Allied Vision

5GigE Vision Cameras

Goldeye Pro

Features Reference

V1.2.0

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Allied Vision Technologies GmbH // Taschenweg 2a, 07646 Stadtroda, Germany

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This reference a glance

Finding features with Vimba X

Categories and features in this reference are organized as in the **Vimba X Viewer**. Order and visibility can be different on third party viewers.

The previous **Vimba Viewer** only displayed some transport layer features. **With Vimba X Viewer**, all transport layer features are displayed. In the viewer's feature tree, the features are categorized by the corresponding GenTL module. The node **Camera** contains all camera features, while the nodes **Transport Layer**, **Interface**, **Local Device**, and **Stream 0** contain the transport layer features.

Camera firmware features can be found in the **Camera** GenTL module of **Vimba X Viewer**. Transport layer features can be found in the other GenTL modules. (These groups can differ when third party transport layers are used.) In this document, the features of the **Camera Module** are listed in alphabetical order.

We recommend you to check **Show Descriptions** in **Vimba X Viewer** as shown in Figure 1 on page 2. The **All** tab is selected to show the feature tree. You can search for features using the search bar in **Vimba X Viewer**. You can easily search for features in this document using the Index on page 213.

Host specific modules

Transport Layer, Interface, Local Device, and Stream0 are host specific modules that provide general abilities for a certain interface type. Depending on the camera series, features may be displayed for these modules that cannot be used.

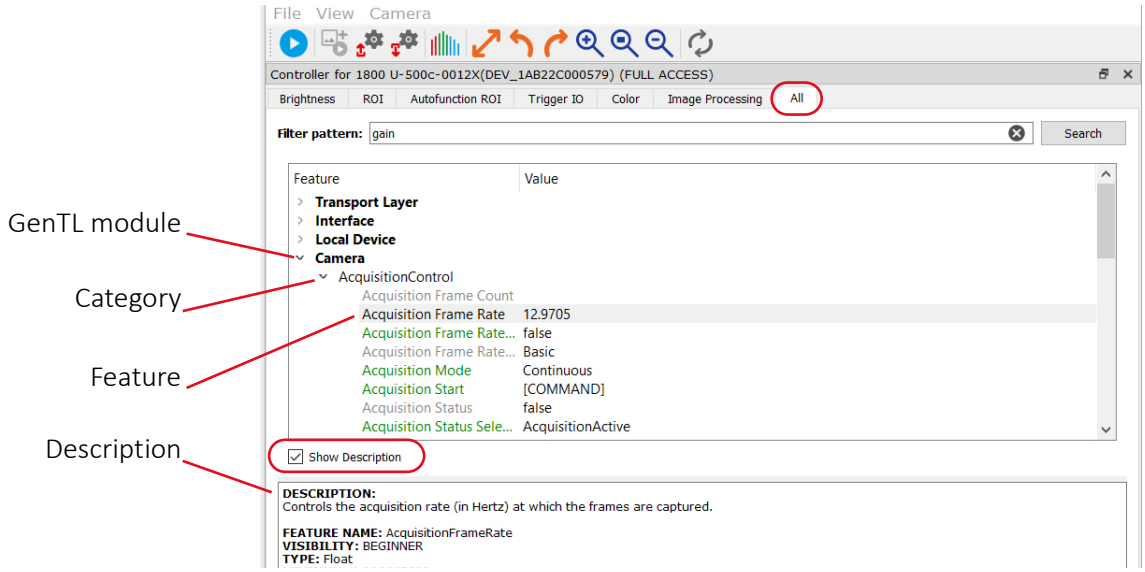

Figure 1: Features listed in the All tab of Vimba X Viewer

What else do you need?

This is a selection of helpful links:

Download or topic	Link
Goldeye Pro G5 camera documentation and application notes	www.alliedvision.com/en/support/technical-documentation/goldeye-pro-g5-documentation
Vimba X SDK for Windows, Linux, and Linux/ARM, including **Vimba X Viewer**, **Firmware Updater**, and **Driver Installer** for Windows	www.alliedvision.com/en/products/software/vimba-x-sdk
Firmware downloads	www.alliedvision.com/en/support/firmware-downloads
Technical support	www.alliedvision.com/en/support

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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

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

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

Asia-Pacific

China
Allied Vision Technologies Shanghai Co Ltd.
B-510, Venture International Business Park
2679 Hechuan Road
Minhang District, Shanghai 201103
People's Republic of China
T// +86 21 64861133

Japan
Allied Vision Technologies
Yokohama Portside Bldg. 10F
8-1 Sakae-cho, Kanagawa-ku
Yokohama-shi, Kanagawa, 221-0052
T// +81 (0) 45 577 9527

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

Document history and conventions

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Document history

Version	Date	Remarks
V1.2.0	2025-Oct-28	**Release: Firmware version**: 00.03.00.361abc93 • Updated Image data flow on page 22. • Added `ExposureAuto` to AcquisitionControl on page 70. • Added `BlackLevelEqualizationMode` to AnalogControl on page 81. • Added AutoModeControl on page 86 as a new category. • Added TemperatureMonitoring (subcategory) on page 132. • Added and `ExposureMode`, `FileSystemSelector`, and `FileSystemTotalSizeInBytes` to FileAccessControl on page 142. • Added binning features to ImageFormatControl on page 155. • Added the MultipleRegionControl (subcategory) on page 159. • Added ContrastControl (subcategory) on page 173. • Added `GevSCPSPacketSize` to GigEVision (subcategory) on page 183. • Applied editorial changes.
V1.1.0	2025-Aug-21	**Release: Firmware version**: 00.02.00.1b45a27b • Updated Image data flow on page 22. • Added `BlackLevelAutoAdjust` in AnalogControl on page 81. • Added a note about user defined DPC datasets in DPC datasets on page 95. • Added the category LUTControl on page 177. • Applied editorial changes.
V1.0.1	2025-Jun-19	**Release: Firmware version**: 00.01.00.10fe3bdd Updated contents for the release version of the camera firmware.
V1.0.0	2025-Jan-24	**Release: Firmware version**: 0.9 Document release

Table 2: Document history

Conventions used in this reference

To give this features reference an easily understandable layout and to emphasize important information, the following typographical styles and symbols are used:

Styles

Style (example)	Function
Emphasis	Some important parts or items of the text are emphasized to make them more visible.
`Feature names`	Features names are displayed as monospaced text.
`Feature options`	Features options and values that are selectable by the user are displayed as monospaced italicized text.
`InputCommand`	Text or command to type in by the user, selected menu options, or other selectable options.
`SourceCode`	Code words, such as for programs, used in running text. Mainly designated for use in software documentation.
UIElement	Text that is displayed, or output, by the system for the user, like parts of the GUI, dialog boxes, buttons, menus, important information, or windows titles.
WebReference	References to other documents or webpages, like weblinks, hypertext links, or emails.

Table 3: Styles used in this reference

Symbols and notes

Practical tip

Additional information helps to understand or ease handling the camera.

Additional information

Web address or reference to an external source with more information is shown.

Avoiding malfunctions

Precautions are described.

Access modes

Abbreviation	Meaning
R/W	Feature is read or write.
R	Feature is read-only and may change.
R (constant)	Feature is read-only and constant.
W	Feature is write-only.

Table 4: Abbreviations used in this features reference

Standards referred to in this document

The document describes in alphabetical order the basic and advanced camera controls for Goldeye Pro cameras as seen from **Vimba X Viewer**.

These features comply with the following standards:

- GigE Vision Standard Version 2.2
- GenICam Standard Document Version 2.1.1
- GenICam Standard Features Naming Convention (SFNC) Version 2.7
- GenICam Pixel Format Naming Convention (PFNC) Version 2.2
- GenICam Transport Layer Standard Features Naming Convention (GenTL SFNC) GigE: Version 1.1.1
- GenICam Generic Control Protocol (GenCP) Version 1.3

Downloads of applied common standards

For SFNC, GenTL SFNC, and GenCP, see www.genicam.org
For the PFNC, see www.visiononline.org

Allied Vision custom features

Some features in this document are adapted SFNC features. Some features are custom features adding new functions to the features range defined by the SFNC.
See Acronyms and terms on page 18.

Acronyms and terms

Abbreviation/term	Meaning
Custom	Allied Vision specific features not defined by other official standards
Custom deprecated	Allied Vision specific features that are outdated.
GenTL SFNC	GenICam Transport Layer Standard Features Naming Convention
GenTL SFNC adapted	Features that deviate from the GenTL SFNC definition
GEV	GigE Vision Standard

Table 5: Standards used in this reference (sheet 1 of 2)

Abbreviation/term	Meaning
I/Os	Inputs and outputs
PFNC	GenICam Pixel Format Naming Convention
SFNC	GenICam Standard Features Naming Convention
SFNC adapted	Features that deviate from the SFNC definition
Timestamp	For Goldeye Pro cameras, the timestamp interval is 1 Tick = 1 Nanosecond. This information is used for features in EventControl on page 198.

Table 5: Standards used in this reference (sheet 2 of 2)

Order and description scheme

This features reference describes categories and feature, as seen from **Vimba X Viewer**, in alphabetical order.

The image of the **feature tree** structures features as leaves that are organized in categories and subcategories as branches. This structure reflects in the following formatting scheme.

Category

First-level item, always starting a new page. Short description, including individual characteristics, and showing the feature type as *Category*.

Subcategory

Short description, including individual characteristics, and showing the feature type as *(Subcategory* or *2nd subcategory)*. The level is stated as:

- *Subcategory* after the category name: 1set level subcategory
- *2nd subcategory* after the category name: 2nd level

Feature

[Selector]

Short description of feature, including individual characteristics and possible values, and showing the full category path.

Selectors

Some features have multiple instances. For these features, Selector features define which instance of the feature is accessed.

Example: The `DeviceTemperature` feature indicates the temperature at a certain location of the device. `DeviceTemperatureSelector` select between these locations.

Derived from the C programming language convention, the headline for the feature description in this example is:
`DeviceTemperature[DeviceTemperatureSelector]`,
A pair of brackets follows the feature name, following the scheme:
`SelectedFeature[Selector]`. This applies only to features with selectors.

Invalidators

Changing the value of a feature may affect other features and invalidate their values. For example, modifying the `Height` value changes the `PayloadSize` value. Therefore, the feature descriptions provide an additional row to show these relationships, called **Affected features**.

Value ranges

The following example table shows how parameter values for features are stated in this document.

Values	Description
Sensorboard	Feature value as displayed in **Vimba X Viewer**
Model dependent	Values may vary between different camera models.
Bit 31	Bit value
100,000	Represents 100000 with a decimal place to ease reading.

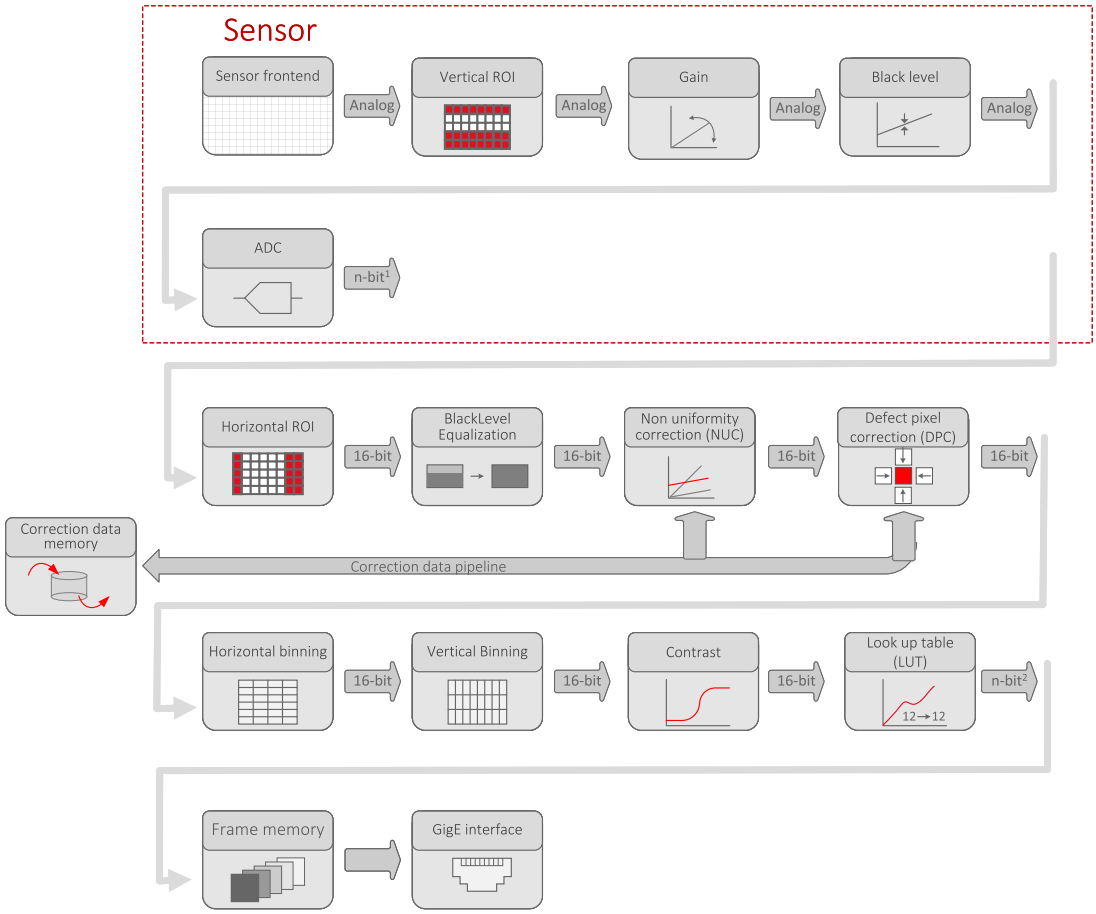
Copyright and trademarks

Image data flow and features order

This chapter includes the image data flow for Goldeye Pro.

Image data flow

Figure 2 shows the order in which the features are processed in Goldeye Pro G5 cameras.



[1] Model dependent: See ADC bit depths in the Specifications chapter of the Goldeye Pro G5 User Guide.

[2] Depending on the selected pixel format.

Figure 2: Image data flow of Goldeye Pro G5 cameras

Firmware downloads

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

Feature descriptions: Transport Layer

This chapter includes:

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Host specific modules

Transport Layer, Interface, Local Device, and Stream0 are host specific modules that provide general abilities for a certain interface type. Depending on the camera series, features may be displayed for these modules that cannot be used.

ActionControl

The features in this category can be used to send (scheduled) action commands to GigE cameras.

Notes

- Support for Action Commands is camera model specific and may depend on the firmware version.
- The GenTL SFNC defines this category as part of the **Interface Module**, see ActionControl on page 64. They are duplicated in the **Transport Layer Module** for easier usage (sending on all interfaces).

Display name	Action Control
Standard	GenTL SFNC adapted
Origin of feature	Transport layer
Feature type	Category

ActionCommand

Sends an action command.

Display name	Action Command
Standard	Gen TL SFNC adapted
Origin of feature	Transport layer
Feature type	Command
Access	W
Affected features	Not applicable
Category	/ActionControl

ActionDeviceKey

Controls the device key for an action command to be sent.

Note: This parameter must have the same value for all devices in a group.

Display name	Action Device Key
Standard	Gen TL SFNC adapted
Origin of feature	Transport layer
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/ActionControl

Values	Description
0	Minimum
4294967295	Maximum

ActionGroupKey

Controls the group key for an action command to be sent.

Note: This parameter must have the same value for all devices in a group.

Display name	Action Group Key
Standard	Gen TL SFNC adapted
Origin of feature	Transport layer
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/ActionControl

Values	Description
0	Minimum
4294967295	Maximum

ActionGroupMask

Controls the group mask for an action command to be sent.

Note: This parameter must have the same value for all devices in a group.

Display name	Action Group Mask
Standard	Gen TL SFNC adapted
Origin of feature	Transport layer
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/ActionControl

Values	Description
0	Minimum
4294967295	Maximum

ActionScheduledTime

Controls the time in a time-enabled action command.

Display name	Action Scheduled Time
Standard	Gen TL SFNC adapted
Origin of feature	Transport layer
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/ActionControl

Values	Description
0	Minimum
9223372036854775807	Maximum

ActionScheduledTimeEnable

Enables or disables time-enabled action commands.

Display name	Action Scheduled Time Enable
Standard	Gen TL SFNC adapted
Origin of feature	Transport layer
Feature type	Boolean
Access	R/W
Affected features	Not applicable
Category	/ActionControl

Values	Description
True	Scheduled action command are enabled.
False	Scheduled action commands are disabled (**default**).

GevActionDestinationIPAddress

Controls the IP address for an action command to be sent.

Display name	Gev Action Destination IP Address
Standard	Gen TL SFNC adapted
Origin of feature	Transport layer
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/ActionControl

Values	Description
0	Minimum
4294967295	Maximum

CameraAddressForcing

This category contains system features to force access for cameras that are otherwise not detected.

Display name	Camera Address Forcing
Standard	Custom
Origin of feature	Transport layer
Feature type	Category

GevDeviceForceGateway

Controls the gateway of the GEV camera to be forced.

Display name	Gev Device Force Gateway
Standard	Custom
Origin of feature	Transport layer
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/CameraAddressForcing

Values	Description
0	Minimum
4294967295	Maximum

GevDeviceForceIP

Sends the force address command on all interfaces.

Display name	Gev Device Force IP
Standard	Custom
Origin of feature	Transport layer
Feature type	Command
Access	W
Affected features	Not applicable
Category	/CameraAddressForcing

GevDeviceForceIPAddress

Controls the IP address of the GEV camera to be forced.

Display name	Gev Device Force IP Address
Standard	Custom
Origin of feature	Transport layer
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/CameraAddressForcing

Values	Description
0	Minimum
4294967295	Maximum

GevDeviceForceMACAddress

Controls the 48-Bit MAC address of the GEV camera to force the IP setup.

Display name	Gev Device Force MAC Address
Standard	Custom
Origin of feature	Transport layer
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/CameraAddressForcing

Values	Description
0	Minimum
9223372036854775807	Maximum

GevDeviceForceSubnetMask

Controls the subnet mask of the GEV camera to be forced.

Display name	Gev Device Force Subnet Mask
Standard	Custom
Origin of feature	Transport layer
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/CameraAddressForcing

Values	Description
0	Minimum
4294967295	Maximum

InterfaceEnumeration

The features in this category can be used for interface enumeration of the system module.

Display name	Interface Enumeration
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	Category

InterfaceCount

Returns the number of interfaces on the corresponding GenTL Producer.

Display name	Interface Count
Standard	Custom
Origin of feature	Transport layer
Feature type	Integer
Access	R
Affected features	Not applicable
Category	/InterfaceEnumeration

InterfaceDisplayName

[InterfaceSelector]

Returns the user readable name of the selected interface.

Display name	Interface Display Name
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	String
Access	R
Affected features	Not applicable
Category	/InterfaceEnumeration

InterfaceID

[InterfaceSelector]

Returns the GenTL Producer wide unique identifier of the selected interface.

Display name	Interface ID
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	String
Access	R
Affected features	Not applicable
Category	/InterfaceEnumeration

GevInterfaceDefaultIPAddress

[InterfaceSelector]

Returns the IP address of the first subnet for the selected interface.

Display name	Interface IP Address
Standard	Gen TL SFNC
Origin of feature	Transport layer
Feature type	Integer
Access	R
Affected features	Not applicable
Category	/InterfaceEnumeration

Values	Description
0	Minimum
4294967295	Maximum

GevInterfaceDefaultSubnetMask

[InterfaceSelector]

Returns the subnet mask of the first subnet for the selected interface.

Display name	Interface Subnet Mask
Standard	Gen TL SFNC
Origin of feature	Transport layer
Feature type	Integer
Access	R
Affected features	Not applicable
Category	/InterfaceEnumeration

Values	Description
0	Minimum
4294967295	Maximum

GevInterfaceMACAddress

[InterfaceSelector]

Returns the 48-Bit MAC of the interface.

Display name	Interface MAC Address
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	Integer
Access	R (constant)
Affected features	Not applicable
Category	/InterfaceEnumeration

Values	Description
0	Minimum
9223372036854775807	Maximum

InterfaceSelector

Selects the GenTL Producer interface.

Display name	Interface Selector
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	Enumeration
Access	R/W
Affected features	Not applicable
Category	/InterfaceEnumeration

Values	Description
≥0	Value range

InterfaceUpdateList

Updates the interface list on this GenTL Producer.

Display name	Interface Update List
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	Command
Access	W
Affected features	Not applicable
Category	/InterfaceEnumeration

SystemInformation

The features in this category can be used to display versions of the used GenTL and GenTL SFNC, and to identify the GenTL Producer.

Display name	System Information
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	Category

GenTLVersionMajor

Returns the major version number of the GenTL specification the GenTL Producer implementation complies with.

Display name	Gen TL Version Major
Standard	Gen TL SFNC
Origin of feature	Transport layer
Feature type	Integer
Access	R
Affected features	Not applicable
Category	/SystemInformation

Values	**Description**
Model dependent	Minimum
Model dependent	Maximum

GenTLVersionMinor

Returns the minor version number of the GenTL specification the GenTL Producer implementation complies with.

Display name	Gen TL Version Minor
Standard	Gen TL SFNC
Origin of feature	Transport layer
Feature type	Integer
Access	R
Affected features	Not applicable
Category	/SystemInformation

Values	Description
Model dependent	Minimum
Model dependent	Maximum

GevVersionMajor

Returns the major version number of the GigE Vision specification that the GenTL Producer implementation complies with.

Display name	Gev Version Major
Standard	GenTL deprecated
Origin of feature	Transport layer
Feature type	Integer
Access	R
Affected features	Not applicable
Category	/SystemInformation

Values	Description
1	Minimum

GevVersionMinor

Returns the minor version number of the GigE Vision specification that the GenTL Producer implementation complies with.

Display name	Gev Version Minor
Standard	GenTL deprecated
Origin of feature	Transport layer
Feature type	Integer
Access	R
Affected features	Not applicable
Category	/SystemInformation

Values	Description
1	Minimum

TLDisplayName

Returns the user readable name of the GenTL Producer.

This features corresponds to the TL_INFO_DISPLAYNAME command of the TLGetInfo function.

Display name	TL Display Name
Standard	Gen TL SFNC
Origin of feature	Transport layer
Feature type	String
Access	R
Affected features	Not applicable
Category	/SystemInformation

TLID

Returns the Unique identifier of the GenTL Producer like a GUID.

This feature corresponds to the TL_INFO_ID command of the TLGetInfo function.

Display name	TL ID
Standard	Gen TL SFNC
Origin of feature	Transport layer
Feature type	String
Access	R
Affected features	Not applicable
Category	/SystemInformation

TLModelName

Returns the name of the GenTL Producer to distinguish different kinds of GenTL Producer implementations from one vendor.

This feature corresponds to the TL_INFO_MODEL command of the TLGetInfo function.

Display name	TL Model Name
Standard	Gen TL SFNC
Origin of feature	Transport layer
Feature type	String
Access	R
Affected features	Not applicable
Category	/SystemInformation

TLPath

Returns the full path to the GenTL Producer driver including name and extension.

This feature corresponds to the TL_INFO_PATHNAME command of the TLGetInfo function.

Display name	TL Path
Standard	Gen TL SFNC
Origin of feature	Transport layer
Feature type	String
Access	R
Affected features	Not applicable
Category	/SystemInformation

TLType

Returns the transport layer type of the GenTL Producer implementation.

Corresponds to the TL_INFO_TLTYPE command of the TLGetInfo function.

Display name	TL Type
Standard	Gen TL SFNC adapted
Origin of feature	Transport layer
Feature type	String
Access	R
Affected features	Not applicable
Category	/SystemInformation

Values	Description
GigEVision	GigE Vision

TLVendorName

Returns the name of the GenTL Producer vendor.

This feature corresponds to the TL_INFO_VENDOR command of the TLGetInfo function.

Display name	TL Vendor Name
Standard	Gen TL SFNC
Origin of feature	Transport layer
Feature type	String
Access	R
Affected features	Not applicable
Category	/SystemInformation

TLVersion

Returns the vendor specific version string.

This feature corresponds to the TL_INFO_VERSION command of the TLGetInfo function.

Display name	TL Version
Standard	Gen TL SFNC
Origin of feature	Transport layer
Feature type	String
Access	R
Affected features	Not applicable
Category	/SystemInformation

Feature descriptions: Interface

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Host specific modules

Transport Layer, Interface, Local Device, and Stream0 are host specific modules that provide general abilities for a certain interface type. Depending on the camera series, features may be displayed for these modules that cannot be used.

ActionControl

This category contains all Action Control features of the **Interface Module**.

Display name	Action Control
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	Category

ActionCommand

Creates an action command.

Display name	Action Command
Standard	Gen TL SFNC
Origin of feature	Transport layer
Feature type	Command
Access	W
Affected features	Not applicable
Category	/ActionControl

ActionDeviceKey

Creates the Action Command Device Key to use in the action command.

Note: This parameter must have the same value for all devices in a group.

Display name	Action Device Key
Standard	Gen TL SFNC
Origin of feature	Transport layer
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	ActionControl

Values	Description
0	Minimum
4294967295	Maximum

ActionGroupKey

Creates the Action Command Group Key to use in the action command.

Note: This parameter must have the same value for all devices in a group.

Display name	Action Group Key
Standard	Gen TL SFNC
Origin of feature	Transport layer
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/ActionControl

Values	Description
0	Minimum
4294967295	Maximum

ActionGroupMask

Creates the Action Command Group Mask to use in the action command.

Note: This parameter must have the same value for all devices in a group.

Display name	Action Group Mask
Standard	Gen TL SFNC
Origin of feature	Transport layer
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/ActionControl

Values	Description
0	Minimum
4294967295	Maximum

ActionScheduledTime

Controls the time for a time-enabled action command.

Display name	Action Scheduled Time
Standard	Gen TL SFNC
Origin of feature	Transport layer
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/ActionControl

Values	Description
0	Minimum
9223372036854775807	Maximum

ActionScheduledTimeEnable

Enables or disables time-enabled action commands.

Display name	Action Scheduled Time Enable
Standard	Gen TL SFNC adapted
Origin of feature	Transport layer
Feature type	Boolean
Access	R/W
Affected features	Not applicable
Category	/ActionControl

Values	Description
True	Scheduled action command are enabled.
False	Scheduled action commands are disabled (**default**).

GevActionDestinationIPAddress

Controls the destination IP address for the action command.

Note: This can be any valid destination address (including broadcast addresses for this interface).

Display name	Gev Action Destination IP Address
Standard	Gen TL SFNC
Origin of feature	Transport layer
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/ActionControl

Values	Description
0	Minimum
4294967295	Maximum

DeviceEnumeration

This category contains all Device Enumeration features of the **Interface module**.

Display name	Device Enumeration
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	Category

DeviceAccessStatus

Returns the device's access status at the moment of the last execution of `DeviceUpdateList`.

Display name	Device Access Status
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	Enumeration
Access	R
Affected features	Not applicable
Category	/DeviceEnumeration

Values	Description
Unknown	Producer is unknown.
ReadWrite	Full access
ReadOnly	Read-only access
NoAccess	No connection available
Busy	The device has been opened by another entity already.
OpenReadWrite	The device has been opened in Read/Write mode by this GenTL host.
OpenReadOnly	The device has been opened in Read only mode by this GenTL host.

DeviceCount

Returns the number of found devices

Display name	Device Count
Standard	Custom
Origin of feature	Transport layer
Feature type	Integer
Access	R
Affected features	Not applicable
Category	/DeviceEnumeration

Values	Description
0	Minimum
4294967295	Maximum

DeviceDisplayName

[DeviceSelector]

Returns the user readable name of the selected device.

Display name	Device Display Name
Standard	Gen TL SFNC
Origin of feature	Transport layer
Feature type	String
Access	R
Affected features	Not applicable
Category	/DeviceEnumeration

DeviceID

[DeviceSelector]

Returns the interface wide unique identifier of the selected device.

Display name	Device ID
Standard	Gen TL SFNC
Origin of feature	Transport layer
Feature type	String
Access	R
Affected features	Not applicable
Category	/DeviceEnumeration

DeviceModelName

[DeviceSelector]

Returns the family and model name of the camera.

Note: Software should use the `DevicePartNumber` to distinguish between models.

Display name	Device Model Name
Standard	Gen TL SFNC
Origin of feature	Transport layer
Feature type	String
Access	R
Affected features	Not applicable
Category	/DeviceEnumeration

DeviceSelector

Selects the device to be displayed.

Display name	Device Selector
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	Enumeration
Access	R
Affected features	Not applicable
Category	/DeviceEnumeration

Values	Description
≥0	Value range

DeviceType

[DeviceSelector]

Returns the transport layer technology of the selected device.

Display name	Device Type
Standard	Gen TL SFNC adapted
Origin of feature	Transport layer
Feature type	Enumeration
Access	R
Affected features	Not applicable
Category	/DeviceEnumeration

Values	Description
GigEVision	GigE Vision

DeviceUpdateList

Updates the transport layer's device list.

Display name	Device Update List
Standard	Gen TL SFNC
Origin of feature	Transport layer
Feature type	Command
Access	R
Affected features	Not applicable
Category	/DeviceEnumeration

DeviceUpdateTimeout

Controls the timeout for the `DeviceUpdateList` command.

Note: As long as no value has been specified by the user, the value is updated based on the selected value for `DiscoveryMode`.

Display name	Device Update Timeout
Standard	GenTL SFNC
Origin of feature	Transport Layer
Feature type	Integer
Access	R/W
Unit	Milliseconds [ms]
Affected features	Not applicable
Category	/DeviceEnumeration

Values	Description
1	Minimum
5,000	Maximum

DeviceVendorName

[DeviceSelector]

Returns the vendor's name for the selected device.

This feature corresponds to the `DeviceVendorName` of the remote device.

Display name	Device Vendor Name
Standard	Gen TL SFNC
Origin of feature	Transport layer
Feature type	String
Access	R
Affected features	Not applicable
Category	/DeviceEnumeration

Gev (subcategory)

This category contains GigE related features for Device Enumeration.

Display name	GVCP
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	Subcategory
Category	/DeviceEnumeration

GevDeviceForceGateway

Controls the gateway of the GEV camera to be forced.

Display name	Gev Device Force Gateway
Standard	GenTL SFNC
Origin of feature	Transport Layer
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/DeviceEnumeration/Gev

Values	Description
0	Minimum
4294967295	Maximum

GevDeviceForceIP

Sends the force address command on all interfaces.

Display name	Gev Device Force IP
Standard	GenTL SFNC
Origin of feature	Transport Layer
Feature type	Command
Access	W
Affected features	Not applicable
Category	/DeviceEnumeration/Gev

GevDeviceForceIPAddress

Controls the IP address of the GEV camera to be forced.

Display name	Gev Device Force IP Address
Standard	GenTL SFNC
Origin of feature	Transport Layer
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/DeviceEnumeration/Gev

Values	Description
0	Minimum
4294967295	Maximum

GevDeviceForceSubnetMask

Controls the subnet mask of the GEV camera to be forced.

Display name	Gev Device Force Subnet Mask
Standard	GenTL SFNC
Origin of feature	Transport Layer
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/DeviceEnumeration/Gev

Values	Description
0	Minimum
4294967295	Maximum

GevDeviceIPAddress

[DeviceSelector]

Returns the current IP address of the selected remote device.

Display name	Device IP Address
Standard	GenTL SFNC
Origin of feature	Transport Layer
Feature type	Integer
Access	R
Affected features	Not applicable
Category	/DeviceEnumeration/Gev

Values	Description
0	Minimum
4294967295	Maximum

GevDeviceMACAddress

[DeviceSelector]

Returns the current 48-Bit MAC address of the selected remote device.

Display name	Device MAC Address
Standard	GenTL SFNC
Origin of feature	Transport Layer
Feature type	Integer
Access	R (constant)
Affected features	Not applicable
Category	/DeviceEnumeration/Gev

Values	Description
0	Minimum
9223372036854775807	Maximum

GevDeviceSubnetMask

[DeviceSelector]

Returns the current IP address of the selected remote device.

Display name	Device Subnet Mask
Standard	GenTL SFNC
Origin of feature	Transport Layer
Feature type	Integer
Access	R
Affected features	Not applicable
Category	/DeviceEnumeration/Gev

Values	Description
0	Minimum
4294967295	Maximum

GevInterfaceMACAddress

Returns the current 48-Bit MAC address of the interface.

Display name	Interface MAC Address
Standard	GenTL SFNC
Origin of feature	Transport Layer
Feature type	Integer
Access	R (constant)
Affected features	Not applicable
Category	/DeviceEnumeration/Gev

Values	Description
0	Minimum
9223372036854775807	Maximum

GevInterfaceSubnetIPAddress

Returns the IP address of the selected subnet for the interface.

Display name	Interface Subnet IP Address
Standard	GenTL SFNC adapted
Origin of feature	Transport Layer
Feature type	Integer
Access	R
Affected features	Not applicable
Category	/DeviceEnumeration/Gev

Values	Description
0	Minimum
4294967295	Maximum

GevInterfaceSubnetMask

Returns the current IP address of the selected subnet for the interface.

Display name	Interface Subnet Mask
Standard	GenTL SFNC adapted
Origin of feature	Transport Layer
Feature type	Integer
Access	R
Affected features	Not applicable
Category	/DeviceEnumeration/Gev

Values	Description
0	Minimum
4294967295	Maximum

InterfaceInformation

This category contains all Interface Information features of the **Interface module**.

Display name	Interface Information
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	Category

InterfaceDisplayName

[InterfaceSelector]

Returns the user readable name of the selected interface.

This feature corresponds to the INTERFACE_INFO_DISPLAYNAME command of the IFGetInfo function.

Display name	Interface Display Name
Standard	Gen TL SFNC
Origin of feature	Transport layer
Feature type	String
Access	R
Affected features	Not applicable
Category	/InterfaceInformation

InterfaceID

[InterfaceSelector]

Returns the GenTL Producer wide unique identifier of the selected interface.

This feature corresponds to the INTERFACE_INFO_ID command of the IFGetInfo function.

Display name	Interface ID
Standard	Gen TL SFNC
Origin of feature	Transport layer
Feature type	String
Access	R
Affected features	Not applicable
Category	/InterfaceInformation

InterfaceType

Returns the transport layer type of the interface.

This feature corresponds to the INTERFACE_INFO_TLTYPE command of the IFGetInfo function.

Display name	Interface Type
Standard	Gen TL SFNC adapted
Origin of feature	Transport layer
Feature type	Enumeration
Access	R
Affected features	Not applicable
Category	/InterfaceInformation

Values	Description
GigEVision	GigE Vision

Settings

The features in this category can be used to specify settings for GigE Device Discovery.

Display name	Settings
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	Category

DiscoveryBroadcastMode

Selects the area where the interface (= the host) sends DHCP discover messages.

Display name	Discovery Broadcast Mode
Standard	Custom
Origin of feature	Transport layer
Feature type	Enumeration
Access	R/W
Affected features	Not applicable
Category	/Settings

Values	Description
Local	The interface sends the discovery broadcast to the local broadcast IP address 255.255.255.255 (**default**).
Subnet	The interface sends the discovery broadcast to a subnet broadcast IP address, such as 192.168.1.255.

DiscoveryMode

Controls how the interface discovers connected devices, using GigE Vision discover messages.

Display name	Discovery Mode
Standard	Custom
Origin of feature	Transport layer
Feature type	Enumeration
Access	R/W
Affected features	Not applicable
Category	/Settings

Values	Description
Auto	The interface sends the GigE Vision discover message in a frequency [ms]: `InterfaceBeatRate` × `InterfaceHailPace` (**Default**)
Once	The interface sends the GigE Vision discover message once during the startup of the transport layer.
Off	The interface does not send GigE Vision discover messages.

InterfaceBeatRate

Controls the frequency for the interface to send DHCP discover messages.

Display name	Interface Beat Rate
Standard	Custom
Origin of feature	Transport layer
Feature type	Integer
Access	R/W
Unit	Milliseconds [ms]
Affected features	Not applicable
Category	/Settings

Values	Description
10	Minimum
500	**Default**
10,000	Maximum

InterfaceHailPace

Controls the frequency for the interface to “hail” (page) devices.

Display name	Interface Hail Pace
Standard	Custom
Origin of feature	Transport layer
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/Settings

Values	Description
1	Value of `InterfaceBeatRate`
4	**Default**
10	10 × value of `InterfaceBeatRate`

InterfacePingPace

Controls the frequency for the interface to ping devices.

Display name	Interface Ping Pace
Standard	Custom
Origin of feature	Transport layer
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/Settings

Values	Description
1	Value of `InterfaceBeatRate`
2	**Default**
10	10 × value of `InterfaceBeatRate`

Feature descriptions: Local Device

This chapter includes:

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Host specific modules

Transport Layer, Interface, Local Device, and Stream0 are host specific modules that provide general abilities for a certain interface type. Depending on the camera series, features may be displayed for these modules that cannot be used.

DeviceInformation

Features in this category provide basic information about the **Local Device Module** and its identity.

Display name	Device Information
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	Category

DeviceDisplayName

Returns the user readable name of the camera.

This feature corresponds to the DEVICE_INFO_DISPLAYNAME command of DevGetInfo function.

Display name	Device Display Name
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	String
Access	R
Affected features	Not applicable
Category	/DeviceInformation

DeviceID

Returns the interface wide unique identifier of the camera.

Display name	Device ID
Standard	Gen TL SFNC
Origin of feature	Transport layer
Feature type	String
Access	R
Affected features	Not applicable
Category	/DeviceInformation

DeviceModelName

Returns the family and model name of the camera.

Note: Software should use the `DevicePartNumber` to distinguish between models.

Display name	Device Model Name
Standard	Gen TL SFNC
Origin of feature	Transport layer
Feature type	String
Access	R
Affected features	Not applicable
Category	/DeviceInformation

DeviceType

Returns the transport layer technology of the camera.

Display name	Device Type
Standard	Gen TL SFNC adapted
Origin of feature	Transport layer
Feature type	Enumeration
Access	R
Affected features	Not applicable
Category	/DeviceInformation

Values	Description
GEV	GigE Vision

DeviceVendorName

Returns the vendor's name for the selected device.

This feature corresponds to the `DeviceVendorName` of the remote device.

Display name	Device Vendor Name
Standard	Gen TL SFNC
Origin of feature	Transport layer
Feature type	String
Access	R
Affected features	Not applicable
Category	/DeviceInformation

GigE

The features in this category can be used to control IP settings, the communication between the host and the camera, and the transfer of data packets.

Display name	GigE
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	Category

GVCP (subcategory)

The features in this subcategory can be used to control command traffic and timings between the host and the camera.

Display name	GVCP
Standard	Custom
Origin of feature	Transport layer
Feature type	Subcategory
Category	/GigE

GVCPCmdRetries

Controls the number of times a particular command to the camera is resent when no answer is being received.

Display name	Command Retries
Standard	Custom
Origin of feature	Transport Layer
Feature type	Integer
Access	R/W
Affected features	`GevHeartbeatTimeout`, `GevHeartbeatInterval`, `GVCPHBInterval`
Category	/GigE/GVCP

Values	**Description**
1	Minimum
9	Maximum

GVCPCmdTimeout

Controls the period of time for the host to wait for an answer from the camera.

Display name	Command Timeout
Standard	Custom
Origin of feature	Transport Layer
Feature type	Integer
Access	R/W
Unit	Milliseconds [ms]
Affected features	`GevHeartbeatTimeout`, `GevHeartbeatInterval`, `GVCPHBInterval`
Category	/GigE/GVCP

Values	Description
100	Minimum
10,000	Maximum

GevHeartbeatInterval

Controls the period of time after which a heartbeat is sent by the host.

Display name	Heartbeat Interval
Standard	Custom
Origin of feature	Transport Layer
Feature type	Integer
Access	R/W
Unit	Milliseconds [ms]
Affected features	`GVCPHBInterval`
Category	/GigE/GVCP

Values	Description
200	Minimum
100,000	Maximum (depending on the configuration)

GevHeartbeatTimeout

Controls the period of time after which the camera rejects control by the host if no heartbeat activity is registered.

Display name	Heartbeat Timeout
Standard	Custom
Origin of feature	Transport Layer
Feature type	Integer
Access	R/W
Unit	Milliseconds [ms]
Affected features	`GevHeartbeatInterval`, `GVCPHBInterval`
Category	/GigE/GVCP

Values	**Description**
25100	Minimum
100,000	Maximum

StreamEnumeration

This category contains all Stream Enumeration features of the **Local Device Module**.

Display name	Stream Enumeration
Standard	GenTL SFNC
Origin of feature	Camera
Feature type	Category

StreamCount

Returns the number of available streams.

Display name	Stream Count
Standard	Custom
Origin of feature	Transport layer
Feature type	Integer
Access	R
Affected features	Not applicable
Category	/StreamEnumeration

Values	Description
0	Minimum
4294967295	Maximum

StreamID

[StreamSelector]

Returns the unique identifier for the stream of the selected device (camera), for instance a GUID.

Display name	Stream ID
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	String
Access	R
Affected features	Not applicable
Category	/StreamEnumeration

StreamSelector

Selects the stream channel.

Display name	Stream Selector
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	Enumeration
Access	R/W
Affected features	Not applicable
Category	/StreamEnumeration

Values	Description
≥0	Value range

Allied Vision

Feature descriptions: Camera

This chapter describes the standard and advanced camera features, as seen from **Vimba X Viewer**, for all Goldeye Pro models, according to the GenICam SFNC (Standard Feature Naming Convention), listed by categories:

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AnalogControl 81
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DeviceControl 112
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AcquisitionControl

The features in this category can be used to control acquisition, frame rate, and exposure time, and to trigger the camera and connected devices, such as strobe lights.

Display name	AcquisitionControl
Standard	SFNC
Origin of feature	Camera
Feature type	Category

AcquisitionFrameCount

Controls the number of frames to capture in a limited sequence of images. Used with `AcquisitionMode` = *`MultiFrame`*.

Display name	AcquisitionFrameCount
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R/W
Unit	Frames
Affected features	None
Category	/AcquisitionControl

Values	**Description**
1	Minimum (**default**)
65,535	Maximum

AcquisitionFrameRate

Controls the frame rate.

Notes

- **Available only** if `TriggerMode[FrameStart]` = *`Off`*.
- Depending on the exposure time, the camera may not achieve the value set here.

Display name	AcquisitionFrameRate
Standard	SFNC
Origin of feature	Camera
Feature type	Float
Access	R/W
Unit	Hertz [Hz]
Affected features	`ExposureTime`
Category	/AcquisitionControl

Values	Description
Model dependent	All values

AcquisitionFrameRateEnable

Enables or disables `AcquisitionFrameRate`.

Note: If the feature is disabled, the frame rate is implicitly controlled by the combination of other features like `ExposureTime`.

Display name	AcquisitionFrameRateEnable
Standard	SFNC
Origin of feature	Camera
Feature type	Boolean
Access	R/W
Affected features	`AcquisitionFrameRate`
Category	/AcquisitionControl

Values	Description
`True`	`AcquisitionFrameRate` feature is writable and used to control the acquisition rate.
`False`	`AcquisitionFrameRate` is implicitly controlled by the combination of other features like `ExposureTime`. The maximum achievable frame rate is used (**default**).

AcquisitionMode

Selects the acquisition mode of the camera. This feature defines the number of frames to capture during an acquisition and the way the acquisition stops.

Display name	AcquisitionMode
Standard	SFNC
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	None
Category	/AcquisitionControl

Values	Description
Continuous	After an acquisition start event, the camera continuously acquires images until acquisition stop is triggered (**default**). See `TriggerSelector` and `TriggerSource` for more information.
MultiFrame	The camera acquires the number of images specified by `AcquisitionFrameCount`. Further trigger events are ignored until acquisition is stopped and restarted.
SingleFrame	The camera only acquires one single image. Further trigger events are ignored until acquisition is stopped and restarted.

AcquisitionStart

Starts the image acquisition.

Note: **Available only** if `TriggerMode[AcquisitionStart]` = *Off*.

Display name	AcquisitionStart
Standard	SFNC
Origin of feature	Camera
Feature type	Command
Access	W
Affected features	`AcquisitionStop`
Category	/AcquisitionControl

AcquisitionStop

Stops the image acquisition.

Note: **Available only** if `TriggerMode[AcquisitionStop]` = *`Off`*.

Display name	AcquisitionStop
Standard	SFNC
Origin of feature	Camera
Feature type	Command
Access	W
Affected features	None
Category	/AcquisitionControl

ExposureAuto

Selects the way of controlling the exposure time automatically.

Display name	ExpsoureAuto
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	Not applicable
Category	/ImageProcessingControl/ContrastControl

Values	Description
`Continuous`	The exposure time is adjusted continuously according to the brightness values of the scene.
`Off`	Automatic adjustment for the exposure time is disabled
`Once`	The exposure time is adjusted once according to the brightness values of the scene.

ExposureMode

Selects the operation mode of the exposure (or shutter).

Note: A delay may occur between the trigger signal and the start of the exposure.

Display name	ExposureMode
Standard	SFNC
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	Not applicable
Category	/AcquisitionControl

Value	Description
Timed	The exposure time is set by `ExposureTime` or `ExposureAuto`.

ExposureTime

Controls the sensor integration time.

Display name	ExposureTime
Standard	SFNC
Origin of feature	Camera
Feature type	Float
Access	R/W
Unit	Microseconds [µs]
Affected features	`AcquisitionFrameRate`
Category	/AcquisitionControl

IntegrationMode

Selects the priority between image quality and speed.

Note: This works only with external triggering, not with software triggering.

Application note

You can find more information in the application note: Priority for Image Quality or Speed with Goldeye/Goldeye Pro at www.alliedvision.com/en/support/technical-documentation/goldeye-pro-g5-documentation.

Display name	IntegrationMode
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	`AcquisitionFrameRate`, `ExposureTime`
Category	/AcquisitionControl

Values	Description
`IntegrateThenRead`	"**ITR**": Image capture first, then readout. Use this option for high image quality with low noise and without shutter line.
`IntegrateWhileRead`	"**IWR**": The capture and the readout are allowed to overlap. Use this option to allow trigger overlap and higher frame rates (**default**).

TriggerActivation

[TriggerSelector]

Selects the electrical signal level of the selected trigger.

Display name	TriggerActivation
Standard	SFNC
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	None
Category	/AcquisitionControl

Values	Description
AnyEdge	The trigger is activated at the falling or rising edge of the signal.
FallingEdge	The trigger is activated at the falling edge of the signal.
LevelHigh	The trigger is activated at a high level of the signal.
LevelLow	The trigger is activated at a low level of the signal.
RisingEdge	The trigger is activated at the rising edge of the signal (**default**).

TriggerDelay

[TriggerSelector]

Controls the period of time before the camera corresponds after receiving the selected trigger.

Notes

- **Available only** if `TriggerSource` is set to an external trigger, for example, Line7 or Line3.
- This feature is commonly used to synchronize with a strobe lighting source.

Display name	TriggerDelay
Standard	SFNC
Origin of feature	Camera
Feature type	Float
Access	R/W
Unit	Microseconds [µs]
Affected features	None
Category	/AcquisitionControl

Values	Description
0	Minimum (**default**)
Model dependent	Maximum

TriggerMode

[TriggerSelector]

Enables or disables the selected triggers.

Note: If `TriggerMode[FrameStart]` = *`Off`*:

- Images are triggered at fixed rate as defined by `AcquisitionFrameRate`
- Or at an implicitly set frame rate, depending on the combination of other features like `ExposureTime`.

Display name	TriggerMode
Standard	SFNC
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	None
Category	/AcquisitionControl

Possible	Description
`On`	Triggering is enabled (**default**).
`Off`	Triggering is disabled.

TriggerOverlap

[TriggerSelector]

Selects the permitted window for trigger activation, relative to the previous frame.

Note: This works only with external triggering, not with software triggering.

Display name	TriggerOverlap
Standard	SFNC
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	None
Category	/AcquisitionControl

Values	Description
`Off`	Before receiving a high *`FrameTriggerReady`* signal, external triggers are ignored (**default**).
`PreviousFrame`	External triggers are accepted after `FrameTriggerReady` has been latched and used to trigger the next frame.

TriggerSelector

Selects the type of trigger to configure.

Display name	TriggerSelector
Standard	SFNC
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	`TriggerActivation`, `TriggerDelay`, `TriggerMode`, `TriggerOverlap`, `TriggerSource`
Category	/AcquisitionControl

Values	Description
`AcquisitionEnd`	The trigger terminates the acquisition process.
`AcquisitionStart`	The selected trigger starts the acquisition process.
`FrameStart`	The selected trigger starts the capture of a single frame (when acquisition is running) (**default**). **Note**: An acquisition stream must be started in order to trigger or receive individual frames.

TriggerSoftware

[TriggerSelector]

Generates an internal trigger.

Note: **Available only** if `TriggerSource` = *`Software`*.

Display name	TriggerSoftware
Standard	SFNC
Origin of feature	Camera
Feature type	Command
Access	W
Affected features	None
Category	/AcquisitionControl

TriggerSource

[TriggerSelector]

Selects the internal signal or physical input line for activating the selected trigger.

Note: If a trigger source has been selected and enabled (`TriggerMode` = *`On`*), it is unavailable for other trigger selectors. This is still the case even if `TriggerSource` is switched while `TriggerMode` = *`On`*.

To re enable a trigger source to be configured in other trigger selectors, set `TriggerMode` = *`Off`* before changing to another trigger source or another trigger selector.

Display name	TriggerSource
Standard	SFNC
Origin of feature	Camera
Feature type	Enumeration
Access	R
Affected features	None
Category	/AcquisitionControl

Values	Description
`Line3`	Input on Line3 is used to activate the trigger.
`Line4`	Input on Line4 is used to activate the trigger.
`Line5`	Input on Line5 is used to activate the trigger.
`Line6`	Input on Line6 is used to activate the trigger.
`Line7`	Input on Line7 is used to activate the trigger.
`Software`	`TriggerSoftware` is used to activate the trigger.

AnalogControl

The features in this category can be used to control the intensity levels.

Display name	AnalogControl
Standard	SFNC
Origin of feature	Camera
Feature type	Category

BlackLevel

[BlackLevelSelector]

Controls the selected analog black level in counts. The feature represents a DC offset applied to the video signal.

Note: `BlackLevel` is applied before `PixelFormat`.

Display name	BlackLevel
Standard	Custom
Origin of feature	Camera
Feature type	Float
Access	R/W
Affected features	None
Category	/AnalogControl

Values	Description
240	Minimum (**default**)
4095	Maximum
1	Increment

BlackLevelAutoAdjust

[BlackLevelSelector]

Compensates for the drifting dark current depending on the exposure time and sensor temperature.

Notes

- This feature cannot be used to control `BlackLevel`.
- Only Sony IMX InGaAs sensors are supported.

Display name	BlackLevelAutoAdjust
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	None
Category	/AnalogControl

Values	Description
Off	The feature is disabled.
On	The feature is enabled (**default**).

BlackLevelEqualizationMode

[BlackLevelSelector]

For Goldeye Pro G5-130 VSWIR TEC1 operated in triggered mode and with `IntegrationMode` set to *`IWR`* (integrating during the readout), especially with short exposure times: Sensor characteristics cause the brightness to vary between the upper and lower part of the image.

`BlackLevelEqualizationMode` compensates for this inhomogeneous brightness between the sensor lines.

Note: For other sensor models, this error does not occur. For these models, the compensation is disabled by default.

Display name	BlackLevelEqualizationMode
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	None
Category	/CorrectionControl

Values	Description	Default
`Off`	The feature is disabled.	G5-320/530 VSWIR TEC1
`On`	The feature is enabled.	G5-130 VSWIR TEC1

BlackLevelSelector

Selects the black level to be controlled by the various black level features.

Display name	BlackLevelSelector
Standard	SFNC
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	`BlackLevel`
Category	/AnalogControl

Value	Description
All	All black levels are controlled.

Gain

[GainSelector]

Sets the selected analog gain level of the sensor.

Display name	Gain
Standard	SFNC
Origin of feature	Camera
Feature type	Float
Access	R/W
Unit	Decibel [dB]
Affected features	None
Category	/AnalogControl

Values	Description
0.0	Minimum (**default**)
42.0	Maximum

GainSelector

Selects the gain to be controlled by the various gain features.

Display name	GainSelector
Standard	SFNC
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	`Gain`
Category	/AnalogControl

Value	Description
All	All gains are controlled.

HighConversionGain

Enables or disables the High Conversion Gain of the sensor. The signal is amplified by 4.7 dB while producing lower noise than conventional gain.

Notes

- **Available only** with Goldeye Pro G5-320 and G5-530.
- Gain-dependent functionalities (such as NUC, DPC, auto-mode ranges, or saved gain settings in `UserSets`) with this feature.

Display name	HighConversionGain
Standard	Custom
Origin of feature	Camera
Feature type	Boolean
Access	R/W
Affected features	Not applicable
Category	/AnalogControl

Values	Description
True	High Conversion Gain enabled.
False	High Conversion Gain is disabled (**default**).

AutoModeControl

The features in this category enable auto functions for exposure time and contrast.

Display name	AutoModeControl
Standard	Custom
Origin of feature	Camera
Feature type	(Category)

AutoModeRegionHeight

[AutoModeRegionSelector]

Controls the height of the region used to measure values for all auto functions.

Note: The value for this feature can be set to the full sensor height, even if the camera is operated using a reduced ROI. In this case, `AutoModeControl` features use the full sensor height.

Display name	AutoModeRegionHeight
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R/W
Unit	Pixel
Affected features	`AutoModeRegionOffsetY`
Category	/AutoModeControl

AutoModeRegionMode

Controls how the auto mode region is selected.

Display name	AutoModeRegionMode
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	Not applicable
Category	/AutoModeControl

Value	Description
`Manual`	The auto mode region is selected by the user (default).

AutoModeRegionOffsetX

[AutoModeRegionSelector]

Controls the horizontal position of the window used to measure the actual value for the auto function.

Display name	AutoModeRegionOffsetX
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R/W
Unit	Pixel
Affected features	`AutoModeRegionWidth`
Category	/AutoModeControl

AutoModeRegionOffsetY

[AutoModeRegionSelector]

Controls the vertical position of the window used to measure the actual value for the auto function.

Display name	AutoModeRegionOffsetY
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R/W
Unit	Pixel
Affected features	`AutoModeRegionHeight`
Category	/AutoModeControl

AutoModeRegionOutliersBright

[AutoModeRegionSelector]

Controls the number of pixels on the high side of the histogram that are not considered.

Display name	AutoModeRegionOutliersBright
Standard	Custom
Origin of feature	Camera
Feature type	Float
Access	R/W
Unit	Percent [%]
Affected features	Not applicable
Category	/AutoModeControl

AutoModeRegionOutliersDark

[AutoModeRegionSelector]

Controls the number of pixels on the low side of the histogram that are not considered.

Display name	AutoModeRegionOutliersDark
Standard	Custom
Origin of feature	Camera
Feature type	Float
Access	R/W
Unit	Percent [%]
Affected features	Not applicable
Category	/AutoModeControl

AutoModeRegionSelector

Selects the auto mode region to be used.

Display name	AutoModeRegionSelector
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	`AutoModeRegionWidth`, `AutoModeRegionOffsetX`, `AutoModeRegionHeight`, `AutoModeRegionOffsetY`
Category	/AutoModeControl

Value	Description
`AutoModeRegion1`	Auto Mode Region 1 is used.

AutoModeRegionWidth

[AutoModeRegionSelector]

Controls the width of the window used to measure the actual value for the auto function.

Note: The value for this feature can be set to the full sensor width, even if the camera is operated using a reduced ROI. In this case, `AutoModeControl` features use the full sensor width.

Display name	AutoModeRegionWidth
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R/W
Unit	Pixel
Affected features	`AutoModeRegionOffsetX`
Category	/AutoModeControl

ContrastAutoRegion

Selects the auto mode region used for the features in ContrastControl (subcategory) on page 173.

Display name	ContrastAutoRegion
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	Not applicable
Category	/AutoModeControl

Value	Description
`AutoModeRegion1`	Auto Mode Region 1 is used.

ExposureAutoMax

Controls the maximum exposure time value for auto exposure.

Display name	ExposureAutoMax
Standard	Custom
Origin of feature	Camera
Feature type	Float
Access	R/W
Unit	Microseconds [µs]
Affected features	`ExposureAutoMin`
Category	/AutoModeControl

ExposureAutoMin

Controls the minimum exposure time value for auto exposure.

Display name	ExposureAutoMin
Standard	Custom
Origin of feature	Camera
Feature type	Float
Access	R/W
Unit	Microseconds [µs]
Affected features	`ExposureAutoMax`
Category	/AutoModeControl

IntensityControllerAlgorithm

[IntensityControllerSelector]

Selects the algorithm determining how the histogram is used to determine the current intensity value.

Note: The outliers are disregarded.

Display name	IntensityControllerAlgorithm
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	Not applicable
Category	/AutoModeControl

Values	Description
Mean	After comparing the arithmetic mean of the current image's histogram to `IntensityControllerTarget`, the exposure time for the next image is adjusted to meet this target. Bright areas are allowed to saturate.

IntensityControllerRate

Controls the rate at which the controller should compute an intensity value.

Note: This value also defines the period at which the associated auto functions change their control value.

Display name	IntensityControllerRate
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/AutoModeControl

Values	Description
1	Minimum
100	Maximum

IntensityControllerRegion

Selects the auto mode region to be used for the intensity controller features.

Display name	IntensityControllerRegion
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	Not applicable
Category	/AutoModeControl

Values	Description
AutoModeRegion1	Auto Mode Region 1 is used.

IntensityControllerTarget

Controls the target intensity value for auto intensity control as deviation from the mean value in [percent].

Note: The default value for all auto features is 50.

Display name	IntensityControllerTarget
Standard	Custom
Origin of feature	Camera
Feature type	Float
Access	R/W
Unit	Percent [%]
Affected features	Not applicable
Category	/AutoModeControl

Values	Description
10	Minimum
89.9	Maximum
0.0001	Increment
50	Default

IntensityControllerTolerance

Controls the deviation of the current value from the target value at which the feature is inactive.

Display name	IntensityControllerTolerance
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/AutoModeControl

Values	Description
0	Minimum
50	Maximum
1	Increment

CorrectionControl

The features in this category can be used to control DPC (Defect pixel correction) and NUC (Non uniformity correction) for image correction.

Display name	Correction Control
Standard	Custom
Origin of feature	Camera
Feature type	(Category)

Overview of DPC features

Figure 3 shows DPC features in **Vimba X Viewer**, grouped by use.

The DPC module is enabled when `DPCMode` = *`On`*.

`DPCDatasetActiveDescription` summarizes data from `DPCDatasetActiveExposureTime`, `DPCDatasetActiveGain`, and `DPCDatasetActiveTemperature` in a common string.

When `DPCDatasetAuto` = *`Off`*, you can select a dataset from `DPCDatasets` to make it become the current dataset by `DPCDatasetActivate`.

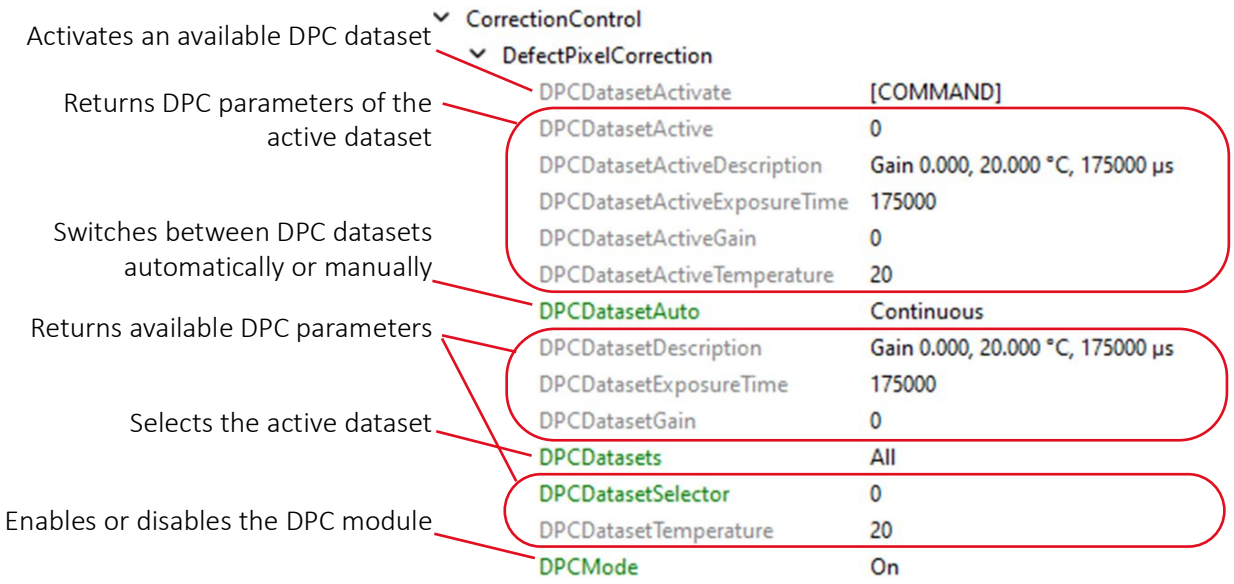


Figure 3: DPC features in Vimba X Viewer

Features for NUC correction work similarly.

DefectPixelCorrection (subcategory)

This subcategory handles features for the defect pixel correction (DPC).

Functional description

You can find details on the working principle of DPC in the Goldeye Pro G5 User Guide at www.alliedvision.com/en/support/technical-documentation/goldeye-pro-g5-documentation.

Display name	DefectPixelCorrection
Standard	Custom
Origin of feature	Camera
Feature type	Subcategory
Category	/CorrectionControl

DPC datasets

Goldeye Pro is shipped with factory calibrated DPC datasets for different operating points (exposure time, gain, and temperature). To adjust the DPC to your own application, add individual datasets using the Defect Pixel Manager.

Defect Pixel Manager

You can download the Defect Pixel Manager from www.alliedvision.com/en/support/software-downloads.

DPCDatasetActivate

[DPCDatasetSelector]

Activates the dataset selected by `DPCDatasetSelector`.

Note: **Available only** if `DPCDatasetAuto` = *Off*.

Display name	DPCDatasetActivate
Standard	Custom
Origin of feature	Camera
Feature type	Command
Access	W
Affected features	None
Category	/CorrectionControl/DefectPixelCorrection

DPCDatasetActive

Returns the index for the currently active DPC dataset.

Note: The mapping of an index value to a specific correction dataset may vary from camera to camera or after correction data modifications.

Display name	DPCDatasetActive
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R
Affected features	None
Category	/CorrectionControl/DefectPixelCorrection

Values	Description
0	Minimum
Model dependent	Maximum

DPCDatasetActiveDescription

Returns the values for exposure time, gain, and temperature for the currently active DPC dataset.

Display name	DPCDatasetActiveDescription
Standard	Custom
Origin of feature	Camera
Feature type	String
Access	R
Affected features	None
Category	/CorrectionControl/DefectPixelCorrection

DPCDatasetActiveExposureTime

Returns the exposure time for the currently active DPC dataset.

Note: For optimum DPC correction, ensure that the value for `ExposureTime` suits the value returned for this feature.

Display name	DPCDatasetActiveExposureTime
Standard	Custom
Origin of feature	Camera
Feature type	Float
Access	R
Unit	Microseconds [µs]
Affected features	None
Category	/CorrectionControl/DefectPixelCorrection

DPCDatasetActiveGain

Returns the gain for the currently active DPC dataset.

Note: For optimum DPC correction, ensure that the value for `Gain` suits the value returned for this feature.

Display name	DPCDatasetActiveGain
Standard	Custom
Origin of feature	Camera
Feature type	Float
Access	R
Unit	Decibel [dB]
Affected features	None
Category	/CorrectionControl/DefectPixelCorrection

DPCDatasetActiveTemperature

Returns the sensor temperature for the currently active DPC dataset.

Note: For optimum DPC correction, ensure that the value for `DeviceTemperature` > *`Sensor`* suits the value returned for this feature.

Display name	DPCDatasetActiveTemperature
Standard	Custom
Origin of feature	Camera
Feature type	Float
Access	R
Unit	Degrees Centigrade [°C]
Affected features	None
Category	/CorrectionControl/DefectPixelCorrection

DPCDatasetAuto

[DPCDatasetSelector]

Selects between controlling DPC datasets automatically by the camera or manually by the user.

Note: Activating this feature disables `DPCDatasetActivate`.

Display name	DPCDatasetAuto
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	`DPCDatasetActive`
Category	/CorrectionControl/DefectPixelCorrection

Values	Description
`Continuous`	Depending on the values for exposure time, gain, and temperature, the camera automatically switches between the available DPC datasets.
`Off`	The camera uses the DPC dataset selected by the user.

DPCDatasetDescription

[DPCDatasetSelector]

Returns the values for exposure time, gain, and temperature for the DPC dataset selected by `DPCDatasetSelector`.

Display name	DPCDatasetDescription
Standard	Custom
Origin of feature	Camera
Feature type	String
Access	R
Affected features	None
Category	/CorrectionControl/DefectPixelCorrection

DPCDatasetExposureTime

[DPCDatasetSelector]

Returns the exposure time for the DPC dataset selected by `DPCDatasetSelector`.

Display name	DPCDatasetExposureTime
Standard	Custom
Origin of feature	Camera
Feature type	Float
Access	R
Unit	Microseconds [µs]
Affected features	None
Category	/CorrectionControl/DefectPixelCorrection

DPCDatasetGain

[DPCDatasetSelector]

Returns the gain for the DPC dataset selected by `DPCDatasetSelector`.

Display name	DPCDatasetGain
Standard	Custom
Origin of feature	Camera
Feature type	Float
Access	R
Unit	Decibel [dB]
Affected features	None
Category	/CorrectionControl/DefectPixelCorrection

DPCDatasets

[DPCDatasetSelector]

Selects the availability for DPC related factory and user datasets.

Display name	DPCDatasets
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	None
Category	/CorrectionControl/DefectPixelCorrection

Values	Description
ALL	All factory and user datasets are loaded.

DPCDatasetSelector

Selects the DPC dataset to be controlled by the various DPC features.

Note: The `DPCDataSelector` value does not correspond to the values of the *`DPC_x`* or *`DPC_User_x`* slots.

Display name	DPCDatasetSelector
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R/W
Affected features	Most DPC related features
Category	/CorrectionControl/DefectPixelCorrection

Values	Description
`0`	Minimum
Model dependent	Maximum

DPCDatasetTemperature

[DPCDatasetSelector]

Returns the sensor temperature for the DPC dataset selected by `DPCDatasetSelector`.

Display name	DPCDatasetemperature
Standard	Custom
Origin of feature	Camera
Feature type	Float
Access	R
Unit	Degrees Centigrade [°C]
Affected features	None
Category	/CorrectionControl/DefectPixelCorrection

DPCMode

Selects the operation mode for the DPC.

Display name	DPCMode
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	None
Category	/CorrectionControl/DefectPixelCorrection

Values	Description
Off	Disables defect pixel correction.
On	Enables defect pixel correction (**default**).
DefectsMap	Instead of the image created from an object in front of the camera, a black image is output, with white spots for pixel corrections.

NonUniformityCorrection (subcategory)

This subcategory handles features for the non uniformity correction (NUC).

Functional description

You can find details on the working principle of NUC in the Goldeye Pro G5 User Guide at www.alliedvision.com/en/support/technical-documentation/goldeye-pro-g5-documentation.

Display name	NonUniformityCorrection
Standard	Custom
Origin of feature	Camera
Feature type	Subcategory
Category	/CorrectionControl

Feature workflow

NUC features behave similarly to DPC features.
See Overview of DPC features on page 94.

NUCDatasetActivate

[NUCDatasetSelector]

Activates the dataset selected by `NUCDatasetSelector`.

Note: **Available only** if `NUCDatasetAuto` = *Off*.

Display name	NUCDatasetActivate
Standard	Custom
Origin of feature	Camera
Feature type	Command
Access	W
Affected features	None
Category	/CorrectionControl/NonUniformityCorrection

NUCDatasetActive

Returns the index for the currently active NUC dataset.

Note: The mapping of an index value to a specific correction data file may vary from camera to camera or after correction data modifications.

Display name	NUCDatasetActive
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R
Affected features	None
Category	/CorrectionControl/NonUniformityCorrection

Values	Description
0	Minimum
Model dependent	Maximum

NUCDatasetActiveDescription

Returns the values for exposure time, gain, and temperature for the currently active NUC dataset.

Display name	NUCDatasetActiveDescription
Standard	Custom
Origin of feature	Camera
Feature type	String
Access	R
Affected features	None
Category	/CorrectionControl/NonUniformityCorrection

NUCDatasetActiveExposureTime

Returns the exposure time for the currently active NUC dataset.

Note: For optimum NUC correction, ensure that the value for `ExposureTime` suits the value returned for this feature.

Display name	NUCDatasetActiveExposureTime
Standard	Custom
Origin of feature	Camera
Feature type	Float
Access	R
Unit	Microseconds [µs]
Affected features	None
Category	/CorrectionControl/NonUniformityCorrection

NUCDatasetActiveGain

Returns the gain for the currently active NUC dataset.

Note: For optimum NUC correction, ensure that the value for `Gain` suits the value returned for this feature.

Display name	NUCDatasetActiveGain
Standard	Custom
Origin of feature	Camera
Feature type	Float
Access	R
Unit	Decibel [dB]
Affected features	None
Category	/CorrectionControl/NonUniformityCorrection

NUCDatasetActiveTemperature

Returns the sensor temperature for the currently active NUC dataset.

Note: For optimum NUC correction, ensure that the value for `DeviceTemperature` > *`Sensor`* suits the value returned for this feature.

Display name	NUCDatasetActiveTemperature
Standard	Custom
Origin of feature	Camera
Feature type	Float
Access	R
Unit	Degrees Centigrade [°C]
Affected features	None
Category	/CorrectionControl/NonUniformityCorrection

NUCDatasetAuto

[NUCDatasetSelector]

Selects between controlling NUC datasets automatically by the camera or manually by the user.

Note: Activating this feature disables `NUCDatasetActivate`.

Display name	NUCDatasetAuto
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	`NUCDatasetActive`
Category	/CorrectionControl/NonUniformityCorrection

Values	Description
`Continuous`	Depending on the values for exposure time, gain, and temperature, the camera automatically switches between the available NUC datasets.
`Off`	The camera uses the NUC dataset selected by the user.

NUCDatasetDescription

[NUCDatasetSelector]

Returns the values for exposure time, gain, and temperature for the NUC dataset selected by `NUCDatasetSelector`.

Display name	NUCDatasetDescription
Standard	Custom
Origin of feature	Camera
Feature type	String
Access	R
Affected features	None
Category	/CorrectionControl/NonUniformityCorrection

NUCDatasetExposureTime

[NUCDatasetSelector]

Returns the exposure time for the NUC dataset selected by `NUCDatasetSelector`.

Display name	NUCDatasetExposureTime
Standard	Custom
Origin of feature	Camera
Feature type	Float
Access	R
Unit	Microseconds [µs]
Affected features	None
Category	/CorrectionControl/NonUniformityCorrection

NUCDatasetGain

[NUCDatasetSelector]

Returns the gain for the NUC dataset selected by `NUCDatasetSelector`.

Display name	NUCDatasetGain
Standard	Custom
Origin of feature	Camera
Feature type	Float
Access	R
Unit	Decibel [dB]
Affected features	None
Category	/CorrectionControl/NonUniformityCorrection

NUCDatasetNodeSelector

[NUCDatasetSelector]

Selects the setpoint for the NUC dataset selected by `NUCDatasetSelector`.

Display name	NUCDatasetNodeSelector
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	None
Category	/CorrectionControl/NonUniformityCorrection

Values	Description
0	Setpoint 1
1	Setpoint 2

NUCDatasetNodeValue

[NUCDatasetSelector][NUCDatasetNodeSelector]

Sets a setpoint value for the dataset selected by `NUCDatasetNodeSelector`.

Display name	NUCDatasetNodeValue
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R
Affected features	None
Category	/CorrectionControl/NonUniformityCorrection

NUCDatasets

[NUCDatasetSelector]

Selects the availability for NUC related factory and user datasets.

Display name	NUCDatasets
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	None
Category	/CorrectionControl/NonUniformityCorrection

Values	Description
ALL	All factory and user datasets are loaded.

NUCDatasetSelector

Selects the NUC dataset to be controlled by the various NUC features.

Note: The `NUCDataSelector` value does not correspond to the values of the *`DPC_x`* or *`DPC_User_x`* slots.

Display name	NUCDatasetSelector
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R/W
Affected features	Most NUC related features
Category	/CorrectionControl/NonUniformityCorrection

Values	Description
`0`	Minimum
Model dependent	Maximum

NUCDatasetTemperature

[NUCDatasetSelector]

Returns the sensor temperature for the NUC dataset selected by `NUCDatasetSelector`.

Display name	NUCDatasetemperature
Standard	Custom
Origin of feature	Camera
Feature type	Float
Access	R
Unit	Degrees Centigrade [°C]
Affected features	None
Category	/CorrectionControl/NonUniformityCorrection

NUCMode

Selects the operation mode for the defect pixel correction.

Display name	NUCMode
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	None
Category	/CorrectionControl/NonUniformityCorrection

Values	Description
Off	Disables non uniformity correction.
TwoPoint	Enables the Two-Point NUC correction (**default**).

DeviceControl

Some features in this category provide status and inquiry information on the camera, such as the camera temperature and name, firmware version, transport layer, or applied standard versions of the SFNC.

Other features can be used to control temperature monitoring, link speed, bandwidth or to execute a device reset.

Display name	DeviceControl
Standard	SFNC
Origin of feature	Camera
Feature type	Category

DeviceFamilyName

Returns the identifier of the camera's product series.

Display name	DeviceFamilyName
Standard	SFNC
Origin of feature	Camera
Feature type	String
Access	R (constant)
Affected features	None
Category	/DeviceControl

Values	Description
Goldeye Pro	Default value

DeviceFirmwareID

[DeviceFirmwareIDSelector]

Returns one or a list of firmware IDs of the camera.

Display name	DeviceFirmwareID
Standard	Custom
Origin of feature	Camera
Feature type	String
Access	R
Affected features	Not applicable
Category	/DeviceControl

DeviceFirmwareIDSelector

Selects the `DeviceFirmwareID` to be read after restarting the camera.

Display name	DeviceFirmwareIDSelector
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	`DeviceFirmwareID`
Category	/DeviceControl

Values	Description
`Current`	The current firmware ID is selected to be read after the next camera restart.
`Supported`	Another than the current firmware ID is selected to be read after the next camera restart.

DeviceFirmwareVersion

[DeviceFirmwareVersionSelector]

Returns the camera's firmware version.

Display name	DeviceFirmwareVersion
Standard	SFNC
Origin of feature	Camera
Feature type	String
Access	R
Affected features	None
Category	/DeviceControl

DeviceFirmwareVersionSelector

Selects the `DeviceFirmwareVersion` to be read after restarting the camera.

Display name	DeviceFirmwareVersionSelector
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	`DeviceFirmwareID`
Category	/DeviceControl

Values	Description
`Current`	The current firmware version is selected to be read after the next camera restart.
`Programmed`	Another than the current firmware version is selected to be read after the next camera restart.

DeviceLinkCommandTimeout

Returns the maximum response time of the device for a command received by the host.

Note: Some Transport Layer Protocols might support that the device responds (within the DeviceLinkCommandTimeout period) that the completion of a particularly long command will be delayed by a specific amount of time. This notion is generally known as a *`Pending Acknowledge`* command.

Display name	DeviceLinkCommandTimeout
Standard	SFNC
Origin of feature	Camera
Feature type	Float
Access	R
Unit	Microseconds [µs]
Affected features	None
Category	/DeviceControl

Values	Description
`500,000`	Minimum
`4,000,000`	**Default**
Model dependent	Maximum

DeviceLinkHeartbeatTimeout

Controls the current heartbeat timeout.

Display name	DeviceLinkHeartbeatTimeout
Standard	SFNC
Origin of feature	Camera
Feature type	Float
Access	R/W
Unit	Microseconds [µs]
Affected features	None
Category	/DeviceControl

Values	Description
500,000	Minimum
3,000,000	**Default camera**
40,150,000	**Default Vimba X**
Model dependent	Maximum
1,000	Increment

DeviceLinkSpeed

Returns the bandwidth currently provided by the connected NIC (network interface card).

Note: This value represents the total speed of all the connections of the link.

Display name	DeviceLinkSpeed
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R
Unit	Byte/s
Affected features	None
Category	/DeviceControl

Values	Description
125,000,000	Minimum
625,000,000	Maximum supported value, actual values depend on the NIC's specification.

DeviceLinkThroughputLimit

Controls the maximum bandwidth of the data streamed out by the camera on the selected link. Delays are uniformly inserted between streaming packets in order to the bandwidth.

Notes

- Use this feature to adjust camera data output to the performance of your host system to avoid lost frames, or in multi-camera setups. Additionally, you may reduce the frame rate to reduce bandwidth.
- Maximum values can be reduced by the bandwidth of the host system.
- On **deprecated** features: If frames or packets are reported as `StatFrameDropped` or `StatPacketMissed`, decrease the value for this feature.
- To calculate the required minimum `DeviceLinkThroughputLimit` setting for a camera in any image mode, use the following formula:

`DeviceLinkThroughputLimit` = Height × width × frame rate × Bytes per pixel

Display name	DeviceLinkThroughputLimit
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R/W
Unit	Bytes per second
Affected features	`AcquisitionFrameRate`, `ExposureTime`
Category	/DeviceControl

Values	Description
1,000,000	Minimum
625,000,000	Maximum (**default**)

DeviceLinkThroughputLimitMode

Enable or disables `DeviceLinkThroughput`.

Display name	DeviceLinkThroughputLimitMode
Standard	SFNC
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	`AcquisitionFrameRate`
Category	/DeviceControl

Values	Description
Off	The camera uses up to the maximum bandwidth provided by the link speed.
On	The camera automatically limits the frame rate to the bandwidth determined by `DeviceLinkThroughputLimit`, to prevent that the camera buffer overflows and dropped frames occur (**default**).

DeviceManufacturerInfo

Returns vendor specific information.

Display name	DeviceManufacturerInfo
Standard	SFNC
Origin of feature	Camera
Feature type	String
Access	R (constant)
Affected features	None
Category	/DeviceControl

DeviceModelName

Returns the family and model name of the camera.

Note: Software should use `DeviceVersion` to distinguish between models.

Display name	DeviceModelName
Standard	SFNC
Origin of feature	Camera
Feature type	String
Access	R (constant)
Affected features	None
Category	/DeviceControl

Values	Description
Model dependent	Series (family) name and model name of the camera

DevicePowerSource

Controls the camera's power supply.

Display name	DevicePowerSource
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R
Affected features	None
Category	/DeviceControl

Values	Description
External	The camera is powered externally.
PoE	The camera is powered by PoE.

DeviceReset

Resets the camera to its power up state.

Note: After reset, the camera must be rediscovered.

Display name	DeviceReset
Standard	SFNC
Origin of feature	Camera
Feature type	Command
Access	W
Affected features	None
Category	/DeviceControl

DeviceScanType

Returns the scan type of the image sensor.

Display name	DeviceScanType
Standard	SFNC
Origin of feature	Camera
Feature type	Enumeration
Access	R (constant)
Affected features	Not applicable
Category	/DeviceControl

Values	Description
Areascan	2D area readout is selected.

DeviceSerialNumber

Returns the camera's serial number.

Display name	DeviceSerialNumber
Standard	SFNC
Origin of feature	Camera
Feature type	String
Access	R (constant)
Affected features	Not applicable
Category	/DeviceControl

DeviceSFNCVersionMajor

Returns the major part of the SFNC version number (part before the decimal).

Display name	DeviceSFNCVersionMajor
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R
Affected features	None
Category	/DeviceControl

DeviceSFNCVersionMinor

Returns the minor part of the SFNC version number (part after the decimal).

Display name	DeviceSFNCVersionMinor
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R
Affected features	None
Category	/DeviceControl

DeviceSFNCVersionSubMinor

Returns the subordinate part of the SFNC version number (part after the minor number).

Display name	DeviceSFNCVersionSubMinor
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R
Affected features	None
Category	/DeviceControl

DeviceStreamChannelPacketSize

Controls the size of the stream packets sent on the selected channel of the camera.

Display name	DeviceStreamChannelPacketSize
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R/W
Affected features	`AcquisitionFrameRate`, `ExposureTime`, `DeviceLinkThroughputLimit`, `GevSCPSPacketSize`, `GVSPPacketSize`
Category	/DeviceControl

Values	Description
500	Minimum
1,500	**Default**
Model dependent	Maximum

DeviceTemperature

[DeviceTemperatureSelector]

Returns the camera temperature, measured at the location selected by `DeviceTemperatureSelector`.

Display name	DeviceTemperature
Standard	SFNC
Origin of feature	Camera
Feature type	Float
Access	R
Unit	Degree Celsius [°C]
Affected features	None
Category	/DeviceControl

Values	Description
Model dependent	Temperature range

DeviceTemperatureSelector

Selects which of the camera-internal temperature sensors to use.

Display name	DeviceTemperatureSelector
Standard	SFNC
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	`DeviceTemperature`
Category	/DeviceControl

Values	**Temperature sensor location**
`Phy`	On the physical layer chip
`Sensor`	Typically inside the image sensor (**default value**)
`Sensorboard`	On the image sensor board
`Mainboard`	On the main board

DeviceTemperatureStatus

[DeviceTemperatureSelector]

Returns if the camera is operated at a safe temperature.

Notes

- If the camera is often overheated, the accuracy of the sensor readout can degrade on the long run. You can use this feature to ensure a long life of your camera.
- If the sensor temperature reaches the allowed maximum (Alert) sensor temperature (see the Goldeye Pro G5 User Guide for model specific values):
- The image acquisition is disabled until the next power cycle of the camera.

Display name	DeviceTemperatureStatus
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R
Affected features	`DeviceTemperature`
Category	/DeviceControl

Value	Description
`OK`	The temperature values for the sensor and the sensor board are below the specified values for the emergency shutdown temperature. User actions: No actions are required.
`Overtemperature`	The temperature values for the sensor and the sensor board exceed the specified values for the emergency shutdown temperature. The sensor and the TEC element are shut down and the camera does not output images, but you can read out and write settings that do not require the sensor. User actions • We recommend you to ensure adequate cooling for the camera before you restart it. • Power cycle the camera to re enable to streaming.
`Warning`	The temperature values for the sensor and the sensor board reach the specified values for the emergency shutdown temperature. User actions: We recommend you to take actions to cool down the camera. If the temperature increases even more, the image acquisition will be shut down completely.

DeviceTLType

Dsplays the transport layer type.

Display name	DeviceTLType
Standard	SFNC
Origin of feature	Camera
Feature type	Enumeration
Access	R (constant)
Affected features	None
Category	/DeviceControl

Values	Description
GigEVision	GigE Vision standard (**default**)

DeviceUserID

Controls the user defined name for the camera. If set, the name is stored in the non-volatile memory and preserved over camera power cycles.

Note: You can use this in multiple-camera setups to identify individual cameras.

Display name	DeviceUserID
Standard	SFNC
Origin of feature	Camera
Feature type	String
Access	R/W
Affected features	None
Category	/DeviceControl

DeviceVendorName

Returns the manufacturer‘s name.

Display name	DeviceVendorName
Standard	SFNC
Origin of feature	Camera
Feature type	String
Access	R (constant)
Affected features	None
Category	/DeviceControl

Values	Description
Allied Vision	**Default**

DeviceVersion

Returns the camera’s product code.

Display name	DeviceVersion
Standard	SFNC
Origin of feature	Camera
Feature type	String
Access	R (constant)
Affected features	None
Category	/DeviceControl

SensorTemperatureControl (subcategory)

The features in this subcategory can be used to monitor and regulate the sensor temperature.

Display name	SensorTemperatureControl
Standard	Custom
Origin of feature	Camera
Feature type	Subcategory
Category	/DeviceControl

SensorCoolingPower

Returns the current power consumption of the TEC element.

Note: With negative values, the power is used for heating instead of cooling.

Display name	SensorCoolingPower
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R
Unit	Milliwatts [mW]
Affected features	None
Category	/DeviceControl/SensorTemperatureControl

Values	Description
Model dependent	Minimum
Model dependent	Maximum

SensorTemperatureControlMode

Selects the control mode for the TEC element of the sensor. If set to `TemperatureControl`, the sensor temperature is stabilized to the selected setpoint.

Display name	SensorTemperatureControlMode
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	`SensorTemperatureSetpointActive`
Category	/DeviceControl/SensorTemperatureControl

Values	Description
Off	No sensor temperature control is used.
On	The sensor temperature is cooled or heated in order to stabilize the value of `SensorTemperatureSetpointValue` selected for `SensorTemperatureSetpointActive` (**default**).

SensorTemperatureControlState

Returns the temperature control status.

Note: This is also signaled by the temperature status LED.

Display name	SensorTemperatureControlState
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R
Affected features	None
Category	/DeviceControl/SensorTemperatureControl

Values	Description
Alert	The camera temperature exceeds the maximum allowed temperature*. The sensor and the TEC element are automatically shut down to protect the camera and let it cool down.
Deviated	The defined setpoint value has not stabilized yet. This not an error signal.
Error	• The TEC control is in a non-functional state. • Please contact The Allied Vision support team at www.alliedvision.com/en/about-us/contact-us/technical-support-repair-/-rma.
LowerLimit	The TEC control operates at its lower limit.
Off	The TEC element has actively been switched off by `SensorTemperatureControlMode`.
Stable	The defined setpoint has been stabilized. The camera operates optimally.
UpperLimit	The TEC control operates at its upper limit.
*Values vary between models.	

SensorTemperatureSetpointActivate

[SensorTemperatureSetpointSelector]

Activates the selected setpoint.

Display name	SensorTemperatureSetpointActivate
Standard	Custom
Origin of feature	Camera
Feature type	Command
Access	W
Affected features	None
Category	/DeviceControl/SensorTemperatureControl

SensorTemperatureSetpointActive

[SensorTemperatureSetpointSelector]

Returns the active setpoint selected for `SensorTemperatureSetpointSelector`.

Display name	SensorTemperatureSetpointActive
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R
Affected features	None
Category	/DeviceControl/SensorTemperatureControl

Values	Description
1	Setpoint 1 is activated.
2	Setpoint 2 is activated.
3	Setpoint 3 is activated.
4	Setpoint 4 is activated.

SensorTemperatureSetpointMode

[SensorTemperatureSetpointSelector]

Selects whether setpoints are switched manually or automatically.

Display name	SensorTemperatureSetpointMode
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	None
Category	/DeviceControl/SensorTemperatureControl

Values	Description
Auto	The setpoint is selected automatically (**default**).
Manual	The setpoint is selected manually by `SensorTemperatureSetpointActive`.

SensorTemperatureSetpointSelector

Selects the setpoint to be activated.

Notes

- **Available only** if `SensorTemperatureSetpointMode` = *Manual*.
- You can assign any value to each setpoint that is allowed for your camera model. However, we recommend to start with the lowest value for Setpoint 1, increasing until Setpoint 4.

Display name	SensorTemperatureSetpointSelector
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R/W
Affected features	`SensorTemperatureSetpointValue`
Category	/DeviceControl/SensorTemperatureControl

Values	Description
1	Setpoint 1 is selected.
2	Setpoint 2 is selected (**default**).
3	Setpoint 3 is selected.
4	Setpoint 4 is selected.

SensorTemperatureSetpointValue

[SensorTemperatureSetpointSelector]

Returns the setpoint temperature for the selected setpoint.

Note: Please refer to the Goldeye Pro G5 User Guide to see which temperature is pre-assigned to each setpoint.

Display name	SensorTemperatureSetpointValue
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R/W
Unit	Degree Celsius [°C]
Affected features	None
Category	/DeviceControl/SensorTemperatureControl

TemperatureMonitoring (subcategory)

The features in this subcategory can be used to monitor the device temperatures.

Display name	TemperatureMonitoring
Standard	Custom
Origin of feature	Camera
Feature type	Subcategory
Category	/DeviceControl

TemperatureMonitoringSelector

Selects the location for monitoring the temperature.

Display name	TemperatureMonitoringSelector
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	None
Category	/DeviceControl/TemperatureMonitoring

Values	Description
Sensor	Typically inside the image sensor (**default value**)
Sensorboard	On the image sensor board

TemperatureStatus

[TemperatureMonitoringSelector]

Returns if the camera is operated at a safe temperature.

Notes

- If the camera is often overheated, the accuracy of the sensor readout can degrade on the long run. You can use this feature to ensure a long life of your camera.
- If the sensor temperature reaches the allowed maximum (Alert) sensor temperature (see the Goldeye Pro G5 User Guide for model specific values):
- The image acquisition is disabled until the next power cycle of the camera.

Display name	TemperatureStatus
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R
Affected features	`DeviceTemperature`
Category	/DeviceControl

Value	Description
`OK`	The temperature values for the sensor **and** the sensor board are below the specified values for the emergency shutdown temperature. User actions: No actions are required.
`Overtemperature`	The temperature values for the sensor **or** the sensor board exceed the specified values for the emergency shutdown temperature. The sensor and the TEC element are shut down and the camera does not output images, but you can read out and write settings that do not require the sensor. User actions • We recommend you to ensure adequate cooling for the camera before you restart it. • Power cycle the camera to re enable to streaming.
`Warning`	The temperature values for the sensor **or** the sensor board reach the specified values for the emergency shutdown temperature. User actions: We recommend you to take actions to cool down the camera. If the temperature increases even more, the image acquisition will be shut down completely.

DeviceControl (category continued)

Feature descriptions for the `/DeviceControl/SensorTemperatureControl/ThermoElectricCooling/PID` subcategory have ended on the previous page. The following features continue the `/DeviceControl` category, without a subcategory.

TimestampLatch

Captures the timestamp and stores it in `TimestampLatchValue`.

Display name	TimestampLatch
Standard	SFNC
Origin of feature	Camera
Feature type	Command
Access	W
Affected features	`TimestampReset`
Category	/DeviceControl

TimestampLatchValue

Returns the value of `Timestamp`, when latched by `TimestampLatch`.

Display name	TimestampLatchvalue
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R
Unit	Nanoseconds [ns]
Affected features	`GevTimestampValue`
Category	/DeviceControl

TimestampReset

Resets the camera's timestamp to *0*.

Display name	TimestampReset
Standard	SFNC
Origin of feature	Camera
Feature type	Command
Access	W
Affected features	None
Category	/DeviceControl

DigitalIOControl

The features in this category can be used to control the physical I/O lines of the camera.

Interface support	All
Display name	DigitalIOControl
Standard	SFNC adapted
Origin of feature	Camera
Feature type	(Category)

LineDebounceDuration

[LineSelector]

Controls the time constant for `LineDebounceMode`.

Note: **Available only** if the selected line is configured as input.

Display name	LineDebounceDuration
Standard	Custom
Origin of feature	Camera
Feature type	Float
Access	R/W
Unit	Microseconds
Affected features	Not applicable
Category	/DigitalIOControl

Values	Description
0	Minimum
655	Maximum

LineDebounceMode

[LineSelector]

Controls the Line Debouncing feature for a particular input line.

Note: **Available only** if the selected line is configured as input.

Display name	LineDebounceMode
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	None
Category	/DigitalIOControl

Values	Description
Delay	`LineDebounceDuration` controls how long the signal level must have been settled for before it is accepted.
Off	The feature is disabled (**default**).
Stall	`LineDebounceDuration` controls the intensity duration after the falling edge of the signal.

LineFormat

[LineSelector]

Returns the electrical standard of the selected physical I/O line.

Notes

- This camera's values for **LineFormat** are fixed to one type as designed in the camera electronics.
- Some TTL implementations support switching to OpenDrain mode in order to toggle the line between input and output mode.

Display name	LineFormat
Standard	SFNC adapted
Origin of feature	Camera
Feature type	Enumeration
Access	R
Affected features	Not applicable
Category	/DigitalIOControl

Values	Description
NoConnect	The selected I/O line is not connected.
TTL	The selected I/O line is non-isolated TTL type.
OptoCoupled	The selected I/O line is opto-coupled type.

LineInverter

[LineSelector]

Enables or disables the inversion of the signal of the selected I/O line.

Display name	LineInverter
Standard	SFNC
Origin of feature	Camera
Feature type	Boolean
Access	R/W
Affected features	Not applicable
Category	/DigitalIOControl

Values	Description
False	Signal of the input or output line is not inverted.
True	Signal of the input or output line is inverted.

LineMode

[LineSelector]

Selects the physical line to be configured as input or output.

Display name	LineMode
Standard	SFNC
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	`LineDebounceDuration` (input only), `LineDebounceMode` (input only), `LineSource` (output only),
Category	/DigitalIOControl

Values	Description
`Input`	The physical line is used for signal input.
`Output`	The physical line is used for signal output.

LineSelector

Selects the physical line of the external camera connector to configure.

Display name	LineSelector
Standard	SFNC
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	`LineDebounceDuration`, `LineDebounceMode`, `LineFormat`, `LineInverter`, `LineMode`, `LineSource`, `LineStatus`
Category	/DigitalIOControl

Values	Description
`Line0`	Line 0 is selected for configuration.
`Line1`	Line 1 is selected for configuration.
`Line2`	Line 2 is selected for configuration.
`Line3`	Line 3 is selected for configuration.
`Line4`	Line 4 is selected for configuration.
`Line5`	Line 5 is selected for configuration.
`Line6`	Line 6 is selected for configuration.
`Line7`	Line 7 is selected for configuration.

LineSource

[LineSelector]

Sets the output signal for the selected line.

Note: `LineMode` must be set to *`Output`*.

Display name	LineSource
Standard	SFNC
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	Not applicable
Category	/DigitalIOControl

Values	Description
`AcquisitionActive`	The *`AcquisitionActive`* signal is output.
`ExposureActive`	The *`ExposureActive`* signal is output.
`FrameTriggerWait`	The *`FrameTriggerWait`* signal is output. In triggered mode, the signal for *`FrameTriggerWait`* is high when the camera is waiting for a trigger.
`Line0Signal`	The *`Line0Signal`* signal is output.
`Line1Signal`	The *`Line7Signal`* signal is output.
`Line2Signal`	The *`Line7Signal`* signal is output.
`Line4Signal`	The *`Line7Signal`* signal is output.
`Line5Signal`	The *`Line7Signal`* signal is output.
`Line6Signal`	The *`Line7Signal`* signal is output.
`Line7Signal`	The *`Line7Signal`* signal is output.
`Off`	A constant low level is output.
`ReadoutActive`	The *`ReadoutActive`* signal is output.

Table 6: LineSource > Possible values

LineStatus

[LineSelector]

Returns the current status of the selected I/O line.

Display name	LineStatus
Standard	SFNC
Origin of feature	Camera
Feature type	Boolean
Access	R
Affected features	Not applicable
Category	/DigitalIOControl

Values	Description
False	Line status is disabled.
True	Line status is enabled.

LineStatusAll

Returns the current status for all I/O lines in a sequence from Line0 to Line7 in a single bit field.

Display name	LineStatusAll
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R
Affected features	Not applicable
Category	/DigitalIOControl

FileAccessControl

The features in this category enable to read from and write files to the camera, including such as user data or NUC/DPC datasets.

Display name	FileAccessControl
Standard	SFNC
Origin of feature	Camera
Feature type	Category

FileAccessBuffer

Controls the intermediate access buffer that allows the exchange of data between the camera file storage and the application.

Note: This buffer exists only once and is independent of the `FileSelector`.

Display name	FileAccessBuffer
Standard	SFNC
Origin of feature	Camera
Feature type	Register
Access	R/W
Affected features	None
Category	/FileAccessControl

FileAccessLength

[FileSelector]

Controls the length of mapping between the camera file storage and the `FileAccessBuffer`.

Display name	FileAccessLength
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R/W
Unit	Bytes
Affected features	None
Category	/FileAccessControl

Values	Description
0	Minimum (**default**)
Model dependent	Maximum

FileAccessOffset

[FileSelector]

Controls the offset of mapping between the camera file storage and the `FileAccessBuffer`.

Display name	FileAccessOffset
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R/(W)
Unit	Bytes
Affected features	None
Category	/FileAccessControl

Values	Description
0	Minimum (**default**)
Model dependent	Maximum

FileAttribute

[FileSelector]

Returns the access rights for the selected file.

Display name	FileAttribute
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R
Affected features	None
Category	/FileAccessControl

Bits	Description
Bit 0 to 1	*0* = User owns the file. Users can overwrite and delete the file (**default**). *1* = Access for factory personnel use only *2, 3* = Reserved
Bit 2 to 31	Reserved, always *0*

FileAttributeBuffer

[FileSelector]

Controls the attributes to be applied to the selected file when it is newly created.

Note: This feature can also be used to change the attributes of existing files.

Display name	FileAttributeBuffer
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R/W
Affected features	None
Category	/FileAccessControl

Bits	Description
Bit 0 to 1	These two bits are used to encode the privilege level for a file. It defines the owner of the file: *0* = User owns the file. Users can overwrite and delete the file (**default**). *1* = For factory personnel use only *2*, *3* = Reserved
Bit 2 to 31	Reserved, always *0*

FileDescription

[FileSelector]

Returns the description for the selected file.

Display name	FileDescription
Standard	Custom
Origin of feature	Camera
Feature type	String
Access	R
Affected features	None
Category	/FileAccessControl

FileDescriptionBuffer

Controls the description text for a newly created file. A maximum of 32 characters is allowed, including the trailing null character.

Note: This feature can also be used to change the description for existing files.

Display name	FileDescriptionBuffer
Standard	Custom
Origin of feature	Camera
Feature type	String
Access	R/W
Affected features	None
Category	/FileAccessControl

FileOpenAttribute

[FileSelector]

Selects between overwriting or appending data for the selected file.

Note: **Available only** if `FileOpenMode` = *`Write`*.

Display name	FileOpenAttribute
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	None
Category	/FileAccessControl

Values	Description
`Append`	New data is appended at the end of the existing content.
`Overwrite`	The file content is overwritten (**default**).

FileOpenMode

[FileSelector]

Selects the access mode for the selected file.

Display name	FileOpenMode
Standard	SFNC
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	None
Category	/FileAccessControl

Values	Description
`Read`	Read-only open mode (**default**)
`Write`	Write-only open mode

FileOperationExecute

[FileSelector][FileOperationSelector]

Executes the operation selected by `FileOperationSelector` on the selected file.

Display name	FileOperationExecute
Standard	SFNC
Origin of feature	Camera
Feature type	Command
Access	W
Affected features	None
Category	/FileAccessControl

FileOperationResult

[FileSelector][FileOperationSelector]

Returns the result of the file operation. For read or write operations, the number of successfully read or written bytes is returned.

Display name	FileOperationResult
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R
Unit	Bytes
Affected features	None
Category	/FileAccessControl

FileOperationSelector

[FileSelector]

Selects the target operation for the selected file on the camera. This operation is executed when `FileOperationExecute` is called.

Display name	FileOperationSelector
Standard	SFNC adapted
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	None
Category	/FileAccessControl

Values	Description
`Close`	The selected file is closed.
`Delete`	The selected file is deleted. **Note**: Deleting a file on the camera does not remove the associated `FileSelector` entry to allow future operations on this file.
`Open`	The selected file is opened with the access mode defined in `FileOpenMode` (**default**).

Table 7: FileOperationSelector values (sheet 1 of 2)

Values	Description
Read	Up to *FileAccessLength* bytes are read from the selected file, the position defined by FileAccessOffset, and the data is stored in FileAccessBuffer. If the number of remaining bytes in the file is less than the value contained in *FileAccessLength*, the read is truncated to the number of remaining bytes. After the read operation, the number of bytes actually read can be retrieved by FileOperationResult. FileAccessOffset will automatically be moved on by the number of bytes read. Before this operation can be executed, the file must have been opened for reading.
Write	Up to *FileAccessLength* bytes are written from FileAccessBuffer to the selected file and the position is defined by FileAccessOffset. If the remaining space on the camera's file system is less than the number of bytes defined by *FileAccessLength*, the write is truncated. After executing the write operation, the number of bytes actually written can be retrieved from FileOperationResult. FileAccessOffset will automatically be moved on by the number of bytes written. Before this operation can be executed, the file must have been opened for writing.
WriteAttribute	The attribute of the selected file is changed to the attribute defined by FileAttributeBuffer.
WriteDescription	The description of the selected file is changed to the description defined by FileDescriptionBuffer.
WriteType	The type of the selected file is changed to the type defined by FileTypeBuffer.

Table 7: FileOperationSelector values (sheet 2 of 2)

FileOperationStatus

[FileSelector][FileOperationSelector]

Returns the status of file operation execution.

Display name	FileOperationStatus
Standard	SFNC
Origin of feature	Camera
Feature type	Enumeration
Access	R
Affected features	None
Category	/FileAccessControl

Values	Description
Failure	File operation has failed.
Success	File operation has been successful.

FileSelector

Selects the target file on the camera. The entries of this enumeration define the names of all files in the camera that can be accessed via the file access.
For example:

- *UserData*: First user dataset
- *UserData2*: Second user dataset.

Display name	FileSelector
Standard	SFNC
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	None
Category	/FileAccessControl

Values	Description	User access	Number of datasets
DPC_000 to *DPC_015*	Defect pixel correction	No	16
DPC_User_000 to *DPC_User_007*	Defect pixel correction	Yes	8
Firmware	Firmware (**default**)	Yes	1
NUC_000 to *NUC_055*	Non-uniformity correction	No	56
NUC_User_000 to *NUC_User_007*	Non-uniformity correction	Yes	8
UserData to *UserData_4*	User data	Yes	4

FileSize

[FileSelector]

Returns the size of the selected file.

Display name	FileSize
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R
Unit	Bytes
Affected features	None
Category	/FileAccessControl

FileStatus

[FileSelector]

Returns the status of the selected file.

Display name	FileStatus
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R
Affected features	None
Category	/FileAccessControl

Values	Description
Closed	File is currently closed.
Open	File is currently open.

FileSystemFreeSizeInBytes

[FileSystemSelector]

Returns the available space on the currently selected file system..

Display name	FileSystemFreeSizeInBytes
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R
Unit	Bytes
Affected features	None
Category	/FileAccessControl

FileSystemSelector

Selects the location for filesystem-specific operations.

Display name	FileSytemSelector
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	None
Category	/FileAccessControl

Values	Description
Data	Storage for correction data like NUC, DPC, or LUT.
System	Storage for factory data (no user access).

FileSystemTotalSizeInBytes

[FileSystemSelector]

Returns the total size of the currently selected file system..

Display name	FileSystemTotalSizeInBytes
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R
Unit	Bytes
Affected features	None
Category	/FileAccessControl

FileType

[FileSelector]

Returns the type of data in a dataset.

Display name	FileType
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R
Affected features	None
Category	/FileAccessControl

Values	Description
0x00000000	Data for any purpose
0x00001000	NUC data
0x00002000	DPC data

FileTypeBuffer

Controls the type for a newly created file.

Note: This feature can also be used to change the type of existing files.

Display name	FileTypeBuffer
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R/W
Affected features	None
Category	/FileAccessControl

ImageFormatControl

The features in this category can be used to control pixel related data, including the pixel format, binning, and ROI (region of interest).

Note: Using binning features disables multiple region features.

Display name	ImageFormatControl
Origin of feature	Camera
Feature type	Category

BinningHorizontal

Controls the number of horizontal pixels combined into one. This reduces the horizontal resolution (width) of the image.

Note: Using binning features disables multiple region features.

Display name	BinningHorizontal
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R/W
Unit	Pixel
Affected features	`WidthMax`
Category	/ImageFormatControl

Values	Description
1	Minimum
8	Maximum (with digital binning)

BinningHorizontalMode

Determines whether the result of binned pixels is averaged or summed up.

Notes:

- Using binning features disables multiple region features.
- `BinningHorizontalMode` scan be configured separately from `BinningVerticalMode`.
- **Digital binning**: All Goldeye Pro models support *`Sum`* and *`Average`*.

Display name	BinningHorizontalMode
Standard	SFNC
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	`AcquisitionFrameRate, BinningHorizontal, DeviceLinkThroughputLimit, HeightMax, WidthMax`
Category	/ImageFormatControl

Values	Description
`Average`	The charge or gray value of adjacent pixels is averaged.
`Sum`	The charge or gray value of adjacent pixels is summed up.

BinningSelector

Selects which binning engine is controlled by `BinningHorizontal` and `BinningVertical`.

Note: Using binning features disables multiple region features.

Display name	BinningSelector
Standard	SFNC
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	`AcquisitionFrameRate, BinningHorizontal, BinningHorizontalMode, BinningVertical, BinningVerticalMode, DeviceLinkThroughputLimit, HeightMax, WidthMax`
Category	/ImageFormatControl

Values	Description
`Digital`	Digital binning is used (default).

BinningVertical

Controls the number of vertical pixels combined into one. This reduces the vertical resolution (height) of the image.

Note: Using binning features disables multiple region features.

Display name	BinningVertical
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R/W
Unit	Pixel
Affected features	`AcquisitionFrameRate, BinningHorizontal, DeviceLinkThroughputLimit, HeightMax, WidthMax`
Category	/ImageFormatControl

Values	Description
1	Minimum
8	Maximum (with digital binning)

BinningVerticalMode

Determines whether the result of binned pixels is averaged or summed up.

Notes:

- Using binning features disables multiple region features.
- `BinningHorizontalMode` scan be configured separately from `BinningVerticalMode`.
- **Digital binning**: All Goldeye Pro models support *`Sum`* and *`Average`*.

Display name	BinningVerticalMode
Standard	SFNC
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	`AcquisitionFrameRate, BinningVertical, DeviceLinkThroughputLimit, HeightMax, WidthMax`
Category	/ImageFormatControl

Values	Description
`Average`	The charge or gray value of adjacent pixels is averaged.
`Sum`	The charge or gray value of adjacent pixels is summed up.

Height

Controls the height of the image.

Display name	Height
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R/W
Unit	Pixels
Affected features	`AcquisitionFrameRate`, `OffsetY`, `PayloadSize`
Category	/ImageFormatControl

Values	Description
Model dependent	Minimum
Sensor height	**Default**
Model dependent	Maximum

HeightMax

Returns the maximum image hight available for the current image mode.

Note: This value is calculated after horizontal binning. `HeightMax` does not take into account the current ROI (`Height` or `OffsetY`).

Display name	HeightMax
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R
Unit	Pixels
Affected features	`AcquisitionFrameRate`, `ExposureTime`, `Height`, `OffsetY`, `PayloadSize`
Category	/ImageFormatControl

Values	Description
>0	Minimum
Sensor height	Maximum (**default**)

MultipleRegionControl (subcategory)

This subcategory holds the features to configure and control the multiple regions of the camera.

Note: Using multiple region features disables binning features.

Display name	Multiple Region Control
Standard	Custom
Origin of feature	Camera
Feature type	(Subcategory)
Category	/ImageFormatControl

Functional overview

Multiple region features can be used to assign different image settings to sections of an image, or to exclude irrelevant contents from the image output. In some cases, frame rates can be increased as well.

Availability by model

You can find the feature availability for your Goldeye Pro model in the feature specifications of Goldeye Pro G5 User Guide at www.alliedvision.com/en/support/technical-documentation/goldeye-pro-g5-documentation.

Features disabled by multiple regions

Binning features are disabled when multiple regions are used, and vice versa.

Values for width, height, and offsets

When multiple regions are enabled, feature values are:

- `Width` = Number of horizontal pixels of the **output image**
- `Height` = Number of vertical pixels of the **output image**
- `OffsetX` = Horizontal offset from the top left corner of the **sensor image**
- `OffsetY` = Vertical offset from the top left corner of the **sensor image**

Single ROI

Multiple regions can be set while the camera is operated in single ROI mode. Changes become effective when `MultipleRegionEnable` is set to *`True`*.

When *`Region0`* is activated in multiple regions for the first time, the feature values for the active single ROI (or the full sensor image) are taken over. When features for *`Region0`* have been adjusted separately and multiple regions are disabled, the last values for *`Region0`* are applied for the single ROI (or the full sensor image).

MultipleRegionArrangement

Selects the position of the separate ROIs in the merged image.

Notes:

- Using multiple region features disables binning features.
- ROIs cannot overlap.

Display name	MultipleRegionArrangement
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	`Height`, `OffsetX`, `OffsetY`, `Width`
Category	/ImageFormatControl/MultipleRegionControl

Values	Description
`Vertical`	Selects 1 to N* regions above each other that add to a common rectangle without gaps. * The maximum value N is camera model dependent.

MultipleRegionEnable

Selects between single region and multiple regions mode. The number of subregions to be configured depends on the camera model.

Note: Using multiple region features disables binning features.

Display name	MultipleRegionEnable
Standard	Custom
Origin of feature	Camera
Feature type	Boolean
Access	R/W
Affected features	`Height`, `OffsetY`
Category	/ImageFormatControl/MultipleRegionControl

Values	Description
`False`	Single region mode is enabled, subregions mode is disabled (**default**). `Height`, `OffsetX`, `OffsetY`, and `Width` be used as usual.
`True`	Subregions mode is enabled. `Height` and `OffsetY` features are locked and are automatically aligned with the values set for subregions.

SubRegionHeight

[SubRegionSelector]

Height of the selected subregion.

Notes:

Using multiple region features disables binning features.

If values are entered that are not dividable by 8, `SubRegionHeight` is increased automatically to the next higher available value. For example, if ***9*** is entered, the value is increased to ***16***.

Display name	SubRegionHeight
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R/W
Unit	Pixels
Affected features	`Height`
Category	/ImageFormatControl/MultipleRegionControl

Values	Description
Model dependent	Minimum
(Height max)	Maximum, depending on the height of other subregions
Model dependent	Increment

SubRegionMode

[SubRegionSelector]

Enables or disables the selected subregion.

Note: Using multiple region features disables binning features.

Display name	SubRegionMode
Standard	Custom
Origin of feature	Camera
Feature type	Boolean
Access	R/W
Affected features	`Height`, `OffsetY`
Category	/ImageFormatControl/MultipleRegionControl

Values	Description
On	The selected subregion is enabled.
Off	The selected subregion is disabled (default).

SubRegionOffsetX

[SubRegionSelector]

Displays the X-offset of the selected subregion. This value is locked to the value of `OffsetX`.

Note: Using multiple region features disables binning features.

Display name	SubRegionOffsetX
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R
Unit	Pixels
Affected features	Not applicable
Category	/ImageFormatControl/MultipleRegionControl

SubRegionOffsetY

[SubRegionSelector]

Y-offset of the selected subregion.

Notes:

- Using multiple region features disables binning features.
- If values are entered that are not dividable by 8, `SubRegionOffsetY` is increased automatically to the next higher available value. For example, if *9* is entered, the value is increased to *16*.

Display name	SubRegionOffsetY
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R/W
Unit	Pixels
Affected features	`OffsetY`
Category	/ImageFormatControl/MultipleRegionControl

Values	Description
Model dependent	Minimum
(Height max)	Maximum, depending on the height of other subregions
Model dependent	Increment

SubRegionSelector

Selects the subregion in a range from *0* to *n*, where *0* is the index of the first subregion and *n* is the index of the last one.

Note: Using multiple region features disables binning features.

Display name	SubRegionSelector
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	`SubRegionHeight`, `SubRegionMode`, `SubRegionWidth`, `SubRegionOffsetX`, `SubRegionOffsetY`
Category	/ImageFormatControl/MultipleRegionControl

Values[1]	**Description**
`Region0`	Minimum
`RegionN`	Maximum

SubRegionStatus

[SubRegionSelector]

Displays the status of the selected subregion.

Notes:

- Using multiple region features disables binning features.
- The `SubRegionStatus` is updated only if `MultipleRegionEnable` is *`True`* and the corresponding `SubRegionMode` is set to *`On`*.

Display name	SubRegionStatus
Origin of feature	Camera
Feature type	Enumeration
Access	R
Affected features	None
Category	/ImageFormatControl/MultipleRegionControl

Values	Description
`Disabled`	The selected subregion is disabled.
`Valid`	The selected subregion is enabled and has a valid configuration.
`OverlapError`[1]	The selected subregion is enabled but has an invalid configuration.

SubRegionWidth

[SubRegionSelector]

Displays the width of the selected subregion. This value is locked to the value of `Width`.

Note: Using multiple region features disables binning features.

Display name	Sub Region Width
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R
Unit	Pixels
Affected features	Not applicable
Category	/ImageFormatControl/MultipleRegionControl

ImageFormatControl (category continued)

The feature descriptions for the `/ImageFormatControl/MultipleRegion Control` subcategory have ended on the previous page. The following features continue the `/ImageFormatControl` category, without a subcategory.

OffsetX

Controls the horizontal offset from the origin to the ROI.

Display name	OffsetX
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R/W
Unit	Pixels
Affected features	`AcquisitionFrameRate`, `ExposureTime`, `PayloadSize`
Category	/ImageFormatControl

Values	Description
0	Minimum (**default**)
Model dependent	Maximum

OffsetY

Controls the vertical offset from the origin to the ROI.

Display name	OffsetY
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R/W
Unit	Pixels
Affected features	`AcquisitionFrameRate`, `ExposureTime`, `PayloadSize`,
Category	/ImageFormatControl

Values	Description
0	Minimum (**default**)
Model dependent	Maximum

PixelFormat

Selects the pixel format output by the camera. This feature defines how the camera encodes pixels in the stream. For a complete list of standardized pixel formats refer to the PFNC.

Notes:

- Goldeye Pro cameras support only a subset of PFNC pixel formats.
- The availability of pixel formats depends on the camera model and interface (see the Goldeye Pro G5 User Guide for details).

Display name	PixelFormat
Standard	SFNC
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	`AcquisitionFrameRate`, `BinningHorizontal`, `BinningVertical`, `ExposureTime`, `Height`, `HeightMax`, `OffsetX`, `OffsetY`, `PayloadSize`, `Width`, `WidthMax`
Category	/ImageFormatControl

Values	Bit depth	Bytes per pixel	Notes[1]
Mono8	8	1	All bits are valid.
Mono10	10	2	Every pixel is padded with 6 zero bits. LSB aligned
Mono10p	10	1.25	4 pixels are packed into 5 bytes gaplessly. LSB aligned
Mono10Packed	10	1.5	Every pixel is padded with 2 zero bits. 2 padded pixels are packed into 3 bytes. Only even width values are supported.
Mono12	12	2	Every pixel is padded with 4 zero bits. LSB aligned.
Mono12p	12	1,5	2 pixels are packed into 3 bytes. LSB aligned
Mono12Packed	12	1,5	2 pixels are packed into 3 bytes. Only even width values are supported.
Mono14	14	2	Every pixel is padded with 2 zero bits. LSB aligned
Mono16	16	2	All bits are valid.

[1] For an exact specification of the pixel encoding refer to the PFNC.

SensorBitDepth

Selects the readout mode of the camera sensor.

If you are using pixel formats that do not require 12-bit readout and you want to achieve higher frame rates, you can select between readout modes for 12-bit, 10-bit, and 8-bit.

Notes

- The sensor ADC bit depth is the **default** value.
- In the ***Adaptive*** mode, the bit depth is switched between 10-bit and 12-bit automatically, depending on the selected pixel format and limitations of sensor and camera.

Display name	SensorBitDepth
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Unit	Bits
Affected features	`AcquisitionFrameRate`, `DeviceLinkThroughputLimit`, `ExposureActiveMode`, `ExposureMode`, `ExposureTime`
Category	/ImageFormatControl

Values[1]	**Description**
Adaptive	The sensor bit depth is switched automatically between 12-bit and 10-bit readout, depending on the pixel format. (**Default** value for all camera models.)
Bpp8	The sensor bit depth is set to 8-bit, if supported by the sensor.
Bpp10	The sensor bit depth is set to 10-bit, if supported by the sensor.
Bpp12	The sensor bit depth is set to 12-bit if the camera sensor supports 12-bit readout mode.
[1]Camera model dependent	

SensorHeight

Returns the total number of pixel rows of a sensor.

Display name	SensorHeight
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R (constant)
Unit	Pixels
Affected features	`AcquisitionFrameRate`, `AutoModeRegionHeight`, `AutoModeRegionOffsetY`, `ExposureTime`, `Height`, `HeightMax`, `OffsetY`, `PayloadSize`
Category	/ImageFormatControl

Values	Description
0	Minimum (**default**)
Model dependent	Maximum

SensorShutterMode

Selects the shutter type for cameras where the sensor can be operated in different shutter modes.

Display name	Shutter Mode
Standard	SFNC adapted
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	Not applicable
Category	/ImageFormatControl

Values	Description
GlobalShutter	The camera is operated using global shutter (GS).

SensorWidth

Returns the total number of pixel columns of a sensor.

Display name	SensorWidth
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R (constant)
Unit	Pixels
Affected features	`AcquisitionFrameRate`, `AutoModeRegionOffsetX`, `AutoModeRegionWidth`, `ExposureTime`, `OffsetX`, `PayloadSize`, `Width`, `WidthMax`,
Category	/ImageFormatControl

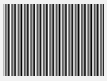
Values	Description
0	Minimum (**default**)
Model dependent	Maximum

TestPattern

Selects the test pattern to be output by the camera.

Note: Available test patterns vary between sensor models.

Display name	TestPattern
Standard	SFNC adapted
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	Not applicable
Category	/ImageFormatControl

Values	Sensor models	Sensor image data
Off	All	Real image
*GreyHorizontalRamp**	Sony IMX GS	
VerticalLinesSequence1	Sony IMX GS	

* With G5-130 VSWIR TEC1, disable `BlackLevelEqualizationMode` for a proper output.

Width

Controls the width of the image.

Display name	Width
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R/W
Unit	Pixels
Affected features	`AcquisitionFrameRate`, `OffsetX`, `PayloadSize`
Category	/ImageFormatControl

Values	Description
8	Minimum
Sensor width	Maximum (**default**)

WidthMax

Returns the maximum image width available for the current image mode.

Note: This value is calculated after horizontal binning. `WidthMax` does not take into account the current ROI (`Width` or `OffsetX`).

Display name	WidthMax
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R
Unit	Pixels
Affected features	`AcquisitionFrameRate`, `ExposureTime`, `OffsetX`, `PayloadSize`, `Width`
Category	/ImageFormatControl

Values	Description
>0	Minimum
Sensor width	Maximum (**default**)

ImageProcessingControl

The features in this category enable on-board image processing for contrast.

Display name	ImageProcessingControl
Standard	Custom
Origin of feature	Camera
Feature type	(Category)

ContrastControl (subcategory)

The features in this subcategory enable on-board image processing for contrast.

Display name	ContrastControl
Standard	Custom
Origin of feature	Camera
Feature type	Subcategory
Category	/ImageProcessingControl

ContrastAuto

Selects the way of controlling the contrast automatically.

Notes:

- Available only if `ContrastEnable` is set to *`True`*.

Display name	ContrastAuto
Standard	Custom
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	Not applicable
Category	/ImageProcessingControl/ContrastControl

Values	Description
`Continuous`	The contrast is adjusted continuously according to the brightness values of the scene.
`Off`	Automatic contrast adjustment is disabled
`Once`	The contrast is adjusted once according to the brightness values of the scene.

ContrastBrightLimit

Selects the maximum gray value for the image.

Display name	ContrastBrightLimit
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R/W
Affected features	`ContrastDarkLimit`
Category	/ImageProcessingControl/ContrastControl

Values	Description
`ContrastDarkLimit + 1`	The minimum value is selected.
65535	The maximum value is selected.

Note: The scaling of `ContrastBrightLimit` depends on the selected pixel format:

Pixel bit depth [bit]	Input range	Output range	Pixel count per increment
8	*0* to *65535*	*0* to *255*	$^1/_{256}$
10	*0* to *65535*	*0* to *1023*	$^1/_{64}$
12	*0* to *65535*	*0* to *4095*	$^1/_{16}$
14	*0* to *65535*	*0* to *16383*	$^1/_4$
16	*0* to *65535*	*0* to *65535*	1

ContrastDarkLimit

Selects the minimum gray value for the image.

Note: The scaling of `ContrastDarkLimit` depends on the selected pixel format.
See ContrastBrightLimit on page 174.

Display name	ContrastDarkLimit
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R/W
Affected features	`ContrastBrightLimit`
Category	/ImageProcessingControl/ContrastControl

Values	Description
0	The minimum value is selected.
ContrastBrightLimit - 1	The maximum value is selected.

ContrastEnable

Enables or disables the contrast enhancement features.

Note: If `ContrastAuto` is used while `ContrastEnable` is set to *`False`*, the values for `ContrastBrightLimit` and `ContrastDarkLimit` are updated, but this is not applied to the image.

Display name	ContrastEnable
Standard	Custom
Origin of feature	Camera
Feature type	Boolean
Access	R/W
Affected features	Not applicable
Category	/ImageProcessingControl/ContrastControl

Values	Description
False	The feature is disabled (**default**).
True	The feature is enabled.

ContrastShape

Controls the sigmoid shape of the transfer curve.

Display name	ContrastShape
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/ImageProcessingControl/ContrastControl

Values	Description
1	Default

LUTControl

The features in this category can be used to change intensity values, adjusted by luminance.

Display name	LUT Control
Standard	SFNC
Origin of feature	Camera
Feature type	(Category)

LUTDatasetActive

Returns the index for the LUT dataset that has been loaded last.

Note: The mapping of an index value to a specific LUT dataset may vary from camera to camera or after LUT data modifications.

Display name	LUTDatasetActive
Standard	Custom
Origin of feature	Camera
Feature type	Integer
Access	R
Affected features	None
Category	/LUTControl

Values	Description
0	Minimum
7	Maximum

LUTDatasetLoad

[LUTDatasetSelector]

Loads a LUT dataset from file into the volatile memory of the LUT module. The file to be loaded is defined by `LUTDatasetSelector`.

Display name	LUTDatasetLoad
Origin of feature	Camera
Access	W
Feature type	Command
Affected features	None
Category	/LUTControl

LUTDatasetSave

[LUTDatasetSelector]

Stores the current LUT dataset from the volatile memory of the camera to a file. The `LUTDatasetSelector` defines the file where the LUT data is saved.

Note: Factory datasets cannot be overwritten.

Display name	LUTDatasetSave
Origin of feature	Camera
Access	W
Feature type	Command
Affected features	None
Category	/LUTControl

LUTDatasetSelector

The dataset selector corresponds to the LUT file selectors. It connects the LUT dataset to the corresponding LUT file selectors, accessible via the `FileAccess` category features.

Display name	LUTDatasetSelector
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	None
Category	/LUTControl

Values	Description
0	Points to LUT_000 (**default**)
1	Points to LUT_001
2	Points to LUT_002
3	Points to LUT_003
4	Points to LUT_User_000
5	Points to LUT_User_001
6	Points to LUT_User_002
7	Points to LUT_User_003

LUTEnable

[LUTSelector]

Enables or disables the selected LUT.

Display name	LUTEnable
Standard	SFNC
Origin of feature	Camera
Feature type	Boolean
Access	R/W
Affected features	`LUTIndex`, `LUTValue`
Category	/LUTControl

Values	Description
`False`	The selected LUT is disabled.
`True`	The selected LUT is enabled.

LUTIndex

[LUTSelector]

Controls the index (offset) of the coefficient to access in the selected LUT.

Display name	LUTIndex
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R/W
Affected features	`LUTValue`
Category	/LUTControl

Values	Description
`0`	Minimum
`16383`	Maximum (at 14-Bit)

LUTSelector

Selects the LUT to be controlled.

Display name	LUTSelector
Standard	SFNC
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	`LUTEnable`, `LUTIndex`, `LUTValue`
Category	/LUTControl

Values	Description
`Luminance`	The LUT for luminance is selected.

LUTValue

[LUTSelector][LUTIndex]

Controls the value for the selected LUT.

Display name	LUTValue
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R/W
Affected features	Not affected
Category	/LUTControl

Values	Description
`0`	Minimum
`65535`	Maximum (at 16-Bit)

LUTValueAll

[LUTSelector]

Controls all the LUT coefficients in a single access without using individual `LUTIndex`. This can be used to write all values at once.

Note: One LUT entry is 16-Bit. Data is LSB-aligned, little endian.

Display name	LUTValueAll
Standard	SFNC
Origin of feature	Camera
Feature type	Raw
Access	R/W
Affected features	Not affected
Category	/LUTControl

TestControl

The feature in this category can be used to test if packets are transmitted successfully between the host and the camera.

Display name	TestControl
Standard	SFNC
Origin of feature	Camera
Feature type	(Category)

TestPendingAck

Tests the camera's pending acknowledge feature. When this feature is written, the camera waits a time period corresponding to the value of `TestPendingAck` before acknowledging the write.

Note: If you select a high value, the camera does not respond for a long time.

Display name	TestPendingAck
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R/W
Unit	Milliseconds [ms]
Affected features	Not applicable
Category	/TestControl

Values	Description
0	Minimum
60,000	Maximum

TransportLayerControl

The features in this category can be used to display the current bandwidth use and the transfer status of packets between the host and the camera on the transport layer level.

Display name	TransportLayerControl
Origin of feature	Camera
Feature type	Category

GigEVision (subcategory)

The features in this subcategory can be used to control IP settings, the communication between the host and the camera, and the transfer of data packets.

Display name	GigEVision
Origin of feature	Camera
Feature type	Subcategory
Category	/TransportLayerControl

GevCurrentDefaultGateway

Returns the current default gateway address.

Display name	GevCurrentDefaultGateway
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R
Affected features	Not applicable
Category	/TransportLayerControl/GigEVision

GevCurrentIPAddress

Returns the current IP address.

Display name	GevCurrentIPAddress
Standard	SFNC adapted
Origin of feature	Camera
Feature type	Integer
Access	R
Affected features	Not applicable
Category	/TransportLayerControl/GigEVision

Priorities for assigning IP addresses

Figure 4 shows the workflow to assign IP addresses to cameras according to the GigE Vision standard:

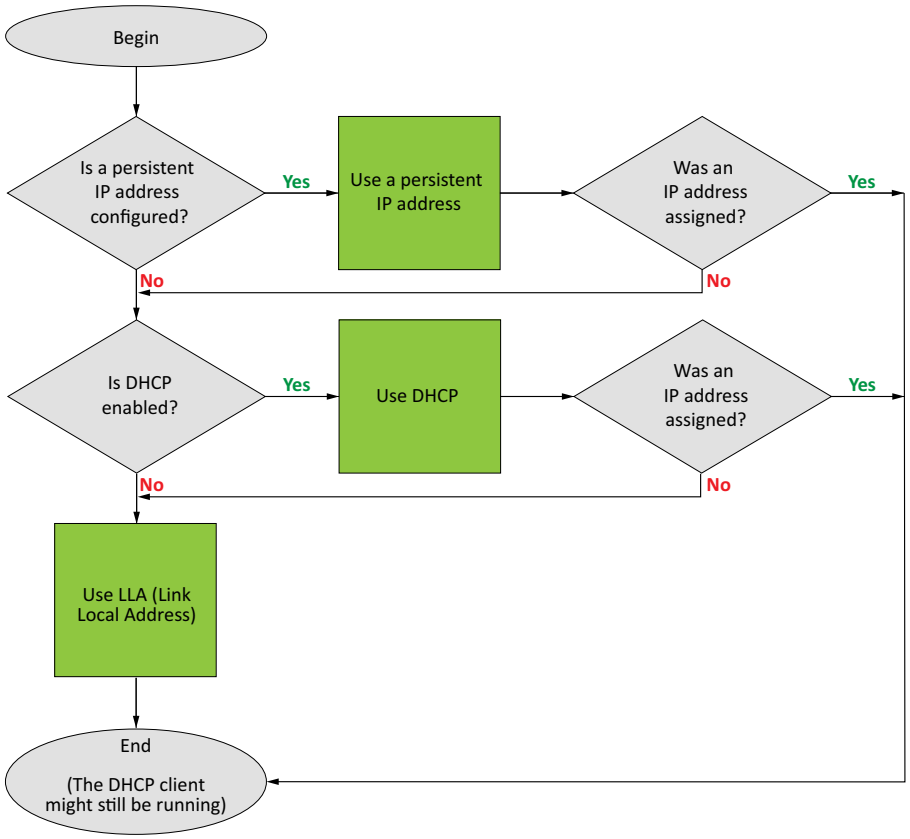


Figure 4: Priorities for assigning IP addresses

GevCurrentIPConfigurationDHCP

Enables or disables DHCP on the given logical link.

Display name	GevCurrentIPConfigurationDHCP
Standard	SFNC
Origin of feature	Camera
Feature type	Boolean
Access	R/W
Affected features	None
Category	/TransportLayerControl/GigEVision

Values	Description
False	DHCP is disabled.
True	DHCP is enabled while LLA is disabled (**default**).

Priorities for assigning IP addresses

See the flowchart in Figure 4, Priorities for assigning IP addresses on page 184 for the priorities between `GevCurrentIPConfigurationPersistentIP`, `GevCurrentIPConfigurationDHCP`, and `GevCurrentIPConfigurationLLA`.

GevCurrentIPConfigurationLLA

Enables or disables IP settings being configured by LLA (link local address).

Display name	GevCurrentIPConfigurationLLA
Standard	SFNC
Origin of feature	Camera
Feature type	Boolean
Access	R/W
Affected features	None
Category	/TransportLayerControl/GigEVision

Values	Description
False	LLA is disabled.
True	LLA is enabled while DHCP is disabled (**default**).

Priorities for assigning IP addresses

See the flowchart in Figure 4, Priorities for assigning IP addresses on page 184 for the priorities between `GevCurrentIPConfigurationPersistentIP`, `GevCurrentIPConfigurationDHCP`, and `GevCurrentIPConfigurationLLA`.

GevCurrentIPConfigurationPersistentIP

Enables or disables IP settings being configured by manually by the user.

Display name	GevCurrentIPConfigurationPersistentIP
Standard	SFNC
Origin of feature	Camera
Feature type	Boolean
Access	R/W
Affected features	None
Category	/TransportLayerControl/GigEVision

Values	Description
`False`	IP settings are configured by DHCP or LLA, depending on host settings (**default**).
`True`	IP settings are configured manually by the user.

Priorities for assigning IP addresses

See the flowchart in Figure 4, Priorities for assigning IP addresses on page 184 for the priorities between `GevCurrentIPConfigurationPersistentIP`, `GevCurrentIPConfigurationDHCP`, and `GevCurrentIPConfigurationLLA`.

GevCurrentSubnetMask

Returns the current subnet mask address.

Display name	GevCurrentSubnetMask
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R
Affected features	Not applicable
Category	/TransportLayerControl/GigEVision

GevInterfaceSelector

Selects which logical link to control.

Display name	GevInterfaceSelector
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R/W
Affected features	None
Category	/TransportLayerControl/GigEVision

Values	Description
0	Minimum (**default**)

GevMACAddress

[GevInterfaceSelector]

Returns the MAC address of the selected link.

Display name	GevMACAddress
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R (constant)
Affected features	None
Category	/TransportLayerControl/GigEVision

GevPersistentDefaultGateway

Sets the default gateway address.

Display name	GevPersistentDefaultGateway
Standard	SFNC adapted
Origin of feature	Camera
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/TransportLayerControl/GigEVision

GevPersistentIPAddress

Sets the IP address.

Display name	GevPersistentIPAddress
Standard	SFNC adapted
Origin of feature	Camera
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/TransportLayerControl/GigEVision

GevPersistentSubnetMask

Sets the subnet mask address.

Display name	GevPersistentSubnetMask
Standard	SFNC adapted
Origin of feature	Camera
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/TransportLayerControl/GigEVision

GevSCPSPacketSize

Controls the stream packet size to be transmitted on the selected channel for a GVSP transmitter.

Displays the maximum packet size supported by a GVSP receiver.

Notes:

- The following data is excluded: Data leader, data trailer, the last data packet (which might be of smaller size because the packet size is not necessarily a multiple of block size for stream channel).
- If cameras cannot support the requested packet size, they must not fire test packets when requested to do so.
- `DeviceStreamChannelPacketSize` is updated after writing to `GevSCPSPacketSize`.

Display name	Gev SCPS Packet Size
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R/W
Affected features	`DeviceStreamChannelPacketSize`
Category	/TransportLayerControl/GigEVision

TransportLayerControl (continued)

The feature descriptions for the `GigEVision` subcategory have ended on the previous page. The following feature continues the `TransportLayerControl` category, without a subcategory.

PayloadSize

Returns the total size of payload in bytes.

Display name	PayloadSize
Standard	SFNC
Origin of feature	Camera
Feature type	Integer
Access	R
Unit	Bytes
Affected features	None
Category	/TransportLayerControl

Values	Description
0	Minimum
Model dependent	Maximum

UserSetControl

The features in this category enable to store and select user-specific camera settings, or to revert the camera to defined settings.

User sets can be loaded by default, without needing to set values by software after every restart of the camera. Or they can be used to switch between different settings, for example, to adjust from daylight to artificial light.

Supported features

User sets on Goldeye Pro cameras support all features except for:

- Selectors
- Command features
- Read-only features.

Display name	UserSetControl
Standard	SFNC
Origin of feature	Camera
Feature type	Category

UserSetDefault

Selects the individual user set to be loaded on power-up or reset.

Display name	UserSetDefault
Standard	SFNC
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	Not applicable
Category	/UserSetControl

Values	Description
Default	Selects the default user set (**default**).
UserSet1	Selects user set 1.
UserSet2	Selects user set 2.
UserSet3	Selects user set 3.
UserSet4	Selects user set 4.

UserSetLoad

[UserSetSelector]

Loads the user set specified by `UserSetSelector` to the camera.

Display name	UserSetLoad
Standard	SFNC
Origin of feature	Camera
Feature type	Command
Access	W
Affected features	All features that are not excluded from user sets. See your Goldeye Pro camera's user guide for exceptions.
Category	/UserSetControl

UserSetSave

[UserSetSelector]

Writes and saves the current setup and state of the camera to the user set specified by `UserSetSelector`.

Display name	UserSetSave
Standard	SFNC
Origin of feature	Camera
Feature type	Command
Access	W
Affected features	All features that are not excluded from user sets. See your Goldeye Pro camera's user guide for exceptions.
Category	/UserSetControl

UserSetSelector

Selects the user set to be loaded or saved.

Display name	UserSetSelector
Standard	SFNC
Origin of feature	Camera
Feature type	Enumeration
Access	R/W
Affected features	`UserSetLoad`, `UserSetSave` All features that are not excluded from user sets. See your Goldeye Pro camera's user guide for exceptions.
Category	/UserSetControl

Value	Description
`Default`	The default user set is selected.
`UserSet1`	Your individual UserSet1 set is selected.
`UserSet2`	Your individual UserSet2 set is selected.
`UserSet3`	Your individual UserSet3 set is selected.
`UserSet4`	Your individual UserSet4 set is selected.

Feature descriptions: Stream 0

This chapter includes:

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Host specific modules

Transport Layer, Interface, Local Device, and Stream0 are host specific modules that provide general abilities for a certain interface type. Depending on the camera series, features may be displayed for these modules that cannot be used.

You need experience to use these features

We recommend you to use features in this category only if you are an advanced user.

BufferHandlingControl

Stream 0 as GenTL Module

Current Goldeye Pro cameras use Stream0 only.

The features in this category can be used to control the buffers in the acquisition engine of the data stream.

Display name	Buffer Handling Control
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	Category

StreamAnnounceBufferMinimum

Returns the minimum number of buffers to announce to enable selected buffer handling mode. Corresponds to the `STREAM_INFO_BUF_ANNOUNCE_MIN` command of the `DSGetInfo` function.

Note: We recommend you to use this feature only if you are an advanced user.

Display name	Stream Announce Buffer Minimum
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	Integer
Access	R
Affected features	Not applicable
Category	/BufferHandlingControl

StreamAnnouncedBufferCount

Returns the number of announced (known) buffers on this stream. Corresponds to the `STREAM_INFO_NUM_ANNOUNCED` command of the `DSGetInfo` function.

Note: We recommend you to use this feature only if you are an advanced user.

Display name	Stream Announced Buffer Count
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	Integer
Access	R
Affected features	Not applicable
Category	/BufferHandlingControl

Values	Description
0	Minimum
9223372036854775807	Maximum

StreamBufferHandlingMode

Selects the available acquisition modes of the stream.

Note: We recommend you to use this feature only if you are an advanced user.

Display name	Stream Buffer Handling Mode
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	Enumeration
Access	R
Affected features	`StreamAcquisitionModeSelector`
Category	/BufferHandlingControl

Value	Description
Default	Default stream buffer handling is available.

StreamInputBufferCount

Returns the number of buffers in the input buffer pool plus the buffers(s) currently being filled. Corresponds to the `STREAM_INFO_NUM_QUEUED` command of the `DSGetInfo` function.

Display name	Stream Input Buffer Count
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	Integer
Access	R
Affected features	Not applicable
Category	/BufferHandlingControl

Value	Description
≥0	Value range

StreamIsGrabbing

Returns the status of the acquisition engine.

Display name	Stream Is Grabbing
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	Boolean
Access	R
Affected features	Not applicable
Category	/BufferHandlingControl

Values	Description
False	Acquisition engine is not started.
True	Acquisition engine is started.

StreamOutputBufferCount

Returns the number of buffers in the output buffer pool plus the buffers(s) currently being filled. Corresponds to the `STREAM_INFO_NUM_AWAIT_DELIVERY` command of the `DSGetInfo` function.

Display name	Stream Output Buffer Count
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	Integer
Access	R
Affected features	Not applicable
Category	/BufferHandlingControl

Value	Description
≥0	Value range

Stream

The features in this category can be used to control data traffic between the host and the camera. This includes functions to avoid dropped frames. `MultiCast` can be used to deliver the streaming data to multiple receivers.

Display name	Stream
Standard	Custom
Origin of feature	Transport layer
Feature type	Category

Info (subcategory)

The features in this subcategory can be used to display the Multicast configuration of the camera and the version of the filter version for the GigE Vision Streaming Protocol.

Display name	Info
Standard	Custom
Origin of feature	Transport layer
Feature type	Subcategory
Category	/Stream

GVSPFilterCompatibility

Returns the compatibility of the transport layer and the found GVSP filter driver.

Display name	GVSP Filter Compatibility
Standard	Custom
Origin of feature	Transport layer
Feature type	Enumeration
Access	R
Affected features	Not applicable
Category	/Stream/Info

Values	Description
Matching	The transport layer and the GVSP filter driver are compatible.
TLOutdated	The filter driver is newer than expected by the transport layer, but it is compatible.
DriverOutdated	The filter driver is older than expected by the transport layer, but it is compatible.
Incompatible	The transport layer and the filter driver are not compatible. The filter driver cannot be used for streaming.
Disabled	The filter driver is installed on the system but it is not enabled for the network adapter.

GVSPFilterVersion

Returns the version of the GVSP filter driver.

Display name	GVSP Filter Version
Standard	Custom
Origin of feature	Transport layer
Feature type	String
Access	R
Affected features	Not applicable
Category	/Stream/Info

Multicast (subcategory)

The features in this subcategory enable multiple cameras to use IP connections most effectively by sending packets to many receivers at the same time.

Display name	Multicast
Standard	Custom
Origin of feature	Transport layer
Feature type	Subcategory
Category	/Stream

MulticastEnable

Enables or disables multicast.

Display name	Multicast Enable
Standard	Custom
Origin of feature	Transport layer
Feature type	Boolean
Access	R/W
Affected features	Not applicable
Category	/Stream/Multicast

Values	Description
False	Disables multicast.
True	Enables multicast.

MulticastIPAddress

Selects the IP address of the target multicasting group.

Display name	Multicast IP Address
Standard	Custom
Origin of feature	Transport Layer
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/Stream/Multicast

Values	Description
224.0.0.0	Minimum (0xE0.00.00.00 in hexadecimal or 3.758.096.384 in decimal)
239.255.255.255	Maximum (0xEF.FF.FF.FF in hexadecimal or 4.026.531.839 in decimal)

Settings (subcategory)

The features in this subcategory can be used to control settings for the packet transfer between the host and the camera. `GVSPDriver` enables to select between using the transport layer or the filter driver.

Display name	Settings
Standard	Custom
Origin of feature	Transport layer
Feature type	Subcategory
Category	/Stream

GVSPAdjustPacketSize

Request the packet size used to be adjusted automatically.

Display name	GVSP Adjust Packet Size
Standard	Custom
Origin of feature	Transport layer
Feature type	Command
Access	W
Affected features	`GVSPPacketSize, GevSCPSPacketSize, DeviceStreamChannelPacketSize`
Category	/Stream/Settings

GVSPBurstSize

Controls the maximum number of GVSP packets to be processed in a burst.

Display name	GVSP Burst Size
Standard	Custom
Origin of feature	Transport Layer
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/Stream/Settings

Values	**Description**
1	Minimum
256	Maximum

GVSPDriverSelector

Selects the streaming driver to be used.

Display name	GVSP Driver Selector
Standard	Custom
Origin of feature	Transport layer
Feature type	Enumeration
Access	R/W
Affected features	Not applicable
Category	/Stream/Settings

Values	Description
Filter	Selects the filter driver's stream engine (default).
Socket	Selects the transport layer's stream engine.

GVSPHostReceiveBufferSize

Controls the socket buffer space used to receive GVSP packets.

The operating system adjusts the socket buffer continuously. The value may be limited internally by the operating system. See the SO_RCVBUF documentation of the operating system.

Note: This feature cannot be used with the filter driver.

Display name	GVSP Host Receive Buffer Size
Standard	Custom
Origin of feature	Transport Layer
Feature type	Integer
Access	R/W
Unit	Bytes
Affected features	Not applicable
Category	/Stream/Settings

GVSPMaxLookBack

Controls the size for the detection of the missing GVSP packets. This feature can be used to delay the first RESEND_CMD for a missing GVSP packet by X packets.

Display name	GVSP Max Look Back
Standard	Custom
Origin of feature	Transport Layer
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/Stream/Settings

Values	Description
1	Minimum
1024	Maximum

GVSPMaxRequests

Controls the maximum amount of RESEND_CMDs requested for a missing GVSP packet.

Note: Setting the feature to 0 disables the GigE Vision resend mechanism. The transport layer or filter driver does not request the re-transmission of any missing GVSP packet.

Display name	GVSP Max Requests
Standard	Custom
Origin of feature	Transport Layer
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/Stream/Settings

Values	Description
0	Minimum, disables GigE Vision resend mechanism.
512	Maximum

GVSPMaxWaitSize

Controls the maximum number of received GVSP packets following a resend request to wait before requesting again. Before requesting a resend for the same packet, the transport layer or the filter driver waits until the defined value for `GVSPMaxWaitSize` has been reached.

Display name	GVSP Max Wait Size
Standard	Custom
Origin of feature	Transport Layer
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/Stream/Settings

Values	Description
8	Minimum
1024	Maximum

GVSPMissingSize

Controls the maximum number of simultaneously missing GVSP packets before dropping the frame.

You can use this feature to cancel the reception of a single frame if the resend limit `GVSPMaxRequests` is reached for too many packets. The frame is marked as incomplete and returned to the GenTL consumer.

Display name	GVSP Missing Size
Standard	Custom
Origin of feature	Transport Layer
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/Stream/Settings

Values	Description
0	Minimum, disables the feature.
1024	Maximum

GVSPPacketSize

Controls the total size of a GVSP packet, including the IP, UDP, and GVSP headers.

Display name	GVSP Packet Size
Standard	Custom
Origin of feature	Transport Layer
Feature type	Integer
Access	R/W
Unit	Bytes
Affected features	`GevSCPSPacketSize, DeviceStreamChannelPacketSize`
Category	/Stream/Settings

Values	Description
500	Minimum
16358	Maximum

GVSPProtocol

Selects the transport protocol to be used for transferring the streaming data.

Display name	GVSP Protocol
Standard	Custom
Origin of feature	Transport layer
Feature type	Enumeration
Access	R/W
Affected features	Not applicable
Category	/Stream/Settings

Values	Description
UDP	Streaming is done using UDP.

GVSPTiltingSize

Controls the maximum number of GVSP packets received from a following frame before dropping the frame.

You can use this feature to cancel the reception of a single frame if a certain number of GVSP packets of the following frame have already been received. The frame is marked as incomplete and returned to the GenTL consumer.

Display name	GVSP Tilting Size
Standard	Custom
Origin of feature	Transport Layer
Feature type	Integer
Access	R/W
Affected features	Not applicable
Category	/Stream/Settings

Values	Description
0	Minimum, disables the feature.
1024	Maximum

GVSPTimeout

Controls the timeout used for stream packets.

You can use this feature to react on a possible streaming interruptions. If no GVSP packet is received during the last `GVSPTimeout` milliseconds, the stream engine forces a resend of currently missing GVSP packets.

Display name	GVSP Timeout
Standard	Custom
Origin of feature	Transport Layer
Feature type	Integer
Access	R/W
Unit	Milliseconds [ms]
Affected features	Not applicable
Category	/Stream/Settings

Values	Description
0	Minimum, disables the feature.
5,000	Maximum

Statistics (subcategory)

The features in this subcategory can be used to display frame rates, streaming duration, and the transfer status of packets between the host and the camera.

Display name	Statistics
Standard	Custom
Origin of feature	Transport layer
Feature type	Subcategory
Category	/Stream

Dropped frames with GEV versions

GEV V2.x allows to set flags `PREVIOUS BLOCK DROPPED` to notify the host of frames dropped on the camera. Goldeye Pro G5 cameras (and 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, Goldeye Pro G5 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 Goldeye G, Mako, Manta, or Prosilica GT
With GEV V1.x, `StatFrameDropped` lists frames dropped on the host.

Goldeye Pro G5, Alvium G1/G5
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 Goldeye Pro G5 cameras are operated using Vimba X GigE TL. Goldeye Pro G5 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.

FramePacketStatisticsCounter

[FramePacketStatisticsCounterSelector]

Returns the number of GVSP packets as selecetd by `FramePacketStatisticsCounterSelector`.

Display name	Frame Packet Statistics Counter
Standard	Custom
Origin of feature	Transport Layer
Feature type	Integer
Access	R
Affected features	Not applicable
Category	/Stream/Statistics

FramePacketStatisticsCounterSelector

Selects the frame packet statistic that is shown in `FramePacketStatisticsCounter`.

Display name	Frame Packet Statistics Counter Selector
Standard	Custom
Origin of feature	Transport layer
Feature type	Enumeration
Access	R/W
Affected features	Not applicable
Category	/Stream/Statistics

Values	Description
Bad	All frame packets have errors, such as: missed and defective packets. This excludes resent packets or packets requested to be resent. (See other values below.)
Delivered	Packets sent to the host successfully
Defective	Defective packets
Missed	Missed packets
ResendRequested	Packets that have been requested for resend
Resent	Packets resent to the host successfully
StatusError	Packets with an unclear status

FrameRate

[FrameRateSelector]

Returns the current frame rate as defined by `FrameRateSelector`.

Display name	Frame Rate
Standard	Custom
Origin of feature	Transport Layer
Feature type	Integer
Access	R
Unit	Hz [Hertz]
Affected features	Not applicable
Category	/Stream/Statistics

FrameRateSelector

Selects the type of frame rate to be displayed.

Display name	Frame Rate Selector
Standard	Custom
Origin of feature	Transport layer
Feature type	Enumeration
Access	R/W
Affected features	Not applicable
Category	/Stream/Statistics

Values	Description
Received	Frames received by the host
Sent	Frames output by the camera

FrameStatisticsCounter

[FrameStatisticsCounterSelector]

Returns the frame statistic that is selected by `FrameStatisticsCounterSelector`.

Display name	Frame Statistics Counter
Standard	Custom
Origin of feature	Transport Layer
Feature type	Integer
Access	R
Affected features	Not applicable
Category	/Stream/Statistics

FrameStatisticsCounterSelector

Selects the type of frame statistics to be counted.

Display name	Frame Statistics Counter Selector
Standard	Custom
Origin of feature	Transport layer
Feature type	Enumeration
Access	R/W
Affected features	`FrameStatisticsConter`
Category	/Stream/Statistics

Values	Description
Bad	This includes frames that are, such as: incomplete, discarded, dropped, or defective. This excludes reconstructed frames. (See the corresponding value below.)
Defective	Defective frames
Delivered	Frames sent to the host successfully
Dropped	Frames ignored by the host because no buffer was available to store the data
Incomplete	Incomplete frames
Missed	Missed frames
Reconstructed	Reconstructed frames

StreamInformation

The features in this category can be used to display, such as the streaming status, the frame rate, and the transfer status of frames sent by the camera.

Display name	Stream Information
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	Category

StreamID

Returns the camera's unique identifier for the stream, for instance a GUID.

Display name	Stream ID
Standard	GenTL SFNC
Origin of feature	Transport layer
Feature type	String
Access	R
Affected features	Not applicable
Category	/StreamInformation

StreamType

Returns the transport layer type of the data stream.

Display name	Stream Type
Standard	GenTL SFNC adapted
Origin of feature	Transport layer
Feature type	Enumeration
Access	R
Affected features	Not applicable
Category	/StreamInformation

Values	Description
GEV	The transport layer is GigE type.

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