

## Optera IMM Series Cameras

This document describes the features and fixes for Optera IMM Series cameras. Review each section to determine if an upgrade is warranted. For additional information, visit [www.pelco.com](http://www.pelco.com).

**NOTE:** For technical issues, contact Pelco Product Support at 1-800-289-9100 (USA and Canada) or +1-559-292-1981 (international).

### 2.13.6.1 Release

#### New Features and Improvements

- Improved cybersecurity.

#### Major Fixes

- Corrected an issue with not being able to access the camera via the web UI when using DHCP (in some environments).
- Corrected an issue that allowed a non-administrator role to be created as the first user.
- Corrected a problem with the Pelco logo.
- Corrected a problem with an alarm input not being recognized in Genetec.
- Corrected an issue with local recording in which the recording continued after media sources and configurations.
- Corrected a problem with the web UI causing the SD Card not to work until formatted and the camera has been rebooted.
- Corrected a problem on the RTP Settings page in which leaving the port blank does not reset the port to the default.

### 2.13.4.6 Release

#### New Features and Improvements

- Added the ability to upload a PKCS12 certificate for TLS security.

#### Major Fixes

- Corrected a problem with the camera failing to give a proper error message when an invalid SSL certificate was uploaded.
- Corrected an issue with text overlay having lines in the secondary video stream.

### 2.13.3.8 Release

#### New Features and Improvements

- Added compliance with California's new SB-327 cybersecurity law aimed at preventing unauthorized access to Internet-connected devices. The camera now requires an administrator account to be created the first time it boots. Without such an account, the camera will not stream video and will fail most API requests.

**NOTE:** In order to upgrade this firmware from v.2.13.2 or another previous version, users must first create an administrator account on the camera prior to the upgrade.

## **2.13.2.4 Release**

### **Major Fixes**

- Corrected an issue with SSL: Self Signed Certificates should use SHA256 signatures
- Corrected an issue causing an error on the page when changing the admin password to an existing user.

## **2.13.1.3 Release**

### **New Features and Improvements**

- Add the new Pelco logos and removed references to Schneider Electric in the code.

## **2.13.0.17 Release**

### **New Features and Improvements**

- Added the ability to record audio and metadata with locally recorded video.
- Added generation of ONVIF events related to local recording.
- Added improved cybersecurity.
- Added ONVIF T compliance.

### **Major Fixes**

- Corrected a problem with the Web UI not providing a meaningful error message to appear when the user tries to record a MJPEG stream.
- Corrected an issue causing alarm dwell time not to save on the Sources page.
- Corrected an issue causing the IPv6 address to not display in the Web Client after disabling and re-enabling.

## **2.12.1.1 Release**

### **Major Fixes**

- Corrected a problem with the camera not returning "urn:schemas-pelco-com:onvif:analytictracking:1" as namespace, which caused Pelco Camera Link integration not to work with VideoXpert.
- Corrected an issue with portions of stream preset descriptions not being localized.
- Corrected an issue causing the Sabotage Analytic to not work as designed.
- Corrected a problem with disabling streams in the web client not denying streams to be pulled through VLC Media Player.

## 2.12.0.8 Release

### New Features and Improvements

- Added cybersecurity improvements:
  - Added the ability to set TLS (formerly SSL) to “Required” in the Web Client which disables HTTP access.
  - Added Web Client controls to allow and block IPv6 addresses.
- Added alignment improvements.
- Added Live View stability improvements.

### Major Fixes

- Corrected an issue causing video streams to restart approximately every 15 minutes in the Milestone VMS.
- Corrected a problem with the panoramic view in Two Camera Tracking web pages flashing between showing video and a gray box.
- Corrected an issue with OSDi settings not being restored after backup and restore in the Web Client.
- Corrected a problem with setting 802.1x to EAP-TTLS/EAP-MSCHAPV2.
- Corrected an issue with Edge Storage and not being able to pull clips from the camera.

## 2.11.1.7 Release

### New Features and Improvements

- Added support for integrating VideoXpert with Pelco Camera Link functionality.
- Added the ability to update firmware from the Web Client.

### Major Fixes

- Corrected an issue causing audio to lag one to two seconds behind live and recorded video.
- Corrected a problem with ftp image sizes being a lower resolution than desired.
- Corrected a problem with Tooltips for RTP Settings and Simple Motion Detection Warning not being localized.
- Corrected an issue causing Pelco Camera Link to not resume after restarting the cameras.
- Corrected an issue with the Video Configuration page not prompting the user to login after rebooting.
- Corrected a problem with Pelco Camera Link preventing the zoom on the Operation page from drawing in all directions from the center of an initial click.
- Corrected an issue with too many core files to limit the number of core files that can be saved.
- Corrected a problem with the web client getting into a “Not Found” state where it was unusable.

## 2.11.0.7 Release

### New Features and Improvements

- Added support for Pelco Camera Link, a new technology that enables two Pelco camera products to work together: Spectra Enhanced and Optera. This feature is available at the Camera Web UI and allows you to set up the two cameras so that you can take advantage of the benefits of both cameras (e.g. the panoramic views of Optera and the ability to zoom for great detail with Spectra

Enhanced). You need to use the latest firmware for both cameras and establish a link between the cameras.

- Added support for Firewall Configuration in the Web Client. This security feature allows a camera administrator to allow or deny computers at specific IP addresses access to the camera. There are three modes for this option:
  - Off: Firewall Configuration is not enabled.
  - Allow: The administrator must specify all of the IP addresses that are allowed to access the camera.
  - Deny: The administrator must specify all of the IP addresses that are denied access to the camera.

## **Major Fixes**

- Corrected an issue with the Web Client with several screens not being localized for supported languages.
- Corrected a problem in the Window Blanking setup page causing preview JPEG images to disappear and take several seconds to reappear.
- Corrected an issue causing the Web Client to slow down with long loading times.
- Corrected a problem with ONVIF/RTSP streaming temporarily being unable to stream after changing video encoder settings.
- Corrected an issue with Edge recording and playback.
- Corrected a problem with the Web Client getting into a “Not Found” state where it was unusable.
- Corrected an issue causing intermittent delays with loading pages in the Web Client.

## **2.10.0.13 Release**

### **New Features and Improvements**

- Improved cybersecurity including checking of user names and passwords for security, the ability to require authentication to view a video stream, and verification of the valid firmware PPM files prior to firmware being upgraded.
- Added Smart Compression bitrate feedback with long-term rate control. Smart Compression lowers bandwidth and storage requirements. Pelco’s Smart Compression Technology dynamically analyzes motion occurring within live video in real-time, to intelligently compress the information you don’t need, while retaining details with clear quality in the areas that are important in the scene.
- Added on-screen display enhancements including the option for text to appear black-on-white or white-on-black and the ability to set the opacity level.
- Added enhanced control for managing local recordings. SD cards can now be formatted and recordings can be exported through the camera web interface.
- Added Kapsch support to NTCIP 1205 functionality.
- Added support for a Defog mode (e.g. four options including Off, Low, Medium, and High) to the web UI. This setting should be used in low contrast situations such as a foggy day.
- Added support for the 64GB and 128GB Sandisk Extreme PLUS Micro SD cards.

### **Major Fixes**

- Corrected an issue causing OSDi overlays to blink and flash.
- Corrected an issue preventing modifying and triggering alarms in Endura.
- Corrected a problem with the Pelco Mobile App in Tile Mode displaying a single tile rather than a mosaic.

- Corrected an issue with the OSDi and Smart Compression pages not appearing in languages other than English.
- Corrected a problem with the web UI allowing users to attempt to save an analytics behavior without drawing a region first.
- Corrected a problem causing local recording to sometimes fail stating that files exist on an SD card, even though they don't. The web client now allows for SD card formatting to fix cards in a bad state.
- Corrected an issue causing Mosaic and Immersive streams to burn in the timestamp in different locations, and show up in live MJPEG streaming.
- Corrected a problem with OSDi text getting corrupted when multiple OSDi strings overlap.
- Updated the RTP Page with a Tool Tip for the Port Settings scheme.
- Corrected a problem causing Simple Motion Detection to not remain enabled with current and future analytics profiles.

## 2.8.1.4 Release

### Major Fixes

- Corrected an issue occasionally causing recording gaps of less than 2 minutes when the camera had run for an extended period of time.
- Corrected an issue causing the camera to generate self-signed certificates with an already-expired date.
- Updated localizations for several recent features and pages.
- Corrected an issue preventing the camera from preserving smart compression settings when changing frame rates.
- Corrected an issue causing false triggers for analytic alarms.
- Corrected an issue preventing the camera from saving changes to the Install Angle setting made through the camera's Web interface.

## 2.8.0.9 Release

### New Features and Improvements

- Added Smart Compression settings, including multiple compression levels and the ability to select Dynamic GOP.
- The camera now supports a 30 FPS mode. Increasing the frame rate to 30 FPS requires a reduced resolution.
- Added support for enhanced controls and options for configuration of an On-Screen Display (OSDi). In the "Tiled" Optera Compatibility Mode, the camera supports 4 overlays; in other Optera Compatibility Modes, the camera supports 3 overlays.

### Major Fixes

- Corrected an issue causing the camera to report invalid framerate values when querying the camera using Pelco API StreamConfiguration, after the camera was set to 15 FPS.
- Corrected an issue causing the camera's web interface to become inaccessible after streaming/recording to Digital Sentry.
- Corrected an issue causing VideoXpert to report a false gap in recorded video.

## 2.7.0.5 Release

### New Features and Improvements

- Optera cameras can now produce up to 15 images per second. After updating the camera's firmware, you must restart the camera to select the 15 IPS option.
- Added an "RTP Settings" page under the "A/V Streams" menu within the web interface. From here, you can define static multicast addresses for your mosaic, panomersive, and audio streams.
- The RTP Settings page includes an "always multicast this stream" setting. Enabling this setting forces the camera to automatically send out the multicast stream immediately upon startup, without requiring a client to initiate the stream.

### Major Fixes

- Corrected an issue causing an artificially low motion detection threshold regardless of the threshold defined by the user.
- Corrected an issue causing the motion detection grid to shrink from 81x80 to 36x36 when a user called SaveAllSettings in Panomersive Uni-stream mode.

## 2.6.1.1 Release

### Major Fixes

- Corrected an issue causing the camera to show grey video in Digital Sentry after a restart or when switching streams.
- Corrected an issue causing bit rates to remain too high when switching from a 1 Gbps network to a 100 Mbps network; this issue also prevented users from setting bit rates after moving from a 1 Gbps network to a 100 Mbps network.
- Corrected an issue preventing the camera's Unistream mode from functioning properly over TCP.
- Corrected an issue causing the GetCurrentConfiguration call to return incorrect or invalid settingOptions for cameras in Unistream mode.
- Corrected an issue causing the camera to use the same name for all linked streams when setting the name for any stream. Digital Sentry sets stream names when setting or changing configuration settings.

## 2.6.0.11 Release

### New Features and Improvements

- Introduced support for Panomersive Uni-stream mode and Tiled mode through Optera Compatibility Mode settings.
  - Panomersive Uni-stream mode is for panomersive implementations that can accept a single, large stream from Optera. The camera outputs a single video stream that the Panomersive Toolkit integration dewarps and allows users to access. The dimensions of the uni-stream are larger than allowed by h.264 specifications; this may result in issues with decoders expecting streams that strictly comply with dimensions defined by the h.264 specification.
  - Tiled mode is for VMSeS or clients that have not integrated with the Panomersive Toolkit to dewarp Optera streams. In this mode, the camera outputs “tiles” that the user can assemble in a client to resemble a panorama. For example, a 180 camera outputs 3 “tiled” streams; the user can place the streams next to each other in order at the client, producing a panorama across the three tiles or cells. You can only use virtual PTZ controls within the individual tiles. Tiled Mode setting allows you to use Optera in environments that do not support Optera using the Panomersive Toolkit, including Endura. Using the current Endura Workstation (WS5080), you can watch Optera tiles in a 2x2 layout; larger layouts may cause streams to drop. Future releases of the workstation software will allow support for 3x2 layouts, so you can organize tiles in a complete panorama.

### Major Fixes

- Simple motion detection is no longer enabled by default.
- Corrected an issue preventing cameras from saving 802.1x EAP-TTLS settings.
- Corrected an issue preventing users from clicking sliders to modify imaging settings.
- Corrected an issue preventing the General Networking page from refreshing after a user modified Port settings.
- Corrected an issue causing cameras to report a SimpleMotionDetection alarm when the camera started or restarted.

## 2.5.1.2 Release

It is recommended that your camera’s Link Speed is set to “Auto” before you run this firmware update. If your camera’s Link Speed is set to 100 Mbps prior to the update, it is possible that the camera’s duplex mode is mismatched with the rest of the network to which it is connected. If this is the case, the firmware update may take much longer than expected, as the mismatch will result in dropped packets that must be resent to complete the update.

### New Features and Improvements

- Added support for ONVIF analytics configuration and events, including the Simple Motion analytic and 8 other behaviors.
- Within the web interface, you can now draw analytic zones across stream boundaries; the zone-drawing interface now provides a larger, more complete view of the scene, making it easier to draw zones that fit your application.
- Incorporated “Traffic Shaping” page within the camera’s web UI. From this page, you can control and limit network traffic bursts coming from the camera; adjusting your camera’s Traffic Shaping settings may help reduce video frame loss resulting from spikes in network traffic.
- The Stream Configuration page in the camera’s web UI now represents the Full Resolution Configuration at the top of the page (similar to the Primary Stream for Sarix cameras), and settings reflect the sum for all sensors. For example, the “Resolution” field now displays how many streams combine to make the full camera display, and the bit-rate displays the total bit rate

of the streams that combine to make up the panoramic view (rather than the individual bit rate for each stream).

- Improved the functionality for “Link Speed” settings on the “General Networking” page of the web UI. Now, setting the link speed to 100Mbps (or any value other than “Auto”) will not disable auto-negotiation, but rather limits the maximum rate to 100 Mbps when negotiating the link speed; the duplex mode for the 100 Mbps setting is now automatically negotiated as well. The “Auto” setting now negotiates link speeds without a predetermined maximum limit.
- This release implements version 1.3 of the ONVIF Advanced Security Specification.

## Major Fixes

- Updated a number of pages to match traditional styling for Pelco IP cameras (matching Sarix Firmware).
- Corrected an issue occasionally preventing the camera from restarting after a power cycle.
- Updated the interface to reflect two modes for relay operation: pulse and trigger. The updated modes and greater specificity in relay control correct for an issue preventing relays from functioning if the pulse count was set to 0.
- Corrected an issue causing inapplicable (or malformed) PelcoAPI calls to put the camera into an unresponsive state.
- Corrected an issue preventing event handlers tied to an alarm source from operating until after the camera restarted.
- Corrected an issue causing the web interface to display object names rather than proper string values within the web interface, when the user’s browser was set to an unsupported locale or language. The interface now resolves to the nearest approximation, or, if unrecognized, English.
- Improved the overlays for the Manual Sensor Alignment function, preventing the interface from hiding valid reference points from the user.
- Corrected an issue preventing the web interface from properly refreshing following a restart when using certain web browsers.

## 2.3.1.10 Release

**Note:** If using Optera with Digital Sentry, update your DS servers to 7.11 before updating camera firmware. Optera 2.3.1.10 is not compatible with DS versions 7.10 or earlier.

## New Features and Improvements

- Improved factory sensor alignment.
- Added manual realignment tools for more precise sensor alignment. These tools are useful in the event of physical shock to the camera or other similar situations that might affect sensor alignment.
- Added Flat Projection (Mercator) view to Live Preview.
- Added Corridor Mode and Install Angle settings to the System General Settings page. These settings enable you to adjust the angle and orientation of the immersive view at the VMS or client, so you can capture the right area for your application.
- Added a Vivid preset color mode to Imaging Digital Processing.
- Improved sensor blending for a more seamless panoramic view.
- Improved Auto White Balance for better color unity in the panorama view.
- Improved image sharpening, eliminating over-sharpening artifacts and haloing.
- Improved noise performance in all lighting conditions.
- Improved saturation and contrast for more vivid imagery.

## Major Fixes

- Changed default day-night setting to Auto instead of Manual and Daylight.
- Added a scrollbar to the Live Preview window.
- The Web interface now individually saves the Network Hostname, Port Settings and Network Interface settings.
- Enlarged the image used to define Window Blanking regions.
- Reduced the minimum number of unicast streams to accommodate higher bit rate values.
- Corrected an issue preventing users from deleting Manual Only IPv6 addresses.
- Removed support for LDAP and Licensing.

## 2.3.0.14 Release

### New Features and Improvements

- Color calibration is now more versatile.
- Improved stitching performance to prevent image overlap.

### Major Fixes

- Corrected an issue preventing certain localized phrases from appearing correctly. Additionally, instructions for white balance and window blanking features are now localized.
- Optimized exposure settings based on updated calibrations.

## Contact Information

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