GM100-2A&WX10
Operating Manual

Mini Peristaltic Pump

2025.5

Baoding Longer Precision Pump Co.,Ltd.

A **Halma** company

Contents

1. General Information

1.1 Statements

- Longer Pump adheres to a strategy of continuous product improvement. The upgrades, modifications or change to the pumps appearance, specification or software may occur without prior notice.
- Depending on the pump model and software version you are using, the screenshots or function descriptions in this manual may be different, please refer to the functions of the current software version.
- The pumps shown in the manual are for illustration purposes only and may differ from the actual products. Please refer to the actual items.

1.2 Precautions

- The housing of the drive is provided with grounding terminal. In order to guarantee the operator's safety and improve the electromagnetic compatibility of the equipment, please ground the product reliably.
- Please do not disassemble, refit or maintain the product without permission, so as to avoid any damage or reduction to its performance.
- All ports on the rear housing of the drive must be protected against vapor and water ingress. Ensure all ports are either connected with cables or sealed with protective covers.
- If tubing leaks or bursts, fluid may spray from the tubing and pump head. Take reasonable practicable measures to ensure the operators' safety.
- Make sure fluid in the tubing has been drained out, that there is no pressure in the pipeline and disconnect pump from mains power, while removing or replacing the tubing.
- Do not touch the rotor while pump is running.
- Release the compression block when pump stops running for a long time to avoid tubing deformation caused by occlusion.
- Keep the rotor clean and dry to avoid tubing excessive wear and premature failure of pump head or drive.
- Please do not add the lubricating oil to the rotor by yourself, any improper operation could corrode the pump head housing or dislocate the tubing
- Please connect the power cord or footswitch in correct way, and do not damage the plug.
- If the pump head can't resist organic solvent and corrosive liquid, please clean the liquid left on the surface of the pump head in time.

1.3 Contacts

- Baoding Longer Precision Pump Co., Ltd.
- Address: Floor 3-4, Block B, Building 6, University Science Park, No. 5699 North Second Ring Road, National High-tech Industrial Development Zone, Baoding City, Hebei Province, China
- Telephone: +86-312-3110087
- Website: www.longerpump.com

2. Product Introduction
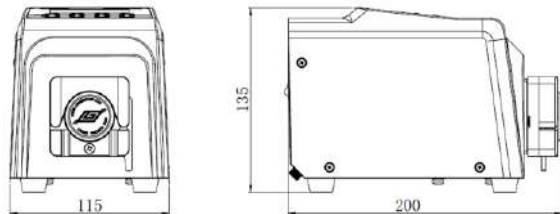
2.1 Main Features

- Compact size and structure, space saving footprint with stackable design.
- Features physical button operation and a LCD display for intuitive and convenient use.
- Provides continuous and timer modes for different applications
- High speed control accuracy up to $\pm0.1\%$
- Can be controlled by keypad or footswitch.
- Excellent EMC performance certified by TUV and compliant with both lab standard EN IEC 61326 and industrial standard EN IEC 61000
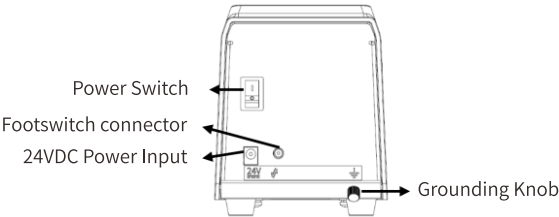- Equipment with the 4-roller pump head WX10-14 with low pulsation.

2.2 Unpacking

(1) Remove the pump and the accessories from the shipping carton.

(2) Check the packing list to confirm all accessories are included.

(3) In case of any question, please contact Longer or the local distributor.

2.3 System Structure and Dimensions

2.3.1 Outline Dimensions

2.3.2 Pump Interfaces

To enhance the EMC performance of the pump, it is recommended to connect the grounding knob to the system's protective earth (PE).
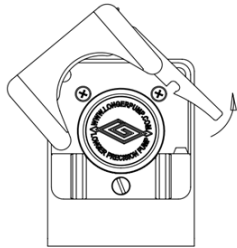
2.4 Technical Specifications

	GM100-2A&WX10
Pump head material	Housing: ABS, rollers: POM
Roller number	4
Pump speed	0-100rpm
Applicable tubing	Silicone tubing: ID≤3.17mm, W.T.: 0.8-1mm PharMed tubing: ID≤3.17mm, W.T.: 0.8-1mm40mL/min
Max flow rate for reference	40mL/min
Speed resolution	0.01 rpm (speed<10rpm)；0.1rpm (10rpm≤speed≤100rpm)
Display	LCD screen for pump speed, running direction, time, start/stop status and work mode
Running direction	Clockwise or counter-clockwise, can be toggled during running
Work mode	Continuous or timer mode
Control mode	Keypad or footswitch control
Keypad control	Set the parameters and control the pump via keypad: start/stop, running direction, prime function, speed adjustment, work mode, timer
Footswitch control	Control the start/stop via a footswitch
Timer function	In timer mode, the pump runs and stops based on the set timer duration. Timer range: 0.1s to 999h.
Runtime counter	In continuous mode, the pump automatically records the runtime and can accumulate the multiple operation periods (reset upon power-up). Timing range: 0.1s-999h
Keypad lock	To prevent misoperation
Pump status when powered up	Stop
Parameter retention	Run and system parameters are saved after power loss

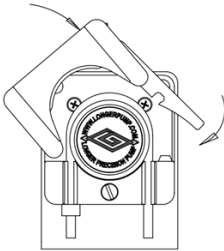| Prime	Fast filling or emptying at full speed
Certificates	CE,UKCA EMC standard: EN IEC 61326-1:2021, EN IEC 61000-6-1:2019, EN IEC 61000-6-2:2019, EN IEC 61000-6-3:2021, EN IEC 61000-6-4:2019
Dimensions (L*W*H)	220mmx115mmx135mm (including pump head)
Power supply for adapter	AC100-240V, 50Hz-60Hz
Power supply for pump	DC24V/8W
Working condition	Environment temperature:0°C-40°C, relative humidity:<80%
IP rating	IP31
Weight	1.25kg (including pump head)

3. Tubing Loading

Note: Please disconnect pump from the mains power before loading the tube.

1) Release the trigger and open the compression block.

2) Tubing loading

- For one rotate direction application, only the inlet of the tubing needs one slip-on stop. For two rotate direction application, the outlet of the tubing also needs one slip-on stop. The tubing length between two stops is 93mm.
- Fit the inlet of the tubing into the slot. Place the slip-on stop outside the slot.
- Lightly stretch the tubing across rollers.
- Fit the outlet of the tubing into the other slot. (The other slip-on stop will be placed outside the slot for the two rotate direction application.)

3) Close the compression block and fasten the trigger.

4. Operating Instructions
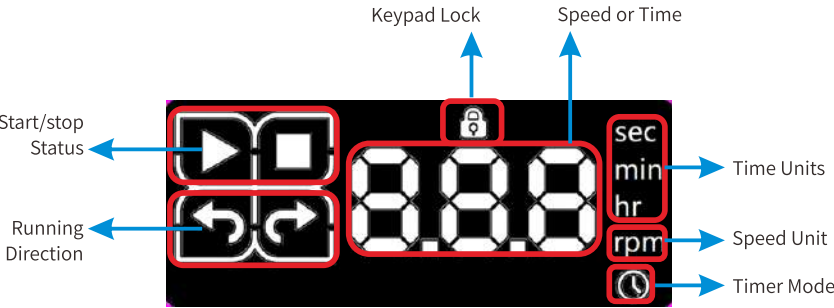
4.1 Keypad and Display

Logo

LCD

Keypad

Product Model

GM100-2A&WX10

www.longerpump.com

4.1.1 Keypad Function

Start/Stop Key	Press the key to start or stop the pump. When the pump is in the prime status via the Max Key, it also can be stopped by pressing this key. When the pump is running and the keypad is locked, long pressing this key can unlock the keypad and stop the pump.
Direction Key	Press the key to toggle the pump running direction, clockwise or counter clockwise. The direction key is disabled when the pump is in the prime status via Max Key.
Increase Key	Increase the pump speed or timer duration. Press and hold the key will increase the value quickly.
Decrease Key	Decrease the pump speed or timer duration. Press and hold the key will decrease the value quickly.
Clear Run Time Keys	Press the Increase and Decrease keys at the same time to reset the accumulated run time. This operation is valid whether pump is running or stopped.
Max Key	Press the Max Key to prime the pump at full speed 100rpm, whether the pump is running or stopped. Press the key again to return to the previous status.
Lock Key	1.Lock the keypad： Short press the Lock Key to lock the keypad. Only Stop Key and Lock Key will be functional. Other keys will be disabled. 2. Unlock the keypad: a. When the pump is running or stopped and the keypad is locked, long press the Lock Key (> 1 second) to unlock the keypad. All keys will then be functional. b. When the pump is running and the keypad is locked, long press the Start/Stop Key (> 1 second) to stop the pump and unlock the keypad.
Unit Key	**Pump in the continuous work mode：** Pump running: short press the Unit Key to toggle the display between pump speed and accumulated run time. Pump stopped: short press the Unit Key to toggle the display between pump speed and accumulated run time. When displays the pump speed, long press the Unit Key to cycle through the speed units (0.01rpm, 0.1rpm and 1rpm). **Pump in the timer work mode：** Pump running: short press the Unit Key to toggle the display between pump speed and remaining run time. Pump stopped: short press the Unit Key to toggle the display between pump speed and timer duration. When LCD displays the pump speed, long press the Unit Key to cycle through the speed units (0.01rpm, 0.1rpm and 1rpm). When LCD displays the timer duration, long press the Unit Key to cycle through the time units (sec, min and hour).

Mode Key	When the pump stopped, press the Mode Key to toggle the work mode between continuous mode and timer mode.

4.1.2 LCD Display

Icon	Name	Description	Remark
	Run	This icon will be displayed when the pump is running	Only one icon can be displayed at a time.
	Stop	This icon will be displayed when the pump is stopped	
	Counter-clockwise	This icon will be displayed when the pump is running counter-clockwise.	Only one icon can be displayed at a time.
	Clockwise	This icon will be displayed when the pump is running clockwise.	
	Keypad Lock	The lock icon appears when the keypad is locked and disappears when the keypad is unlocked.	
	Timer	The timer icon indicates that the pump is running in timer mode. When the icon is not displayed, the pump is running in continuous mode.	

		1. Displays the current pump speed with unit of "rpm" Displays "---" when pump is in the prime status. 2. Displays time with unit of "sec, min or hr": a. Pump stopped in the timer mode: displays the set timer duration. b. Pump running in the timer mode: displays the remaining time (countdown). c. Continuous mode: displays the accumulated run time.	1. In timer mode, the pump can not be paused. When restarted, the countdown time will begin from the full set duration. 2. In continuous mode, the accumulated run time can be reset by the Clear Run Time Key, powering up, or switching back to continuous mode from timer mode.
888	Speed or Time		
sec	Time Unit	second	Only one icon can be displayed at a time.
min	Time Unit	minute	
hr	Time Unit	hour	
rpm	Speed Unit	rpm	

4.2 Operating Instructions

4.2.1 Power Up

The pump operates on DC24V/8W. It can be powered by connecting to a single-phase mains supply using the AC100-240V to DC24V adapter provided by Longer Pump.

Upon power-up, the pump remains in a stopped status. The work mode and parameters will be retained from the previous power-off status.

4.2.2 Set the Work Mode

The pump can run in continuous mode or timer mode. When the pump is stopped, press the Mode Key [icon] to toggle between the two modes. The timer icon [icon] will be displayed when timer mode is active.

In continuous mode, both starting and stopping the pump must be performed by pressing the Start/Stop Key or a footswitch.

In timer mode, press the Start/Stop Key or a footswitch to start the pump. The pump will stop automatically when the set timer duration expires, or it can be manually stopped by pressing the Start/Stop Key or a footswitch.

✧ Note: the mode can not be changed when the pump is running.

Continuous Mode   Timer Mode

4.2.3 Display Pump Speed or Time

Whether pump is running or stopped, press the Unit Key [icon] to toggle the display between pump speed and time.

a. Continuous mode: the displayed time represents the total run time accumulated over multiple start-stop cycles.

b. Reset the accumulated run time：

When LCD displays the run time, press the Increase and Decrease Keys [icon] at the same time to reset the accumulated run time. If the pump is running at this time, it will automatically start counting from zero.

✧ Note: the accumulated time will be reset automatically when pump powered up, or switching back to continuous mode from timer mode.

c. Timer mode: the displayed time represents the set timer duration (when the pump is stopped) or remaining countdown time (when the pump is running)

✧ Note: In timer mode, the pump can not be paused. When restarted, the countdown will begin from the full set duration.

4.2.4 Set the Timer Duration

a. Set the time unit:

In timer mode, when the pump is stopped, short press the Unit Key [icon] to display the set timer duration (in seconds, minutes or hours). Then, long press the Unit Key [icon] to cycle through the time units: sec (seconds), min (minutes), and hr (hours).

b. Set the timer duration with the Increase or Decrease Keys：
In timer mode, when the pump is stopped, short press the Unit Key to display the set timer duration (in seconds, minutes or hours). Use the Increase Key or Decrease Key to adjust the timer value. Long press the Increase or Decrease Key to adjust the value quickly.
Timer range: 0.1s to 999hrs.

4.2.5 Start and Stop

When the pump is stopped (display speed or time), short press the Start/Stop Key , the pump will run at the set speed and direction. The running status indicated on the screen will be .
When the pump is running (display speed or time), short press the Start/Stop Key , the pump will stop. The running status indicated on the screen will be .

✧ Note: When the keypad is locked and the pump is running, long press the Start/Stop Key for more than one second, the pump will be stopped and the keypad will be unlocked.

Running Status   Stop Status

4.2.6 Change the Direction

When the pump is stopped or running (displays speed or time), press the Direction Key , the pump will toggle the running direction between clockwise and counter-clockwise.

✧ Note: the direction can not be changed when the pump is in prime status (displays "---").

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Clockwise   Counter-clockwise

4.2.7 Prime the Pump

When the pump is stopped or running (displays speed or time), press the Max Key to prime the pump at full speed 100rpm and in the direction indicated. Press the key again to return to the previous status.
When pump is in the prime status, the pump can be stopped by pressing Start/Stop Key , but the Direction Key is disabled.

In continuous mode, the accumulated running time continues during prime status.
In timer mode, the countdown of the remaining time continues during prime status.

Display the Speed in the Prime Status (Continuous mode)   Display the Accumulated Run Time in the Prime status (Continuous mode)

Display the Speed in the Prime Status (Timer mode)   Display the Remaining Time in the Prime status (Timer mode)

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4.2.8 Increase and Decrease Pump Speed

a. Increase and Decrease Pump Speed

When the pump is stopped or running, press the Unit Key to display current speed in rpm. Then press the Increase or Decrease Keys to adjust the pump speed. Press and hold the keys will quickly adjust the speed until the maximum of 100rpm or minimum of 0.01rpm.

b. Change the speed unit:

When the pump is stopped, press the Unit Key to display current speed in rpm. Then long press the Unit Key to cycle through the speed units: 0.01rpm, 0.1rpm and 1rpm.

4.2.9 Keypad Lockd

When the pump is stopped or running (displays speed or time), short press the Lock Key to lock the keypad, then the lock icon will appear. Then long press the Lock Key to unlock the keypad, and the lock icon will disappear.

✧ Note: when the pump is running and the keypad is locked, long press the Start/Stop Key ,the pump will stop and the keypad will be unlocked.

4.2.10 Footswitch Control Start and Stop

The pump can be controlled by a footswitch, functioning the same as the Start/Stop Key. Each press of the footswitch toggles the pump between running and stopped statuses.
The footswitch and the Start/Stop Key remain functional simultaneously.

Appendix A Factory Default Settings

Reset the pump to the factory default settings: During power-up, long press the Mode Key until "---" appears on the display. Then, short press the Increase Key to display "FFF". Finally, short press the Max Key to reset the pump to the factory default settings.

Product Model	GM100-2A&WX10
Work Mode	Continuous mode
Pump speed	100rpm
Run direction	Clockwise
Timer duration	60s
Pump status when powered up	Stop