External Release Notes

Illustra Pro3 5MP Bullet Thermal EST

Product Code	Model Name	Firmware	Thermal Drive
IPT05-B29-BI03	Illustra Pro 5MP Thermal Bullet EST	Illustra.S011.01.02.01.18797	Illustra.S011_thermal-driver_v2.0.20200819S5619
IPT05-B29-BIA3	Illustra Pro 5MP Thermal Bullet EST	Illustra.S011.01.02.01.18797	Illustra.S011_thermal-driver_v2.0.20200819S5619

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

May 2021

Note
In case of discrepancy, the information in this document supersedes the information in any document referenced herein.
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8200-1953-04 F0

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What's in This Release

What's New

Firmware Illustra.S011.01.02.01.18797 addressed:

- Stream performance issue introduced in previous release
- Added extra GUI language. GUI now supports:
    1. English
    2. Turkish
    3. Polish
    4. French
    5. Italian
    6. German
    7. Spanish
    8. Japanese
    9. Korean
    10. Traditional Chinese
    11. Simplified Chinese
    12. Arabic
    13. Netherlands
- New ONVIF Upgrade procedure

If upgrading from build S011.01.01. then please follow the recommendation provided on build S011.01.02.00:

- Upgrade cameras individually through the WebGUI upgrading both Firmware and Thermal driver.
- **Due to the multiple feature changes on this Firmware, especially round stream table changes, we advise to remove the camera from any integrations before installing updates and if possible reset the camera after the upgrade.**
- **Verify the camera Temperatures are correctly configured and triggered as desired.**

If upgrading from build S011.01.02.00:

- Only a firmware upgrade is required.
- Upgrade cameras individually through the WebGUI upgrading the Firmware file only
- As firmware S011.01.02.00 supports ONVIF upgrades a batch upgrade can we performed on multiple cameras using the Illustra Connect Tool.
- Alternatively, a batch upgrade can be done using the Illustra connect tool 3.5.
  Note: If the upgrade fails initially - just reboot the camera and try again.

Firmware/Thermal driver compatibility table

Firmware version:	Thermal Driver version
Illustra.S011.01.00.00.9143	Illustra.S011_thermal-driver_20200601S5299_H1 GUI reference: 00005299
llustra.S011.01.00.01.0509	Illustra.S011_thermal-driver_20200701S5505_H1 GUI Reference 00005505
Illustra.S011.01.02.00.17493	Illustra.S011_thermal-driver_v2.0.20200819S5619 GUI Reference 00005619
Illustra.S011.01.02.01.18797	Illustra.S011_thermal-driver_v2.0.20200819S5619 GUI Reference 00005619

Previous Firmware

Firmware Illustra.S011.01.02.00.17493 & Illustra Thermal driver 20200819S5619 add the following features:

- No plugin support (to allow for no plugin support some streams changes had to occur, see **bold** text in the table below:

GUI Profile 1	1 RGB Primary	iAPI Stream.1	ImageSourceId=1
GUI Profile 2	RGB Secondary	iAPI3 Stream.3	ImageSourceId=1
~~GUI Profile 3~~	~~RGB Third~~	~~iAPI Stream.5~~	~~ImageSource=1~~
GUI Profile 3	Thermal Primary	iAPI Stream.2	ImageSourceId=2
GUI Profile 4	**Thermal Secondary**	**iAPI Stream.4**	**ImageSourceId=2**

Note: More information is available in the Camera GUI Live Stream section.

- Integration enhancements including Elevated Skin Temperatures Edge Events for Single Face Mode & Edge Motion Alerts.
- Analytics enhancements including Face Detection for mask not present.
- Enhanced Event action including more accurate Relay timing and introduced a 0 Seconds option.
- Enhanced OSD temperature values to bigger characters to aid visual experience.
- Enhanced iAPI3 integration changes for analytics:
  - Edge Elevated Skin Temperature for both Single and Multi-Face Mode.
  - Edge Face detection event which include Temperature readings for each Face event.
  - Edge Mask Off Detection with Face Detection alarms.
  - Edge Motion Events.
- Support For ONVIF & iAPI3 upgrades.

NOTE: If using Integrations with Victor/VideoEdge, ExacqVision Servers or CloudVue these analytic changes will require specific server builds so check the list below and hold the upgrade if Edge Analytics are required as part of your integration:
 - Victor/VideoEdge 5.7 release.
  - ExacqVision 21.07 (June 2021).
  - CloudeVue.

Due to the multiple features changes on this Firmware, especially round stream table change, we advise to remove camera from any integrations before installing updates and if possible reset camera after upgrade.

Firmware/Thermal driver compatibility table

Firmware version:	Thermal Driver version
Illustra.S011.01.00.00.9143	Illustra.S011_thermal-driver_20200601S5299_H1 GUI reference: 00005299
llustra.S011.01.00.01.0509	Illustra.S011_thermal-driver_20200701S5505_H1 GUI Reference 00005505
Illustra.S011.01.02.00.17493	Illustra.S011_thermal-driver_v2.0.20200819S5619 GUI Reference 00005619

Information on the firmware and thermal driver version installed can we found on the camera GUI under the System - Basic Information tab as shown below:
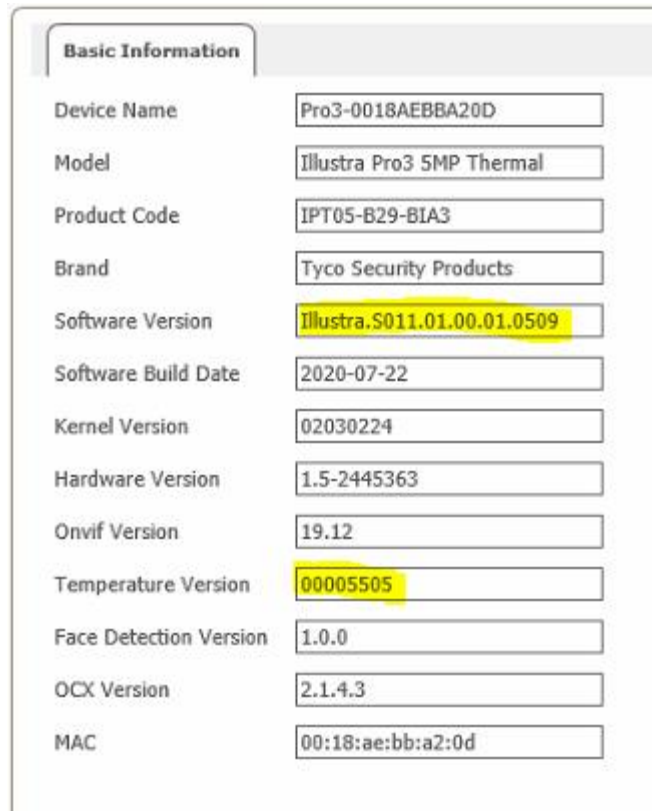
Firmware Illustra.S011.01.00.01.0509
Introduces the new Pro camera models.

Product Code	Model Name
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Along this firmware also update the thermal driver Illustra.S011_thermal-driver_20200701S5505_H1, this can be updated following same procedure as GUI Firmware upgrade.

Firmware also included the following new features:

- Cyber Enhancements
  All cameras, following upgrade, will need a full factory default including resetting network settings, to resume correctly due to cyber updates. If the camera is configured on a server, it will require to be removed and added again after this process. Not performing this factory default will cause HTTPS Edge analytics not to work

- Face detection usage selection:
  - Single Face Mode = 1 Face at time between .7 and 1 Meter from the camera at a max rate of 10 to 15 people per minute or one every 4 seconds. (IEC compliant)
  - Multi Face Mode = Up to 20 faces at a time between 2 and 6 meters at a max rate of 200 people per minute or 20 people at a time. (Not IEC compliant)

- Update Extreme Temperature Reference source restricted area
  New build updates the Extreme Temperature Reference source bounding box.
  Bounding box now includes most of the FoV which exception for edges of thermal view.

Please reconfigure Extreme Temperature Reference source position following upgrade.

- New GUI tab for Session time out.
  Under Security / Security Management / Logout time tab
  Session time out are defaulted 10 min, but can be configured between 60 - 3600 sec or disabled.
  Modifying this value may be required for camera standalone temperature monitoring.

- Edge analytics security hardening: Setting GUI to HTTPS will automatically also make EDGE Metadata Events stream use HTTPS.

- ONVIF Conformance

- iAPI3 Integration

  - Edge Motion analytics events now supported
  - Stream Bitrate Rate control support: Added VBR
  - Stream MJPEG quality control
  - Audio support: added G711u G711a
  - NTP configuration via iAPI3 (Exacq Integration)
  - DIO status reporting

Firmware Illustra.S011.01.00.00.9143

Introduces the new Pro camera models.

Product Code	Model Name
IPT05-B29-BI03	Illustra Pro 5MP Thermal Bullet EST

Key Features

- High resolution, 5 megapixel visible stream
- Face Detection with Temperature reading and Mask Off detection
- Elevated Skin Temperature detection of a single or Multiple individuals
- Configure a physical output to support visual or audio alerts from the camera upon an elevated skin temperature detection
- Camera GUI live stream bounding box or temperature indication overlay
- Integration with VideoEdge NVR, VideoEdge Hybrid, victor Unified Client, ExacqVision & CloudVue 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
- Motion Detection, Video Intelligence support on camera
- Wide Dynamic Range, DWDR
- Eventing with secure HTTPS metadata streaming
- SD card event recording (requires micro-SD or SD-HC card)
- SD card event download
- UPnP Discovery

Accessing camera for the first time

1. Select Internet Explorer browser and navigate to the camera IP address.

2. Browser should prompt for a plugin installation.

3. Complete plugin wizard installation and return to browser.

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

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

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

7. 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 **Change Default Password**.

Password Complexity Requirements

Minimum characters: 9
   a. 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   @ % + \ / ' ! # $ ^ ? : , ( ) { } [ ] ~ - _ `
   b. The password cannot contain the username.

How to restore admin/admin:

1. Restore factory default camera.

Firmware Upgrade

You can upgrade the Illustra Pro Thermal Camera through the camera web GUI.

Upgrade Camera Firmware through the Web GUI

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 **Upgrade** menu and identify the **Local 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.

   Camera upgrade can take up to 5 minutes.

7. When upgrade completes, the camera will return to login Screen.

Thermal Driver Upgrade

You can upgrade the Illustra Pro Thermal Camera thermal driver through the camera web GUI.

Procedure: Upgrade Camera Thermal Driver 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 **Upgrade** menu and identify the **Local Upgrade** section.

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

5. Navigate to the location where the thermal driver file "Illustra.S011_thermal-driver_......dat" has been saved. Select the file then select the **Open** button.

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

   The Camera upgrade can take up to 5 minutes.

   When the upgrade completes, the camera will return to the login screen.

GUI Live View

Firmware S011.01.02 onwards has dropped the requirement for a plugin to support GUI functionality.
To provide this some changes had to occur to the previous stream table. **The camera Secondary streams are used in the GUI for Live video Playback, GUI will only support MJPEG coded so coded is now restricted to this.**

Camera

Method 1: Standalone use only
The moving to a non-plugin firmware shall show little change in the day to day use of the GUI. By default the GUI will stream at D1 resolution (704x480 NTSC, 704x576 PAL). If required, 1280x720p is also available for better GUI performance.

Method 2: If previously integrating with VideoEdge server
If the camera had been added to VideoEdge as part of the previous configuration, it is likely the secondary stream used by the GUI will be of low resolution and quality once the camera upgrades. It is recommended to remove the camera from integration, reconfigure or factory reset the camera and using a newly released iAPI3 handler in 5.6 or upgrade to 5.7 core onwards before adding the camera back. The new handler will support more Edge analytics and also configure the camera without editing the stream in use by camera GUI.

Method 2: If previously integrating with Exacq server
If the camera had been added to Exacq in most cases the server would be only requesting primary stream which is not affected by the non-plugin support changes. If requesting multiple GUI streams from Exacq it's advised to delete and re-add the camera.

Analytics

Illustra Pro 5MP Thermal Bullet	Elevated Skin Temperature	Motion Detection	Blur Detection	Video Intelligence	Face Detection	Mask Off Detection
Standalone	Yes	Yes	Yes	Yes	Yes	Yes
Edge (VideoEdge and Exacq)	Yes – Events only	Yes – Events only	No	No	Yes	Yes

Stream Tables

Pro3 Thermal 5MP EST Bullet stream table

Profile	Codec	60 Hz		50 Hz	
		Resolution	Max FPS	Resolution	Max FPS
Stream 1 (Visible Primary)	H264 H265	2592x1944 2592x1520 2560x1440 2304x1296 1920x1080 1280x720	30	2592x1944 2592x1520 2560x1440 2304x1296 1920x1080 1280x720	25
Stream 2 (Visible Secondary)	MJPEG	1280x720 (20) 704x480 352x288	30	1280x720 (20) 704x576 352x288	25
Stream 3 (Thermal Primary)	H264 H265 MJPEG	704x480	25	704x576 480x240 352x288	25
Stream 4 (Visible Secondary)	MJPEG	704x480	25	704x576	25

Note: A maximum of three concurrent streams are supported by the camera. This includes shared streams.

Note: Secondary streams also serve as the GUI stream. The GUI stream can only stream if these secondary streams are configured as MJPEG. Changing Resolution, Frame and Quality will affect the GUI stream quality, changing the Code will provide no GUI stream.

Known Limitations and Issues

Description	Suggested Work-Around
Thermal camera has no capability to retain Date and Time settings if power loss/disconnection occurs.	It is advised to set the camera to sync to an NTP server. This will also improve Analytics integration with local servers.
Thermal External Temperature Reference Source (ETRS) calibration: Following thermal calibration saving the overlay temperature of the External Temperature Reference Source (ETRS) may not update automatically – page refresh may be required.	Refresh page following setting new thermal calibration setting.
For thermal calibration in Fahrenheit- always apply an offset of 32 minimum.	
If monitoring Live video via GUI, Stream may freeze. This is due to the security session timeout setting.	If monitoring Thermal temperatures via Camera GUI interface, it is advisable to extend GUI session timeouts for a better user experience.
Illustra Thermal iAPI3 XML FaceDetection analytics events sometimes miss end event causing NVR to not trigger end Event.	Allow at least 5 seconds between entities walking into the scene.
Illustra Thermal iAPI3 Video intelligence analytics events is not fully compliant with IAPI3 spec. For this release Video Intelligence Edge events is not supported for IAPI3 integrations.	None.
Illustra Thermal - API3 Tricklestor/backfill not supported on this release.	Camera standalone SD recording can be used.
Illustra Thermal. Bit rate fluctuating to double bit rate much higher than its Max setting on CBR.	
Illustra Thermal iAPI3 commands not updating on camera and/or GUI or returning an error.	
Illustra Thermal NVR integration only H265 not being recognised and streamed by NVR.	
Illustra Thermal has limited functionality with the new Tyco Illustra mobile app. Enhancements will be offered in later releases.	Use camera GUI for configuration.
Illustra Thermal GUI – Enabling DST during a period already in DST may apply an extra hour to clocks. Always check time accuracy after enabling/disabling.	Always check time accuracy after enabling/disabling DST.
Illustra Thermal GUI - Video mask - when trying to clear saved mask, area does not clear until save is selected.	None.
When calibrating the thermal camera, it is necessary to save settings after calibration to prevent a ' ! 'overlay appearing periodically on the thermal stream.	Save settings after the calibration of Temperature Calibration section.
Firefox Browser my show some submit buttons misaligned under text boxes.	If possible use alternative browser.

Contact Information

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