

Disclaimer

Legal disclaimer

This guide and its contents (the "Guide") are provided by NXGEN. All rights to the Guide and to the intellectual property embodied in it — including, without limitation, trademarks, trade names, logos and similar marks appearing in or on it — are protected by law. All right, title and interest in the Guide and in any related intellectual property rights belong to and remain with NXGEN and its licensors.

The Guide is provided free of charge, "as is" and for informational purposes only, without warranty of any kind. It is neither intended nor suitable to establish any legal relationship between the reader and NXGEN or its affiliates, including, without limitation, any obligation of NXGEN or its affiliates toward the reader.

The obligations of NXGEN and its affiliates in respect of NXGEN products or services purchased by a customer are governed exclusively by the terms of the agreement under which those products or services were purchased.

For clarification

The reader bears the entire risk as to the use, results and performance of the Guide. To the fullest extent permitted by applicable law, NXGEN disclaims and excludes all warranties, whether statutory, express or implied — including, without limitation, implied warranties of merchantability, fitness for a particular purpose, title and non-infringement of third-party rights — as well as any liability or warranty arising from suggestions, specifications or samples related to the Guide.

PTZ Control Overview

Updated 16 August 2026

What PTZ Control Does

PTZ (Pan-Tilt-Zoom) Control allows operators to remotely adjust camera position, angle, and zoom level in real time directly from the GCXONE interface. This enables active monitoring, faster incident response, and precise control over camera coverage.

Why It Matters

Fixed cameras provide a limited field of view. When events occur outside that range, operators lose visibility. PTZ control allows operators to dynamically adjust camera coverage, track movement, and focus on critical details in real time — improving situational awareness and reducing the need for additional cameras.

How It Works

Operators send commands through the GCXONE interface. GCXONE translates these commands into the appropriate device protocol and transmits them to the camera. The camera executes the movement instantly and updates its position in real time.

1. Prerequisites

Before starting, confirm the following:

- PTZ camera is successfully added to GCXONE.
- Camera hardware supports PTZ functionality.
- Device is online and accessible.

- Video streaming is working correctly.
- User has PTZ control permissions enabled.

2. Device-Level Setup

Access the camera web interface and navigate to PTZ Settings or Camera Control :

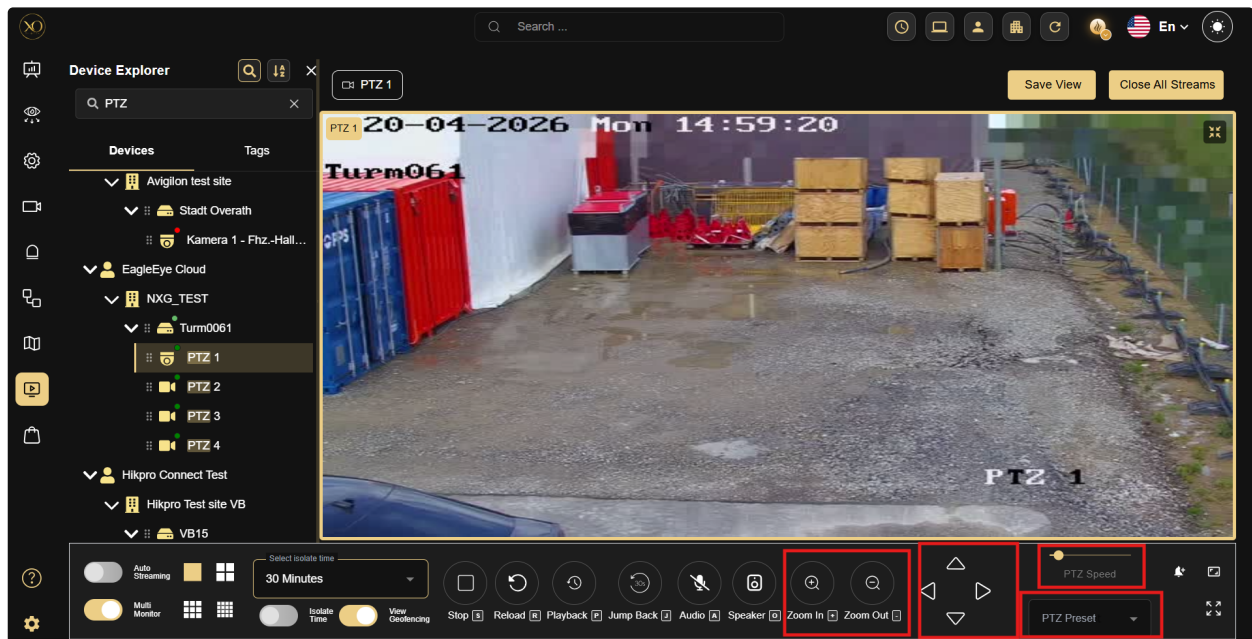
- Enable PTZ and select the appropriate protocol (e.g., ONVIF or manufacturer-specific)
- Configure movement limits, idle time, and home position if supported
- Ensure the integration user has PTZ permissions on the device
- Test pan, tilt, zoom, and preset recall directly from the device interface

Note:

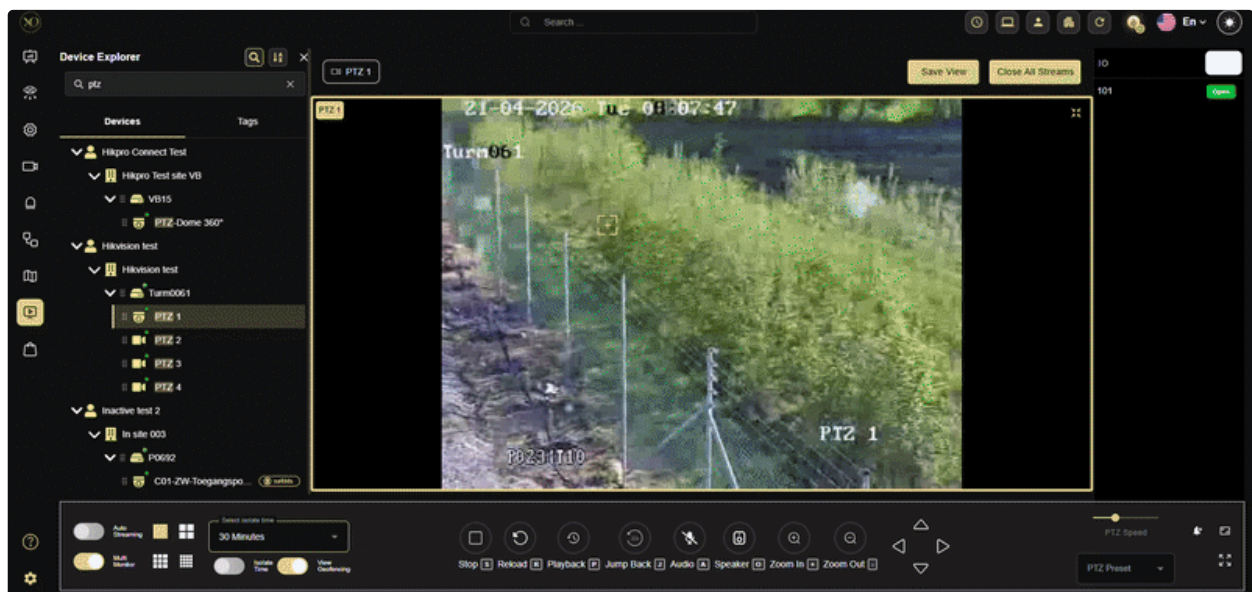
Navigation steps may vary depending on the manufacturer. Refer to the device documentation for exact instructions.

Key Capabilities

- **Pan and Tilt** — Move the camera horizontally and vertically to adjust the viewing angle and expand coverage.
- **Zoom** — Adjust optical or digital zoom to focus on specific areas and capture fine details.
- **PTZ Preset** — Automatically switch between predefined camera positions for faster monitoring
- **PTZ Speed** — Adjust movement speed for precise positioning or rapid area scanning.



A PTZ camera's live view with the zoom buttons, the direction pad, the PTZ speed slider and the preset selector all highlighted in the control bar.



Real-World Use Cases

- Track movement across large areas in real time using pan and tilt
- Move the camera instantly to the event location when an alarm is triggered
- Zoom in on critical details and capture multiple angles for evidence
- Monitor multiple zones efficiently using presets and automated tours

Best Practices

- Use presets instead of manual movement for faster and more consistent positioning
- Adjust movement speed based on the situation — fast for scanning, slow for precision
- Avoid excessive manual movement to reduce mechanical wear
- Regularly verify preset accuracy, as cameras may drift over time
- Use Local Mode to improve PTZ responsiveness, especially in high-latency environments
- Limit control to one operator per camera to avoid conflicting commands

Additional Details

- **Supported Devices** — Axis, Dahua, Hikvision, and Milestone. PTZ controls are available only when the PTZ toggle is enabled in the Sensor Edit page and the user has the required permissions.
- **Permissions** — Users must have PTZ control permissions enabled on their account to access and operate PTZ functionality.
- **Network Impact** — Network latency directly affects PTZ responsiveness, especially in remote environments. Using Local Mode significantly reduces latency and improves performance.

Camera controls, including PTZ controls, PTZ shortcuts, presets, preset shortcuts, and related video control actions, work consistently for supported devices in both Local Mode and Cloud Mode.

- **Physical Limits** — Cameras operate within defined pan and tilt ranges depending on the device model.
- **Usage Constraints** — Only one operator should control a PTZ camera at a time to avoid conflicting commands and ensure smooth operation.