CSI-2 FIRMWARE RELEASE NOTES

Alvium 1500 C, 1800 C, FP3, and GM2 cameras

2024-May-07
V00.13.00.e83c9689
V00.13.00.cd808735

Helpful downloads

- Operating and updating cameras:
  - Alvium CSI-2 Cameras User Guide
  - Alvium FP3/GM2 User Guide
- Controls for **Direct Register Access**: Alvium CSI-2 Register Controls Reference
- Features for **GenICam for CSI-2 Access**: Alvium Features Reference
  www.alliedvision.com/en/support/technical-documentation/alvium-csi-2-documentation

- Firmware files
  www.alliedvision.com/en/support/firmware

- Firmware updater, included in **Vimba X**
  www.alliedvision.com/en/products/software/vimba-x-sdk

Latest firmware version for your Alvium CSI-2 model

The following table lists the latest firmware version for your Alvium CSI-2 camera.

Model	FW version	Document release
Alvium 1800 C: -240m/c **Alvium FP3/GM2 Coax/STP**: -240m/c,	FW 00.13.00.cd808735	2024-May-07
Alvium 1500 C: -120m/c, -210m/c, -500m/c,-501 m/c NIR **Alvium 1800 C**: -030 VSWIR, -040m/c, -052m/c, -130 VSWIR, -158m/c, -203m/c,-234m/c, -235m/c, -203m/c, -291m/c, -319m/c, -500m/c, -507m/c, -507m/c Pol, -508m/c, -508m/c Pol, -510m/c, -511 m/c, -811 m/c, -812 UV, -895m/c, -1236m/c, -1240m/c, -1242m/c, -1620m/c, -2040m/c, -2050m/c, -2460m/c **Alvium FP3/GM2 Coax/STP**: -030 VSWIR, -040m/c, -052m/c, -130 VSWIR, -158m/c, -203m/c, -210m/c, -234m/c, -235m/c, -291m/c, -319m/c, -500m/c, -501m/c NIR, -507m/c, -507m/c Pol, -508m/c, -508m/c Pol, -510m/c,-511 m/c, -811 m/c, -812 UV, -895m/c, -1236m/c, -1240m/c, -1242m/c, -1620m/c, -2040m/c, -2050m/c, -2460m/c	FW 00.13.00.e83c9689 | 2nd update	2024-Feb-26
Alvium 1500 C: -050m/c[1]	FW 00.11.00.9cf0c21e | 2nd update	2023-Apr-21

[1] Alvium 1800 C-050 models are delivered with firmware 00.11.00.9cf0c21e. The firmware version cannot be updated to later versions.

Table 3: Latest firmware version by model

Alvium X-

X is used as a placeholder for 1500 C, 1800 C, FP3, or GM2. This convention is used first with FW version 00.11.00.9cf0c21e, document version 2023-Apr-21.

FW 00.13.00.cd808735

Date of document release: 2024-May-07

Supported models

Camera family	Model
Alvium 1800	C-240m/c
Alvium FP3 Coax/STP	FP3-240m/c
Alvium GM2 Coax/STP	GM2-240m/c

Table 4: Supported models

New models

No new models were added.

Changed or new features

Nothing was changed.

Resolved issues

Alvium ID	Affected models	Description
1332	X-240m/c	Cameras stop streaming occasionally.

Table 5: Resolved issues

Known issues

Alvium ID	Affected models	Description
617	Models in **GenICam for CSI-2 Access** mode	Feature settings are lost when the camera is closed. After restart, features must be set manually again.
OCT-2247	Models in **GenICam for CSI-2 Access** mode	Features `StatFramesCRCError`, `StatFramesIncomplete`, `StatFramesUnderrun` in the `StreamInformation/ Statistics` category return `0`, incomplete or dropped frames cannot be detected.
774	Models in **GenICam for CSI-2 Access** mode	Streaming is not possible with changed user set. As a workaround, we recommend to load default user sets. This issue does **only** occur with Nano 4GB Board and Driver 4.6.x.
1307	Models in **GenICam for CSI-2 Access** mode	When `LineSource` is selected to be *ExposureActive* for Line1, the *ExposureActive* signal not enabled for Line1, but for Line0.

Table 6: Known issues

FW 00.13.00.e83c9689 | 2nd update

Date of **2nd document update**: 2024-Feb-26
Date of st document update: 2024-Jan-04
Date of document release: 2023-Dec-29

Supported models

Camera family	Model
Alvium 1500	C-120m/c, -210m/c, -500m/c, -501m/c NIR
Alvium 1800	C-030 VSWIR, -040m/c, -052m/c, -130 VSWIR, -158m/c, -203m/c, -234m/c, -235m/c, -291m/c, -319m/c, -500m/c, -507m/c, **-507m/c Pol**, -508m/c, **-508m/c Pol**, -510m/c, -511 m/c, -811 m/c, -812 UV, -895m/c, -1236m/c, -1240m/c, -1242m/c, -1620m/c, -2040m/c, -2050m/c, -2460m/c
Alvium FP3 Coax/STP	FP3-030 VSWIR, -040m/c, -052m/c, -130 VSWIR, -158m/c, -203m/c, -210m/c, -234m/c, -235m/c, -291m/c, -319m/c, -500m/c, -501m/c NIR, -507m/c, **-507m/c Pol**, -508m/c, **-508m/c Pol**,, -510m/c, -511 m/c, -811 m/c, -812 UV, -895m/c, -1236m/c, -1240m/c, -1242m/c, -1620m/c, -2040m/c, -2050m/c, -2460m/c
Alvium GM2 Coax/STP	GM2-030 VSWIR, -040m/c, -052m/c, -130 VSWIR, -158m/c, -203m/c, -210m/c, -234m/c, -235m/c, -291m/c, -319m/c, -500m/c, -501m/c NIR, -507m/c, **-507m/c Pol**, -508m/c, **-508m/c Pol**,, -510m/c, -511 m/c, -811 m/c, -812 UV, -895m/c, -1236m/c, -1240m/c, -1242m/c, -1620m/c, -2040m/c, -2050m/c, -2460m/c

Table 7: Supported models

New models
Alvium X-507m/c Pol, -508m/c Pol

Changed features

- Alvium X-1240m/c and X-2050m/c: For triggered acquisition in rolling shutter mode, maximum frame rates have been increased from ~50% to >99% of the values reached in freerun mode.
- Minimum exposure times have been reduced for all Alvium CSI-2 models, except for X-120, -210, -500, -501 NIR, -1240, and -2050 models.
- **GenICam for CSI-2 Access***: Sensor binning has been added for X-158m, -203m, -240m, -291m, and -508m.
- **GenICam for CSI-2 Access***: Removed `IntensityControllerOutliersBright` and `IntensityControllerOutliersDark` from `AutoModeControl`.

* Available with all Alvium 1800 C models and the corresponding FP3/GM2 Coax models

New features (GenICam for CSI-2 Access)*
* Available with all Alvium 1800 C models and the corresponding FP3/GM2 Coax models

- `ChunkDataControl` features
- `DeviceTemperatureStatus` as an indicator to take measures before the camera is shut off when the maximum operating temperature is exceeded
- `LensShadingCorrection` features to compensate for a decrease in brightness towards the image corners
- `LUTLoadAll` and `LUTSaveAll` for 1-step access to RGB LUTs

Resolved issues

Alvium ID	Affected models	Description
1151	All	If binning is activated after an ROI is set, the camera returns invalid values for the `Height` and `OffsetY`.
1117	X-510m/c, X-511m/c, X-811m/c, X-812 UV, X-1242m/c, X-1620m/c, X-2040m/c, X-2460m/c models in **GenICam for CSI-2 Access** mode	Width cannot be adjusted for both, digital binning and sensor binning. Digital binning works correctly in **Direct Register Access** mode and in **Video4Linux Access** mode.
1171	Alvium X-2050m/c	If user sets are loaded where `ReverseY` = *True* and `OffsetY` is configured, the output image is distorted.

Table 8: Resolved issues

Known issues

Alvium ID	Affected models	Description
617	Models in **GenICam for CSI-2 Access** mode	Feature settings are lost when the camera is closed. After restart, features must be set manually again.
OCT-2247	Models in **GenICam for CSI-2 Access** mode	Features `StatFramesCRCError`, `StatFramesIncomplete`, `StatFramesUnderrun` in the `StreamInformation/ Statistics` category return `0`, incomplete or dropped frames cannot be detected.
338	X-210m/c, X-500m/c, X-501m/c, X-1240m/c, X-2050m/c	If `Acquisition Stop` is executed shortly after `Acquisition Start`, no image is transmitted.
774	Models in **GenICam for CSI-2 Access** mode	Streaming is not possible with changed user set. As a workaround, we recommend to load default user sets. This issue does **only** occur with Nano 4GB Board and Driver 4.6.x.
1307	Models in **GenICam for CSI-2 Access** mode	When `LineSource` is selected to be *ExposureActive* for Line1, the *ExposureActive* signal not enabled for Line1, but for Line0.
1324	**X-500m/c, X-501 NIR, X-1240m/c, X-2050m/c**	**This applies with AcquisitionMode set to MultiFrame: If cameras have been triggered by AcquisitionStart, the streaming stops when parameters are changed.**

Table 9: Known issues

FW 00.13.00.e83c9689 | 1st update

Date of **1st document update**: 2024-Jan-04
Date of document release: 2023-Dec-29

Supported models

Camera family	Model
Alvium 1500	C-120m/c, C-210m/c, C-500m/c, C-501m/c NIR
Alvium 1800	C-030 VSWIR, C-040m/c, C-052m/c, C-130 VSWIR, C-158m/c, C-203m/c, C-234m/c, C-235m/c, C-240m/c, C-291m/c, C-319m/c, C-500m/c, C-507m/c, C-508m/c, C-510m/c, C-511 m/c, C-811 m/c, C-812 UV, C-895m/c, C-1236m/c, C-1240m/c, C-1242m/c, C-1620m/c, C-2040m/c, C-2050m/c, C-2460m/c
Alvium FP3 Coax/STP	FP3-030 VSWIR, FP3-040m/c, FP3-052m/c, FP3-130 VSWIR, FP3-158m/c, FP3-203m/c, FP3-210m/c, FP3-234m/c, FP3-235m/c, FP3-240m/c, FP3-291m/c, FP3-319m/c, FP3-500m/c, FP3-501m/c NIR, FP3-507m/c, FP3-508m/c, FP3-510m/c, FP3-511 m/c, FP3-811 m/c, FP3-812 UV, FP3-895m/c, FP3-1236m/c, FP3-1240m/c, FP3-1242m/c, FP3-1620m/c, FP3-2040m/c, FP3-2050m/c, FP3-2460m/c
Alvium GM2 Coax/STP	GM2-030 VSWIR, GM2-040m/c, GM2-052m/c, GM2-130 VSWIR, GM2-158m/c, GM2-203m/c, GM2-210m/c, GM2-234m/c, GM2-235m/c, GM2-240m/c, GM2-291m/c, GM2-319m/c, GM2-500m/c, GM2-501m/c NIR, GM2-507m/c, GM2-508m/c, GM2-510m/c, GM2-511 m/c, GM2-811 m/c, GM2-812 UV, GM2-895m/c, GM2-1236m/c, GM2-1240m/c, GM2-1242m/c, GM2-1620m/c, GM2-2040m/c, GM2-2050m/c, GM2-2460m/c

Table 10: Supported models

New models

No new models were added.

Changed features

- Alvium X-1240m/c and X-2050m/c: For triggered acquisition in rolling shutter mode, maximum frame rates have been increased from ~50% to >99% of the values reached in freerun mode.
- **Minimum exposure times have been reduced for all Alvium CSI-2 models, except for X-120, -210, -500, -501 NIR, -1240, and -2050 models.**
- **GenICam for CSI-2 Access***: Sensor binning has been added for X-158m, **-203m**, -240m, -291m, and -508m.
- **GenICam for CSI-2 Access***: Removed `IntensityControllerOutliersBright` and `IntensityControllerOutliersDark` from `AutoModeControl`.

* Available with all Alvium 1800 C models and the corresponding FP3/GM2 Coax models

New features (GenICam for CSI-2 Access)*

* Available with all Alvium 1800 C models and the corresponding FP3/GM2 Coax models

- `ChunkDataControl` features
- `DeviceTemperatureStatus` as an indicator to take measures before the camera is shut off when the maximum operating temperature is exceeded
- `LensShadingCorrection` features to compensate for a decrease in brightness towards the image corners
- `LUTLoadAll` and `LUTSaveAll` for 1-step access to RGB LUTs

Resolved issues

Alvium ID	Affected models	Description
1151	All	If binning is activated after an ROI is set, the camera returns invalid values for the `Height` and `OffsetY`.
1117	X-510m/c, X-511m/c, X-811m/c, X-812 UV, X-1242m/c, X-1620m/c, X-2040m/c, X-2460m/c models in **GenICam for CSI-2 Access** mode	Width cannot be adjusted for both, digital binning and sensor binning. Digital binning works correctly in **Direct Register Access** mode and in **Video4Linux Access** mode.
1171	Alvium X-2050m/c	If user sets are loaded where `ReverseY` = *True* and `OffsetY` is configured, the output image is distorted.

Table 11: Resolved issues

Known issues

Alvium ID	Affected models	Description
617	Models in **GenICam for CSI-2 Access** mode	Feature settings are lost when the camera is closed. After restart, features must be set manually again.
OCT-2247	Models in **GenICam for CSI-2 Access** mode	Features `StatFramesCRCError`, `StatFramesIncomplete`, `StatFramesUnderrun` in the `StreamInformation/ Statistics` category return *0*, incomplete or dropped frames cannot be detected.
338	X-210m/c, X-500m/c, X-501m/c, X-1240m/c, X-2050m/c	If `Acquisition Stop` is executed shortly after `Acquisition Start`, no image is transmitted.
774	Models in **GenICam for CSI-2 Access** mode	Streaming is not possible with changed user set. As a workaround, we recommend to load default user sets. This issue does **only** occur with Nano 4GB Board and Driver 4.6.x.
1307	Models in **GenICam for CSI-2 Access** mode	When `LineSource` is selected to be *ExposureActive* for Line1, the *ExposureActive* signal not enabled for Line1, but for Line0.

Table 12: Known issues

FW 00.13.00.e83c9689

Date of document release: 2023-Dec-29

Supported models

Camera family	Model
Alvium 1500	C-120m/c, C-210m/c, C-500m/c, C-501m/c NIR
Alvium 1800	C-030 VSWIR, C-040m/c, C-052m/c, C-130 VSWIR, C-158m/c, C-203m/c, C-234m/c, C-235m/c, C-240m/c, C-291m/c, C-319m/c, C-500m/c, C-507m/c, C-508m/c, C-510m/c, C-511 m/c, C-811 m/c, C-812 UV, C-895m/c, C-1236m/c, C-1240m/c, C-1242m/c, C-1620m/c, C-2040m/c, C-2050m/c, C-2460m/c

Table 13: Supported models (sheet 1 of 2)

Camera family	Model
Alvium FP3 Coax/STP	FP3-030 VSWIR, FP3-040m/c, FP3-052m/c, FP3-130 VSWIR, FP3-158m/c, FP3-203m/c, FP3-210m/c, FP3-234m/c, FP3-235m/c, FP3-240m/c, FP3-291m/c, FP3-319m/c, FP3-500m/c, FP3-501m/c NIR, FP3-507m/c, FP3-508m/c, FP3-510m/c, FP3-511 m/c, FP3-811 m/c, FP3-812 UV, FP3-895m/c, FP3-1236m/c, FP3-1240m/c, FP3-1242m/c, FP3-1620m/c, FP3-2040m/c, FP3-2050m/c, FP3-2460m/c
Alvium GM2 Coax/STP	GM2-030 VSWIR, GM2-040m/c, GM2-052m/c, GM2-130 VSWIR, GM2-158m/c, GM2-203m/c, GM2-210m/c, GM2-234m/c, GM2-235m/c, GM2-240m/c, GM2-291m/c, GM2-319m/c, GM2-500m/c, GM2-501m/c NIR, GM2-507m/c, GM2-508m/c, GM2-510m/c, GM2-511 m/c, GM2-811 m/c, GM2-812 UV, GM2-895m/c, GM2-1236m/c, GM2-1240m/c, GM2-1242m/c, GM2-1620m/c, GM2-2040m/c, GM2-2050m/c, GM2-2460m/c

Table 13: Supported models (sheet 2 of 2)

New models

No new models were added.

Changed features

- Alvium X-1240m/c and X-2050m/c: For triggered acquisition in rolling shutter mode, maximum frame rates have been increased from ~50% to >99% of the values reached in freerun mode.
- **GenICam for CSI-2 Access***: Sensor binning has been added for X-158m, -240m, -291m, and -508m.
- **GenICam for CSI-2 Access***: Removed `IntensityControllerOutliersBright` and `IntensityControllerOutliersDark` from `AutoModeControl`.

* Available with all Alvium 1800 C models and the corresponding FP3/GM2 Coax models

New features (GenICam for CSI-2 Access)*

- `ChunkDataControl` features
- `DeviceTemperatureStatus` as an indicator to take measures before the camera is shut off when the maximum operating temperature is exceeded
- `LensShadingCorrection` features to compensate for a decrease in brightness towards the image corners
- `LUTLoadAll` and `LUTSaveAll` for 1-step access to RGB LUTs

* Available with all Alvium 1800 C models and the corresponding FP3/GM2 Coax models

Resolved issues

Alvium ID	Affected models	Description
1151	All	If binning is activated after an ROI is set, the camera returns invalid values for the `Height` and `OffsetY`.
1117	X-510m/c, X-511m/c, X-811m/c, X-812 UV, X-1242m/c, X-1620m/c, X-2040m/c, X-2460m/c models in **GenICam for CSI-2 Access** mode	Width cannot be adjusted for both, digital binning and sensor binning. Digital binning works correctly in **Direct Register Access** mode and in **Video4Linux Access** mode.
1171	Alvium X-2050m/c	If user sets are loaded where `ReverseY` = *True* and `OffsetY` is configured, the output image is distorted.

Table 14: Resolved issues

Known issues

Alvium ID	Affected models	Description
617	Models in **GenICam for CSI-2 Access** mode	Feature settings are lost when the camera is closed. After restart, features must be set manually again.
OCT-2247	Models in **GenICam for CSI-2 Access** mode	Features `StatFramesCRCError`, `StatFramesIncomplete`, `StatFramesUnderrun` in the `StreamInformation/ Statistics` category return `0`, incomplete or dropped frames cannot be detected.
338	X-210m/c, X-500m/c, X-501m/c, X-1240m/c, X-2050m/c	If `Acquisition Stop` is executed shortly after `Acquisition Start`, no image is transmitted.
774	Models in **GenICam for CSI-2 Access** mode	Streaming is not possible with changed user set. As a workaround, we recommend to load default user sets. This issue does **only** occur with Nano 4GB Board and Driver 4.6.x.
1307	Models in **GenICam for CSI-2 Access** mode	When `LineSource` is selected to be *ExposureActive* for Line1, the *ExposureActive* signal not enabled for Line1, but for Line0.

Table 15: Known issues

FW 00.12.00.00611a22 | 4th update

Date of **4th document update**: 2023-Nov-21
Date of 3rd document update: 2023-Sep-27
Date of 2nd document update: 2023-Aug-02
Date of 1st document update: 2023-Jul-04
Date of document release: 2023-Jun-15

Removed contents

- Alvium X-131m/c,-192m/c models were not released.
- 12-bit pixel formats for cameras with 10-bit sensors are already added with FW 00.08.00.6727174b on page 25.
- 12-bit Packed pixel formats were added only for Alvium G1 and G5.

Supported models

Camera family	Model
Alvium 1500	C-120m/c, C-210m/c, C-500m/c, C-501m/c NIR
Alvium 1800	C-030 VSWIR, C-040m/c, C-052m/c, C-130 VSWIR, C-158m/c, C-203m/c, C-234m/c, C-235m/c, C-240m/c, C-291m/c, C-319m/c, C-500m/c, C-507m/c, C-508m/c, C-510m/c, C-511 m/c, C-811 m/c, C-812 UV, C-895m/c, C-1236m/c, C-1240m/c, C-1242m/c, C-1620m/c, C-2040m/c, C-2050m/c, C-2460m/c

Table 16: Supported models (sheet 1 of 2)

Camera family	Model
Alvium FP3 Coax/STP	FP3-030 VSWIR, FP3-040m/c, FP3-052m/c, FP3-130 VSWIR, FP3-158m/c, FP3-203m/c, FP3-210m/c, FP3-234m/c, FP3-235m/c, FP3-240m/c, FP3-291m/c, FP3-319m/c, FP3-500m/c, FP3-501m/c NIR, FP3-507m/c, FP3-508m/c, FP3-510m/c, FP3-511 m/c, FP3-811 m/c, FP3-812 UV, FP3-895m/c, FP3-1236m/c, FP3-1240m/c, FP3-1242m/c, FP3-1620m/c, FP3-2040m/c, FP3-2050m/c, FP3-2460m/c
Alvium GM2 Coax/STP	GM2-030 VSWIR, GM2-040m/c, GM2-052m/c, GM2-130 VSWIR, GM2-158m/c, GM2-203m/c, GM2-210m/c, GM2-234m/c, GM2-235m/c, GM2-240m/c, GM2-291m/c, GM2-319m/c, GM2-500m/c, GM2-501m/c NIR, GM2-507m/c, GM2-508m/c, GM2-510m/c, GM2-511 m/c, GM2-811 m/c, GM2-812 UV, GM2-895m/c, GM2-1236m/c, GM2-1240m/c, GM2-1242m/c, GM2-1620m/c, GM2-2040m/c, GM2-2050m/c, GM2-2460m/c

Table 16: Supported models (sheet 2 of 2)

New models

Alvium X-203m/c models

Changed features (GenICam for CSI-2 Access)*

- Added `Sensor` option for `BinningSelector`. The existence of this option depends on the sensor. Please see the Alvium CSI Cameras User Guide or model data sheets.

* Available with all Alvium 1800 C models and the corresponding FP3/GM2 Coax models

New features (GenICam for CSI-2 Access)*

- Support for mandatory features according to GenICam SFNC V2.7
- `LutValueAll` to write a complete LUT in one access

* Available with all Alvium 1800 C models and the corresponding FP3/GM2 Coax models

Resolved issues

Alvium ID	Affected models	Description
806	Color models in **GenICam for CSI-2 Access** mode	Error in color transformation has been fixed.
967	All	`BlackLevel` is wrongly set after loading settings file: The camera incorrectly reports a `BlackLevel` value of 0, requiring it to be set to a different value and then reset to 0 in order to actually achieve a value of 0.
1041	X-500m/c, X-501m/c NIR, X-1240m/c, X-2050m/c	DPC (defect pixel correction) is not working when `ReverseY` is turned on: For rolling shutter models, defect pixels may appear after turning on `ReverseY`.

Table 17: Resolved issues

Known issues

Alvium ID	Affected models	Description
617	Models in **GenICam for CSI-2 Access** mode	Feature settings are lost when the camera is closed. After restart, features must be set manually again.
OCT-2247	Models in **GenICam for CSI-2 Access** mode	Features `StatFramesCRCError`, `StatFramesIncomplete`, `StatFramesUnderrun` in the `StreamInformation/ Statistics` category return `0`, incomplete or dropped frames cannot be detected.
338	X-210m/c, X-500m/c, X-501m/c, X-1240m/c, X-2050m/c	If `Acquisition Stop` is executed shortly after `Acquisition Start`, no image is transmitted.
774	Models in **GenICam for CSI-2 Access** mode	Streaming is not possible with changed user set. As a workaround, we recommend to load default user sets. This issue does **only** occur with Nano 4GB Board and Driver 4.6.x.
1117	X-510m/c, X-511m/c, X-811m/c, X-812 UV, X-1242m/c, X-1620m/c, X-2040m/c, X-2460m/c models in **GenICam for CSI-2 Access** mode	Width cannot be adjusted for both, digital binning and sensor binning. Digital binning works correctly in **Direct Register Access** mode and in **Video4Linux Access** mode.

Table 18: Known issues

FW 00.12.00.00611a22 | 3rd update

Date of **3rd document update**: 2023-Sep-27
Date of 2nd document update: 2023-Aug-02
Date of 1st document update: 2023-Jul-04
Date of document release: 2023-Jun-15

Supported models

Camera family	Model
Alvium 1500	C-120m/c, C-210m/c, C-500m/c, C-501m/c NIR
Alvium 1800	C-030 VSWIR, C-040m/c, C-052m/c, C-130 VSWIR, **C-131m/c**, C-158m/c, **C-192m/c**, **C-203m/c**, C-234m/c, C-235m/c, C-240m/c, C-291m/c, C-319m/c, C-500m/c, C-507m/c, C-508m/c, C-510m/c, C-511 m/c, C-811 m/c, C-812 UV, C-895m/c, C-1236m/c, C-1240m/c, C-1242m/c, C-1620m/c, C-2040m/c, C-2050m/c, C-2460m/c
Alvium FP3 Coax/STP	FP3-030 VSWIR, FP3-040m/c, FP3-052m/c, FP3-130 VSWIR, **FP3-131m/c**, FP3-158m/c, **FP3-192m/c**, **FP3-203m/c**, FP3-210m/c, FP3-234m/c, FP3-235m/c, FP3-240m/c, FP3-291m/c, FP3-319m/c, FP3-500m/c, FP3-501m/c NIR, FP3-507m/c, FP3-508m/c, FP3-510m/c, FP3-511 m/c, FP3-811 m/c, FP3-812 UV, FP3-895m/c, FP3-1236m/c, FP3-1240m/c, FP3-1242m/c, FP3-1620m/c, FP3-2040m/c, FP3-2050m/c, FP3-2460m/c
Alvium GM2 Coax/STP	GM2-030 VSWIR, GM2-040m/c, GM2-052m/c, GM2-130 VSWIR, **GM2-131m/c**, GM2-158m/c, **GM2-192m/c**, **GM2-203m/c**, GM2-210m/c, GM2-234m/c, GM2-235m/c, GM2-240m/c, GM2-291m/c, GM2-319m/c, GM2-500m/c, GM2-501m/c NIR, GM2-507m/c, GM2-508m/c, GM2-510m/c, GM2-511 m/c, GM2-811 m/c, GM2-812 UV, GM2-895m/c, GM2-1236m/c, GM2-1240m/c, GM2-1242m/c, GM2-1620m/c, GM2-2040m/c, GM2-2050m/c, GM2-2460m/c

Table 19: Supported models

New models
Alvium X-131m/c, -192m/c, -203m/c models

Changed features (GenICam for CSI-2 Access)*

- Added `Sensor` option for `BinningSelector`. The existence of this option depends on the sensor. Please see the Alvium CSI Cameras User Guide or model data sheets.
- **Added 12-bit sensor formats for cameras with 10-bit sensors for PixelFormat.**
- **Added Mono12Packed and BayerGR12Packed (1800 C-500c) or BayerRG12Packed (other models) for PixelFormat.**

* Available with all Alvium 1800 C models and the corresponding FP3/GM2 Coax models

New features (GenICam for CSI-2 Access)*

- Support for mandatory features according to GenICam SFNC V2.7
- `LutValueAll` to write a complete LUT in one access

* Available with all Alvium 1800 C models and the corresponding FP3/GM2 Coax models

Resolved issues

Alvium ID	Affected models	Description
806	Color models in **GenICam for CSI-2 Access** mode	Error in color transformation has been fixed.
967	All	`BlackLevel` is wrongly set after loading settings file: The camera incorrectly reports a `BlackLevel` value of 0, requiring it to be set to a different value and then reset to 0 in order to actually achieve a value of 0.
1041	X-500m/c, X-501m/c NIR, X-1240m/c, X-2050m/c	DPC (defect pixel correction) is not working when `ReverseY` is turned on: For rolling shutter models, defect pixels may appear after turning on `ReverseY`.

Table 20: Resolved issues

Known issues

Alvium ID	Affected models	Description
617	Models in **GenICam for CSI-2 Access** mode	Feature settings are lost when the camera is closed. After restart, features must be set manually again.
OCT-2247	Models in **GenICam for CSI-2 Access** mode	Features `StatFramesCRCError`, `StatFramesIncomplete`, `StatFramesUnderrun` in the `StreamInformation/Statistics` category return 0, incomplete or dropped frames cannot be detected.
338	X-210m/c, X-500m/c, X-501m/c, X-1240m/c, X-2050m/c	If `Acquisition Stop` is executed shortly after `Acquisition Start`, no image is transmitted.

Table 21: Known issues (sheet 1 of 2)

Alvium ID	Affected models	Description
774	Models in **GenICam for CSI-2 Access** mode	Streaming is not possible with changed user set. As a workaround, we recommend to load default user sets. This issue does **only** occur with Nano 4GB Board and Driver 4.6.x.
1117	X-510m/c, X-511m/c, X-811m/c, X-812 UV, X-1242m/c, X-1620m/c, X-2040m/c, X-2460m/c models in **GenICam for CSI-2 Access** mode	Width cannot be adjusted for both, digital binning and sensor binning. Digital binning works correctly in **Direct Register Access** mode and in **Video4Linux Access** mode.

Table 21: Known issues (sheet 2 of 2)

FW 00.12.00.00611a22 | 2nd update

Date of **2nd document update**: 2023-Aug-02
Date of 1st document update: 2023-Jul-04
Date of document release: 2023-Jun-15

Supported models

Camera family	Model
Alvium 1500	C-120m/c, C-210m/c, C-500m/c, C-501m/c NIR
Alvium 1800	C-030 VSWIR, C-040m/c, C-052m/c, C-130 VSWIR, C-158m/c, C-234m/c, C-235m/c, C-240m/c, C-291m/c, C-319m/c, C-500m/c, C-507m/c, C-508m/c, C-510m/c, C-511 m/c, C-811 m/c, C-812 UV, C-895m/c, C-1236m/c, C-1240m/c, C-1242m/c, C-1620m/c, C-2040m/c, C-2050m/c, C-2460m/c
Alvium FP3 Coax/**STP**	FP3-030 VSWIR, FP3-040m/c, FP3-052m/c, FP3-130 VSWIR, FP3-158m/c, FP3-210m/c, FP3-234m/c, FP3-235m/c, FP3-240m/c, FP3-291m/c, FP3-319m/c, FP3-500m/c, FP3-501m/c NIR, FP3-507m/c, FP3-508m/c, FP3-510m/c, FP3-511 m/c, FP3-811 m/c, FP3-812 UV, FP3-895m/c, FP3-1236m/c, FP3-1240m/c, FP3-1242m/c, FP3-1620m/c, FP3-2040m/c, FP3-2050m/c, FP3-2460m/c
Alvium GM2 Coax/**STP**	GM2-030 VSWIR, GM2-040m/c, GM2-052m/c, GM2-130 VSWIR, GM2-158m/c, GM2-210m/c, GM2-234m/c, GM2-235m/c, GM2-240m/c, GM2-291m/c, GM2-319m/c, GM2-500m/c, GM2-501m/c NIR, GM2-507m/c, GM2-508m/c, GM2-510m/c, GM2-511 m/c, GM2-811 m/c, GM2-812 UV, GM2-895m/c, GM2-1236m/c, GM2-1240m/c, GM2-1242m/c, GM2-1620m/c, GM2-2040m/c, GM2-2050m/c, GM2-2460m/c

Table 22: Supported models

New models
Alvium FP3/GM2 STP models

Changed features

- Added `Sensor` option for `BinningSelector`. The existence of this option depends on the sensor. Please see the Alvium CSI Cameras User Guide or model data sheets. (**GenICam for CSI-2 Access**)*

New features

- Support for mandatory features according to GenICam SFNC V2.7 (**GenICam for CSI-2 Access**)*
- `LutValueAll` to write a complete LUT in one access (**GenICam for CSI-2 Access**)*

* Available with all Alvium 1800 C models and the corresponding FP3/GM2 Coax models

Resolved issues

Alvium ID	Affected models	Description
806	Color models in **GenICam for CSI-2 Access** mode	Error in color transformation has been fixed.
967	All	`BlackLevel` is wrongly set after loading settings file: The camera incorrectly reports a `BlackLevel` value of 0, requiring it to be set to a different value and then reset to 0 in order to actually achieve a value of 0.
1041	X-500m/c, X-501m/c NIR, X-1240m/c, X-2050m/c	DPC (defect pixel correction) is not working when `ReverseY` is turned on: For rolling shutter models, defect pixels may appear after turning on `ReverseY`.

Table 23: Resolved issues

Known issues

Alvium ID	Affected models	Description
617	Models in **GenICam for CSI-2 Access** mode	Feature settings are lost when the camera is closed. After restart, features must be set manually again.
OCT-2247	Models in **GenICam for CSI-2 Access** mode	Features `StatFramesCRCError`, `StatFramesIncomplete`, `StatFramesUnderrun` in the `StreamInformation/ Statistics` category return 0, incomplete or dropped frames cannot be detected.
338	X-210m/c, X-500m/c, X-501m/c, X-1240m/c, X-2050m/c	If `Acquisition Stop` is executed shortly after `Acquisition Start`, no image is transmitted.
774	Models in **GenICam for CSI-2 Access** mode	Streaming is not possible with changed user set. As a workaround, we recommend to load default user sets. This issue does **only** occur with Nano 4GB Board and Driver 4.6.x.
1117	X-510m/c, X-511m/c, X-811m/c, X-812 UV, X-1242m/c, X-1620m/c, X-2040m/c, X-2460m/c models in **GenICam for CSI-2 Access** mode	Width cannot be adjusted for both, digital binning and sensor binning. Digital binning works correctly in **Direct Register Access** mode and in **Video4Linux Access** mode.

Table 24: Known issues

FW 00.12.00.00611a22 | 1st update

Date of **1st document update**: 2023-Jul-04
Date of document release: 2023-Jun-15

Supported models

Camera family	Model
Alvium 1500	C-120m/c, C-210m/c, C-500m/c, C-501m/c NIR
Alvium 1800	C-030 VSWIR, C-040m/c, C-052m/c, C-130 VSWIR, C-158m/c, C-234m/c, C-235m/c, C-240m/c, C-291m/c, C-319m/c, C-500m/c, C-507m/c, C-508m/c, C-510m/c, C-511 m/c, C-811 m/c, C-812 UV, **C-895m/c**, C-1236m/c, C-1240m/c, C-1242m/c, C-1620m/c, C-2040m/c, C-2050m/c, C-2460m/c
Alvium FP3 Coax	FP3-030 VSWIR Coax, FP3-040m/c Coax, FP3-052m/c Coax, FP3-130 VSWIR Coax, FP3-158m/c Coax, FP3-210m/c Coax, FP3-234m/c Coax, FP3-235m/c Coax, FP3-240m/c Coax, FP3-291m/c Coax, FP3-319m/c Coax, FP3-500m/c Coax, FP3-501m/c NIR Coax, FP3-507m/c Coax, FP3-508m/c Coax, FP3-510m/c Coax, FP3-511 m/c Coax, FP3-811 m/c Coax, FP3-812 UV Coax, **FP3-895m/c Coax**, FP3-1236m/c Coax, FP3-1240m/c Coax, FP3-1242m/c Coax, FP3-1620m/c Coax, FP3-2040m/c Coax, FP3-2050m/c Coax, FP3-2460m/c Coax
Alvium GM2 Coax	GM2-030 VSWIR Coax, GM2-040m/c Coax, GM2-052m/c Coax, GM2-130 VSWIR Coax, GM2-158m/c Coax, GM2-210m/c Coax, GM2-234m/c Coax, GM2-235m/c Coax, GM2-240m/c Coax, GM2-291m/c Coax, GM2-319m/c Coax, GM2-500m/c Coax, GM2-501m/c NIR Coax, GM2-507m/c Coax, GM2-508m/c Coax, GM2-510m/c Coax, GM2-511 m/c Coax, GM2-811 m/c Coax, GM2-812 UV Coax, **GM2-895m/c Coax**, GM2-1236m/c Coax, GM2-1240m/c Coax, GM2-1242m/c Coax, GM2-1620m/c Coax, GM2-2040m/c Coax, GM2-2050m/c Coax, GM2-2460m/c Coax

Table 25: Supported models

New models
Alvium X-895m/c

Changed features

- Added `Sensor` option for `BinningSelector`. The existence of this option depends on the sensor. Please see the Alvium CSI Cameras User Guide or model data sheets. (**GenICam for CSI-2 Access**)*

New features

- Support for mandatory features according to GenICam SFNC V2.7 (**GenICam for CSI-2 Access**)*
- `LutValueAll` to write a complete LUT in one access (**GenICam for CSI-2 Access**)*

* Available with all Alvium 1800 C models and the corresponding FP3/GM2 Coax models

Resolved issues

Alvium ID	Affected models	Description
806	Color models in **GenICam for CSI-2 Access** mode	Error in color transformation has been fixed.
967	All	`BlackLevel` is wrongly set after loading settings file: The camera incorrectly reports a `BlackLevel` value of `0`, requiring it to be set to a different value and then reset to 0 in order to actually achieve a value of `0`.
1041	X-500m/c, X-501m/c NIR, X-1240m/c, X-2050m/c	DPC (defect pixel correction) is not working when `ReverseY` is turned on: For rolling shutter models, defect pixels may appear after turning on `ReverseY`.

Table 26: Resolved issues

Known issues

Alvium ID	Affected models	Description
617	Models in **GenICam for CSI-2 Access** mode	Feature settings are lost when the camera is closed. After restart, features must be set manually again.
OCT-2247	Models in **GenICam for CSI-2 Access** mode	Features `StatFramesCRCError`, `StatFramesIncomplete`, `StatFramesUnderrun` in the `StreamInformation/ Statistics` category return `0`, incomplete or dropped frames cannot be detected.
338	X-210m/c, X-500m/c, X-501m/c, X-1240m/c, X-2050m/c	If `Acquisition Stop` is executed shortly after `Acquisition Start`, no image is transmitted.
774	Models in **GenICam for CSI-2 Access** mode	Streaming is not possible with changed user set. As a workaround, we recommend to load default user sets. This issue does **only** occur with Nano 4GB Board and Driver 4.6.x.
1117	X-510m/c, X-511m/c, X-811m/c, X-812 UV, X-1242m/c, X-1620m/c, X-2040m/c, X-2460m/c models in **GenICam for CSI-2 Access** mode	Width cannot be adjusted for both, digital binning and sensor binning. Digital binning works correctly in **Direct Register Access** mode and in **Video4Linux Access** mode.

Table 27: Known issues

FW 00.12.00.00611a22

Date of document release: 2023-Jun-15

Supported models

Camera family	Model
Alvium 1500	C-120m/c, C-210m/c, C-500m/c, C-501m/c NIR
Alvium 1800	C-030 VSWIR, C-040m/c, C-052m/c, C-130 VSWIR, C-158m/c, C-234m/c, C-235m/c, C-240m/c, C-291m/c, C-319m/c, C-500m/c, C-507m/c, C-508m/c, C-510m/c, C-511 m/c, C-811 m/c, C-812 UV, C-1236m/c, C-1240m/c, C-1242m/c, C-1620m/c, C-2040m/c, C-2050m/c, C-2460m/c
Alvium FP3 Coax	FP3-030 VSWIR Coax, FP3-040m/c Coax, FP3-052m/c Coax, FP3-130 VSWIR Coax, FP3-158m/c Coax, FP3-210m/c Coax, FP3-234m/c Coax, FP3-235m/c Coax, FP3-240m/c Coax, FP3-291m/c Coax, FP3-319m/c Coax, FP3-500m/c Coax, FP3-501m/c NIR Coax, FP3-507m/c Coax, FP3-508m/c Coax, FP3-510m/c Coax, FP3-511 m/c Coax, FP3-811 m/c Coax, FP3-812 UV Coax, FP3-1236m/c Coax, FP3-1240m/c Coax, FP3-1242m/c Coax, FP3-1620m/c Coax, FP3-2040m/c Coax, FP3-2050m/c Coax, FP3-2460m/c Coax
Alvium GM2 Coax	GM2-030 VSWIR Coax, GM2-040m/c Coax, GM2-052m/c Coax, GM2-130 VSWIR Coax, GM2-158m/c Coax, GM2-210m/c Coax, GM2-234m/c Coax, GM2-235m/c Coax, GM2-240m/c Coax, GM2-291m/c Coax, GM2-319m/c Coax, GM2-500m/c Coax, GM2-501m/c NIR Coax, GM2-507m/c Coax, GM2-508m/c Coax, GM2-510m/c Coax, GM2-511 m/c Coax, GM2-811 m/c Coax, GM2-812 UV Coax, GM2-1236m/c Coax, GM2-1240m/c Coax, GM2-1242m/c Coax, GM2-1620m/c Coax, GM2-2040m/c Coax, GM2-2050m/c Coax, GM2-2460m/c Coax

Table 28: Supported models

New models

No new models were added.

Changed features

- Added `Sensor` option for `BinningSelector`. The existence of this option depends on the sensor. Please see the Alvium CSI Cameras User Guide or model data sheets. (**GenICam for CSI-2 Access**)*

New features

- Support for mandatory features according to GenICam SFNC V2.7 (**GenICam for CSI-2 Access**)*
- `LutValueAll` to write a complete LUT in one access (**GenICam for CSI-2 Access**)*

* Available with all Alvium 1800 C models and the corresponding FP3/GM2 Coax models

Resolved issues

Alvium ID	Affected models	Description
806	Color models in **GenICam for CSI-2 Access** mode	Error in color transformation has been fixed.
967	All	`BlackLevel` is wrongly set after loading settings file: The camera incorrectly reports a `BlackLevel` value of `0`, requiring it to be set to a different value and then reset to 0 in order to actually achieve a value of `0`.
1041	X-500m/c, X-501m/c NIR, X-1240m/c, X-2050m/c	DPC (defect pixel correction) is not working when `ReverseY` is turned on: For rolling shutter models, defect pixels may appear after turning on `ReverseY`.

Table 29: Resolved issues

Known issues

Alvium ID	Affected models	Description
617	Models in **GenICam for CSI-2 Access** mode	Feature settings are lost when the camera is closed. After restart, features must be set manually again.
OCT-2247	Models in **GenICam for CSI-2 Access** mode	Features `StatFramesCRCError`, `StatFramesIncomplete`, `StatFramesUnderrun` in the `StreamInformation/ Statistics` category return `0`, incomplete or dropped frames cannot be detected.
338	X-210m/c, X-500m/c, X-501m/c, X-1240m/c, X-2050m/c	If `Acquisition Stop` is executed shortly after `Acquisition Start`, no image is transmitted.
774	Models in **GenICam for CSI-2 Access** mode	Streaming is not possible with changed user set. As a workaround, we recommend to load default user sets. This issue does **only** occur with Nano 4GB Board and Driver 4.6.x.
1117	X-510m/c, X-511m/c, X-811m/c, X-812 UV, X-1242m/c, X-1620m/c, X-2040m/c, X-2460m/c models in **GenICam for CSI-2 Access** mode	Width cannot be adjusted for both, digital binning and sensor binning. Digital binning works correctly in **Direct Register Access** mode and in **Video4Linux Access** mode.

Table 30: Known issues

FW 00.11.00.9cf0c21e | 2nd update

Date of **2nd document update**: 2023-Apr-21
Date of document release: 2022-Nov-14

Supported models

Camera family	Model
Alvium 1500	C-050m/c, C-120m/c, C-210m/c, C-500m/c, C-501m/c NIR
Alvium 1800	C-030 VSWIR, C-040m/c, C-052m/c, C-130 VSWIR, C-158m/c, C-234m/c, C-235m/c, C-240m/c, C-291m/c, C-319m/c, C-500m/c, C-507m/c, C-508m/c, C-510m/c, C-511 m/c, C-811 m/c, C-812 UV, C-1236m/c, C-1240m/c, C-1242m/c, C-1620m/c, C-2040m/c, C-2050m/c, C-2460m/c
Alvium FP3 Coax	FP3-030 VSWIR Coax, FP3-040m/c Coax, FP3-052m/c Coax, FP3-130 VSWIR Coax, FP3-158m/c Coax, FP3-210m/c Coax, FP3-234m/c Coax, FP3-235m/c Coax, FP3-240m/c Coax, FP3-291m/c Coax, FP3-319m/c Coax, FP3-500m/c Coax, FP3-501m/c NIR Coax, FP3-507m/c Coax, FP3-508m/c Coax, FP3-510m/c Coax, FP3-511 m/c Coax, FP3-811 m/c Coax, FP3-812 UV Coax, FP3-1236m/c Coax, FP3-1240m/c Coax, FP3-1242m/c Coax, FP3-1620m/c Coax, FP3-2040m/c Coax, FP3-2050m/c Coax, FP3-2460m/c Coax
Alvium GM2 Coax	GM2-030 VSWIR Coax, GM2-040m/c Coax, GM2-052m/c Coax, GM2-130 VSWIR Coax, GM2-158m/c Coax, GM2-210m/c Coax, GM2-234m/c Coax, GM2-235m/c Coax, GM2-240m/c Coax, GM2-291m/c Coax, GM2-319m/c Coax, GM2-500m/c Coax, GM2-501m/c NIR Coax, GM2-507m/c Coax, GM2-508m/c Coax, GM2-510m/c Coax, GM2-511 m/c Coax, GM2-811 m/c Coax, GM2-812 UV Coax, GM2-1236m/c Coax, GM2-1240m/c Coax, GM2-1242m/c Coax, GM2-1620m/c Coax, GM2-2040m/c Coax, GM2-2050m/c Coax, GM2-2460m/c Coax

Table 31: Supported models

New models

Alvium 1800 C-510m/c

Alvium FP3 Coax: FP3-030 VSWIR Coax, FP3-040m/c Coax, FP3-052m/c Coax, FP3-130 VSWIR Coax, FP3-158m/c Coax, FP3-210m/c Coax, FP3-234m/c Coax, FP3-235m/c Coax, FP3-240m/c Coax, FP3-291m/c Coax, FP3-319m/c Coax, FP3-500m/c Coax, FP3-501m/c NIR Coax, FP3-507m/c Coax, FP3-508m/c Coax, FP3-510 m/c Coax, FP3-511 m/c Coax, FP3-811 m/c Coax, FP3-812 UV Coax, FP3-1236m/c Coax, FP3-1240m/c Coax, FP3-1242m/c Coax, FP3-1620m/c Coax, FP3-2040m/c Coax, FP3-2050m/c Coax, FP3-2460m/c Coax

Alvium GM-2 Coax: GM2-030 VSWIR Coax, GM2-040m/c Coax, GM2-052m/c Coax, GM2-130 VSWIR Coax, GM2-158m/c Coax, GM2-210m/c Coax, GM2-234m/c Coax, GM2-235m/c Coax, GM2-240m/c Coax, GM2-291m/c Coax, GM2-319m/c Coax, GM2-500m/c Coax, GM2-501m/c NIR Coax, GM2-507m/c Coax, GM2-508m/c Coax, GM2-510m/c Coax, GM2-511 m/c Coax, GM2-811 m/c Coax, GM2-812 UV Coax, GM2-1236m/c Coax, GM2-1240m/c Coax, GM2-1242m/c Coax, GM2-1620m/c Coax, GM2-2040m/c Coax, GM2-2050m/c Coax, GM2-2460m/c Coax

Changed features

- Increments for Offset X and Offset Y for camera models with Sony IMX global shutter sensor

- Reduced options for SoftwareSignalSelector (**GenICam for CSI-2 Access**)*

* Available with Alvium 1800 C-234, C-235, C-500, C-507, C-511, C-1236, C-2050 and the corresponding FP3/GM2 Coax models

New features

Available with **GenICam for CSI-2 Access**:*

- Counter features in the `CounterAndTimerControl` category

- `LineDebounceDuration` and `LineDebounceMode` in the `DeviceControl` category

* Available with Alvium 1800 C-234, C-235, C-500, C-507, C-511, C-1236, C-2050 and the corresponding
 FP3/GM2 Coax models

Resolved issues

Alvium ID	Affected models	Description
806	Color models in **GenICam for CSI-2 Access** mode	Error in color transformation has been fixed.

Table 32: Resolved issues

Known issues

Alvium ID	Affected models	Description
617	Models in **GenICam for CSI-2 Access** mode	Feature settings are lost when the camera is closed. After restart, features must be set manually again.
OCT-2247	Models in **GenICam for CSI-2 Access** mode	Features `StatFramesCRCError`, `StatFramesIncomplete`, `StatFramesUnderrun` in the `StreamInformation/ Statistics` category return `0`, incomplete or dropped frames cannot be detected.
338	X-210m/c, X-500m/c, X-501m/c, X-1240m/c, X-2050m/c	If `Acquisition Stop` is executed shortly after `Acquisition Start`, no image is transmitted.
	X = Placeholder for 1500 C, 1800 C, FP3 Coax, or GM2 Coax where models are available.	

Table 33: Known issues

FW 00.11.00.9cf0c21e | 1st update

Date of **document update**: 2022-Dec-19
Date of document release: 2022-Nov-14

Note: Data of this note entry is outdated. Please see

Supported models

Camera family	Model
Alvium 1500	C-050m/c, C-120m/c, C-210m/c, C-500m/c, C-501m/c NIR
Alvium 1800	C-030 VSWIR, C-040m/c, C-052m/c, C-130 VSWIR, C-158m/c, C-234m/c, C-235m/c, C-240m/c, C-291m/c, C-319m/c, C-500m/c, C-507m/c, C-508m/c, C-510m/c, C-511 m/c, C-811 m/c, C-812 UV, C-1236m/c, C-1240m/c, C-1242m/c, C-1620m/c, C-2040m/c, C-2050m/c, C-2460m/c

Table 34: Supported models

New models

Alvium 1800 C-510m/c

Changed features

- Increments for Offset X and Offset Y for camera models with Sony IMX global shutter sensor
- Reduced options for SoftwareSignalSelector (**GenICam for CSI-2 Access**)*

* Available with Alvium 1800 C-234, C-235, C-500, C-507, C-511, C-1236, C-2050

New features

Available with **GenICam for CSI-2 Access**:*

- Counter features in the `CounterAndTimerControl` category
- `LineDebounceDuration` and `LineDebounceMode` in the `DeviceControl` category

* Available with Alvium 1800 C-234, C-235, C-500, C-507, C-511, C-1236, C-2050

Resolved issues

Alvium ID	Affected models	Description
806	Color models in **GenICam for CSI-2 Access** mode	Error in color transformation has been fixed.

Table 35: Resolved issues

Known issues

Alvium ID	Affected models	Description
617	Models in **GenICam for CSI-2 Access** mode	Feature settings are lost when the camera is closed. After restart, features must be set manually again.
OCT-2247	Models in **GenICam for CSI-2 Access** mode	Features `StatFramesCRCError`, `StatFramesIncomplete`, `StatFramesUnderrun` in the `StreamInformation/Statistics` category return 0, incomplete or dropped frames cannot be detected.
338	1500 C-210m/c, 1500 C-500m/c, 1500 C-501m/c, 1800 C-1240m/c, 1800 C-2050m/c	If `Acquisition Stop` is executed shortly after `Acquisition Start`, no image is transmitted.

Table 36: Known issues

FW 00.11.00.9cf0c21e

Date of document release: 2022-Nov-14

Note: Data of this note entry is outdated. Please see

Supported models

Camera family	Model
Alvium 1500	C-050m/c, C-120m/c, C-210m/c, C-500m/c, C-501m/c NIR
Alvium 1800	C-030 VSWIR, C-040m/c, C-052m/c, C-130 VSWIR, C-158m/c, C-234m/c, C-235m/c, C-240m/c, C-291m/c, C-319m/c, C-500m/c, C-507m/c, C-508m/c, C-510m/c, C-511 m/c, C-811 m/c, C-812 UV, C-1236m/c, C-1240m/c, C-1242m/c, C-1620m/c, C-2040m/c, C-2050m/c, C-2460m/c

Table 37: Supported models

New models

Alvium 1800 C-510m/c

Changed features

- Increments for Offset X and Offset Y for camera models with Sony IMX global shutter sensor
- Reduced options for SoftwareSignalSelector (**GenICam for CSI-2 Access**)*

* Available with Alvium 1800 C-234, C-235, C-500, C-507, C-511, C-1236, C-2050

New features

Available with **GenICam for CSI-2 Access**:*

- **To be removed**: `ActionControl` category
- Counter features in the `CounterAndTimerControl` category
- `LineDebounceDuration` and `LineDebounceMode` in the `DeviceControl` category

* Available with Alvium 1800 C-234, C-235, C-500, C-507, C-511, C-1236, C-2050

Resolved issues

Alvium ID	Affected models	Description
806	Color models in **GenICam for CSI-2 Access** mode	Error in color transformation has been fixed.

Table 38: Resolved issues

Known issues

Alvium ID	Affected models	Description
617	Models in **GenICam for CSI-2 Access** mode	Feature settings are lost when the camera is closed. After restart, features must be set manually again.
OCT-2247	Models in **GenICam for CSI-2 Access** mode	Features `StatFramesCRCError`, `StatFramesIncomplete`, `StatFramesUnderrun` in the `StreamInformation/Statistics` category return `0`, incomplete or dropped frames cannot be detected.
338	1500 C-210m/c, 1500 C-500m/c, 1500 C-501m/c, 1800 C-1240m/c, 1800 C-2050m/c	If `Acquisition Stop` is executed shortly after `Acquisition Start`, no image is transmitted.

Table 39: Known issues

FW 00.10.00.6c9062b1 | update

Date of **note updates**: 2022-Aug-16
Date of document release: 2022-Jul-20

Supported models

Camera family	Model
Alvium 1500	C-050m/c, C-120m/c, C-210m/c, C-500m/c, C-501m/c NIR
Alvium 1800	C-030 VSWIR, C-040m/c, C-052m/c, C-130 VSWIR, C-158m/c, C-235m/c, C-240m/c, C-291m/c, C-319m/c, C-500m/c, C-507m/c, C-508m/c, C-511 m/c, C-811 m/c, C-812 UV, C-1236m/c, C-1240m/c, C-1242m/c, C-1620m/c, C-2040m/c, C-2050m/c, C-2460m/c

Table 40: Supported models

New models

Alvium 1800 C-234m/c, C-812 UV

Changed features

In previous firmware versions, Black Level values were adjusted to the pixel formats: 8-bit values for 8-bit pixel formats, 10 for 10, and 12 for 12. With this firmware update, the representation of Black Level is independent from the pixel format: 12-bit values are used for all pixel formats. Therefore, you may have to adjust your settings used with previous firmware versions.

The maximum value for Gain was increased from 24 to 48 dB for all models with Sony IMX global shutter sensors. **Added information**: For Alvium 1800 C-030 VSWIR and C-130 VSWIR, the maximum Gain value was increased to 42 dB.

Added information: FPNC was disabled for Alvium 1800 C-030 VSWIR and 1800 C-130 VSWIR models.

Resolved issues

Alvium ID	Affected models	Description
721	Models in **GenICam for CSI-2 Access** mode	`TestPattern` has been visible on CSI-2 cameras, but the feature was not working properly. The feature has been removed.

Table 41: Resolved issues

Known issues

Alvium ID	Affected models	Description
617	Models in **GenICam for CSI-2 Access** mode	Feature settings are lost when the camera is closed. After restart, features must be set manually again.
OCT-2247	Models in **GenICam for CSI-2 Access** mode	Features `StatFramesCRCError`, `StatFramesIncomplete`, `StatFramesUnderrun` in the `StreamInformation/Statistics` category return `0`, incomplete or dropped frames cannot be detected.
338	1500 C-210m/c, 1500 C-500m/c, 1500 C-501m/c, 1800 C-1240m/c, 1800 C-2050m/c	If `Acquisition Stop` is executed shortly after `Acquisition Start`, no image is transmitted.

Table 42: Known issues

FW 00.10.00.6c9062b1

Date of document release: 2022-Jul-20

Note: Data of this note entry is outdated. Please see

Supported models

Camera family	Model
Alvium 1500	C-050m/c, C-120m/c, C-210m/c, C-500m/c, C-501m/c NIR
Alvium 1800	C-030 VSWIR, C-040m/c, C-052m/c, C-130 VSWIR, C-158m/c, C-235m/c, C-240m/c, C-291m/c, C-319m/c, C-500m/c, C-507m/c, C-508m/c, C-511 m/c, C-811 m/c, C-812 UV, C-1236m/c, C-1240m/c, C-1242m/c, C-1620m/c, C-2040m/c, C-2050m/c, C-2460m/c

Table 43: Supported models

New models

Alvium 1800 C-234m/c, C-812 UV

Changed features

In previous firmware versions, Black Level values were adjusted to the pixel formats: 8-bit values for 8-bit pixel formats, 10 for 10, and 12 for 12. With this firmware update, the representation of Black Level is independent from the pixel format: 12-bit values are used for all pixel formats. Therefore, you may have to adjust your settings used with previous firmware versions.

The maximum value for Gain was increased from 24 to 48 dB for all models with Sony IMX global shutter sensors.

New features

Available with Alvium 1800 C-500, C-507, C-511, C-1236, C-2050, using **GenICam for CSI-2 Access**:

- Serial Hub subcategory for I/O control by UART
- Software Signal Control subcategory to enable external devices to trigger actions within the camera by software commands (The features in this category are still in the testing phase and not fully validated.)

Resolved issues

Alvium ID	Affected models	Description
721	Models in **GenICam for CSI-2 Access** mode	`TestPattern` has been visible on CSI-2 cameras, but the feature was not working properly. The feature has been removed.

Table 44: Resolved issues

Known issues

Alvium ID	Affected models	Description
617	Models in **GenICam for CSI-2 Access** mode	Feature settings are lost when the camera is closed. After restart, features must be set manually again.

Table 45: Known issues (sheet 1 of 2)

Alvium ID	Affected models	Description
OCT-2247	Models in **GenICam for CSI-2 Access** mode	Features `StatFramesCRCError`, `StatFramesIncomplete`, `StatFramesUnderrun` in the `StreamInformation/ Statistics` category return `0`, incomplete or dropped frames cannot be detected.
338	1500 C-210m/c, 1500 C-500m/c, 1500 C-501m/c, 1800 C-1240m/c, 1800 C-2050m/c	If `Acquisition Stop` is executed shortly after `Acquisition Start`, no image is transmitted.

Table 45: Known issues (sheet 2 of 2)

FW 00.08.01.13f227a4

Date of document release: 2022-May-16

Supported models

Camera family	Model
Alvium 1500	C-120m/c, C-210m/c, C-500m/c, C-501m/c NIR
Alvium 1800	C-500m/c

Table 46: Supported models

New models

No new models were added.

New features

No features were added.

Resolved issues

Alvium ID	Affected models	Description
775	1500 C-120c, 1500 C-210c, 1500 C-500c, 1500 C-501c NIR, 1800 C-500c	Wrong `AutoWhiteBalance` measurement was fixed.

Table 47: Resolved issues

Known issues

Alvium ID	Affected models	Description
721	Models in **GenICam for CSI-2 Access** mode	`TestPattern` is visible on CSI-2 cameras, but the feature is not working properly. If the test pattern value is changed, the embedded board must be rebooted twice before the camera can be operated again.
617	Models in **GenICam for CSI-2 Access** mode	Feature settings are lost when the camera is closed. After restart, features must be set manually again.

Table 48: Known issues (sheet 1 of 2)

Alvium ID	Affected models	Description
OCT-2247	Models in **GenICam for CSI-2 Access** mode	Features `StatFramesCRCError`, `StatFramesIncomplete`, `StatFramesUnderrun` in the `StreamInformation/Statistics` category return `0`, incomplete or dropped frames cannot be detected.
338	1500 C-210m/c, 1500 C-500m/c, 1500 C-501m/c, 1800 C-1240m/c, 1800 C-2050m/c	If `Acquisition Stop` is executed shortly after `Acquisition Start`, no image is transmitted.

Table 48: Known issues (sheet 2 of 2)

FW 00.08.00.6727174b

Date of document release: 2022-Mar-21

Supported models

Camera family	Model
Alvium 1500	C-050m/c, C-120m/c, C-210m/c, C-500m/c, C-501m/c NIR
Alvium 1800	C-030 VSWIR, C-040m/c, C-052m/c, C-130 VSWIR, C-158m/c, C-240m/c, C-291m/c, C-319m/c, C-507m/c, C-508m/c, C-500m/c, C-511 m/c, C-811 m/c, C-1236m/c, C-1240m/c, C-1242m/c, C-1620m/c, C-2040m/c, C-2050m/c, C-2460m/c

Table 49: Supported models

New models

Alvium 1800 C-052m/c, C-291m/c, C-500m/c

New features

Contents updated subsequently

The information on support for 12-bit pixel formats for cameras with 10-bit sensors was added on 2023-Nov-21.

GenICam for CSI-2 Access for 1800 C-500, C-507, C-511, C-1236, C-2050

This includes the following features:

- 12-bit for `PixelFormat` for cameras with 10-bit sensors
- Auto Mode Regions feature group
- Contrast
- Convolution filters for image processing
- Counter and Timer Control category
- Digital binning
- Exposure Active Mode
- Look-up table (LUT)
- Shutter Mode
- Stream Information features for MIPI CSI-2
- Transport Layer Control: Additional features for CSI-2

- Triggering: Additional features and options
- User Sets

Known issues

Alvium ID	Affected models	Description
721	Models in **GenICam for CSI-2 Access** mode	`TestPattern` is visible on CSI-2 cameras, but the feature is not working properly. If the test pattern value is changed, the embedded board must be rebooted twice before the camera can be operated again.
617	Models in **GenICam for CSI-2 Access** mode	Feature settings are lost when the camera is closed. After restart, features must be set manually again.
OCT-2247	Models in **GenICam for CSI-2 Access** mode	Features `StatFramesCRCError`, `StatFramesIncomplete`, `StatFramesUnderrun` in the `StreamInformation/Statistics` category return 0, incomplete or dropped frames cannot be detected.
338	1500 C-210m/c, 1500 C-500m/c, 1500 C-501m/c, 1800 C-1240m/c, 1800 C-2050m/c	If `Acquisition Stop` is executed shortly after `Acquisition Start`, no image is transmitted.

Table 50: Known issues

FW 00.07.00.81db3896

Date of document release: 2021-Dec-10

Note: Binning controls were stated as new features in the version from 2021-Dec-10 of this document. This information had to be removed from the document because the current camera driver does not support binning.

Supported models

Camera family	Model
Alvium 1500	C-050m/c, C-120m/c, C-210m/c, C-500m/c, C-501m/c NIR
Alvium 1800	C-030 VSWIR, C-040m/c, C-130 VSWIR, C-158m/c, C-240m/c, C-319m/c, C-507m/c, C-508m/c, C-511 m/c, C-811 m/c, C-1236m/c, C-1240m/c, C-1242m/c, C-1620m/c, C-2040m/c, C-2050m/c, C-2460m/c

Table 51: Supported models

New models

Alvium 1800 C-030 VSWIR, C-130 VSWIR

New features

- Configurable I2C address
- Monochrome image output from color models

Resolved issues

Alvium ID	Affected models	Description
395	All	After `Acquisition Stop` has been executed on a camera streaming in RGB888 (RGB3) pixel format, acquisition cannot be restarted if `Exposure Auto` is enabled. The camera must be rebooted.

Table 52: Resolved issues

Known issues

Alvium ID	Affected models	Description
338	1500 C-210m/c, 1500 C-500m/c, 1500 C-501m/c, 1800 C-1240m/c, 1800 C-2050m/c	If `Acquisition Stop` is executed shortly after `Acquisition Start`, no image is transmitted.

Table 53: Known issues

FW 00.06.00.35992

Date of document release: 2021-Aug-13

Supported models

Camera family	Model
Alvium 1500	C-050m/c, C-120m/c, C-210m/c, C-500m/c, C-501m/c NIR
Alvium 1800	C-040m/c, C-158m/c, C-240m/c, C-319m/c, C-507m/c, C-508m/c, C-511 m/c, C-811 m/c, C-1236m/c, C-1240m/c, C-1242m/c, C-1620m/c, C-2040m/c, C-2050m/c, C-2460m/c

Table 54: Supported models

New models

Alvium 1500 C-501m/c NIR, 1800 C-511, C-811, C-1242, C-1620, C-2040

New features

No features were added.

Resolved issues

Alvium ID	Affected models	Description
553	1800 C-2460m/c	Calculated frame rates for small ROIs are not exact.

Table 55: Resolved issues

Known issues

Alvium ID	Affected models	Description
338	1500 C-210m/c, 1500 C-500m/c, 1500 C-501m/c, 1800 C-1240m/c, 1800 C-2050m/c	If `Acquisition Stop` is executed shortly after `Acquisition Start`, no image is transmitted.
395	All	After `Acquisition Stop` has been executed on a camera streaming in RGB888 (RGB3) pixel format, acquisition cannot be restarted if `Exposure Auto` is enabled. The camera must be rebooted.

Table 56: Known issues

FW 00.04.00.34658

Date of document release: 2021-May-03

Supported models

Camera family	Model
Alvium 1500	C-120m/c, C-210m/c, C-500m/c
Alvium 1800	C-040m/c, C-158m/c, C-240m/c, C-319m/c, C-507m/c, C-508m/c, C-1236m/c, C-1240m/c, C-2050 m/c, C-2460m/c

Table 57: Supported models

New models

Alvium 1800 C-2460m/c

New features

• Exposure Active controls
• Line Configuration for I/O lines
• Line Status for I/O lines

Resolved issues

Alvium ID	Affected models	Description
387	1500 C-120m/c, 1500 C-210m/c, 1500 C-500m/c, 1800 C-2050m/c	When the ROI is reduced during streaming, the frame rate remains the same. The correct frame rate can be adjusted if streaming is stopped and the pixel format is selected again.

Table 58: Resolved issues

Known issues

Alvium ID	Affected models	Description
338	1500 C-210m/c, 1500 C-500m/c, 1800 C-1240m/c, 1800 C-2050m/c	If `Acquisition Stop` is executed shortly after `Acquisition Start`, no image is transmitted.
395	All	After `Acquisition Stop` has been executed on a camera streaming in RGB888 (RGB3) pixel format, acquisition cannot be restarted if `Exposure Auto` is enabled. The camera must be rebooted.
553	1800 C-2460m/c	Calculated frame rates for small ROIs are not exact.

Table 59: Known issues

FW 00.03.00.31919

Date of document release: 2020-Dec-08

Supported models

Camera family	Model
Alvium 1500	C-050m/c, C-120m/c, C-210m/c, C-500m/c
Alvium 1800	C-040m/c, C-158m/c, C-240m/c, C-319m/c, C-507m/c, C-508m/c, C-1236m/c, C-1240m/c, C-2050 m/c

Table 60: Supported models

New models

No models were added.

New features

- Exposure Auto limits (minimum and maximum values)
- Gain Auto limits (minimum and maximum values)
- Intensity Auto controls (precedence and target value controls)
- Frame rate control
- Sensor timing optimizations increase maximum frame rates for selected models
- Triggering over CSI-2 (Frame Start)
- Updated default values for auto white balance
- Fixed pattern noise correction (FPNC) support for all models, except Alvium 1800 C-2050
- Defect pixel correction (DPC, factory calibrated) for 1800 C-2050m/c models

Resolved issues

Alvium ID	Affected models	Description
299	1800 C-1236m/c, 1800 C-1240m/c, 1800 C-2050m/c	Fixed issue with `Acquisition Stop` command.

Table 61: Resolved issues

Known issues

Alvium ID	Affected models	Description
338	1500 C-210m/c, 1500 C-500m/c, 1800 C-1240m/c, 1800 C-2050m/c	If `Acquisition Stop` is executed shortly after `Acquisition Start`, no image is transmitted.
387	1500 C-120m/c, 1500 C-210m/c, 1500 C-500m/c, 1800 C-2050m/c	When the ROI is reduced during streaming, the frame rate remains the same. The correct frame rate can be adjusted if streaming is stopped and the pixel format is selected again.
395	All	After `Acquisition Stop` has been executed on a camera streaming in RGB888 (RGB3) pixel format, acquisition cannot be restarted if `Exposure Auto` is enabled. The camera must be rebooted.

Table 62: Known issues

FW 00.02.00.29974

Date of document release: 2020-Jul-23

Supported models

Camera family	Model
Alvium 1500	C-050m/c, C-120m/c, C-210m/c, C-500m/c
Alvium 1800	C-040m/c, C-158m/c, C-240m/c, C-319m/c, C-507m/c, C-508m/c, C-1236m/c, C-1240m/c, C-2050 m/c

Table 63: Supported models

New models

Alvium 1800 C-240m/c, C-508m/c, C-1240m/c

New features

No features were added.

Resolved issues

No issues were fixed.

Known issues

Alvium ID	Affected models	Description
299	1800 C-1236m/c, 1800 C-1240m/c, 1800 C-2050m/c	`Acquisition Stop` command during sensor readout can stop the camera.
338	1500 C-210m/c, 1500 C-500m/c, 1800 C-1240m/c, 1800 C-2050m/c	If `Acquisition Stop` is executed shortly after `Acquisition Start`, the captured frame is discarded.

Table 64: Known issues

FW 00.01.03.29478

Date of document release: 2020-May-07

Supported models

Camera family	Model
Alvium 1500	C-050m/c, C-120m/c, C-210m/c, C-500m/c
Alvium 1800	C-040m/c, C-158m/c, C-319m/c, C-507m/c, C-1236m/c, C-2050 m/c

Table 65: Supported models

New models

Alvium 1800 C-319m/c, C-507m/c, C-1236m/c, C-2050m/c

New features

Defect pixel correction (DPC, factory calibrated, except for 1800 C-2050m/c models)

Resolved issues

Alvium ID	Affected models	Description
49	All	Fixed first black image in qv4l2.
79	All	Fixed issues with `Offset X` for `Offset Y`.

Table 66: Resolved issues

Known issues

Alvium ID	Affected models	Description
299	1800 C-1236m/c, 1800 C-1240m/c, 1800 C-2050m/c	`Acquisition Stop` command during sensor readout can stop the camera.
395	All	After `Acquisition Stop` has been executed on a camera streaming in RGB888 (RGB3) pixel format, acquisition cannot be restarted if `Exposure Auto` is enabled. The camera must be must be rebooted.

Table 67: Known issues

FW 00.01.02.28100

Date of document release: 2019-Dec-03

Supported models

Camera family	Model
Alvium 1500	C-050m/c, C-120m/c, C-210m/c, C-500m/c
Alvium 1800	C-040m/c, C-158m/c

Table 68: Supported models

New models

Alvium 1500 C-210m/c
Alvium 1800 C-040m/c, C-158m/c

New features

- **Gamma**
- **Saturation**
- ROI: Adjustable width
- Mirror image

Resolved issues

No issues were fixed.

Known issues

Alvium ID	Affected models	Description
49	All	When streaming with qv4L2, the first image is black.
79	All	Large values for **Offset X** for **Offset Y** may not work properly.

Table 69: Known issues

FW 00.01.00.26405

Date of document release: 2019-Jul-01

Supported models

Camera family	Model
Alvium 1500	C-050m/c, C-120m/c, C-500m/c

Table 70: Supported models

New models

Initial commercial release of Alvium 1500 C-050m/c, C-120m/c, C-500m/c

Known issues

No issues have been discovered.

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