UNICO®

Laboratory Incubator

OPERATION MANUAL
L-CU60

United Products & Instruments, Inc

— **CAUTION** —

Read this manual before operating the UNICO Incubator

Description/ Intended Use:
L-CU60 is a general purpose laboratory incubator. It is ideal for cultures, microbiology and other biology in hospitals and laboratories.

Features:
- Simple keypad input allows easy temperature setting.
- LED digital display enables users to monitor the chamber temperature.
- Alarms (alarm 1 and alarm 2) alert users of abnormal conditions if the chamber temperature exceeds the setting temperature by 10° C.
- Max. Temperature 60° C.

Specifications:
Capacity: 6 Liters
Convection: Chamber mounted fan
Working Temperature: Ambient 5 - 60° C.
Shelf   1 included
Power/Consumption   0.75Amps/ 80Watts

Unpacking and Installation:
The incubator is packaged in a protective material then put in a carton box for shipping. Please examine the shipment upon receiving and retain all packing materials until the unit has been tested. The warranty excludes any damage caused by shipping.

Inspect for any possible shipping damage. If you note any damage, please contact your UNICO representative. Save the original packaging. If it becomes necessary to return the instrument to us, we ask that it be returned in the original packaging.

Unpack the shipping carton carefully and verify that the shipment is complete. It should include the following items:

L-CU60	1 unit
Shelves and supports	1 sets.
Operation manual	1 pc.

- Take the incubator from the packaging and place it on a dry, sturdy flat surface.
- Open the incubator door. Install the shelf supports at the proper height.
- Plug the power cord to a proper power outlet.

Caution: **Make sure the voltage of the power source matches the voltage input of incubator.**

Set the Temperature:

A: Press "UP arrow" or "Down arrow" to increase or decrease the temperature setting to your desired temperature.

B: Press "SET" to confirm. The "SV" will display the new SET temperature.

Operation:

1. Make sure no objects are on top of the incubator.
2. Make sure the surrounding area is clear for good ventilation.
3. Plug the incubator into a power source outlet. Make sure the voltage is correct.
4. Press "ON/OFF" button so that the power indicator is RED.
5. The display will show the status of the incubator:
   PV (Present temperature value) shows the current chamber temperature.
   SV (Set temperature) represents the SET temperature.
6. If the SV temperature is what you want to set then open the incubator door; put your sample in and close the door.
7. If the SV displayed is not the correct temperature you want refer to "Set the Temperature" in this manual to set the proper temperature.

Note: "out" led flashes indicating heating up in process.
Alarm 1 indicator will light if the chamber temperature is 10° C above the SV(set temperature) value.

Caution:

1. Make sure that the door is closed well to prevent heat loss and power drain.
2. Do not put any objects on the top of the instrument.
3. **Don't put anything directly on the bottom at the risk of fire.**
4. Place your plates on the shelves only

NOTES:
1. Flashing OUT indicator means the instrument is heating
2. After PV reaches the SV and stabilizes, ALM1 will light up the if the PV value exceeds SV by setting point (10°C). In this case turn the unit off, open the door for about 30 min and restart. If the issue persists contact your distributor for service options.

Other functions:

Note: Before executing other functions, please follow "5. Setting lock" (c)to release "LOCK" status.

After executing other functions, please follow "5. Setting lock" to set "LOCK" status.

1. Setting point alarm:
   (1) Setting upper-limit point for alarm: (When the difference between PV abd SV is over upper-limit, the "Alarm Indicator" (ALM1) will sparkle)
   - (a) Press ⮐ twice.You will see `AL IH` in upper row and the setting point in lower row.
   - (b) Press " UP KEY " or " DOWN KEY " to set point, and press `SET` to enter the value. Press `SET` again to be back the PV/SV display.
   - (c) The inital value is 10.
   (2) Setting lower-limit point for alarm: (When the difference between SV abd PV is over lower-limit, the "Alarm Indicator" (ALM1) will sparkle)
   - (a) Press ⮐ twice.You will see `AL IL` in upper row and the setting point in lower row.
   - (b) Press " UP KEY " or " DOWN KEY " to set point, and press `SET` to enter the value. Press `SET` again to be back the PV/SV display.
   - (c) The inital value is 10.

2. Setting temperature unit:
   - (a) Press `SET` more than 3 sec.
   - (b) Press ⮐ once. You will see `tPUn` in upper row and the setting value in lower row.
   - (c) Press " UP KEY " or " DOWN KEY " to set temperature unit "C" or "F" , and then press `SET` to enter value. Press `SET` again to be back PV/SV display.
   - (d) The inital value is C.

3. Setting PV shift (offset) value: (If the PV value is not correct, you can use this function to adjust the PV value).
   - (a) Press `SET` less than 3 sec.
   - (b) Press ⮐ six times.You will see `tPoF` in upper row and the setting value in lower row.
   - (c) Press " UP KEY " or " DOWN KEY " to set shift value, and press `SET` to enter the value. Press `SET` again to be back the PV/SV display.
   - (d) The inital value is 0.

4. Setting Auto-tuning function:
   - (a) Press " UP KEY " or " DOWN KEY " to set SV value to be auto-tuning.
   - (b) Press `SET` less than 3 sec.
   - (c) You will see `At` in upper row and the setting value in lower row.
   - (d) Press " UP KEY " or " DOWN KEY " to choose "ON" to start or "OFF" to close auto-tuning function. When auto-tuning function is on, you can see the "AT" indicator blanking. Once the auto-tuning function finish, the light of "AT" will extinguish.
   - (e) The inital value is OFF.
   Note: (Auto-tuning function is that PID controller can depend on the ambient air temperature to find the best way to reach the setting temperature and let the setting temperature keep stable.)

5. Setting lock:
   - (a) Press ⮐ four times.You will see `Loc` in upper row and the setting value in lower row.
   - (b) Press " UP KEY " or " DOWN KEY " to select locking status. `Loc1` can lock all settings and `Loc2` can lock others than SV; When "oFF" is selected, the lock function will be off. After selecting,press `SET` to enter the value. Press `SET` again to be back the PV/SV display.
   - (c) If you press ⮐ and `SET` simultaneously, the "Lock" status will be released.
   - (d) The initial value is `Loc2` .

6. During setting value, you may press `SET` anytime to be back PV/SV display.

Maintenance:

This incubator is designed to be relatively maintenance free. A surface cleaner such as Formula 409 can be used to clean the outside of the instrument. The chamber and door can be disinfected with a mild solution of bleach or other disinfecting liquid and allowed to dry. Do not drench or immerse the unit in any liquid! Be sure to disconnect the power before attempting to clean.
There is a circuit breaker on the back of the incubator. The breaker will be activated should there is electric current overflow. To reset the breaker just press the black button.

Electrical Shock Hazard:

Do not attempt to operate this instrument near water or liquid spill. Unplug the unit before cleaning or repairing. Periodically check the condition of the power cord for cuts or damage. Do not operate with a damaged cord.

Biohazard:

If a tube breaks, a biological hazard may exist. Unplug the instrument. Clean using approved laboratory procedures. Always wear the proper protective clothing and gloves. Use a suitable disinfectant and dispose of the sample properly. Refer to the guidelines set forth by OSHA, CLIA, etc.

Service:

If you feel that your incubator needs factory service, please contact your UNICO representative to determine the nature of the problem. Simple problems may be resolved over the telephone. If the instrument needs to be returned, a manufacturer R.G.A. (return goods authorization) number will be issued. Please reference the R.G.A. number on the paperwork packed with the instrument, and on the outside of the carton

REPAIRS OR MODIFICATIONS MADE TO THE INCUBATOR BY AN UNAUTHORIZED PARTY WILL VOID THE WARRANTY.

Warranty:

 This instrument is warranted against defects in materials and workmanship for a period of one (1) year from the date of shipment to the customer. This warranty is limited to the repair and replacement of parts, which prove to be defective during the warranty period. This warranty is not valid for parts damaged, lost, or which fail because of accident, fire, theft, acts of nature, negligence, or the use of chemicals, which have a deleterious effect. This warranty is conditioned upon the manufacturer retaining the option of replacing parts up to and including the entire instrument.
Note: This warranty will not extend to any repairs or modifications made to the instrument by some party other than the manufacturer or a party authorized by UNICO. Also, this warranty shall be in effect only upon the notice of the defect to the manufacturer or it's authorized distributor, or dealer, within five (5) days after the occurrence of said defect
No other warranty of any kind is made expresses or implied. The warranty described above shall be the sole and exclusive remedy available to the purchaser. Correction of defects, in the manner and for the period of time described above, shall constitute complete fulfillment of all liabilities and responsibilities of the manufacturer to the purchaser with respect to the product, and shall constitute full satisfaction of all claims, whether based on contract, negligence, strict liability or otherwise. In no event shall the manufacturer be liable, or in any way responsible for any damages or defects in the product that were caused by repairs or attempted repairs performed by anyone other than

the manufacturer's dealer or station, nor shall the manufacturer be liable or in any way responsible for any incidental or consequential economic or property damages. Some states do not allow the exclusion of incidental or consequential damage, so the above exclusion may not apply to you.

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