

Dry Chemistry Analyzer

LP-100

User Guide

Thank you for choosing Pro Chek products.

To be able to use this device correctly, be sure to read this user guide.

Lumigenex(Suzhou) Co. ,Ltd.

Abbreviations

TC: Total Cholesterol

TG: Triglyceride

HDL-C: High-density Lipoprotein Cholesterol

LDL-C: Low-density Lipoprotein Cholesterol

Content

ORDER

Managers and operators should read the “Safety Precautions” carefully before using them properly. The meanings of “warning” and “precautions” are as follows.

Warning	In the event of a misoperation, the user may be killed or seriously injured.
Precautions	In the event of a misoperation, the user may be injured or property damage may occur.

Warning

Please pay full attention to prevent infection

-  The instrument must be used by persons familiar with the product's operating methods and safety precautions.
-  Biological samples are at risk of being contaminated by pathogens. If the instrument is operated incorrectly, it may cause infection to the user and surrounding people. Wear protective equipment (glasses, gloves, masks, etc.) when servicing the instrument.
-  Both used samples and reactive waste are treated as sources of infection.

Precautions

Please operate strictly in accordance the methods specified in this guide

-  Otherwise, it may cause malfunctions, accidents, or problems such as correct measurement.
-  Before using the product, the operator should be familiar with the necessary monitoring, evaluation and control methods (in accordance with Chapter 6 of the manual)
-  Before the product is installed, the user must ensure the operating environment of the

equipment to avoid mutual interference and possible hazards with other products during use.

⚠ When the product is abnormal during the correct use, the operator or user should immediately cut off the power and contact the professional for maintenance.

⚠ The product does not contain ingredients or excipients that may cause side effects.

⚠ The product does not need to be used in conjunction with other medical devices.

⚠ Please wear protective gear

⚠ In order to prevent infection, be sure to wear protective equipment such as glasses, gloves, masks, etc.

⚠ When performing maintenance work, if you do not fully understand it beforehand, it may cause infection. Responsible personnel, please be sure to receive maintenance training. After fully understanding, wear protective equipment (glasses, gloves, masks, etc.) and follow the instructions.

⚠ For questions regarding maintenance work, please contact our service center.

⚠ Do not place containers filled with liquid outside the specified position of the instrument.

⚠ If a spill occurs inside the instrument, it will cause a short circuit, and the insulation performance will be reduced, resulting in electric shock.

⚠ Please dispose of waste properly

⚠ When disposing waste, wear protective equipment such as gloves. Do not touch it directly.

⚠ Please clean and disinfect in time

⚠ Power supply must be switched off before cleaning; please use a cleaning or disinfectant cloth to wipe.

⚠ After cleaning, use 75% ethanol for disinfection.

⚠ **Contraindications:** none

Other Precautions

☛ Marking on labels and instructions.



Reagent contamination of biohazard signs.



In vitro diagnostic medical device



Warning sign, please refer to the instructions.



Consult instruction for use.



Class II electrical marking, high degree of safety.

☛ If the warning and attention mark labels are stained or peeled off, the contents of the signs cannot be seen clearly, please refer to our service center for processing.

☛ Documents marked with warning signs are required to check the nature of the potential hazard and any response measures that must be taken.

☛ Please keep this user guide properly so that you can refer to it whenever necessary.

Please contact us for maintenance

Do not disassemble, repair or modify by yourself. Otherwise, there will be any problems that are not related to our company.

Lumigenex(Suzhou) Co. ,Ltd.

Chapter1 Foreword

1 Outline	1-1
2 Product Performance 1-2.....	1-2

Chapter2 Installation

1 Confirmation of package contents.....	2-1
2 Appearance name and function.....	2-2
2.1 Liquid Crystal Display	2-4
2.2 Power and operating button.....	2-4
2.3 Test strip and socket	2-5
2.4 IC card and socket.....	2-5
2.5 Battery cover and battery compartment.....	2-5
3 Working environment	2-6
4 Analyzer installation.....	2-7
5 EMC requirements	2-7
6 Network security requirements	2-7

Chapter3 Test

1 Test preparation.....	3-1
1.1 Startup.....	3-1
1.2 Prepare test items.....	3-1
1.3 Blood Collection.....	3-1
2 Test procedure	3-2
3 Shutdown	3-2

Chapter4 Function Setup

1 Output setting.....	4-1
2 Language setting.....	4-2
3 Sound setting.....	4-2
4 Date setting.....	4-2

Content

5 Time setting.....	4-3
6 Unit setting.....	4-3
7 Query record.....	4-3
8 Clean record	4-4

Chapter5 Instrument Calibration

1 Check standard strip.....	5-1
2 QC test	5-1

Chapter6 Maintenance and management

1 Routine maintenance and management	6-1
2 Regular maintenance and management	6-1
3 Troubleshooting	6-2

Warranty

Chapter 1

Foreword

Chapter 1 Foreword

Thank you for choosing Dry Chemistry Analyzer LP-100. This book is a description of the use of Dry Chemistry Analyzer LP-100. This book introduces the structure and operation methods of the instrument.



The Analyzer LP-100 is a precision instrument. Please read this user guide carefully before use. If the operator does not store and operate the instrument according to the instruction, it may cause damage to the instrument, personal injury or other medical accidents!

Dry Chemistry Analyzer LP-100



Figure1-1 Machine Diagram

1 Outline

Dry Chemistry Analyzer (LP-100) consists of chassis, photoelectric sensor, signal processing system, display unit, Bluetooth system, IC bayonet, mainboard and AA battery cartridge and cover etc. The product should be used with lipid panel test strips (dry chemical method) and other test strips with dry chemical method from Lumigenex (Suzhou) Co., Ltd. It is used for quantitative detection of relevant components to be tested in human samples.

Analyzer type: LP-100

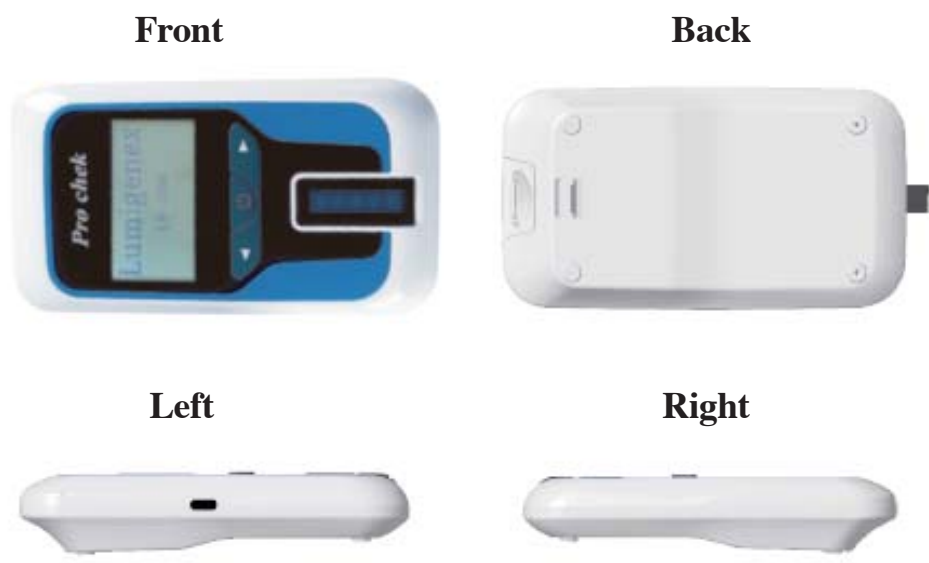


Figure1-2 Instrument Appearance

2 Product Performance

Basic parameters

Measuring principle	Reflective photometry
Display unit	Monochromatic display unit of 2.4 inches.
Process mode	Item by item.
External output	Bluetooth
Dimension	139(L)×76(W)×26.6(H)mm
Weight	116g±16g
Power	2 AA batteries, 3.0V±10%

Working condition

Use the instrument in an environment free from harmful gases, dust, vibration, direct sunlight, and wind. The specific environmental parameters are as follows:

Environmental temperature	5°C~40°C
Relative humidity	20%-80%
Power	battery AA, 2 sections,
Atmospheric pressure	75kPa-106kPa;
Altitude	not more than 2000m



Do not use it in an environment with a large temperature difference. The temperature difference is very large, condensation will occur, and there is a risk of electric leakage, which will make the instrument not work properly. Do not place the device in a location where it is difficult to operate the disconnect device.

Transportation and storage environment

Transportation temperature	-20°C ~ 55°C
Transportation humidity	<90%
Storage temperature	-20°C ~ 55°C
Storage humidity	<90%

Applicable standard

Standard	IEC 61010-1:2010/A1:2016 IEC 61010-2-101:2018
Overvoltage type	II
Pollution level	2

Performance

Accuracy	Relative deviation of the signal value from target value is within $\pm 10\%$.
Within-run variation	The variance coefficient is no more than 5.0%.
Linear range	Linear signal range: 10~90; linear correlation coefficient: $r \geq 0.990$.

Chapter 2

Installation

Chapter 2 Installation

1 Confirmation of packaging

When the product is delivered, please check with the service staff of our company to confirm whether the following products are complete.



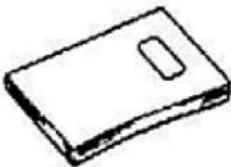
When delivering or moving the instrument, follow the instructions in the user guide.

Packing List

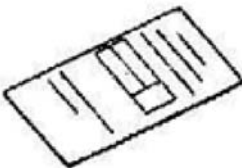
Dry Chemistry Analyzer (LP-100) 1 Set

«Others»

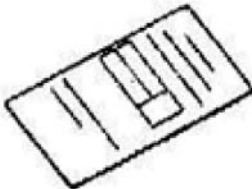
User Guide 1.....



Product certification



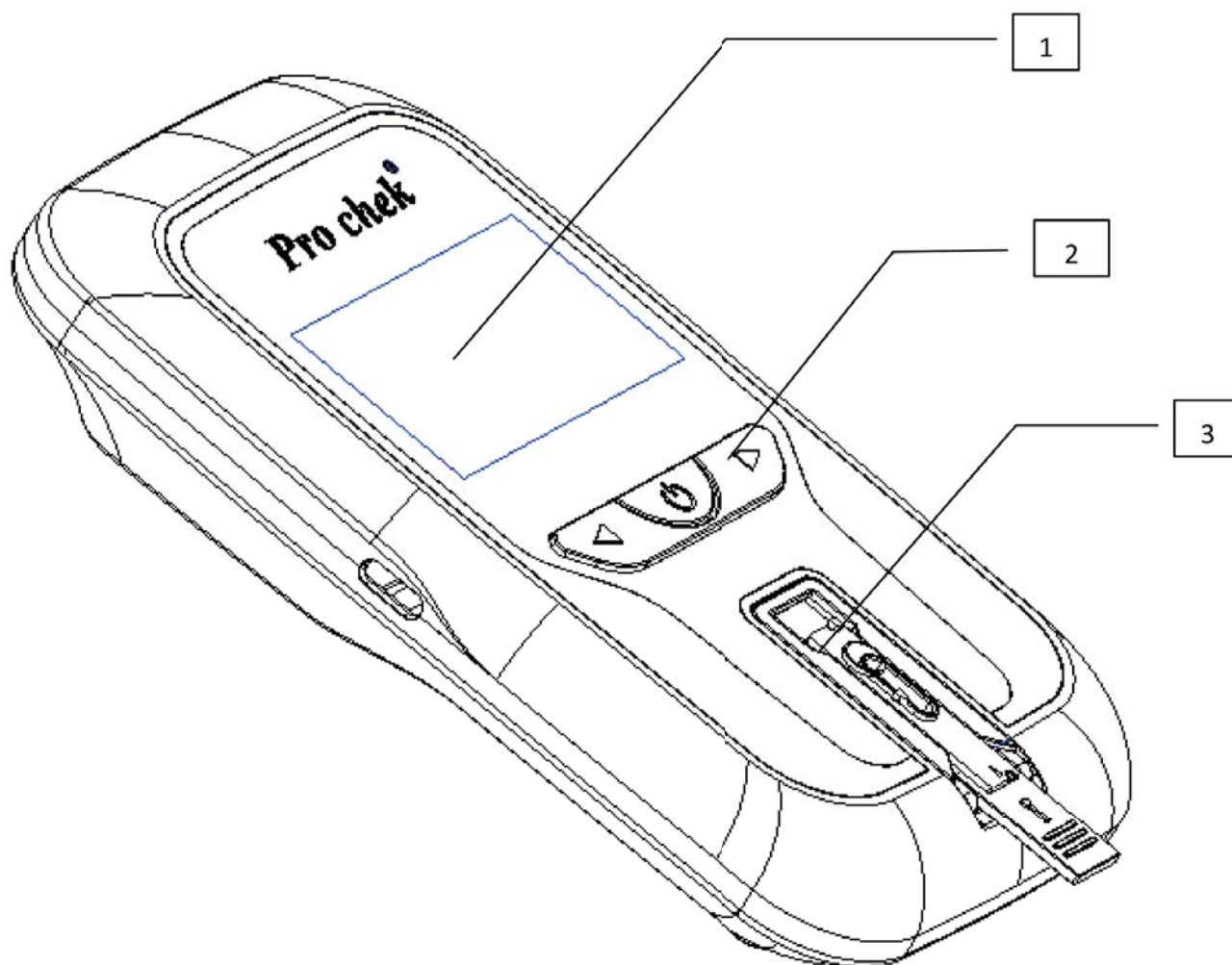
Warranty card 1 piece.....



If there are any omissions, please contact us.

2 Appearance name and function

The appearance of the instrument is shown in Figures 2-1 and 2-2:



Figures 2-1 The appearance of the instrument

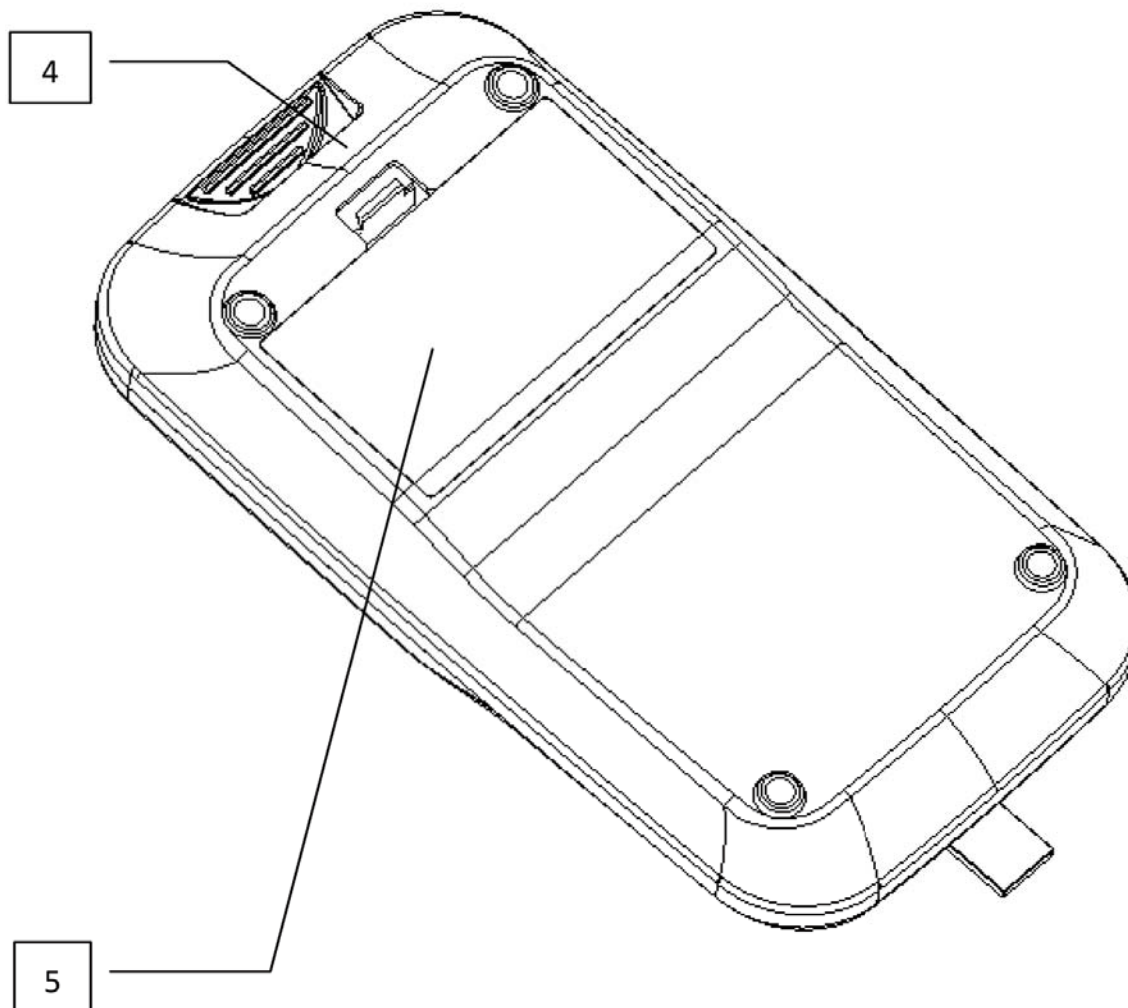


Figure2-2 The appearance of the instrument

- 1.Liquid Crystal Display(LCD)
- 2.Power button and operation button
- 3.Test strip and socket
- 4.IC card and socket
- 5.Battery cover and AA battery compartment

2.1 Liquid Crystal Display

Non-touch screen is used in LCD, and the information of the operation state and measurement result is shown on the screen in the following figure2-3.

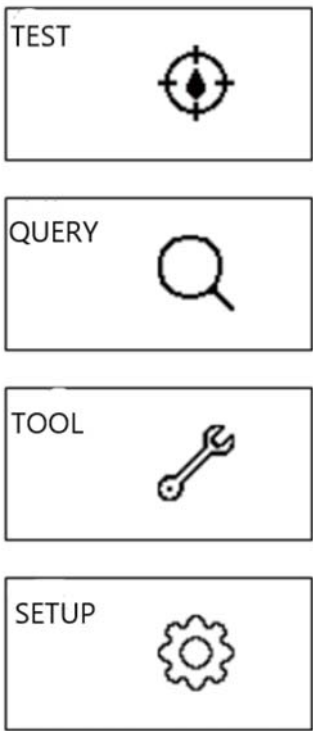


Figure 2—3 Main operation interface

2.2 Power and operating buttons

Show switching is achieved by left, right, and Enter buttons. The Enter button is also used as a power switch. As shown in Figure 2-4.



Figure 2—4 Left button、 Enter button、 Right button

2.3 Test strip and socket

The reagent card socket is used to place the test panel as shown in Figure 2-5.

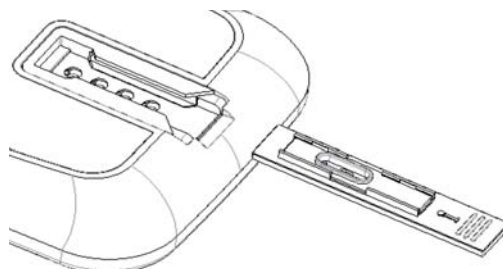


Figure 2-5 Reagent card socket



Detective area of reagent card faces up into the socket, anti-dull design, reverse cannot be operated.

2.4 IC card and socket

Test strip per kit is equipped with an IC card in which the Lot information of the test strip is stored. The IC card module is a plastic-sealed structure, anti-dull design, reverse cannot be operated.



Figure 2-6 IC card module

2.5 Battery cover and battery compartment

The analyzer requires two (2) AA high-quality alkaline batteries.

When the battery is low, the Analyzer will display “REPLACE BATTERY”. You cannot test before battery replaced. Be sure to replace both batteries at the same time. The test results saved in the analyzer will not be lost when the battery is replaced.

- 1) Make sure the analyzer is off and the back is facing up;
- 2) Open the battery compartment cover as shown;
- 3) Remove the old battery;
- 4) Insert a new battery according to the positive and negative polarity of the AA battery compartment;
- 5) Close the battery cover.

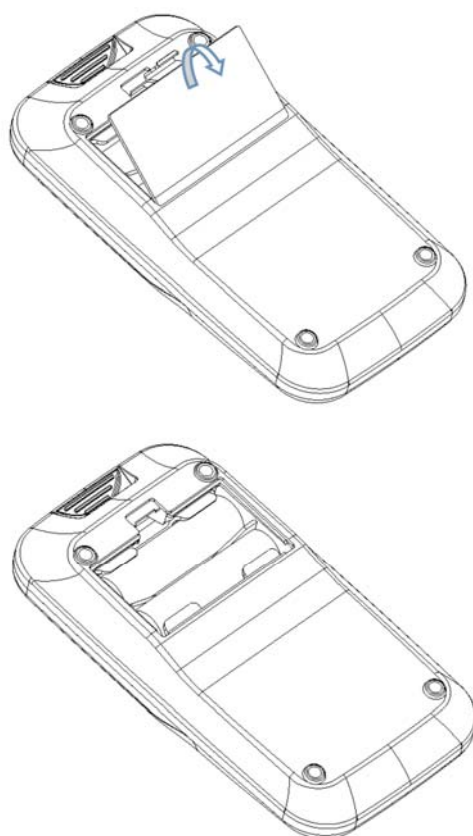


Figure 2-7 Open the battery cover

3 Working environment

The working environment should be as dust-free as possible, no mechanical vibration, no loud noise source and power interference, and should not be close to brush-type engines, flashing fluorescent lamps and electrical contact devices that are frequently switched.

Avoid direct sunlight or being placed near heat and sources.

4 Analyzer installation

Battery installation

Open the battery pack, remove the battery, open the back cover of the device, and put the battery.



Battery Installation direction

5. Electromagnetic compatibility requirements

This equipment complies with the emission and immunity requirements specified in IEC 61010-2-6:2012

This equipment is designed and tested according to Class B equipment in GB4824.

It is recommended to evaluate the electromagnetic environment before the equipment is used.

Do not use this device near strong radiation sources (such as unshielded RF sources) as this may interfere with proper operation of the device.

The user needs to ensure that the equipment is in an electromagnetic compatibility environment so that the equipment can work normally.

6. Network security requirements

Operating environment:

The software runs in the LP-100 analyzer. The analyzer processor is semiconductor STM32L151 RET6, 32-bit ARM architecture Cortex M3, built-in 80KB SRAM, 512KB Flash. No additional configuration of computers and other software is required.

Data interface

Transmission protocol: Bluetooth transmission protocol; Transmission method: Bluetooth transmission; Storage format: The data storage format is shown in the figure below. XX depends on the specific clinical test items.

Test Report				
Item	Result	Reference value		Unit
XX	XX	XX	XX	XX
XX	XX	XX	XX	XX
Test time		Y /M/D	H: M: S	
Report time		Y /M/D	H: M: S	

User access control

User identification method: users do not need to identify.

User Type: Clinical Laboratory Operator

Chapter 3

Test

Chapter 3 Test

1 Test Preparation

1.1 Startup

- 1) Install the battery as described above.
- 2) Insert the IC card that matches the test strip into the card slot.
- 3) continually press the power button (⏻) for 3 seconds to turn it on.

The analyzer will display a splash screen with both the model and software version, and the date and time will be displayed. If the date or time displayed is not correct, be sure to set the date and time in the function setup section before performing the test to avoid affecting subsequent tests.

Note: For the first time the power is turned on or the internal time and date information is lost, the analyzer will ask you to set the date and time before displaying the startup screen.

After the date and time are displayed, the analyzer enters the default interface and the screen displays “TEST”. In this interface, press the left button (◀) or right button (▶) to interact with the other three interfaces “QUERY”, “TOOL” and “SETUP”. The operation of the analyzer is described later, it will start directly according to the four interfaces, and the startup process will not be described repeatedly.

1.2 Prepare test items

Please check if the following items are complete before test.

The Analyzer

- Test Strips (Each test strip box contains a package insert that provides instructions, please read the instructions completely before test) ☒ IC card with the same Lot number as the test strip.
- Sterile blood lancet
- Capillary collection/Capillary tubes
- Sterile Gauze or cotton balls
- Medical alcohol

1.3 Blood collection

- 1) Prick finger. Clean the finger with an alcohol cotton ball, stick it with a sampling lancet once the finger dries.
- 2) Blood collection. Gently pinch the top of capillary collection, and collect blood drops from the tip of your finger with the open end of capillary collection. The blood will automatically enter into the capillary collection till reaching the marked line. After the blood collection is completed, use a dry cotton ball to hold the needle. Or use vacuum blood collector for venous whole blood collection according to clinical requirements.

2 Test procedure



Before the formal test, follow the function setup in Chapter 4 to make the relevant settings, and perform the necessary verification according to the instrument Calibration in Chapter 5.

- 1) On the “Test” interface, press the Enter button (⏏)
- 2) If the screen displays “INSTALL IC CARD”, insert the IC card that matches the test strip into the card slot.
- 3) The screen displays “CHECK LOT NO.”. Please confirm whether the displayed and package Lot number are the same. If it is inconsistent, please stop the test and replace it with the IC card of the same Lot number before testing.
- 4) When the screen displays “INSERT STRIP”, insert the test strip into the test slot.
- 5) Collect blood samples as described above.
- 6) The screen displays “APPLY SAMPLE”, and the capillary tube is opened to the sample hole of the test strip, and the top of the blood collection tube is slowly and evenly balanced, and all the blood samples are dropped into the sample hole of the test strip.
- 7) The screen displays "TESTING"
- 8) After about 2 minutes, the results will be displayed on the screen (if " OUTPUTOPTION " is set to "PRINTER" and the connection is successful, the result will be printed by the printer), press the left button (◀) or right button (▶) to view the results of different items.
- 9) Remove the test strip and discard.
- 10) Press the Enter button (⏏) to repeat 2) ~ 9)
- 11) If you want to stop the test, you can press any button to return to the “TEST” interface when “INSERT STRIP” is displayed.

1.3 Blood collection

When the analyzer is in the “TEST”, “QUERY”, “TOOL”, “SETUP” interface, continually press the power button (⏏) for 3 seconds to shut down manually.

In addition, the analyzer has an automatic shutdown function. Standby for more than 3 minutes, the analyzer enters 10 seconds countdown. Before the countdown ends, continually press any button for 1 second to cancel the shutdown; after the countdown is over, the analyzer will automatically turn off.

Chapter 4

Function Setup

Chapter 4 Function Setup

1 Output setting

Output No (default)

Note: After setting this function, the result will not be output after each test or query

- 1) In the “SETUP” interface, press the Enter button (⏎), the screen displays “OUTPUT OPTION”
- 2) Press the Enter button (⏎), the screen displays “OUTPUT NO”
- 3) Press the Enter button (⏎) and the screen displays “OUTPUT OPTION”
- 4) Press the left button (◀) and the screen will display “EXIT”
- 5) Press the Enter button (⏎) to return to the SETUP screen.

1 Output

Note: After the connection is successful, the results can be printed out by the printer after each test or query. Please follow the instructions in the printer's instruction, connect the power supply, then turn it on, and then make the following settings.

- 1) In the “SETUP” interface, press the Enter button (⏎), the screen displays “OUTPUT OPTION”
- 2) Press the Enter button (⏎) and the screen displays “OUTPUT NO”
- 3) Press the left button (◀) and the screen displays “PRINTER”
- 4) Press the Enter button (⏎). If the screen displays “SEARCHING” and then “PRINTER”, press the left button (◀) or right button (▶) to select the printer, press the Enter button (⏎) to connect to the currently selected printer; if the screen displays "CONNECTING", then "CONNECTED", indicating that the connection has been successful
- 5) Press any button and the screen will display “PRINT COPIES”
- 6) Press the Enter button (⏎), the current number of print copies is displayed at the bottom left of the screen (default is 01)
- 7) Press the left button (◀) or right button (▶) to select the number of copies (01 ~ 04), press the Enter button (⏎), select the number of copies currently displayed, and the screen displays “PRINT COPIES”.
- 8) Press the right button (▶), the screen displays “PRINT TEST”, press the Enter button (⏎), if the Bluetooth printer can print the test page correctly, the setting is successful.
- 9) Press the right button (▶) and the screen will display “EXIT”
- 10) Press the Enter button (⏎) and the screen displays “OUTPUT OPTION”
- 11) Press the left button (◀) and the screen will display “EXIT”
- 12) Press the Enter button (⏎) to return to the SETUP screen.

- 13) In step 4), if the screen displays “SETUP FAILED, RETRY”, press any button, the screen displays “PRINTER”, repeat 4)~ 12)
- 14) In step 4), if the screen displays “SEARCHING”, then “NONE FOUND” is displayed, press any button, the screen displays “SEARCH PRINTER”, press the Enter button (), the screen displays “SEARCHING”, continue 4)~ 12)
- 15) In step 14), when the screen displays “SEARCH PRINTER”, press the left button () or right button (), the screen displays “PRINTER”, repeat 4)~ 12)

2 Language setting

- 1) In the “SETUP” interface, press the Enter button (), the screen displays “OUTPUT OPTION”
- 2) Press the right button () and the screen displays “LANGUAGE”
- 3) Press the Enter button (), the screen displays “中文” (default), press the left button () or right button (), the screen displays “ENGLISH”
- 4) After selecting “中文” or “ENGLISH”, press the Enter button (), the screen displays “语言设置” or “LANGUAGE”
- 5) Press the left button () twice, the screen will display “EXIT”
- 6) Press the Enter button () to return to the SETUP screen.

4 Date setting

- 1) In the “SETUP” interface, press the Enter button (), the screen displays “OUTPUT OPTION”
- 2) Press the left button () or right button (), until the screen display “DATE”
- 3) Press the Enter button (), the screen displays the current date of the system, indicating that the 4-digit number of the year is displayed in reverse color, indicating that it can be set.
- 4) Press the left button () or right button () to decrease or increase the value.
- 5) Press the Enter button () to accept the current year, indicating the 2-digit reverse color display of the month, indicating that it can be set.
- 6) Press the left button () or the right button () to decrease or increase the value
- 7) Press the Enter button () to accept the current month, indicating the 2-digit reverse color display of the date, indicating that it can be set
- 8) Press the left button () or right button () to decrease or increase the value.
- 9) Press the Enter button () to accept the current date and the screen displays “DATE”
- 10) Press the left button () or right button (), until the screen display “EXIT”
- 11) Press the Enter button () to return to the “SETUP” screen”

5 Time setting

- 1) In the “SETUP” interface, press the Enter button (⏏), the screen displays “OUTPUT OPTION”.
- 2) Press the left button (◀) or right button (▶), until the screen display “TIME”.
- 3) Press the Enter button (⏏), the screen displays the current time of the system, indicating that the 2-digit number of the hour is displayed in reverse color, indicating that it can be set.
- 4) Press the left button (◀) or right button (▶) to decrease or increase the value.
- 5) Press the Enter button (⏏) to accept the current hour, indicating the 2-digit reverse color display of the minutes, indicating that it can be set.
- 6) Press the left button (◀) or the right button (▶) to decrease or increase the value
- 7) Press the Enter button (⏏) to accept the current minutes, indicating that the 2-digit reverse color display of the second, indicating that it can be set .
- 8) Press the left button (◀) or right button (▶) to decrease or increase the value.
- 9) Press the Enter button (⏏) to accept the current second and the screen displays “Time setting”
- 10) Press the left button (◀) or right button (▶), until the screen display “EXIT”
- 11) Press the Enter button (⏏) to return to the “SETUP” screen”

6 Unit setting

- 1) In the “SETUP” interface, press the Enter button (⏏), the screen displays “OUTPUT OPTION”.
- 2) Press the left button (◀) twice, the screen will display “UNITS”.
- 3) Press the Enter button (⏏), the screen displays “mmol/L” (default); press the left button (◀) or right button (▶), the screen displays “mg/dL”.
- 4) Select the unit to be used, press the Enter button (⏏), and the screen displays “UNITS”.
- 5) Press the right button (▶) and the screen will display “EXIT”
- 6) Press the Enter button (⏏) to return to the Settings screen.

7 Query record

- 1) In the “QUERY” interface, press the Enter button (⏏), the screen displays “LIPIDS”, press the right button (▶), the screen displays “QC”
- 2) After selecting “LIPIDS” or “QC”, press the Enter button (⏏), the screen displays the date and time of the most recent record.
- 3) Press the right button (▶) to display the date and time of the next record, press the back button (⏏), the screen displays “LIPIDS” or “QC” (according to 2))
- 4) After selecting a certain record, press the Enter button (◀), the screen displays the detection

result, press the left button (◀) or right button (▶) to view the results of different items or return to the previous level; press the Enter button (⏎), if Set to "Printer" in "SETUP" -> "OUTPUT OPTION", and the connection is successful, the result will be printed out by the printer, and then returned to the previous level

- 5) In the "LIPIDS" or "QC" interface, press the left button (◀) or the right button (▶) until the screen displays "EXIT".
- 6) Press the Enter button (⏎) to return to the "QUERY" interface.

8 Clean Record

- 1) On the "TOOL" interface, press the Enter button (⏎) and the screen displays "CHECK STRIP".
- 2) Press the left button (◀) or right button (▶) until the screen displays "CLEAR RECORDS".
- 3) Press the Enter button (⏎) and the screen will display "CANCEL".
- 4) Press the left button (◀) or right button (▶), the screen will display "YES"
- 5) Press the Enter button (⏎), the screen will display "CLEARING", then "CLEARED" will be displayed, then "Clear Record" will be displayed.
- 6) Press the right button (▶) and the screen will display "EXIT".
- 7) Press the Enter button (⏎) to return to the "TOOL" interface.

Chapter 5

Instrument Calibration

Chapter 5 Instrument Calibration

1 Check Standard Strip

Each analyzer with a standard strip is used for verifying the basic functions of the instrument. When not in use, it should be kept in the original bag.

It is recommended to use the standard strip to test the analyzer in the following cases.

- Use the analyzer for the first time
- Inadvertently drop the analyzer
- Have doubts about the test results

The steps are as follows:

- 1) On the “TOOL” interface, press the Enter button () and the screen displays “CHECK STRIP”.
- 2) Press the Enter button (), the screen displays “INSERT STRIP”, insert the standard strip into the test strip slot
- 3) The screen displays “TESTING” and then “PASSED” (if “ FAILED” is displayed, please refer to the Maintenance and Troubleshooting section)
- 4) Press any button and the screen will display “CHECK STRIP”
- 5) Press the left button () or right button () until the screen displays “EXIT”
- 6) Press the Enter button () to return to the “TOOL” interface.

2 QC Test

QC testing is used to verify the performance of the entire system, including analyzers, IC cards, and test strips.

Quality control is required in the following cases:

- Replace the new Lot test strip
- The analyzer has not been used for more than 1 month.
- Changes in storage or operation location
- Doubt about the test results

Before performing the control test, please check if the following items are available:

- The Analyzer
- Test strips (packages are included in each test strip package, please read carefully before testing)
- IC card with the same Lot NO.as the test strip
- Quality control products

The steps are as follows:

- 1) On the “Tool” interface, press the Enter button () and the screen displays “CHECK STRIP”.
- 2) Press the right button (), the screen displays “QC TEST”
- 3) Press the Enter button (), the screen will display “CHECK LOT NO.” Please confirm whether the displayed Lot NO. and the Lot NO. on the package are consistent. If it is inconsistent, please stop the test and replace it with the IC card of the same Lot NO.
- 4) When the screen displays “INSERT STRIP”, insert the test strip into the test strip slot.
- 5) When the screen displays “APPLY SAMPLE”, add the sample of the control to the sample hole of the test strip.
- 6) The screen displays “QC TEST”
- 7) After about 2 minutes, the result will be displayed on the screen (if “OUTPUT OPTION” is set to “Printer” and the connection is successful, the result will be printed by the printer), press Left button () or right button () to view the results of different projects
- 8) Remove the test strip and discard
- 9) Press the Enter button () to repeat 3) ~ 8)
- 10) If you want to stop the test, you can press any button when the “INSERT STRIP” is displayed, and the screen displays “QC TEST”.
- 11) Press the left button () or right button () until the screen displays “EXIT”
- 12) Press the Enter button () to return to the “TOOL” interface.

Chapter 6

Maintenance and management

Chapter 6 Maintenance and Management

1. Routine maintenance and management

When starting the work, follow the "Chapter 3 Preparation" to perform the maintenance work at the start of the work. Make sure the insertion port is dry before starting the test.



When performing the test, please read the reagent strip instructions carefully and follow the instructions in the reagent strip instructions. Please take the kit with gloves. When testing the kit, do not place the kit directly on the instrument to prevent the sample from leaking out and contaminating the instrument.

2. Regular maintenance and management

If the instrument is contaminated, it may cause infection to the operator and the instrument housing needs to be cleaned weekly. Gloves must be worn when cleaning.

Wipe the surface of the instrument shell and the display with a sterile cotton containing 75% alcohol while the instrument is turned off. Gently wipe the reagent strip insertion port with a 75% alcohol lens paper to ensure that there is no dirt or dust on the glass inside the insertion port.



When cleaning, please be careful not to let the cleaning liquid into the machine to avoid malfunction.

Any parts and accessories of this instrument must be repaired and replaced by the company or its agent, and the damage caused by self-removal and replacement, we do not assume any responsibility.

3. Troubleshooting

PROBLEM	POSSIBLE REASON	SOLUTION
Date/Time Error	· Date/time setting error · Date/time information is lost	· Date/time setting error · Date/time information is lost
When the standard strip is self-tested, it shows "Test Failed".	· The test strip slot needs to be cleaned · Standard strip is damaged or needs cleaning	· Clean the analyzer test strip slot and retest · Retest after cleaning the standard strip · Retest using the alternate standard strip · If the test fails, please contact customer service
IC card Error	· IC card installation error · IC card is damaged	· Date/time setting error · Date/time information is lost
Test Error	· Insufficient sample size	· Replace the test strip with a sufficient amount of sample retest
Hlgh Temp	· The ambient temperature of the analyzer is higher than its operating temperature	· Replace the environment and start testing when the analyzer reaches its operating temperature
Low Temp	· The ambient temperature of the analyzer is lower than its operating temperature.	
Lot Expiration	· The test strip expires · IC card installation error · Date setting error	· Test strip validity period · Reinstall the IC card · Check the analyzer date and reset the date
Replace Battery	· Analyzer battery needs to be replaced	· Replace the new alkaline battery
Test interruption	· The test strip is not correctly inserted into the slot · Take out the test strip before the test ends	· Date/time setting error · Date/time information is lost
Unable to print test results	· closed (the printer ERROR indicator is red) · Bluetooth is not connected or the connection is broken (printer Bluetooth indicator is not lit)	· Close the top cover of the printer (the ERROR indicator does not light) · Reset and connect the printer (the Bluetooth indicator is green)
Abnormal test result	· The test strip is not stored properly. · Damaged battery · The analyzer is not properly stored · The test strip slot needs to be cleaned · IC card and test strip Lot number are different	· Replace the new test strip and retest · Conduct QC test to confirm that the test result is within the scope of quality control · Replace with new alkaline battery retest · Ensure that the analyzer is retested in an environment that meets operational requirements · Clean the analyzer test strip slot and retest · Retest with IC card and test strip of the same Lot number
A displayed result reads<	· The detection result is lower than the analyzer detection range	· If you have related symptoms at the same time, please see a doctor promptly · Repeat the test. · Run QC test and confirm that controls are in range
A displayed result reads>	· The detection result is higher than the analyzer detection range	
LDL-C (calculated values) Display reads "-----"	· TC、TG、HDL-C at least one item is out of scope or TG>4.52 mmol/L	· Judging based on TC, TG, and HDL-C test results
TC/HDL-C Display reads "-----"	· TC、HDL-C at least one item is out of scope	· Replace the test strip with a sufficient amount of sample retest

Warranty

This instrument has passed the company's strict inspection and is a qualified product. In the event of failure during use, please contact the company or its agency, We will carry out maintenance according to the warranty.

Warranty provisions

Warranty period	The warranty period is one year after installation. (recorded on the warranty)
Warranty content	According to the user guide, but it still fails during the warranty period, the company is responsible for free repair.
Non-warranty item	During the warranty period , the company shall repairs the following contents for a fee: 1. Failure to use according to the user guide, malfunction or damage. 2. The parts, circuits of this product shall be modified without premission, and cause failure or damage. 3. Suffering from a strong impact such as an accidental fall, failure or damage. 4. Irresistible factors such as fires and earthquakes, causing malfunction or damage. 5. Failure or damage caused by unspecified power supply (voltage, frequency) or abnormal voltage. 6. Failure caused by repair, adjustment, or modification of a service center not designated by the company or the company.

- ※The consumable parts described in the user guide are not subject to the warranty.
- ※The warranty period for parts repaired or replaced during the warranty period shall be the date stated on the instrument's factory warranty.
- ※Repairs outside the warranty period are for paid services.

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