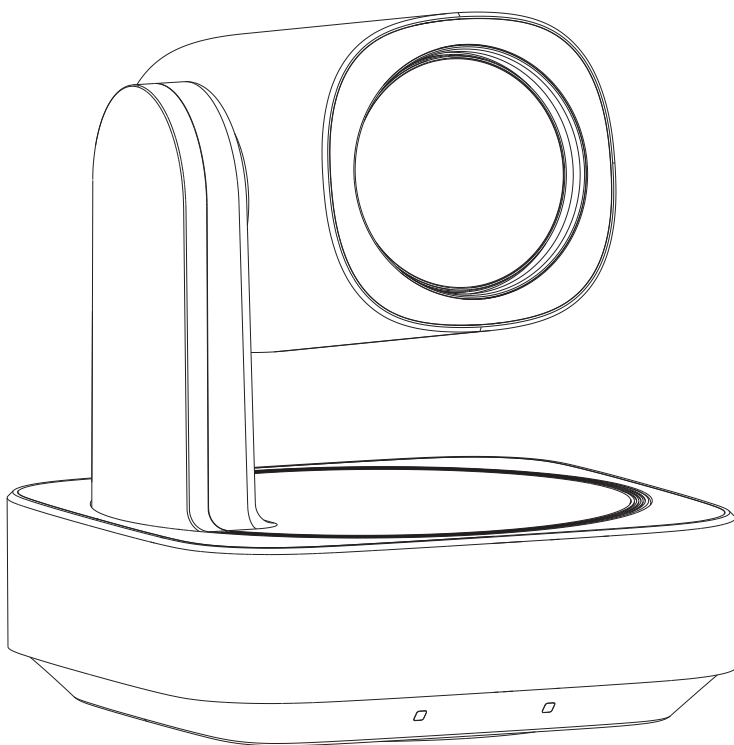


4K PTZ Camera

User Manual



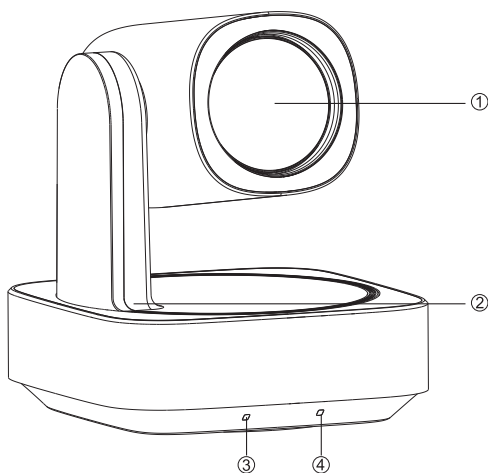
Version V1.3

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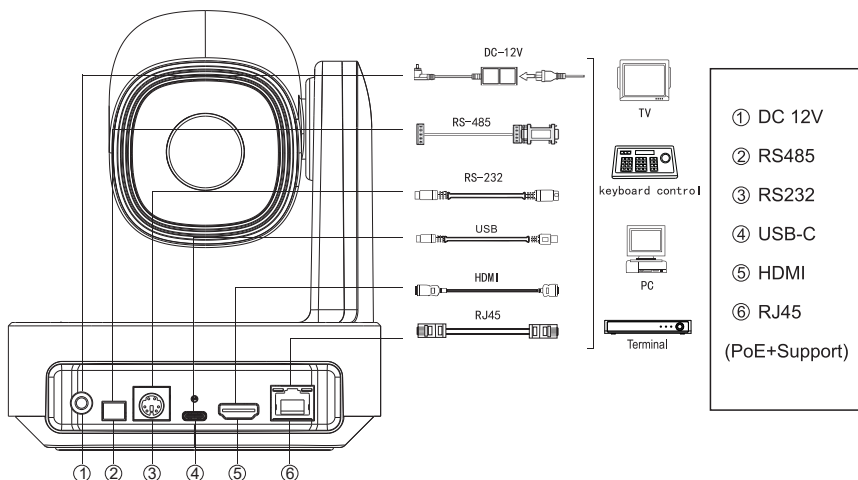
1. Product Description

1.1 Front

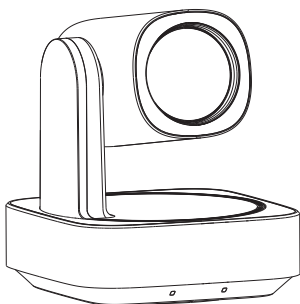


- ① Lens
- ② Pan&Tilt
- ③ Standby
- ④ Power

1.2 Back



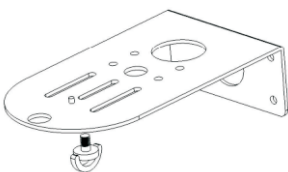
2. Packing List



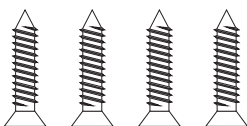
4K PTZ camera



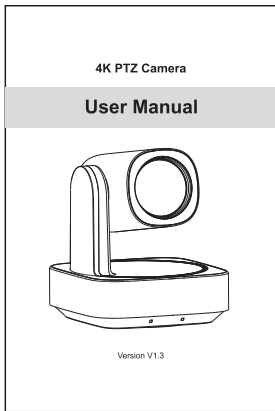
DC 12V power supply



Wall mount



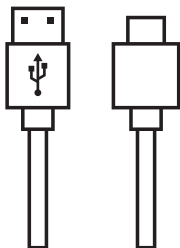
Mounting screws



User manual

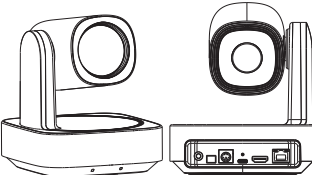


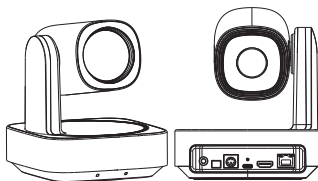
Remote control



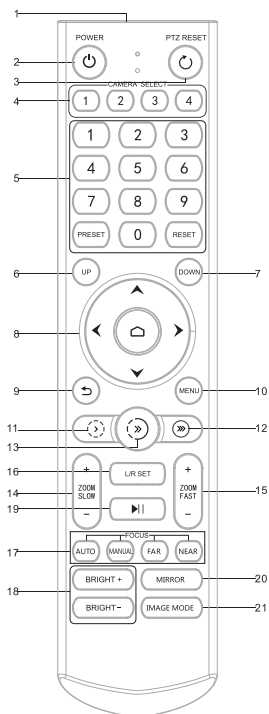
USB cable

3. Performance Characteristics

Item Name	USB3.0/HDMI PTZ Camera with 12x zoom			
Model No.	TEVO-VL12U			
Image Sensor	Sony IMX415 1/2.8" CMOS			
Effective Pixels	8.29MP, 16:9			
Lens	f=3.9-46.8mm			
Aperture	F1.6 ~ F9.6			
Video Format	HDMI(4KP@30/25fps, 1080P@60/50/30/25fps)			
	USB3.0(3840*2160P@30fps, 2560*1440P@30fps, 1920*1080P@30fps, 1280*720P@30fps, 640*480P@30fps, 320*240P@30fps)			
	YUY2/NV12/H.264/H.265/MJPG			
Optical Zoom	12x zoom			
Horizontal Angle	70.82°(W)-6.48°(T)	SNR	>50dB	
Vertial Angle	42.72°(W)-3.66°(T)	Focus	Auto / Manual	
Diagonal Angle	78.58°(W)-7.42°(T)	Digital Noise Reduction	2D & 3D Noise Reduction	
Backlight Compensation	Support	Exposure	Auto / Manual	
I / O Interface				
Video Interfaces	HDMI, TYPE-C, Ethernet			
Video Compression Format	H.264, H.265, MJPG, YUY2, NV12			
LAN	10M/100M adaptive Ethernet port, Support PoE IEEE802.3af			
Network Protocol	RTSP, RTMP, ONVIF, GB28181; Support VISCA Over IP			
Control Protocol	VISCA/Pelco-D/Pelco-P; Baud Rate: 9600/4800/38400/2400			
Control Interface	RS232 input only, RS485, TYPE-C(UVC1.1)			
PTZ Parameter				
Pan/Tilt Rotation	±175°, -90°~+90°			
Pan Control Speed	0.1-80°/sec			
Tilt Control Speed	0.1-60°/sec			
Preset Number	255 presets by Pelco-D, 32 presets by Pelco-P, 7 presets by Visca (10 presets by remote controller)			
General Parameter				
Operation Systems	Windows 7, Windows 8.1, Windows 10, Windows 11; Android, Mac OS™ 10.10 or higher, Linux (Require to support UVC.)			
Input Voltage	DC 12V			
Input Current	1.0A(Max.)			
Power Consumption	13W(Max.)			
Store Temperature	-10℃~+60℃			
Store Humidity	20%~90%			
Working Temperature	-10℃~+50℃			
Working Humidity	20%~80%			
Dimension(W*H*D)	171.6*192.6*171.6mm/260*217*197mm (before / after packing)			
N.W. / G.W	1.43kg/2.096kg			
Accessories	1xCamera; 1xUSB Cable; 1xPower Adapter; 1xWall Mount; 1xManual			
Mfg. Warranty	3 Years Parts & Labor			



4. Remote Control Button Description



No	Name	Function
1	Launch Window	Remote Control Launch Window
2	Power	Enter into Standby mode by pressing
3	PTZ Reset	Reset the PTZ
4	Camera Select Key	Select the camera need to control
5	Position	Preset position setup keys, include 【PRESET】 and 【RESET】 Set the preset position Reset the preset position
6	UP	The camera rotates horizontally in regular installed direction
7	DOWN	The camera rotates horizontally in reversed installed direction
8	PTZ Control Key	PTZ move according to the arrow indicates. Press 【HOME】 PTZ will back to the middle position
9	Return/Exit	Return to up level menu or exit menu
10	MENU	Enter or exit OSD Menu after pressed it
11	<>	PTZ rotates speed-
12	<>	PTZ rotates speed
13	>>	PTZ rotates speed+
14	ZOOM SLOW	Zoom in + or out - slowly
15	ZOOM FAST	Zoom in + or out - quickly
16	L/R Set	Support, press this key for 10 seconds
17	Focus Key	Auto/Manual/Far/Near Focus Default: Auto Focus
18	Bright Adjustment	Adjust the brightness of the image
19	▶	Reserved
20	Mirror	Enable the picture left/right flip
21	Image Mode	Switch between three image modes Normal, PC, Bright

★Attentions for Remote Control

1. Please check whether the indicator corresponding to the camera selection area is on or not.
2. If the remote control doesn't work, please replace batteries.
3. Make sure the Number keys on the camera selection area are consistent with the remote control address in the menu.

5. Camera Menu Setup

Press **【MENU】** on the remote control to enter main menu of the ptz camera.

5.1 Level 1 Menu- Main Menu

Main Menu	

→ Exposure	
Color	
Image	
Information	
Restore Default	
Language	English
[Home]	Enter
[Menu]	Back

Language: Support Chinese/English

Click the Home button on the Remote to enter level 2 sub-menu

Click the Menu button on the Remote to exit menu

5.2 Level 2, Menu- Exposure

Exposure	

→ Mode	Auto
Backlight	On/Off
ExpComp	0~15
Flicker	50/60Hz
[Return]	

Mode: Auto/Manual

Backlight: On/Off the backlight

ExpComp: Exposure compensation, optional item is 0 to 15

Flicker: Support 50Hz/60Hz

When changing the exposure mode to Manual, the sub-menu is the following

Exposure	

→ Mode	Manual
Iris	F1.6
Shutter	1/100000~1/25
Gain	50
Flicker	50Hz/60Hz
[Return]	

Iris: FNo. Setting, the value should be F1.6/F2.0/F2.4/F2.8/F3.4/F4.0/F4.8/F5.6/F6.8/F8.0/F9.6

Shutter: Shutter value setting, the value is between 1/100000 and 1

Gain, exposure gain setting, optional item is 0 to 99

5.3 Level 2 Menu-Color

Color	

→ Brightness	50
Contrast	50
Hue	50
Saturation	50
Sharpness	50
WB Mode	Auto
Rtuning	50
Btuning	50
[Return]	

Brightness: Set image brightness Dynamically. Default 50, optional item 0-99

Contrast: Set image contrast Dynamically. Default 50, optional item 0-99

Hue: Set the relative brightness of the image. Default 50, optional item 0-99

Saturation: Set image color effect. Default 50, optional item 0-99

Sharpness: Set sharpness level. Default 50, optional item 0-99

WB mode: Auto/Manual/VAR

When the WB mode is Auto, the Rtuning and Btuning value can be tuning, the range is 0 to 99;

When the WB mode is Manual, the sub menu will be the following,

Color	

→ Brightness	50
Contrast	50
Hue	50
Saturation	50
Sharpness	50
WB Mode	Manual
Rtuning	50
Btuning	50
Rgain	50
Bgain	50
[Return]	

In manual WB mode, the followings value can be adjusted. The Rgain and Bgain value can be turned, the range is 0 to 99;

When the WB mode is VAR, the sub menu will be the following,

Color	

→ Brightness	50
Contrast	50
Hue	50
Saturation	50
Sharpness	50
WB Mode	VAR
Color Temp	2500K~9000K
Rtuning	50
Btuning	50
[Return]	

The range for the color temp can be adjusted between 2500K to 9000K;

5.4 Level 2 Menu Image

Image	

→ Flip	Off/On
Mirror	Off/On
Video Format	1080P60
USB Mode	ISOC/BULK
Style	Normal/PC/Bright
[Return]	

Flip: Enable/disable the picture up/down flip

Mirror: Enable/disable the picture left/right flip

Video Format: 1080P60/1080P50/1080P30/1080P25/720P/60/720P/50

USB Mode: ISOC/BULK

USB mode: Adjust between Isochronous transfers mode and Bulk transfers mode

Style Mode: Normal, PC, Bright

5.5 Level 2 Menu-Information

Information	

Model	HD Camera
Version	1.1.1.1
	2022-11-04
→ [Return]	

Model: HD Camera

Version: 1.1.1.1

Date: 2022-11-04

Notice: The version number here is just an example, the actual parameters shall prevail.

Restore Default	

Restore?	No/Yes
→ [Return]	

Communication	

→ Protocol	Pelco-D
Address	1~255
Baudrate	9600
RC address	All/1/2/3/4
[Return]	

Communication	

→ Protocol	Pelco-P
Address	1~32
Baud rate	9600
RC address	All/1/2/3/4
[Return]	

Procotol: Auto/Visca/Pelco-D/Pelco-P

Baudrate: 2400/4800/9600/38400

RC Address: All/1/2/3/4

5.6 Level 2 Menu-Information

Information	

Model	4K Camera
Version	1.1.1.0
	2022-09-13
→ [Return]	

Model: 4K Camera

Version: 1.1.1.0

Date: 2022-09-13

Notice: The version number here is just an example, the actual parameters shall prevail.

Restore Default	

Restore?	No/Yes
→ [Return]	

6. Common Operation Instructions

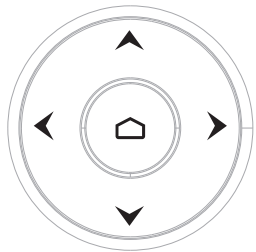
6.1 Camera Select

Refer to the dial-up at the bottom of the camera and choose camera address number that you want to control (1-4).



6.2 Camera Direction Control

- ▲ Turning up
- ▼ Turning down
- ◀ Turning left
- ▶ Turning right
- 🏠 Turning to default



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.

6.3 Camera Focusing Mode Control

【AUTO FOCUS】 Switch the focus mode to AUTO

【MANUAL FOCUS】 Switch the focus mode to MANUAL

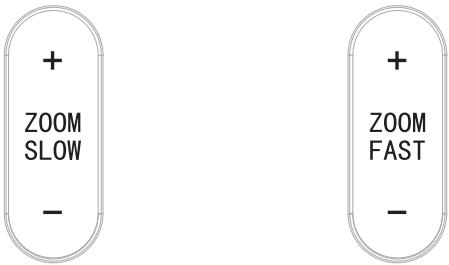
【FAR】 Far focus manually

【NEAR】 Near focus manually



6.4 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.



6.5 Preset Setup, Call, Cancel

- (1) Reserve Preset: Press **【PRESET】**, then press one of the numbers (0-9) to reserve a preset that correspond to the NUMBER.

Note: You can setup 10 presets at most by the remote control.

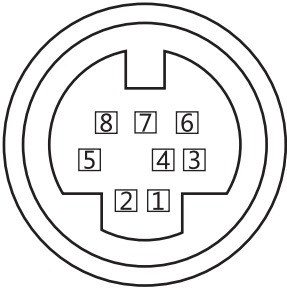
- (2) Call Preset: Press the NUMBER (0-9) directly to call the reserved preset.

Note: It won't work if there's no preset reserved in the corresponded number.

- (3) Remove Preset: Press **【RESET】**, then press one of the number (0-9) to remove a preset that corresponds to the NUMBER.



6.10 RS-232 Interface Distribution

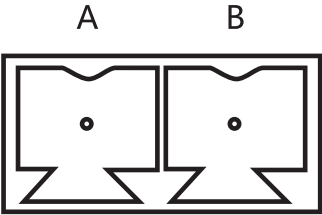


VISCA RS-232 IN

- 1.N.C.
- 2.N.C.
- 3.TXD
- 4.GND
- 5.RXD
- 6.N.C.
- 7.N.C.
- 8.N.C.

6.11 RS-485 Interface Distribution

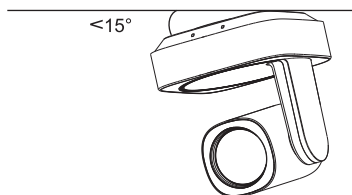
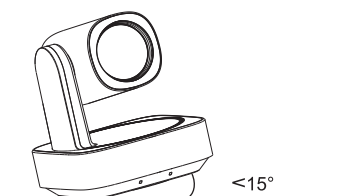
PIN NUM	FUNCTION
A	DTR IN+ (connect to RS-485)
B	DSR IN-(connect to RS-485)



7. Installation Instructions

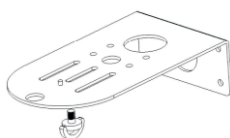
7.1 Surface Installation

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.



7.2 Wall Mount Installation

Step 1: Mounting the wall mount bracket

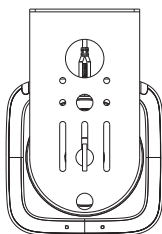


Wall mount

Wall mount bracket
(This side is to the wall.)

Mounting the bracket
vertically to the wall with
screws.

Step 2: Install the camera



Screw hole

Rotate the camera
clockwise to install it.

8. 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 effect to suit the church lighting properly.

Q: Remote control is not working or insensitive.

A: ①Not work, please replace batteries.

②Not 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.

A: Make sure it is a correct connection between the camera and PC. (Reference to RS-485 and RS-232 Pins distribution on page 10).

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. Maintenance Services

All products purchased from our company are guaranteed to keep in good repair for 36 months. If there are any quality problems during the guarantee period, we will maintain them for free.

Under any of the following warranties, related maintenance costs will be collected:

1. Product was not normally used.
2. Fire, electric shock, outside object collapse or other natural disasters causing the equipment damaged.
3. Unauthorized repair, misuse, abuse or change.

Warranty Card

Thank you so much for choosing our products.

User's Info

Name: _____ Tel: _____

Email: _____ Post Code: _____

Address: _____

Product's Info

Product Name: _____

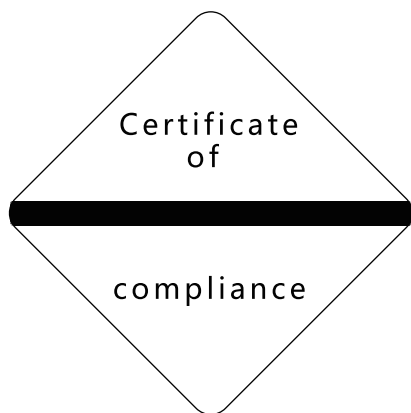
Factory Serial Number: _____

Fault Description

Attention

1. This card is considered as the protection to fix warranty, so please reserve it carefully. Please fill in truthfully.
2. Please indicate the model number, factory serial number and the detailed description of the fault information.







Make every meeting better and easier!