CCQ-1100

AUTO FOCIMETER

User Manual

Version V0.07

Revision date: 2025.12

Product Name: AUTO FOCIMETER

Nome do produto: AUTO FOC ÍMETRO

Nombre del producto: FOC ÍMETRO AUTOMÁTICO

Ürün Adı: OTOMATİK ODAK METRE

Nome prodotto: AUTOFOCIMETRO

Produktname: Automatischer Fokusmesser

Nom du produit: FOCIMÈTRE AUTOMATIQUE

Име на продукта: АВТОМАТИЧЕН ФОКИМЕТЪР

Produkto pavadinimas: Automatinis dioptrimetras

Nazwa produktu: AUTOFOCYMETR

Název produktu: AUTOMATICKÝ FOCIMETR

Toote nimi: AUTOMAATNE FOOKUSMÕÕTUR

Produkta nosaukums: AUTOMĀTISKAIS FOCIMETRS

Όνομα προϊόντος: ΑΥΤΌΜΑΤΟ ΕΣΤΊΟΜΕΤΡΟ

Numele produsului: FOCIMETRU AUTOMAT

Productnaam: AUTOMATISCHE FOTOMETER

User Manual Download link: www.yeasn.com/en/

Link para download do manual do usuário: www.yeasn.com/en/

Manual de usuario Enlace de descarga: www.yeasn.com/en/

Kullanım Kılavuzu İndirme linki: www.yeasn.com/en/

Manuale d'uso Link per il download: www.yeasn.com/en/

Link zum Herunterladen des Benutzerhandbuchs: www.yeasn.com/en/

Lien de téléchargement du manuel d'utilisation : www.yeasn.com/en/

Линк за изтегляне на ръководството за потребителя: www.yeasn.com/en/

Naudotojo vadovo atsisiuntimo nuoroda: www.yeasn.com/en/

Link do pobrania instrukcji obsługi: www.yeasn.com/en/

Uživatelská příručka Odkaz ke stažení: www.yeasn.com/en/

Kasutusjuhendi allalaadimise link: www.yeasn.com/en/

Lietotāja rokasgrāmatas lejupielādes saite: www.yeasn.com/en/

Εγχειρίδιο χρήστη Σύνδεσμος λήψης: www.yeasn.com/en/

Link de descărcare manual de utilizare: www.yeasn.com/en/

Gebruikershandleiding Downloadlink: www.yeasn.com/en/

Preface

Thanks for purchasing and using CCQ-1100 auto focimeter (Focimeter, also the widely called Lensmeter, is officially named in ISO 8598: Optics and optical instruments – Focimeter).

 Please read this User Manual carefully before using this device. We sincerely hope that this User Manual will provide you with sufficient information to use the device.

Our pursuit is to provide people with high-quality, complete-function and more personalized devices. Information in promotional materials and packing boxes is subject to changes due to performance improvement without additional notice. Chongqing Yeasn Science - Technology Co., Ltd. reserves the rights to update the devices and materials.

If you have any questions during using, please contact at our service hotline: +86 23 6279 7666, we will be very happy to help you.

Your satisfaction, our impetus!

Information of manufacturer

Name: CHONGQING YEASN SCIENCE - TECHNOLOGY CO., LTD.

Address: 5 DANLONG ROAD, NANAN DISTRICT, CHONGQING, CHINA

Tel: +86 23 6279 7666

Authorized representative

Shanghai International Holding Corp.GmbH(Europe)

Eiffestrasse 80, 20537 Hamburg, Germany

MEDRIGHT TECH INC

13525 40TH RD STE 3FFLUSHING, NY 11354

KINGSMEAD SERVICE LIMITED

19 Mezzanine Floor 19-21 CrawfordStreet

London W1H 1PJ England,United Kingdom

INDEX

1. INTRODUCTION

1.1 Uses

CCQ-1100 auto focimeter mainly measures spherical power, cylindrical power and axis of the cylindrical lens as well as contact lens. It marks on the uncut lens and checks if the spectacle lens is correctly mounted.

1.2 Characteristics

- 7-inch TFT color touch screen;
- Green LED light, ABBE compensation;
- Hartmann sensor;
- High-speed parallel processing system;
- Low transmittance lens measurement;
- Low astigmatism lens measurement;
- 20△ Prism measurement;
- Lens type auto identification;
- PD, PH, UV and blue light measurement;
- Built-in thermal printer;

1.3 Main technical indexes

1.3.1 Spherical power (spectacle lens):	-25.00 D ~ +25.00 D
1.3.2 Cylindrical power:	-10.00 D ~ +10.00 D
1.3.3 ADD power:	0 D ~ +10.00 D
1.3.4 Spherical power (contact lens):	-20.00 D ~ +20.00 D
1.3.5 Dioptor step:	0.01 D, 0.06 D, 0.12 D, 0.25 D
1.3.6 Axis:	0 º~ 180 º; Increment: 1 º
1.3.7 Prism basal angle:	0 º~ 360 º; Increment: 1 º
1.3.8 Prism power:	Horizontal: 0 ~ 20 △; Increment: 0.01 △ Vertical: 0 ~ 20 △; Increment: 0.01 △
1.3.9 Applicable	lenses: φ20mm ~ φ120mm
1.3.10 Applicable center thickness:	≥20mm
1.3.11 PD measurement:	12mm ~ 135.6mm; Increment: 0.15mm
1.3.12 ΔPH measurement:	0mm ~ 39.6mm; Increment: 0.15mm

1.3.13 Measurement of UVA transmittance: Center 400nm

1.3.14 Measurement of blue light transmittance: Center 420nm

1.3.15 Instrument body power: Input: DC 12V 40W

1.3.16 AC Adapter: Input: AC 100V ~ 240V, 50/60Hz

Output: DC 12V 40W

1.3.17 Size: 190(W) ×211(D) ×339(H) mm (When the display is flat)

1.3.18 Weight: 4.1 kg

1.3.19 Display: LCD screen, 1024×600 pixs

1.3.20 Printer: Thermal printer, 57mm width

1.3.21 Interface connectors: USB, RS-232

1.4 Name plate and indications

Name plate and indications are pasted on the instrument to arise end-users' notice.

In case the name plate is not pasted well or the characters become unclear to recognize, please contact authorized distributors.

	Manufacturer
	Date of manufacture
	Serial number
	Country of manufacture
	CE marking
	Correct Disposal of This Product (Waste Electrical & Electronic Equipment)
	Consult instructions for use
	Authorized European representative
	Authorized UK representative
	Authorized America representative
	Catalogue number

	Model number
	Unique Device Identifier
G.W.	Gross Weight
DIM.	Dimension
	This way up
	Fragile, handle with care
	Do not roll
	Keep dry
	Recyclable
	Temperature range identification
	Humidity range identification
	Atmospheric pressure range identification

2. SAFETY NOTICE

2.1 Before use

 Please read the following precautions carefully to avoid personal injury, device damages or other possible hazards:

● No technical demands for operator, and read manual before using.

● Do not posit the equipment to make it difficult to operate the power plug which uses to isolate the equipment circuits electrically form the supply mains.

● Do not use the device for other than the intended purpose.

YEASN will not be responsible for accidents or malfunction caused by such carelessness.

● Never modify or touch the internal structure of the device.

This may result in electric shock or malfunction.

● Do not store the device in an area that is exposed to rain or water, or contains poisonous gas or liquid.

Corrosion or malfunction of the device may occur.

● Avoid installing the device where it is exposed to direct air-conditioning flow.

Changes in temperature may result in condensation inside the device or adversely affect measurements.

● Avoid using the device in a place exposed to direct sunlight or near incandescent light.

Under such circumstances, the device may work irregularly or issue error messages.

● Be sure to use a wall outlet which meets the power specification requirements.

If the line voltage is too high or too low, the device may not give full performance. Malfunction or fire may occur.

● The electrical outlet must have a grounding terminal.

Electric shock or fire may occur in the event of malfunction or power leakage.

● Insert the main plug into an outlet as far as the prongs of the plug will go.

Fire may occur if the device is used with a loose connection.

● For supplying the device with the power, never use a table tap or extension cable.

The electrical safety may be lowered.

● Do not place heavy objects on the power cord.

The damaged power cord may cause fire or electric shock.

● Before connecting a cable, turn off the power switch and disconnect the power cord from outlet.

Malfunction of the device may occur.

● To transport the device, use the special packing materials to protect the device from impact of dropping.

Excessive vibration or impact to the device may cause malfunction.

● In installation and operation of the device, observe the following instructions about EMC (electromagnetic compatibility):

- Do not use the device simultaneously with other electronic equipment to avoid electromagnetic interference with the operation of the device.

- Do not use the device near, on, or under other electronic equipment to avoid electromagnetic interference with the operation of the device.

- Do not use the device in the same room with other equipment such as life-support equipment, other equipment that has major affects on the life of the patient and results of treatment, or other measurement or treatment equipment that involves small electric current.

- Do not use the device simultaneously with portable and mobile radio frequency communication systems because it may have an adverse effect on operation of the device.

- Do not use cables and accessories that are not specified for the device because that may increase the emission of electromagnetic waves from the device or the system and decrease the immunity of the device to electromagnetic disturbance.

● Ground wire should be installed indoor and the instrument should be grounded well.

The instrument should not be installed in place where disconnection is not possible.

2.2 Using

● Immediately replace the power cord if the internal wires are exposed, turns on or off the table when the power cord is moved, or the cord and/or plug are too hot to be held with hands.

This may result in electric shock or fire.

In the event of malfunction, disconnect the power cord from the wall outlet. Never touch the inside of the device, then contact your authorized distributor.

● The device has passed electromagnetic compatibility test. Follow below instructions related to EMC (electromagnetic compatibility) when mounting and using the device:

- These limits are designed to provide reasonable protection against harmful interference in a

standard medical installation.

- This device generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to other devices in the vicinity.

- However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to other devices, which can be determined by turning the device 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 device.

- Increase the separation between the devices.

- Connect the device to an outlet on a circuit different from that to which the other device(s) are connected.

- Consult the manufacturer or field service technician for help.

● Never use the device with cables or accessories other than the designated ones.

● Never use portable and mobile radio frequency (RF) devices in the vicinity of this device.

These devices may adversely affect other electrical equipment and malfunction may occur.

● When moving the device, do not place your hands on the frame of the display but hold the underside and sides with both hands.

Injury or malfunction may occur.

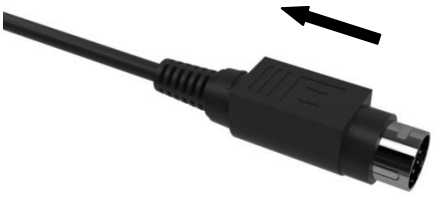
2.3 After use

● When the device is not in use, turn it off and cover the dustproof cover. Otherwise dust will affect the measurement accuracy.

● Clean the prongs of the main plug with a dry cloth often. If dust settles between the prongs, the dust will collect moisture, and short circuit or fire may occur.

● If the device will not be used for a long time, disconnect the power cord from the wall outlet, as fire may occur.

● Unplug the power cable: hold the part indicated by the arrow in the figure below, and then pull it out.



2.4 Maintenance and Check

● Personnel not trained by YEASN do not repair the instrument.

● YEASN is not responsible for any accidents resulted from improper servicing.

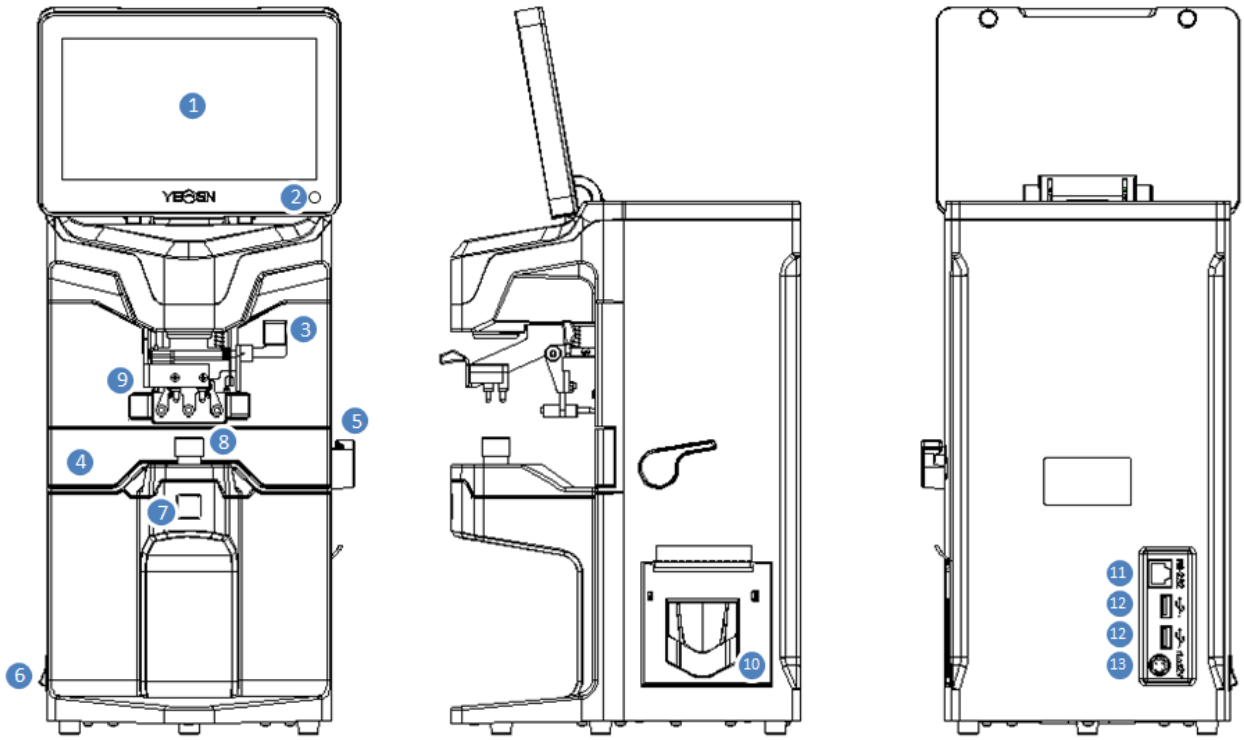
● When performing maintenance work, secure a sufficient maintenance space, as Maintenance work in an insufficient space may result in injury.

2.5 Disposal

● When disposing of packing materials, sort them by material and follow local governing ordinances and rescaling plans.

● Follow the local governing ordinances and recycling plans regarding disposal or recycling of device components.

3. CONFIGURATION



1. Screen 2. Pilot lamp 3. Marking unit 4. Lens pushing board

5. Lens pushing board lever 6. Power switch 7. Read key 8. Lens support

9. Lens pressing unit 10. Print cover 11. RS-232 connector

12. USB connector 13. Power supply inlet

4. INTERFACE

4.1 Measurement interface

1. Data area

Display measurement data, divided into two areas of L/R. Click to set it to the working state, and the measured data is highlighted in blue under the working state and refreshed in real time.

2. L / R indication

Display the working status of automatic L/R.

Taking the L area as an example, the meaning of the state is as follows:

L	Start the automatic L / R, and switch to the right lens measurement automatically after the left lens measurement result data is locked
L	Turn off automatic L / R

3. Alignment circle

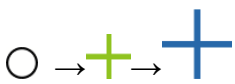
The center of alignment circle shows the optical center, axis bar and target are shown in the alignment circle.

4. Axis bar

It's shown in the alignment circle, and corresponding position indicates axis of measured lens.

5. Target

The position of target in alignment circle indicates direction and distance of measured lens to optical center. When target moves closer to optical center, the shape changes in the shown way:



	Far from optical center
	Near optical center. Measured data can be directly read by pressing Read key
	In optical center. Measured data automatically gets fixed in auto read mode, and measured data gets fixed by pressing Read key in manual read mode.

6. Step indication shortcut tab

It shows measurement step, including: 0.01D, 0.06 D, 0.12 D, 0.25 D.

7. Prism indication shortcut tab

The prism result can be indicated in three modes: off, △, XY.

8. Astigmatism indication shortcut tab

Cylinder is indicated in three modes: +, +/- and -.

9. Set

Press the icon, then it comes to parameter setting interface.

10. Clear

It clears the memorized data, and release fixed data, then measured result comes to zero.

11. Print

Do printing according to parameter setting mode in “Printer” and “Print Mode”.

12. Information bar

Display Abbe coefficient, measurement number, time and other information.

13. Shift key of reading mode

Choose reading mode including Auto Read, Manual Read and Quick read.

14. Auxiliary grid

Display the auxiliary grid, used to quickly confirm the direction of the progressive belt of the unmarked lens.

4.2 Measurement mode

Click on the focus ring area to change the measurement mode in the popup window.

CCQ-1100 supports measurement modes including

	PD measurement mode
	Standard measurement mode
	Auto identification measurement mode
	Progressive Power Lens measurement mode
	Contact lens measurement mode
	Transmittance measurement mode
	Lens Distortion measurement mode

5. INSTALLATIONS AND CALIBRATION

Place the instrument on fixed table, and connect power. Detailed steps are shown below:

a. Place the instrument on stable and fixed table.

b. Adjust the screen tilt to a suitable position.

c. Connect the plug of power adapter to the socket.

d. Put the DC power output of power adapter into the instrument.

e. Switch on the instrument. The screen becomes working, and then instrument gets started

f. The instrument comes to measurement mode interface.

g. If the brightness is not comfortable, then adjust them.

6. OPERATING PROCEDURES

6.1 Measurement Preparation

Turn on the power switch and the instrument starts.

Wait for the progress bar load finish, and then the instrument automatically enters into measurement interface.

6.2 Setting Lenses

6.2.1 Set uncut lens

a. Set lens on Lens support

Place the lens center on the Lens support with the convex side up.

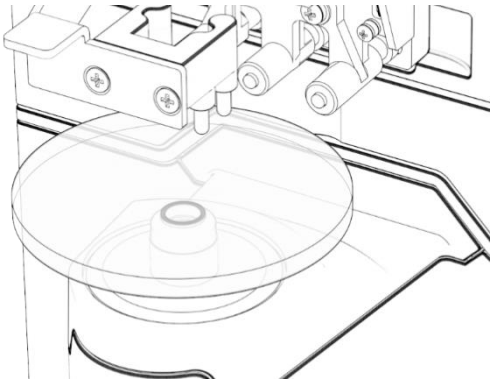


Fig 6.2.1a

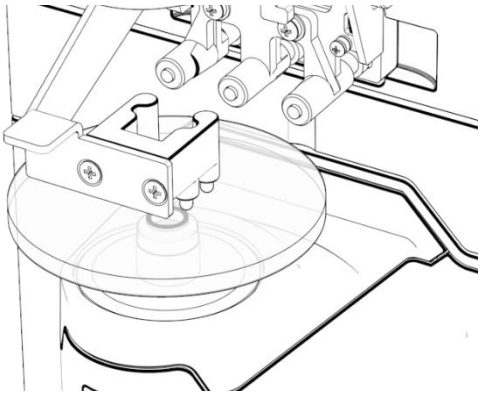


Fig 6.2.1b

b. Fix the lens to Lens support

Raise the lens pressing unit, then lower it slowly to fix the lens.

● Lens pushing board is not needed to fix uncut lens.

6.2.2 Set framed lens

a. Set framed lens

Place the framed lens on Lens support with front surface upward.

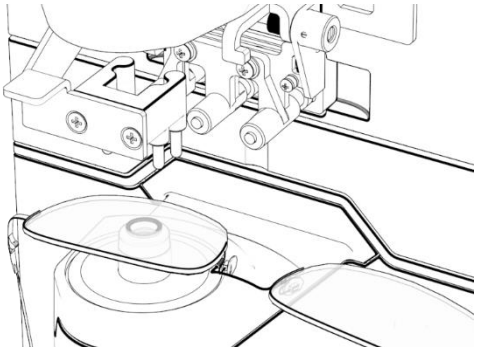


Fig 6.2.2a

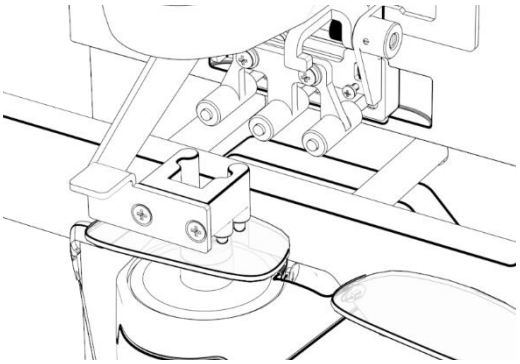


Fig 6.2.2b

b. Move lens pushing board

Turn the lens pushing board lever until it touches and parallel the bottom of the frames.

c. Fix lens with lens pressing unit

Raise the lens pressing unit, then lower it slowly to fix the lens.

6.3 Measuring Single Vision Lens

Single vision lenses are measured on the Auto Identification Measurement Mode or Standard Measurement Mode, the procedure is as follows:

a. Specify lens side if necessary

Put L or R data area into working state, specify lens side. If “auto L/R” is set to “on”, the lens will be removed after the measurement data is locked, and R and L will be switched automatically.

● If lens side is only specified after measurement, the measured data will be cleared.

b. Perform lens alignment

Move the lens to bring target close to the center of alignment circle. If it's framed lenses, move the lens pushing board along the frames. When alignment is finished, make sure that the bottom of the frames is touched with lens pushing board.

c. Fix measured data

When alignment is finished, the measured data is fixed by pressing Read key in manual read mode or automatically fixed under auto read mode.

● Cylinder indication shortcut tab still works in terms of changing the indication mode of cylinder value even after measured data is fixed.

d. Measuring other lenses

If it is necessary to measure the other lenses, then follow the same step as above.

e. Print measured data

When the measurement is completed, press “Print” to print out the measured data.

6.4 Measuring Multifocal Lens

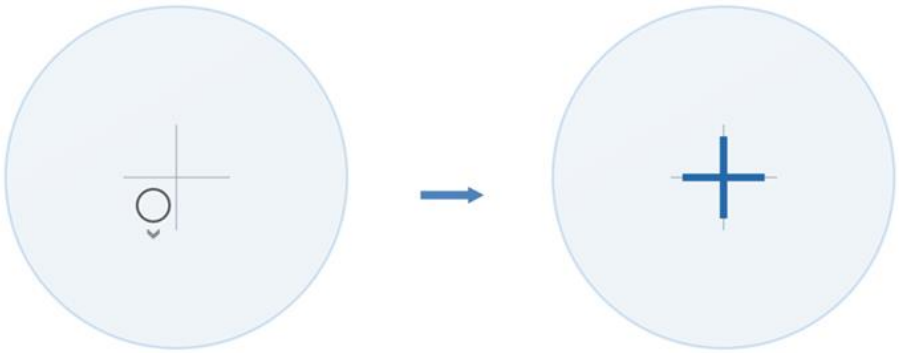
6.4.1 Measuring Bifocal Lens

Bifocal measure step: far vision part → near vision part. Measure lens under Bifocal mode.

● For bifocal measurement, you need to set “multifocal” to “bifocal” in the parameter setting interface (see 6.14 Parameter Setting). At this time, the automatic identification module  and standard measurement module  are not available.

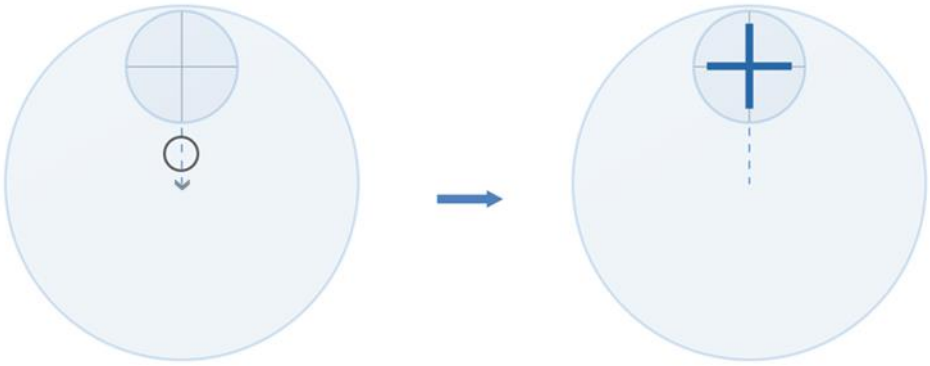
a. Determine the left and right of the lens

b. Measure the far vision part



Move the far vision part of the lens to the lens support and focus, when the target changes from ○ to blue +, the measured value of the far vision part will be locked.

c. Measure the near vision part (Add value)



Pull the lens towards the measuring person, move the near vision part to the lens support, and the near vision part (ADD value) will be locked.

6.4.2 Measuring Trifocal Lens

As to trifocal lenses, the order is far vision part → middle portion → near vision part.

● For measurement of trifocal, you need to set “multifocal” to “trifocal” in the parameter setting interface (see 6.14 parameter settings). At this time, the automatic identification module  and the progressive multifocal measurement module  are not available.

a. Make sure the left and right of lens.

b. Measure the degree of distance portion.

First moving the distance portion of lens to the bracket ,and then focus ,when the target change from circle mark to cross mark, Press the Read Key, distance portion measurement complete.

c. Measuring the middle portion add power.(Add: the first add power)

Moving the lens to measurement direction to make the middle portion located on the bracket .When an added reading is detected, Add is displayed.

● Not necessary to alignment the target mark

● Mandatory manual reading during measurement.

● Taking down the lens during the measuring process, please remeasure from far vision part.

Press the Read Key, the first add power (Add) of middle portion measurement complete.

d. Measuring the near portion add power. (Ad2: the second add power)

Moving the lens to measurement direction to make the near portion located on the bracket .When an added reading is detected, Ad2 is displayed.

● Not necessary to alignment the target mark

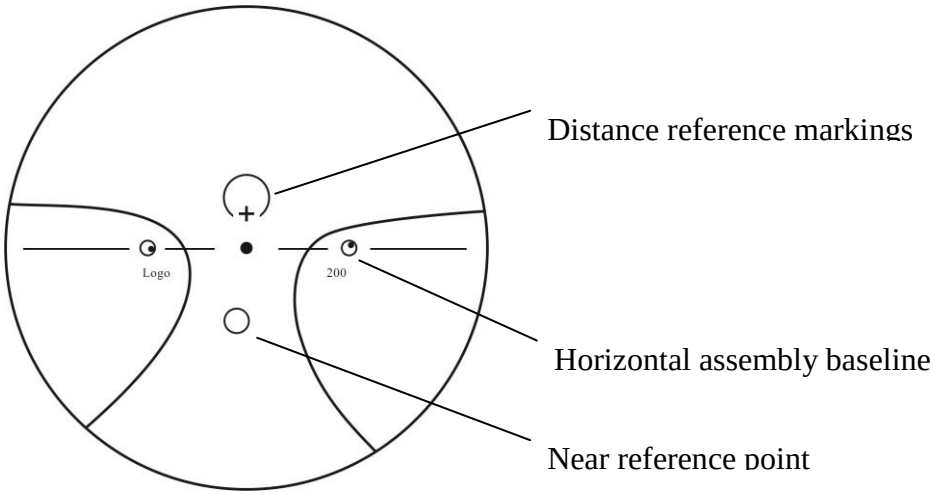
● Mandatory manual reading during measurement.

● Taking down the lens during the measuring process, please remeasure from far vision part.

Press the Read Key, the second add power (Ad2) of near vision part measurement complete.

6.5 Measuring Progressive Power Lens

6.5.1 Measure uncut lens



Measure the vertex power of the lens at the mark of the far and the near printed on the uncut lens, and measure it manually.

Place the progressive surface of the lens on the measuring holder, place the lens so the near reference point of the lens is centered on the measuring holder, and press the reading key to measure the near vertex power.

Keep the progressive surface of the lens facing the measuring holder, center the distance reference point of the lens on the measuring holder, and press the reading key to measure the distance vertex power.

The difference between the near vertex power and the far vertex power is the near additional

vertex power of the progressive lens.

● When placing the lens, its horizontal assembly baseline must be parallel to the Lens pushing board, and try to align the center of the lens marking ring with the center of the light hole of the measuring holder to make the measurement accurate.

6.5.2 Measuring framed lens

In the automatic recognition mode, when the lens on the holder is detected as a progressive multifocal lens, the screen will automatically jump to the progressive multifocal lens measurement interface. The detailed operation steps are as follows:

a. Switch to progressive multifocal film measurement mode

b. Determine the left and right lens

c. Place the lens

Place the part slightly below the center of the lens on the measuring holder.

d. Measure the far vision part

1. When starting to measure the far vision part, the target of the far vision portion appears, and the message prompt box prompts “Measuring far portion”.

2. Measure the focus

First, move the lens in the horizontal direction so that the target is aligned with the vertical line of the cross; then move the lens in the vertical direction so that the target is aligned with the horizontal line of the cross.

The arrow indicates the direction in which the far vision area of the lens should move, and when focusing, move the far vision area of the lens slowly in the direction indicated by the arrow.

3. Slightly adjust the vertical and horizontal positions of the lens until the focus lock measurement result data is completed, and then “Far portion locked” is displayed in the message prompt box.

● The lens should always be in contact with the lens support; keep the frame close to the push

plate when moving the lens.

e. Measure the near vision part (ADD power)

1. After the measurement of the far vision area is completed, the target in the near vision portion appears, the information prompt box displays “Measuring near portion”, and the measured value of Add starts to change.

2. Measure the focus

First, move the lens in the horizontal direction so that the target is aligned with the vertical line of the cross; then move the lens in the vertical direction so that the target is aligned with the horizontal line of the cross.

The arrow indicates the direction in which the near vision area of the lens should move, and when focusing, move the near vision area of the lens slowly in the direction indicated by the arrow.

3. Slightly adjust the vertical and horizontal positions of the lens until the focus lock measurement result data is completed, and then “Near portion locked” is displayed in the message prompt box.

● The lens should always be in contact with the lens support; keep the frame close to the push plate when moving the lens.

f. Measure other lenses.

g. Print measurement result data.

● The measurement results are for reference only.

6.6 Measuring Contact Lens

Detailed steps of contact lens measurement are shown as below under Contact Lens Measurement Mode:

a. Change the spectacle lens support into contact lens support especially for contact lens

b. Contact Lens Measurement Mode switch

Come to Parameter Setting interface, and set parameter of “Contact” to “On”. Click the focus ring area after returning to the measurement interface, select in the popup window to complete the measurement mode switch of contact lens.

c. Set contact lens

Set the lens onto Lens support with convex side up. If it's soft contact lens, remove moisture from the surface with soft cloth before putting it onto Lens support.

● Hold a contact lens with tweezers. Be careful not to press the lens with lens pressing unit.

d. Align the contact lens, pushing its end lightly with tweezers tips.

e. Get measured result by pressing Read key after alignment

● Auto Read mode is not working for contact lens measurement, which can only be achieved by pressing Read key.

● Among measured data, a SE value will be displayed, which is 1/2 of the cylinder value added to the sphere value. When a non-cylindrical contact lens is measured and still a cylinder value is detected, the SE value will be more reliable than the SPH value to know the total sphere value. It reduces the error in the measured data made by the unintended cylinder value.

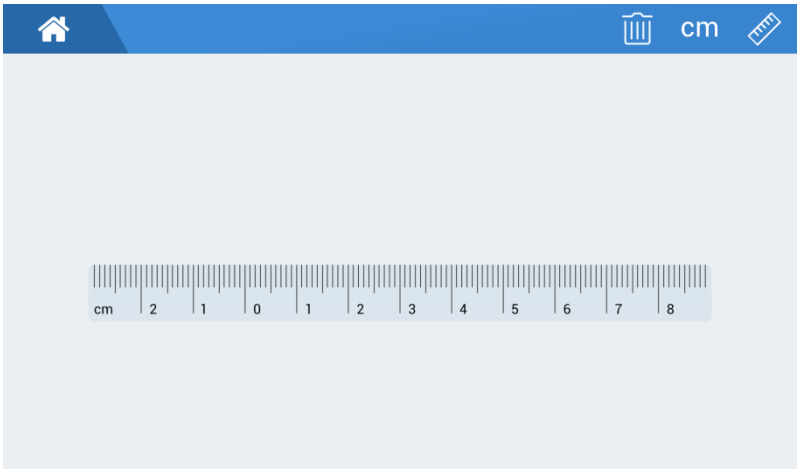
f. Measure other lens if necessary.

g. Print out measured result.

● Measure a soft contact lens as quickly as possible before the lens surface becomes dry. Because the lens contains water and is made of soft material, the lens cannot stay spherical for a long time, altering the measured data.

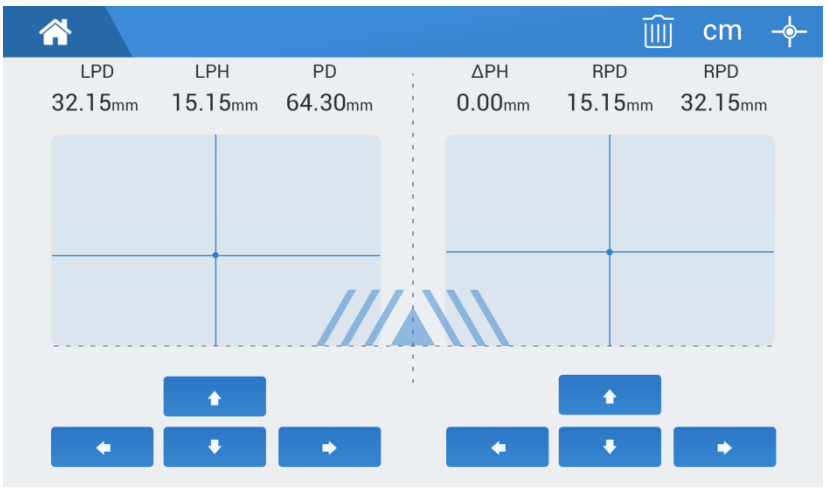
6.7 Quickly measure PD

6.7.1 Click on the focus ring area to press to enter the measuring mode of PD quick measurement.



Put mark dot to ruler and fast to read PD.

6.7.2 Press key to switch to lead measurement mode.



a. Lay the display flat.

b. Put the mirror on the screen, the lower part of the two frames is level with the horizontal dotted line on the screen, and the nose pad is placed on a symmetrical diagonal line, so that the mirror is basically centered.

c. Use the arrow keys to adjust the position of the cross target to coincide with the dot marks on the left and right lenses.

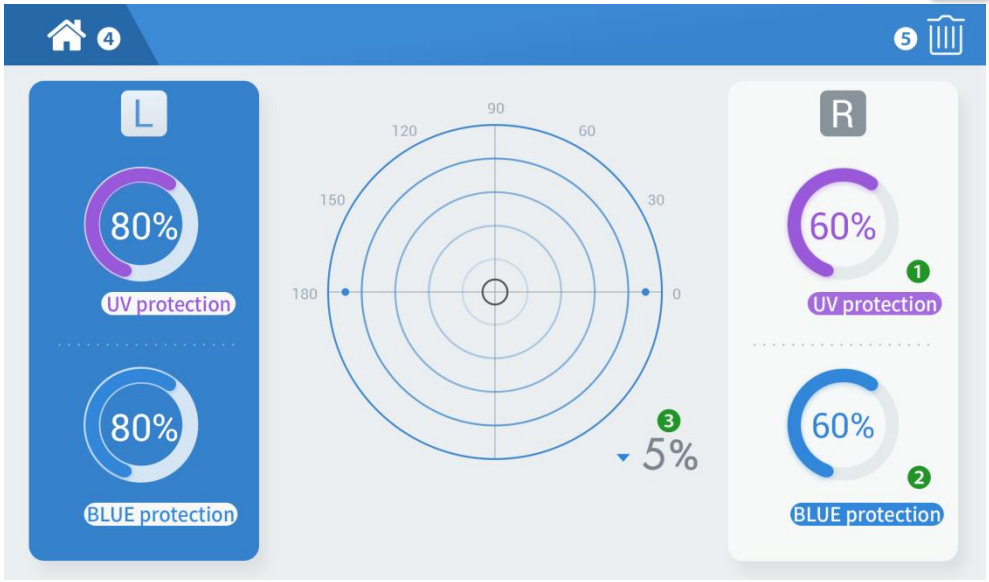
d. Read the interpupillary distance and interpupillary height measurement on the screen.

6.7.3 Press to switch back to direct reading mode.

● This function is only for demonstration and comparison. The Measurement results are for reference only.

6.8 Measuring UV / blue light transmittance

6.8.1 Click on the focus ring area and select the transmittance measurement mode 



1. UV transmittance display

The ultraviolet light transmittance of the lens was measured using ultraviolet light with a central wavelength of **400**nm (UV-A), expressed as a percentage.

2. Blue light transmittance display

The blue light transmittance of the lens was measured using blue light with a central wavelength of 420 nm, expressed as a percentage.

3. Quick step selection

Scroll to select the step display mode of the measurement result, including: 1%, 5% two steps.

4. Return to home page

5. Clear measurement results

6.8.2 UV / Blue Light Transmission Measurement

Detailed steps of UV / Blue Light Transmission Measurement are shown as below:

a. Place the lens

b. Measuring focus

● When measuring the transmittance of ultraviolet or blue light, if the focus is not performed, the measurement result may be biased.

c. Press the read key

Press the read key to display the measurement result data.

● Harmful effects of UV (ultraviolet rays) on the eyes.

The UV contained in sunlight is roughly classified into three types.

UV-C 280nm or less	It will not reach the earth's surface.
UV-B 280 nm to 320nm	It Was absorbed by the cornea. Causing corneal loss, such as inflammation. Cause sunburn. The skin turns red. Causes skin irritation and skin damage, such as: blemishes, freckles and wrinkles.
UV-A 320nm to 380nm	Gathered in the lens, may cause cataracts. Cause sunburn. The skin darkens.

● This function is only for demonstration and comparison. The Measurement results are for reference only.

CCQ-1100 can measure UVA transmittance.

Because UV-A is the most harmful UV light, measuring UV-A transmittance can be an effective assessment of protection.

6.9 Marking

Detailed steps of optical center and axis of measured lens marking are shown as below:

a. Set the lens onto Lens support.

b. Align the lens and then do the marking.

c. After alignment is finished, fix the lens with lens pressing unit.

d. Mark the lens with marker.

e. Remove the lens by uplifting lens pressing unit.

● Do not touch the marked dots, or the unclear dots will make the axis not able to read.

6.10 Mark prism prescription

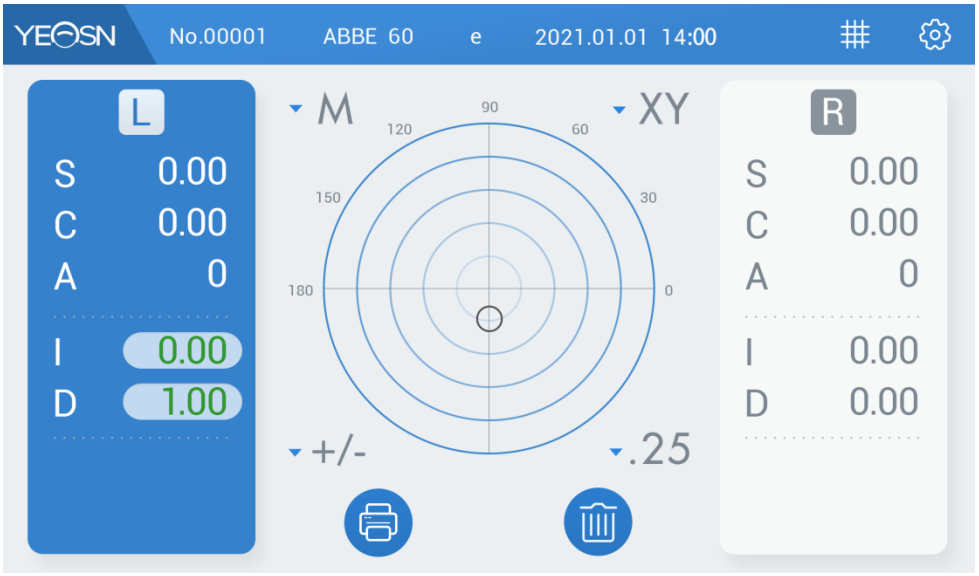
This function is used to mark the prescription lenses for implicit strabismus.

Pre - input prism prescription will make the target reverse the distance of the value of the prism data, to the positive lens, to align the target with the center of the focus ring, and to mark the lens.

a. Set “Prism Rp” to “On” in the background settings. At this point, you can press the green highlight in the interface to enter the prism value.

b. Enter the prism prescription via the pop-up keyboard.

c. After prism prescription is input, the target moves the distance of prism data in reverse direction.



● According to the expression of prisms, prism prescription can be input in Cartesian coordinate system and polar coordinate system.

● The maximum 20 delta prism prescription can be put into the polar coordinates. When the prism prescription is shown in a Cartesian coordinate, a value less than 20 delta may not be allowed to input, so that limit the absolute prism value expressed in polar coordinates to 20 Delta.

6.11 Lens Distortion Detection

a. This function displays the distortion of the spectacle lens by measuring the difference between the apex power at the center of the customer's spectacle lens and the apex power of the eight parts around the lens.

● This function is only for demonstration and comparison. The Measurement results are for reference only.

● To measure progressive lens cannot use distortion check function.

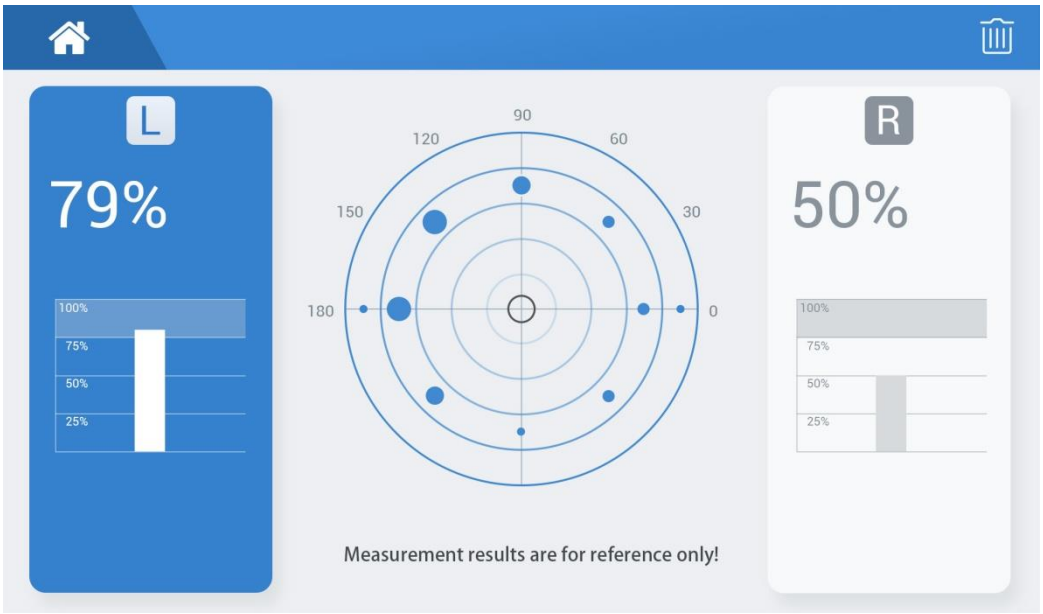
● Aspherical and spherical surface lens which be exceeded ±10D may be falsely informed.

● Aspherical lens may be erroneously assumed to progressive lens. Under this condition, please measure the lens in the condition of single vision lens.

b. Using method

Click on the focus ring area to press the key  to enter the Lens Distortion measurement mode.

To put lens on lens supporter.



Examine the distortion of eight distribution points on the lens relative to the degree difference of the center vertex of the lens.

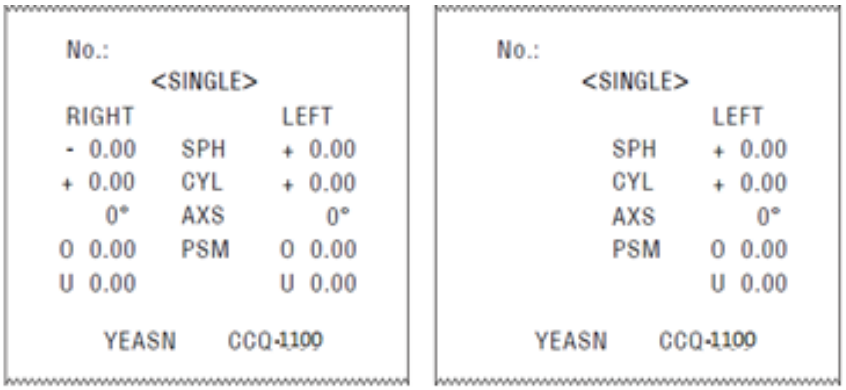
If the lens is not distorted, indicating that all positions in the measurement area have the same degree, the dot ●mark will not appear.

If the lens is distorted, it indicates that there is a difference in the degree between the non-lens center position and the lens center position in the measurement area, 8 dots ● will appear. The size of 8 points is different if the degree difference between the position and the center of the lens is not the same; If the degree difference between the position and the center of the lens is the same, the size of the 8 points ● is the same.

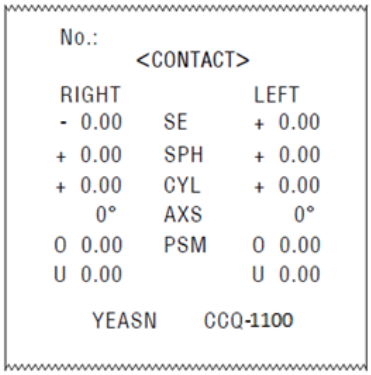
The distortion percentage reflects the degree of lens distortion in the measured area, which is expressed as a weighted average distortion of 8 points, and the corresponding point distortion is shown as a bar chart.

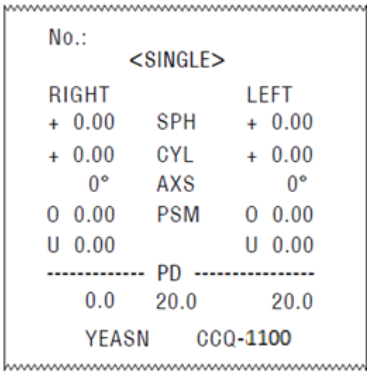
6.12 Printout

6.12.1 “Information output” is set to “Off” mode, printout example:

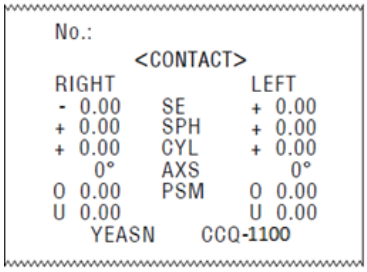


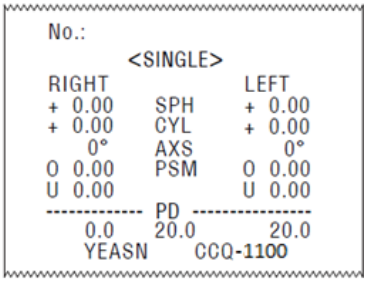
6.12.2 “Information output” is set to “Off” mode. Example of printout of contact lens measurement results and pupil distance measurement results:





6.12.3 Set “Economic print” or “Auto print” at “Printer” and “Information output” is set to “Off” mode. Example of printout of contact lens measurement results and pupil distance measurement results:





6.12.4 “Information output” is set to “On” mode, printout example:

6.13 After use

6.13.1 Switch off the instrument

Switch off the instrument under Measurement interface.

6.13.2 Dust-proof

When the device is not in use, turn it off and put the dust cover over the instrument. Dust may affect measurement accuracy.

● If dust on the instrument attracts moisture, it may cause short circuit or fire.

6.14 Parameter settings

1. Press the parameter setting key  to enter the parameter setting interface;

2. Press the corresponding parameter value after the parameter item that needs to be modified. The selected parameter value is highlighted and the modification is saved.

Every parameter setting method is described below:

1) Measure Mode: Standard, Auto, PPL. Factory settings: Auto

Standard	Normal measurement mode, measure single, bifocal or trifocal lens
Auto	Single vision lens, bifocal lens, and progressive lens can be automatically identified and measured under such mode
PPL	Progressive Power Lens Measurement Mode

2) Wavelength: e, d. Factory settings: e

It's used to choose e light (wavelength: 546.07nm) or d light (wavelength: 587.56nm)mode.

3) Contact: Off, On, Only. Factory settings: Off

Off	Close contact lens measurement function
On	Contact lens measurement is added to the measurement modes
Only	Contact lens measurement mode is automatically recognized when starting the instrument

4) Multifocal Lens. Factory settings: single vision lens

When doing lens measurement, set the lens types into "single vision lens", "bifocal lens" or "trifocal lens".

5) Auto L/R: Off, On. Factory settings: Off

On	It automatically identify the first lens as right lens, and switch automatically to left lens after the first data is fixed, and displays according to Nose pad position.
Off	Turn off automatic L / R switching

6) Prism Rp: Off, On. Factory settings: Off

To choose if start using prism prescription function.

7) Abbe select: A (58), B (41), C (32).Factory settings: A (58)

ABBE was used for compensating measurement value error when measuring high-power lens.

Can choose ABBE from parameter setting or Information bar

According to lens materials, can input ABBE from A, B, C, scope 20-60

Default as A: 58, B: 41, C: 32.

8)Step: 0.01,0.06,0.12,0.25.Factory settings:0.01。

Choose different increment of displayed data. Increment of axis and prism are always 1 º.

9)Cyl: ＋/－,＋,－. Factory settings:＋/－.

＋	Cylinder display in ＋ mode
＋/－	Automatically identify cylinder, display in + or －
－	Cylinder display in － mode

10) Prism: Off, P-B, XY. Factory settings: P-B

Off	Turn Off prism display
P-B	Prism value in the form of polar coordinate representation (Prism△, Base º)
XY	Prism value in the form of rectangular coordinate representation. In,out,up and down

11) Near: N.SPH, ADD. Factory settings: ADD

N.SPH	N: 1st near power(distance power+1st Add power) 2: 2nd near power(distance power+2nd Add power)
Add	Add: 1st added power Ad2: 2nd added power

12) Brightness: 25%,50%,75%,100%； Factory settings:25%。

13) Reading: Auto, Quick, Manual. Factory settings: Auto

Auto	The measured data is fixed without pressing Read Key when target becomes blue in the process of alignment.
Quick	When prism power lower than 0.5cm/m,will automatically lock.
Manual	The measured data is fixed by pressing Read Key when target becomes blue in the process of alignment.

14) Screen Saver: off, 3min.5min, 30min. Factory settings: 5min.

15) Buzzer: off, Low, Middle, High. Factory settings: Middle.

16) Printer: Off, On, Auto. Factory settings: On.

Off	Press “Print”, and fixed data is not printed out
On	Press “Print”, and fixed data is printed out
Auto	Print measured data automatically after measurement finish, then the data is cleared.

17) Printer Mode: Normal, Economic. Factory settings: Normal.

Normal	Press “Print”, and fixed data is printed out in the form of standard space
Economic	Press “Print”, and fixed data is printed out in the form of narrowed space

* The print result of “auto print is the same with “economic print”.

18) Auto Reset: Off, On. Factory settings: Off.

Off	After pressing” Print”, the measurement value result continue existing
On	After pressing” Print”, automatically clear the measurement value.

19) Date/Time: Adjust.

Press “Adjust” to change the date and time.

20) Date Format: Off, yyyy.mm.dd, mm/dd/yyyy. Factory settings: mm/dd/yyyy

21) Language: English.

22) Comm Mode: PC, YCP I, YCP II, YCP III. Factory settings: PC.

PC	Communication with PC
YCP I	Communication with Yeasn brand equipment corresponded with YCP I
YCP II	Communication with Yeasn brand equipment corresponded with YCP II
YCP III	Communication with Yeasn brand equipment corresponded with YCP III

23) Baud Rate: 2400, 9600, 19200, 115200.Factory settings: 19200.

Choose communication transmission rate matched with outer equipment.

24) Parity Check: Off, Odd, Even. Factory settings: Off.

Set the operation of odd and even check.

25) Data Bits: 7bit, 8bit. Factory settings: 8bit.

Choose the digit of single character bit used in communication.

26) Stop Bits: 1bit, 2bit. Factory settings: 1bit.

Choose the digit of stop bits in communication.

27) CR Mode: Off, On. Factory settings: Off.

Choose whether to add the additional CR (Carriage Return Character) in the end of the ready transmit data.

28) RS-232 Mode: Off, On. Factory settings: Off.

Off	Don't use RS-232 mode
On	Press “Print”, and fixed data is put out through RS-232 connector

This equipment uses RS-232 data cable for data transmission.

First, power on the CCQ-1100 auto focimeter and finish the parameters settings as per NO.21-27. At the same time, connect one end of the data cable to the port of the communication device, and then connect the other end of the data cable to the CCQ-1100 auto focimeter. After the CCQ-1100 measurement is completed, and click the print button on the screen to perform data communication (note: the receiver must open the RS-232 serial port, and the parameter settings need to match the settings of items NO.21-27 and just can be communicated successfully).

29) Data Record: Off, On, Auto. Factory settings: Off.

Set whether to keep the measured data record in the system.

Off	Don't record the data.
On	Press “Print”, and record the measured data
Auto	Finished measured data will be automatically record, then the data is cleared.

30) Note: Edit

Press the “Edit” key to display the product serial number, user and note. Among them: the product serial number cannot be edited, users and notes can be edited. Click the input area corresponding to the user and the note to pop up the keyboard.

Keyboard frame is composed of character (upper/lower letter, Arabic number and punctuation) and function key. Click the character or function key on keyboard frame, corresponding operation will display on edit bar.

• After user information edit is completed, the user information can be saved permenantly.

31) Output: Off, On. Factory settings: Off.

Off	Don't print user, note information
On	Print user, note information

32) Guide Page: Off, On. Factory settings: On.

Off	The guide Page is not displayed after the instrument is turned on
On	Guide page displayed after the instrument is turned on

33) Restore: Default

Press this key to restore all parameters to factory settings.

34) Theme: Blue, Classical, Green, Orange. Factory settings: Blue.

7. Maintenance

7.1 Trouble-shooting

If the instrument does not work properly, please find out the symptom and action according the table below:

Symptom	Action
Pilot lamp is off	Check the power connector, and reconnect if there is disconnection
Data is not printed out	Check the printer paper. If the paper has been used up, set new printer paper The “Printer” parameter may be set to OFF, reset the parameter
The printer does work, but printed result cannot be obtained	The printer paper may be set with the wrong side up. Set it with the correct side up. If the paper gets stuck, the paper may not be set correctly. Set it again correctly.

● If the above actions are not working, please contact us for after-sales service.

7.2 Replacing printer paper

When a horizontal red line appears on the edge of the printing paper, please stop using the printer and replace it with new printing paper. The steps are as follows:

a. Pull the transparent printing compartment door and open the printer cover.

b. Put the new printing paper roll into the printing box.

● If the paper is turned upside down, the print data will not be displayed on the paper.

c. Pull out the printing paper along the paper outlet of the printer cover.

d. Close the printer cover and the transparent printing compartment door will reset automatically to complete the replacement.

● Please do not print without printing paper, or pull the printing paper in the printer forcefully, this kind of operation will reduce the life of the printer.

7.3 Error messages and countermeasures

If a message appears on the screen, find out the symptom and action according to the table below:

Information	Processing method
Init Error	Check the Lens support, press the OK button and restart the instrument
Please remove lens from Lens support	After removing the lens, press the OK button and restart the instrument
Dust detection. Please clean lens	Check Lens support. Remove the dust and dirt from the protective glass. Press the OK button to restart the instrument
Do you want to use Contact Lens support	Replace with spetacle Lens support, press the OK button to restart the instrument; or choose “NO” to quit measuring contact lens
CMOS Error	Failure in the interior of the instrument. Contact authorized distributor

● To guarantee the normal and safe operation of the equipment, a preventive check and maintenance should be conducted for the ME equipment and its parts every 6-12 months (including performance check and safety check).

● If the surface of the lens is not clean or the measuring beam is blocked, measurement may be inaccurate.

● If the rubber support on the measurement base is lost, it will cause measurement inaccuracy. Contact your local dealer or manufacturer.

7.4 Refilling ink (applicable to Auto Focimeter with ink pad)

When marking becomes faint, it means you need to refill ink.

7.4.1 Remove the ink pad

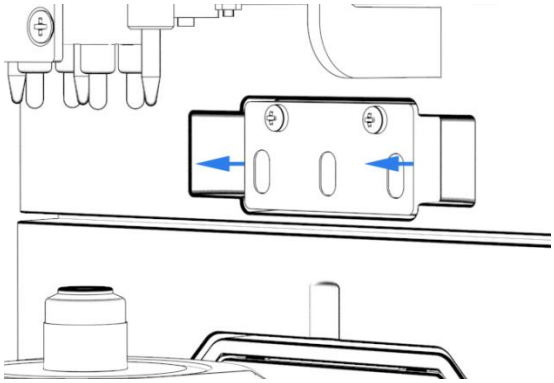
a. Hold the mark holder with right hand.

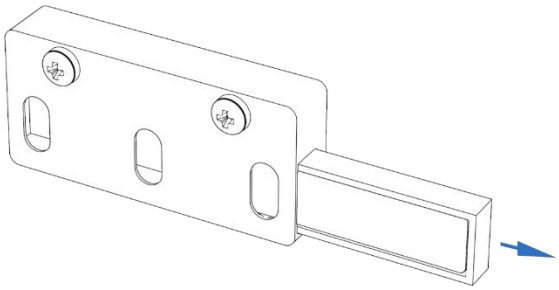
b. Pull it out plumb with left thumb and index finger pressing the two ends of ink pad.

7.4.2 Remove the woolen felt

a. Push the felt box out with tool.

b. Slightly push out the felt pad.





7.4.3 Refill the ink

7.4.4 Put the refilled ink box back to the instrument

● The two screws on the pad are facing up.

7.5 Cleaning the protective glass

Remove the dust and dirt from protective glass regularly.

a. Remove the Lens support.

b. Blow off the dust and dirt on the surface of the protective glass with a blower.

c. If it's still dirty, wipe gently with a lens cleaning paper moistened with alcohol.

● Dust on the protective glass may affect the measurement precision. Take special care not to scratch the protective glass. Flaws on the glass substantially lower the reliability of measurement.

7.6 Cleaning the lens

a. Blow off the dust and dirt on the surface of the lens with a blower.

b. Wipe gently with a lens cleaning paper moistened with alcohol.

● Wipe the lens from the center to the outside clockwise.

c. Check if the window is clean. If not, clean it again with a new paper.

● Change the view angle to check the dirt clearly.

7.7 Others

Clean with soft cloth when the cover or dial becomes dirty. If there is dirt, wipe with cloth moistened with neutral detergent, and then dry it with dry soft cloth.

Clean frequency: Need check if optical path system is dusty when turn on instrument.

● The instrument no touch with patients, needn't disinfect.

● Do not use organic solvents like diluted paint, which will ruin the surface of the instrument.

● Wipe gently the screen or touch screen will be broken and lead to malfunction.

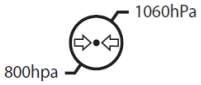
● Do not wipe with watered sponge or cloth, as water may go into the instrument and lead to malfunction.

8. Environmental Conditions

8.1 Environmental conditions for normal operation

Temperature: 10 ℃ to 35 ℃

Humidity: 30% to 85% (No condensation)



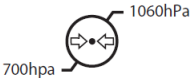
Environmental pressure: 800hPa to 1060hPa

Clean indoor place, no direct strong light, no vibration and collision

8.2 Environmental conditions for transportation and storage

Transportation temperature: -10 ℃ to 55 ℃

Transportation humidity: 10% to 85% (No condensing)



Transportation environmental pressure: 700hPa to 1060hPa

8.3 Service life

The service life of the device is 8 years from first-time use with proper maintenance and care.

9. Environmental protection

INFORMATION FOR USERS

Please recycle or properly dispose of the used batteries and other wastes to protect the environment.

This product bears the selective sorting symbol for waste electrical and electronic equipment (WEEE). This means that this product must be handled to the local collecting points or given back to retailer when you buy a new product, in a ratio of one to one pursuant to European Directive 2012/19/EU in order to be recycled or dismantled to minimize its impact on the environment.

Very small WEEE (no external dimension more than 25 cm) can be delivered to retailers free of charge to end-users and with no obligation to buy EEE of an equivalent type. For further information, please contact your local or regional authorities. Electronic products not included in the selective sorting process are potentially dangerous for the environment and human health due to the presence of hazardous substances. The unlawful disposal of the product carries a fine according to the legislation currently in force.

10. Manufacturer's Responsibility

The company is responsible for the safety, reliability and performance impact under below circumstances:

—Assembly, addition, modifications, alterations and repairs are carried out by authorized personnel by the company;

—Electrical facilities in the room are in conformity with relevant requirements, and

—The device is used according to the User Manual.

11 .Guidance of EMC and other interference

Guidance and Manufacturer's declaration – Electromagnetic Emissions		
This CCQ-1100 is intended for use in the electromagnetic environment specified below. The customer or the user of the CCQ-1100 should assure that the device is used in such an environment.		
Emissions test	Compliance	Electromagnetic environment - guidance
RF emissions CISPR 11	Group 1	The CCQ-1100 uses RF energy only for its internal function. Therefore, its RF emissions are very low and not likely to cause interference in nearby electronic equipment.
RF emissions CISPR 11	Class A	
Harmonic emissions IEC 61000-3-2	N/A	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	N/A	

Guidance and manufacture's declaration – electromagnetic immunity			
The CCQ-1100 is intended for use in the electromagnetic environment specified below. The customer or the user of CCQ-1100 should assure that it is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±8 kV contact ±15 kV air	±8 kV contact ±15 kV air	Floors should be wood, concrete or ceramic tile. If floor are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/burst IEC 61000-4-4	±2 kV for power supply lines ±1 kV for input/output lines	±2kV for power supply lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	±1 kV differential mode ±2 kV common mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5% U_T (>95% dip in U_T) for 0.5 cycle 40% U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles <5% U_T (>95% dip in U_T) for 5 sec	<5% U_T (>95% dip in U_T) for 0.5 cycle 40% U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles <5% U_T (>95% dip in U_T) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the YF-100 requires continued operation during power mains interruptions, it is recommended that the YF-100 be powered from an uninterruptible power supply or a battery.
Power frequency (50Hz/60Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE U_T is the a.c. mains voltage prior to application of the test level.			

<table>
<tr><th colspan="4">Guidance and Manufacturer’s Declaration – Electromagnetic Immunity</th></tr>
<tr><td colspan="4">This CCQ-1100 is intended for use in the electromagnetic environment specified below. The customer or the user of the CCQ-1100 should assure that the device is used in such an environment.</td></tr>
<tr><td>Immunity test</td><td>IEC60601 Test level</td><td>Compliance level</td><td>Electromagnetic environment - guidance</td></tr>
<tr><td>Conducted RF
IEC 61000-4-6</td><td>3 Vrms
150 kHz to 80 MHz</td><td>3 V</td><td rowspan="2">Portable and mobile RF communications equipment should be used no closer to any part of the CCQ-1100, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.
Recommended separation distance
$d = [\frac{3,5}{V_1}]\sqrt{P}$
$d = [\frac{3,5}{E_1}]\sqrt{P}$ 80 MHz to 800 MHz
$d = [\frac{7}{E_1}]\sqrt{P}$ 800 MHz to 2,5 GHz
Where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in metres (m).
Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,[a] should be less than the compliance level in each frequency range.[b]
Interference may occur in the vicinity of equipment marked with the following symbol:
  </td></tr>
<tr><td>Radiated RF
IEC 61000-4-3</td><td>3 V/m
80 MHz to 2.5 GHz</td><td>3 V/m</td></tr>
</table>

Recommended separation distances between portable and mobile RF communications equipment and the CCQ-1100.

The CCQ-1100 is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the CCQ-1100 can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the CCQ-1100 as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter(W)	Separation distance according to frequency of transmitter(m)		
	150 KHz to 80 MHz $d = [\frac{3,5}{V_1}]\sqrt{P}$	80 MHz to 800 MHz $d = [\frac{3,5}{E_1}]\sqrt{P}$	800 MHz to 2.5 GHz $d = [\frac{7}{E_1}]\sqrt{P}$
0.01	0.117	0.117	0.233
0.1	0.36999	0.36999	0.73681
1	1.17	1.17	2.33
10	3.69986	3.69986	7.36811
100	11.7	11.7	23.3