4.2.1. System detect menu
Communication detect menu, as show in figure 4.2.1 -I

Figure 4.2.1.

When the power on, it shows system detecting menu, after 3s , the meter automatically enters into running menu.

4.2.2. Running menu
Running menu as show in figure 4.2.2-1

Figure 4.2.2-1

4.2.3. System password menu
System password menu as shown in figure 4.2.3-1

Figure 4.2.3-1

If it needs to enter system, check or modify system parameter, press function key (SET) for 3s, it turns up system password menu, input correct password (when the system password is IS,it can modifY all the system parameter, the other value just can look over)

4.2.4. Temperature and humidity parameter setting menu

Figure 4.2.4-1

Figure 4.2.4-2

Figure 4.2.4–3

Figure 4.2.4-4

P1(P2):   Scale factor in PID control loop, can adjust between 0.0%~200.0%, the bigger the scale factor, the stronger the regulating effect, and the system action will get sensitive, and its speed will accelerate, whereas, the regulating effect will get weak. If the scale factor is big, it will make the system unsteady.

I1(I2):   Integration time in PID control loop, can adjust between 0-3000, the smaller the integration time, the Stronger the integration effect, it will make the system unsteady, but it can eliminate steady-state error, and improve system's control accuracy, whereas, the integration effect will get weak.

D1(D2):   Differential time in PID control loop, can adjust between 0~200, it can reform system dynamic characteristis, the bigger the differential time, the stronger the differential effect. Overshoot is big, adjusting time is short: when the differential time get smaller, the overshoot will get bigger, and the adjustment time will be longer, so the differential time selection should be suitable.

Al(A2):　　　Deviation alarm, when the measuring value is bigger than fixed value +Al(A2),it will occurs alarm when the measuring value is smaller than fixed value -Al(A2), the alarm will unchain alarm.

SCl(SC2):　　Dry and damp thermosis error correction, be used as sensor shift correction, to compensate the error of sensor signal itself(When revise damp thermosis, it should not add water, first press tJs, make humidity display position turning into flickeringly show damp thermosis state, check the error value, and then exit, enter into SC2 to correct) .

NI(N2):　　　Control duty cycle, when the system heater power is bigger than the needed power, it will make the System unsteady, properly minish heating duty cycle.

4.2.5. Print setting menu

Print setting menu as shown in Figure 4.2.5-1

Figure 4.2.5-1

Data and curve:　　　Print interval time, when T = 0, No printing function but have communication function

　　　　　　Coordinate = O, Data print;
　　　　　　Coordinate = 1, Curve print;

4.2.6. Communication setting menu

Address: The meter's number in the control system
Baud:　　Communication baud rate

4.2.7. System time setting menu

System time setting menu as show in figure 4.2.6-1

Figure 4.2.6-1

V. Fault analysis and removal

It is strict to select the components for CJLC-9007. Advanced technology and management is applied to the production of CJLC-9007. The exception rate is very low because the equipment is strictly examined in factory. If you operate according to the manual, no problem will occur. Some trouble is always caused by improper operation. If you find the trouble-that can't be eliminated, please record the phenomenon of the trouble and infonn the local agent or our home company in time. Several common troubles are listed in Table 5-1.

Table 5-1 Common Fault removal

Fault	Analysis	Disposal
Abnormal electrify	1. poor power wire connection 2. power switch is not closed	Check the power
Signal display do not correlate with the facts. "HH"	1. wrong signal connection 2. sensor isn't be connected	1. check signal wire 2. check sensor connection
Abnonnal output control	1. wrong alarm limit setting	1. reset limit value