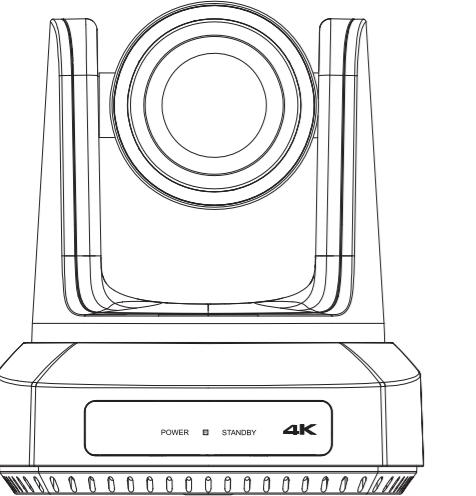


4KP60 AI Auto Tracking PTZ Camera

User Manual



Version V1.0-05.02.0262

Warranty Certificate

(Please keep this for warranty claims)

User Information

Name: _____ Phone: _____

Email: _____ Postal Code: _____

Address: _____

Product Information

Model: _____

Barcode: _____

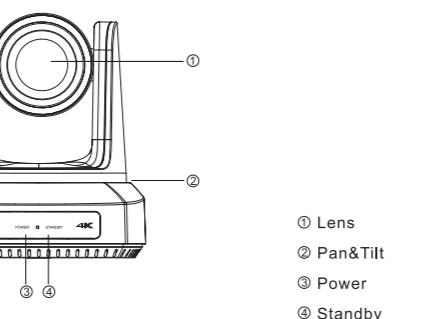
Fault Description

Notes

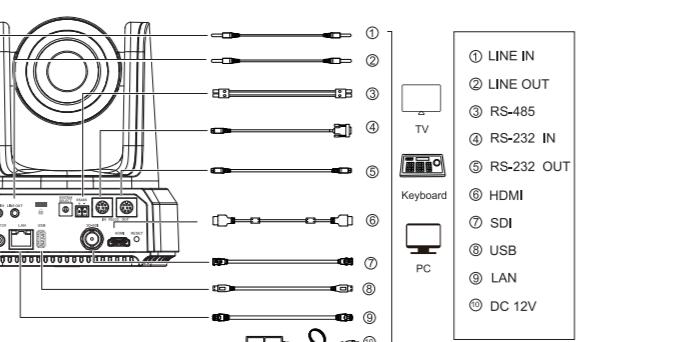
1. Please fill in your user information accurately and completely to ensure the repaired device can be returned to you promptly.
2. Specify the model, barcode, and provide a detailed description of the malfunction.

1. Product Description

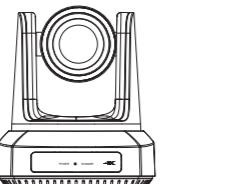
1.1 Front



1.2 Back



2. Packing List

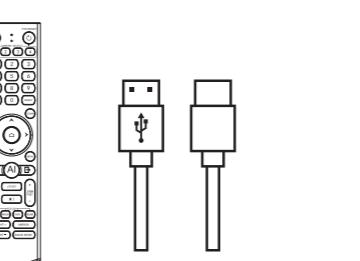
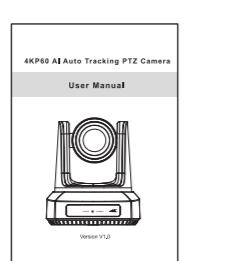


4KP60 AI Auto Tracking PTZ Camera

DC 12V Power Supply



Mounting Screws



User Manual

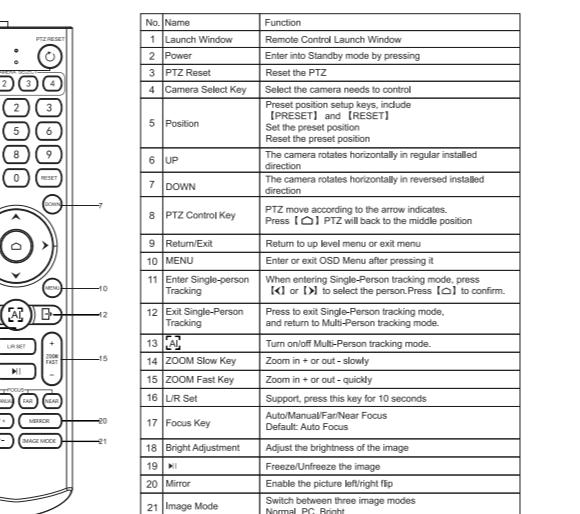
Remote Control

USB Cable

3. Performance Characteristics

Model No.		4KP60 AI Auto Tracking PTZ Camera
Sensor	1/1.8"	8.4MP
Effective Pixels	4096x2160, 4K@30, 4K@25, 4K@29.97, 1080P60, 1080P50, 1080P30, 3G-SDI 1080P60, 1080P50, 1080P30, 1080P29.97, 1080P25, 1080P60, 1080P50, 1080P30, 720P59.94	
Zoom	20x optical zoom	
Lens	f=6.25mm ~ 125mm	
Aperture	f1.58 ~ f3.95	
Horizontal Angle	35° ~ 3.5°	
Vertical Angle	35° ~ 3.5°	
Digital Zoom	68.4° ~ 4.0°	
Video Output	16X	
Control Interface	RS232, 485, USB, NET	
Network	1/10/100Mbps	
White Balance	Auto, Indoor, Outdoor, One Push, Manual, VAR	
Backlight Compensation	Support	
Digital Noise Reduction	3D Digital Noise Reduction	
Baud Rate	9600/19200/38400/2400000	
RS-485 Protocol	VISS-485, Modbus-485	
USB Protocol	UVC 1.1+1.5	
Minimal Illumination	0.5 Lux @ (F1.8, AGC ON)	
SNR	55dB	
Horizontal Rotation	359° (±175°), 0.1°/s ~ 100°/s	
Vertical Rotation	180° (±90°), 0.1°/s ~ 80°/s	
H & V Flip	Support	
Image Freeze	Support	
PoE	Support	
IPC Features (IP Camera)		
Video Encoding Format	H.264/H.265/MJPEG	
Video Stream	Main Stream: 1920x1080, 1280x720, etc.	
Main Stream Resolution	3840x2160, 1920x1080, 1280x720, etc.	
Sub Stream Resolution	720x480, 320x240, etc.	
Video Bit Rate	32Kbps ~ 2048Kbps	
Bit Rate Type	Variable, Fixed Rate	
Audio Bit Rate	500Kbps ~ 500Mbps, 16K ~ 60KHz	
Audio Compression	AAC, G.711A	
Network Protocol	NDI (H2G, SRT, TCP/IP, HTTP, RTSP, RTMP/RS), Omnid, DHCP, GBT28181, Multicast	
HD Output	1x3G-SDI, BNC type, 800m(p-p), 75Ω, Along to SMPTE 424M standard	
LAN	1xRJ45: 10/100M Ethernet Interface	
Audio Interface	1x 3.5mm Audio Interface, Line in, 1ch; 3.5mm Audio Interface, Line Out	
USB	1xUSB 2.0, Type A	
Communication Interface	1xRS232 In: 8pin Min DIN, Max Distance: 30m, Protocol: VISCA/PECLP-D/PELCO-P 1xRS232 Out: 8pin Min DIN, Max Distance: 30m, Protocol: VISCA/PECLP-D/PELCO-P 1xRS485: 2pin Phoenix Port, Max Distance: 1200m, Protocol: VISCA/PECLP-D/PELCO-P	
Power Jack	JETTA type (DC IN 12V)	
General		
Power Supply	DC 12V(2A(MAX))	
Power Consumption	24W(MAX)	
Work Temperature	0°C ~ 40°C	
Work Humidity	20% ~ 80% RH	
Storage Temperature	-20°C ~ 60°C	
Humidity	20% ~ 90% RH	
Product Size	158.1*176.4*175.3mm/285*217*97mm(before / after packing)	
Product Weight	1.5kg/2.6kg (net / gross weight)	

4. Remote Control Button Description

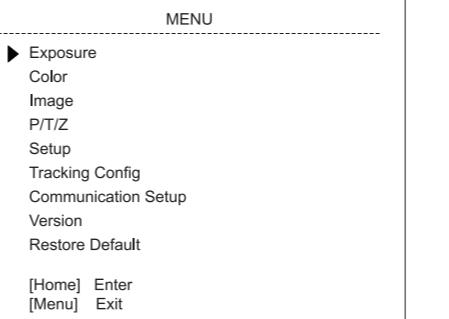


★ Attenions for Remote Control

1. Ensure the indicator light for the selected camera is on.
2. If the remote control doesn't work, please replace batteries.
3. The camera number on the remote must match the camera's address.
4. In the [AI] mode, manual zooming is not available. Therefore, when you need to zoom, please make sure that auto tracking is turned off.

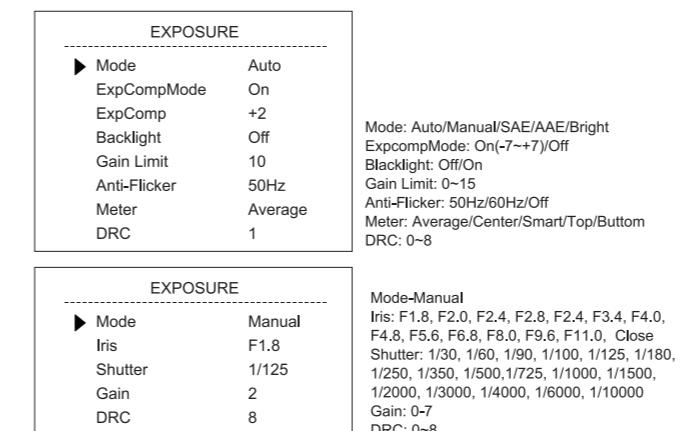
5. Camera Menu Setup

5.1 Level 1 Menu - Main Menu



When operating remote control, press **[MENU]** to enter main menu of the video camera.

5.2 Level 2 Menu - Exposure



Mode: Auto/Manual/SAE/AE/Bright

ExpcompMode: On(-7~+7)/Off

Blacklight: Off/On

Gain Limit: 0~15

Anti-Flicker: 50Hz/60Hz/Off

Meter: Average/Center/Smart/Top/Bottom

DRC: 0~8

Mode: Manual

Iris: F1.8

Shutter: 1/125

Gain: 2

DRC: 0~8

Mode: SAE

Shutter: 1/1000

Gain Limit: 15

Meter: Top

DRC: 0

Mode: AAE

Iris: F11.0

Gain Limit: 15

Anti-Flicker: 50Hz

Meter: Top

Mode: Bright

Iris: 7

Gain Limit: 15

Anti-Flicker: 50Hz

Meter: Top

Mode: OnePush

Iris: 0

Gain Limit: 15

Anti-Flicker: 50Hz

Meter: Top

Mode: SAE

Iris: 7

Gain Limit: 15

Anti-Flicker: 50Hz

Meter: Top

Mode: AAE

Iris: 7

Gain Limit: 15

Anti-Flicker: 50Hz

Meter: Top

Mode: Bright

Iris: 7

Gain Limit: 15

Anti-Flicker: 50Hz

Meter: Top

Mode: OnePush

Iris: 0

Gain Limit: 15

Anti-Flicker: 50Hz

Meter: Top

Mode: SAE

Iris: 7

Gain Limit: 15

Anti-Flicker: 50Hz

Meter: Top

Mode: AAE

Iris: 7

Gain Limit: 15

Anti-Flicker: 50Hz

Meter: Top

Mode: Bright

Iris: 7

Gain Limit: 15

Anti-Flicker: 50Hz

Meter: Top

Mode: OnePush

Iris: 0

Gain Limit: 15

Anti-Flicker: 50Hz

Meter: Top

Mode: SAE

Iris: 7

Gain Limit: 15

Anti-Flicker: 50Hz

Meter: Top

Mode: AAE

Iris: 7

Gain Limit: 15

Anti-Flicker: 50Hz

Meter: Top

Mode: Bright

Iris: 7

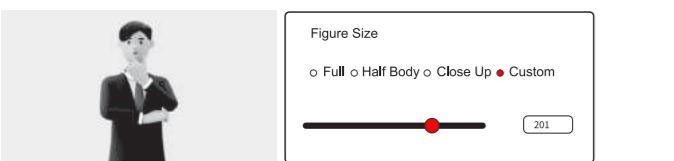
Gain Limit: 15

Anti-Flicker: 50Hz

Meter: Top

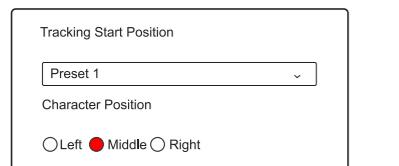
Mode: OnePush

4) Custom: Adjust the tracked subject size freely. Higher values will enlarge the subject in close-up view, but may cause the camera to lag when tracking fast-moving subjects, as shown below:



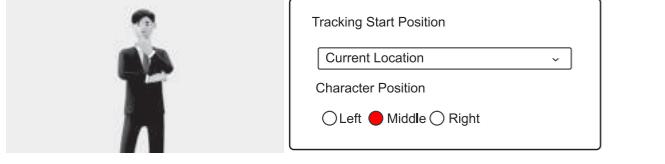
Step 4: Tracking Start Position Setting

Options: Current position and Preset position 1
If you select "Current position", the camera will only track from its current position; and return to this position when tracking stops.
If you select "Preset position 1", you must set this preset position first. The camera will move to Preset position 1 when tracking begins, and automatically track when someone enters this preset zone, and return to Preset position 1 if the tracked subject is lost (after exceeding retention time).

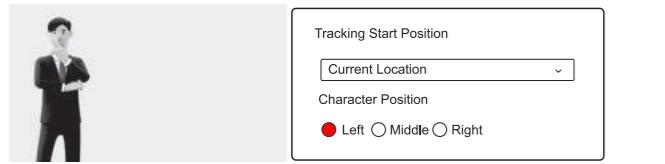


Step 5: Target Display Position Setting
Default: Middle (Left and Right optional)
Primarily used in live broadcast scenarios

1) Middle (default): Keeps the tracked subject centered on screen during tracking.



2) Left: Maintains the tracked subject on the left side of the screen during tracking.

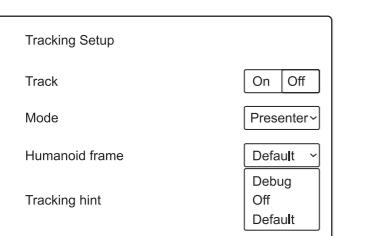


3) Right: Maintains the tracked subject on the right side of the screen during tracking.



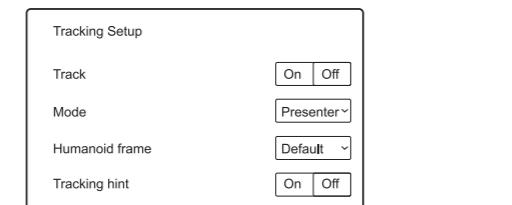
Step 6: Humanoid Frame and Tracking Hint Setting

1) Humanoid Frame (3 options: Debug, Off, Default)
Recommended: "Off" for live broadcast scenarios
Default:
- After enabling tracking:
- Select target from crowd using direction keys (auto-framing box appears)
- Press HOME to confirm → box disappears → tracking begins
Off:
- No framing box appears during target selection
- Ideal for live broadcasts
Debug:
- Framing box remains visible throughout tracking
- For debugging/demonstration only



2) Tracking Hint

On:
- Displays a tracking status prompt (upper left corner) when:
- Tracking is activated
- Tracking is deactivated
Off:
- No status prompts appear
- Recommended for live broadcast scenarios

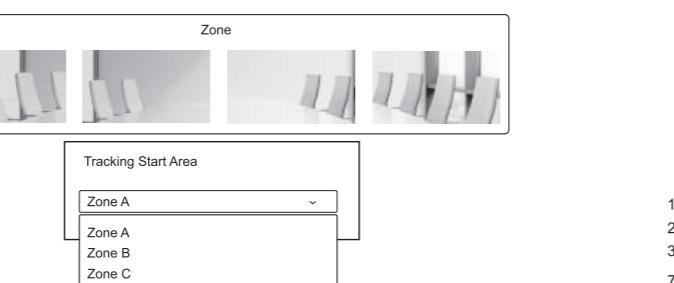


Step 7: Activate Tracking, select target using direction keys and press HOME key to confirm and begin tracking.



Step 8: Zone Tracking

Functionality:
Divides the tracking target's frequent activity area into customizable zones (A, B, C, D), each linked to a preset position. When the target enters a zone, the camera automatically recalls the corresponding preset.
Operation Steps:
1) Setup Preparation:
- Navigate to the Tracking menu
- Select Zone Mode (recommended to configure with tracking disabled)
2) Zone Configuration:
- Use the WEB interface directional/zoom keys to frame each zone
- Sequentially save presets for Zone A, B, etc. (max 4 zones)
- Key Notes:
(1) Zones must overlap sequentially (e.g., A→B→C or A→C allowed)
(2) Edit/delete presets if needed
(3) Tracking Activation:
- Designate any zone as the start/end point
- On activation:
(1) Camera moves to the start zone
(2) Auto-triggers when a target enters
(3) Returns to start zone if target is lost



Step 9: Humanoid Frame and Tracking Hint Setting

1) Humanoid Frame (3 options: Debug, Off, Default)

Recommended: "Off" for live broadcast scenarios

Default:
- After enabling tracking:

- Select target from crowd using direction keys (auto-framing box appears)

- Press HOME to confirm → box disappears → tracking begins

Off:
- No framing box appears during target selection

- Ideal for live broadcasts

Debug:
- Framing box remains visible throughout tracking

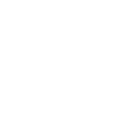
- For debugging/demonstration only

7. Common Operation Instructions

7.1 Camera Select
Set the IR remote control's address to control the corresponding camera, option item 1/2/3/4



7.2 Camera Direction Control

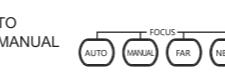


Note: Press the direction key when you need to adjust the angle.

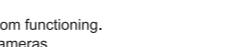
If you want to move the camera slowly, just click the direction key;
If you want to move the camera fast at a large scale, just long-press the button;

If you want to adjust left and right direction, just press and hold the L/R button for 10s.

7.3 Camera Focusing Mode Control



7.4 Camera Zoom Control



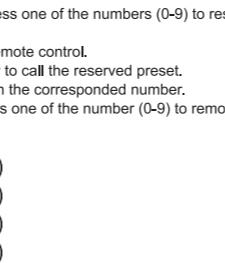
Press any one of the 4 [ZOOM] to make the zoom functioning.
These 4 keys are not applicable for fixed focus cameras.

7.5 Preset Setup, Call, Cancel

(1) Reserve Preset: Press [PRESET], then press one of the numbers (0-9) to reserve a preset that corresponds to the NUMBER.

Note: You can set up 10 presets at most by the remote control.
(2) Call Preset: Press the NUMBER (0-9) directly to call the reserved preset.
Note: It won't work if there's no preset reserved in the corresponding number.

(3) Remove Preset: Press [RESET], then press one of the numbers (0-9) to remove a preset that corresponds to the NUMBER.



7.6 AI Mode

1) Press [AI] button to enter Multi-Person tracking mode and start auto-tracking.
Press [AI] button again to exit Multi-Person tracking mode.

2) While in Multi-Person tracking mode, press [C] button to enter Single-Person tracking mode. In Single-Person tracking mode, a green frame will appear when there are two or more people present. Use the left and right buttons to select the person you want to track, then press [C] button to confirm and begin tracking.

3) Press [B] button to exit Single-Person tracking mode and return to Multi-Person tracking mode.

7.7 DIP Switch Settings

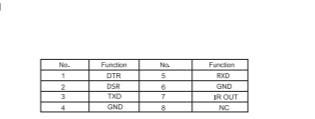
DIP	HDMI	SDI
0	1080P60	1080P60
1	1080P50	1080P50
2	1080I60	1080I60
3	1080I50	1080I50
4	1080P30	1080P30
5	720P60	720P60
6	1080P29.97	1080P29.97
7	1080I59.94	1080I59.94
8	1080P59.94	1080P59.94
9	720P59.94	720P59.94
A	4KP29.97	1080P29.97
B	4KP59.94	1080P59.94
C	4KP25	1080P25
D	4KP30	1080P30
E	4KP50	1080P50
F	4KP60	1080P60

1) Default Mode: DIP switch priority

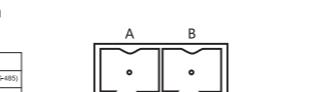
2) Configuration Path: Web Interface → Video Settings → "Video Standard"

3) Available Options: DIP Switch Priority (default), 50Hz, 60Hz

7.8 RS-232 Interface Distribution



7.9 RS-485 Interface Distribution



8. Network Function

8.1 Equipment Installation

Connect the camera to either a PC's external network port via Ethernet cable, or an Internet network through a router/switch. Access the camera's web interface by entering its IP address in a web browser (default IP varies by model - refer to the label on the camera's bottom).

Configure parameters according to the network environment.

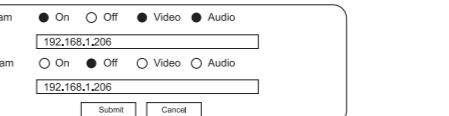
For example, Camera default IP Address: 192.168.0.206 here is the way to get RTSP video streaming.

Default RTSP main streaming address: rtsp://192.168.0.206:554/live/av0(av0 Main)

Default RTSP sub streaming address: rtsp://192.168.0.206:554/live/av1(av1 Sub)

3) RTMP video streaming

Select "Setup" → "Network Settings" → "RTMP" to enter following interface:



Enable and turn on the RTMP video stream to the server
Server URL: server address, which can be domain name or IP address
Streaming code: Persistent Stream Key/Name

8.6 Software upgrade (upgrade if there is a new version)

Select "Setup" → "Maintenance" → "System Upgrade" to enter the following interface:



1) Open the upgrade file to Upgrade automatically if needed.
2) Restart the camera and prompts "Upgrade succeeded". Log in to the network and check whether the software version is consistent with the upgrade file to ensure that the upgrading is successful. Then click "Restore factory default" to restart and restore the parameters to the factory default setting. (IP default 192.168.0.206, User default: admin, password default: admin)

8.7 VISCA over IP

VISCA Protocol is transmitted through IP to reduce RS232/RS485

cabling (the controller must support IP communication)

Communication Port Specification:

Control Port: RJ45

IP Protocol: IPv4

Transmission Protocol: Sony VISCA;

IP address: Setting through the web

Port address: Sony VISCA(52381)

Application Range: Under the same network segment

10. Trouble Shooting

Before requesting service to service engineer, please refer to the following methods to remove failures. If the failures still can't be solved, please contact us for assistance.

Q: The video of the camera cannot be displayed on the screen.

A: Please check the connection between power cable, video cable, camera and monitor, fix the connector on each end.

Q: It's unable to Pan, Tilt and Zoom camera.

A: Because the menu was displayed on monitor. Please re-operate after exiting the menu

Q: Why the camera rotates for about 10 seconds after power on?

A: This is the normal self-test of the camera

Q: Poor image quality while using in church or other low-light conditions.

A: Press menu (ON/OFF) to adjust backlight to suit the church lighting property.

Q: Remote control is not working or insensitive.

A: (1)Not work, please replace batteries
(2)Not sensitive: Choose the correct "IR select" number to correspond to the camera.

Control the camera within 10m (32.8ft). Remove the obstacles. Aim at the sensor which is in front of the camera when controlling it.

Q: USB interface is not identifiable.

A: Please check if the USB cable and extension cable are well connected or not. If yes, change to another USB interface and try to connect again.

Q: It won't be controlled via RS-232/RS-485 when camera connect to PC. (Reference to RS-485 and RS-232 Pins distribution on page 16).

Q: Why no ceiling mount bracket?

A: Camera comes with wall mount, ceiling mount or tripod brackets need to buy separately.

Q: Does this camera have built-in mic?

A: No, this camera comes with no built-in mic.

Q: Can we control the camera only by the remote control?

A: You can control the camera by remote control, keyboard controller (joystick), and software.

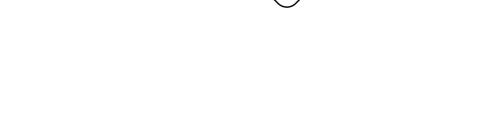
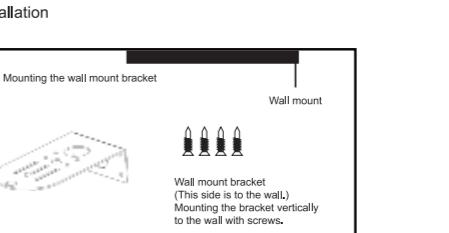
9. Installation Instructions

9.1 Surface Installation

Put the camera on the desk flatly, and make sure the camera is in a horizontal position. If you want to put the camera on an oblique surface, please make sure the angle of inclination is less than 15 degrees to ensure the camera pan and tilt work in normal operation.



9.2 Wall Mount Installation



材质:100g书纸，黑白双面印刷

尺寸: 说明书大小 594*297(w*h)左右5折6页再对折

折叠后 99*148.5mm(w*h)