Allied Vision

5GIGE FIRMWARE RELEASE NOTES

Alvium G5/G5X cameras

Helpful downloads

- Operating and updating cameras: Alvium G5/G5X Cameras User Guide
- Features: Alvium Features Reference
  www.alliedvision.com/en/support/technical-documentation/alvium-gige-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 G5/G5X model

The following table lists the latest firmware version for your Alvium G5/G5X camera.

Models	FW version	Document release
Alvium G5-030 VSWIR, -052m/c, -130 VSWIR, -203m/c, -291m/c, -500m/c, -507m/c Pol, -508m/c, -508m/c Pol, -510m/c, -511m/c, -811m/c, -812 UV, -1240m/c, -1242m/c, -1620m/c, -2040m/c, G5-2050m/c, G5-2460m/c	FW 00.13.01.794391f9	2024-Mar-25
Alvium G5X-2050m/c, G5X-2460m/c	FW 00.12.00.00611a22 | 4th update	2023-Nov-21

Table 3: Latest firmware version by model

FW 00.13.01.794391f9

Date of document release: 2024-Mar-25

Supported models

Camera family	Model
Alvium	Alvium G5-030 VSWIR, -052m/c, -130 VSWIR, -203m/c, -240m/c, -291m/c,-500m/c, -507m/c Pol, -508m/c, -508m/c Pol, -510m/c, -511m/c, -811m/c, -812 UV, -1240m/c, -1242m/c, -1620m/c, -2040m/c, G5-2050m/c, G5-2460m/c

Table 4: Supported models

New model

No new models have been added.

Changed features

- RFC 3927 compliant DHCP
- *FrameActive* and *ReadOutActive* options have been added for `LineSource` in `DigitalIOControl`.
- *EventFrameTriggerMissed, EventPtpSyncLocked*, and *EventPtpSyncLost* options have been added for `EventsData` in `EventControl`.
- Support by RS (rolling shutter) models has been added for *EventFrameTriggerWait* for `EventsData` in `EventControl`.

New features

- `DevicePowerSavingMode` in `DeviceControl`
- `TestPattern` in `ImageFormatControl`

Resolved issues

No known issue shave been resolved.

Known issues

Alvium ID	Affected models	Description
338	G5-500m/c, G5-1240m/c, G5-2050m/c	If `AcquisitionStop` is executed shortly after `AcquisitionStart`, no image is transmitted.
507	All	*SingleFrame* mode does not work with NI Max: The last smaller packet and the trailer are missing.
856	All	DHCP server timeout issue: Acquisition may stop. Typically, temperature status still works.
961	All	Running with GigE Validation Framework v2.2 RC4, Alvium GigE cameras failed DataPacketHeaders_ByteOrder test.
978	All	If an `AcquisitionStop` command is executed at the same point in time as a change for a sequencer set, the sequencer cannot be started again.

Table 5: Known issues (sheet 1 of 2)

Alvium ID	Affected models	Description
1320	All	`ChunkLineStatusAll` is reversed for Line 3. (The value for `LineStatusAll` in `DigitalIOControl` is correct.)
1324	G5-500m/c, G5-1240m/c, G5-2050m/c	This applies with `AcquisitionMode` set to *MultiFrame*: If cameras have been triggered by `AcquisitionStart`, the streaming stops when parameters are changed.

Table 5: Known issues (sheet 2 of 2)

FW 00.13.00.71d891fe | 2nd update

Date of **2nd document update**: 2024-Feb-26
Date of 1st document update: 2023-Jan-03
Date of document release: 2023-Dec-13

Removed contents

Alvium G5X-2050m/c and G5X-2460m/c models are not supported by FW 00.13.x, but by FW 00.12.x, see

Dropped frames with GEV versions

Until firmware version 11.0, Alvium GigE cameras support GigE Vision Standard (GEV) V1.2. From firmware version 12.0, they support V2.2.

GEV V2.x allows to set flags `PREVIOUS BLOCK DROPPED` to notify the host of frames dropped on the camera. From firmware V13.0, Alvium GigE cameras drop frames on the camera when data is about to overflow the image buffer. This way, no corrupted images are sent to the camera.

Therefore, Alvium GigE cameras behave differently from previous GigE cameras by Allied Vision.

Please observe that you increase the risk of dropped frames when you use Flow Control back pressure mechanism or when you operate cameras in burst mode.

Previous GigE cameras, such as Mako, Manta, or Prosilica GT
With GEV V1.x, `StatFrameDropped` lists frames dropped on the host.

Alvium G1 or G5/G5X
With GEV V1.x, `StatFrameDropped` lists frames dropped on the host.

With GEV V2.x, `StatFrameDropped` lists frames dropped on the host as well.
In addition, `FrameStatisticsCounter` lists frames dropped **on the camera** (when `FrameStatisticsCounterSelector` is set to *Missed* or *Bad*).

This applies when Alvium GigE cameras are operated using Vimba X GigE TL. Alvium GigE cameras switch back to GEV V1.x mode with Vimba GigE TL. This way, they can be used to easily replace previous GigE cameras in existing applications.

This note was added with document updates for

Supported models

Camera family	Model
Alvium	Alvium G5-030 VSWIR, -052m/c, -130 VSWIR, -203m/c, -240m/c, -291m/c,-500m/c, **-507m/c Pol**, -508m/c, -508m/c Pol, -510m/c, -511m/c, -811m/c, -812 UV, -1240m/c, -1242m/c, -1620m/c, -2040m/c, G5-2050m/c, G5-2460m/c

Table 6: Supported models

New model
Alvium G5-507m/c Pol

Changed features

- Alvium G5-1240m/c and G5-2050m/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.
- ROI frame rates have been increased.
- Minimum exposure times have been reduced for all Alvium G5 models, except for G5-500, G5-1240, and G5-2050 models.
- Sensor binning has been added for G5-203m, 240m, -291m, -508m, and -508m Pol models.
- Related to known issue Alvium ID 253: Removed IntensityControllerOutliersBright and IntensityControllerOutliersDark from AutoModeControl.

New features

- 2.5GBase-T mode
- `ChunkDataControl` features
- `ClockTriggerFrequency` and `ClockTriggerTimestamp` to synchronize triggering for several cameras
- `DeviceTemperatureStatus` as an indicator to take measures before the camera is shut off when the maximum operating temperature is exceeded
- `EventControl` features
- `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 `Height` and `OffsetY`.
1171	Alvium G5-2050m/c	If user sets are loaded where `ReverseY` = *True* and `OffsetY` is configured, the output image is distorted.
1178	All	Issues with `GevSupportedOptionSelector`: Values are not displayed in alphabetical order. The support status is not displayed correctly. Displayed FW versions do not reflect actual values.

Table 7: Resolved issues

Known issues

Alvium ID	Affected models	Description
338	G5-500m/c, G5-1240m/c, G5-2050m/c	If `AcquisitionStop` is executed shortly after `AcquisitionStart`, no image is transmitted.
507	All	*SingleFrame* mode does not work with NI Max: The last smaller packet and the trailer are missing.
856	All	DHCP server timeout issue: Acquisition may stop. Typically, temperature status still works.
961	All	Running with GigE Validation Framework v2.2 RC4, Alvium GigE cameras failed DataPacketHeaders_ByteOrder test.
978	All	If an `AcquisitionStop` command is executed at the same point in time as a change for a sequencer set, the sequencer cannot be started again.
1320	**All**	**ChunkLineStatusAll is reversed for Line 3. (The value for LineStatusAll in DigitalIOControl is correct.)**
1324	**G5-500m/c, G5-1240m/c, G5-2050m/c**	**This applies with AcquisitionMode set to MultiFrame: If cameras have been triggered by AcquisitionStart, the streaming stops when parameters are changed.**

Table 8: Known issues

FW 00.13.00.71d891fe | 1st update

Date of **1st document update**: 2024-Jan-03
Date of document release: 2023-Dec-13

Supported models

Camera family	Model
Alvium	Alvium G5-030 VSWIR, G5-052m/c, G5-130 VSWIR, G5-203m/c, G5-240m/c, G5-291m/c, G5-500m/c, G5-508m/c, G5-508m/c Pol, G5-510m/c, G5-511m/c, G5-811m/c, G5-812 UV, G5-1240m/c, G5-1242m/c, G5-1620m/c, G5-2040m/c, G5-2050m/c, G5-2460m/c

Table 9: Supported models

New model

No new models were added.

Changed features

- Alvium G5-1240m/c and G5-2050m/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.
- ROI frame rates have been increased.
- Minimum exposure times have been reduced for all Alvium G5 models, except for G5-500, G5-1240, and G5-2050 models.

- Sensor binning has been added for G5-**203m**, 240m, -291m, -508m, and -508m Pol models.
- Related to known issue Alvium ID 253: Removed `IntensityControllerOutliersBright` and `IntensityControllerOutliersDark` from `AutoModeControl`.

New features

- 2.5GBase-T mode
- `ChunkDataControl` features
- `ClockTriggerFrequency` and `ClockTriggerTimestamp` to synchronize triggering for several cameras
- `DeviceTemperatureStatus` as an indicator to take measures before the camera is shut off when the maximum operating temperature is exceeded
- `EventControl` features
- `LensShadingCorrection` features to compensate for a decrease in brightness towards the image corners
- `LUTLoadAl`l 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 `Height` and `OffsetY`.
1171	Alvium G5-2050m/c	If user sets are loaded where `ReverseY` = *True* and `OffsetY` is configured, the output image is distorted.
1178	All	Issues with `GevSupportedOptionSelector`: Values are not displayed in alphabetical order. The support status is not displayed correctly. Displayed FW versions do not reflect actual values.

Table 10: Resolved issues

Known issues

Alvium ID	Affected models	Description
338	G5-500m/c, G5-1240m/c, G5-2050m/c	If `AcquisitionStop` is executed shortly after `AcquisitionStart`, no image is transmitted.
507	All	*SingleFrame* mode does not work with NI Max: The last smaller packet and the trailer are missing.
856	All	DHCP server timeout issue: Acquisition may stop. Typically, temperature status still works.
961	All	Running with GigE Validation Framework v2.2 RC4, Alvium GigE cameras failed DataPacketHeaders_ByteOrder test.
978	All	If an `AcquisitionStop` command is executed at the same point in time as a change for a sequencer set, the sequencer cannot be started again.

Table 11: Known issues

FW 00.13.00.71d891fe

Date of document release: 2023-Dec-13

Supported models

Camera family	Model
Alvium	Alvium G5-030 VSWIR, G5-052m/c, G5-130 VSWIR, G5-203m/c, G5-240m/c, G5-291m/c, G5-500m/c, G5-508m/c, G5-510m/c, G5-511m/c, G5-811m/c, G5-812 UV, G5-1240m/c, G5-1242m/c, G5-1620m/c, G5-2040m/c, G5-2050m/c, G5-2460m/c

Table 12: Supported models

New model

No new models were added.

Changed features

- Alvium G5-1240m/c and G5-2050m/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.
- ROI frame rates have been increased.
- Minimum exposure times have been reduced for all Alvium G5 models, except for G5-500, G5-1240, and G5-2050 models.
- Sensor binning has been added for G5-240m, -291m, -508m, and -508m Pol models.
- Related to known issue Alvium ID 253: Removed `IntensityControllerOutliersBright` and `IntensityControllerOutliersDark` from `AutoModeControl`.

New features

- 2.5GBase-T mode
- `ChunkDataControl` features
- `ClockTriggerFrequency` and `ClockTriggerTimestamp` to synchronize triggering for several cameras
- `DeviceTemperatureStatus` as an indicator to take measures before the camera is shut off when the maximum operating temperature is exceeded
- `EventControl` features
- `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 `Height` and `OffsetY`.

Table 13: Resolved issues (sheet 1 of 2)

Alvium ID	Affected models	Description
1171	Alvium G5-2050m/c	If user sets are loaded where `ReverseY` = *True* and `OffsetY` is configured, the output image is distorted.
1178	All	Issues with `GevSupportedOptionSelector`: Values are not displayed in alphabetical order. The support status is not displayed correctly. Displayed FW versions do not reflect actual values.

Table 13: Resolved issues (sheet 2 of 2)

Known issues

Alvium ID	Affected models	Description
338	G5-500m/c, G5-1240m/c, G5-2050m/c	If `AcquisitionStop` is executed shortly after `AcquisitionStart`, no image is transmitted.
507	All	*SingleFrame* mode does not work with NI Max: The last smaller packet and the trailer are missing.
856	All	DHCP server timeout issue: Acquisition may stop. Typically, temperature status still works.
961	All	Running with GigE Validation Framework v2.2 RC4, Alvium GigE cameras failed DataPacketHeaders_ByteOrder test.
978	All	If an `AcquisitionStop` command is executed at the same point in time as a change for a sequencer set, the sequencer cannot be started again.

Table 14: 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-Jul-19
Date of 1st document update: 2023-Jul-11
Date of document release: 2022-Jun-15

Removed contents

12-bit pixel formats for cameras with 10-bit sensors were already available with the initial firmware version for Alvium G5: FW 00.08.00.6727174b on page 23.

G5-508m/c Pol (added subsequently to this document)

Support for Alvium **G5-508m/c Pol** was added with the editions for document version: FW 00.13.00.71d891fe | 2nd update on 2024-Jan-17.

Supported models

Camera family	Model
Alvium	Alvium G5-030 VSWIR, G5-052m/c, G5-130 VSWIR, G5-203m/c, G5-240m/c, G5-291m/c, G5-500m/c, G5-508m/c, **G5-508m/c Pol**, G5-510m/c, G5-511m/c, G5-811m/c, G5-812 UV, G5-1240m/c, G5-1242m/c, G5-1620m/c, G5-2040m/c, G5-2050m/c, G5X-2050m/c, G5-2460m/c, G5X-2460m/c

Table 15: Supported models

New model

Alvium G5-203m/c, **G5-508m/c Pol**

Changed features

- Added Sensor option for BinningSelector. The existence of this option depends on the sensor. Please see the Alvium G5/G5X User Guide or model data sheets.
- Added Mono12Packed and BayerGR12Packed (G5-500c) or BayerRG12Packed (other models) for `PixelFormat`.

New features

- TCP operation mode for G5X models (in addition to UDP mode available with all G5 models)
- Support for mandatory features according to GenICam SFNC V2.7
- GigE Vision V2.2 support
- Scheduled action commands: Can be used the same way as action commands.
- `LutValueAll` to write a complete LUT in one access
- `MultipleRegions` subcategory in the `ImageFormatControl` category. The existence of this feature and available arrangement modes depend on the sensor. Please see the Alvium G5/G5X User Guide or model data sheets.
- Added `TestPendingAck` in the TestControl category.

Resolved issues

Alvium ID	Affected models	Description
251	G5/G5X-2050m/c	If `ShutterMode` is changed after image acquisition, the *ExpsoureActive* signal disappears.
506 / 697	All	The GPIO Line 3 signal is inverted.
854	All	GPO2 trigger direction error: GP02 can be set for both input and output, despite having only output capabilities.
890	All	GP02 is high during camera boot up for several seconds (usually 1 to 3 s).
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.

Table 16: Resolved issues (sheet 1 of 2)

Alvium ID	Affected models	Description
976	All	Opto-isolated Input GPI3 status is inverted. As a workaround, the rising edge signal must be treated as a falling edge, and vice versa. **Note**: If you want to keep your existing setup using GPI3 unchanged, please keep the firmware version V 00.11 or below and do not update the firmware to higher versions for your Alvium G5 camera.
984	All	`TransferQueueMaxBlockCount` is incorrect when `TransferControlMode` is set to `Automatic`.
996	G5-510m/c	Sensor binning not working after digital binning has been used: After activating and deactivating sensor bining, bining cannot be set back to digital binning.
997	G5-510m/c	Disable of burst not working: Once the burst mode is activated by setting `TransferControlMode` to `Automatic`, it cannot be deactivated without performing a power cycle.
1041	G5-500m/c, G5-1240m/c, G5-2050m/c, G5X-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 16: Resolved issues (sheet 2 of 2)

Known issues

Alvium ID	Affected models	Description
253	All	Auto mode feature `IntensityControllerOutliersDark` does not work properly.
338	G5-500m/c, G5-1240m/c, G5-2050m/c, G5X-2050m/c	If `AcquisitionStop` is executed shortly after `AcquisitionStart`, no image is transmitted.
507	All	`SingleFrame` mode does not work with NI Max: The last smaller packet and the trailer are missing.
856	All	DHCP server timeout issue: Acquisition may stop. Typically, temperature status still works.
961	All	Running with GigE Validation Framework v2.2 RC4, Alvium GigE cameras failed DataPacketHeaders_ByteOrder test.

Table 17: Known issues

FW 00.12.00.00611a22 | 3rd update

Date of **3rd document update**: 2023-Sep-27
Date of 2nd document update: 2023-Jul-19
Date of 1st document update: 2023-Jul-11
Date of document release: 2022-Jun-15

Supported models

Camera family	Model
Alvium	Alvium G5-030 VSWIR, G5-052m/c, G5-130 VSWIR, **G5-203m/c**, G5-240m/c, G5-291m/c, G5-500m/c, G5-508m/c, G5-510m/c, G5-511m/c, G5-811m/c, G5-812 UV, G5-1240m/c, G5-1242m/c, G5-1620m/c, G5-2040m/c, G5-2050m/c, G5X-2050m/c, G5-2460m/c, G5X-2460m/c

Table 18: Supported models

New model
Alvium G5-203m/c

Changed features

- Added Sensor option for BinningSelector. The existence of this option depends on the sensor. Please see the Alvium G5/G5X User Guide or model data sheets.
- Added 12-bit sensor formats for cameras with 10-bit sensors for `PixelFormat`.
- Added Mono12Packed and BayerGR12Packed (G5-500c) or BayerRG12Packed (other models) for `PixelFormat`.

New features

- TCP operation mode for G5X models (in addition to UDP mode available with all G5 models)
- Support for mandatory features according to GenICam SFNC V2.7
- GigE Vision V2.2 support
- Scheduled action commands: Can be used the same way as action commands.
- `LutValueAll` to write a complete LUT in one access
- `MultipleRegions` subcategory in the `ImageFormatControl` category. The existence of this feature and available arrangement modes depend on the sensor. Please see the Alvium G5/G5X User Guide or model data sheets.
- Added `TestPendingAck` in the TestControl category.

Resolved issues

Alvium ID	Affected models	Description
251	G5/G5X-2050m/c	If `ShutterMode` is changed after image acquisition, the *ExpsoureActive* signal disappears.
506 / 697	All	The GPIO Line 3 signal is inverted.
854	All	GPO2 trigger direction error: GP02 can be set for both input and output, despite having only output capabilities.

Table 19: Resolved issues (sheet 1 of 2)

Alvium ID	Affected models	Description
890	All	GPO2 is high during camera boot up for several seconds (usually 1 to 3 s).
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`.
976	All	Opto-isolated Input GPI3 status is inverted. As a workaround, the rising edge signal must be treated as a falling edge, and vice versa. **Note**: If you want to keep your existing setup using GPI3 unchanged, please keep the firmware version V 00.11 or below and do not update the firmware to higher versions for your Alvium G5 camera.
984	All	`TransferQueueMaxBlockCount` is incorrect when *TransferControlMode* is set to *Automatic*.
996	G5-510m/c	Sensor binning not working after digital binning has been used: After activating and deactivating sensor bining, bining cannot be set back to digital binning.
997	G5-510m/c	Disable of burst not working: Once the burst mode is activated by setting `TransferControlMode` to *Automatic*, it cannot be deactivated without performing a power cycle.
1041	G5-500m/c, G5-1240m/c, G5-2050m/c, G5X-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 19: Resolved issues (sheet 2 of 2)

Known issues

Alvium ID	Affected models	Description
253	All	Auto mode feature `IntensityControllerOutliersDark` does not work properly.
338	G5-500m/c, G5-1240m/c, G5-2050m/c, G5X-2050m/c	If `AcquisitionStop` is executed shortly after `AcquisitionStart`, no image is transmitted.
507	All	*SingleFrame* mode does not work with NI Max: The last smaller packet and the trailer are missing.
856	All	DHCP server timeout issue: Acquisition may stop. Typically, temperature status still works.
961	All	Running with GigE Validation Framework v2.2 RC4, Alvium GigE cameras failed DataPacketHeaders_ByteOrder test.

Table 20: Known issues

FW 00.12.00.00611a22 | 2nd update

Date of **2nd document update**: 2023-Jul-19
Date of 1st document update: 2023-Jul-11
Date of document release: 2022-Jun-15

Supported models

Camera family	Model
Alvium	Alvium G5-030 VSWIR, G5-052m/c, G5-130 VSWIR, **G5-240m/c**, G5-291m/c, G5-500m/c, G5-508m/c, G5-510m/c, G5-511m/c, G5-811m/c, G5-812 UV, G5-1240m/c, G5-1242m/c, G5-1620m/c, G5-2040m/c, G5-2050m/c, G5X-2050m/c, G5-2460m/c, G5X-2460m/c

Table 21: Supported models

New model
Alvium G5-240m/c

Changed features

- Added Sensor option for BinningSelector. The existence of this option depends on the sensor. Please see the Alvium G5/G5X User Guide or model data sheets.
- Added 12-bit sensor formats for cameras with 10-bit sensors for `PixelFormat`.
- Added Mono12Packed and BayerGR12Packed (G5-500c) or BayerRG12Packed (other models) for `PixelFormat`.

New features

- TCP operation mode for G5X models (in addition to UDP mode available with all G5 models)
- Support for mandatory features according to GenICam SFNC V2.7
- GigE Vision V2.2 support
- Scheduled action commands: Can be used the same way as action commands.
- `LutValueAll` to write a complete LUT in one access
- `MultipleRegions` subcategory in the `ImageFormatControl` category. The existence of this feature and available arrangement modes depend on the sensor. Please see the Alvium G5/G5X User Guide or model data sheets.
- Added `TestPendingAck` in the TestControl category.

Resolved issues

Alvium ID	Affected models	Description
251	G5/G5X-2050m/c	If `ShutterMode` is changed after image acquisition, the `ExpsoureActive` signal disappears.
506 / 697	All	The GPIO Line 3 signal is inverted.
854	All	GPO2 trigger direction error: GP02 can be set for both input and output, despite having only output capabilities.
890	All	GP02 is high during camera boot up for several seconds (usually 1 to 3 s).

Table 22: Resolved issues (sheet 1 of 2)

Alvium ID	Affected models	Description
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`.
976	All	Opto-isolated Input GPI3 status is inverted. As a workaround, the rising edge signal must be treated as a falling edge, and vice versa. **Note**: If you want to keep your existing setup using GPI3 unchanged, please keep the firmware version V 00.11 or below and do not update the firmware to higher versions for your Alvium G5 camera.
984	All	`TransferQueueMaxBlockCount` is incorrect when `TransferControlMode` is set to `Automatic`.
996	G5-510m/c	Sensor binning not working after digital binning has been used: After activating and deactivating sensor bining, bining cannot be set back to digital binning.
997	G5-510m/c	Disable of burst not working: Once the burst mode is activated by setting `TransferControlMode` to `Automatic`, it cannot be deactivated without performing a power cycle.
1041	G5-500m/c, G5-1240m/c, G5-2050m/c, G5X-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 22: Resolved issues (sheet 2 of 2)

Known issues

Alvium ID	Affected models	Description
253	All	Auto mode feature `IntensityControllerOutliersDark` does not work properly.
338	G5-500m/c, G5-1240m/c, G5-2050m/c, G5X-2050m/c	If `AcquisitionStop` is executed shortly after `AcquisitionStart`, no image is transmitted.
507	All	`SingleFrame` mode does not work with NI Max: The last smaller packet and the trailer are missing.
856	All	DHCP server timeout issue: Acquisition may stop. Typically, temperature status still works.
961	All	Running with GigE Validation Framework v2.2 RC4, Alvium GigE cameras failed DataPacketHeaders_ByteOrder test.

Table 23: Known issues

FW 00.12.00.00611a22 | 1st update

Date of **document update**: 2023-Jul-11
Date of document release: 2022-Jun-15

Supported models

Camera family	Model
Alvium	Alvium G5-030 VSWIR, G5-052m/c, G5-130 VSWIR, G5-291m/c, G5-500m/c, G5-508m/c, G5-510m/c, G5-511m/c, G5-811m/c, G5-812 UV, G5-1240m/c, G5-1242m/c, G5-1620m/c, G5-2040m/c, G5-2050m/c, **G5X-2050m/c**, G5-2460m/c, **G5X-2460m/c**

Table 24: Supported models

New models

Alvium G5X-2050m/c, **G5X-2460m/c**

Changed features

- Added Sensor option for BinningSelector. The existence of this option depends on the sensor. Please see the Alvium G5/G5X User Guide or model data sheets.
- Added 12-bit sensor formats for cameras with 10-bit sensors for `PixelFormat`.
- Added Mono12Packed and BayerGR12Packed (G5-500c) or BayerRG12Packed (other models) for `PixelFormat`.

New features

- **TCP operation mode for G5X models (in addition to UDP mode available with all G5 models)**
- Support for mandatory features according to GenICam SFNC V2.7
- GigE Vision V2.2 support
- Scheduled action commands: Can be used the same way as action commands.
- `LutValueAll` to write a complete LUT in one access
- `MultipleRegions` subcategory in the `ImageFormatControl` category. The existence of this feature and available arrangement modes depend on the sensor. Please see the Alvium G5/G5X User Guide or model data sheets.
- Added `TestPendingAck` in the TestControl category.

Resolved issues

Alvium ID	Affected models	Description
251	G5/G5X-2050m/c	If `ShutterMode` is changed after image acquisition, the `ExpsoureActive` signal disappears.
506 / 697	All	The GPIO Line 3 signal is inverted.
854	All	GPO2 trigger direction error: GP02 can be set for both input and output, despite having only output capabilities.
890	All	GP02 is high during camera boot up for several seconds (usually 1 to 3 s).

Table 25: Resolved issues (sheet 1 of 2)

Alvium ID	Affected models	Description
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`.
976	All	Opto-isolated Input GPI3 status is inverted. As a workaround, the rising edge signal must be treated as a falling edge, and vice versa. **Note**: If you want to keep your existing setup using GPI3 unchanged, please keep the firmware version V 00.11 or below and do not update the firmware to higher versions for your Alvium G5 camera.
984	All	`TransferQueueMaxBlockCount` is incorrect when *TransferControlMode* is set to *Automatic*.
996	G5-510m/c	Sensor binning not working after digital binning has been used: After activating and deactivating sensor bining, bining cannot be set back to digital binning.
997	G5-510m/c	Disable of burst not working: Once the burst mode is activated by setting `TransferControlMode` to *Automatic*, it cannot be deactivated without performing a power cycle.
1041	G5-500m/c, G5-1240m/c, G5-2050m/c, G5X-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 25: Resolved issues (sheet 2 of 2)

Known issues

Alvium ID	Affected models	Description
253	All	Auto mode feature `IntensityControllerOutliersDark` does not work properly.
338	G5-500m/c, G5-1240m/c, G5-2050m/c, G5X-2050m/c	If `AcquisitionStop` is executed shortly after `AcquisitionStart`, no image is transmitted.
507	All	*SingleFrame* mode does not work with NI Max: The last smaller packet and the trailer are missing.
856	All	DHCP server timeout issue: Acquisition may stop. Typically, temperature status still works.
961	All	Running with GigE Validation Framework v2.2 RC4, Alvium GigE cameras failed DataPacketHeaders_ByteOrder test.

Table 26: Known issues

FW 00.12.00.00611a22

Date of document release: 2023-Jun-15

Supported models

Camera family	Model
Alvium	Alvium G5-030 VSWIR, G5-052m/c, G5-130 VSWIR, G5-291m/c, G5-500m/c, G5-508m/c, G5-510m/c, G5-511m/c, G5-811m/c, G5-812 UV, G5-1240m/c, G5-1242m/c, G5-1620m/c, G5-2040m/c, G5-2050m/c, G5-2460m/c

Table 27: 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 G5 User Guide or model data sheets.
- Added 12-bit sensor formats for cameras with 10-bit sensors for `PixelFormat`.
- Added Mono12Packed and BayerGR12Packed (G5-500c) or BayerRG12Packed (other models) for `PixelFormat`.

New features

- Support for mandatory features according to GenICam SFNC V2.7
- GigE Vision V2.2 support
- Scheduled action commands: Can be used the same way as action commands.
- `LutValueAll` to write a complete LUT in one access
- `MultipleRegions` subcategory in the `ImageFormatControl` category. The existence of this feature and available arrangement modes depend on the sensor. Please see the Alvium G5 User Guide or model data sheets.
- Added `TestPendingAck` in the TestControl category.

Resolved issues

Alvium ID	Affected models	Description
251	G5-2050m/c	If `ShutterMode` is changed after image acquisition, the *ExpsoureActive* signal disappears.
506 / 697	All	The GPIO Line 3 signal is inverted.
854	All	GPO2 trigger direction error: GP02 can be set for both input and output, despite having only output capabilities.
890	All	GP02 is high during camera boot up for several seconds (usually 1 to 3 s).

Table 28: Resolved issues (sheet 1 of 2)

Alvium ID	Affected models	Description
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`.
976	All	Opto-isolated Input GPI3 status is inverted. As a workaround, the rising edge signal must be treated as a falling edge, and vice versa. **Note**: If you want to keep your existing setup using GPI3 unchanged, please keep the firmware version V 00.11 or below and do not update the firmware to higher versions for your Alvium G5 camera.
984	All	`TransferQueueMaxBlockCount` is incorrect when *TransferControlMode* is set to *Automatic*.
996	G5-510m/c	Sensor binning not working after digital binning has been used: After activating and deactivating sensor bining, bining cannot be set back to digital binning.
997	G5-510m/c	Disable of burst not working: Once the burst mode is activated by setting `TransferControlMode` to *Automatic*, it cannot be deactivated without performing a power cycle.
1041	G5-500m/c, G5-1240m/c, G5-2050m/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 28: Resolved issues (sheet 2 of 2)

Known issues

Alvium ID	Affected models	Description
253	All	Auto mode feature `IntensityControllerOutliersDark` does not work properly.
338	G5-500m/c, G5-1240m/c, G5-2050m/c	If `AcquisitionStop` is executed shortly after `AcquisitionStart`, no image is transmitted.
507	All	*SingleFrame* mode does not work with NI Max: The last smaller packet and the trailer are missing.
856	All	DHCP server timeout issue: Acquisition may stop. Typically, temperature status still works.
961	All	Running with GigE Validation Framework v2.2 RC4, Alvium GigE cameras failed DataPacketHeaders_ByteOrder test.

Table 29: Known issues

FW 00.11.00.9cf0c21e | update

Date of **document update**: 2023-Jan-09
Date of document release: 2022-Nov-14

Supported models

Camera family	Model
Alvium	Alvium G5-030 VSWIR, G5-052m/c, G5-130 VSWIR, G5-291m/c, G5-500m/c, G5-508m/c, G5-510m/c, G5-511m/c, G5-811m/c, G5-812 UV, G5-1240m/c, **G5-1242m/c**, G5-1620m/c, **G5-2040m/c**, G5-2050m/c, G5-2460m/c

Table 30: Supported models

New models

Alvium G5-510m/c, **G5-1242m/c**, **G5-2040m/c**

Changed features

- Increments for `OffsetX` and `OffsetY` for camera models with Sony IMX global shutter sensor
- Reduced options for SoftwareSignalSelector

New features

- Counter features in the `CounterAndTimerControl` category
- Ethernet Flow Control (configurable on NICs and Ethernet devices)
- `LineDebounceDuration` and `LineDebounceMode` in the `DeviceControl` category
- SequencerControl category

Resolved issues

Alvium ID	Affected models	Description
696	All	Changing output signal when line is off has been fixed.
806	Color models	Error in color transformation has been fixed.

Table 31: Resolved issues

Known issues

Alvium ID	Affected models	Description
251	G5-2050m/c	If `ShutterMode` is changed after image acquisition, the *ExpsoureActive* signal disappears.
253	All	Auto mode feature `IntensityControllerOutliersDark` does not work properly.
338	G5-500m/c, G5-1240m/c, G5-2050m/c	If `AcquisitionStop` is executed shortly after `AcquisitionStart`, no image is transmitted.
506 / 697	All	The GPIO Line 3 signal is inverted.

Table 32: Known issues

FW 00.11.00.9cf0c21e

Date of document release: 2022-Nov-14

Supported models

Camera family	Model
Alvium	Alvium G5-030 VSWIR, G5-052m/c, G5-130 VSWIR, G5-291m/c, G5-500m/c, G5-508m/c, G5-510m/c, G5-511m/c, G5-811m/c, G5-812 UV, G5-1240m/c, G5-1620m/c, G5-2050m/c, G5-2460m/c

Table 33: Supported models

New models

Alvium G5-510m/c

Changed features

- Increments for `OffsetX` and `OffsetY` for camera models with Sony IMX global shutter sensor
- Reduced options for SoftwareSignalSelector

New features

- Counter features in the `CounterAndTimerControl` category
- Ethernet Flow Control (configurable on NICs and Ethernet devices)
- `LineDebounceDuration` and `LineDebounceMode` in the `DeviceControl` category
- SequencerControl category

Resolved issues

Alvium ID	Affected models	Description
696	All	Changing output signal when line is off has been fixed.
806	Color models	Error in color transformation has been fixed.

Table 34: Resolved issues

Known issues

Alvium ID	Affected models	Description
251	G5-2050m/c	If `ShutterMode` is changed after image acquisition, the *ExpsoureActive* signal disappears.
253	All	Auto mode feature `IntensityControllerOutliersDark` does not work properly.
338	G5-500m/c, G5-1240m/c, G5-2050m/c	If `AcquisitionStop` is executed shortly after `AcquisitionStart`, no image is transmitted.
506 / 697	All	The GPIO Line 3 signal is inverted.

Table 35: Known issues

FW 00.10.00.6c9062b1 | update

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

Supported models

Camera family	Model
Alvium	Alvium G5-030 VSWIR, G5-052m/c, G5-130 VSWIR, G5-291m/c, G5-500m/c, G5-508m/c, G5-511m/c, G5-811m/c, G5-812 UV, G5-1240m/c, G5-1620m/c, G5-2050m/c, G5-2460m/c

Table 36: Supported models

New models

Alvium G5-052m/c, G5-291m/c, G5-812 UV

Changed features

In previous firmware versions, `BlackLevel` 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 `BlackLevel` 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 G5-030 VSWIR and G5-130 VSWIR, the maximum `Gain` value was increased to 42 dB.

Added information: FPNC was disabled for Alvium G5-030 VSWIR and G5-130 VSWIR models.

New features

- `ActionControl` category
- `GVCP` subcategory
- `PTPControl` category
- `SerialHub` subcategory for I/O control by UART
- `SoftwareSignalControl` 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.)

Known issues

Alvium ID	Affected models	Description
251	G5-2050m/c	If `ShutterMode` is changed after image acquisition, the *ExpsoureActive* signal disappears.
253	All	Auto mode feature `IntensityControllerOutliersDark` does not work properly.
338	G5-500m/c, G5-1240m/c, G5-2050m/c	If `AcquisitionStop` is executed shortly after `AcquisitionStart`, no image is transmitted.
506 / 697	All	The GPIO Line 3 signal is inverted.

Table 37: 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	Alvium G5-030 VSWIR, G5-052m/c, G5-130 VSWIR, G5-291m/c, G5-500m/c, G5-508m/c, G5-511m/c, G5-811m/c, G5-812 UV, G5-1240m/c, G5-1620m/c, G5-2050m/c, G5-2460m/c

Table 38: Supported models

New models

Alvium G5-052m/c, G5-291m/c, G5-812 UV

Changed features

In previous firmware versions, `BlackLevel` 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 `BlackLevel` 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

- `ActionControl` category
- `GVCP` subcategory
- `PTPControl` category
- `SerialHub` subcategory for I/O control by UART
- `SoftwareSignalControl` 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.)

Known issues

Alvium ID	Affected models	Description
251	G5-2050m/c	If `ShutterMode` is changed after image acquisition, the *ExpsoureActive* signal disappears.
253	All	Auto mode feature `IntensityControllerOutliersDark` does not work properly.
338	G5-500m/c, G5-1240m/c, G5-2050m/c	If `AcquisitionStop` is executed shortly after `AcquisitionStart`, no image is transmitted.
506 / 697	All	The GPIO Line 3 signal is inverted.

Table 39: Known issues

FW 00.08.01.13f227a4

Date of document release: 2022-May-16

Supported models

Camera family	Model
Alvium	Alvium G5-500m/c

Table 40: Supported models

New models

No new models were added.

New features

No features were added.

Resolved issues

Alvium ID	Affected models	Description
775	G5-500c	Wrong `AutoWhiteBalance` measurement was fixed.

Table 41: Resolved issues

Known issues

Alvium ID	Affected models	Description
251	G5-2050m/c	If `ShutterMode` is changed after image acquisition, the *ExpsoureActive* signal disappears.
253	All	Auto mode feature `IntensityControllerOutliersDark` does not work properly.
338	G5-500m/c, G5-1240m/c, G5-2050m/c	If `AcquisitionStop` is executed shortly after `AcquisitionStart`, no image is transmitted.

Table 42: Known issues

FW 00.08.00.6727174b

Date of document release: 2022-Mar-21

Supported models

Camera family	Model
Alvium	Alvium G5-030 VSWIR, G5-130 VSWIR, G5-500m/c, G5-508m/c, G5-811m/c, G5-1240m/c, G5-1620m/c, G5-2050m/c, G5-2460m/c

Table 43: Supported models

New models

Alvium G5-030 VSWIR, G5-130 VSWIR, G5-500m/c, G5-508m/c, G5-811m/c, G5-1240m/c, G5-1620m/c, G5-2050m/c, G5-2460m/c

New features

Initial feature set.

Known issues

Alvium ID	Affected models	Description
251	G5-2050m/c	If `ShutterMode` is changed after image acquisition, the *ExpsoureActive* signal disappears.
253	All	Auto mode feature `IntensityControllerOutliersDark` does not work properly.
338	G5-500m/c, G5-1240m/c, G5-2050m/c	If `AcquisitionStop` is executed shortly after `AcquisitionStart`, no image is transmitted.

Table 44: Known issues

Contact us

Website, email

General

www.alliedvision.com/en/contact

info@alliedvision.com

Distribution partners

www.alliedvision.com/en/avt-locations/avt-distributors

Support

www.alliedvision.com/en/support

www.alliedvision.com/en/about-us/contact-us/technical-support-repair-/-rma

Current firmware and release notes

https://www.alliedvision.com/en/support/firmware-downloads

Offices

Europe, Middle East, and Africa (Headquarters)

Allied Vision Technologies GmbH
Taschenweg 2a
07646 Stadtroda, Germany
T// +49 36428 677-0 (Reception)
T// +49 36428 677-230 (Sales)
F// +49 36428 677-28

Asia-Pacific

China

Allied Vision Technologies
(Shanghai) Co., Ltd.
2-2109 Hongwell Int. Plaza
1602# ZhongShanXi Road
Shanghai 200235, China
T// +86 21 64861133

Singapore

Allied Vision Technologies Asia Pte. Ltd
82 Playfair Rd, #07-01 D'Lithium
Singapore 368001
T// +65 6634 9027

North, Central, and South America

Canada

Allied Vision Technologies Canada Inc.
300 – 4621 Canada Way
Burnaby, BC V5G 4X8, Canada
T// +1 604 875 8855

USA

Allied Vision Technologies, Inc.
102 Pickering Way- Suite 502
Exton, PA 19341, USA
Toll-free// +1-877-USA-1394
T// +1 978 225 2030