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› [Tenveo](#) /

› Tenveo 4K PTZ Camera VX20M-4KN Instruction Manual

Tenveo VX20M-4KN

Tenveo 4K PTZ Camera VX20M-4KN Instruction Manual

Model: VX20M-4KN

INTRODUCTION

This manual provides detailed instructions for the setup, operation, maintenance, and troubleshooting of your Tenveo 4K PTZ Camera, model VX20M-4KN. This camera features 4K Ultra HD resolution, NDI certification, advanced AI auto-tracking, and a 20x optical zoom, making it suitable for professional conferencing, live streaming, and various video production environments.



Image: Overview of the Tenveo 4K PTZ Camera VX20M-4KN highlighting its main features including 4K UHD, AI Auto-Tracking, PoE, 20x Optical Zoom, IP Display Screen, 1/2.8 inch CMOS Sensor, Multi-Interface (3G-SDI, LAN, HDMI, USB3.0), and NDI|HX support.

SETUP

Follow these steps to properly set up your Tenveo VX20M-4KN camera.

1. Physical Connections

- **Power over Ethernet (PoE):** Connect an Ethernet cable from a PoE-enabled switch or injector to the camera's LAN port. This provides both power and network connectivity.
- **Power Adapter:** Alternatively, connect the included DC 12V power adapter to the camera's power input.
- **Video Outputs:** Connect video cables to the desired output ports:
 - **HDMI:** For 4K video output.
 - **3G-SDI:** For 1080P video output, suitable for longer cable runs.
 - **USB 3.0:** For 4K video output to a computer.

- **LAN (NDI/IP Streaming):** For 1080P IP streaming.
- **Audio Input/Output:** Use the 3.5mm audio input and output jacks for external audio devices.
- **Control Ports:** Connect to RS232 or RS485 ports for external PTZ control.



Image: Detailed diagram illustrating the various input and output interfaces available on the Tenveo PTZ camera, including LAN, 3G-SDI, HDMI, USB3.0, power, and control ports.

2. Network Configuration (for NDI/IP Streaming)

For NDI and IP streaming functionalities, connect the camera to your network via the LAN port. The camera supports IEEE 802.3af PoE for simplified cabling.

1. Connect the camera to your local area network (LAN).
2. Access the camera's web interface by entering its IP address into a web browser. The IP address can typically be found on the camera's display screen or through a network scanning tool.
3. Configure network settings, including IP address, subnet mask, and gateway, as required by your network environment.

Einfache Einrichtung - Plug & Play



Image: A visual guide demonstrating the 'Plug & Play' setup process: connecting the camera to a LAN, accessing its IP address for configuration, and initiating live streams to platforms like OBS, YouTube, and Facebook.

OPERATING INSTRUCTIONS

This section details the operational aspects of your Tenveo VX20M-4KN camera.

1. Pan, Tilt, and Zoom (PTZ) Control

The camera offers precise PTZ control with a 350° pan and 180° tilt range, along with a 20x optical zoom.

- **IR Remote Control:** Use the provided IR remote for quick adjustments to pan, tilt, and zoom.
- **Web UI Control:** Access the camera's intuitive web interface from any browser for comprehensive control.
- **PTZ Controller:** Connect a Tenveo joystick controller for professional, studio-grade precision.
- **Presets:** Set up to 255 presets (10 via IR remote) for frequently used camera positions.

20X Optical Zoom
63° Wide FOV



Image: The Tenveo PTZ camera showcasing its 20x optical zoom and extensive pan (-175° to +175°) and tilt (-90° to +90°) ranges within a church environment, highlighting its ability to capture detailed close-ups from a wide field of view.

2. AI Auto-Tracking

The advanced AI auto-tracking feature automatically detects and follows faces and people, ensuring the subject remains in frame.

- **Activation:** Activate AI tracking via the remote control or web interface.
- **Modes:** Switch between Presenter mode (tracks a single subject) and Auto-Framing mode (adjusts to frame multiple subjects).
- **Uninterrupted Tracking:** The camera maintains tracking even if the subject temporarily moves out of view or turns.



Image: A visual representation of the camera's AI Auto-Tracking capabilities, including precise humanoid and face recognition, options for remote and web UI control, and dynamic auto-framing for single or multiple subjects.

3. NDI IP Streaming

The camera is fully NDI certified, providing high-quality, ultra-low latency video streaming over IP networks.

- Supports NDI|HX2 protocol.
- Compatible with popular streaming software like OBS, vMix, Zoom, and Teams.

4. Broadcast-Grade Tally Indicators

The camera features professional 3-color tally lights (PGM, PVM, Standby) to indicate its live status, preventing accidental broadcasts. These indicators can be fully deactivated for flexibility.

The Smart PTZ with Broadcast-Grade Lighting System

The system, commonly found in high-end broadcast equipment, is now accessible for your video conference and live streaming.

Tally Indicator:

PGM

PVM

STANDBY

Status Indicator:

Normal

In progress

Abnormal



Image: The Tenveo Smart PTZ camera displaying its broadcast-grade tally indicators, which show the camera's status (Program, Preview, Standby) with distinct colors, enhancing professional production workflows.

MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your camera.

- **Cleaning:** Use a soft, dry cloth to clean the camera body. For the lens, use a specialized lens cleaning cloth and solution. Avoid abrasive cleaners or solvents.
- **Firmware Updates:** Periodically check the Tenveo official website for firmware updates. Keeping the firmware updated can improve performance and add new features.
- **Storage:** When not in use for extended periods, store the camera in a dry, dust-free environment.

TROUBLESHOOTING

This section addresses common issues you might encounter with your Tenveo VX20M-4KN camera.

Problem	Possible Cause	Solution
No video output	Incorrect cable connection; incorrect input selected on display; power issue.	Check all video cables (HDMI, SDI, USB) are securely connected. Ensure the display device is set to the correct input source. Verify the camera is powered on.
Camera not responding to control (remote/web UI)	Remote batteries low; incorrect control protocol; network issue (for web UI).	Replace remote batteries. Ensure the camera's control protocol (e.g., VISCA, Pelco-D/P) matches the controller. For web UI, check network connection and camera IP address. Power cycle the camera if unresponsive.
AI Auto-Tracking not working	Feature not activated; poor lighting conditions; subject too far/close.	Ensure AI tracking is enabled via remote or web UI. Optimize lighting conditions. Position the subject within the recommended tracking range.
Random loss of PTZ control (drift)	Software glitch; calibration issue.	Power cycle the camera by disconnecting and reconnecting the power supply. If the issue persists, check for firmware updates or contact technical support.
Poor image quality (noise, blur)	Low light; dirty lens; incorrect settings.	Ensure adequate lighting. Clean the camera lens. Adjust camera settings such as exposure, white balance, and noise reduction via the web UI.

SPECIFICATIONS

Feature	Detail
Model Number	EU-VX20M-4KN
Image Sensor	1/2.8 inch CMOS, 8.29 Megapixels
Video Resolution	4K@30fps (HDMI, USB 3.0), 1080P@60fps (3G-SDI, NDI/IP Streaming)
Optical Zoom	20x
Pan/Tilt Range	Pan: 350°, Tilt: 180°
Connectivity	HDMI, 3G-SDI, USB 3.0, Ethernet (LAN), NDI, RS232, RS485, 3.5mm Audio In/Out
Power	DC 12V or Power over Ethernet (PoE IEEE 802.3af)
Features	AI Auto-Tracking, NDI HX, PTZ Control, PoE, 2D/3D Noise Reduction, Backlight Compensation
Compatible Devices	Console de jeu, Lecteur multimédia, Ordinateur portable, Smartphone, TV, Tablette (Gaming console, Media player, Laptop, Smartphone, TV, Tablet)
Recommended Uses	Business, Education, Live Streaming
Dimensions	28.9 x 22.1 x 20.4 cm

Feature	Detail
Weight	2.7 Kilograms
Country of Origin	China

WARRANTY

The Tenveo VX20M-4KN camera comes with a **3-year warranty** from the date of purchase. This warranty covers manufacturing defects and ensures repair or replacement of faulty components under normal use conditions. Please retain your proof of purchase for warranty claims.

SUPPORT

For technical assistance, troubleshooting, or warranty inquiries, please contact Tenveo customer support through their official website or the contact information provided with your product packaging. Ensure you have your model number (VX20M-4KN) and proof of purchase ready when contacting support.