Content

1.Precautions

1.1 Precautions for use

- Do not open and touch the inside of the instrument, otherwise it may cause electric shock or instrument failure;
- Control the force of pressing and touching the button, or it may damage the button;
- Do not use in the high temperature, heavy wet and dusty environment as it has adverse effects on the instrument;
- Please use specified power supply voltage. If the voltage is too high or too low, the instrument will be not available. It may lead to instrument damage or electric shock;
- Once the metal core of the power cord is exposed, please replace a new power cord immediately to avoid electric shock or fire;
- In case of smoking or unpleasant odor from the instrument, please shut down the instrument and cut off the power source immediately. Do not use it until professional technical staff's inspection, maintenance, and troubleshooting confirmation. Otherwise, it may lead to instrument damage, electric shock, or fire;
- This instrument is only for indoor/outdoor use.

1.2 Precautions for storage

- Do not store the instrument in the heavy wet or poisonous environment or places where there is corrosive liquid or gas.
- Avoid direct sunlight in the storage place and please maintain appropriate temperature and humidity.

1.3 Precautions for moving

- When moving the instrument, do not lift up the instrument by grasping the screen part, but lift up from the lower part of the instrument back side, to avoid instrument damage.

1.4 Precautions for after-use

- For prevention of fire, please unplug the cord and cut off the power source when the instrument is not used for a long time;

• Please turn the power off after use and cover the instrument with a dust shield. Continuous switch-on may reduce the service life of the instrument; if the instrument is not covered with a dust shield for a long time, the falling dust will affect the accuracy of measurement.

1.5 Precautions for maintenance

• In case of instrument failure and repair is need, please contact professional and technical staff who is familiar with the circuit design of this instrument, or contact the local dealer or factory. The manufacturer is not responsible for consequences caused by unauthorized repair.

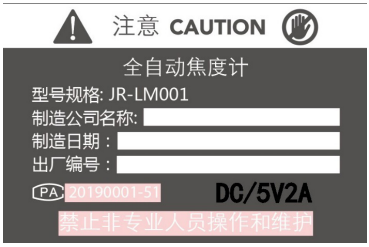
• Do not scrape the optical lens below the lens support, as the scratches will significantly reduce the accuracy and reliability of measurement;

• When cleaning the protective glass, blow off the dust of the glass with a balloon. If the glass is still dirty, slightly wipe the lens with a cloth. The protective lens shall be cleaned regularly. Uplift the lens support when cleaning, do not scratch the glass as it will affect the accuracy of measurement.

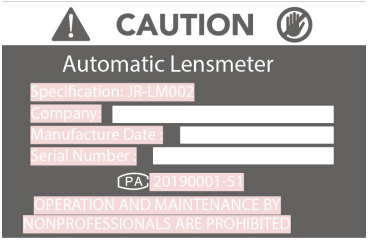
• Wipe the machine case with a dry and soft cloth when it is dirty. If the dirty part is a stain, slightly wipe it with neural detergent and dry it with a dry lens cleaner. To avoid the damages on the instrument, do not use organic solvent, such as oil paint, to wipe the instrument case.

1.6 Label description

• To draw the user's attention, there is a label on the back of the instrument. Please use the power source according to the label requirements to connect the external batteries.

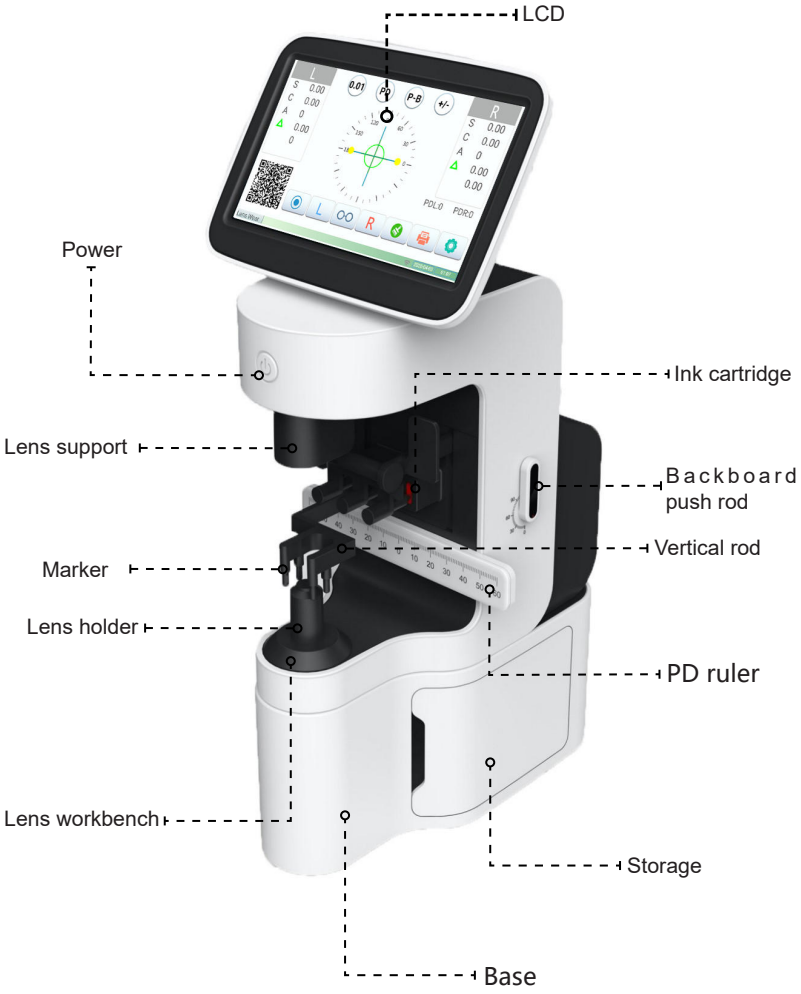


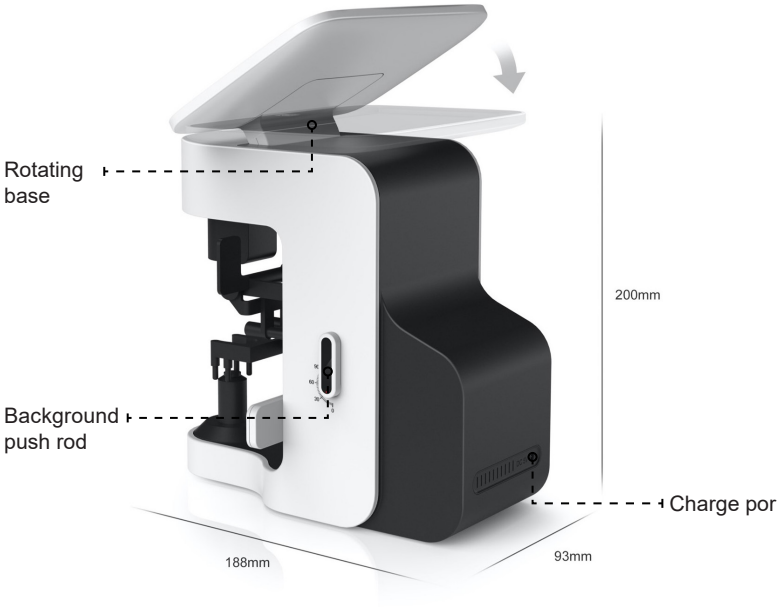
Label in China

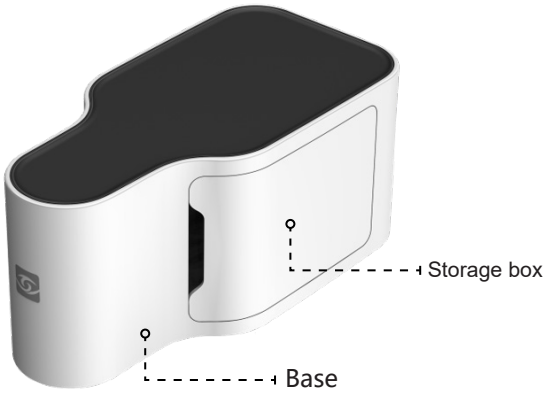


Label outside China

2.External view




Rotating base
Background push rod
200mm
Charge por
188mm
93mm


Storage box
Base

3.Main technical parameters

1. Range of measurement

Sphere: (0~±30)$^{m-1}$(reading accuracy: 0.01^{m-1}/0.06^{m-1}/0.12^{m-1}/0.25^{m-1})

Range of measurement		Accuracy
0^{m-1}, ≥ -5^{m-1}	0^{m-1}, ≤ +5^{m-1}	±0.01^{m-1}
<-5^{m-1}, ≥ -10^{m-1}	>+5^{m-1}, ≤ +10^{m-1}	±0.06^{m-1}
<-10^{m-1}, ≥ -15^{m-1}	>+10^{m-1}, ≤ +15^{m-1}	±0.09^{m-1}
<-15^{m-1}, ≥ -20^{m-1}	>+15^{m-1}, ≤ +20^{m-1}	±0.12^{m-1}
<-20^{m-1}, ≥ -30^{m-1}	>+20^{m-1}, ≤ +30^{m-1}	±0.12^{m-1}

CYL:(0~+10)$^{m-1}$ Reading accuracy (0.01^{m-1}/0.06^{m-1}/0.12^{m-1}/0.25^{m-1})

CYL AXIS: 0°~ 180* (Reading accuracy 1°)

ADD: (0~ 10)$^{m-1}$(Reading accuracy (0.01^{m-1}/0.06^{m-1}/0.12^{m-1}/0.25^{m-1})

CYL: 0~ 15Δ (0.01Δ)

Range of measurement	Accuracy
0 Δ, ≤ 5 Δ	0.1 Δ
< 5 Δ, ≤ 15 Δ	0.2 Δ

2. CYL display mode: +, +/-, -

3. Prism display mode: X-Y; rectangular coordinate H: I, O .V: U, D.
P-B: polar coordinates
mm: X and Y are expressed in mm

4.Reading resolution: 0.01^{m-1}/0.06^{m-1}/0.12^{m-1}/0.30^{m-1}

5.IPD measurement function

6. It can measure various lenses including single-version lens , bifocal lenses, trifocal lens, and progressive multi-focal lens

7. UVT measurement

8. Measurement of the blue light transmittance

9. Measurement of the lens abradability

10. Contact lens measurement

11. Transmittance of measurable lens: >10%; the requirement of transmittance on lens of over ±10 $^{m-1}$ diopters should be > 20%

12. Contact lens: 0~ +25 $^{m-1}$ BC (6.00 ~ 9: 00)mm

13. Display:7-inch color LCD

14. Menu: humanized design, easy-to-use

15. Lens diameter available at: 20mm - 100mm

16. Power: AC(100 ~ 240)V, (±10%)V; 50/60Hz; 40VA

17. Maximum power: 40VA

18. Net weight: 3kg

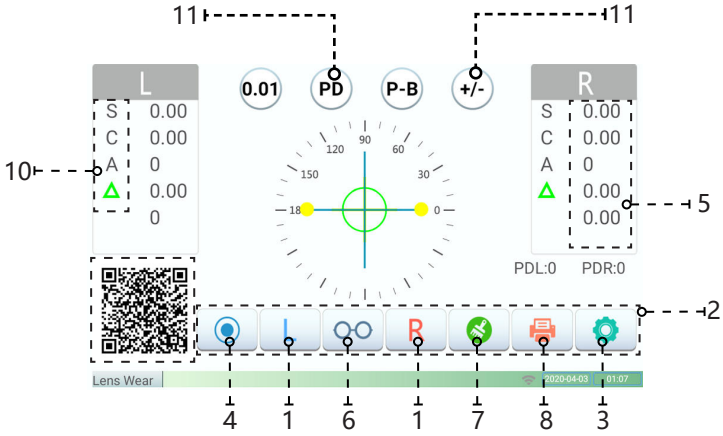
19. Instrument specification: 188*93*200mm (W*T*H)

20. Environment Condition

a. Temperature: (5~40)°C(Temperature for use)
(-20~60)°C (Temperature for storage/transport)
b. Humidity: (30~ 85)% (no condensation) (Humidity for use)
(10~95)% (Temperature for storage/transport)
c. Atmosphere pressure: (700~1060)hpa
d. Altitude: (0~ 3000)m
e. Others: no harmful dust or smoke.

21.Optional accessories: printer (External bluetooth thermal printer, paper width: 57mm)

4.Screen display



1.Left/right label

Refer to single-version lens, left/right lens measurement

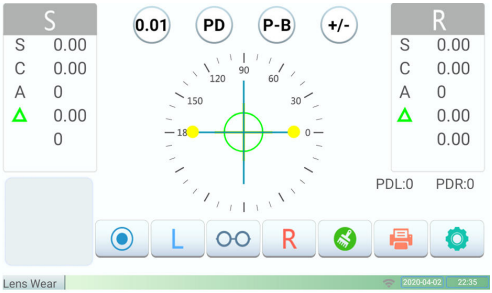
2. Menu: Function list

3. Setting

4. End: End the test

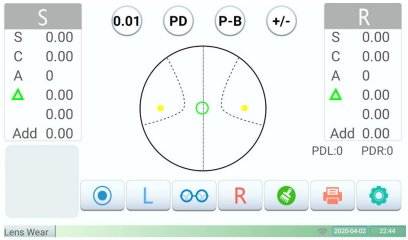
5. Measurement display area

6. Lens measurement interface switch



Interface of routine lens measurement

Interface of contact lens measurement



Interface of progressive multi-focal lens measurement

7. Clear the current data

8. Start the printer

9. QR code

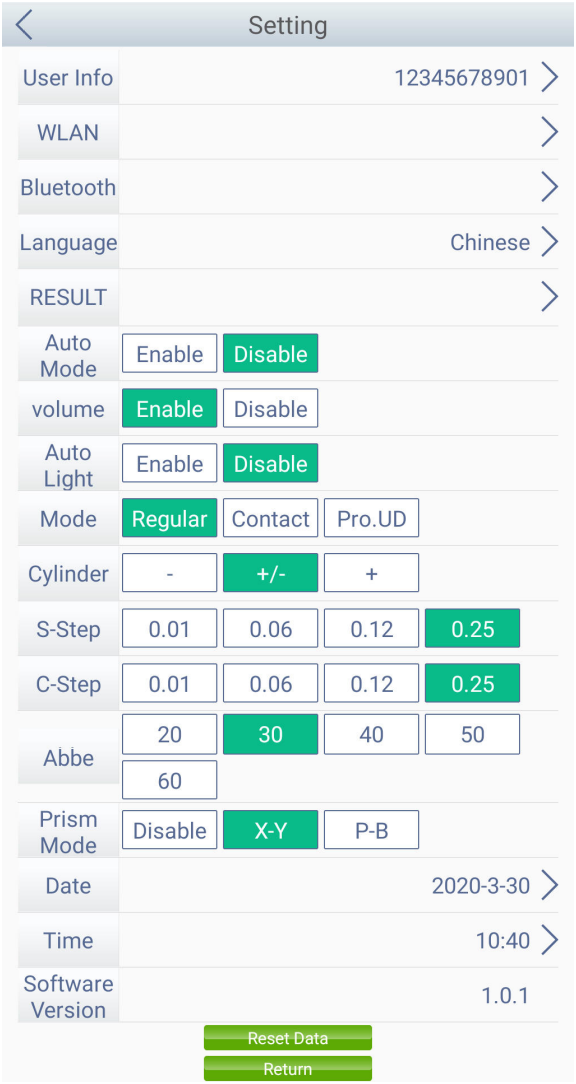
10. S: sphere data
    C: CYL data
    A: CYL AXIS data
    Δ HO: vertical prism data (outward)
    Δ HI: vertical prism data (inward)
    Δ VD: horizontal prism data (downward)
    Δ VU: horizontal prism data (upward)

11. UV: UVT Measurement
    PD: PD Measurement (Left PD data and right PD data)
    0.01: Sphere reading accuracy selection
    +/-: CYL display mode selection
    X-Y: Prism display mode selection

12.Lens abradability/UV/blue light function

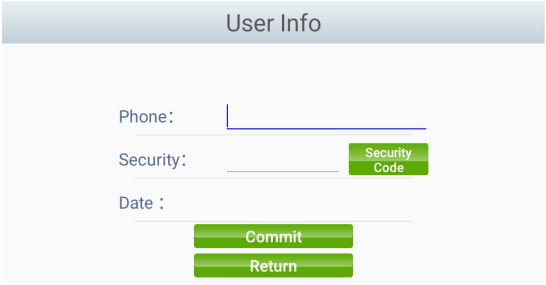
5. Menu

5.1 Operating icon and function

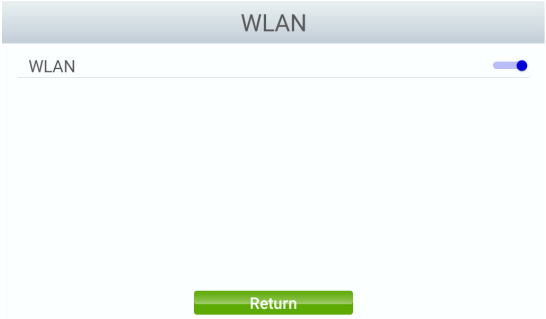


5.2 菜单功能列表

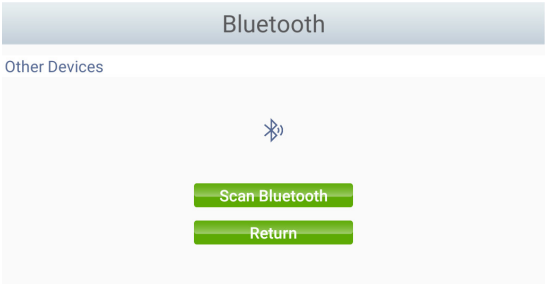
User Information:



WLAN:

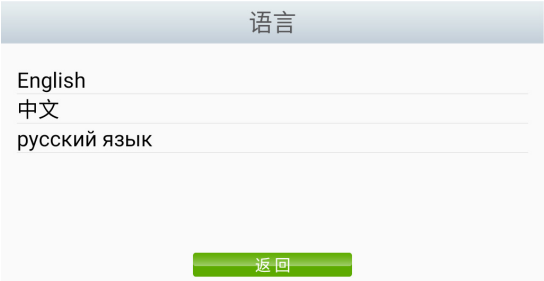


Bluetooth:

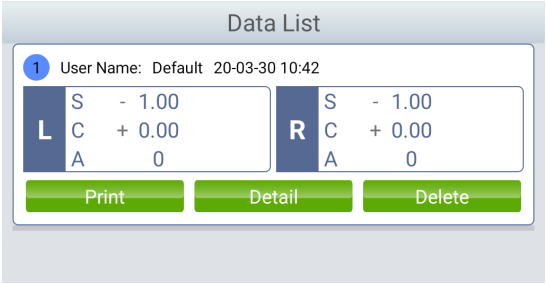


Touch spot scan, bluetooth scan to connect bluetooth

Languages: Languages: English, Chinese, Russian



Browse: measurement data saved historically



Data list

Sphere step-length: sphere reading accuracy selection (0.01^{m-1}/0.06^{m-1} /0.12^{m-1} /0.25^{m-1})

Cylinder lens: CYL display mode selection (+, +/-, -)

Cylinder lens step-length: CYL reading accuracy selection (0.01^{m-1} / 0.06^{m-1} /0.12^{m-1} /0.25^{m-1})

- Measure the residue diopter of cylinder lens (residue value within 0.05 m-1 can be measured)
- Measure super low diopter cylinder lens (cylinder value within 0.25 m-1 can be measured)
- This item is to use in lens factory or to identify the quality of lens materials and the level of manufacturing technique

Prism:

- P-B (Peak)
- X-Y (Rectangular coordinates)

Auto left/right: To identify the left and right lens at the same time, press the L button to enter the left lens measurement state; after measurement, take out the lens and the interface will be automatically switched to right lens to-be-measured state.

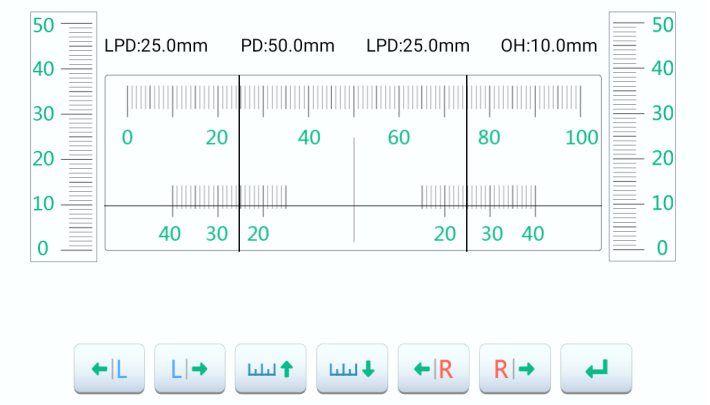
Auto reading: automatically read data measured historically

- Close center: close to the lens center to measure (the dotting site is not very accurate under this mode)
- Absolute center: measure at the absolute center of the lens (the dotting site is accurate under this mode)

Auto start-up mode: Start-up interface display mode

- Auto measure: enter the interface of lens auto identification once start-up
- Standard measure: enter the interface of routine lens measurement once start-up
- Progressive multi-focal: enter the interface of progressive multi-focal lens measurement once start-up

PD measurement: measure and display pupil distance, the value of left pupil distance and the right pupil distance;turn off this function,the screen will not display the value of pupil distance.



PD Interface Measurement Figure

Blue light measurement: Measure the UVT of lens

- 1%: the measured data changes by taking 0.01 as a unit
- 5%: the measured data changes by taking 0.05 as a unit

UV step-length: UV measuring accuracy selection

- 1%: the measured data changes by taking 0.01 as a unit
- 5%: the measured data changes by taking 0.05 as a unit

UV auto-update: UVmeasures the brightness of light (light environment)

auto-update every 5min, 10min, 20min, or 30min

Lens abradability: Selection of lens abradability

- 1%: the measured data changes by taking 0.01 as a unit
- 5%: the measured data changes by taking 0.05 as a unit

Target sighting mark: target sighting mode of interface center

○ Standby target: target icon of no detection state;

┼ Detection target: when there is a cross target icon in detection, the measured data becomes stable gradually;

✚ Lock target: when there is a large cross icon in detection, the measured data is read, and the record is locked;

LCD brightness: LCD brightness setting

Prompt tone: there will be a prompt tone in operation; operation will be silent when this function is turned off

Standby time: auto enter lock-screen mode every 5min,10min,30min,or 60min

Print setting: printer connection setting

Date setting: date setting, including year, month,day,hour,minute,second,week

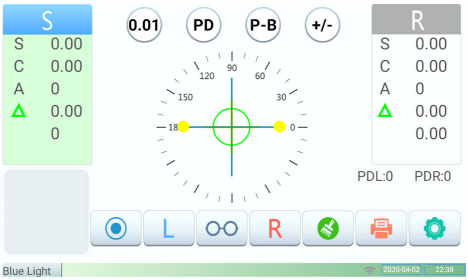
Print date setting: date display modes: yy/mm/dd, mm/dd/yy, and dd/mm/yy

Date display: turn on this function, the screen will display date and time; turn off this function, the screen does not display date and time

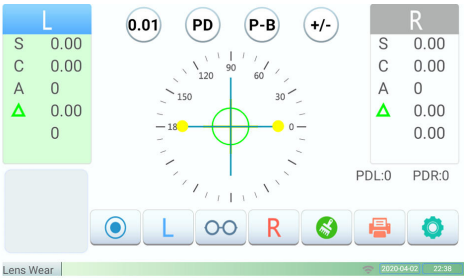
6. Lens measurement

6.1 Measurement of a single-lens

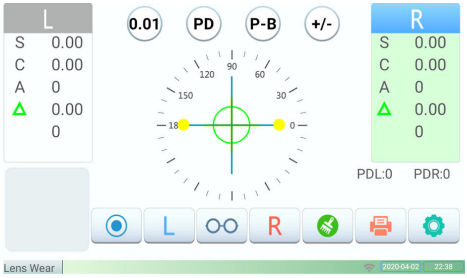
If it is not necessary to distinguish the left lens and the right lens, there will always be an interface work state S at the upper left corner of the screen.



If it is necessary to distinguish the left lens and the right lens, press L the button, L will be displayed at the upper left corner, and R will be at the upper right corner; if the “auto left/right function” is turned on, the interface will automatically enter right lens to-be-measured mode after measuring the left lens.



Left lens test



Shift to the right lens automatically

6.2 Measurement of glasses frame and lens

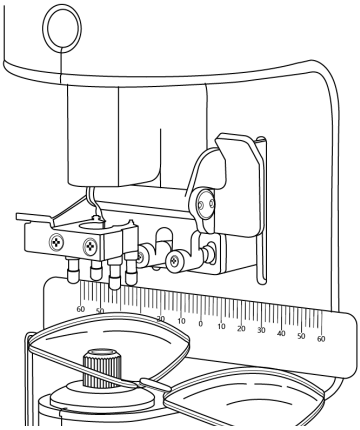
1) Face the convex side of the left lens upward, and face the top side of the glasses frame outward on the lens support;

2) Press the nose pad with frame nose bridge;

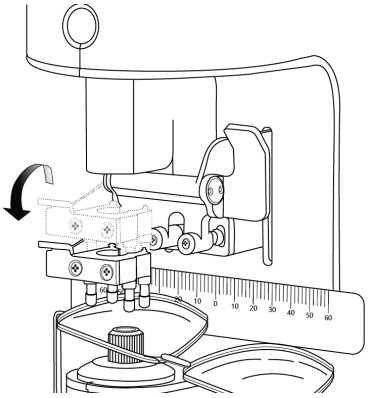
3) Let down the flat press device, press the left lens to measure;

4) The method of measuring the right lens is the same as that measuring the left lens;

5) After the measurement of the left and right lens, the pupil distance of glasses frame, left pupil distance and right pupil distance will be displayed.



Measurement of glasses frame and lens 1

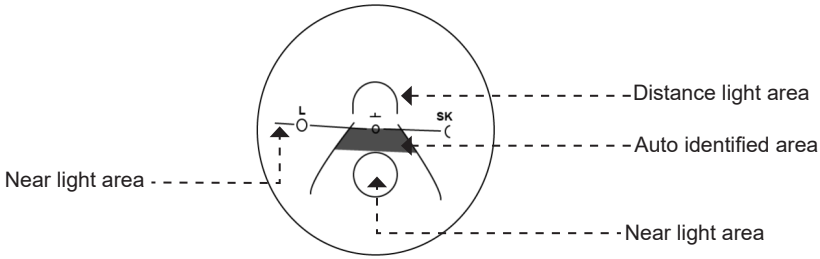


Measurement of glasses frame and lens 2

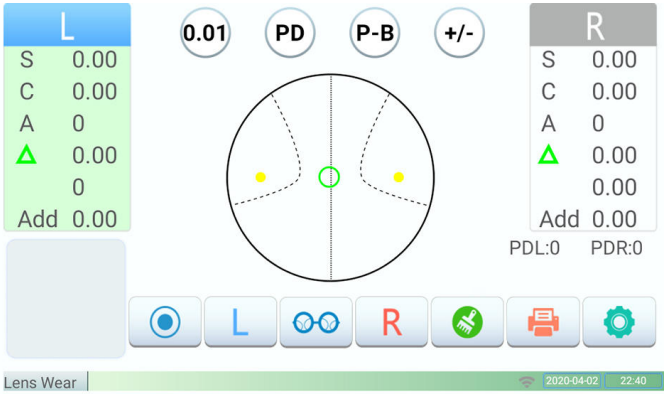
6.3 Measurement of a progressive multi-focal lens

6.3.1 Measurement of an uncut progressive multi-focal lens

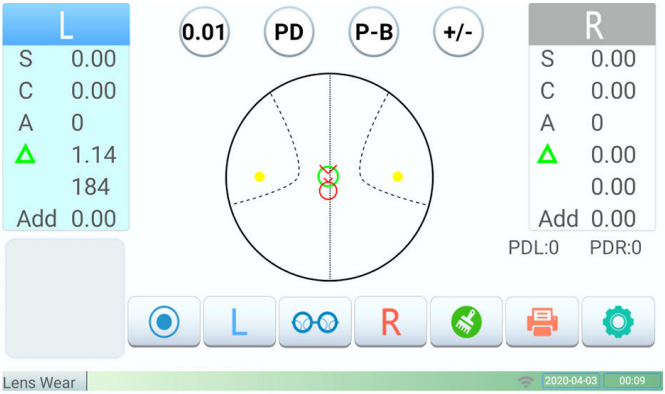
There is a marking in the distance light area and near light area of the uncut progressive multi-focal lens, measure these two areas.



1) Add diopter measurement: Fix the lens onto the lens holder, align the marking of the distance light area. The instrument automatically reads the measured data (if the auto-finish setting is turned off in the menu, press L or R to read data). Shift the lens to the marking of near light area, and measure ADD value.

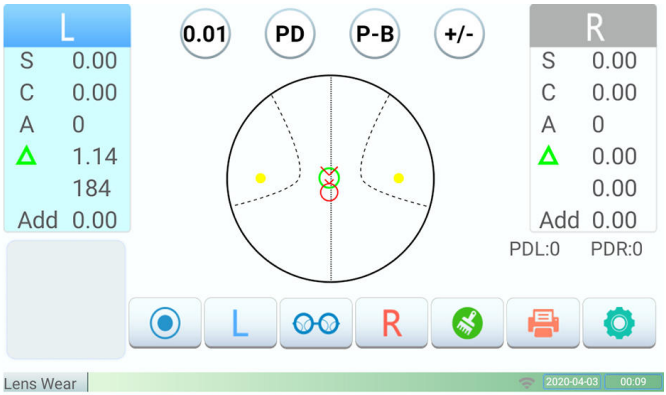


Measure after adding diopters 1

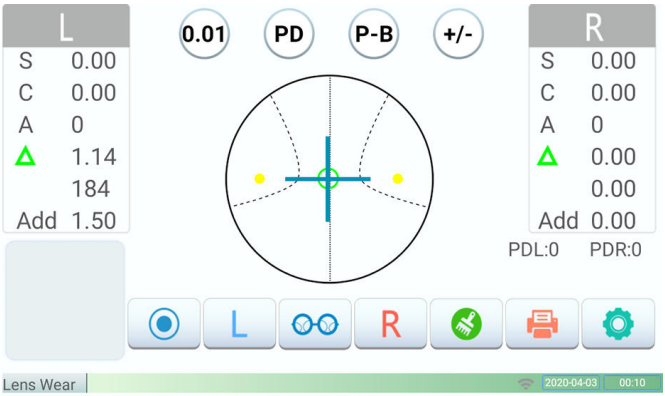


Measure after adding diopters 2

2) Measurement of diopters of down-side light area: Enter menu, select progressive lens data display,  back to the main interface (Measurement of diopters of down-side light area 1), align the marking of distance light area (Measurement of diopters of down-side light area 2), the instrument automatically reads the data (if the auto-finish setting is turned off in the menu, press L or R to read data), shift the lens to the marking of near light area to measure the data. The RDD refers to the absolute value of lens near light area.



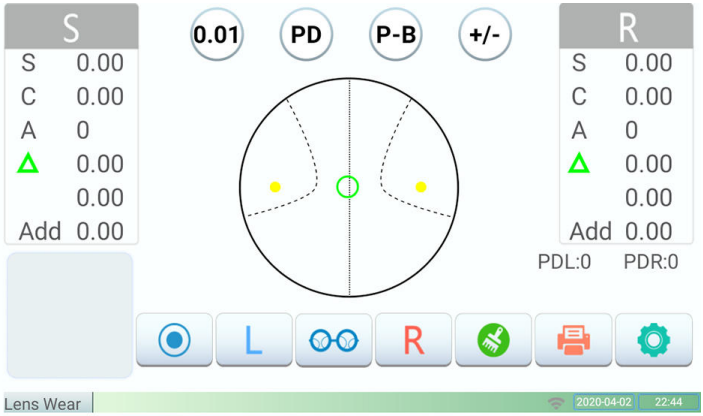
Measurement of diopters of down-side light area 1



Measurement of diopters of down-side light area 2

6.3.2 Measurement of a progressive multi-focal lens after installing in a glasses frame

1.)Select progressive measurement interface



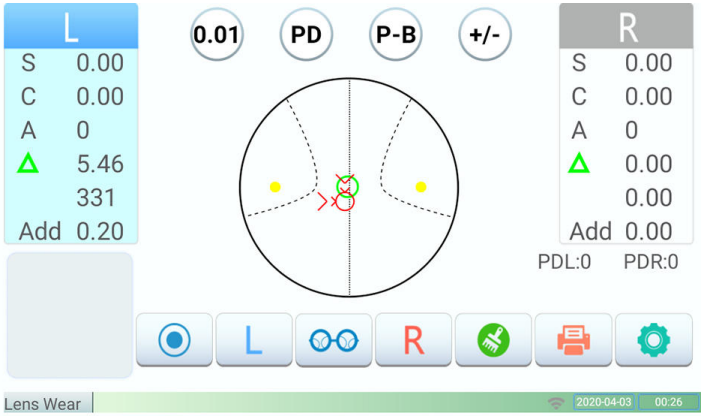
Progressive measurement interface

How to use:

a. Shift the central part of the lens to the lens holder;

b. Do not move the lens until the data displayed on the screen become stable;

c. When measuring, if the distance light area and near light area are in the adverse direction, the interface will prompt you to adjust the direction.



2) Measurement of a progressive lens

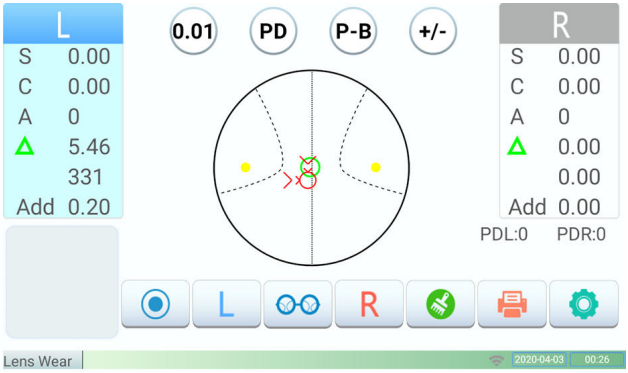
a. Switch to a progressive measurement interface;

b. Fix the part that is slightly below the lens center onto the lens holder;

c. Measure the data of distance light area (the center of distance light area is close to the scope of the glasses frame center);

d. Measure the data of near light area: according to the arrowhead instruction, shift the lens horizontally and vertically until the arrowhead completely disappears and the data become stable.

e. The method of measuring another lens is the same as above.

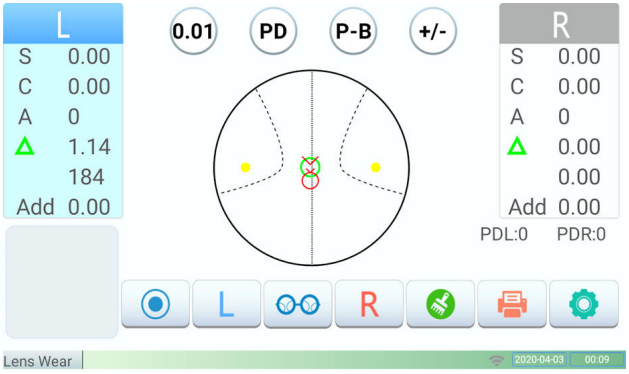


Note:

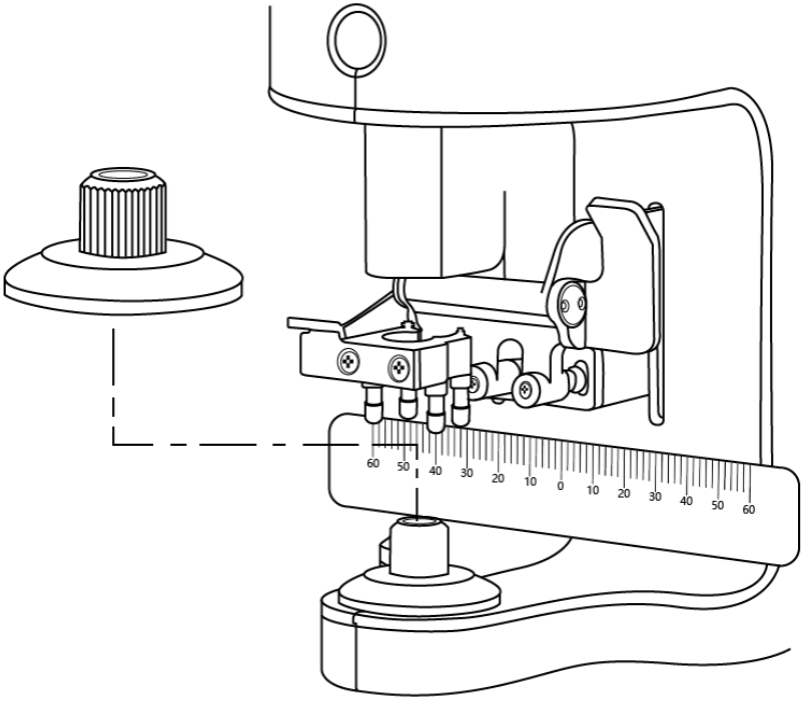
a. The direction of arrowhead is also the shifting direction of the lens;

b. If there are many arrowheads, it means the lens is away from the measuring center;

c. If there is only one arrowhead, it means the lens is very close to the measuring center



6.4 Measurement of a contact lens



1) Immerse the contact lens into the water (hard contact lens skips this step)

2) Pick out the contact lens gently with a tweezer, place it onto a soft paper or clean cloth until the water is dried

3) Gently place the dried lens onto the lens holder

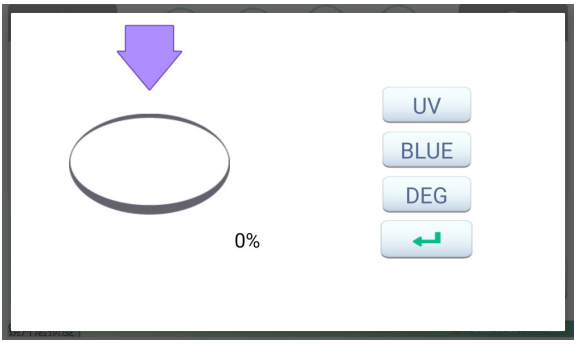
4) Gently shift the lens with a tweezer and measure

6.5 Measurement of the UVT

1) Measurement of UV

a. Select “UV” function, click blank area and enter measurement interface

b. Enter “UV data” measurement interface



c. Place a lens and shift it to the lens center, press UV to measure and read the data automatically

d. After measuring, press to ↵ exit.

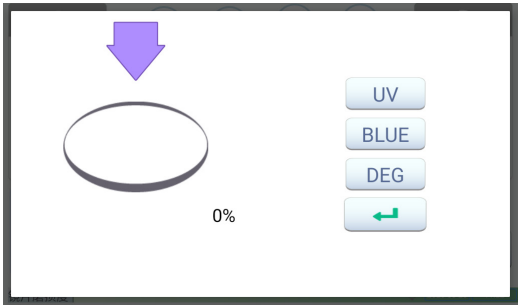
Note: Light intensity will exert a large influence on data measurement. Therefore, please draw a curtain or block out the light with a cloth when measuring UV.

6.6 Measurement of the blue light transmittance

1)Measurement of blue light

a. Select “blue light” function, click the blank area and enter the measurement interface;

b. Enter “blue light data” measurement interface;



c.Place a lens and shift it to the lens center, press BLUE button to measure and read the data automatically

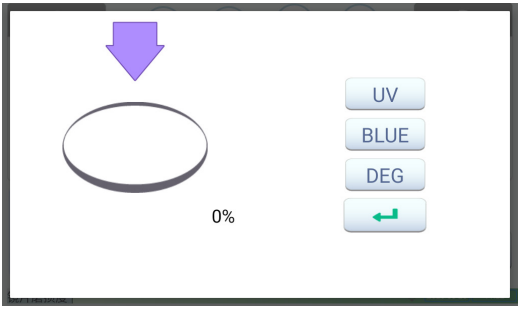
d.After measuring, press ↵ to exit.

6.7 Measurement of the lens abradability

1) Measure the lens abradability

a. Select “lens abradability” function, click the blank area and enter the measurement interface;

b. Enter “lens abradability interface”;

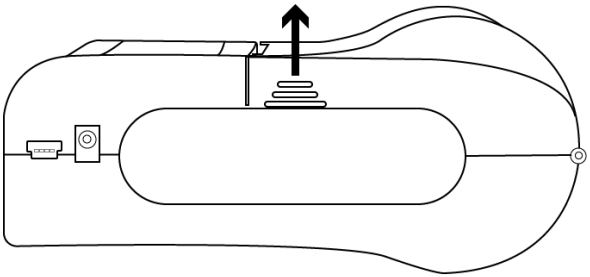


c. Place a lens and shift it to the lens center, press DEG button to measure and read the data automatically

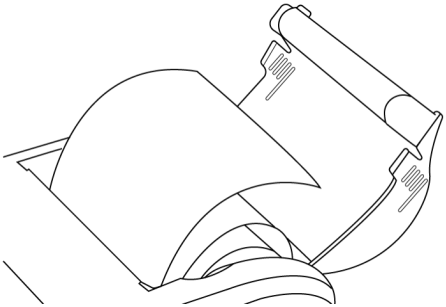
d. After measuring, press ↵ to exit.

7.Printer and printer paper change

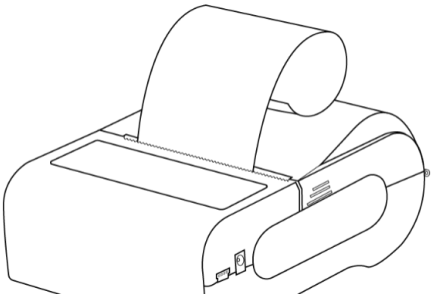
1) Push the sliding block to open the printer cover



2) Load the printer paper into the feed slot, keep the printer paper out from the top



3) Pull out the paper, as shown in the figure.



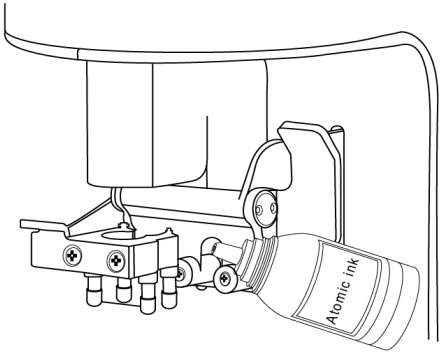
4) Press button, start the printer and print the measured data.

8. Supplement of marking ink

When the marking color becomes light, please supplement printing ink; please supplement with designated printing ink.

1) Take down the bottle cap of printing ink bottle, ensure that the printing ink can be squeezed out smoothly;

2) Push the nib aside, align the top end of printing ink bottle to the ink storage groove, squeeze the printing ink bottle gently to load the groove;



3) Properly store the rest ink into the bottle and keep it in the shadows or the storage box at the base.

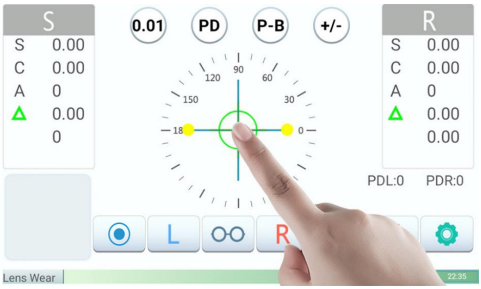
9. Troubleshooting

	FAQ	Reason and Solution
1	Power indicator is not “ON”	a. Confirm the power is undamaged a.a Replace with 5V2A batteries b. no power b.b Plug in power cord and switch on
2	Cannot enter measurement interface after switch on	a. There is a lens on the lens holder, and the screen will display “please take off the lens”; a.a Take off the lens from the lens holder, re-enter the work interface; b.b Clean the dust of optical lens and re-enter the work interface; b. There is dust on the optical lens, and the screen will display “no interface”;
3	Printer doesn’t work	a. Paper out a.a Load paper b.b Enter menu, set the printer status as ON b. Printer status is set as OFF in the menu c.c Turn on bluetooth and connect the printer c. No memory data on screen
4	No time display after power on	a. The date setting is “OFF” in the date display menu a.a Set date setting as “ON” in the date display menu
5	No dot marking or dot is not clear	a. Lack of ink a.a Add ink or change the dotter

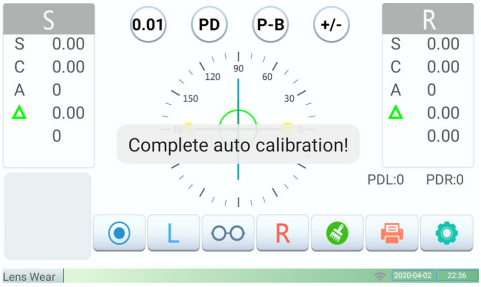
10.Zero-point correction

The method of zero-point correction is as below:

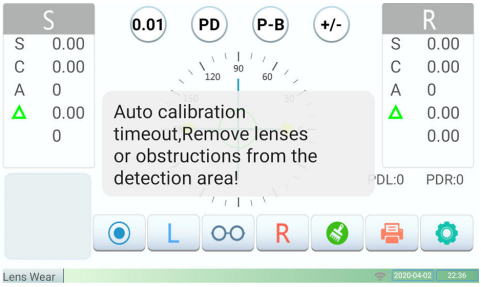
1) Long press the target area of the interface center for 3s;



2) Prompt " Complete auto calibration! ", zero-point correction succeeded and finished automatically



3) Prompt "Auto calibration timeout,Remove lenses or obstructions from the detection area!", check if the light alignment area is covered by a shelter or dust, please remove or clean, and repeat step



11. Lensometer packing list

No.	Item Name	Specification	Qty.	Note
1	Lensometer	JR-LM002	1 set	
2	Lensometer power supply	AC220V/5V2A	1 pcs	
3	Power conversion cables	USB to DC	1 pcs	
4	Printer power supply	AC220V/5V2A	1 pcs	Optional
5	Power conversion cables	USB to DC	1 pcs	
6	Operation Manual		1 pcs	
7	Warranty Card		1 pcs	
8	Product Certificate		1 pcs	
9	Printing ink	10mL/Red	1 bottle	Optional
10	Thermal printing paper	Black rubber	1 roll	Optional
11	Cleaning cloth		1 pcs	
12	Bluetooth thermal printer		1 set	Optional
13	Packing List		1 pcs	Optional