

EX-RX101-RX103-135

X-Craft MR Glasses

使用说明书

User Manual

RX101 RX103

X-Craft MR Glasses

Hangzhou Lingban Technology Co., Ltd.

☎ 400-113-0099

🌐 www.rokid.com

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1. Product Introduction

1-1. Introduction

Rokid X-Craft is the world's leading explosion-proof MR glasses equipped with a 5G module. It is Intrinsically safe ATEX Zone 1 and Zone21 (RX101, RX103), and compatible with standard helmets, specially designed for complex and high-risk environments such as Oil & Gas, Electric Power, Aviation, Rail Transport, and many other industries. It is equipped with AI algorithm and AR technology which enables frontline workers to update information automatically and increase work efficiency.

Online User Guide

(Scan the QR code to view more user instructions)



Rokid Glass Companion App

(Only for Android smartphone now. Please use the mobile device to scan the QR code below for downloads and installation)



1-2. Features

- Super industrial protection, IP66 dustproof and waterproof
- Intrinsically safe IECEx/ATEX Zone 1 and Zone21 (RX101, RX103)
- 5G (5G version RX101, RX102) WiFi network, and Bluetooth connections
- Leading binocular waveguide optical solution
- Powerful computing engine
- Leading artificial intelligence algorithms
- Multi-modal interaction as buttons, knob, voice and head-moving control
- Ultra-long usage life battery
- Compatible with self wearing glasses
- The first AR glasses with color changing shading lenses
- Expandable for adaptive modules (Do not use external interface in explosive environment)

1-3. SDK

In addition to the powerful hardware, X-Craft offers a set of software development kits (SDK) optimized for the solutions in different scenarios. SDK can help the developers to reduce development cost and improve development efficiency.

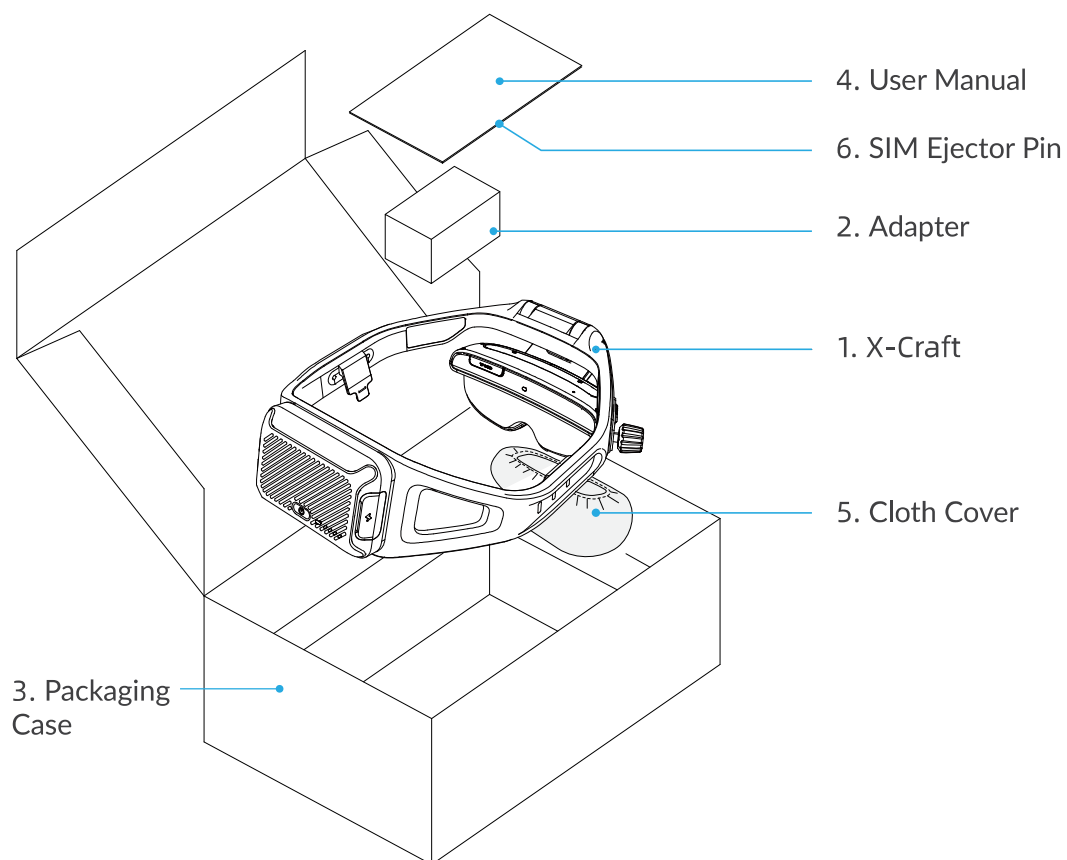
1-3-1. Voice Control

1-3-2. Head-Moving Control

1-3-3. AR Perspective Graphic Rendering

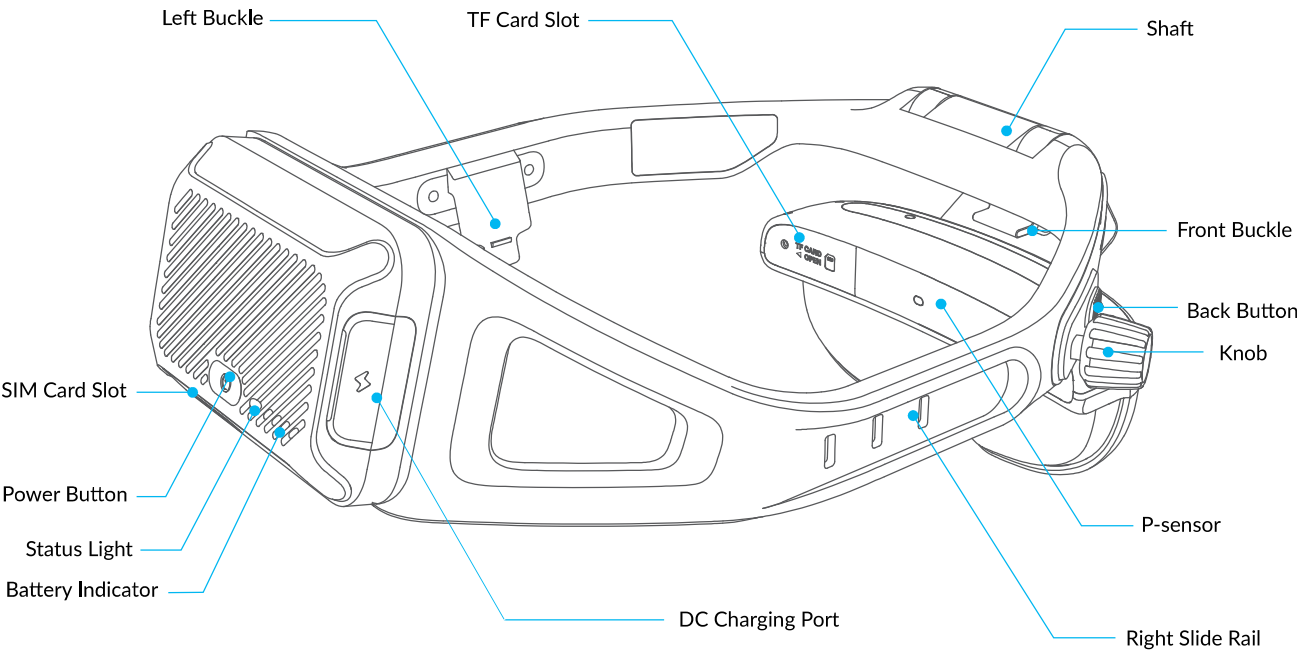
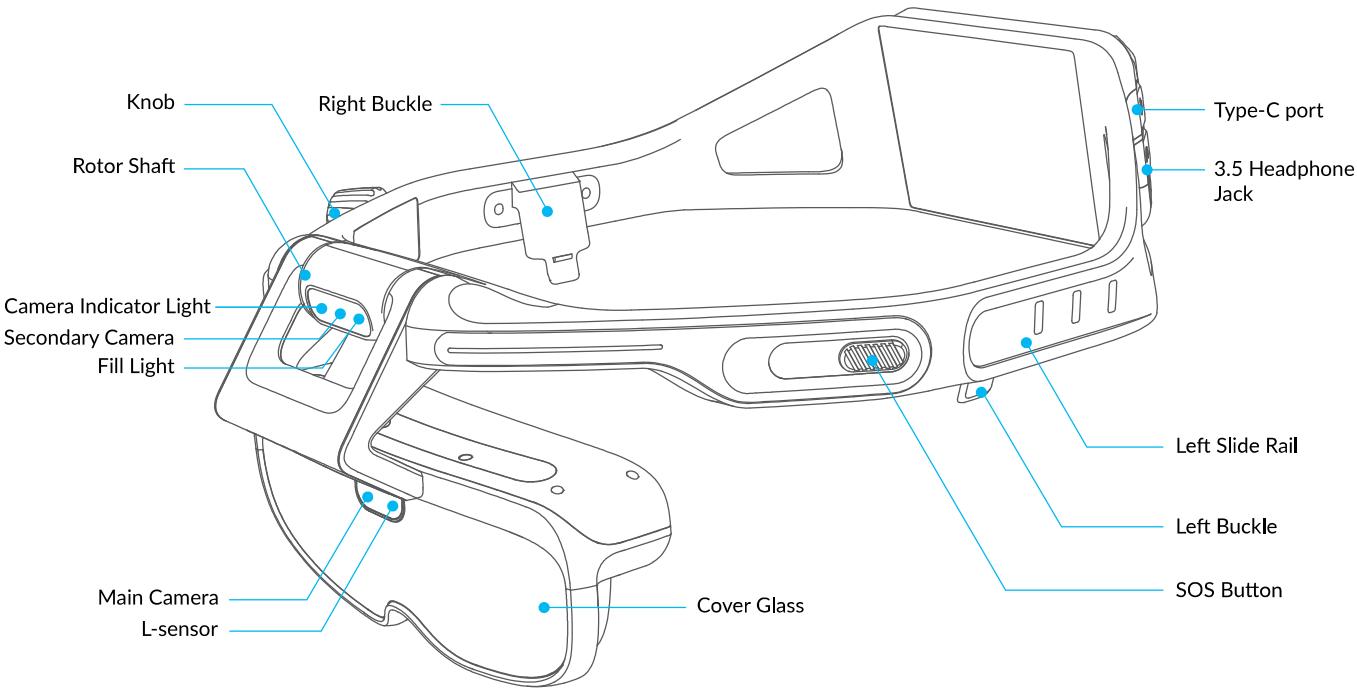
1-3-4. UX Components

2. Product Package

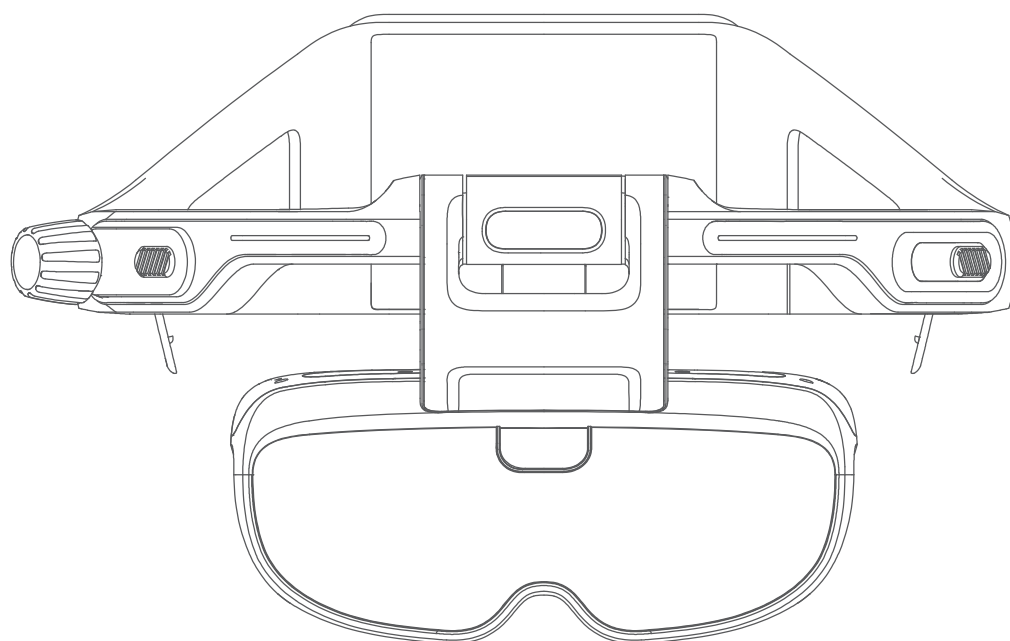


NO.	Name of Packing Parts	RX101	RX102	RX103	RX104
1	X-Craft MR Glasses	Explosion-proof (5G version)	Non-explosion-proof 5G version	Explosion-proof WiFi version	Non-explosion-proof WiFi version
2	Power Adapter (Charging while using is not supported)	√	√	√	√
3	Packaging Case	√	√	√	√
4	User Manual	√	√	√	√
5	Cleaning Cloth	√	√	√	√
6	SIM Card Pin	√	√	×	×
7	Changing Converter	√	×	√	×

3. Product Description (Dimensions & Functions)

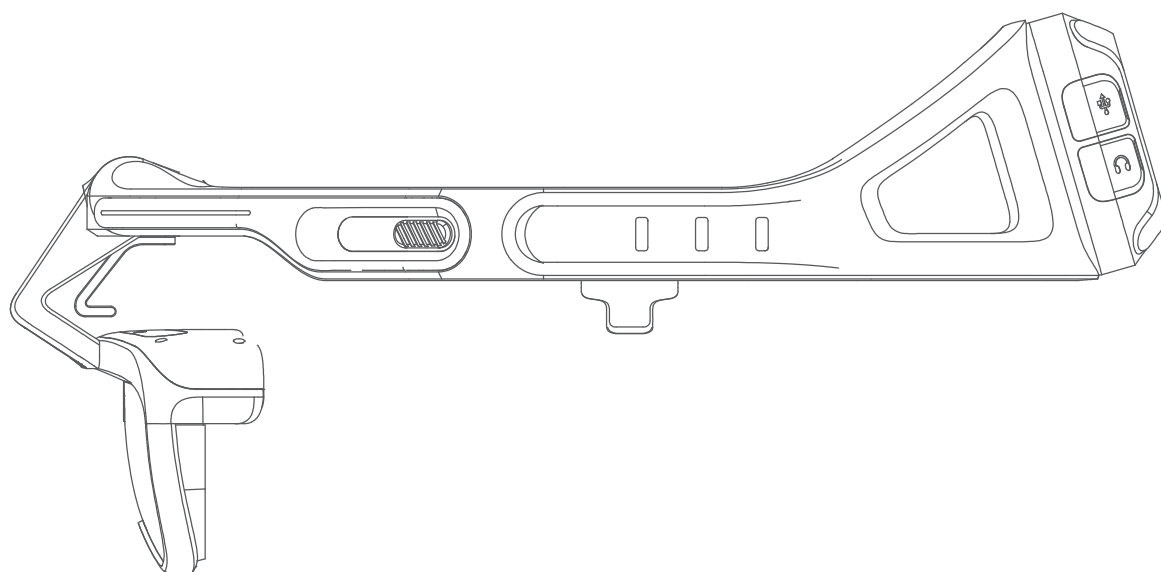


263mm



168mm

331mm



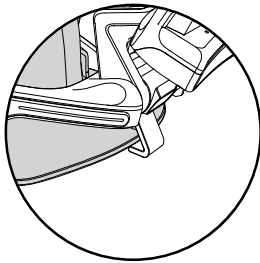
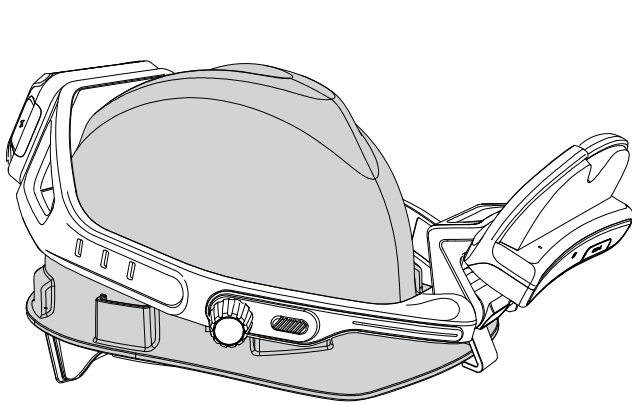
4. Specifications

	RX101	RX102	RX103	RX104
Size	331×263×168mm			
Working Temperature	Fully operational from -20° C to +50°			
Optical Display	Optical waveguide, FOV 40°, Resolution: 1280 x 720 pixels			
SOC	Amlogic A311D			
Memory/Storage	4G Memory/128G Storage			
Battery	26Wh	38Wh	26Wh	38Wh
Support Frequency	5G-NR, LTE		×	
WiFi/Bluetooth	2.4G & 5G Dual Band, WiFi 6 11a/b/g/n/ac/ax, BT5.0+EDR/BLE			
Camera	Main Camera: 8 megapixels, Secondary Camera: 8 megapixels			
Sensor	Enhanced 9-axis (IMU); Distance sensor; Light sensor			
Audio	Speaker×2 ; Mic×3			
Physical Buttons	Knob, power button, back button, SOS button			
Indicator	Status light, Battery charging status, Camera indicator light			
Ports	USB Type-C (1) port, DC port, 3.5 headphone jack			
Operating System	Yoda OS-XR (Self-developed AR operating system, customized based on Android)			
ATEX	II 2G Ex ib IIC T4 Gb II 2D Ex ib IIIC T130° Db	×	II 2G Ex ib IIC T4 Gb II 2D Ex ib IIIC T130° Db	×
IECEX	Ex ib IIC T4 Gb Ex ib IIIC T130° Db	×	Ex ib IIC T4 Gb Ex ib IIIC T130° Db	×

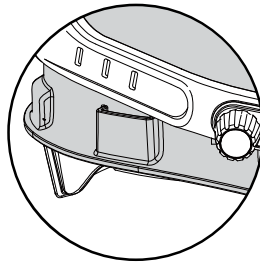
5. Names and Content of Hazardous Substances in the Product (RoHs: Restriction of Hazardous Substances)

Part Name	Toxic or Hazardous Substances and Elements									
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated Biphenyls (PBB)	Polybrominated Diphenyl Ethers (PBDE)	Di-iso-butyl phthalate (DIBP)	Di-2-ethylhexyl ester phthalate)(DE-HP)	Di-n-butyl phthalate (DBP)	Butyl benzyl phthalate(BBP)
PCB	O	O	O	O	O	O	O	O	O	O
SMD Components	O	O	O	O	O	O	O	O	O	O
Triode	O	O	O	O	O	O	O	O	O	O
Adapter	O	O	O	O	O	O	O	O	O	O
Patch LED	O	O	O	O	O	O	O	O	O	O
USB Cable	O	O	O	O	O	O	O	O	O	O
Brown GPS	O	O	O	O	O	O	O	O	O	O
Battery	O	O	O	O	O	O	O	O	O	O
FPC	O	O	O	O	O	O	O	O	O	O
Screw	O	O	O	O	O	O	O	O	O	O
Plastic Sticker	O	O	O	O	O	O	O	O	O	O
Black Plastic Frame	O	O	O	O	O	O	O	O	O	O
Patch Resistor	O	O	O	O	O	O	O	O	O	O
This table is prepared in accordance with the provisions of 2011/65/EU. O: Indicates that the concentration of the listed hazardous substance in all homogeneous materials in this part is below the limit required in 2011/65/EU. X: Indicates that the concentration of the listed hazardous substance in all the homogeneous materials in this part is above the limit required in 2011/65/EU.										

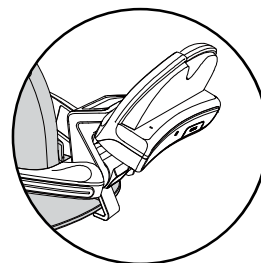
6. How to Wear the X-Craft



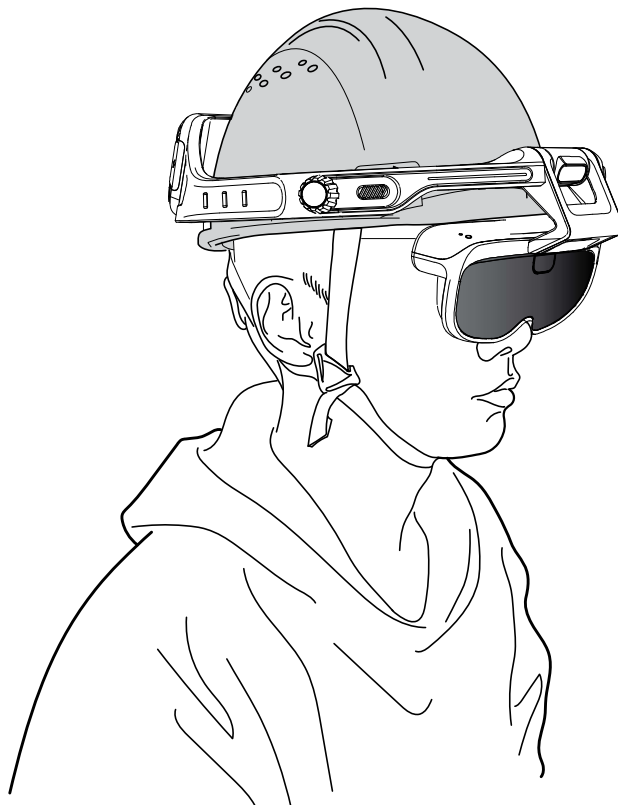
Step 1:
Hook the front
buckle onto the brim
of the helmet



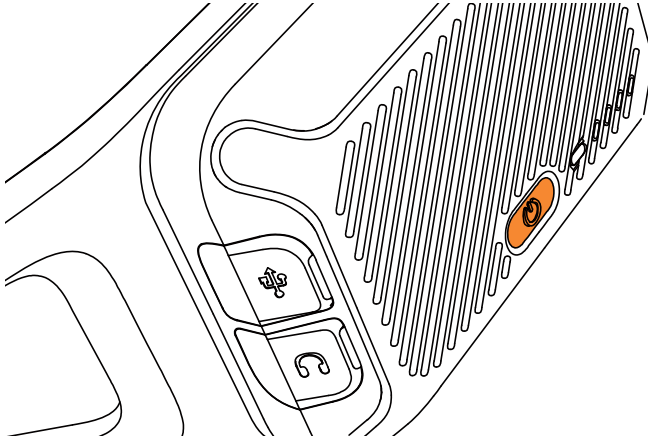
Step 2:
Put the buckle into
the side hole of the
helmet



Step 3:
Pull down the display
module



7. Buttons

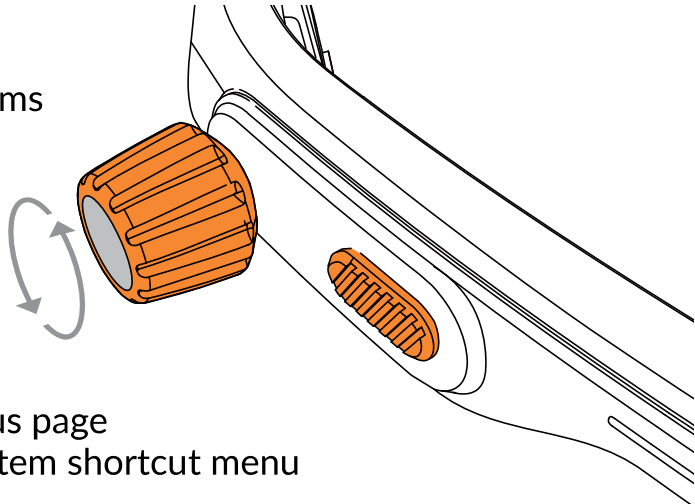


7-1. Power Button

- * Long press 2 seconds to power on and off
- * Press to check the battery status
- * Long press 6 seconds to reset if the edge computing center is not functioning normally or not responding

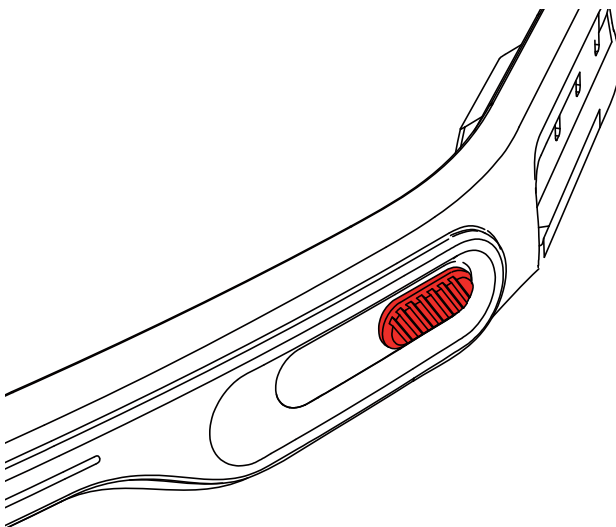
7-2-1. Knob

- * Turn the knob to select the items
- * Tap the knob to confirm



7-2-2. Back Button

- * Press to return to the previous page
- * Long press to pop-up the system shortcut menu



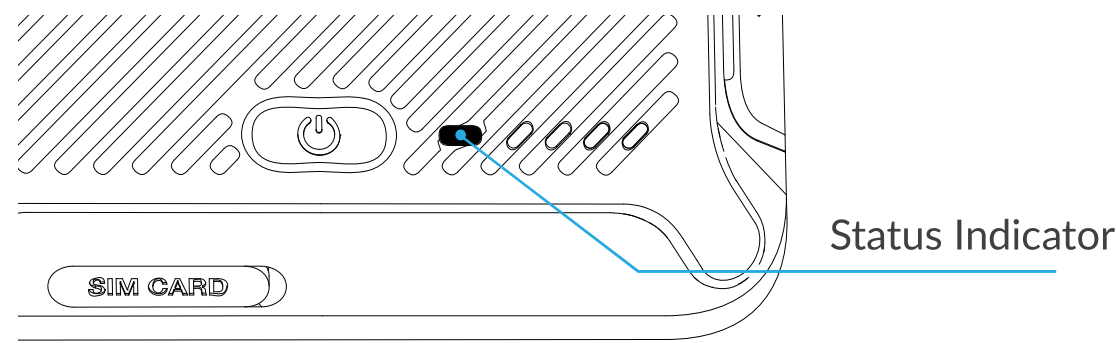
7-3. SOS Button

- * Long press 3 seconds to make an emergency call

8. LED Indicator Lights

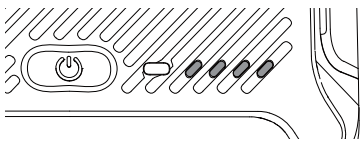
8-1. Status Indicator

- * Steady Blue: System in working or standby mode
- * Flashing Blue: System loading
- * Steady Yellow: System in sleep mode



8-2. Battery Indicator

8-2-1. Battery Charging Status

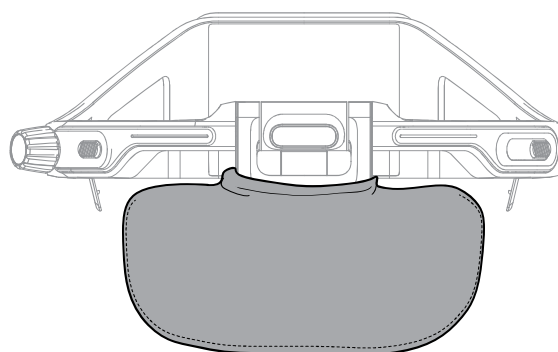
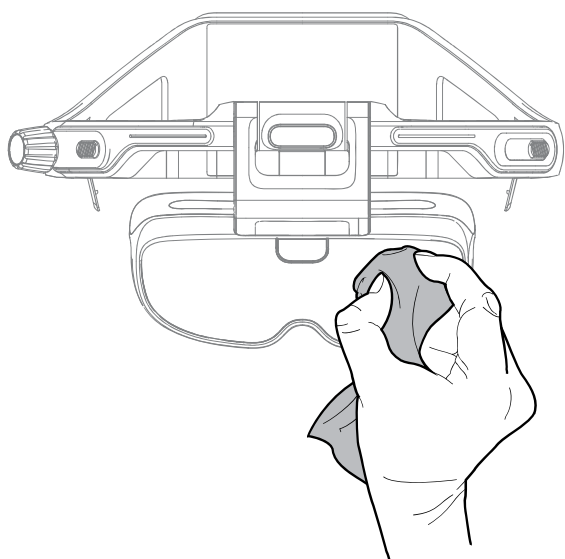
 Battery Indicator	Battery Status	LED1	LED2	LED3	LED4
	0%-25%	Flashing	Off	Off	Off
	25%-50%	On	Flashing	Off	Off
	50%-75%	On	On	Flashing	Off
	75%-100%	On	On	On	Flashing
	Charge Completed	On	On	On	On

8-2-2. Battery Check

After pressing the power button, the battery indicator LEDs will light up in sequence. When the battery is low and the glasses can not be powered on, the LED1 will flash twice after pressing the power button.

9. Maintenance

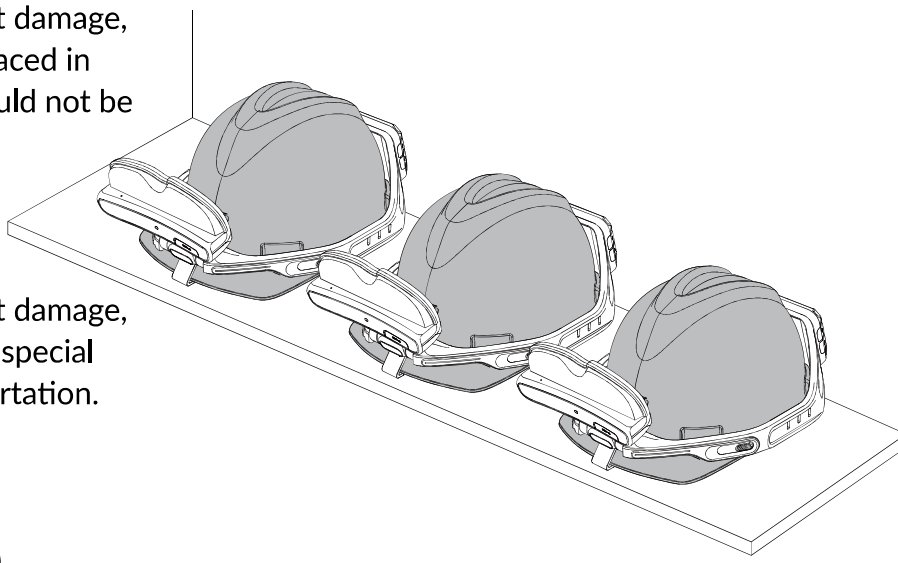
9-1. Protection and Maintenance of Display unit



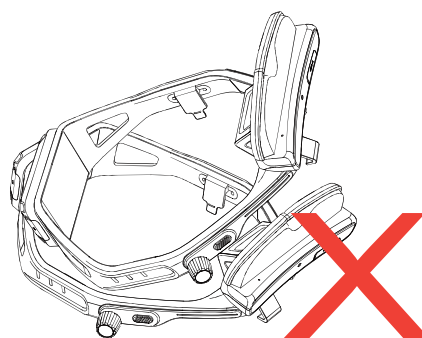
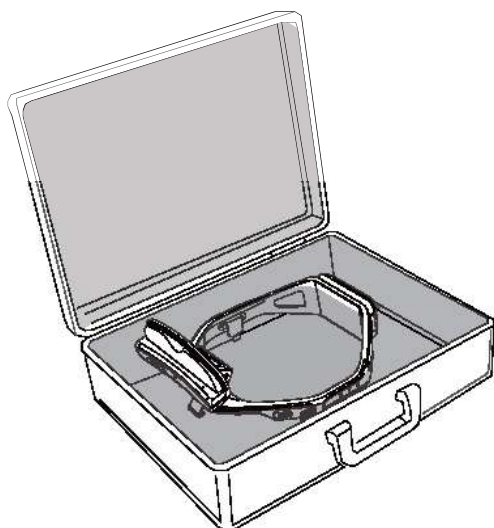
- * Cloth cover can be used for wiping the display module
- * Please put the cloth cover on after wiping the display module

9-2. Product Storage

9-2-1. To avoid any product damage, X-Craft should be neatly placed in the exclusive area, and should not be mixed with other tools.



9-2-2. To avoid any product damage, X-Craft shall be placed in a special packing box during transportation.



10. Safety Precaution:

10-1. It is strictly prohibited to use the non-explosion proof version of the X-Craft in explosive environments.

10-2. Do not use X-Craft external interface to connect electronic accessories in explosive environment.

10-3. Do not charge X-Craft in explosive environment.

10-4. It is strictly prohibited to open the soft rubber plug of the external interface in explosive environment.

10-5. Please keep the device dry. Do not use it in a dusty, dirty, humid, or high-salinity environment (such as beach, seaside). This may cause the circuit failure in the device.

10-6. Do not use the device during a thunderstorm. The thunderstorms can cause the malfunction of device and increase the risk of electric shock.

10-7. Please use the device within its approved operating temperature range from -4°F (-20°C) to 113°F (+45°C) and use it below 16404 feet (5,000 meters) of altitude, and keep it within its approved storage temperature range from -4°F (-20°C) to 113°F (+45°C). The environment with extreme temperature may damage the device.

10-8. Please charge the device with the charger provided in the product package.

10-9. Please charge the device with the certificated USB Type-C cable conforming to the international standards.

10-10. Do not put the device into the environment with the high temperatures, such as strong sunlight, the heaters, the microwave or the conventional ovens. If the device overheats it may cause the battery to explode.

10-11. Do not attempt to disassemble or remanufacture the device, insert foreign objects into it, or place it in the water or other liquids. Doing these may lead to a short circuit in the device, battery leakage, overheating, the fire, or even the explosion.

10-12. Do not put the device on the fire as it may catch fire and even explosion.

10-13. Please dispose of the device in accordance with local regulations. Do not dispose of the device as the normal household waste. Improper device disposal could cause the explosion. Please respect the local laws and recycling policy on the disposal of the product and its accessories.

10-14. Do not allow children or pets to chew or suck the device or its accessories. Doing so may result in the damages or the explosion.

10-15. Do not drop, squeeze, or pierce the device. Excessive pressure on the device may damage the device or cause a failure, short circuit, fire or the explosion.

10-16. Using an unapproved or incompatible charger, adapter or battery may cause a fire, explosion, or other dangers.

10-17. The device and its accessories may contain the small components. Keep them out of the reach of children, who may damage them by mistake or swallow these small components, which may lead to the dangers such as choking.

11-18. This device features a non-removable built-in rechargeable battery. Do not attempt to replace the battery by yourself. This may cause the malfunction of device or may damage the battery.

10-19. To avoid any product damage, please use the original SIM ejector pin provided in the product package (5G version only).

10-20. Do not use any wired external equipment in explosive environment.

11. Additional Notes

* Due to the physical and chemical properties of lithium ion battery materials, the battery capacity will decay to some extent over time. As the charging and discharging times increases, the battery capacity will also decay to some extent.

12. Specific Conditions of use with regards to Explosion Protection

12-1. The battery can only be recharged in non-hazardous areas after being connected to an CE-compliant SELV/PELV power adaptor with a U_m of no more than 60V DC.

12-2. The replacement of MicroSIM card can only take place in non-hazardous areas.

12-3. The USB Type-C port is reserved for manufacturer-specified non-hazardous area debugging or software downloading/upgrading purposes only, USB 2.0 protocols for communications shall be strictly followed without any power delivery function. It is to be ensured that the above-mentioned operations can only be carried out or authorised by the manufacturer.

12-4. The 3.5mm headphone jack can only be connected with passive headsets in non-hazardous areas.

12-5. All ports intended for non-hazardous area external connections shall be secured with rubber plugs before the device is subject to explosive atmospheres.

12-6. The ambient temperature range for operation is specified from -20°C to +50°C.

12-7. This device is not subject to be disassembled or opened for fear that the overall explosion-proof integrity be invalidated.

13. Declaration of Conformity

13-1. The device complies with RF specifications when the device used at 5 mm from your body, and the holder must not be of metal composition.

13-2. Hereby, Hangzhou Lingban Technology Co.,LTD declares that the radio equipment type RX101,RX102,RX103,RX104 is in compliance with Directive 2014/53/EU. The full text of the EU declarati-on of conformity is available at the following internet address:

<https://static.rokidcdn.com/website/EU%20Declaration%20Of%20Conformity.pdf>

14. Legal Notice

14-1. Copyright ©Lingban Technology 2014~2021. All rights reserved. This document is for reference purposes only and does not constitute any form of commitment. The visual representation of the product here is indicative only. If there is any inconsistency, the actual product shall govern.

14-2. Please respect the privacy rights of others when recording video with this product. It is prohibited to use this product for any unauthorized surveillance activities, including but not limited to surveillance of other people, groups, events, performances, exhibitions or buildings.

14-3. Please note that in some countries and regions even non-commercial use of the camera to record, or take pictures of others, groups, events, performances, or exhibitions will also violate copyrights or the legal rights of others. Therefore, make sure that you understand and comply with local laws and regulations carefully before use.

15. Disclaimer

15-1. This product is NOT a toy and is not suitable for children under the age of 18. Adults should keep this product out of the reach of children and exercise caution when using it in the presence of children.

15-2. Read this user manual carefully before use. The information in this document are important to your safety and your legal rights and responsibilities.

15-3. The company is responsible only for official system software and system updates. Any unofficial third-party software will have potential security risks.

15-4. The company recommends the users update the system via official channels. Unofficial Updating the system software via unofficial channel may bring security risks.

15-5. Warning! The operating system of this product supports the official system updates. If the user installs a third-party ROM system or removes security features from the system files, it may cause system instability or other problems. The company will not provide support or assume any responsibility for the end user in such situations.

15-6. This product is a smart glasses product that provides a smart wearable device experience when the power supply is working properly and no components are damaged. Lingban Technology reserves the right to update this disclaimer. Please visit the official website of the product www.lingbanAR.com and check your email regularly for the latest version.

15-7. Read this entire document carefully before using this product to understand your legal rights, responsibilities and safety instructions. Failure to read and follow the instructions and warnings in this document may result in property damage, safety accidents, and personal safety hazards. By using this product, you hereby signify that you have read this disclaimer carefully and that you understand and agree to abide by the terms and conditions herein. You agree that you are solely responsible for your own conduct while using this product, and for any consequences thereof. You agree to use this product only for purposes that are proper and in accordance with all terms, any relevant policies and guidelines that Lingban Technology has made and may make available.

15-8. SN consists of AABBCDDDDDEEEEEEE16 digits. AA means product code, BB means product model, CC means production plant code, DDDD means production date. For example 2201 means the first week of 2022, EEEEEEE means serial number.

CE Statement:

The device is restricted to indoor use when operated in the European Community using frequency in 5150MHz~5350MHz to reduce the potential for interference.

Restrictions or Requirements in BE, BG, CZ, DK, DE, EE, IE, EL, ES, FR, HR, IT, CY, LV, LT, LU, HU, MT, NL, AT, PL, PT, RO, SI, SK, FI, SE, UK(NI).

Operating Frequency Band (RF):

Radio Waves Specs		
Radio	Frequency	Max.Output Power
LTE	Bands1/3/7/8/20/28/34/38/40/42/43	Band 1: 22.95 dBm Band 3: 23.18 dBm Band 7: 23.72 dBm Band 8: 23.71 dBm Band 20: 23.94 dBm Band 28: 24.10 dBm Band 34: 22.77 dBm Band 38: 23.08 dBm Band 40: 23.39 dBm Band 42: 23.41 dBm Band 43: 22.95 dBm
Nr	n1/n3/n7/n8/n20/n28/n40/n41/n77/n78	n1: 24.10dBm n3: 24.09dBm n7: 24.10dBm n8: 24.10dBm n20: 24.09dBm n28: 24.10dBm n38: 24.10dBm n40: 24.08dBm n41: 23.16dBm n77: 22.96dBm n78: 23.38dBm n41_HPUE: 26.88dBm n77_HPUE: 26.79dBm n78_HPUE: 27.00dBm
BT	2402-2480MHz	Bluetooth (For Classic): 4.1dBm Bluetooth Low Energy: 6.8dBm
WLAN 2.4G	2402-2480MHz	17.9 dBm
WLAN 5G B1,B2,B3	5150-5350MHz	14.5 dBm
	5470-5725MHz	15.5 dBm
WLAN 5G B4	5725- 5875MHz	13 dBm

Specific Absorption Rate (SAR) Certification:

THIS DEVICE MEETS INTERNATIONAL GUIDELINES FOR EXPOSURE TO RADIO WAVES

Maximum SAR: Body(10g): 0.431W/kg

15. FCC

FCC regulatory conformance :

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

5G WIFI statement

The device is restricted to indoor use when operated in 5150MHz~5350MHz to reduce the potential for interference.

RF Exposure

The SAR limit adopted by FCC is 1.6 W/kg averaged over one gram of tissue. Device types RX103 (FCC ID: 2AW2R-RX103) has also been tested with 0mm against this SAR limit. The highest SAR alue reported to the FCC or this deice type complies with this limit.

IC regulatory conformance

This device complies with CAN ICES-003 (B)/NMB-003(B).

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Cet appareil est conforme à la norme CAN ICES-003 (B)/NMB-003 (B).

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Restrictions in the 5 GHz Band

Within the 5.15 to 5.25 GHz band, UNII devices will be restricted to indoor operations to reduce any potential for harmful interference to co-channel Mobile Satellite System (MSS) operations.

Restrictions dans la bande de 5 GHz

Dans la bande de 5,15 à 5,25 GHz, les appareils UNII seront limités aux opérations intérieures afin de réduire tout risque d'interférence nocive pour les opérations co-channel Mobile Satellite System (MSS).

The SAR limit of Canada (ICES) is 1.6 W/kg for head averaged over one gram of tissue. Device types RX103 (IC:28518-RX103) has also been tested with 0mm against this SAR limit.

The highest SAR alue reported to the IC or this deice type complies with this limit.

La limite das du Canada (CIEM) est de 1,6 W/kg pour la tête sur une moyenne d'un gramme de tissu. Types d'appareils RX103 (IC: 28518-RX103) a également été testé avec 0mm contre cette limite das.m against this SAR limit.