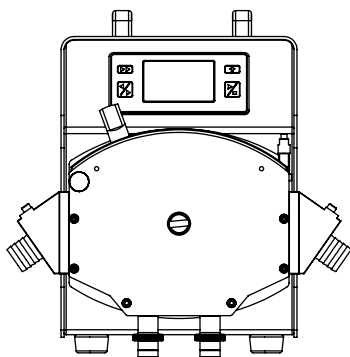

PRODUCT OPERATION MANUAL



LG350LC

• Important information •

- Please read this operation manual carefully before using the product!
- The contents of this operation manual are for reference only.
- Chuangrui Pump Industry reserves the right to change the product (design or specification) without prior notice.
- If you need the latest version of this manual, please contact Chuangrui Pump Industry or an authorized distributor.

• Safety warning •

- Before any cleaning or maintenance work, be sure to cut off the power supply.
- The tube may have cracks due to wear and tear, causing liquid to overflow from the tube, so check it frequently, and replace the tube in time!
- Please connect the power cord directly to the wall outlet, and avoid using extension Cords.
- If the power cord or plug is frayed or otherwise damaged, Please turn off the power immediately and pull off the power plug (hold the plug in your hand, not the power cord).
- If the following situations occur, turn off the power and unplug the power plug (hold the plug instead of the power cord):
 1. Fluid is spilled on the machine.
 2. You think this machine needs maintenance or repair.
 3. The product is abnormal.
- The power supply must have a reliable grounding.
- The foot switch or other external control plug must be installed and unloaded when the power is off to prevent the external control interface from being burned.

QUICK INSTALLATION OPERATION

Power supply wiring diagram.....	6
Operation panel and display	7
DB-15 The external control interface sketch.....	15
External control input wiring diagram.....	16
External control output wiring diagram.....	18
Foot switch settings	19
Replace the fuse.....	22

ABLE OF CONTENTS

PART1 Matters needing attention

1.Matters needing attention.....	1
----------------------------------	---

PART2 Unboxing

2.1 Unpacking inspection	2
2.2 Product storage.....	2

PART3 Product description

3.1 Principle of Peristaltic Pump operation.....	2
3.2 Product features	3
3.3 Product structure.....	3
· Drive	3
· Pump head/hose selection and reference flow.....	4

3.4 Technical parameter	4
-------------------------	---

PART4 Product installation

4.1 Installation suggestions and precautions	5
--	---

PART5 Product operation

5.1 Line connection	6
·Power supply wiring diagram	6
·External control wiring diagram	6
5.2 Power-on	7
·Power-on inspection	7
·The default factory settings for the first boot	7
5.3 Operation panel and display	7
5.4 Menu function operation	9
·Flow parameter setting instructions	9
·System setting instructions	10
·Calibration Guide	13
·Mode selection instructions	14
·Data operation instructions	14
5.5 External control operation	15
·DB15 The external control interface sketch	15
·External control input	16
-External control input interface definition	16
-External control input line color function definition	17

· External control output	18
- External control output interface definition	18
- External control output line color function definition	19
· Foot switch operating instructions	19
* Accessories	20

PART6 Troubleshooting and maintenance

6.1 Troubleshooting	21
6.2 Product maintenance	22
· Replace the fuse	22
· Basic maintenance and cleaning	22
6.3 Warranty information	23
· Warranty commitment	23
· Relevant details	23
· Non-warranty scope	24
6.4 Return information	24
6.5 Technical support & After-sales	25
Disclaimer	25

PART 1 Matters needing attention

>>Matters needing attention

Please read the operating instruction manual carefully before operating this equipment.

◆ **Safety:**

1. The staff responsible for the installation or maintenance of this equipment should have the experience and ability to carry out related work.
2. This product is not applicable to the ATEX explosion-proof directive and cannot be used in flammable and explosive environments.
3. When pumping dangerous liquids, please follow safety precautions.
4. Please determine whether you need to wear personal protective equipment when operating the pump in accordance with the nature of the transfer fluid and industry specifications.
5. Non-professionals should not install this pump with other equipment to reduce safety risks.
6. For hazardous fluids, a dedicated operation process must be specified to prevent personal injury.
7. The power plug can disconnect the power supply and drive in an emergency. Do not place the pump in a workplace where it is difficult to cut off the power supply. Otherwise it will affect the emergency stop operation.

◆ **Tube:**

1. In the event of a tube failure, ensure that the fluid in the pump tube of the pump head can be discharged to a suitable container or drain.
2. A ruptured tube may cause fluid to splash. Please take appropriate protective measures.
3. When disassembling the tube, it is necessary to drain the medium and cut off the power supply to ensure that the pipeline is pressure-free.
4. Ensure that the chemicals to be handled are compatible with the pump head, tubes and accessories.

◆ **Rollor :**

1. Do not touch the rollers while the pump is running.
2. Keep the rollers clean and dry to reduce tube wear.
3. Do not lubricate the pump head rollers by yourself. Improper operation may cause the tube to run out or the pump head shell to corrode.

◆ **Drive:**

1. There are no user-serviceable parts in the pump.
2. The power socket on the back of the driver is equipped with a user-replaceable built-in fuse. Only products of the same category can be used to replace the fuse.
3. The surface of the driver and the pump head are not resistant to organic solvents and strong corrosive fluids. If the liquid is splashed or accumulated, please remove and clean it in time.
4. After the pump enters the external control mode. The external control icon in the upper right corner of the LED screen lights up, and the pump can realize start&stop/direction/speed control in the external control mode.

PART 2 Unboxing

>>Unboxing

2.1 Unpacking inspection

Confirm that the pump is packaged in good condition. Please check the packing list, when unpacking, check the product model and the number of accessories, and check whether the parts are damaged during transportation. If you have any questions, please contact us immediately.

The packing list is sent with the goods, and the actual delivery content is subject to the list.

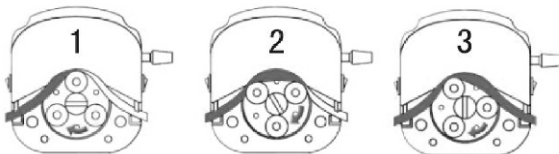
2.2 Product storage

This product can be stored for a long time, but before putting it into operation, please confirm that the drive, pump head or tubes and other accessories can be used normally. The tubes are commonly used consumables. Pay special attention to the use time and expiration date.

PART 3 Product description

>>Product description

3.1 Principle of Peristaltic Pump Operation



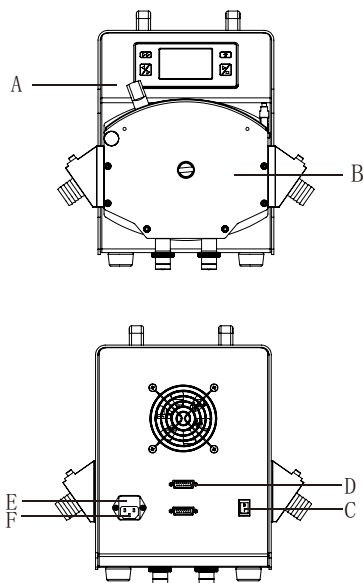
- ◆ The peristaltic pump uses the rotor to alternately squeeze and release the tube to transfer fluid, just like squeezing a tube full of fluid with a finger. As the finger slides forward, when a negative pressure is formed in the tube, the liquid flows with it.

3.2 Product features

- ① Multiple modes: transmission mode, timing mode, quantitative mode, timing quantitative mode.
- ② LCD touch: 3.5-inch color LCD, Chinese and English display, touch screen control.
- ③ Power-off save: can automatically save the control parameters when the last power-off.
- ④ Large flow rate: suitable for KZ50 pump head, the maximum transmission flow rate can reach 33L/min.
- ⑤ Data storage: 9 sets of data can be stored for users.
- ⑥ Support external control: support RS485/MODBUS communication protocol, analog control, foot switch control.

3.3 Product structure

· Drive



A: Drive B: Pump head C: Power switch D: External interface E: Fuse F: Power socket

· Pump head/tube selection and reference flow

Batch transfer type peristaltic pump LG350LC can match pump head

Pump head	Model	Tube	ID*Wall thickness(mm)	Max speed(rpm)	Max flow(ml/min)
	KZ50	92#	25.4*4.8	350	33000

Note: The test environment for flow data is normal temperature and pressure, and the test fluid is water. The values are for reference only, please refer to the actual situation.

3.4 Technical parameter

Drive type	LG350LC
Max speed	350rpm(reversible)
Max flow	33000ml/min
Speed resolution	0.1rpm
Speed control mode	Touch screen adjustment
Display mode	Color LCD display (Chinese and English optional)
Power Supply	AC220V $\pm$ 10% (Standard) or AC110V $\pm$ 10% (optional)
Suction angle	10°~720°(0° means no back suction)
Suction speed	10-300rpm
Power	<750W
External control interface	DB-15
External control method	Start control/direction control/speed control(0-5V, 0-10V, 4-20mA optional) RS485 serial communication
Ambient temperature	0℃-40℃
Drive size	340X242X342.5(mm)
Drive weight	27kg
Protection class	IP31 (indoor use, avoid prolonged exposure to UV rays)

PART 4 Product installation

>>Product installation

4.1 Installation suggestions and precautions

Installation suggestions

- >> Application accessories such as foot switch, countersunk head, check valve, filling nozzle, connector, etc. can be selected according to actual conditions.
- >> For the size and selection of the tube, please refer to 3.3 Product Structure • Pump head/tube selection and reference flow Related Content.
- >> For pump head models and options, please refer to 3.3 Product Structure • Pump Head/tube Selection and Reference Flow Related Contents.

- ① Before cleaning, maintaining and installing the equipment, be sure to disconnect the control power supply;
- ② The driver should be placed on a flat and rigid surface;
- ③ The ambient temperature of the pump should not exceed 104° F (40° C), and air circulation should be ensured to ensure the heat dissipation of the pump;
- ④ The start-stop key (shortcut key) on the operation panel can quickly change the direction and control the start-stop, but it is recommended to install an emergency stop device on the main circuit of the power supply to ensure higher safety;
- ⑤ Make sure that the inner wall of the tube is clean and free of foreign matter before use. The shorter the pipeline, the better, and the suction and lift should not be too long;
- ⑥ Determine the running direction of the pump (forward and reverse) according to the specific location of the fluid placement and supporting machinery on site, which is conducive to later operation;
- ⑦ In order to meet the requirements of flow and flow rate, a peristaltic pump tube with matching diameter is required;
- ⑧ The pump itself has self-priming characteristics, which can effectively prevent the backflow of liquid. Generally, there is no need to install valves at the outlet and inlet of the tube. You can also install a one-way valve in the pipeline according to actual needs to avoid fluid leakage when the pump head and tube fail.

Precautions

- The diameter of the pipeline at the inlet is not less than the inner diameter of the pump tube, and a delivery pipe with a diameter $\geq$ the inner diameter of the pump tube should be selected.

- When transferring viscous liquids, it is necessary to maintain a low speed operation to improve the filling efficiency. It is recommended to connect a flexible tube no less than 1 meter between the inlet and the outlet to reduce the pulse and reduce the pulse loss.
- Try to put the pump at the same level or a lower level of the liquid to be transferred to improve the transfer efficiency of the pump.
- To replace a new tube or liquid, re-calibrate the liquid volume to ensure the accuracy of liquid transmission.
- When the peristaltic pump is running, all valves in the pipeline must be opened normally.
- Control wires and power wires are not allowed to have sharp bends, and it is not recommended to bundle them together.
- This product cannot be used for the transmission of any chemical substances incompatible with the pump head and tube.

PART 5 Product operation

>>Product operation

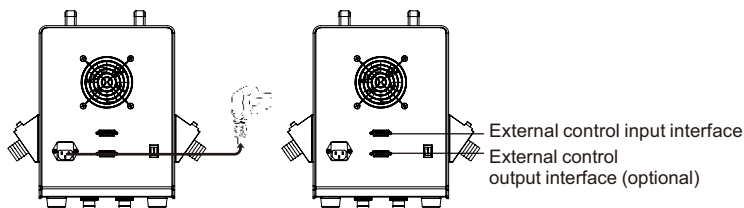
5.1 Line connection

Power connection:

-  AC220V $\pm$ 10% (standard) power supply or AC110V $\pm$ 10% (optional) power supply.
-  Ensure that all power supplies are matched to equipment power and are well grounded.
-  The position of the pump should ensure that it is convenient to disconnect the power supply when operating the equipment.

Power supply wiring diagram:

External control wiring diagram:



Note: For the specific external control input/output interface definition, please refer to "5.7 External Control Operation" for details

5.2 Power-on

·Power-on inspection

- ① Check whether the pump pipe has been installed correctly, and whether the tube inlet pipe and outlet pipe have been correctly connected.
- ② Check whether it is connected to a matching power supply.
- ③ Check whether the peristaltic pump has been installed according to "4.1 Installation suggestions and precautions".

After the pump is turned on, the LCD display is powered on to enter the main interface, and you can start specific settings and operations.

·The default factory settings for the first boot

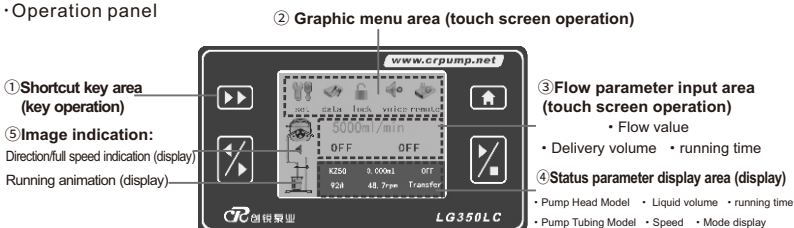
Factory setting: LG350LC peristaltic pump, the pump head model/tube model has been set before leaving the factory, subject to the actual product purchased. If multiple types of tubes are needed, the model set is the tube with the largest diameter.

After the pump is turned on, it starts to run with the default set value, and all operating parameters can be changed by touch screen operation (see 5.4 Menu Function Operation)

Note: It supports communication in advance, and the factory settings can be adjusted according to user needs.

5.3 Operation panel and display

·Operation panel



(1) Shortcut key area

- Full Speed—Quickly empty and clean the tube, turn it at full speed after opening, and then press to restore the original state.
- HOME—In other operation interfaces, press and quickly return to the main interface.
- Direction—Change the direction of drive rotation, ◀ means counterclockwise rotation and ▶ means clockwise rotation.
- Start & Stop—Each time it is pressed, the start/stop state is changed.

(2) Graphic menu area

set



data



lock



voice

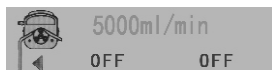


remote

- ① **Set** : Function operation main menu, peristaltic pump can be set accordingly.
- ② **Data** : Save new data quickly and apply saved data.
- ③ **Lock**  Lock screen, unable to touch screen operation  Unlock, touch screen operation.
- ④ **Voice** :  Voice mode,  Silent mode.
- ⑤ **Remote**:  Pump operation,  Remote operation.

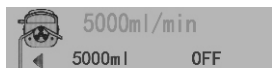
(3) Flow parameter input area

① Mode 1: Transmission (default)



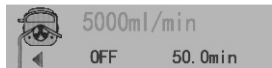
Flow value (ml/l)
Liquid delivery volume (OFF) running time (OFF)

② Mode 2: Quantitative



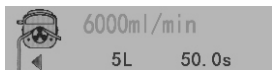
Flow value (ml/min)
Delivery volume (ml) Operating time (OFF)

③ Mode 3: Timing



Flow value (ml/min)
Liquid delivery volume (OFF) Running time (s/minutes)

④ Mode 4: Timing quantitative



Flow value (ml/min)
Fluid delivery volume (ml) Running time (s/minutes)

(4) Status parameter display area

KZ50	0.000ml	50m
92#	48.7rpm	Time

Pump head model Cumulative liquid volume (ml) Running time
Pump Tube Model Speed (rpm) Mode Display

Note: A single start and stop is a complete timing measurement, stop and then restart, and re-time measurement.

(5) Image indication

- ① Running animation  , Display the running status of the pump: display rotation when running; display  no rotation when stopped.
- ② Direction/full speed indication,  -Clockwise,  -Counterclockwise,  Full speed-clockwise,  Full speed-Clockwise-counterclockwise.

5.4 Menu function operation

- Flow parameter setting instructions

Delivery volume - target demand for a single delivery

Transfer time - the time required to complete the target transfer volume

Stop time - the stop time between transfers

Fluid volume:			
Max:9999L		Min:0.001ml	
124.5 ml			
1	2	3	C
4	5	6	U
7	8	9	Esc
0	.	OK	

Fluid volume setting

- ① Main interface → click on the value of the delivered liquid volume, display the keypad → input the value (as shown in the figure)
- ② Large:Small: - Displays the upper and lower setting limits of the current pump head and pump tube, which is the input range of the liquid delivery volume (flow rate 0.001ml-9999L, this value is the pump limit value)
- ③ U-unit setting: ml/liter
- ④ C-Clear Esc-Exit OK-Confirm **Note:** The pump does not support setting when it is running

Flow range:			
Max:9999L		Min:0.001ml	
124.5 ml			
1	2	3	C
4	5	6	
7	8	9	Esc
0	.	OK	

Flow rate setting

- ① Main interface→click the flow rate value to display the keypad→input the value (as shown in the figure)
- ② Large:Small: - Display the upper and lower set limits of the current pump head and pump tube, which is the input range of the flow rate (the transmission volume is 0.001mL-9999mL, the value is the pump limit), according to different pump heads, pump tubes, the maximum and minimum values displayed by the keypad are also different.
- ③ C-Clear Esc-Exit OK-Confirm **Note:** The pump does not support setting when it is running

Running time:			
Max:9999min		Min:0.1sec	
0 min			
1	2	3	C
4	5	6	U
7	8	9	Esc
0	.	OK	

Running time setting

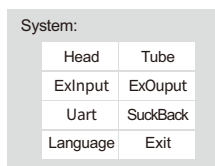
- ① Main interface→click the flow rate value to display the keypad→input the value (as shown in the figure)
- ② Large:Small: - Displays the upper and lower setting limits of the time corresponding to the current liquid delivery volume, which is the input range of the transmission time (the transmission time is 0.1 seconds-9999 minutes, the value is the pump limit)
- ③ U-unit setting: s seconds/m minutes
- ④ C-Clear Esc-Exit OK-Confirm **Note:** The pump does not support setting when it is running

Note: During transmission, the transmission time and stop time have a countdown display function on the main interface; During transmission, the state parameter display area of the transmission fluid volume, and the display is updated in real time.

·System setting instructions

*Main interface→Click  →Click **System**→Enter the system setting options interface (as follows):

Head Tube EXInput ExOutput Uart Suck Back Language Exit



System setting interface

Head Select the current use of the pump head models.

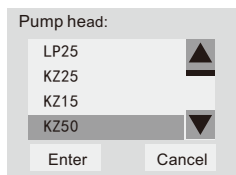
Main interface→Click →**system**→Click **Head**→ Select pump head model→Click **Enter**, save and exit;Click **Cancel**, exit without saving.

Tube Select the current use of the pump tubing models.

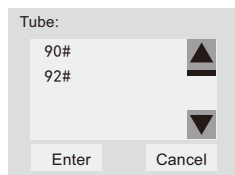
Main interface→Click →**system**→Click **Tube**→ Select pump tube model→Click **Enter**, save and exit;Click **Cancel**, exit without saving.

Note: If you only replace the tube, you do not need to select the pump head model again.

Select different pump head models, and the matching hose models will automatically change to provide options.



Example: select pump head selection, optional pump head model



Example: choose KZ50 pump head, optional hose model

EXInput-External control input

Select External control input parameters

Main interface→Click →**system**→Click **EXInput**→External control input option interface:

- ① **Ctrl**→Usrt/Aanlog→Click **Enter**, save and exit;Click **Cancel**, exit without saving.
- ② **Item**→Start Stop/Direction/Speed→Click **Enter**, save and exit;Click **Cancel**, exit without saving.
- ③ **Signal**→Level/Pulse→Click **Enter**, save and exit;Click **Cancel**, exit without saving.
- ④ **Speed**→0-5V/0-10V/4-20mA/0-10kHz→Click **Enter**, save and exit;Click **Cancel**, exit without saving.

ExOutput-External control output**Select External control output parameters**

Main interface→Click →**system**→Click **ExOutput**→External control output option interface:

- ①**Item**→Start Stop/Direction/Speed→Click **Enter**, save and exit;Click **Cancel**, exit without saving.
- ②**Signal**→Level/Pulse→Click **Enter**, save and exit;Click **Cancel**, exit without saving.
- ③**Speed**→0-5V/0-10V/4-20mA/0-10kHz→Click **Enter**, save and exit;Click **Cancel**, exit without saving.

Uart-Communication Settings**Select the pump communication parameters**

Main interface→Click →**system**→Click **Uart**→Enter the address of the pump on the keypad (default 1) / Baud rate (1200 /2400 /4800/ 9600) →Click **Enter**, save and exit;Click **Cancel**, exit without saving.

-LG350LC pump also has 485 serial communication bus interfaces to be connected to the host computer (computer, PLC, SCM).

-PC can simultaneously connect up to 30 devices with 485 serial communication bus interface functions; when using with multiple devices to communicate with the host computer, it must know the machine number for each device, this device ID is the only number that should be connected together, and each machine number of the devices is not the same.

-The factory default value for each pump is “1” ; it could be reset by remote controlling through the host computer or by manually changing from the setting menu.

-Change the following steps: Set up——System——Uart——Adress(Default 1)——small keyboard input.

Suck Back**Select Suck-back parameters**

Main interface→Click →**system**→Click **Suck Back**→Small keyboard input suck back angle (10-720deg) /Keypad input suction speed LG350LC: (10-300rpm)→Click **Enter**, save and exit;Click **Cancel**, exit without saving.

Note : Fillingmode. Pause time should be greater than the suck back time.

Language Choose Chinese/English

Main interface→Click →**system**→Click **Language**→Chinese/EnglishClick **Enter**, save and exit;Click **Cancel**, exit without saving. (**Note**: language customization is available)

*After completing the required system settings, return to the previous menu or exit to the main interface to perform other operations.

· Calibration Guide

The LG350LC peristaltic pump has a flow calibration function, which can realize high-precision filling. When a new tube is replaced, external conditions change, or other conditions cause a deviation in the flow value, the flow needs to be calibrated to meet the user's requirements for flow accuracy.

(1)Main interface→Click →Click **Calibration**→Keyboard input calibration value→Click **Next** to enter the calibration interface (or Click **Exit** to return to the previous menu) .

Calibration Wizard:

Pipe: 92#, Flowrate: 6000.0ml/min

Amount of flowrate: 5 L

(pls enter the actual
value you need)

Next

Exit

- Tube: Automatically display the tube model currently in use
- Flowrate: Automatically display the flow rate generated when filling volume and filling time (ml/min)
- Filling volume: The initial default value is the filling volume displayed on the main interface (Can be input and adjusted according to actual needs)

Note: If the amount of liquid to be calibrated is very large and the required time is long, the set value can be reduced according to the filling situation.

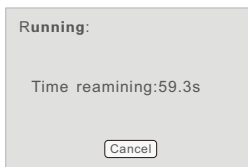
(2)Calibration iteface:

①Press  to start transmission and display the remaining time. When the remaining time is 0, it will automatically stop and return to the calibration interface

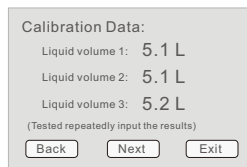
(If you need to stop, click **Cancel**, return to the calibration interface, the value of this transfer fluid is invalid)

② Repeat the calibration 3 times → Enter the actual measured value in turn on the keypad→Click **Next**→Click **Ok**, Save the results to complete the calibration

(Or click **Back**, return to the calibration interface, this time the result is invalid)



Countdown interface

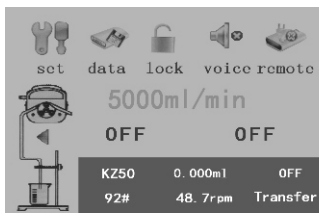


Actual filling volume interface

· Mode selection instructions

LG350LC peristaltic pumps have four modes to choose from: transmission mode, timing mode, quantitative mode, timing quantitative mode

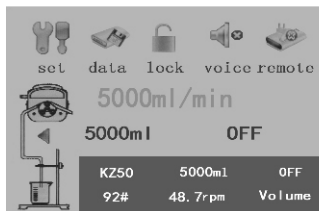
*Main interface→Click  →Click **Mode**→Select **Filling/Transmission** (Or click **Exit** to return to the previous menu)



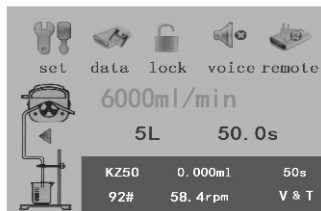
Transmission mode



Timing mode



Quantitative mode



Timing quantitative mode

· Data operation instructions

LG350LC peristaltic pump can realize user data storage function: save 9 groups of filling data.

Click the data shortcut  on the main interface to enter the data operation interface.Or -Main interface→Click  →Click **Data**, enter the data operation interface.

Num	Head	Tube	Flow	VOL	Time
1	K250	92#	6000ml/m	5L	50s
2					
3					
4					
5					
6					
7					
8					
9					

1 is a set of saved transmission data:

- Pump head: the pump head model currently using the settings
- Pump Tubing: The model of the pump tubing that is currently in use
- Flow rate: display of liquid flow rate
- Volume: Display of the amount of fluid transferred
- Time: Transmission time display

- ①Del: Select a group of data → Click **del** → **Yes** → complete data deletion
- ②Save: Select a location → Click **save** → **Yes** → Complete the storage of the currently used filling data. (This group of filling data is stored in the selected location. If there is data in this location, the original data will be overwritten).
- ③Use: Select a set of data → Click **Use** → enter the main interface automatically
- ④Exit: Click **Exit**→Automatically return to the main interface

5.5 External control operation

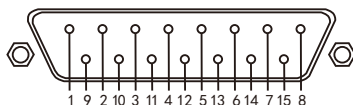


Please provide the correct signal to the pin, do not exceed the specified range of the signal value, and do not connect the power supply voltage to other pins to avoid permanent damage.



Make sure that the end of the multi-strand cable is fastened with a cable tie to prevent the risk of electric shock.

·DB15 The external control interface sketch



The external control interface sketch

Drive external control interface (DB-15 description)**1. The using method of the external interface:**

- (A) Start/Stop wire and Ground wire connect or shut, control the start and stop of the pump.
 (B) Direction wire and Ground wire connect or shut, control the running direction of the pump.
 (C) Between Speed wire and Ground wire, join up 0-5V, 0-10V, 4-20mA, 0-10kHz, etc. controlling wire signal.

2. External control output port provides optional.**3. Description of Outer Space Interface (DB-15)**

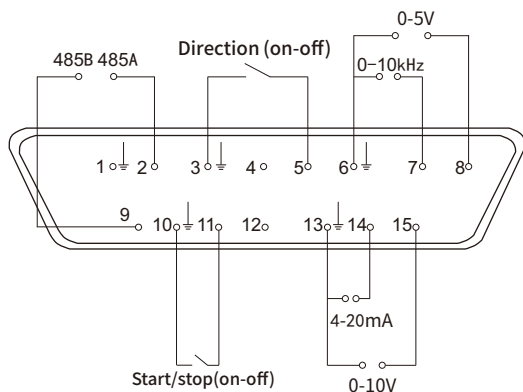
*The 15-pin interface on the back of the machine is the controlling interface to operate the machine through the external signals.
 Firstly prepare a DB15 connector (with holes) and various colors signal wires, then open the 15-pin interface, weld on the signal wires according to the below sheet, and fix the wires together using the clip on the interface, you may inject some glue to reinforce these wires; and at last install the shell and screws.

• External control input

-External control input interface definition

PIN	1	2	3	4	5	6	7	8
DEFINITION	E-c Ground	485 interface A	E-c Ground		Direction	E-c Ground	0-10kHz Input	0-5V Input

9	10	11	12	13	14	15
485 interface B	E-c Ground	Start /stop 1	E-c Enable	E-c Ground	4-20mA Input	0-10V Input



1、3、6、10、13 are all E-c Ground

External control input LG350LC wiring diagram

【External control input line color function definition】

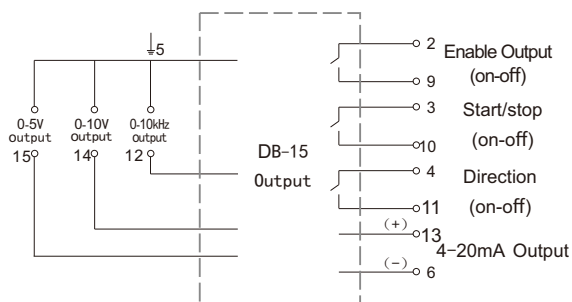
Serial number	Function	Corresponding function of wire
1	485 communication	brown---485A blue---485B
2	start/stop	brown---start/stop blue---E-c Ground
3	start/stop、direction	brown---E-c Enable gray---start/stop blue---direction black---E-c Ground
4	start/stop、analog input: (0-10kHz/0-5V/0-10V/4-20mA)	brown---E-c Enable gray---start/stop blue---0-10kHz/0-5V/0-10V/4-20mA black---E-c Ground
5	start/stop、direction、analog input: (0-10kHz/0-5V/0-10V/4-20mA)	brown---E-c Enable gray---start/stop blue---direction two-color---0-10kHz/0-5V/0-10V/4-20mA black---E-c Ground
6	start/stop、direction、analog input (0-10kHz/0-5V/0-10V/4-20mA)、485 communication	brown---E-c Enable gray---start/stop blue---direction yellow---0-10kHz/0-5V/0-10V/4-20mA green---485A red---485B black---E-c Ground
7	start/stop、485 communication	brown---E-c Enable two-color---start/stop blue---485A gray---485B black---E-c Ground
8	start/stop、direction、485 communication	yellow---E-c Enable green---start/stop red---direction blue---485A gray---485B black---E-c Ground

· External control output

-External control output interface definition:

PIN	1	2	3	4	5	6	7	8
DEFINITION	//	Enable output B	Start-stop output B	Direction output B	E-c Ground	4-20mA output negative	E-c Ground	E-c Ground

9	10	11	12	13	14	15
Enable output A	Start-stop output A	Direction output A	0-10kHz output	4-20mA output positive	0-10V output	0-5V output



5、7、8 are all E-c Ground

External control output LG350LC wiring diagram

【External control output line color function definition】

Serial number	Function	Corresponding function of wire
1	Start-stop output	brown---Start-stop output A blue---Start-stop output B
2	4-20mA output	brown---4-20mA output positive blue---4-20mA output negative
3	0-5V/0-10V/0-10kHz output	brown---0-5V/0-10V/0-10kHz output blue---E-c Ground
4	Start-stop, 4-20mA output	brown---Start-stop output A blue---Start-stop output B gray---4-20mA output positive Black---4-20mA output negative
5	Start-stop, 0-5V/0-10V/ 0-10kHz output	brown---Start-stop output A blue---Start-stop output B Gray---0-5V/0-10V/0-10kHz output Black---E-c Ground
6	Direction output	brown---Direction output A blue---Direction output B
7	Enable output	brown---Direction output A blue---Direction output B

Note: When the external control input/output is analog control speed, there will be some deviation due to different signal source types. If it affects normal use, please contact the dealer or Chuangrui official!

• Foot switch operating instructions

Foot switch and Hand held dispensing controller are options. These devices only control the start and stop status of the pump, and the running speed and direction are set through the operation panel.

The foot switch is connected to the DB-15 external control interface of the peristaltic pump. Under external control, the start-stop key and the full-speed key are invalid. The HOME key, arrow keys, and touch screen settings are used normally.

Operation setting:

(1) Main interface → Click  → Click **System** → Click **ExInput** → ① Ctr I → Aanlog → Ok
→ ② Item → Start Stop → Ok
→ ③ Signal → Level/Pulse → Ok
→ ④ After setting, exit to the main interface

The main interface  is displayed as , the setting is successful, and the external control mode is entered.

* Filling mode: It is recommended to use the **Pulse** signal. Press once to complete the entire filling cycle (Set filling numbers) and automatically stop after completion. Press again to restart and stop.

* Transmission mode: **Level** signal, Continue to press to continue to run, release it to stop. **Pulse** signal, Press to start, press again to stop.

***Accessories**

The following accessories are products selected by customers. If you want to know more or need to buy, please contact Chuangrui official.

Accessories	Image	Features
Flat mouth Filling nozzle		Connecting tube, precise filling
Closing-type Filling nozzle		Connecting tube, precise filling, splash proof
Foot switch		Control peristaltic pump start and stop
Check valve		Connecting tube, Prevent backflow of transferred liquid
Countersunk		Connecting tube, Prevent the tube from sucking the bottom
Filling stand		Fixed tube or filling nozzle
Measuring cup		Used for volume measurement of liquids
Straight connector		Connect tube system (2 tubes)
Y-type tee connector		Connect tube system (3 tubes)
T-type External connector		Connect tube systems (3 tubes)

PART 6 Troubleshooting and maintenance

>>Troubleshooting and maintenance

Note: There are no parts in the pump that can be repaired by the user. If you need repairs, please contact the dealer or Chuangrui official!

6.1 Troubleshooting

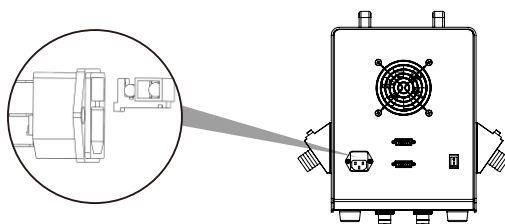
*No response at boot	>>If a circuit protection device is installed, confirm that the circuit has not tripped >>Confirm that the power plug is inserted into a working socket >>Check whether the power cord is firmly inserted >>Check whether the fuse at the power interface is blown
*The fan and display screen are normal, but cannot be started	>> Check if the device is in external control mode >>Check if the keys are working
*The pump is turned on and the pump head cannot run	>>Check if the coupling is damaged >>After cutting off the power, manually check whether the pump head is rotating normally
* Low or no flow when the pump is running	>>Check whether the material supply is normal >>Check if the pipe is entangled or blocked >>Check that all valves are open >>Check if the tube is in the middle of the roller >>Check whether the tube is cracked or damaged >>Check the running direction >>Check whether the pump head roller can rotate flexibly
*Pump cannot be controlled in external control mode	>> Check the upper right corner of the LCD, the external control icon  is displayed as  >> Check whether the external control settings are correctly connected >> Check if the signal source is normal

6.2 Product maintenance

Warning: Before attempting any maintenance, be sure to cut off the power to the pump.

• Replace the fuse

- ① Place the power switch in the "off" position ("I" On, "O" Off)
- ② Disconnect the AC power input cord from the outlet.
- ③ Take out the spare built-in fuse from the power socket of the pump.
- ④ Replace the original fuse.



• Basic maintenance and cleaning

Basic maintenance

- ① Open the pump head when it is not working to avoid tube deformation caused by prolonged extrusion.
- ② Keep the pump head rollers clean and dry to prevent surface damage and reduce tube wear; if there is splashing liquid, please wipe it dry as soon as possible.
- ③ Check the wear of the tube regularly and replace it in time to prevent leakage.
- ④ The pump head roller does not need to add lubricating oil, and improper operation may cause the tube to shift or corrode.
- ⑤ Not used to deal with chemical substances incompatible with the pump head or tube.
- ⑥ The pump head is not resistant to organic solvents and strong corrosive liquids. Please deal with it in time if there is effusion.
- ⑦ Please be aware of the storage recommendations and the expiration date of the tube so that it can be used normally after long-term storage.
- ⑧ Built-in fuse, pump head shaft and other replaceable accessories, need to be installed under the guidance of professionals.
- ⑨ It is recommended that the working environment temperature be between 0-40℃.

Note: There are no parts in the pump that can be repaired by the user. If you need repairs, please contact the dealer or Chuangrui official!

Cleaning

Warning: Before attempting any maintenance, be sure to cut off the power to the pump. When there are stubborn stains on the pump housing, please use a mild detergent to scrub the surface. Do not immerse the pump in liquid or use too much liquid to clean it.

6.3 Warranty information

·Warranty commitment

- ①The product is guaranteed for one year (consumables such as tubes are not included in the warranty). If there is a failure during the warranty period, you can enjoy free repair and replacement of parts; if it is damaged by man, it is not covered by the warranty.
- ②If the warranty period is exceeded, only the cost will be charged when repairing.
- ③There are no parts in the pump that can be repaired by the user. If you need repairs, please contact the dealer or Chuangrui official!

Note: Chuang Rui does not guarantee the applicability of all its products, and any employee or distributor has no right to change or violate the above warranty clauses; Chuang Rui is only responsible for repairing, replacing or replacing products in accordance with the actual situation and reasonable compliance requirements.

·Relevant details

- ① Chuangrui will not be responsible for any direct or indirect losses caused by external reasons such as operating errors or human negligence that are not the product's own quality problems.
Direct loss: products, supporting machinery, working environment, surrounding buildings, etc.
Indirect loss: labor loss, profit loss, etc.
- ②Chuangrui will not be responsible for the transportation damage caused by the returned products and accessories during the return journey.
- ③In any case, the compensation cost received by the customer shall not exceed the actual payment price.

• Non-warranty scope

The following conditions are not included in the free maintenance of the warranty:

- ①The product has exceeded the warranty period;
- ②Product failure caused by abuse, misuse or accidental damage by Chuangrui's judgment;
- ③Product problems caused by ultraviolet rays or direct light;
- ④It is not the damage caused by after-sales personnel in the repair or disassembly process;
- ⑤Damage caused by chemical erosion or long-term improper maintenance;
- ⑥Product failure caused by force majeure factors such as natural disasters;
- ⑦The operator fails to follow the corresponding operation suggestions and requirements, improper loading and unloading, improper maintenance, and improper operation;
- ⑧ Failures or damages that are not caused by the quality of the product itself.

Note: Chuang Rui reserves the right to modify the above terms at any time.

6.4 Return information

- ①If there is a product that needs to be returned/repared, please contact the sales, distributor or Chuangrui official according to the delivery related process to quickly solve the after-sales problems such as return, replacement, and repair.
- ②If there is no special agreement or written instructions, please return and exchange the goods within the specified time.
- ③When applying for after-sales service, please provide a clear reason for the return, specific information about the contacted substances, and responsible for the cleaning of the product (especially products that have been exposed to toxic chemical substances or harmful substances to the human body)
- ④ When returning the product to the factory, please pay attention to the packaging specifications to prevent damage to the pump during transportation; Chuang Rui will not be responsible for product damage caused by improper packaging and will not be included in the warranty.

6.5 Technical support & After-sales

For official technical support and after-sales questions, please consult:

Address: NO.369 of HuiYang Street, Baoding 071000, Hebei, China

Telephone: +86 15633705132

Website : www.crpump.com

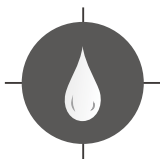
***Disclaimer**

- The content of this operation manual is for reference only.
- Chuang Rui reserves the right to change the product (Design or specification) without prior notice.
- The information contained in this article has been edited from the correct perspective. Chuangrui will not be responsible for any errors.
- If you need the latest version of the operation manual, please contact Chuang Rui Official.
- Chuangrui will not be responsible for any loss caused by non-product quality problems or human errors.

***caveat**

- This product is not suitable for equipment with its own problems.
- Do not place this product in hazardous work areas, flammable and explosive environments, including but not limited to the transmission of flammable liquids.

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