AUTO LENSMETER

USER'S MANUAL

Contents

1.INSTRUMENT INTRODUCTION AND ATTENTIONS

1.1 Instrument Introduction

The auto lensmeter focimeter can measure the degree of single,bifocal or trifocal lens, progressive multifocal lens (PPL) and contact lens (CL) easily,quickly and accurately.

This instrument is adopted by LCD display, it can display the measured value of the left and right lens on a screen, and can display the aligned centre condition by the icons, can quickly align the lens optical centre.

Have the clear and neat menu, the functional button is at the bottom of the display screen, its functions are shown by the icons every time.

Notes: The auto lensmeter focimeter is the first level focimeter, accorded with the national standard GB17341–1998.

1.2 Attentions

1.Place the instrument with care.The accidental impact may damage the instrument.

2.Place the instrument on a horizontal stable table,make sure it can work normally.

3.Avoid placing the instrument to the place in the direct sunshine, and the indoor light shall not be too strong.

4.Do not use this instrument in wet heat or the dusty environment, or else the instrument will be affected.

5.In order to get the accurate measured result, ensure the protective glass of the instrument is cleaned on time (as shown in P20), the dust may cause the instrument can not work normally. After the operation, turn off the power supply, cover the dust–proof jacket.

6.If the machine makes the abnormal sound after turned on it, it shows the internal fault. Please contact to the local dealer or the manufacturer.

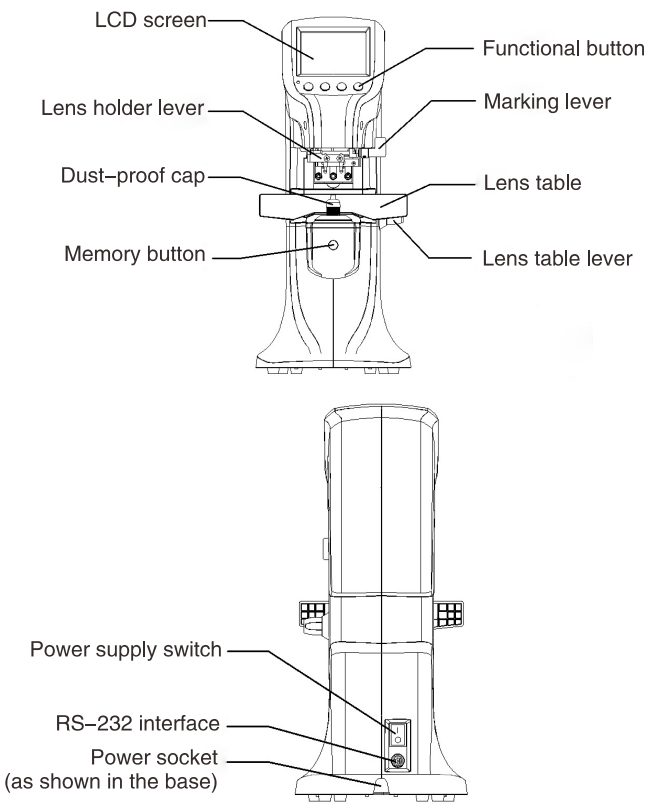
1.3 Equipment Installation

1.Check the accessories, open the packaging box and check all the accessories (as shown in Attachment bar in P21).

2. Connect the power line, this instrument must be adopted by the good grounding.

3.Turn on the power supply switch, the lens dioptre parameters displayed on the screen are all zero, and confirm this instrument can work normally.

2.INSTRUMENT STRUCTURE



• Memory button: Read the measured data. Press this key can fix the measured data on the display screen, and save.

• Lens holder lever: Rise the lens holder lever and then put down slowly while fixing the lens; rise the lens holder lever when taking the lens out, loose your hand when hearing a "Ka" sound, the lever is locked.

• Marking lever: Used to mark the lens centre and the optical axis of the astigmatism lens.

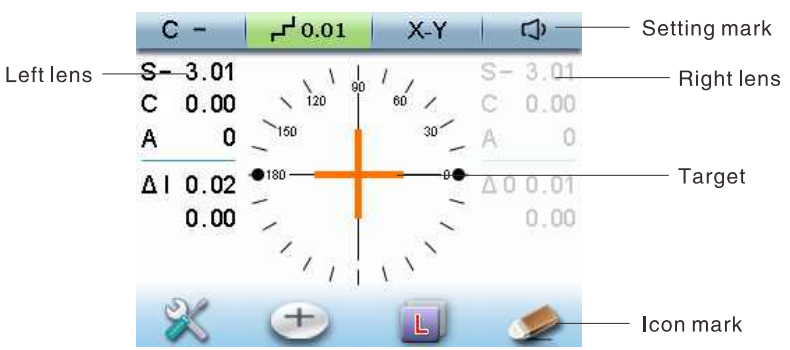
• Lens table lever: Move the adjustable baffle forward and backward.

• Lens table: Used to fix the glass frame direction. Let the bottom of the glass frame is leaned in parallel on the adjustable baffle.

• Dust–proof cap: Please take the dust–proof cap out before turning on the equipment, cover the dust–proof cap after finished.

• Functional button: The icons on the upper LCD screen display their functions.

2.1 Measurement Display Interface



Measurement display interface

• Target

Display the measured point position when measuring the lens

The target shape will be changed in focus process as below:

O: Deviate from the centre

+: Approach to the centre

+: Align the centre (the marked point)

• Left lens or right lens

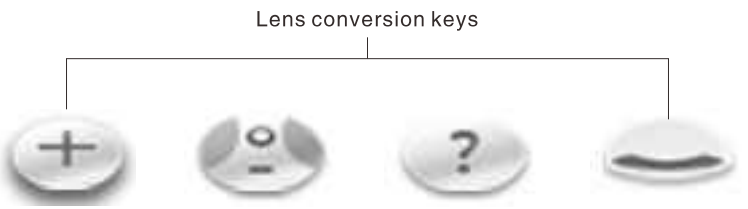
The measurement result of the left and right lenses are respectively on the left and right area of the display interface.

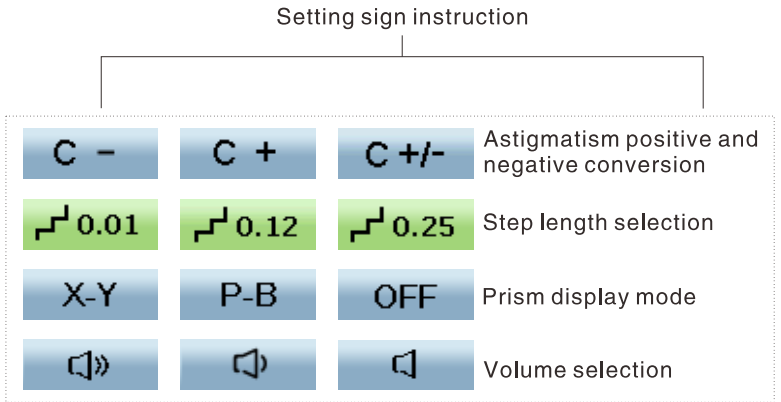
• Icon sign: The following icons display the button functions.

Menu display and change the system parameters

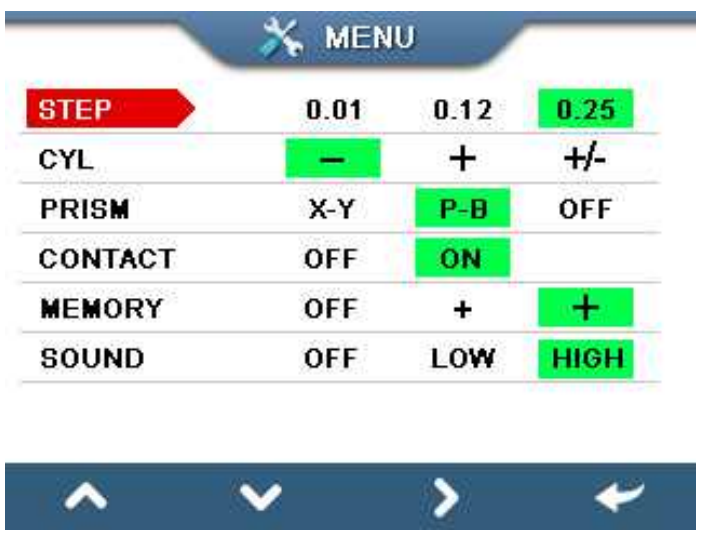
Lens left and right conversion

Clear key





2.2 Menu Display



Menu interface functional button instruction

The following icons display the functions buttons

Upper key: Select the item setting

Right key: Convert the setting parameter

Lower key: Select the item setting

Exit key: The current display is converted to the measurement display

3.MEASUREMENT PROCESS

3.1 Preparation

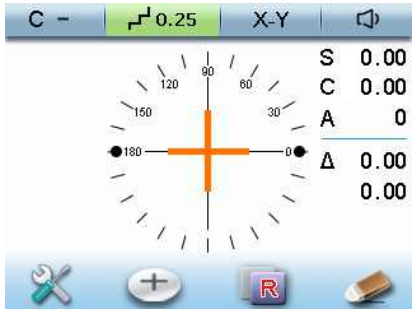
1.Insert the power line to the power interface at the bottom of the instrument;

2.Insert the power line to the power socket (must be good grounding);

3.Take off the dust–proof cap;

4.Turn on the power supply switch, the lens dioptre parameters displayed on the screen must be zero.

Appear the initial display



Appear the measurement display after the initial display

3.2 Lens Placing

1.Confirm the left, right lens

Press L or R key to confirm the left/right lens.

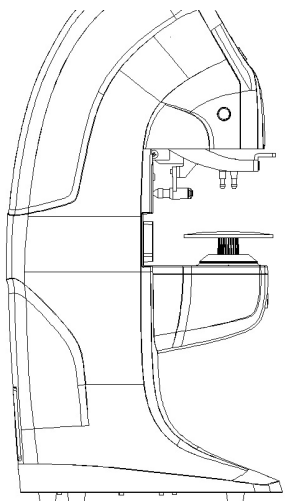
When not need to confirm the left and right lens, the single lens measurement result is displayed on the measurement interface after pressed the Clear key.

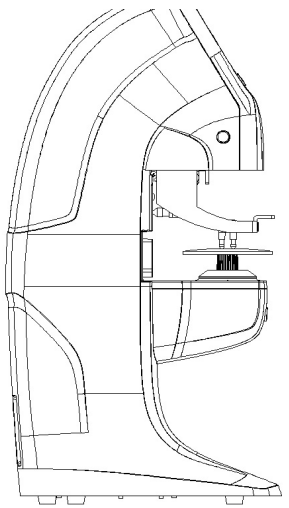
2.Place the lenses

Place the lenses on the lens support and make sure the convex surface is up (as shown in Figure a)

3.Fix the lenses

Press the lenses by the lens–pressing stand (as shown in Figure b).



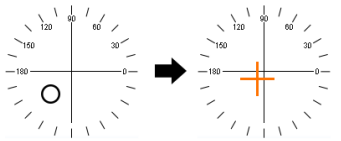


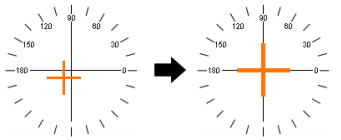
3.3 Measure the Lens

1.Measure the single lens

Let the target to align to the centre

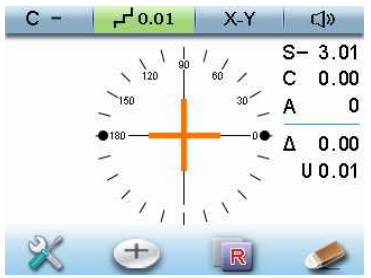
Move the lens to let the target (o) to move to the centre,when the target is moved to the range away from the centre less than (0.5cm/m (Δ)), the target shape is changed to a small cross (+); the target shape is changed to a large cross (+) when aligning the centre, the measured data is saved. There are two modes:





A.Press the Memory key, the data is saved.

When the data is confirmed, the astigmatism +/– indication type can be converted. Press the Clear key to restart the measurement.



B.When set as automatic reading,it will automatically remember the data, just like to press the Memory key. When the data is confirmed, the astigmatism +/– indication type can be converted. Press the Clear key to restart the measurement.

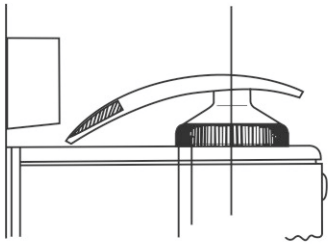
2.Measure the framed lens

(1)Press down L or R key to let the target aligns the centre.

Rotate the rotation button, move the adjustable baffle, until it is contacted to the bottom of the glass frame (avoid the astigmatism axis measurement error). Move the lens to let the target (o) moves to the centre, when the target is moving to the range away from the centre less than (0.5cm/m (Δ)), the target shape is changed to a small cross (+); the target shape is changed to a large cross (+) when aligning the centre, press the Memory key (or open the menu, and start the Automatic reading function), the measured data is saved.

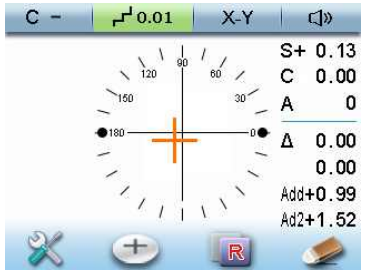
3.Measure the bifocal (trifocal) lens

(1)Place the far–view part (lens far–use area) on the lens support.



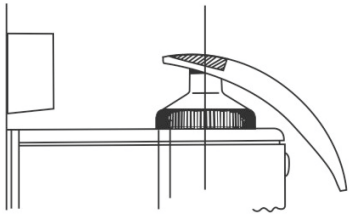
(2)Measure the near–view degree

When the target shape is changed from a circle to a small (+) or a large (+), press the Memory key, (or open the menu,and start the Automatic reading function), the measured value of the near–view part is confirmed.

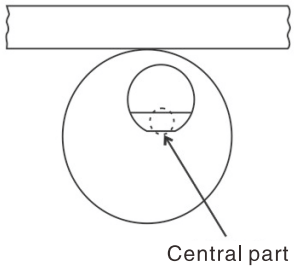


(3)ADD degree

If it is the bifocal lens,move the lens close to yourself, let the near–view part (lens near–use area) to move to the lens support. When the target shape is changed from a circle to a small (+), press the Memory key, (or open the menu, and start the Automatic reading function), (tips: Not need to fully align the centre) the measured value of the near–view part is confirmed. Bifocal lens measurement is finished.



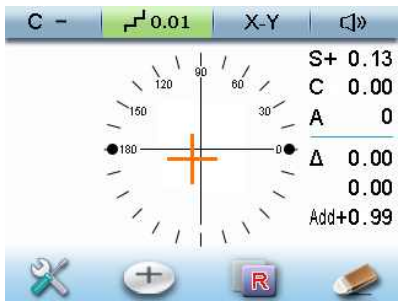
If it is the trifocal lens, move the lens close to yourself and let the central part of the near view to move to the lens support. When the target shape is changed from a circle to a small (+),

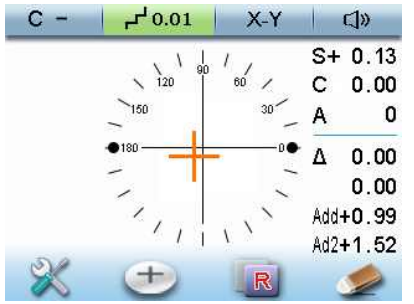


Trifocal lens diagram

press the Memory key, (or open the menu, and start the Automatic reading function), (tips: Not need to fully align the centre) the measured value of the near–view part is confirmed. The measurement is continuous.

(4)Go on moving the near–view part to the lens support,When the target shape is changed from a circle to a small (+), press the Memory key, (or open the menu, and start the Automatic reading function), (tips: Not need to fully align the centre) the measured value of the near–view part is confirmed.

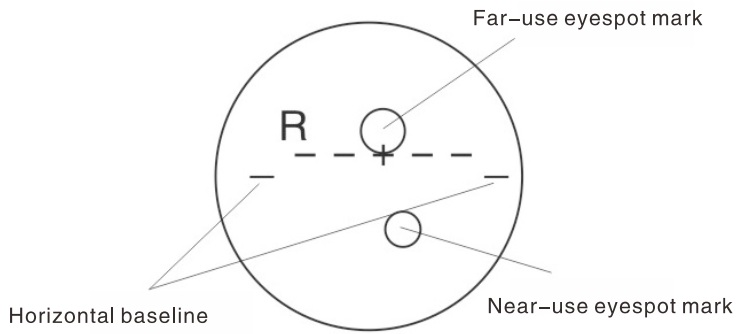




4.Measure the progressive multifocal lens (PPL)

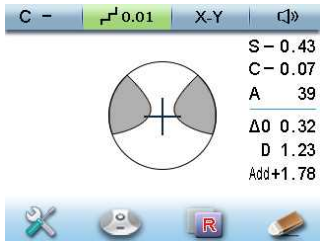
Press down the Lens mode conversion key

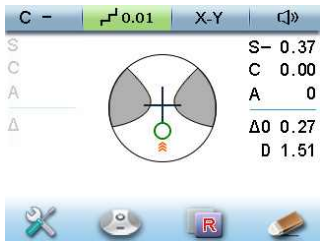
The instrument enters to PPL measurement mode, the measurement process shall be carried on by the screen display.



・Measure the uncut lens

Use the special eyespot mark provided by the manufacturer, the convex surface of the lens is up, the near–view area is inward, the horizontal baseline is basically keeping horizontal and placed on the lens support, press the lens. First to measure the far–use area, and then slowly move the lens, the screen displays ADD and its measurement result, later on, arrive at the near–use area and measure it.





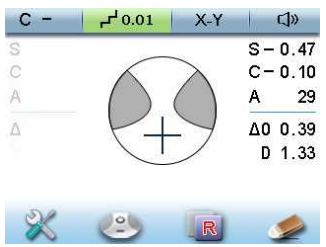
・Measure the framed lens

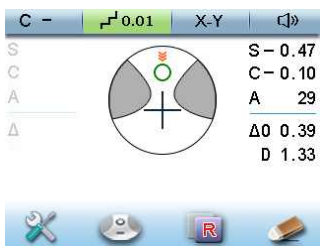
(1)Place the lens

(2)Move the central part of the lens to the lens support

(3)Far–use area measurement

Move the lens by the direction as pointed by the screen, let the target is just in the centre of a large cross icon, the target displays (+), press the Memory key, (or open the menu,and start the Automatic reading function), the data value of the far–use area is confirmed.





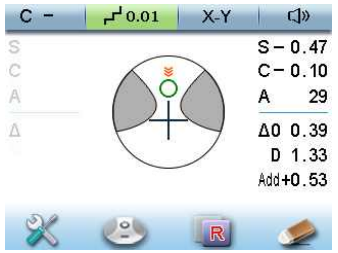
(4)Near–use area measurement

Move the lens by the direction as indicated by the screen, let the target is just in the centre of the large cross icon, the target displays (+) symbol, press the Memory key, (or open the menu, and start the automatic reading function), the data value in the near–use area is confirmed.

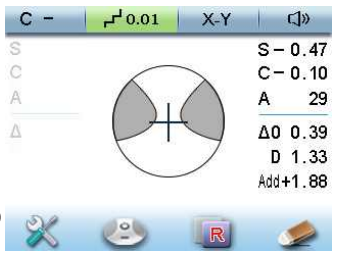
Remarks:

The arrow pointing up shows the lens is pushed to the adjustable baffle direction.

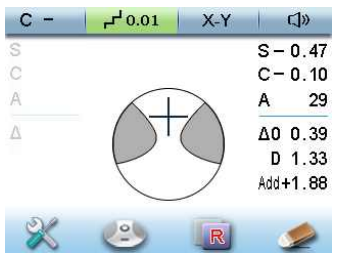
The arrow pointing down shows the lens is pushed to the user.



Move the lens to right
(the rest three directions are same as above)



The setting ADD degree of some lenses are continuous increase, even exceed the range of the near–view part, if measure these lenses, the maximum ADD degree will exceed the proximity part. At this moment, press the Memory key when the proximity part symbol is appearing.



5. Automatic measurement mode

In measurement display interface, press the Lens mode conversion key, enter to the Normal/Progressive automatic recognition measurement mode.

In this mode, can recognize the normal lens and progressive lens automatically, The measurement process after the lens recognition is same as the measurement process of the normal lens, progressive lens as described above, here will not describe.

6. Measure the prism lens

Measure the prism lens on the glasses

(1)Mark the pupil centre

Let the customer wears the glasses see far away, and mark the pupil centre on every lens.

Notes: The marked diameter shall not less than 1mm, if it is too large, it will interfere the measurement.

(2)Confirm the left and right lens

Press L or R key to confirm the left lens or right lens.

(3)Select the show type of the prism lens

Rectangular coordinate system Δ:1 5.00 polar coordinate system Δ: 5.00

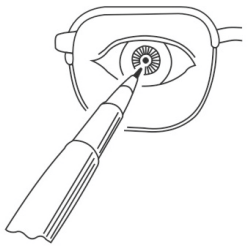
(4)Place the lens

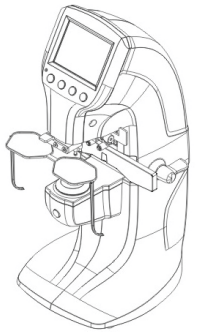
Place the lens on the lens support by the mode in right figure, the convex surface is upward.

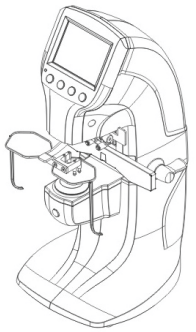
(5)Fix the lens by the pressing stand

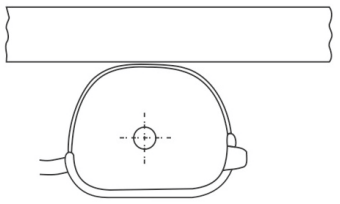
(6)Place an eyespot mark to the centre of the lens support (not need to align the centre).

(7) Press the Memory key (notes: if the data is wrong, it shows the mark is just on the measurement optical path, slightly move the lens to get the measurement data).



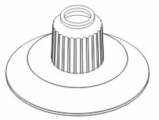




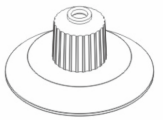


7.Measure the contact glasses

(1)The lens support is replaced by the special lens support for measuring CL



Common lens suppor



Special lens support for contact glasses

(2)Thecontactsetting in measurement setting menu is set as open state, press the Lens mode conversion key in measurement interface, enter to the contact glasses measurement interface, the screen displays as the right figure:

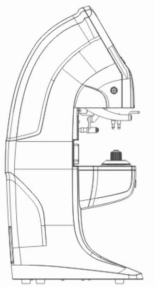
(3)L or R key can confirm the left or right contact glass.

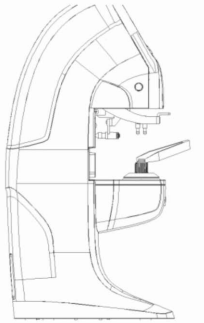
(4)Place the contact lens

Put the soft contact lenses to be measured on a clean soft paper, absorb the water on the lens surface by the soft paper, place the dry contact lens on the lens support, make sure the convex surface is up.

Notes: Use the round head plastic tweezers, avoid the lenses are damaged, and avoid the lens stand presses the contact lenses.

(5)Slightly push the lens to align the





centre by the tweezers

(6)Press the memory key

Notes: Measure the soft contact lens quickly, or else the detection can not carried on after the lens surface is deformed.

8.Lens optical centre mark

Used to confirm the lens optical centre and the horizontal direction,so as to convenient to pack to the glass frame.

(1)Move the lens, let the target is aligned to the central cross line, the target shape is changed from a small (+) to a large (+).

(2)Set the astigmatism axis as the prescription value

By the AXIS display, rotate the lens until appearing the value on the prescription. If the large (+) is changed to the small (+), need to realign the centre.

(3)Set the prescription value of the prism lens

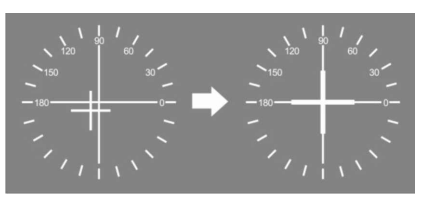
Adjust the prism selection item in the menu, let the prism display mode is same as your prism degree display mode of the matching glass prescription, when select the rectangular coordinate, the screen displays the letter "I" shows the base is inward, "o" shows the base is outward, "U" shows the base is upward, "D" shows the base is downward.

Place the lens to be measured to the lens support, rotate it appropriately, let the prism base direction is same as the glass matching prescription.

(4)Lens marking

Rotate the ticking pen, mark three points that are horizontal to the lens table on the lens.

Rise the pressing stand, until you hear a "Ka" sound, and then take the lens out.



(Notes: Avoid touching the mark, or else the mark will be wiped off, the mark is no clear.)

4.TECHNICAL INDEXES

Measurement range	
Spherical degree	0m^{-1} to ±25m^{-1}(D)
Column degree	0m^{-1} to ±9.99m^{-1}(D)
Astigmatism axis	0° to180° (1° 1档)
Lower adding degree	0m^{-1} to + 9.99m^{-1}(D)
Prism degree	0cm/m to 15cm/m (△)
Detectable lens diameter	φ12mm to φ104mm
Measurement step length	
Dioptre	0.01m^{-1} / 0.12m^{-1} / 0.25m^{-1}(D)
Prism degree	0.01cm/m / 0.12cm/m / 0.25cm/m(△)
Measurement mode	
Column surface	+，+/–，–
Prism	X–Y,P–B
Measurement speed	0.1 second
Contact glasses	Soft/Hard lens
Display	3.5 inch color LCD display
Weight	About 3kg
Power supply	100V–240V~ 50Hz/60Hz 15VA
Working environment	Temperature: relative humidity:

5.INSTRUMENT MAINTENANCE

5.1 Change the Fuse

When turn on the power supply, the instrument is not work, maybe the fuse is broken, need to change the standby fuse.

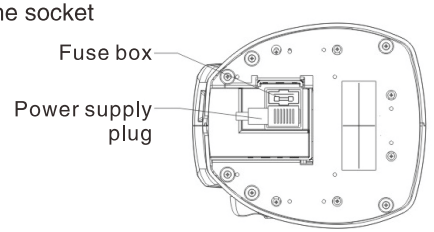
(1)Turn off the power supply

(2)Pull out the power line on the socket

(3)Open the fuse box

(4)Change the fuse

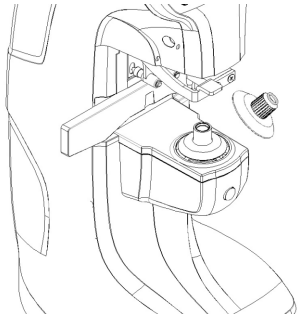
(5)Close the fuse box



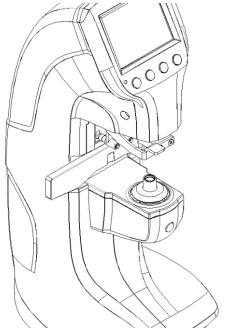
5.2 Clean the Instrument

1.When the machine shell is dirty, wipe it by a dry soft cloth, if have the spot, wipe it by a cloth with the neutral detergent, and then wipe it by a dry cloth.

2.Clean the protective glass, blow the dust on the glass by a blowing balloon. If still dirty, wipe it by a clean leas cloth, regularly clean the protective lens, the lens support must be taken out before cleaning the lens.



Take out the lens support

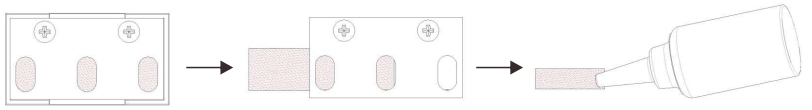


Clean the protective lens

Attention: Avoid the glass is damaged, scratched, and the measurement accuracy is affected.

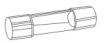
3.Do not wipe the shell surface by the alcohol, gasoline, ether, acetone and other chemical liquid.

5.2 Mark the Ink Supplementation

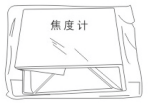


Attention: Add 3 to 5 drops of ink is appropriate.

6.ATTACHMENT



Fuse



Dust–proof jacket

mirror wiping cloth

Contact lens support

User's Manual

Ink

Power line