Release Notes

Illustra Flex Gen 2 Cameras

Product Code	Model Name	Firmware
IFS03D1ICWTT	Illustra Flex2 3MP Indoor Mini-dome	SS004.01.09.02.0005
IFS03D1OCWIT	Illustra Flex2 3MP Outdoor Mini-dome IR	SS004.01.09.02.0005
IFS03XNANWTT	Illustra Flex2 3MP Box	SS004.01.09.02.0005
IFS03B1BNWIT	Illustra Flex2 3MP Bullet IR	SS004.01.09.02.0005
IFS03B1ONWIT	Illustra Flex2 3MP Bullet IR	SS004.01.09.02.0005
IFS03CFOCWST	Illustra Flex2 3MP Compact Dome	SS004.01.09.02.0005
IFS08D2ICWTT	Illustra Flex 4K Indoor Mini-dome	SS004.01.09.02.0005
IFS08D2OCWIT	Illustra Flex 4K Outdoor Mini-dome IR	SS004.01.09.02.0005
IFS08XNANWTT	Illustra Flex 4K Box	SS004.01.09.02.0005
IFS08B2ONWITA	Illustra Flex 4K Bullet IR	SS004.01.09.02.0005
IFS02P6INWIT	Illustra Flex 2MP Indoor IR PTZ	SS004.01.09.02.0005
IFS02P6ONWIT	Illustra Flex 2MP Outdoor IR PTZ	SS004.01.09.02.0005
IFS02P6ONWITA	Illustra Flex 2MP Outdoor IR PTZ	SS004.01.09.02.0005
IFS02P6ISWTT	Illustra Flex 2MP Indoor PTZ Smoked Bubble	SS004.01.09.02.0005
IFS02P6ONWITB	Illustra Flex 2MP Outdoor IR PTZ	SS004.01.09.02.0005
IFS02P6INWITB	Illustra Flex 2MP Indoor IR PTZ	SS004.01.09.02.0005
IFS02P6ISWTTB	Illustra Flex 2MP Indoor PTZ Smoked Bubble	SS004.01.09.02.0005
IFS08D2ICWTTB	llustra Flex 4K Indoor Mini-Dome	SS004.01.09.02.0005
IFS08D2OCWITB	Illustra Flex 4K Outdoor Mini-dome IR	SS004.01.09.02.0005
IFS08B2ONWITB	Illustra Flex 4K Bullet IR	SS004.01.09.02.0005

Product Data
Visit the IP Cameras section of our web site, www.illustracameras.com, to download datasheets and other documentation in PDF format.

December 2020

Note
In case of discrepancy, the information in this document supersedes the information in any document referenced herein.

8200-1456-09 W0

Johnson Controls

Table of Contents

What's in This Release

What's New
Firmware Illustra.SS004.01.09.02.0005

- SD Card encryption: FIPS compliance: shred SD card password files.
- Flex PTZ Bubble settings – updates on PTZ settings.
- ONVIF profile FPS fix.

Previous Firmware Version
Firmware Illustra.SS004.01.09.01.0042

1. Adds the following new Flex 4K (8MP) camera models:

Product Code	Model Name	Description
IFS08D2ICWTTB	Illustra Flex 4K Indoor Mini-Dome	Illustra Flex 8MP mini-dome, 3.4-13.5mm, indoor, vandal, clear, white, TDN, TWDR
IFS08D2OCWITB	Illustra Flex 4K Outdoor Mini-dome IR	Illustra Flex 8MP mini-dome, 3.4-13.5mm, outdoor, vandal, clear, white, TDN w/IR, TWDR
IFS08B2ONWITB	Illustra Flex 4K Bullet IR	Illustra Flex 8MP Bullet, 3.4-13.5mm, outdoor, vandal, white, TDN w/IR, TWDR

2. Introduces the Encrypted SD Card Storage feature.
3. Introduces the Certificate Signing Request (CSR) feature.

Firmware Illustra.SS004.01.08.03.0166

1. Adds the following new camera models to the line.

Product Code	Model Name	Description
IFS03B1ONWTTA	Illustra Flex 3MP Bullet	Illustra Flex 3MP Bullet, 2.8-12mm, outdoor, vandal, white, TDN, TWDR
IFS02P6ONWTTA	Illustra Flex 2MP Indoor PTZ 30x	Illustra Flex 2MP PTZ camera, 30x, indoor, vandal, white, TDN, TWDR
IFS02P6ONWTTB	Illustra Flex 2MP Outdoor PTZ 30x	Illustra Flex 2MP PTZ camera, 30x, outdoor, vandal, white, TDN, TWDR
IFS03D1OCWTTA	Illustra Flex 3MP Outdoor Mini Dome	Illustra Flex 3MP Mini-dome, 2.8-12mm, outdoor, vandal, clear, white, TDN, TWDR

Firmware Illustra.SS004.01.08.00.0154

1. Adds the following new camera models to the line.

Product Code	Model Name	Description
IFS02P6ONWITB	Illustra Flex 2MP Outdoor IR PTZ	Illustra Flex 2MP IR PTZ camera, 30x, outdoor, vandal, white, TDN, TWDR
IFS02P6INWITB	Illustra Flex 2MP Intdoor IR PTZ	Illustra Flex 2MP IR PTZ camera, 30x, indoor, vandal, white, TDN, TWDR
IFS02P6ISWTTB	Illustra Flex 2MP Indoor PTZ Smoked Bubble	Illustra Flex 2MP PTZ camera, Indoor, Non-vandal, Smoked Bubble, white, TDN, TWDR

- Introducing Corridor mode, (not applicable to Flex 4K and Flex PTZ models).
- Adds Electronic Image Stabilisation support for Flex PTZ models.
- Periodic Events – User can set up Events to trigger periodically rather than on alarm triggers (if upgrading a camera factory reset is require to initiate function).
- **Note:** After a camera is upgraded to SS004.01.08.00.0154 the camera cannot be downgraded – user will get an 'Operation failed' error message.

Firmware SS004.01.06.07.0071

1. SmartVue access added to Flex PTZ models.

Firmware SS004.01.06.06.0065

1. Adds the following new camera model to the line.

Product Code	Model Name	Description
IFS02P6ISWTT	Illustra Flex 2MP Indoor PTZ Smoked Bubble	Illustra Flex 2MP PTZ camera, Indoor, Non-vandal, Smoked Bubble, white, TDN, TWDR

2. Enhancements in camera security, password rules changes
   For Standard Security the password must meet the following requirements:
   - **Password change is mandatory after first boot**.
   - New Password should be a minimum of five characters long.
   - **New Password cannot be admin.**
3. For Enhanced Security the password must meet the following requirements:
   Be a minimum of eight characters long.
   Have at least one character from each of the following character groups:
   - Upper-case letters – ABCDEFGHIJKLMNOPQRSTUVWXYZ
   - Lower-case letters - abcdefghijklmnopqrstuvwxyz
   - Numeric characters – 0123456789
   - Special characters - @ % + \ / ' ! # $ ^ ? : , ( ) { } [ ] ~ - _ `
   - The password cannot contain the username.
4. Cyber security enhancements.
5. iAPI3 support for Relative Move (RelativeMove).
6. Zoom stop enhancement.

Firmware SS004.01.06.05.0026

1. Adds the following new camera models to the line.

Product Code	Model Name	Description
IFS02P6ONWITA	Illustra Flex 2MP Outdoor IR PTZ	Illustra Flex 2MP IR PTZ camera, 30x, outdoor, vandal, white, TDN, TWDR

2. Outdoor IR PTZ (IFS02P6ONWITA): -50˚C to 50˚C (-58˚F to 122˚F), extended temperature: up to 140°F (60°C) for 5 hours a day with IR illuminators OFF.
3. Edge Motion Analytics Offline Network Optimisation: a mechanism for a client to obtain status for a historic or ongoing analytic event upon opening a new subscription, for example after a network outage.
4. Added resolutions of 640x480 for Stream 2 and 4 on the 2MP and 3MP fixed cameras (factory reset required to pick up the fix).
5. Time zone fix for GMT -6 Mexico (factory reset required to pick up the fix).
6. HTTP Digest no longer disables video over HTTP when selected.
7. ONVIF enhancements.
8. Smartvue mode enhancements.

Firmware SS004.01.06.01.0049

1. Adds the following new IK10 Bullet camera models to the line.

Product Code	Model Name	Description
IFS03B1ONWIT	Illustra Flex 3MP Bullet	Illustra Flex 3MP Bullet, 2.8-12mm, outdoor, vandal, white, TDN w/IR, TWDR
IFS08B2ONWITA	Illustra Flex 8MP Bullet	Illustra Flex 8MP Bullet, 3.4-9mm, outdoor, vandal, white, TDN w/IR, TWDR

2. Support for SmartVue Cloud services (fixed cameras only).
3. Added H625, H265+ Intellizip for Edge Recording.

Firmware SS004.01.06.00.0929

1. This Firmware is only applicable to the Flex 2MP IR PTZ camera models.

Product Code	Model Name	Description
IFS02P6INWIT	Illustra Flex 2MP Indoor IR PTZ	Flex 2MP IR PTZ camera, 30x, indoor, vandal, white, TDN, TWDR
IFS02P6ONWIT	Illustra Flex 2MP Outdoor IR PTZ	Flex 2MP IR PTZ camera, 30x, outdoor, vandal, white, TDN, TWDR

Firmware SS004.01.05.03.0783

1. Add the following new Flex 4K (8MP) camera models to the line.

Product Code	Model Name	Description
IFS08B2ONWIT	Illustra Flex 4K Bullet	Illustra Flex 8MP bullet, 3.4-9mm, outdoor, vandal, white, TDN w/IR, TWDR

Firmware SS004.01.05.02.0773

1. Enhancement for upgrades from early firmware versions.

Firmware SS004.01.05.00.0770

New Security Feature:

1. HOST ID: The camera GUI prompts the admin user to create a Host ID after the following:
   - The user logs in to the camera GUI for the first time if the camera is running Firmware SS004.01.04.00.0770 and above.
   - The user logs in to the camera GUI of a camera running Firmware SS004.01.04.00.0770 and above after resetting the camera.
   - The user logs in to the camera GUI after upgrading from an earlier released firmware to Firmware SS004.01.04.00.0770 and above.

   This Host ID must consist of 6 character (letters and/or numbers: A-Z, a-z, 1-9) and be unique to the end user/camera.

   For security reasons the Host ID is not stored on the camera. The Host ID must be presented to Illustra Technical Support when remote access to the operating system is required.
2. GUI workflow for Audio – corrected some GUI workflow issue where settings are being greyed out incorrectly. Enable Audio is now renamed Enable Audio stream.
3. It's no longer necessary to restart an Intellizip stream after the image is rotated in order to correct Intellizip built in ROI position.

Firmware SS004.01.03.00.0704

1. Adds the following new Flex 4K (8MP) camera models to the line.

Product Code	Model Name	Description
IFS08D2ICWTT	Illustra Flex 4K Indoor Mini-Dome	Illustra Flex 8MP Mini-dome, 3.4-9mm, indoor, vandal, clear, white, TDN, TWDR
IFS08D2OCWIT	Illustra Flex 4K Outdoor Mini-Dome	Illustra Flex 8MP Mini-dome, 3.4-9mm, outdoor, vandal, clear, white, TDN w/IR, TWDR
IFS08XNANWTT	Illustra Flex 4K Box	Illustra Flex 8MP Box, no lens, indoor, non-vandal, white, TDN, TWDR

2. Adds new Illustra (LIRC3410PCS 3-10mm 8MP) lens support for the IFS08XNANWTT Illustra Flex 8MP Box camera.
3. New Picture Setting option called "Iris Level". Iris level options vary depending on the camera form factor. On the box camera, it varies according to which lens is selected.
   - On the 3MP and 8MP dome and bullet cameras, the range is 1-6.
   - On the 3MP & 8MP Box it depends on the lens installed:

- o LIRC3105PCS3-10mm HD lens: 1-5.
- o [LIRC7550PCS], 7.5 to 50mm HD lens: 1-9.
- o [LIRC3410PCS] 3-10mm 8MP lens: 1-6.
- - On the 3MP compact dome, the feature is not supported.
4. The Session Timeout has been lowered to 10 minutes by default.

Firmware SS004.01.02.01.0008

1. New Illustra (LIRC3105PCS 3.0–10.5mm) lens support for IFS03XNANWTT Illustra Flex2 3MP Box cam- era.
2. Stream 3 now supports FPS range 7-15.

Firmware SS004.01.02.00.0584

New Features

- iAPI3 Multicast support including GUI configuration to support integration with VideoEdge/Victor 5.1.
- TWDR3x support.
- Shutter Priority.

Enhancements to

- TrickleStor feature.
- H264 Intellizip integration with VideoEdge NVR 5.1, including Max GOP control.
- Alarm Out (relay output) support to integrate with VideoEdge 5.1 (corrected iAPI inverted polarityPI).
- Automatically set camera to HTTPs when Enhanced Security mode is enabled. Please reference User Manual when using Enhanced Security Mode and adding the camera to VideoEdge.
- iAPI 3.4.1.

Bug fixes

- Single bank upgrade.
- Date and time drop down showing blank after a 24h unpowered period.
- Selecting 60 FPS for Stream 1 automatically adjusts stream 2 to 15 FPS if FPS is >16.
- Removed unsupported iAPI call for FNR.

Firmware SS004.01.01.00.0518

- Adds a new camera to the line.

IFS03CFOCWST	Illustra Flex 3MP Compact Dome, 2.8mm, outdoor, vandal, clear, white, SDN, TWDR

- Exposure – Max Exposure (sec) drop down – added 1/4.
    - o Default remains '1/8'.
- Stream page – Added 'Profile' selection for H264 and H264IntelliZip.
    - o Main and High options.
    - o Default remains 'Main'.
- OSD page – New buttons to select camera text size.
    - o Normal and Large options.
    - o Default remains 'Normal'.
- Enhanced security changes.

- o Password length is now 8 characters minimum.
- o RTSP authentication now automatically enabled once in Enhanced security.

Firmware SS004.01.00.01.0432

- Adds further security to the camera and overall bandwidth improvements across all streams.

Firmware SS004.01.00.00.0392

- Introduces the new Flex gen 2 3MP camera models.

IFS03D1ICWTT	Illustra Flex 3MP Mini-dome, 2.8-12mm, indoor, vandal, clear, white, TDN, TWDR
IFS03D1OCWIT	Illustra Flex 3MP Mini-dome, 2.8-12mm, outdoor, vandal, clear, white, TDN w/IR, TWDR
IFS03B1BNWIT	Illustra Flex 3MP Bullet, 2.8-12mm, outdoor, non-vandal, white, TDN w/IR, TWDR
IFS03XNANWTT	Illustra Flex 3MP Box, no lens, indoor, non-vandal, white, TDN, TWDR

Key Features

- High resolution, 2 to 8 megapixel images, Multiple IP streams of H.264, H.264IntelliZip, H.265, H.265IntelliZip and MJPEG video
- Integration with VideoEdge NVR, VideoEdge Hybrid, victor Unified Client, ExacqVision recorders and Clients
- Integration with Illustra Connect v 3.2 and above
- Illustra API v3.4
- ONVIF 2.4 profile S compliant
- Power over Ethernet (PoE) or AC powered (model specific)
- Motion Detection and Blur Detection support on camera
- Wide Dynamic Range, TWDR and TWDR3x (model specific)
- Auto & Manual White Balance Modes
- Multiple lens support for Box cameras
- Lens calibration
- Manual Focus and Zoom Control (model specific)
- One touch Focus (model specific)
- Eventing with RTP meta-data streaming
- Support for up to five Regions of Interest
- Support for up to nine Privacy Zones
- Enhanced Security
- Support for FTP, SNMP, SMTP, CIFS, 8021.x and Firewall filtering
- SD card event buffering (requires micro-SD or SD-HC card)
- Offline recording to SD card
- SD card event download
- TrickleStor integration with VENVR
- Outstanding color reproduction
- No dependencies on 3rd Party Utilities for Camera Setup (No QuickTime and Java requirements)
- Expanded Browser Support: IE, Chrome, Firefox, Safari
- UPnP Discovery
- Easy to install
- Sleek and compact design
- SmartVue Integration for fixed cameras

Firmware Upgrade

You can upgrade the Illustra Flex Camera through the camera web GUI or by using Illustra Connect.

Upgrade Camera Firmware through the Web GUI

NOTE:
All camera settings are maintained after you upgrade the camera firmware. It is

recommended to clear your browser cache after a firmware upgrade.

Procedure: Upgrade Camera Firmware through the Web GUI

1. Using Internet Explorer connect to the camera via the IP Address and login to the Web GUI.

2. Select **Setup** from the web banner to access the setup menus.

3. Select **Maintenance** from the **System** menu and identify the **Camera Upgrade** section.

4. Select **Browse**. The Choose file dialog displays.

5. Navigate to the location where the firmware file has been saved. Select the firmware file then select the **Open** button.

6. Select **Upload**. The file transfer begins and a progress bar displays.

Upgrade Camera Firmware through Illustra Connect

NOTE:
All camera settings are maintained after you upgrade the camera firmware.

Procedure: Update Camera Firmware through Illustra Connect

1. Install and launch the Illustra Connect software utility.

2. From the displayed list of cameras; right-click on the camera requiring the software upgrade.

3. Select **Upgrade Firmware**. The Firmware Upload window will display.

4. Select **Choose File** and browse to the firmware upgrade file.

5. Select **Upgrade** to start the upgrade.

Features

Accessing the Illustra Flex Series Camera Web User Interface

1. Select a supported browser and navigate to the camera IP address.

2. When you select the camera, the sign in page is displayed.

3. Select your preferred language from the drop-down menu. The default language is English.

4. Enter the default username and password when prompted - Username: admin, Password: admin.

5. Click **Log in**. The camera Web User Interface is displayed. The first time that you access the camera,or after a factory reset, you are prompted to **Define a Host ID** and **Select a Security Type**.

Define a Host ID: The admin user must enter a 6 character code for the Host ID that includes both letters and/or numbers. This unique password is used to access the operating system files. The HostID is not stored on the camera for security reasons and must be presented to Illustra Technical Support when remote access to the operating system is required.

Select a Security Type: Standard Security or Enhanced Security. If you are keeping Standard Security, it is best practice to select the Change Password check box to immediately change the default password to one unique to your surveillance system.

6. Optional - If you select the Enhanced Security option, you are required and instructed to create a complex password.

See below for further information on Security configuration.

Accessing the Illustra Pro Series Camera Web User Interface for the first time

1. Select a supported browser and navigate to the camera IP address.

2. When you select the camera, the sign in page is displayed.

3. Select your preferred language from the drop-down menu. The default language is English.

4. Enter the default username and password when prompted - Username: admin, Password: admin.

5. Click **Log in**. The camera Web User Interface is displayed. The first time that you access the camera, or after a factory reset, you are prompted to **Define a Host ID** and **Select a Security Type**.

Define a Host ID: The admin user must enter a 6 character code for the Host ID that includes both letters and/or numbers. This unique password is used to access the operating system files. The HostID is not stored on the camera for security reasons and must be presented to Illustra Technical Support when remote access to the operating system is required.

Select a Security Type: Standard Security or Enhanced Security. If you are keeping Standard Security, default admin password change is **enforced**.

6. Optional - If you select the Enhanced Security option, you are required and instructed to change the username and create a complex password.

See below for further information on Security configuration.

Enhanced Security

The Enhanced Security feature intends to advance the security of the Illustra cameras by enforcing security best practices and adding features to allow the installer and end-users to customize the camera's security to meet their controls.

Security Modes Summary

Standard Security

1. Default admin password change is enforced.
2. Changes to communication protocols is available to all users with appropriate privileges.
3. Passwords complexity is set to require minimum of any 5 characters (admin cannot be used).
4. Authentication Method is set to basic by default.

Enhanced Security

1. Unsecure Protocols are disabled by default until enabled by a user.
2. Discovery Protocols are disabled by default until enabled by a user.
3. Changes in the protocols will only be available to a user with administrative privileges and require that user to re-enter their password.
4. Default admin username & password change is enforced.
5. Usernames for all accounts must meet the Username Password Complexity Requirements, which are de-tailed below.
6. Passwords for all accounts must meet the Password Complexity Requirements, which are detailed below.
7. AUTHENTICATION OF VIDEO STREAM ,INCLUDING DISABLING VIDEO OVER HTTPS
8. Authentication Method is set to HTTPS Digest by default (HTTP disabled).

Note: When applying Enhanced security all these changes will be done automatically, but if changing from Enhanced to Standard the settings will not be changed automatically – to reset to standard profile user will need to do changes manually or factory reset camera and select standard Security when prompted.

Username and Password Complexity Requirements

Username Complexity for Enhanced Security Mode:

a. Minimum characters: 5

Password Complexity for Enhanced Security Mode:

a. Minimum characters: 8
b. Have least one character from each of the following character groups:
    i. upper case letters   ABCDEFGHIJKLMNOPQRSTUVWXYZ
    ii. lower case letters   abcdefghijklmnopqrstuvwxyz
    iii. numeric characters   0123456789
    iv. Special characters   @ % + \ / ' ! # $ ^ ? : , ( ) { } [ ] ~ - _ `
c. The password cannot contain the username.

Default admin/admin & Automatic prompt for username and password change at first login

The admin/admin user is hardcoded until security mode is selected on first login.
For Standard Security
Password change is mandatory after first login.
New Password should be a minimum of five characters long.
New Password cannot be admin.
For Enhanced Security
When selected, a pop up is visible requiring you to change your username and password.
• **A username & password change is mandatory** – Note: If the user sets a new username and password – admin/admin is automatically replaced.
• Certain criteria apply to both the username and password (See Username and Password complexity).
NOTE:
When Enhanced Security is enabled the user is prompted to change the username and password from the default admin/admin. If not all rules are applied then the change request is denied and credentials remain as admin/admin. Failure to comply by rules, intermittently may result in camera log in being unavailable for a few minutes to allow camera to restore default functionality.

How to restore admin/admin:
1. Restore factory default camera.

Changes in Enhanced security profile

When changing security to 'enhanced', the camera performs the following changes:
- Admin/admin password automatically replaced by new Enhanced username/password.
- Change from basic to Digest HTTPs authentication.
- Enables RTSP authentication.
- Disables all ONVIF capabilities.
- Disables UPnP Discovery protocol.
- Disables Exacq Audio Ports.

Note: When applying Enhanced security all these changes will be done automatically, but if changing from Enhanced to Standard the settings will not be changed automatically – to reset to standard profile user will need to do changes manually or factory reset camera and select standard Security when prompted.

DIO (alarm in & alarm out) and Edge Analytics with Enhanced security

From Firmware SS004.01.02 onwards if a user requires DIO (alarm in/out) or Analytics with VideoEdge VENVR Edge analytics or ExacqVision Server, while the camera is in Enhanced Security Mode the user shall be required to manually enable "Video over HTTP" in GUI: Setup/ Security/Remote Access, or Manage the Video over HTTP setting Via GUI Setup/Security Status page.

This allows for VENVR Edge support or Motion and DIO alarms integration on the ExacqVision Server when the camera is on Enhanced Security mode.

RTSP Authentication

We now require video stream authentication – if upgrading to 1.01 from previous version the authentication won't be applied, however If the camera gets factory defaulted or was received with FW 1.01 then RTSP authentication will be enabled.

We don't recommend disabling RTSP authentication, but if required it can be managed via Security Tab in camera GUI.

Lens Selection

You can select the lens on the Illustra Flex Box camera. The lens models supported are visible on the Lens Selection tab of the Video menu.

Product code	Lens Description	Default lens for model	Supported from Firmware
LIRC3105PCS	3-10.5mm HD Varifocal Lens	IFS03XNANWTT	Illustra.SS004.01.00.00.0392
LIRC7550PCS	7.5-50mm HD Telephoto Lens	None	Illustra.SS004.01.02.01.0008
LIRC3410PCS	3-10mm 8MP Varifocal Lens	IFS08XNANWTT	Illustra.SS004.01.03.00.0704
LIRC12550PCS	12.5-50MM HD Telephoto lens	None	Illustra.SS004.01.06.00.0929

Lens Selection procedure:

1. Select **Setup** on the Web Interface Banner to display the setup menus.
2. Select **Picture Settings** from the Video menu.
3. Select the Lens Selection tab.
4. In the Lens Model field, use the drop-down list to select the lens that you installed.
5. When you change lenses, you are prompted to reboot the camera. All active sessions will be lost. Select OK to proceed with the reboot.
6. After the camera has rebooted, select **Setup** on the Web Interface Banner to display the setup menus.
7. Select **Picture Settings** from the **Video** menu.
8. Select the **Lens Calibration** tab.
9. Select **Start Calibration** and wait for the camera lens initialization to complete.
10. To confirm the success of the lens calibration, select the **Picture Basic** tab from the **Picture Settings** menu and verify that the image is in focus through the zoom range.
11. Use the OneTouch button to automatically focus the area.

Multicast

Multicast feature is included on FW 1.2 onwards. Multicast streaming is a one-to-many relationship between a camera and the clients receiving the stream. With a multicast stream, the server streams to a multicast IP address on the network, and clients receive the stream by subscribing to the IP address.
User can configure the Multicast via camera GUI or iAPI, on VideoEdge Camera configuration. The feature

was released specifically to integrate with VideoEdge 5.1 Failover.

VENVR TrickleStor Integration / Offline Record Settings

When you configure the Offline Record Settings feature and once it detects a loss of connection with the recorder, it sends the video stream to the SD card within the unit. This satisfies the loss of video and continues recording.
Once the recorder is back online the camera initiates sending recorded video from the SD card to the recorder. The maximum time recording during the outage depends on the SD card and the recorded stream you selected. If the SD reaches full capacity, it deletes video from earliest recording to latest recording. This feature integrates with the VE NVR 5.0 and above.
At present this feature is limited to only support Codec: H264 and H264+ Intellizip.
Note: TrickleStor integration is not supported under HTTPS connection, please use "both" or HTTP only when integrating with this feature.

Analytics

	Motion Detection Metadata	Motion Detection Events	Blur Detection Events
Illustra Flex 3MP Mini-Dome, Bullet, Box, Compact	Yes	Yes	Yes
Illustra Flex 8MP Mini-Dome, Bullet, Box	Yes	Yes	Yes
Illustra Flex 2MP IR PTZ	No	Yes	Yes

Stream Tables

Flex 3MP camera stream table (Stream 1 – 30 FPS).

Stream Resolution	Codecs	Frame Rates (fps)	Stream Resolution	Codecs	Frame Rates (fps)	Stream Resolution	Codecs	Frame Rates (fps)
Stream 1			**Stream 2**			**Stream 3**		
2048x1536 QXGA 4:3	H264/H264 IntelliZip H264/H264 IntelliZip	1-30	(1280x720) 720p 16:9 (1024x576) PAL+ 16:9 640 x 480 (640x360) nHD 16:9 (480x360) 480p 4:3 (384x288) 4:3	H264/H264 IntelliZip H265/H26 IntelliZip-MJPEG	1-15 OR 1-30	640 x 480 (640x360) nHD 16:9 480x360 480p 4:3 (384x288) 4:3	MJPEG MJPEG	7-15
1920x1080 1080p 16:9 1664x936 16:9 1280x720 720p 16:9	H264/H264 IntelliZip H265/H26 IntelliZip-MJPEG	1-60						

Note*: When frame-rate is more than 30fps on Stream 1 the following restrictions apply:

- Stream 1 max resolution is 1920x1080.
- TWDR is disabled.
- Stream 2 has a maximum frame-rate of 15.

Note: A maximum of 5 concurrent streams are supported by the camera. This includes shared streams. So, for example, Stream 1 can be shared twice along with a running Stream 2 and Stream 3, or Stream 1 can be shared 4 times if Stream 2 and Stream 3 are not running.

Note: TWDR limits the stream to not exceed 30 FPS even if the stream is configured to 31+ FPS.

Note: TWDR 3x limits the stream to not exceed 15 FPS even if the stream is configured to 16+ FPS.

Flex 8MP camera stream table

Stream Resolution	Codecs	Frame Rates (fps)	Stream Resolution	Codecs	Frame Rates (fps)	Stream Resolution	Codecs	Frame Rates (fps)
Stream 1			**Stream 2**			**Stream 3**		
(3840x2160) 8MP 16:9 (3264x1840) 16:9 (2592x1944) 4:3 (2688x1520) 16:9 (2048x1536) QXGA 4:3	H264/H264 IntelliZip H264/H264 IntelliZip MJPEG	1-15	(1280x720) 720p 16:9 (1024x576) PAL+ 16:9 (640x360) nHD 16:9 (480x360) 480p 4:3 (384x288) 4:3	H264/H264 IntelliZip H265/H26 IntelliZip-MJPEG	1-15 OR 1-30	(640x360) nHD 16:9 480x360 480p 4:3 (384x288) 4:3	MJPEG	7-15
1920x1080 1080p 16:9 1664x936 16:9 1280x720 720p 16:9	H264/H264 IntelliZip H265/H26 IntelliZip-MJPEG	1-60						

Note*: When Stream 1 frame-rate is more than 30fps   the following restrictions apply:

- Stream 1 max resolution is 1920x1080.
- TWDR is disabled.
- Stream 2 has a maximum frame-rate of 15.

Note*: When Stream 1 resolution is more than 2048x1536 or higher the following restrictions apply:

- Stream 1 has a maximum Frame-rate of 15.
- Stream 2 has a maximum frame-rate of 15.

Note: Stream 2 is limited to a maximum of 15 FPS when: Stream 1 is set to 2048x1536 or above. Stream 1 is set to 1920x1080or above with FPS greater than 30.

Note: Stream 2 automatically reconfigures to a maximum of 15 FPS if Stream 1 FPS is 30 or greater.

Note: Stream 2 supports 1-30 FPS when Stream 1 is set to 1920x1080 or below with FPS set to a maximum of 30.

Note: Codec MJPEG is not supported when the resolution is equal to or greater than 2048x1536.

Note: TWDR. When TrueWDR2x is switch on, the following limits apply: For 2048x1536 and above, the framerate is limited to 15FPS (as it is when TrueWDR is off). For 1920x1080 and below, the framerate is limited to 30FPS.

Note: TWDR 3x is not available on 8MP units.

Flex 2MP IR PTZ camera stream table

Stream Resolution	Codecs	Frame Rates (fps)	Stream Resolution	Codecs	Frame Rates (fps)	Stream Resolution	Codecs	Frame Rates (fps)
Stream 1			Stream 2			Stream 3		
1920x1080 1080p 16:9 1664x936 16:9 1280x720 720p 16:9	H264/H264 IntelliZip H264/H264 IntelliZip MJPEG	1-60	(1280x720) 720p 16:9 (1024x576) PAL+ 16:9 (640x360) nHD 16:9 (480x360) 480p 4:3 (384x288) 4:3	H264/H264 IntelliZip H265/H26 IntelliZip-MJPEG	1-15 OR 1-30	(640x360) nHD 16:9 480x360 480p 4:3 (384x288) 4:3	MJPEG	7-15

Note: *1 - Stream 2 is restricted to 15 FPS when Stream 1 is greater than 30 FPS
Note: A maximum of five concurrent streams are supported by each camera, this includes shared streams. (Example: Stream 1 can be shared three times along with a running Stream 2 and Stream 3, or Stream 1 can be shared five times).
Note: TWDR limits the stream to not exceed 30 FPS even if the stream is configured to 31+ FPS.
Note: TWDR 3x is not supported for the PTZ camera.

Known Limitations and Issues

Description	Suggested Work-Around
Applicable to all Flex cameras: If the camera date/time has been set manually, camera date/time may not be accurate if camera has been without power for more than 24 hours	The camera should be setup with a NTP server to ensure the time is always accurate. NTP will guarantee clock sync as soon as camera is operational. If NTP is not available user should review date and time setting manually after the camera is plugged in. If the clock has reset to 1970, once the date/time page is accessed the camera will automatically sync to the machine used in the active GUI session.
Applicable to all Flex cameras: Upgrading a camera that is running a firmware pre SS004.01.02.00.0584 may cause instability.	Either reset the camera after the upgrade or upgrade straight to SS004.01.05.02.0773
Applicable to all Flex cameras: Depending on how and when audio is enabled it can cause the camera to fail to record any video to SD card. Incorrect workflow: • Configure motion and apply to a fault action • enable recording and select stream to record to • enable audio • enable audio input	Correct workflow: • Configure motion and apply to a fault action • enable audio • enable audio input • enable record to SD and select stream to record to
Applicable to all Flex cameras: The Frequency setting in Expo- sure can limit FPS to 50FPS if the frame rate is set to 60 and 25 FPS if the frame rate is set to 30 when the frequency is set to 50Hz.	If FPS needs to be set above 50FPS, Frequency should be set to 60Hz.
Applicable to all Flex cameras: CIFS sometimes shows 'Operation Failed' dialog despite all setup on the camera being correct.	If this occurs please ensure there is sufficient free space on your machine. Also clear out your temporary folders.
Applicable to all Flex cameras: Changing Exposure settings on the camera can sometimes affect frame rate, lowering it well below what is set on the camera.	If frame rate is a priority, it is advised that Maximum Exposure is set to at least '1/60' to reach 60FPS or to '1/30' to reach 30FPS.
Applicable to all Flex cameras: Formatting or unmounting a SD Card is sometimes met with a 'Device is Busy' modal.	This usually means the camera is currently recording a clip to the SD Card. It is advised to wait for a period of time when no clips are being recorded or turn off recording on the camera.

Description	Suggested Work-Around
Applicable to all Flex cameras: Clip Record (TrickleStor Integration) is not supported when the Stream's codec is set to MJPEG.	Ensure your record stream's codec is either H264/H265 or H264/H265 IntelliZip to allow for the Clip Record feature to work. H265 recording was introduced in FW SS004.01.06.
Applicable to all Flex cameras: Changing stream configurations when a clip is being recorded causes the camera to reboot.	It is advised to setup your stream configurations prior to enabling Clip Record. Otherwise, please stop recording before changing stream configurations.
Applicable to all Flex cameras: Video playing through camera GUI may not be live - browser cache issue	Refresh page or clear cache.
Applicable to all Flex cameras: Unable to clearly hear audio input stream when audio volume level is at default setting of 74%	Depending on the audio source (microphone, direct-line) setting the volume too high can introduce noise. Test the audio source at different levels to find a higher quality volume setting.
Applicable to all Flex cameras: If streaming to VLC and the cam- era undergoes a considerable time change either through factory defaulting of the unit, or manual/NTP change, the VLC video goes grey. This is a VLC application Bug – the issue does not occur on other applications or server integrations.	Restart the VLC stream or configure times prior to starting a VLC stream.
Applicable to all Flex cameras: Noise banding in TWDR with high Exposure Offset.	Will be addressed in a future release.
Applicable to all Flex cameras: Exposure Offset setting of -2 may lockup in extreme conditions.	The issue is specific to -2 and specific light conditions, we recommend to use the other available option in Exposure offset.
Applicable to all Flex cameras: When configuring Event Actions via GUI – the iAPI3 configuration may not reflect the correct configuration for these settings.	Will be addressed in a future release.
Applicable to all Flex cameras: When the user logs out and selects the back arrow on the browser they are brought back into the GUI without being required to log in. Live video is dis- played but if the user attempts to navigate to another page within the GUI an authentication pop up is visible. Logging in through this pop up causes issues with time and date.	When the user manually logs off and then back in there are no issues.
Applicable to all Flex cameras: Under certain lights (Mercury and Sodium outdoor lighting) the user may observe that the picture does not have the correct colors.	The user can change the White Balance setting from the default 'Auto WB Normal' to 'Auto WB Wide'.

Description	Suggested Work-Around
Applicable to all Flex cameras: When Enhanced Security is enabled the user is prompted to change the username and pass- word from the default admin/ad- min. If not all rules are applied then the change request is denied and credentials remain as ad- min/admin. Failure to comply by rules, intermittently may result in camera log in being unavailable for a few minutes to allow camera to restore default functionality.	Ensure that all username and password rules are followed.
Applicable to all Flex cameras: At first boot or after a factory reset the camera will sync time zone, date and time with PC used on First Login. However, the camera may select a generic time zone which will not have DST time changes associated to it or, during Daylight saving time, the time zone may be offset if using a workstation on UTC time zone (windows)	Please check the time zone is assigned correctly at initial boot or after a factory default
Applicable to all Flex cameras: ROI should not be used on H264+ and H265+ as it may interfere with codec compression.	If ROI is required then another codec option should be selected.
Applicable to all Flex cameras: When disabling UPnP, note that the camera will still be accessible on some machines as discovery results may have been cached.	UPnP will be fully disabled when Enhanced Security is enabled, cached results will also be blocked
Applicable to all Flex cameras: An issue with inverted polarity on alarms Out has been corrected in FW 1.2	If installing to this build and have Alarms out configured please review your configuration

Description	Suggested Work-Around
Applicable to all Flex cameras: Firewall address filtering settings on backup and restore fail to re- cover.	To prevent camera isolation, the 'OFF' option under address filtering is selected after a camera restore, as opposed to the 'Deny' option being restored. All information within the 'Deny' table remains saved after the restore, and can then be selected and altered as desired.
Applicable to all Flex cameras: Under Admin Login – when managing other users accounts – current password is meant for the ad- min user password and not for the account being managed	
Applicable to all Flex cameras: In Security status - Changing the value of Authentication will cause a service restart which will result in GUI being inaccessible for about 10 seconds	Wait 10 seconds for service to restart and GUI working again
Applicable to all Flex cameras: Stream 1 will automatically reconfigure stream 2 to 15 FPS if stream 1 is updated to 31 FPS or above.	GUI will provide a warning of this change but changes via IAPI or ONVIF will change stream 2 without warning
Applicable to all Flex cameras: H265 Framerate is being reported incorrectly in logs.	Divide the reported framerate by 3 to get the actual framerate of the video. (This is only applicable to FW before 1.5.0).
Applicable to all Flex cameras: Changing Video Settings when a clip is recording may produce a corrupt MP4 due to the interruption	Setup your stream settings before you enable recording.

Description	Suggested Work-Around
Flex2 3MP Box and 8MP Box only: Lens Selection: All lens models will be available as options on all variants of Box cameras. How- ever, if this setting is wrong it could cause issues.	It is advised that the Lens Selection option is set correctly according to the lens attached to the camera.
Applicable to all Flex cameras: Security → Firewall → Address Filtering → Deny option selected. When restoring a camera backup which has the 'Deny' option selected, the Address Filtering tab will have 'Off' selected instead, after the restore is complete. When selecting the 'Deny' option, all IP/MAC addresses that were previously entered remain saved and will be displayed within the table when the 'Deny' option is re- selected.	Re-select the 'Deny' option for Address Filtering - All previously entered details, prior to the creation of the backup, will have been saved and will be displayed as expected.
Applicable to all Flex cameras: Changing the enabled status of a feature in Basic Firewall can take up to 5 seconds to save. If the page is refreshed before the status change can be fully implemented, the incorrect status may be displayed on the GUI.	When enabling or disabling Basic Firewall features, wait for 5 seconds after changing the value.
Applicable to all Flex cameras: Camera cannot be accessed using UPnP when set to https mode.	Ensure camera is set to HTTP when using UPnP
Applicable to all Flex cameras: Camera does not stream when added to Exacq using the onvif protocol.	Add camera to Exacq as Illustra3

Description	Suggested Work-Around
Applicable to all Flex cameras: When TWDR is enabled, stream configuration restrictions apply	Ensure that stream is configured correctly before enabling TWDR. See stream tables for supported configurations.
Applicable to all Flex cameras: Exposure method position does not change when Mirror or Flip orientation is applied.	Re-configure Exposure Method after Mirror or Flip orientation is applied.
Applicable to all Flex cameras: GUI, ONVIF and IAPI3 stream configuration combination may not always reflect the camera limitation	The camera will automatically adjust to its limitation (check the stream table for details).
Applicable to all Flex cameras: Sometimes Firewall settings are lost during an upgrade.	Re-configure the firewall settings after up-grading the camera.
Applicable to all Flex cameras: Login page may not fully load when the user logs in using the HTTPS method through the Chrome browser.	Refresh the browser.
Applicable to all Flex cameras: The sharpness value increases by 1 when set to a value within the range of 26-49.	N/A
Applicable to all Flex cameras: The camera can occasionally lose its personality details after a reset.	Reset the camera.
Applicable to all Flex cameras: TrickleStor Integration with VideoEdge does not work under HTTPS mode.	Use "both" or HTTP only setting on camera

Description	Suggested Work-Around
Only applicable to non PTZ Flex cameras: On ONVIF Device Manager (ODM) Tool the camera may dis- play PTZ Settings.	These cameras do not support PTZ as they are fixed lens units.
Applicable to all Flex cameras: User may be unable to set motion detection fault action after a camera reset.	Reset the camera again
Applicable to all Flex cameras: Motion Fault Action may reset to blank after a firmware upgrade.	Re-select motion fault action.
Applicable to all Flex cameras: When selecting Enhanced Security - the admin user will be required to conform to new username & password rules- the new rules will not be applied to already created user profiles - all new profiles will require to apply to these rules	If required change user and operator passwords manually
Applicable to all Flex cameras: Clip Recording: Clips can sometimes be longer or shorter than the expected duration due to the gap between IFrames. This issue will be more prominent in Intellizip codecs.	N/A - This is a side effect of the stream settings.
Applicable to all Flex cameras: If Chrome Browser cache is cleared while the user has an active GUI session open, a credential pop up appears and repeatedly refreshes which does not allow user to input credentials.	Close and reopen Chrome browser or tab
Applicable to all Flex cameras: Setting the framerate to 1FPS when the stream is using the H265 Intellizip codec may cause issues with bitrate.	Raise the framerate and reboot the camera.

Description	Suggested Work-Around
Applicable to all Flex cameras: In Flex2 fixed cameras there may be errors appear in the logs relating to 'setAbsolutePosition'. 'PTZFI Command Failed'.	These are false errors and can be ignored
Applicable to all Flex cameras: When starting/changing a stream all three video streams will restart their exposure settings meaning the image darkens slightly before brightening up again. This will last just a few seconds.	N/A
Flex IR PTZ: The camera GUI supports drawing a ROI (red box) on the video canvas which will allow the camera to automatically navigate to that area of interest. If the red box on the video canvas fails to perform a FoV repositioning then the box might be too small	Draw ROI (red box) of a certain size to allow for automatic repositioning.
Flex IR PTZ: Iris support is not available on this camera.	The light in the image can be changed via the 'Exposure Offset (F-Stops)' option under Exposure on the Picture Basic page. (Set Exposure Mode to Shutter Priority to enable it)
Flex IR PTZ: When the camera is zoomed in to digital zoom and there is a change to exposure or the camera is rebooted it will zoom out to the maximum optical zoom.	The camera zoom should be repositioned manually if required.
Flex IR PTZ: Privacy zones will draw correctly up to max Optical zoom, if the user tries to define a privacy zone once digital zoom is reached - this will be applied back to max optical zoom 30x.	Draw Privacy zones with optical zoom range - 30x max
Flex IR PTZ: TWDR is not available when exposure is set to Manual or Shutter Priority.	To enable TWDR, set exposure to Auto.
Flex IR PTZ - Privacy zones on the PTZ camera work differently from the other fixed FoV cameras Privacy zones will generate from the centre of the Fov.	For PTZ camera Privacy zones: navigate to the centre of the Region you desire to create a privacy zone. Click on the edit pencil button. Define a zone by click and dragging from the centre of the camera field of view. When using the PTZ camera it is advised that you draw privacy zones larger than required to help ensure better coverage during PTZ operations. This compensates for privacy zone distortion and repositioning during Pan, Tilt and Zoom

Description	Suggested Work-Around
Flex IR PTZ: Scans: The 'Random' can go outside of the scan limits set on the GUI.	If the limits are required, use either the Smooth or Stepped Scan.
Flex IR PTZ: You can select a home position type, a value, and a return time. After the return time, the setting is applied. After setting the home position type to Sequence, any other home settings will not be applied.	You can click any of the camera control options and this will then allow the newly assigned home position type to be correctly applied.
Flex IR PTZ: Before starting to record a Pattern, make sure that all PTZ movements have been stopped.	N/A
Applicable to all Flex cameras: Failed upgrade.	Reboot camera and re-try the upgrade.
Flex IR PTZ: Zoom Speed changes depending on the Exposure setting – the speed slows at exposures greater than 1/30 sec (i.e. 1/15, 1/8 and 1/4).	N/A
Flex IR PTZ: System could experience AF (autofocus) difficulties in low light scenes with low contrast.	N/A
Flex IR PTZ: Privacy Zones should be added before the camera is added to a NVR – when adding Privacy Zones, Stream 3's resolution must be a 16:9 aspect ratio (refer to the camera GUI dropdown / manual for resolution options).	N/A
Camera GUI can lockup occasionally when using HTTPS.	If using HTTPS stop the video on the GUI to prevent lock-up.
Applicable to all models: Backup/Restore: When the restoration changes the HTTP/HTTPS policy the camera may not be restored correctly.	Set the correct HTTP/HTTPS policy before restoring the file or reboot the camera after the restore.
Applicable to IRPTZ: Backup/Restore: Presets, Patterns and Sequences may not be restored correctly.	Reboot the camera after the restore.
Applicable to 4K models – when using the ONVIF protocol, stream 1 and 2 is limited to 15fps.	N/A

Server Integration Limitations

Description	Suggested Work-Around
DIO and Motion events not available on Milestone Server with ONVIF integration	Camera limitation. ONVIF events are not supported.
DIO - Alarm out clears with a camera reboot	No workaround
Applicable to all Flex cameras: Genetec Recorders do not support all the resolutions the camera supports. For example, 1664x936 and 3264x1840 is not available on Genetec Recorders.	N/A - This is a limitation of the recorder.
Applicable to all Flex cameras - ONVIF Integration - Profile S Integration does not support Codec: H264 Intellizip, H265, H265Intellizip.	If those codecs are required then an iAPI3 integration is necessary
VENVR Edge support or Motion and DIO alarms integration on VideoEdge VENVR and ExacqVision Server is not supported when Enhanced Security mode is selected on the camera.	Enable video over HTTP on the camera (Setup > Security > Remote Access) when Enhanced Security mode is enabled.

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