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UC-32A

Urine Analyzer

OPERATION MANUAL

URIT Medical Electronic Co.,Ltd.

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Copyright and Declaration

Copyright © URIT Medical Electronic Co., Ltd.

All contents in this manual were strictly compiled according to related laws and regulations in China, as well as the specific condition of UC-32A urine analyzer, covering all the updated information before printing. URIT is fully responsible for the revision and explanation of the manual, and reserves the right to renovate the relevant contents without separate notification. Some of the demonstration pictures are for reference and subject to real object if any differences.

All the information included is protected by copyright. No part of this document may be reproduced, stored or transmitted in any form or by any means unless written authorization by URIT.

All instructions must be followed strictly in operation. In no event should URIT be responsible for failures, errors and other liabilities resulting from user's

noncompliance with the procedures and precautions outlined herein.

Limitation of Liability

URIT warrants to the original purchaser that this instrument will be free from defects in materials and workmanship for a period of one year from the later of the date of original purchase or installation.

URIT assumes no liability in the following situations even during the period of warranty.

1. Failure due to abuse the instrument or neglect the maintenance.

2. Use reagents and accessories other than manufactured or recommended by URIT.

3. Failure due to operate not under the instructions described in the manual.

4. Replace accessories not specified by URIT, or after maintenance or repair by a service agent not approved or authorized by URIT.

NOTE:

URIT makes no warranties, either expresses or implied, as to product quality, performance, and value as a commodity or applicability for any particular purpose.

Technical service and troubleshooting are provided by URIT. If the instrument has malfunction, please contact the agency authorized by URIT.

CAUTION:

THE INSTRUMENT IS FOR PROFESSIONAL AND PRESCRIPTION USE ONLY.

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Preface

This operating manual describes in detail the installation, structure, operation and maintenance of UC-32A urine analyzer (Hereinafter we simple call the UC-32A urine analyzer as Instrument). Please carefully read through this manual before using the instrument and follow the instructions presented in the manual to perform measurements.

Caution

- **This instrument uses urine as sample, which may carry pathogenic microbes that can cause infectious disease. Please wear protective gloves to prevent exposure to pathogenic microbes during operation or maintenance. If the sample is in contact with the skin, please clean it in time.**
- **The instrument operator must read the manual carefully before operating instrument.**

Symbols

	Consult instructions for use		
	Protect from heat and radioactive sources		
	Electrical and electronic products recycling symbol		
	Environment-Friendly Use Period		
EC REP	Authorized representative in European Community		
	Class II equipment		direct-current (DC)
	Caution		Biological risks
	Manufacturer	SN	Serial number
	Keep dry		Date of manufacture
	Use-by date	IVD	In Vitro Diagnostic medical device
+	Positive pole	-	Negative pole

Warnings and Precautions

- **The instrument power supply is 5V DC or two AA alkaline batteries, please pay attention to the battery polarity when installing the battery.**
- **Only the accompanying AC adapter is allowed.**
- **Remove the battery from the instrument when the battery is used up or the instrument is not used for a long time.**
- **Replace the waste batteries please in accordance with the relevant local laws and regulations properly handled.**
- **Install the instrument in a ventilated room where temperature is maintained between 15℃~30℃ and humidity is less than 80%.**
- **When the instrument is moved to a different environment, leave it for one hour until it returns to the room**

temperature before measurement.

- Leave at least 10 cm space to the front side of the instrument.
- Use only the URIT reagent strips and carefully read through the package inserts of the reagent strips.
- Do not use attachments that are not provided or recommended by the manufacturer.
- Turn off the power switch and unplug the power cord immediately if the instrument gives off odor or smoke, otherwise it will cause fire, electric shock or injury. If this happens, please contact the after-sale service department.
- Do not expose the instrument to corrosive and flammable gas, direct sunlight or wind.
- The instrument should be placed on a level, stable and vibration-free worktable.

- **Do not place in the storage of chemicals or near items that produce corrosive gases and electromagnetic interference.**
- **Do not repair or rebuild the instrument by yourself, in order to avoid damage to the instrument or injury.**
- **Keep the instrument away from magnetic sources or devices that generate electromagnetic wave.**
- **Keep the instrument away from liquids, dust and physical shocks or impacts.**
- **After the instrument is abandoned, it should be handled in accordance with the regulations on Recycling and disposal of waste Electrical and Electronic products.**
- **When preparing and testing samples, please be careful. If the samples contact with skin carelessly, please wash them in time.**
- **Used samples, test strips, strip trays,**

protective gloves, etc., should be handled in accordance with the relevant local regulations.

- The result tested by the instrument can only be applied to screening some related diseases in the group according to the detection results of human urine. It can't be used directly as evidence for diagnosing diseases.

1. Instrument Introduction

1.1 Instrument Features

■ Compact and portable

The instrument weighs 190g (battery-free) and only has the size of a palm, making it easy to carry

■ Simple operation

Insert the strip tray into the tray conveyor and the instrument will test automatically. The test results are displayed on display screen, and it can also be sent to external devices through the Bluetooth or USB interface.

■ Color display screen

The color display screen makes the display information richer and the abnormal detection results easier to recognize.

■ Corrective features

1) Eliminate the effect of chromaturia by using the color correction test pad.

2) Correct specific gravity based on pH readings.

■ **Convenient daily maintenance**

Strip tray can be easily detached for daily cleaning. Using LED as light source, so you do not need to replace sense light.

■ **Automatic identification of reagent strip type**

The instrument can automatically identify the type of the reagent strip and is more intelligent.

■ **Auto update of memory**

Up to 1200 samples can be stored in memory. You can query or via Bluetooth interface send test results to an external device. When results exceed 1200, the oldest will be deleted automatically and record the new data.

■ **Separation-Type Printer (Optional)**

Separation-Type Printer, automatic printing test results after testing.

■ **Normal work without external power supply**

The instrument have two AA alkaline batteries , it can continuously test 300 samples

■ **Accuracy of the reagent strip for urine analysis**

No more than one order of magnitude of difference between the test result and the corresponding reference value, and no reverse difference shall occur. A positive reference solution shall not produce a negative result, and a negative reference solution shall not produce a positive result.

1.2 Intended Use

The instrument can be used in combination with urine reagent strips for semi-quantitative or qualitative detection of biochemical components in urine samples, which can provide reference for clinical examination and diagnosis. The items that can be detected are Urobilinogen (URO), Bilirubin (BIL), Ketone (KET), Blood (BLD), Protein (PRO), Nitrite (NIT), Leukocyte (LEU), Glucose (GLU), Specific Gravity (SG), pH, Microalbumin (MA), Creatinine (CR), Vitamin C (VC) and Calcium (Ca).

The instrument applies to medical institutions for

the urine test. The instrument is for professional, in vitro diagnostic use (IVD). The result tested by the instrument can only be applied to screening some related diseases in the group according to the detection results of human urine. It can't be used directly as evidence for diagnosing diseases.

1.3 Contraindication

None.

1.4 Specifications

1.4.1 Performance of the instrument

- Reagent Strips: HC-2U, HC-3U, HC-4U, HC-6U, HC-ACR, HC-4K, HC-5K, HC-6K, HC-1S, HC-3S, HC-4S, HC-6S, HC-1D, HC-2D, HC-4D, HC-6D, HC-8T, HC-10T, HC-10TA, HC-12TA, HC-14TA.
- Analytes: Leukocyte (LEU), Ketone (KET), Nitrite (NIT), Urobilinogen (URO), Bilirubin (BIL), Protein (PRO), Glucose (GLU), Specific Gravity (SG), Blood (BLD), pH,

Creatinine (CR), Microalbumin (MA), Vitamin C (VC) and Calcium (Ca).

- Measuring Principle:Reflectance photometry.
- Measurement Wavelength: 470 nm, 550 nm, 620 nm, 720 nm.
- Sample Supply Method: Manual dipping.
- Throughput: 50±1 s/test.
- Measuring Mode: Automatic single measuring mode.
- Display: Color display screen, which can display operational information of the instrument and test results, etc.
- Memory: Up to 1200 samples.
- Specific gravity Correction: Automatically corrected based on pH readings.
- Chromaturia Correction: Automatically corrected by color correction test pad.
- Data Output: Test results can be transmitted to external devices via Bluetooth or USB interface.

- Operating Condition: Temperature: 5℃~40℃; Humidity: ≤ 80%. (Optimum use temperature: 23℃~28℃)
- Measuring Condition:

  Temperature: 15℃~30℃;

  Humidity: ≤ 80% (Recommended).
- Dimension:

  130 mm × 70 mm × 29 mm (L×W×H).
- Weight: 190 g (No battery).
- Power Supply: Two AA alkaline batteries or 5 V⎓ 3 A.

The adapter: Input: 100 V-240 V～, 50/60Hz.

- Operating frequency: 2.402-2.480GHz.
- Maximum transmitting power: 4dBm
- Environment-Friendly Use Period: 4 years.

1.4.2 Performance of the printer

- Printer: Thermal line printer.
- Printer Paper: Thermal paper.
- Dimension:

  110 mm × 80 mm × 38 mm (L×W×H).

- Weight: 180 g (without thermal paper).
- Operating Voltage: 5 V⎓ .
- Power Supply: Printer: 5 V⎓ 3 A.

  The adapter: Input: 100 V-240 V～, 50/60Hz.
- Power Consumption: 13.5 W.
- Environment-Friendly Use Period: 10 years.

1.5 Structure and Principle

The instrument is basically composed of optical-electronic sensor system, mechanism and I/V converter, etc. Instrument structure as shown in figure 1.1.

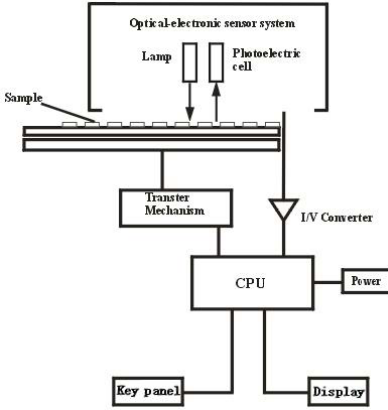

Figure 1.1

The optical-electronic sensor system consists of a light source and a light receptor. The light from the light source falls on the reagent pads on the strip. The absorbance and reflectance vary with the color development of reagent pad, i.e. The degree of color development is proportional to the concentration of analyte in urine: if the color of reagent pad is darker, more light is absorbed and less light is reflected, vice versa.

The reflected light is transmitted into the Optical-electronic sensor system where the optical signals are transformed into electric signals. Then the electric signals are transformed by I/V convert then processed by CPU. Finally, test results are displayed on color display.

1.6 Appearance and Components

Instrument (figure 1.2)

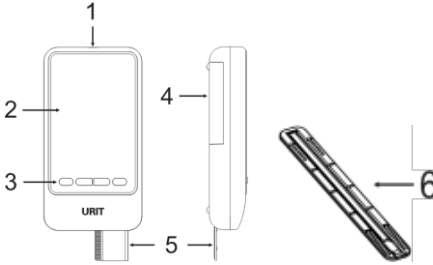

Figure 1.2

Printer (figure 1.3)

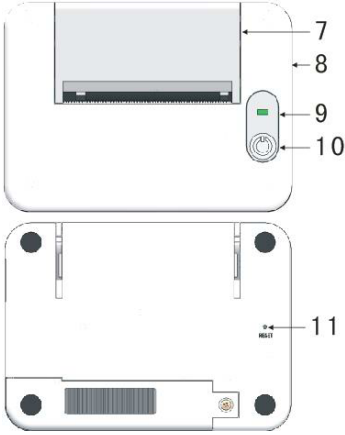

Figure 1.3

No.	Items	Function
1	USB interface	a. For charging. Charging voltage is 5 V DC. b. For transmitting data.
2	Display screen	Displays operational information, test results, etc.

3	Key panel	Used for operating instruments. The first button on the left is the start key. Press 3 seconds to start the instrument.
4	Battery cover	Two AA alkaline batteries can be placed when turned on.
5	Tray conveyor	Used to place the strip tray.
6	Strip tray	Used to place the reagent strip.
7	Printer cover	Open this cover to load a roll of printer paper.
8	Printer USB interface	Connect the power.
9	The Printer indicator light	The green LED light on means that the printer is working.

10	The printer power switch	Long press for 3 seconds to start-up. After start-up press this key into paper skip status. When turned on, long press for 3 seconds to shutdown.
11	The printer reset key	The printer will be re-start after you push down this key.

2. Installation

2.1 Action upon delivery

Please check the instrument and accessories as below steps after receiving the carton:

1) Carefully unpack the shipping carton and take out the instrument and accessories.

2) Check the contents for quantity and visible signs of damage according to the accompanying Packing List.

3) Please notify your local distributor immediately if any damage or loss exists.

2.2 Instructions for use

NOTE 1 It is the manufacturer's responsibility to provide equipment electromagnetic compatibility information to the customer or user.

NOTE 2 It is the user's responsibility to ensure that a compatible electromagnetic environment for

the equipment can be maintained in order that the device will perform as intended.

Caution

1. Instructions for IVD medical equipment for self-testing:

a) Use of this instrument in a dry environment, especially if synthetic materials are present (synthetic clothing, carpets etc.) may cause damaging electrostatic discharges that may cause erroneous results.

b) Do not use this instrument in close proximity to sources of strong electromagnetic radiation, as these may interfere with the proper operation.

2. Instructions for IVD medical equipment for professional use:

a) The IVD medical equipment complies with the emission and immunity requirements of IEC 61326-1 and IEC 61326-2-6.

b) This equipment has been designed and tested to CISPR 11 Class A. In a domestic environment it may cause radio interference, in which case, you may need to take measures to mitigate the interference.

c) The electromagnetic environment should be evaluated prior to operation of the device.

d) Do not use this device in close proximity to sources of strong electromagnetic radiation (e.g. unshielded intentional RF sources), as these can interfere with the proper operation.

Caution

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired

operation.

Caution

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by

one or more of the following measures:

--Reorient or relocate the receiving antenna.

--Increase the separation between the equipment and receiver.

--Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

--Consult the dealer or an experienced radio/TV technician for help.

CAUTION: To comply with the limits of the Class B digital device, pursuant to Part 15 of the FCC Rules, this device is to comply with Class B limits. All peripherals must be shielded and grounded. Operation with non-certified peripherals or non-shielded cables my result in interference to radio or reception.

MODIFICATION: Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the device.

Caution

Hereby, URIT Medical Electronic Co., Ltd., declares that this UC-32A urine analyzer is in compliance with the essential requirements and other relevant provisions of RE Directive 2014/53/EU. A copy of the full DoC is attached.

2.3 Installing the battery

Caution

1. When installing the battery, pay attention to the correct installation of the battery according to the battery polarity labeled in the battery bin of the instrument.

2. The instrument power supply is two AA alkaline batteries.

3. Remove the battery from the instrument

when the battery is used up or the instrument is not used for a long time.

4. Replace the waste batteries please in accordance with the relevant local laws and regulations properly handled.

1) Open the battery cover of the instrument.

2) Install two AA alkaline batteries in the instrument battery bin.

3) Cover the battery cover.

4) Press the start-up key to start the instrument, the instrument can start the work, indicating that the battery installation is correct.

2.4 Connect printer

1) Connect one end of the USB cable to the adapter (the adapter is connected to the power supply), one end to the USB interface of the printer, and one end to instrument, as shown in figure 2.1. The printer must be connected to power supply when in use.

2)Connect the instrument and printer via Bluetooth.

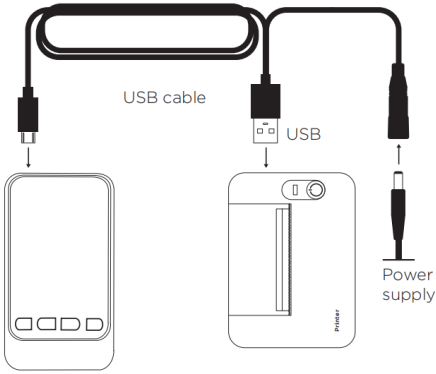

Figure 2.1

2.5 Loading Thermal Print Paper

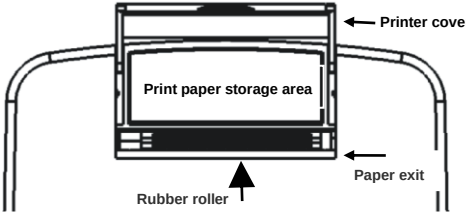

Figure 2.2

1) Open the printer cover in the direction of upward, as shown in figure 2.2.

2) Use your fingers slight lift the printer rubber roller

toward your direction, and then upward remove the printer rubber roller.

3) Load the paper roll, put the printer rubber roller upward the printer clip, then use your fingers downward slightly push it into clip.

4) Please make the paper roll extends from the printer paper exit and put it into printing paper roll storage area, then closed the printer cover.

Caution

1. Pay attention to the positive and negative of thermal printing paper. Print characters display only in the front of the paper roll, if installed backwards, the characters will not be printed.

2. Please leave enough length of print paper when install in order to make the paper roll extends from the print paper exit.

3. Please timely supply the print paper when it runs out.

4. Before load the print paper, please be sure to

check the print paper whether dry, if the print paper is moisture, then need to be changed in order to avoid the print paper jam.

5. Please reinstall if appears print paper jam situation.

3. Usage Precautions

3.1 Sample Usage Precautions

1) Be careful to take samples.

Urine samples may carry pathogenic microbes that can cause infectious diseases. Take the utmost care when handling urine. Wear protective gloves to avoid exposure to urine samples.

2) Use fresh urine samples (Collect within one hour).

Samples must be measured within one hour, otherwise, keep them in refrigerator to avoid deterioration.

3) Samples should be restored to the ambient temperature of the test

Allow the refrigerated samples to return to the room temperature before testing, otherwise, the test results may be on the low side. Samples just collected should be returned to the room

temperature before testing, otherwise, the test results may be higher.

4) Mix each sample well before measurement. Do not centrifugal separation.

If centrifugal separation is carried out, some components in the urine sample will precipitate, and some test items will not get accurate test results.

5) Sample volume should be enough to entirely soak all reagent pads on the strip.

You can't do the normal test if there are no enough samples.

6) Directly use the collected sample.

Do not add preservative, disinfectant or detergent to samples.

7) Keep samples away from direct sunlight.

Samples via direct sunlight goes bad and affect test results.

8) Sample containing Vitamin C can affect test results.

When test the sample which contains Vitamin C may lead the occult blood and glucose readings may be lower than the actual value.

9) Drug-administered urine and visual hematuria can affect test results.

Drug-administered urine and visual hematuria can affect test results and may not get the accurate test results.

3.2 Reagent Strips Usage Precautions

1) Please use the special reagent strips.

Use only the URIT reagent strips and carefully read through the package inserts of the reagent strips.

2) Please confirm before use.

Check the expiration date of reagent strips before use. Do not use the expired strips or strips that have discolored pads even if they are within the expiration date.

3) Reagent strips should be prepared before the test.

Only take out the required number of reagent strips

from bottle before measuring samples, and cap the bottle immediately. Exposing the reagent strips to air for a long time will deteriorate the compositions of the reagent strips.

4) Do not touch the reagent pads on the reagent strips.

Do not touch the reagent pads on the reagent strips. Doing so may affect test results.

5) Please keep desiccant.

Do not discard the desiccant in the reagent strip bottle before using up all reagent strips. Otherwise the reagent strip may go bad because absorb the moisture in the air.

3.3 Instrument Usage Precautions

1) The instrument should be used on a clean, flat and stable horizontal platform and avoid direct sunlight, strong magnetic field interference and splash.

2) The instrument should avoid prolonged exposure to excessive humidity and high

temperatures. It should be used in a room of appropriate size, preferably air conditioning, temperature and humidity in accordance with the technical requirements of the instrument. To ensure the accuracy of the test results, please keep the temperature and humidity of workshop consistent with the environmental conditions required by the urine strip used.

Caution

The accuracy of the test results cannot be guaranteed if the instrument's operating environment fails to meet the requirements of the urine reagent strip used.

3) The instrument should avoid being close to the sun, oven, heat source, radioactive source, etc., avoid excessive dust erosion, and avoid placing it on a vibrating table or refrigerator, and do not place the instrument in explosive air.

4) Observe the battery power of the instrument during use.

Caution

1. If you continue to do the tests during the low power situation, in that case it can't guarantee the accuracy of the test results.

2. Please do not wait for the battery to run out of charge before charging, otherwise it will affect battery life.

Please through observe the battery icon which in the instrument display screen to confirm the battery power. When the instrument indicates that the battery is low, please charge it in time.

4. The Instrument Use Procedures

4.1 Shut-down procedure

1) Turning on the power

Keep pressing the Start key for 3 seconds to turn on the power.

The instrument display screen lights up to display the welcome interface, the system self-test, the tray conveyor extends from the front of the instrument.

The functions of each icon of the instrument are as follows:

Project	Function
08:12:59	Display the system time of the instrument.
	Indicate that the instrument Bluetooth is connected to external devices.
	Indicate that the instrument is connected to an external power supply.
	Display the current status of battery.

	Indicate that the item is in a state of waiting to be tested.
	Indicate that test results are normal.
	Indicate that the test results are not within the normal range.

2) Turning off the power

Keep pressing the Start key for 3 seconds to turn off the power.

The tray conveyor will retract inside the instrument and the display will be turned off.

Caution

The instrument will automatically turn off if it is inactive for five consecutive minutes.

4.2 Routine Measurement

4.2.1 Precautions

Please read the following matters carefully and prepare samples to do the tests.

Biological risks

1. Put on protective gloves to avoid exposure to pathogenic microbes.

2. Dispose of used samples, reagent strips and gloves according to local regulations.

Caution

1. The instrument should be placed on a level, stable and vibration-free worktable.

2. Do not touch the tray conveyor when it is moving.

3. Verify that the use environment is compliant with the requirements when testing.

4. Do not move or vibrate the instrument during measurement. Otherwise, erroneous test result will occur, or reagent strip may be blocked inside the instrument.

4.2.2 Preparing samples

Please collect sufficient urine samples.:

Figure 4.1

Caution

The sample volume must be enough to soak all pads entirely on the reagent strip.

Caution

Do not centrifugal separation, otherwise will cause haemocyte precipitation and make some items can't get accurate test results.

4.2.3 Preparing reagent strips

Please refer to the package insert of reagent strips for specific information about how to handle reagent strips.

Caution

Do not use the reagent strip that has exceeded the service life, or the reagent strip that has not expired but the reagent changes color, otherwise, the accurate test results cannot be obtained.

4.2.4 Measuring samples

After you prepare the samples and reagent strips, please soaking the reagent strips with samples and then do the tests. The soaking time should use seconds as unit, so you should read the following steps completely to understand the operation steps.

Caution

To avoid hindering the movement of tray conveyor, leave at least 10 cm space to the front side of the instrument.

1) Verify that the instrument is in the main

interface and prepare the reagent strips and samples for use.

2) Prepare some blotting papers at hand for later use.

Used for remove the excess samples from the reagent strips.

3) Soak the reagent strip in the sample.

Caution

1. Be sure to make sure all the reagent strips are soaked in the sample. If the reagent block was not fully soaked, some of the items could not get the accurate test results.

2. The reagent strip should be soaked for approximately 2 seconds. If the immersion time is too short, the reagent strip can not be fully colored. On the contrary, too long time will cause the reagent component to flow out, thus the accurate detection results can not be obtained.

4) Remove the reagent strip from the sample, gently touch the edge of the reagent strip and suck out the excess urine.

5) Place the reagent strip on the strip tray.

When placing, it is important to ensure that the reagent strip is fully placed in tray groove, and that the reagent strip has one side of the reagent block facing up.

6) Insert the strip tray into the tray conveyor of the instrument, and the instrument will test automatically.

Note that the handle end of the reagent strip should be on the outside of the instrument, and make sure that the end of the strip tray touches the deepest slot of the tray conveyor.

Caution

1. The handle end of the reagent strip should be guaranteed to be on the outside of the instrument. If the reagent strip is in the wrong direction, the instrument will prompt for error.

2. Be sure to place the strip tray on the tray conveyor correctly. Incorrect position of strip tray will affect the accuracy of test results.

7) Test result will be displayed after the strip tray re-move to the front of the instrument.

The results will be transmitted to external devices via the Bluetooth interface if connected.

8) Take out the test tray.

4.2.5 When the measurement is completed

1) The used urine reagent strips, absorbent paper and other wastes should be discarded after detection..

2) Clean the strip tray.

Biological risks

Dispose of the waste in accordance with the relevant local regulations.

5. Instrument Checkup

5.1 Checkup

There are two check strips that come with the instrument. Use either one to check the performance of the instrument and compare the obtained results with the range printed on the check strip container. If the obtained results fall outside the range, use another check strip to repeat the test. If you continue to get out-of-range results, the instrument may not be working properly. Do not use the instrument. Please contact your local dealer.

We suggest you do the checkup or quality control (You can purchase the quality control material from URIT), if the following situations appear:

① Use new urine reagent strip.

② Instrument replacing operators.

③ Have doubt for the test results.

Caution

1. The check strip only used for daily check.

2. Please do not soak the check strip into any liquid.

3. Please keep the check strip clean.

4. Compare the obtained results with the range printed on the check strip container. If the obtained results inside the range that means the instrument can be normal use; if not please check the check strip is all right or not.

5. The range printed on the check strip container can only be used as the basis for judging instruments are in good condition, not as a reference for clinical diagnosis.

5.2 Checkup Operate

1) Insert the strip tray into the tray conveyor of the instrument. Note that the handle end of the reagent strip should be on the outside of the instrument, and make sure that the end of the strip tray touches

the deepest slot of the tray conveyor. Then the instrument will test automatically.

Caution

1. The handle end of the reagent strip should be guaranteed to be on the outside of the instrument. If the reagent strip is in the wrong direction, the instrument will prompt for the error.

2. Be sure to place the reagent strip on the strip holder correctly. Incorrect position of reagent strip will affect the accuracy of test results.

2) Take back the check strip when the test finished.

6. Function Introduction

6.1 Function Introduction of Printer

The instrument and printer can be connected to the Bluetooth interface. The “ ” will show in the instrument status bar when the instrument is open printer function and the printer has been successfully connected to the instrument.

6.2 Test Function

Click the second button on the right at the main interface to select the range for automatic identification of reagent strip type. If testing 14TA reagent strip, please select [14TA], otherwise, please select [Auto]. Insert the strip tray into the tray conveyor at the main interface and the instrument will test automatically. After the instrument completes the test, the results will be displayed in semi-quantitative form and output.

Caution

The result tested by the instrument can only be applied to screening some related diseases in the group according to the detection results of human urine. It can't be used directly as evidence for diagnosing diseases.

6.3 Introduction of Testing Result

1) The test results are as shown in figure 6.1.

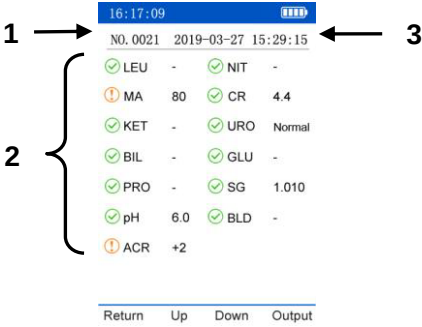

Figure 6.1

No.	Items	Content
1	Measurement number	The sequence number of the current sample test results.
2	Test results	Test items and results. (The system will display the corresponding test items based on the type of reagent strip detected.) The test results are represented by a semi-quantitative symbol. (See Appendix for a comparison table between semi-quantitative symbols and concentration values.) The test item is preceded by ✓, which indicates that the result is within the normal range.

		The test item is preceded by ⓘ, which indicates that the result is not within the normal range.
3	Date and Time	The date and time of the current test results.

2) Output test result.

A. The results will be transmitted to external devices via the Bluetooth interface if connected.

B. If the instrument is successfully connected to the printer, the test results will be printed.

C. Connect the computer through USB and export the test results to Lis software.

6.4 Reviewing Results

Click the second button on the left at the main interface to enter the review interface. The review interface will display the instrument store test results.

The function of each button is as follows:

Key	Function
	Return to main Interface.
	View previous result.
	View the next result.
	For transmitting data.

6.5 Setting

Please click【Setting】key under the standby screen into setting menu which has following functions:

1) 【QR code】: Scan the QR code and connect to the mobile APP.

2) 【Unit】: You can choose the unit is Char, SI, Conv, Char+Si or Char+Conv.

3) 【Ratio】: ACR ratio is available.

4） 【Time】: You can set the system time.

5） 【Bluetooth】:You can choose the Bluetooth

connection mode is printer mode or phone mode. If you need to connect to the mobile APP, please switch to phone mode. If the printer mode is selected, press [Con] key will connect the printer and press [Discon] key will disconnect the Bluetooth device.

6） 【Language】: Sets the system language.

7） 【Delete Data】: Clear all data.

8） 【Update firmware】: After clicking this button, a dialog box appears on the screen, which displays “connect USB cable to device and PC.Copy firmware,Press [Yes]”. When firmware is copied to the instrument, press [Yes], and the instrument program will be automatically upgraded.

6.6 How to connect mobile APP

1) Mobile phone with Android system:

A. Turn on Bluetooth. Mobile phones with Android version 6 and above need to be authorized with WeChat location information, while mobile phones with Android version 10 and above need to turn on

the system switch of geographical location.

B. Download WeChat APP -- register WeChat account -- Search "UC32" -- enter app interface.

C. Click search or scan to search instrument or scan the QR code of urine analyzer setting interface to directly connect the instrument and app.

D. Click "synchronize data" in app data center interface to synchronize data.

2) Mobile phone with iOS system:

A. Turn on Bluetooth. When the iPhone connects to the instrument for the first time, it is necessary to set the bluetooth access on WeChat APP.

B. Download WeChat APP -- register WeChat account -- Search "UC32" -- enter app interface.

C. Connect by searching the instrument name..

D. Click "synchronize data" in app data center interface to synchronize data.

6.7 Mobile APP introduction

The mobile app is divided into three modules: Device Management, Health Assessment and Data Center. As shown in figure 6.2.

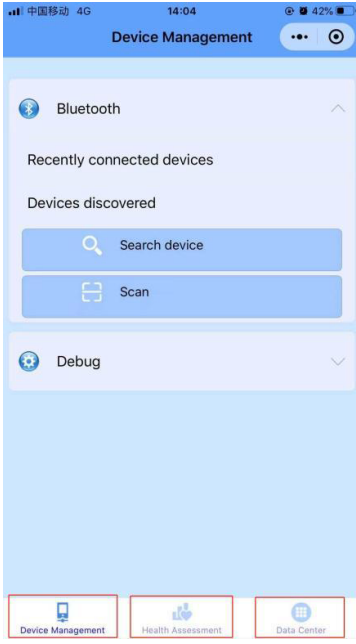

Figure 6.2

1) Device Management

Manage the connected devices in the Device Management interface.

2) Health Assessment

The latest comprehensive health assessment is displayed in the Health Assessment interface.

3) Data Center

In the data center, you can synchronize all the test results data on the urine analyzer, and you can also switch the account number.

7. Maintenance

7.1 Precautions

Biological risks

1. To avoid exposure to pathogenic microbes, put on protective gloves during maintenance.

2. Dispose of used reagent strips, fabric, and protective gloves according to local regulations.

7.2 General cleaning

Keep the instrument clean and dust-free. If cleaning is needed, clean the instrument surface with clean paper or gauze dipped with medical alcohol.. Any oil, ester, silica gel and lubricant are not advisable for use on the instrument.

7.3 Cleaning the strip tray (Daily)

During measurements, urine may adhere to the

strip tray which will contaminate the reagent strip. So, it is necessary to wash the strip tray each day when all measurements are completed.

1）Turn on the power and wait for self-check of the instrument.

2) Please remove the strip tray from the tray conveyor.

3）Clean the strip tray.

Clean the strip tray by using mild detergent, and wash the adhered urine off with running water. Use soft fabric to dry the strip tray.

4）Put the strip tray on the tray conveyor.

8. Storage and Handling

8.1 Handling

UC-32A is a precise instrument. Transport it with utmost care and avoid moisture, sunlight and collision.

Transportation Condition:-20℃~55℃, RH ≤ 95%, 75 kPa~106 kPa

8.2 Storage

The packed instrument should be stored in a ventilated room. Do not store the instrument with toxicant, injurant and corrosive.

Storage Condition: -20℃~55℃, RH ≤ 95%,

75 kPa~106 kPa

9. Troubleshooting

Fault message will display on the display if there is something wrong with the instrument. Please refer to the following. If you still can not resolve the problem, please contact your dealers or after-sales service unit immediately.

Caution

1. If an fault message appears, clear the error and retest the sample using a new reagent strip. Correct results may not be yielded if the soaking-time of reagent strip is too long.

2. Any serious adverse event involving the device shall be reported to the manufacturer and the competent authority of the member country where the user or patient is located.

Troubleshooting Table

Trouble Code	Possible Cause	Handling Method
T-1	Test Sensor Error	Please check to see if the strip tray is falling off. Restart the instrument. If still unable to resolve, please contact the after-sales service unit.
T-2	Strip Motor Error	Check if the strip tray is installed correctly.
T-3	Strip Type Error	Please confirm that you are using the URIT brand HC series urine reagent strip.
T-4	No strip	Place a reagent strip on the strip tray.

Appendix

The instrument test results and the density contrast compare table

Item	Semi-Quantitative Symbol and Concentration							
LEU	Semi-Quantitative	-	+-	+1	+2	+3		
	leu/μL(Conv.)	0	15	70	125	500		
	CELL/μL(SI)	0	15	70	125	500		
KET	Semi-Quantitative	-	+-	+1	+2	+3		
	mg/dL(Conv.)	0	5	15	40	80		
	mmol/L(SI)	0	0.5	1.5	4.0	8.0		
NIT	Semi-Quantitative	-	+					
	mg/dL(Conv.)	Neg	Pos					
	mmol/L(SI)	Neg	Pos					
URO	Semi-Quantitative			+1	+2	+3		
	mg/dL(Conv.)	Normal (Norm)		2.0	4.0	8.0		
	μmol/L(SI)			33	66	131		
BIL	Semi-Quantitative	-		+1	+2	+3		
	mg/dL(Conv.)	0		0.5	2.0	6.0		
	μmol/L(SI)	0		8.6	33	100		
PRO	Semi-Quantitative	-	+-	+1	+2	+3		
	mg/dL(Conv.)	0	15	30	100	300		
	g/L(SI)	0	0.15	0.3	1.0	3.0		
GLU	Semi-Quantitative	-	+-	+1	+2	+3	+4	
	mg/dL(Conv.)	0	50	100	250	500	1000	
	mmol/L(SI)	0	2.8	5.5	14	28	55	
SG	Semi-Quantitative	1.005	1.010	1.015	1.020	1.025	1.030	
BLD	Semi-Quantitative	-	+-	+1	+2	+3		
	mg/dL(Conv.)	0	0.03	0.075	0.24	0.6		
	CELL/μL(SI)	0	10	25	80	200		
pH	Semi-Quantitative	5.0 5.5	6.0 6.5	7.0	7.5 8.0	8.5	9.0	
VC	Semi-Quantitative	-	+-	+1	+2	+3		
	mg/dL(Conv.)	0	10	25	50	100		
	mmol/L(SI)	0	0.6	1.4	2.8	5.6		
CR	mg/dL(Conv.)	10	50	100	200	300		
	mmol/L(SI)	0.9	4.4	8.8	17.6	26.4		
Ca	mg/dL(Conv.)	4.0	10	20	30	40		
	mmol/L(SI)	1.0	2.5	5.0	7.5	10		
MA	mg/dL(Conv.)	1.0	3.0	8.0	15.0			
	mg/L(SI)	10	30	80	150			
ACR (MA/CR)	Semi-Quantitative	Normal (Norm)		+1	+2			
	mg/g(Conv.)	<30		30-300	>300			
	mg/mmol(SI)	<3.4		3.4-33.9	>33.9			