Included Equipment

Camera 200 (1)

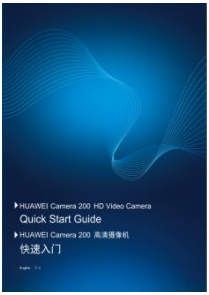
Power adapter (1)

Power cable (1)

Note: Power cables may vary by country.

USB 3.0 cable (1)

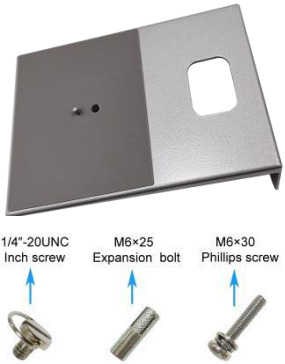
HDMI cable (1)



Quick Start Guide (1)

Remote control (1)

AAA batteries (2)



Mounting bracket (1)

1/4"-20UNC screw (1)

Expansion bolts (4)

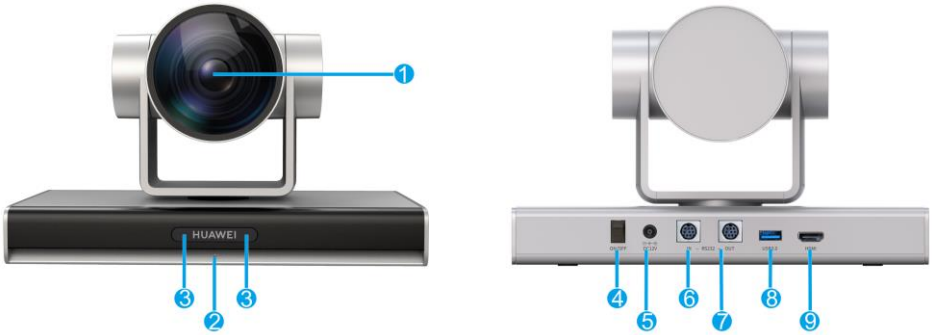
M6 × 30 Philips screws (4)

Certificate of Compliance & Safety Precautions &Warranty Card (1)

http://www.huawei.com

Issue: 02 (2019-11-28)

Appearance



No.	Port	Description
1	Lens	12x optical zoom
2	Status indicator	Steady green: normal operation Blinking green: remote control is in use Steady orange: sleep mode Blinking orange: camera upgrade Blinking red: 1. Fault detected 2. Upgrading Single Chip Micyoco
3	Infrared receiver	Receives infrared signals, supports NEC protocol
4	Power button	Powers camera on or off
5	Power port	12 V DC power input port
6	RS232-IN port	Serial port Supports IR transparent transmission Cascades with upper-level camera Supports VISCA, PELCO-P and PELCO-D protocols
7	RS232-OUT port	Cascades with lower-level camera
8	USB 3.0	Connects to PC USB 2.0 compatible Supports UVC 1.1 protocol standard
9	HDMI	Outputs HDMI 1.4 signals 1080p model for up to 1080p60

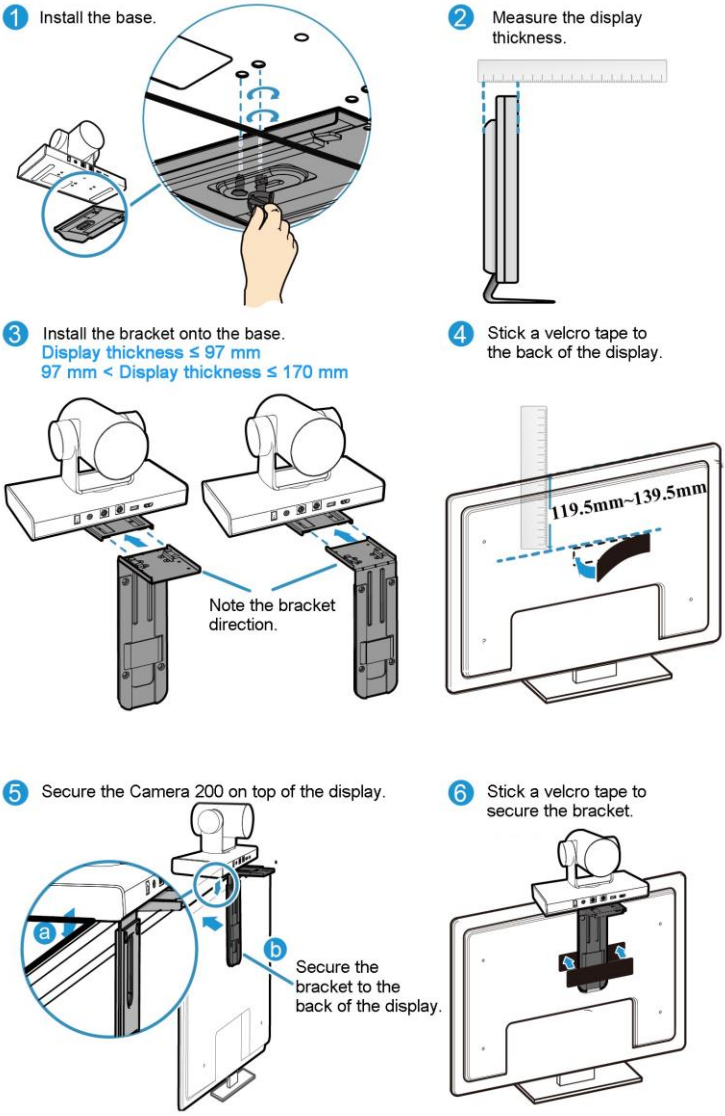
No.	Port	Description
		4K model for up to 4K30 resolution

Installation

The Camera 200 can be placed horizontally, mounted on top of a display (such as TV set or monitor), wall-mounted, ceiling-mounted, or placed on a tripod.

- If the display is thicker than 170 mm or wall-mounted, the Camera 200 cannot be installed on top of the display.
- If the display is 170 mm or thinner, the Camera 200 can be mounted on top of a display or placed horizontally with an additional L-shaped bracket (not included).

Placed Horizontally	Place the camera on a flat surface. If you have to place the camera on a sloping surface, the slope must be less than 15 °for the camera to function properly.
Mounted on Top of a Display	Use the L-shaped bracket to secure the Camera 200 on top of the display. Figure Installation procedure.



Wall-Mounted

Requires:

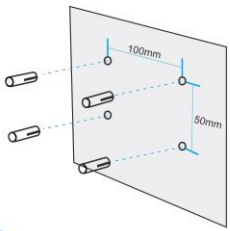
Included: wall mounting bracket (1), 1/4"-20UNC screw (1), Expansion bolts (4), M6 × 30 Philips screws (4).

Not included: hammer drill (1), electric screwdriver (1), hammer (1), and Phillips screwdriver (1).

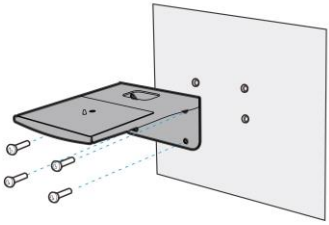
First, drill four holes in the wall for mounting the bracket, each with a diameter of 8 mm (0.31 in.) and depth of 35–40 mm (1.38–1.57 in.). The two upper

holes must be level for correct installation, then install.
Installation Procedure.

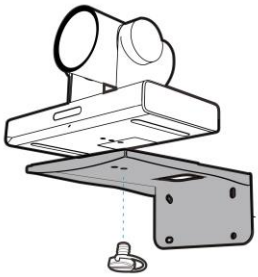
1 Hammer four M6 expansion bolts into the wall.



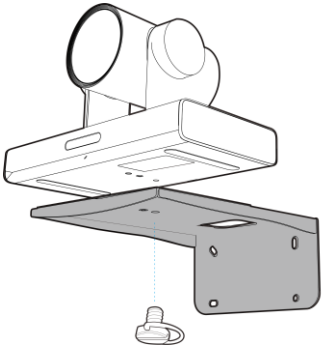
2 Screw in bracket using four M6 x 30 Philips screws.

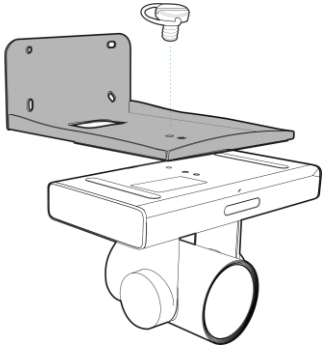


3 Screw the Camera 200 onto the base with 1/4-20UNC screw.



NOTE The camera can be mounted both on top and on bottom of the bracket as shown below.



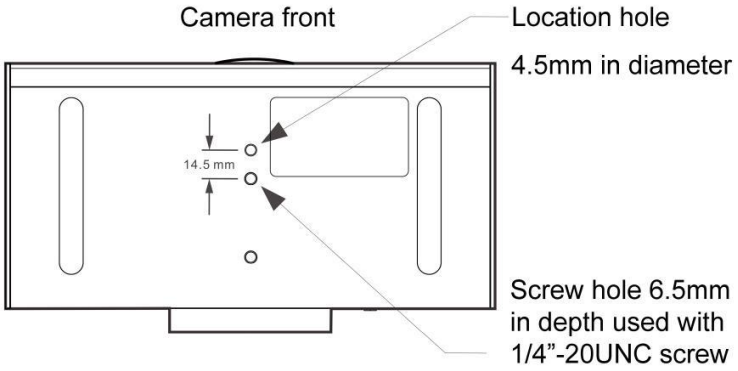


Ceiling-Mounted

Requires:
Not included: ceiling bracket (1), 1/4"-20UNC screw (recommended)

Bracket Requirements:

- Weight bearing minimum of 8.5 kg (18.74 lb) and a thickness between 2 mm (0.08 in.) to 3 mm (0.12 in.)
- A location pillar which can be inserted into the location hole of the Camera 200. The distance between the screw hole on the bracket and location pillar must be 14.5 mm (0.57 in.) to match the holes of the Camera 200.
- If the bracket has a front side and back side, the location pillar must be placed on the front, and the screw hole on the back.
- A screw hole and one 1/4"-20UNC screw (using UNC screw included with purchased ceiling bracket recommended to avoid mismatch)



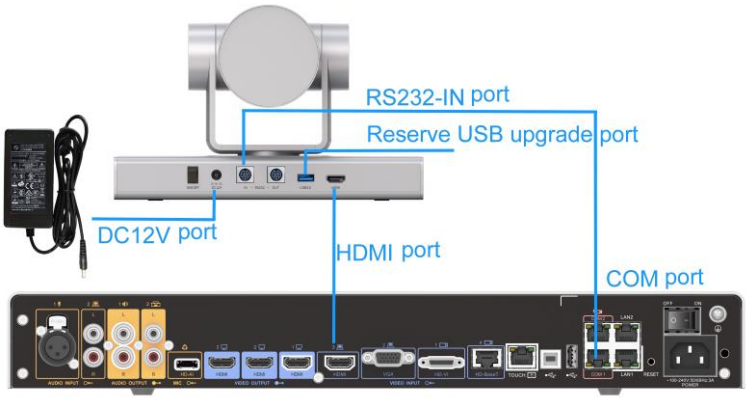
Others Install the camera on a tripod (not included).

Connecting the Cables

Matched Box Series Endpoints

Example:
The Camera 200 is connected to HUAWEI Box 500 directly through an HDMI cable or an HDMI cable adapter.

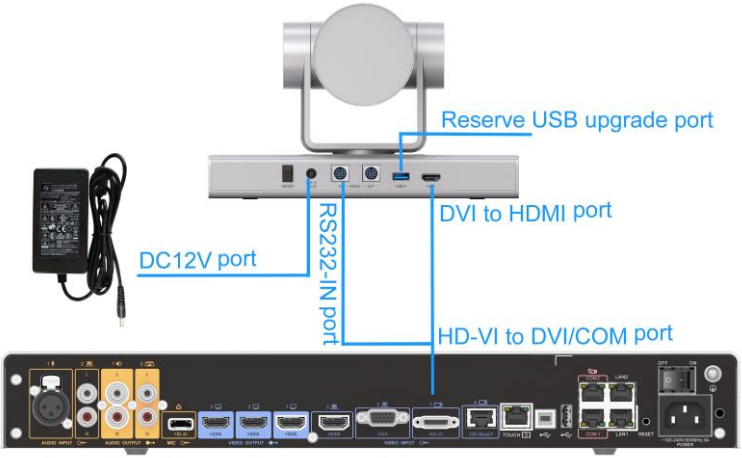
- HDMI connection:



If the Box 500's VGA port is used for input in the demo or multiple HDMI input ports are available, connect the HDMI video input port of the Box 500 to the camera's HDMI port, and the Box 500's COM1 to the camera's RS232-IN port.

Suggestion: Reserve a plugged-in USB cable for seamless PC upgrades in the future.

- HDMI adapter connection:



Use an HD-VI adapter if the Box 500's HDMI input is used for the demo and no HDMI port is available for direct connection with the camera. Insert the supplied HD-VI to DVI/COM adapter into the Box 500's HD-VI port. Connect it to the DVI-HDMI adapter (not included) and to the Camera 200's HDMI port, and then connect the COM cable to the Camera 200's RS232-IN port.

Suggestion: Reserve a plugged-in USB cable for seamless PC upgrades in the future.

Matched CloudLink Meeting PC Client

Directly connect the Camera 200 to a PC with a USB cable after it is turned on. Start the Huawei CloudLink Meeting PC client. Go to the menu and go to **Settings** > **Media** > **Video Device** and select **HUAWEI Camera 200**.

Sleep Mode:

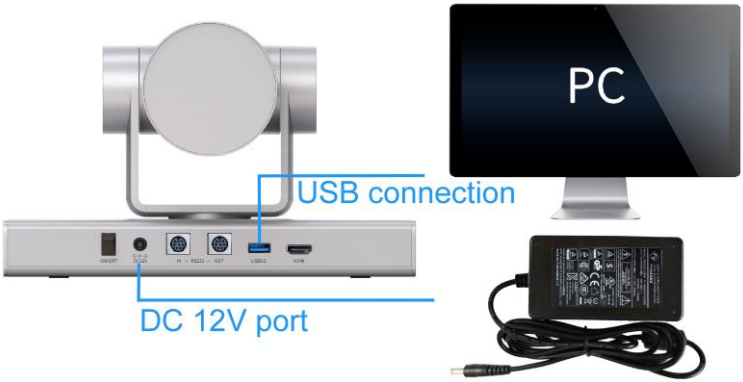
Use the IR remote control to set the sleep mode. Press **MENU**, go to **Main Menu** > **Settings** > **USB Auto Sleep** to set the sleep parameters.

By default, the sleep mode is set to **ON**:

The camera will automatically enter sleep mode after the video conference on the PC ends. If there is no image output from the HDMI or USB port, the PTZ rotates lower leftwards and the indicator turns steady orange. Once the PC client rejoins a conference, the camera will automatically awaken.

Setting the sleep mode to **OFF**:

In this case, after a video conference on the PC ends, the HDMI port will keep outputting images, the PTZ stays as it is, and the camera keeps working. The camera quickly displays images the moment the PC client rejoins the conference.



Powering the Camera On

Connect the cables, power adapter to the camera, and press the power button. About 25 seconds later, video will display. The camera faces forward the first time it is powered on. The camera PTZ location can be set to 0# preset position so that it turns to the pre-set position upon reboot.

Checking the Status Indicator

- Steady green: normal operation
- Steady orange: sleep mode
- Blinking orange: camera upgrade

- Blinking red:

  Upgrading Single Chip Micyoco

  Faulty detected

- Blinking green: remote control is in use

Controlling the Camera

The camera can be controlled from the connected HD video conferencing endpoint or IR remote control.

- When the HD video conferencing endpoint is used for camera control, the video cable and RS232 cable connection must be configured. In addition the following configurations must be performed:

  NOTE

  For configurations (1) and (2), the camera is also controllable by the Huawei Touch included with the HD video device: when the device is idle, go to **Setting** > **Camera** to set the Touch for camera control. When in a meeting, choose **More** > **Camera**.

(1) Box 300/600 HD video conferencing endpoints:

1) Log in to the web interface. Under **System Settings** > **Input/Output** > **Video Input** > **CAM IN**, select the correct COM port for **Serial port**, and set **Camera type** to **CAMERA200**.

2) Select the correct video input port under **Device Control** > **Camera Parameters** and configure the default video format to 1080p 60 Hz.

3) Select the local video input port under **Device Control** > **Video Control** for camera control operations.

(2) Box 500/700/900 HD video conferencing endpoints:

1) Log in to the web interface. Under **System Settings** > **Input/Output** > **Video Input**, select **CAMERA200** as the input camera type and configure the **Serial port**. If you use the HD-VI to DVI/COM adapter of the HD endpoint for control, select the default value **None** for **Serial port**.

2) Go to **Device Control** > **Video Control** > **Video Input Source** > **Mainstream Video Source** to select the video input source.

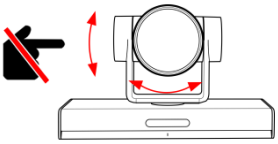
3) Go to **Device Control > Camera Parameters** to select the video input port and configure the video format. By default, the format is 1080p 60 Hz.

4) Go to **Device Control > Video Control > Local Camera** to select the video input port and perform camera control operations.

(3) TEX0 HD video conferencing endpoints:

Follow the steps listed for the Box 500/700/900 HD above, but select **VPC800** as the camera type.

- Control the camera individually using the IR remote control included with the Camera 200.
- Use the **Menu** button to hide or display the On-Screen Display (OSD) configuration screen. There you can set the image output format, image parameters, and image inversion mode.



Do not manually rotate or stop the camera from rotating when it is operating properly. Otherwise, the camera must be restarted.

IR Remote Control

NOTE "+" refers to button combination sequence.

Buttons	Description
	Standby button: Pressing once enables the device to enter into standby mode. Pressing again causes device re-check and returns it to HOME position. If preset position is 0, PTZ will go to the preset position 0 when idle for 12 seconds or more
	Camera address selection button
	Number buttons: set or call preset 0–9 ***** + **#** + **3**: Chinese menu ***** + **#** + **4**: English menu ***** + **#** + **6**: Restore factory defaults ***** + **#** + **9**: Flip image upside down **4K video format:** # + # + **0**: 4K30 # + # + **1**: 4K25 # + # + **2**: 1080p 60 # + # + **3**: 1080p 50 # + # + **4**: 1080p 30 # + # + **5**: 1080p 25 **1080p video format** # + # + **2**: 1080p 60

Buttons	Description
	# + **#** + **3**: 1080p 50
	**FOCUS+** or **FOCUS-**: Adjust focus (only in manual mode) **ZOOM+** or **ZOOM-**: Zoom in or zoom out **AUTO**: Auto focus mode **MANUAL**: Manual focus mode ***** + **#** + **AUTO**: Start auto rotation mode **#** + ***** + **AUTO**: Stop auto rotation mode
	**Set preset**: Press **SET PRESET** + **0**–**9**: to set number preset **Call preset**: Press **0**–**9** to call a saved preset **Clear preset**: First, press **CLEAR PRESET**, then press a number from **0** to **9** to delete the corresponding preset **#** + **#** + **#**: Clear all presets ▲ or ▼: Rotate PTZ up and down, select an item under **MENU** ◀ or ▶: Rotate PTZ left and right, change the parameter value under **MENU** **MENU**: Enter/exit on-screen menu or return to previous menu **HOME**: PTZ returns to middle position, confirms modification, or enters the next menu **BLC ON/OFF**: Turn backlight on or off
	**Set camera IR address number**: ***** + **#** + **F1**: #1 ***** + **#** + **F2**: #2 * + **#** + **F3**: #3 ***** + **#** + **F4**: #4 After setting, press the corresponding camera selection button  to control the camera

Buttons	Description
	Reserved buttons

Specifications

Category	Item	Specifications
Lens	Imaging component	8.51-megapixel and 1/2.5" SONY IMX274 imaging chip
	Optical zoom	12x
	Focal length and aperture	Focal length: f = 3.85–43.06 mm ± 5%; Aperture: F1.8–F3.56 ± 5%
Video	Output video formats	HDMI output format ● 4K model : 4K30, 4K25, 1080p60, 1080p50, 1080p30, and 1080p25 ● 1080p model: 1080p60, 1080p50 USB 3.0 supports: MJPEG: 1920 × 1080p30, 1280 × 720p30, 1024 × 576p30, 960 × 540p30, 800 × 448p30, 640 × 360p30, and 320 × 176p30 YUY2: 1920 × 1080p30, 1280 × 720p30, 960 × 540p30, 640 × 360p30, 640 × 480p30, and 320 × 176p30 H.264: 1920 × 1080p30, 1280 × 720p30, 1024 × 576p30, 960 × 540p30, 800 × 448p30, 640 × 360p30, and 320 × 176p30 NV12: 1920 × 1080p30, 1280 × 720p30, 960 × 540p30, 640 × 360p30, 640 × 480p30, and 320 × 176p30
	Horizontal field of view	8.8˚ (Tele end) to 89.0˚ (Wide end)
	Diagonal field of view	7.7˚ (Tele end) to 80.4˚ (Wide end)
	Vertical field of view	4.5˚ (Tele end) to 50.0˚ (Wide end)
	Minimum illumination	3 lux (F1.8, 50 IRE) IRE = Institute of Radio Engineers

Category	Item	Specifications
	Shutter speed	1/25 seconds to 1/10000 seconds
	Local camera presets	Up to 254. Remote control supports presets from 0 to 9
PTZ capability	Pan	Range: ± 110˚ Speed: 1.7˚/s (Tele) to 80˚/s (Wide) Repositioning accuracy: ± 0.1˚
	Tilt	Range: ± 30˚ Speed: 0.7˚/s (Tele) to 28˚/s (Wide) Repositioning accuracy: ± 0.1˚
Automatic adjustment	Automatic white balance (AWB)	Auto, manual, and one-button-push
	Automatic exposure (AE)	Auto, manual, aperture priority, shutter priority, or brightness priority
	Automatic focus (AF)	Auto, and manual
Infrared remote control	Infrared signal reception	Control distance: 7 m Control angle: ± 45˚
Power and power supply	Input voltage	100–240 V AC, 50/60 Hz, 1.5 A max
	Output voltage	12 V DC
	Power	• Operating: ≤ 12 W • Standby: ≤ 3 W
Physical specifications	Control port rate	9,600 baud
	Operating temperature	0 ℃ to 40 ℃
	Operating humidity	10% to 90% (non-condensing)
	Operating altitude	≤ 5000 m (16,404 ft)
	Dimensions (H × W × D)	249 mm (H) x 139 mm (W) x 155 mm (D)
	Weight (unpacked)	1.95 kg

Safety Precautions

- Before using the product, contact the product vendor for version mapping information and to confirm compatibility with other video conferencing equipment.
- Only use the power adapter included with the device. Do not refit the adapter.

- During installation and commissioning, properly ground the camera, and do not insert or remove the camera video cables when the camera is powered on.
- Keep the device dry and prevent collision damage during storage, transportation, and operations.
- Do not attempt to dismantle the device. Contact an authorized maintenance center to address any faults.
- Position the device on stable surfaces only.
- Keep the device and its accessories away from children to avoid fatal choking or ingestion.
- Keep the power plug clean and dry to prevent electric shocks or other hazards.
- Before cleaning the device, shut it down and disconnect the power supply.
- Do not press, scratch, or hit the lens and display.
- Do not touch the lens or display with any rubber or plastic items to avoid impairing brightness.
- Dispose of packaging, batteries, and devices according to local regulations. Please recycle if possible.

Contact your device provider to learn more about safety precautions.

This is a Class A product. In a living environment, this product may cause radio interference in which case preventative measures may be required.

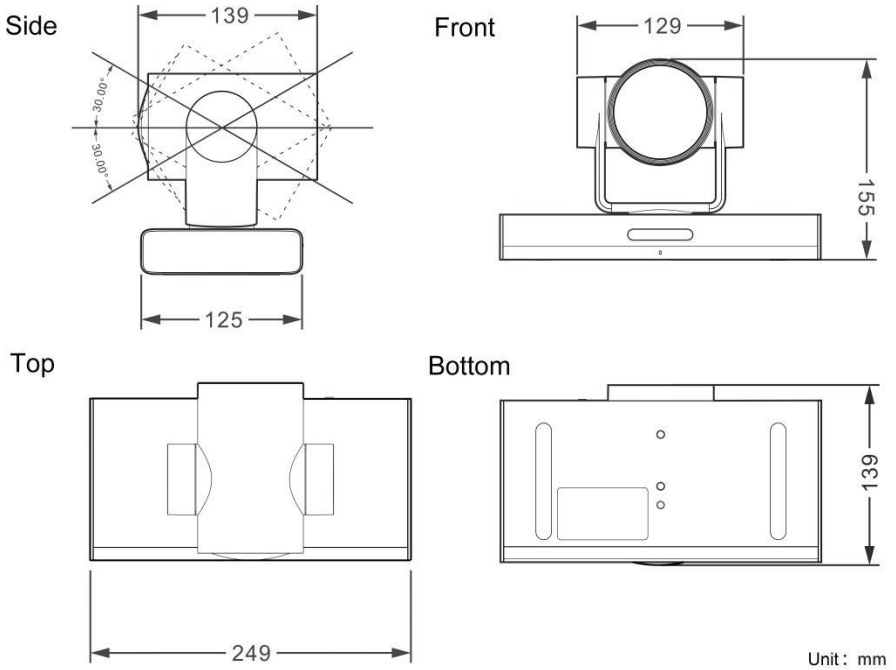
FAQs

Q	Why can't I use the PTZ to control the camera from an HD video conferencing endpoint?
A	1. The serial connection between the camera and the HD video conferencing endpoint is incorrect. 2. The serial port of the HD video conferencing endpoint is set incorrectly.
Q	The camera startup diagnosis fails along with one of the following problems: (1) the camera fails to start; (2) the PTZ generates abnormal noise; (3) nothing displays on the camera screen. Why?
A	1. A nonstandard power adapter might be in use. The standard one provides a 12 V DC output. 2. The low-voltage connector of the camera power adapter has been reconstructed, or the cable of this power connector has been extended. Extend the cable of the power socket if the length is insufficient.

Q	Why does the display fail (no video or black screen) after the camera has worked for a period of time?
A	1. Check the camera working environment. For example, check the cable connection, voltage, and heat dissipation. 2. IR remote control for configuration check: Go to **Menu** > **Camera** > **Exposure** to check whether the aperture is off or the shutter value is too high, resulting in underexposure. Select **Restore Factory Default** in the main menu to reset the parameters.
Q	Why won't the display show any images when the camera indicator is steady orange?
A	The camera is in the sleep mode. Press the standby button on the remote control, restart the camera, and use the corresponding Box device to wake it. Another method is to use the USB port image output (for example, a soft client joins a video conference).
Q	Why are the USB output images unclear and the highest resolution less than 720p?
A	Check whether the USB port on the PC supports USB 3.0 and re-plug the USB cable at both ends for verification. If the conference client uses YUY2/NV12 uncompressed encoding, slow USB insertion will cause the USB port to be recognized as USB 2.0. The limited USB 2.0 transmission rate cannot support 720p video. In this case, a USB 3.0 connection is required. If MJPEG and H.264 are used for compressed encoding, USB 2.0 supports 720p30.
Q	Why does the camera display video unclearly or why does the camera not automatically adjust its focus after being powered on?
A	1. The lens surface has dust, fingerprints, or condensation on it. 2. The camera is set to auto focus mode by its remote control. Press the **Auto** button on the remote control. 3. Use the recommended object-camera distance (1.5 meters or more), or try to adjust the camera angle.
Q	Do the cameras support daisy chain cascade control? If daisy chain cascade control is supported, how are the cameras connected and controlled? How are the camera address codes set? Why are the cameras uncontrollable after they are connected?

A	1. The Huawei Camera 200 supports the Video System Control Architecture (VISCA) protocol and therefore can be cascaded. 2. Connection method: Use a keyboard with the VISCA protocol to connect the cameras. Connect the RS232-IN port of the first camera to the VISCA keyboard. Then connect the RS232-OUT port of the first camera to the RS232-IN port of the second camera, the RS232-OUT port of the second camera to the RS232-IN port of the third camera, and so on. Up to seven cameras can be cascaded. 3. The VISCA protocol cascades a maximum of seven cameras. The address codes are automatically negotiated and increase by 1 with each added camera. 4. If control is abnormal, check the cables and their connections. Check that the keyboard can control the first camera. If the first camera can be properly controlled but the other ones cannot, check that the cable length does not exceed 30 meters. If the fault persists, restart the keyboard and the cameras.

Dimensions



Pin Assignment

No.	Pin (RS232-IN)	Pin (RS232-OUT)
1	DTR	DTR
2	DSR	DSR
3	TXD	TXD
4	GND	GND
5	RXD	RXD
6	GND	GND
7	IR OUT	NC
8	NC	NC