

ED860 Series

Intelligent Binocular Tracking Camera



- **Integrated Design:** Built-in panoramic camera, achieving the integration of panoramic camera and tracking camera;
- **Intelligent Teaching Tracking:** Built-in advanced image recognition and tracking algorithms, achieving fast, stable, and accurate tracking of targets without the need for any additional positioning cameras or tracking hosts;
- **Full-frame Image Recognition:** Image detection is performed on every frame, with high sensitivity in image recognition. In complex environments, it can accurately differentiate between people and backgrounds, ensuring accurate tracking and excluding interference caused by background changes. Even when multiple moving targets are present, it can still accurately track the correct target with an extremely low target loss rate;
- **High immunity from interference:** More diversified and flexible recognition shield settings ensure that once tracking target is locked, it will not be affected by other moving object or projector;
- **Stable tracking:** Movement sensitivity is adjustable. When tracking slight movement of target or hand movement, it will not cause wrong operation of the camera;
- **Self-adaptive image:** The tracking camera zooms depending on distance to target so that the visual image maintains proper size and scale;

- **High environmental suitability:** Tracking result will not be affected by classroom size, shape or seat arrangement;
- **Super wide dynamic exposure:** It solves the issue that tracking object dims in strong light such as projector;
- **Multiple Tracking Modes:** Supports real-time tracking, area tracking and multiple tracking modes switching;
- **4K Ultra HD Imaging:** Equipped with a high-quality 8.42 million pixel SONY CMOS image sensor, the maximum resolution reaches 4K (3840×2160), with a maximum 4K output frame rate of 30 frames per second. It delivers clear, realistic ultra-high-definition video, vividly capturing facial expressions and movements, providing top-tier image quality with exceptional clarity and resolution;
- **Optical Zoom Lens:** 12x optical zoom lens, with a wide horizontal field of view up to 80°;
- **Leading Autofocus Technology:** Advanced autofocus algorithms allow the lens to focus quickly, accurately, and stably;
- **Low Noise & High Signal-to-Noise Ratio:** The low-noise CMOS sensor ensures an ultra-high signal-to-noise ratio in the video. Advanced 2D and 3D noise reduction technologies further minimize noise while maintaining image clarity;
- **Multiple Audio/Video Compression Standards:** Support H.264/H.265 Video compression; Support AAC audio compression;
- **Multiple Video Output Interfaces:** Supports HDMI, USB 3.0, SDI, and wired LAN interfaces. Supports POE (Power over Ethernet) +power supply; USB 3.0 supports dual-stream output;
- **Multiple Network Protocol:** Supports ONVIF, GB/T28181, RTSP, RTMP, VISCA OVER IP, IP VISCA, RTMPS, and SRT protocols. Supports RTMP push mode for easy connection to streaming media servers (Wowza, FMS). Supports RTP multicast mode;
- **Multiple Control Protocols:** Support VISCA、PELCO-D、PELCO-P protocols,Support automatic identification protocols;
- **Support PoE:** The use of a single network cable enables simultaneous transmission of power, control, and video signals, simplifying wiring and installation;
- **Multiple Preset Positions:** Supports up to 255 preset positions (10 preset positions can be called via remote control);
- **Intelligent Tracking:** Built-in advanced human detection, locking, and tracking image processing and analysis algorithms enable smooth, natural tracking effects without the need for additional camera positioning or tracking systems. It works seamlessly with different lenses to meet tracking needs in various scenarios;

- **Built-in Microphone:** Features a built-in microphone array with omnidirectional sound pickup, with a maximum pickup distance of 6-7 meters;
- **Quiet Pan / Tilt Movement:** With high accuracy step driving motor, camera can pan / tilt extremely quiet and smooth;
- **Flexible Installation:** Various installation options are available. The teacher's camera supports both Wall mount and ceiling mount, while the student's camera must be wall mounted;
- **Wide Application:** Suitable for teaching recording, remote interactive teaching, and other applications.

1.1 Technical Parameter

Table 1.1 Camera Lens Parameters

Parameter/Model	12x
Tracking Camera Lens Parameters	
Image Sensor	1/2.8 inch high quality HD CMOS sensor
Effective Pixels	8.42 megapixel, 16:9
Video format	HDMI Interface Video Formats: 4K P30/25, 1080P P30/25, 720P P30/25; SDI Interface Video Formats: 1080P P30/25, 720P P30/25; U3 Interface Video Formats: YUY2 1920×1080/1280×720/640×360@30; NV12 1920×1080/1280×720/640×360@30; LAN Interface Video Formats: Panoramic Camera: 3840×2160/2592×1944/2304×1296, 1920×1080/1280×720 P30/25; Close-up Camera: 3840×2160/1920×1080/1280×720/640×480 P30/25
Close-up Lens Specifications	12x Optical Zoom
Viewing Angle	8° (N) ~ 80° (W)
Iris	F1.8~F2.68
Digital Zoom	10X

Minimum Illumination	0.5Lux(F1.8, AGC ON)
DNR	2D & 3D
White Balance	Manual/Auto/One-touch White Balance/Custom Color Temperature
Focus	Auto/Manual/One-push
Exposure	Auto/Manual/Shutter Priority/Aperture Priority/Brightness Priority
Aperture	Auto/Manual
Shutter Speed	1/25 ~ 1/10000
BLC	On/off
Dynamic Range	Off, 1 ~ 8
Video Adjustment	Brightness, Chroma, Saturation, Contrast, Sharpness, Gamma Curve
SNR	>50dB
Panoramic camera lens parameters	
Image Sensor	1/2.8 inch high quality HD CMOS sensor
Effective Pixel	8.42 megapixel, 16:9
Teacher's camera lens	Fixed Focal Length Lens, Horizontal Field of View: 45.5°, Aperture: F=2.5, Focal Length: f=6.8mm, Lens Angle Adjustable $\pm 10^\circ$
Student's camera lens	Fixed Focal Length Lens, Horizontal Field of View: 110°, Aperture: F=2.2, Focal Length: f=2.03mm, Lens Angle Adjustable $\pm 20^\circ$

Table 1.2 Interface Parameters

Interface	
Product Interfaces	HDMI,SDI,LAN(supports POE+),USB3.0,LINE-IN、RS485/RS232;
Video Output Interface	HDMI, SDI, LAN, USB 3.0
Video Compression Formats	LAN Interface Supported: H.264, H.265 USB 3.0 Interface Supported: MJPG, H.264, YUY2, NV12
Audio Input Interface	Stereo 3.5mm Linear Input

Audio Output Interface	HDMI, SDI, LAN, USB 3.0
Audio Compression Formats	AAC
Network Interface	10M/100M/1000M Adaptive Ethernet Port, POE + Power Supply Supported, Audio and Video Output Supported
Network Protocols	RTSP, RTMP, ONVIF, GB/T28181, VISCA OVER IP, IP VISCA, RTMPS, SRT, Supports Remote Upgrade, Remote Reboot, Remote Reset
Control Interface	RS232, RS485, LAN
Control Protocols	VISCA/Pelco-D/Pelco-P; Supports Baud Rate 115200/38400/9600/4800/2400
USB Communication Protocols	UVC (Video Communication Protocol), UAC (Audio Communication Protocol)
Power Interface	HEC3800 Power Socket (DC12V)
Power Adapter	Input: AC110V~AC220V; Output: DC12V/2.5A;
Input Voltage	DC12V $\pm$ 10%
Input Current	2A(Max)
Total Power Consumption	24W(MAX)
Dimensions	219mm x 136.6mm x 155.4mm

Table 1.3 PTZ Parameters

PTZ Parameter	
Pan Move	-170°~+170°
Tilt Move	-30°~+90°
Pan Speed	0.1 ~60°/s
Tilt Speed	0.1~45°/s
Preset Speed	Pan 60°/s,Tilt 45°/s
Preset Quantity	Up to 255 preset (10 via remote control)

Table 1.4 Other Parameters

Other Parameter

Storage Temperature	-10℃～+70℃
Storage Humidity	20%～95%
Working Temperature	-10℃～+50℃
Working Humidity	20%～80%
Weight	1.58 kg
Environment	Indoors

1.2 Dimension

