

# C-BLUE

## GigE Features Reference

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# 1. DeviceControl

## 1.1. DeviceScanType

Scan type of the sensor of the device.

Feature	Value
Display Name	Device Scan Type
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	R0
Visibility	Expert
Category	DeviceControl

Possible values	Description
<i>Areascan</i>	2D sensor.

## 1.2. DeviceVendorName

Name of the manufacturer of the device.

Feature	Value
Display Name	Device Vendor Name
Standard	GeniCam SFNC Version 2.5
Feature type	String
Access	R0
Visibility	Beginner
Category	DeviceControl

## 1.3. DeviceModelName

Model of the device.

Feature	Value
Display Name	Device Model Name
Standard	GeniCam SFNC Version 2.5
Feature type	String
Access	R0
Visibility	Beginner
Category	DeviceControl

## 1.4. DeviceFamilyName

Identifier of the product family of the device.

Feature	Value
Display Name	Device Family Name
Standard	GeniCam SFNC Version 2.5
Feature type	String

<b>Access</b>	R0
<b>Visibility</b>	Beginner
<b>Category</b>	DeviceControl

### 1.5. DeviceManufacturerInfo

Manufacturer information about the device.

Feature	Value
<b>Display Name</b>	Device Manufacturer Info
<b>Standard</b>	GeniCam SFNC Version 2.5
<b>Feature type</b>	String
<b>Access</b>	R0
<b>Visibility</b>	Beginner
<b>Category</b>	DeviceControl

### 1.6. DeviceVersion

Version of the device.

Feature	Value
<b>Display Name</b>	Device Version
<b>Standard</b>	GeniCam SFNC Version 2.5
<b>Feature type</b>	String
<b>Access</b>	R0
<b>Visibility</b>	Beginner
<b>Category</b>	DeviceControl

### 1.7. DeviceFirmwareVersion

Version of the firmware in the device.

Feature	Value
<b>Display Name</b>	Device Firmware Version
<b>Standard</b>	GeniCam SFNC Version 2.5
<b>Feature type</b>	String
<b>Access</b>	R0
<b>Visibility</b>	Beginner
<b>Category</b>	DeviceControl

### 1.8. DeviceFPGAVersion

Version of the FPGA in the device.

Feature	Value
<b>Display Name</b>	Device FPGA Version
<b>Standard</b>	Custom
<b>Feature type</b>	String
<b>Access</b>	R0
<b>Visibility</b>	Expert



Category	DeviceControl
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### 1.9. DeviceSerialNumber

Device's serial number. This string is a unique identifier of the device.

Feature	Value
Display Name	Device Serial Number
Standard	GeniCam SFNC Version 2.5
Feature type	String
Access	R0
Visibility	Expert
Category	DeviceControl

### 1.10. DeviceUserID

User-programmable device identifier.

Feature	Value
Display Name	Device User ID
Standard	GeniCam SFNC Version 2.5
Feature type	String
Access	RW
Visibility	Beginner
Category	DeviceControl

### 1.11. DeviceReset

Resets the device. After reset, the device must be rediscovered.

Feature	Value
Display Name	Device Reset
Standard	GeniCam SFNC Version 2.5
Feature type	Command
Access	W0
Visibility	Guru
Category	DeviceControl

### 1.12. DeviceShutdown

Turns the device off.

Feature	Value
Display Name	Device Shutdown
Standard	Custom
Feature type	Command
Access	W0
Visibility	Beginner
Category	DeviceControl

### 1.13. DeviceIndicatorMode

Controls the behavior of the indicators (such as LEDs) showing the status of the Device.

Feature	Value
Display Name	Device Indicator Mode
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	RW
Visibility	Expert
Category	DeviceControl

Possible values	Description
<i>Inactive</i>	Device's indicators are inactive (Off).
<i>Active</i>	Device's indicators are active showing their respective status.
<i>ErrorStatus</i>	Device's indicators are inactive unless an error occurs.

### 1.14. DeviceTemperatureSelector

Selects the location within the device, where the temperature will be measured.

Feature	Value
Display Name	Device Temperature Selector
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	RW
Visibility	Expert
Category	DeviceControl
Selects	DeviceTemperature

Possible values	Description
<i>Sensor</i>	Temperature of the image sensor of the camera.
<i>CPU</i>	Temperature of the device's CPU.
<i>Power</i>	Temperature of the device's power module.
<i>Frontend</i>	Temperature of the device's frontend module.
<i>Heatsink</i>	Temperature of the device's heatsink.
<i>Case</i>	Temperature of the device's case.

### 1.15. DeviceTemperature[DeviceTemperatureSelector]

Device temperature in degrees Celsius (C). It is measured at the location selected by DeviceTemperatureSelector.

Feature	Value
Display Name	Device Temperature
Standard	GeniCam SFNC Version 2.5
Feature type	Float
Access	R0

Visibility	Expert
Unit	C
Category	DeviceControl

### 1.16. DeviceTecSelector

Selects the TEC module within the device, where voltage, current and power will be measured.

Feature	Value
Display Name	Device Tec Selector
Standard	Custom
Feature type	Enumeration
Access	RW
Visibility	Guru
Category	DeviceControl
Selects	DeviceTecVoltage DeviceTecCurrent DeviceTecPower

Possible values	Description
<i>TEC1</i>	Primary TEC.

### 1.17. DeviceTecVoltage[DeviceTecSelector]

Voltage applied to TEC in Volts (V). It is measured at the TEC selected by DeviceTecSelector.

Feature	Value
Display Name	Device TEC Voltage
Standard	Custom
Feature type	Float
Access	RO
Visibility	Guru
Unit	V
Category	DeviceControl

### 1.18. DeviceTecCurrent[DeviceTecSelector]

Current consumed by the TEC in Amperes (A). It is measured at the TEC selected by DeviceTecSelector.

Feature	Value
Display Name	Device TEC Current
Standard	Custom
Feature type	Float
Access	RO
Visibility	Guru
Unit	A
Category	DeviceControl

### 1.19. DeviceTecPower[DeviceTecSelector]

TEC power consumption in Watts (W). It is measured at the TEC selected by DeviceTecSelector.

Feature	Value
Display Name	Device TEC Power
Standard	Custom
Feature type	Float
Access	R0
Visibility	Guru
Unit	W
Category	DeviceControl

### 1.20.DeviceFanMode

Selects the mode of operation of the device fan.

Feature	Value
Display Name	Device Fan Mode
Standard	Custom
Feature type	Enumeration
Access	RW
Visibility	Expert
Category	DeviceControl

Possible values	Description
<i>Automatic</i>	The fan speed is controlled by the camera.
<i>Manual</i>	The fan speed is controlled by the user using DeviceFanSpeed register.

### 1.21.DeviceFanSpeed

Selects the speed of the fan in manual mode.

Feature	Value
Display Name	Device Fan Speed
Standard	Custom
Feature type	Integer
Access	RW
Visibility	Expert
Category	DeviceControl

### 1.22.DeviceCoolingEnable

Controls if the sensor cooling is enabled.

Feature	Value
Display Name	Cooling Enable
Standard	Custom
Feature type	Boolean
Access	RW
Visibility	Beginner

Category	DeviceControl
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### 1.23. DeviceCoolingSetpoint

Specifies the sensor temperature target in degree Celsius when cooling is enabled.

Feature	Value
Display Name	Cooling SetPoint
Standard	Custom
Feature type	Float
Access	RW
Visibility	Beginner
Unit	°C
Category	DeviceControl

### 1.24. DeviceStatus

Status of the device.

Feature	Value
Display Name	Device Status
Standard	Custom
Feature type	String
Access	R0
Visibility	Beginner
Category	DeviceControl

### 1.25. DeviceStatusDetailed

Detailed status of the device.

Feature	Value
Display Name	Detailed Status Device
Standard	Custom
Feature type	String
Access	R0
Visibility	Expert
Category	DeviceControl

## 2. DeviceMaintenance

### 2.1. DeviceDate

Controls the date of the camera. Format is YYYY-MM-DD HH:MM:SS

Feature	Value
Display Name	Date (UTC)
Standard	Custom
Feature type	String
Access	RW
Visibility	Guru

Category	DeviceMaintenance
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## 2.2. TotalUptime

Specifies the total uptime of the camera.

Feature	Value
Display Name	Total Uptime
Standard	Custom
Feature type	String
Access	R0
Visibility	Guru
Category	DeviceMaintenance

## 2.3. FirmwareUpdateUri

Specifies location of firmware update (max 255 bytes).

Feature	Value
Display Name	Firmware Update location
Standard	Custom
Feature type	String
Access	RW
Visibility	Expert
Category	DeviceMaintenance

## 2.4. FirmwareUpdateExecute

Launches the firmware update procedure.

Feature	Value
Display Name	Launch firmware update
Standard	Custom
Feature type	Command
Access	W0
Visibility	Expert
Category	DeviceMaintenance
Affects	FirmwareUpdateStatus

## 2.5. FirmwareUpdateAbort

Aborts the firmware update procedure in progress.

Feature	Value
Display Name	Aborts firmware update in progress
Standard	Custom
Feature type	Command
Access	W0
Visibility	Expert
Category	DeviceMaintenance

Affects	FirmwareUpdateStatus
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## 2.6. FirmwareUpdateStatusRefresh

Forces reload of firmware update status. This is only needed for implementation that do not handle IsSelfClearing properly.

Feature	Value
Display Name	Forces reload of firmware update status
Standard	Custom
Feature type	Command
Access	WO
Visibility	Expert
Category	DeviceMaintenance
Affects	FirmwareUpdateStatus

## 2.7. FirmwareUpdateStatus

Returns firmware update status.

Feature	Value
Display Name	Firmware update status
Standard	Custom
Feature type	Enumeration
Access	RO
Visibility	Expert
Category	DeviceMaintenance

Possible values	Description
<i>Idle</i>	No firmware update operation has been requested.
<i>InProgress</i>	Firmware update operation in progress.
<i>Done</i>	Last firmware update operation succeeded. Reboot the camera to apply new firmware configuration
<i>Failed</i>	Last firmware update operation failed.

## 2.8. LogHistoryDepth

Specifies the log history depth in days.

Feature	Value
Display Name	Log History Depth
Standard	Custom
Feature type	Integer
Access	RW
Visibility	Guru
Unit	days
Category	DeviceMaintenance

## 2.9. LogCollect

Collects the logs.

Feature	Value
Display Name	Log Collect
Standard	Custom
Feature type	Command
Access	WO
Visibility	Guru
Category	DeviceMaintenance
Affects	LogCollectStatus

## 2.10. LogCollectAbort

Aborts collecting of the logs.

Feature	Value
Display Name	Log Collect Abort
Standard	Custom
Feature type	Command
Access	WO
Visibility	Guru
Category	DeviceMaintenance
Affects	LogCollectStatus

## 2.11. LogCollectStatus

Returns log collect status.

Feature	Value
Display Name	Log Collect Status
Standard	Custom
Feature type	Enumeration
Access	RO
Visibility	Guru
Category	DeviceMaintenance

Possible values	Description
<i>Idle</i>	No log collect operation has been requested.
<i>InProgress</i>	Log collect operation in progress.
<i>Done</i>	Log collect succeeded. The logs can now be served.
<i>Failed</i>	Log collect failed.

## 2.12. LogCollectStatusRefresh

Forces reload of log collecting status. This is only needed for implementation that do not handle `IsSelfClearing` properly.



Feature	Value
Display Name	Forces reload of log collecting status.
Standard	Custom
Feature type	Command
Access	WO
Visibility	Guru
Category	DeviceMaintenance
Affects	LogCollectStatus

## 2.13. LogServe

Serves the logs previously collected.

Feature	Value
Display Name	LogServe
Standard	Custom
Feature type	Command
Access	WO
Visibility	Guru
Category	DeviceMaintenance
Affects	LogServeUri

## 2.14. LogServeAbort

Aborts serving of the logs.

Feature	Value
Display Name	LogServeAbort
Standard	Custom
Feature type	Command
Access	WO
Visibility	Guru
Category	DeviceMaintenance
Affects	LogServeUri

## 2.15. LogServeUri

Specifies location of logs.

Feature	Value
Display Name	LogServeUri
Standard	Custom
Feature type	String
Access	RO
Visibility	Guru
Category	DeviceMaintenance

# 3. NonUniformityCorrectionControl

## 3.1. NucMode

Selects the non uniformity corrections.

Feature	Value
Display Name	Active corrections
Standard	Custom
Feature type	Enumeration
Access	RW
Visibility	Expert
Category	NonUniformityCorrectionControl

Possible values	Description
<i>None</i>	No correction.
<i>Bias</i>	Bias correction is applied.
<i>BiasFlat</i>	Bias and FFlat corrections are applied.

### 3.2. BuildBiasExecute

Start the generation of a BIAS correction file.

Feature	Value
Display Name	Build bias
Standard	Custom
Feature type	Command
Access	WO
Visibility	Expert
Category	NonUniformityCorrectionControl
Affects	BuildNucStatus BuildNucDuration

### 3.3. BuildFlatExecute

Start the generation of a FLAT correction file.

Feature	Value
Display Name	Build flat
Standard	Custom
Feature type	Command
Access	WO
Visibility	Expert
Category	NonUniformityCorrectionControl
Affects	BuildNucStatus BuildNucDuration

### 3.4. BuildNucNbImages

Number of images used to build the NUC.

Feature	Value
Display Name	Nb Images for NUC computation
Standard	Custom
Feature type	Integer

Access	RW
Visibility	Expert
Category	NonUniformityCorrectionControl
Affects	BuildNucDuration

### 3.5. BuildNucAbort

Abort the generation.

Feature	Value
Display Name	Abort build
Standard	Custom
Feature type	Command
Access	WO
Visibility	Expert
Category	NonUniformityCorrectionControl
Affects	BuildNucStatus BuildNucDuration

### 3.6. BuildNucStatusRefresh

Force reload of NUC generation status

Feature	Value
Display Name	Reload NUC status
Standard	Custom
Feature type	Command
Access	WO
Visibility	Expert
Category	NonUniformityCorrectionControl
Affects	BuildNucStatus BuildNucDuration

### 3.7. BuildNucStatus

Returns NUC computation status.

Feature	Value
Display Name	Build NUC status
Standard	Custom
Feature type	Enumeration
Access	RO
Visibility	Expert
Category	NonUniformityCorrectionControl

Possible values	Description
<i>Idle</i>	No NUC build operation has been requested.
<i>InProgress</i>	NUC build operation is in progress.
<i>Done</i>	NUC build operation completed successfully.
<i>Failed</i>	NUC build operation failed.

### 3.8. BuildNucDuration

Estimating NUC computation duration.

Feature	Value
Display Name	NUC computation duration
Standard	Custom
Feature type	Integer
Access	R0
Visibility	Expert
Unit	s
Category	NonUniformityCorrectionControl

### 3.9. AduOffset

Offset applied to all pixels. The offset is added after bias/flat correction and before conversion to final pixel format

Feature	Value
Display Name	ADU offset
Standard	Custom
Feature type	Integer
Access	RW
Visibility	Expert
Category	NonUniformityCorrectionControl

## 4. DebugEthernet

### 4.1. CurrentIPAddress

Reports the IP address of the camera Ethernet link.

Feature	Value
Display Name	Ethernet Current IP Address
Standard	Custom
Feature type	String
Access	R0
Visibility	Expert
Category	DebugEthernet

### 4.2. CurrentSubnetMask

Reports the subnet mask of the camera Ethernet link.

Feature	Value
Display Name	Ethernet Current Subnet Mask
Standard	Custom
Feature type	String
Access	R0
Visibility	Expert
Category	DebugEthernet

### 4.3. IPMode

Specifies how the camera Ethernet link is configured.

Feature	Value
Display Name	IP Configuration Mode
Standard	Custom
Feature type	Enumeration
Access	RW
Visibility	Expert
Category	DebugEthernet

Possible values	Description
<i>Automatic</i>	Automatic IP configuration using DHCP.
<i>Manual</i>	Manual IP configuration.

### 4.4. IPReconfigure

Reconfigures Network.

Feature	Value
Display Name	Reconfigures Network.
Standard	Custom
Feature type	Command
Access	WO
Visibility	Expert
Category	DebugEthernet

### 4.5. StaticIPAddress

Controls the static IP address of the camera ethernet link. It is only used when the DHCP configuration scheme is disabled.

Feature	Value
Display Name	Static IP Address
Standard	Custom
Feature type	String
Access	RW
Visibility	Expert
Category	DebugEthernet

### 4.6. StaticSubnetMask

Controls the static subnet mask associated with the static IP address of the camera ethernet link. It is only used when the DHCP configuration scheme is disabled.

Feature	Value
Display Name	Static Subnet Mask
Standard	Custom

<b>Feature type</b>	String
<b>Access</b>	RW
<b>Visibility</b>	Expert
<b>Category</b>	DebugEthernet

#### 4.7. StaticDefaultGateway

Controls the static default gateway associated with the static IP address of the camera ethernet link. It is only used when the DHCP configuration scheme is disabled.

Feature	Value
<b>Display Name</b>	Static Default Gateway
<b>Standard</b>	Custom
<b>Feature type</b>	String
<b>Access</b>	RW
<b>Visibility</b>	Expert
<b>Category</b>	DebugEthernet

#### 4.8. StaticDomainNameServer

Controls the static domain name server associated with the static IP address of the camera ethernet link. It is only used when the DHCP configuration scheme is disabled.

Feature	Value
<b>Display Name</b>	Static Domain Name Server
<b>Standard</b>	Custom
<b>Feature type</b>	String
<b>Access</b>	RW
<b>Visibility</b>	Expert
<b>Category</b>	DebugEthernet

#### 4.9. StaticAlternateDomainNameServer

Controls the static alternate domain name server associated with the static IP address of the camera ethernet link. It is only used when the DHCP configuration scheme is disabled.

Feature	Value
<b>Display Name</b>	Static Alternate Domain Name Server
<b>Standard</b>	Custom
<b>Feature type</b>	String
<b>Access</b>	RW
<b>Visibility</b>	Expert
<b>Category</b>	DebugEthernet

#### 4.10. IPRestoreDefault

Restore default network configuration.

Feature	Value
<b>Display Name</b>	Restore default network configuration

<b>Standard</b>	Custom
<b>Feature type</b>	Command
<b>Access</b>	WO
<b>Visibility</b>	Expert
<b>Category</b>	DebugEthernet
<b>Affects</b>	IPMode StaticIPAddress StaticSubnetMask StaticDefaultGateway StaticDomainNameServer StaticAlternateDomainNameServer

## 5. ImageFormatControl

### 5.1. SensorWidth

Effective width of the sensor in pixels.

Feature	Value
<b>Display Name</b>	Sensor Width
<b>Standard</b>	GeniCam SFNC Version 2.5
<b>Feature type</b>	Integer
<b>Access</b>	R0
<b>Visibility</b>	Expert
<b>Category</b>	ImageFormatControl

### 5.2. SensorHeight

Effective height of the sensor in pixels.

Feature	Value
<b>Display Name</b>	Sensor Height
<b>Standard</b>	GeniCam SFNC Version 2.5
<b>Feature type</b>	Integer
<b>Access</b>	R0
<b>Visibility</b>	Expert
<b>Category</b>	ImageFormatControl

### 5.3. SensorPixelWidth

Physical size (pitch) in the x direction of a photo sensitive pixel unit.

Feature	Value
<b>Display Name</b>	Sensor Pixel Width
<b>Standard</b>	GeniCam SFNC Version 2.5
<b>Feature type</b>	Float
<b>Access</b>	R0
<b>Visibility</b>	Guru
<b>Unit</b>	µm
<b>Category</b>	ImageFormatControl

### 5.4. SensorPixelHeight

Physical size (pitch) in the y direction of a photo sensitive pixel unit.

Feature	Value
Display Name	Sensor Pixel Height
Standard	GeniCam SFNC Version 2.5
Feature type	Float
Access	R0
Visibility	Guru
Unit	µm
Category	ImageFormatControl

### 5.5. SensorName

Product name of the imaging Sensor.

Feature	Value
Display Name	Sensor Name
Standard	GeniCam SFNC Version 2.5
Feature type	String
Access	R0
Visibility	Guru
Category	ImageFormatControl

### 5.6. SensorShutterMode

Specifies the shutter mode of the device.

Feature	Value
Display Name	Sensor Shutter Mode
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	R0
Visibility	Guru
Category	ImageFormatControl

Possible values	Description
<i>Global</i>	The shutter opens and closes at the same time for all pixels. All the pixels are exposed for the same length of time at the same time.

### 5.7. WidthMax

Maximum width of the image (in pixels). The dimension is calculated after horizontal binning, decimation or any other function changing the horizontal dimension of the image.

Feature	Value
Display Name	Width Max
Standard	GeniCam SFNC Version 2.5
Feature type	Integer
Access	R0



Visibility	Expert
Category	ImageFormatControl

## 5.8. HeightMax

Maximum height of the image (in pixels). This dimension is calculated after vertical binning, decimation or any other function changing the vertical dimension of the image.

Feature	Value
Display Name	Height Max
Standard	GeniCam SFNC Version 2.5
Feature type	Integer
Access	R0
Visibility	Expert
Category	ImageFormatControl

## 5.9. RegionSelector

Selects the Region of interest to control. The RegionSelector feature allows devices that are able to extract multiple regions out of an image, to configure the features of those individual regions independently.

Feature	Value
Display Name	Region Selector
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	RW
Visibility	Beginner
Category	ImageFormatControl
Selects	RegionDestination Width Height OffsetX OffsetY Sparse SparseSelector SparseOffsetX SparseWidth SparseOffsetY SparseHeight

Possible values	Description
<i>Region0</i>	Selected feature will control the region 0.

## 5.10. RegionMode

Controls if the selected Region of interest is active and streaming.

Feature	Value
Display Name	Region Mode
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration

<b>Access</b>	R0
<b>Locked</b>	During acquisition
<b>Visibility</b>	Beginner
<b>Category</b>	ImageFormatControl

Possible values	Description
<i>On</i>	Enable the usage of the Region.

### 5.11.RegionDestination[RegionSelector]

Controls the destination of the selected region.

Feature	Value
<b>Display Name</b>	Region Destination
<b>Standard</b>	GeniCam SFNC Version 2.5
<b>Feature type</b>	Enumeration
<b>Access</b>	RW
<b>Locked</b>	During acquisition
<b>Visibility</b>	Expert
<b>Category</b>	ImageFormatControl

Possible values	Description
<i>Stream0</i>	The destination of the region is the data stream 0.

### 5.12.Width[RegionSelector]

Width of the image provided by the device (in pixels).

Feature	Value
<b>Display Name</b>	Width
<b>Standard</b>	GeniCam SFNC Version 2.5
<b>Feature type</b>	Integer
<b>Access</b>	RW
<b>Locked</b>	During acquisition
<b>Visibility</b>	Beginner
<b>Category</b>	ImageFormatControl
<b>Affects</b>	AcquisitionLineDelay PayloadSize AcquisitionFrameRate MaximumExternalAcquisitionFrameRate ExposureTime MinimumExternalExposureTime

### 5.13.Height[RegionSelector]

Height of the image provided by the device (in pixels).

Feature	Value
<b>Display Name</b>	Height
<b>Standard</b>	GeniCam SFNC Version 2.5

<b>Feature type</b>	Integer
<b>Access</b>	RW
<b>Locked</b>	During acquisition
<b>Visibility</b>	Beginner
<b>Category</b>	ImageFormatControl
<b>Affects</b>	AcquisitionLineDelay PayloadSize AcquisitionFrameRate MaximumExternalAcquisitionFrameRate ExposureTime MinimumExternalExposureTime

#### 5.14. OffsetX[RegionSelector]

Horizontal offset from the origin to the region of interest (in pixels).

Feature	Value
<b>Display Name</b>	Offset X
<b>Standard</b>	GeniCam SFNC Version 2.5
<b>Feature type</b>	Integer
<b>Access</b>	RW
<b>Locked</b>	During acquisition
<b>Visibility</b>	Beginner
<b>Category</b>	ImageFormatControl

#### 5.15. OffsetY[RegionSelector]

Vertical offset from the origin to the region of interest (in pixels).

Feature	Value
<b>Display Name</b>	Offset Y
<b>Standard</b>	GeniCam SFNC Version 2.5
<b>Feature type</b>	Integer
<b>Access</b>	RW
<b>Locked</b>	During acquisition
<b>Visibility</b>	Beginner
<b>Category</b>	ImageFormatControl

#### 5.16. Sparse[RegionSelector]

Controls whether the region is contiguous or split in different areas.

Feature	Value
<b>Display Name</b>	Sparse
<b>Standard</b>	Custom
<b>Feature type</b>	Boolean
<b>Access</b>	RW
<b>Locked</b>	During acquisition
<b>Visibility</b>	Expert
<b>Category</b>	ImageFormatControl

<b>Affects</b>	Width Height OffsetX OffsetY SparseWidth SparseHeight SparseOffsetX SparseOffsetY SparseMode AcquisitionLineDelay PayloadSize AcquisitionFrameRate MaximumExternalAcquisitionFrameRate ExposureTime MinimumExternalExposureTime
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### 5.17.SparseSelector[RegionSelector]

Selects the sparse area to be configured.

Feature	Value
Display Name	Sparse Area Selector
Standard	Custom
Feature type	Enumeration
Access	RW
Visibility	Expert
Category	ImageFormatControl
Selects	SparseWidth SparseHeight SparseOffsetX SparseOffsetY SparseMode

Possible values	Description
<i>Region0</i>	Selected feature will control the sparse region 0.
<i>Region1</i>	Selected feature will control the sparse region 1.
<i>Region2</i>	Selected feature will control the sparse region 2.
<i>Region3</i>	Selected feature will control the sparse region 3.
<i>Region4</i>	Selected feature will control the sparse region 4.
<i>Region5</i>	Selected feature will control the sparse region 5.
<i>Region6</i>	Selected feature will control the sparse region 6.
<i>Region7</i>	Selected feature will control the sparse region 7.

### 5.18.SparseWidth[RegionSelector][SparseSelector]

Width of the sparse area (in pixels).

Feature	Value
Display Name	Sparse area Width
Standard	Custom
Feature type	Integer
Access	RW
Locked	During acquisition
Visibility	Expert
Category	ImageFormatControl
Affects	Width AcquisitionLineDelay PayloadSize AcquisitionFrameRate MaximumExternalAcquisitionFrameRate ExposureTime MinimumExternalExposureTime

### 5.19.SparseHeight[RegionSelector][SparseSelector]

Height of the sparse area (in pixels).

Feature	Value
Display Name	Sparse area Height
Standard	Custom
Feature type	Integer
Access	RW
Locked	During acquisition
Visibility	Expert
Category	ImageFormatControl
Affects	Height AcquisitionLineDelay PayloadSize AcquisitionFrameRate MaximumExternalAcquisitionFrameRate ExposureTime MinimumExternalExposureTime

### 5.20.SparseOffsetX[RegionSelector][SparseSelector]

Horizontal offset from the origin to the sparse area (in pixels).

Feature	Value
Display Name	Sparse area Offset X
Standard	Custom
Feature type	Integer
Access	RW
Locked	During acquisition
Visibility	Expert
Category	ImageFormatControl
Affects	OffsetX

## 5.21.SparseOffsetY[RegionSelector][SparseSelector]

Vertical offset from the origin to the sparse area (in pixels).

Feature	Value
Display Name	Sparse area Offset Y
Standard	Custom
Feature type	Integer
Access	RW
Locked	During acquisition
Visibility	Expert
Category	ImageFormatControl
Affects	OffsetY

## 5.22.SparseMode[SparseSelector]

Controls if the selected sparse area is active.

Feature	Value
Display Name	Sparse Region Mode
Standard	Custom
Feature type	Enumeration
Access	RW
Locked	During acquisition
Visibility	Expert
Category	ImageFormatControl
Affects	Width Height OffsetX OffsetY AcquisitionLineDelay PayloadSize AcquisitionFrameRate MaximumExternalAcquisitionFrameRate ExposureTime MinimumExternalExposureTime

Possible values	Description
<i>Off</i>	Disable the usage of the sparse area.
<i>On</i>	Enable the usage of the sparse area.

## 5.23.BinningSelector

Selects which binning engine is controlled by the BinningHorizontal and BinningVertical features.

Feature	Value
Display Name	Binning Selector
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	RO
Visibility	Expert
Category	ImageFormatControl

<b>Selects</b>	BinningHorizontalMode BinningHorizontal BinningVerticalMode BinningVertical
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Possible values	Description
<b>Sensor</b>	Selected features will control the sensor binning.

## 5.24. BinningHorizontalMode[BinningSelector]

Sets the mode to use to combine horizontal photo-sensitive cells together when BinningHorizontal is used.

Feature	Value
<b>Display Name</b>	Binning Horizontal Mode
<b>Standard</b>	GeniCam SFNC Version 2.5
<b>Feature type</b>	Enumeration
<b>Access</b>	RW
<b>Locked</b>	During acquisition
<b>Visibility</b>	Expert
<b>Category</b>	ImageFormatControl
<b>Affects</b>	BinningVerticalMode

Possible values	Description
<b>Sum</b>	The response from the combined cells will be added, resulting in increased sensitivity.
<b>Average</b>	The response from the combined cells will be averaged, resulting in increased signal/noise ratio.

## 5.25. BinningHorizontal[BinningSelector]

Number of horizontal photo-sensitive cells to combine together. This reduces the horizontal resolution (width) of the image.

Feature	Value
<b>Display Name</b>	Binning Horizontal
<b>Standard</b>	GeniCam SFNC Version 2.5
<b>Feature type</b>	Integer
<b>Access</b>	RW
<b>Locked</b>	During acquisition
<b>Visibility</b>	Expert
<b>Category</b>	ImageFormatControl
<b>Affects</b>	WidthMax HeightMax Width Height OffsetX OffsetY Sparse SparseWidth

	SparseHeight SparseOffsetX SparseOffsetY SparseMode BinningVertical PayloadSize AcquisitionFrameRate MaximumExternalAcquisitionFrameRate ExposureTime MinimumExternalExposureTime
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## 5.26. BinningVerticalMode[BinningSelector]

Sets the mode to use to combine vertical photo-sensitive cells together when BinningVertical is used.

Feature	Value
Display Name	Binning Vertical Mode
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	RW
Locked	During acquisition
Visibility	Expert
Category	ImageFormatControl
Affects	BinningHorizontalMode

Possible values	Description
<i>Sum</i>	The response from the combined cells will be added, resulting in increased sensitivity.
<i>Average</i>	The response from the combined cells will be averaged, resulting in increased signal/noise ratio.

## 5.27. BinningVertical[BinningSelector]

Number of vertical photo-sensitive cells to combine together. This reduces the vertical resolution (height) of the image.

Feature	Value
Display Name	Binning Vertical
Standard	GeniCam SFNC Version 2.5
Feature type	Integer
Access	RW
Locked	During acquisition
Visibility	Expert
Category	ImageFormatControl
Affects	WidthMax HeightMax Width Height OffsetX OffsetY Sparse SparseWidth



	SparseHeight SparseOffsetX SparseOffsetY SparseMode BinningHorizontal PayloadSize AcquisitionFrameRate MaximumExternalAcquisitionFrameRate ExposureTime MinimumExternalExposureTime
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### 5.28.ReverseX

Flip horizontally the image sent by the device. The Region of interest is applied after the flipping.

Feature	Value
Display Name	Reverse X
Standard	GeniCam SFNC Version 2.5
Feature type	Boolean
Access	RW
Visibility	Expert
Category	ImageFormatControl

### 5.29.ReverseY

Flip vertically the image sent by the device. The Region of interest is applied after the flipping.

Feature	Value
Display Name	Reverse Y
Standard	GeniCam SFNC Version 2.5
Feature type	Boolean
Access	RW
Visibility	Expert
Category	ImageFormatControl

### 5.30.PixelFormat

Format of the pixels provided by the device. It represents all the information provided by PixelSize, PixelColorFilter combined in a single feature.

Feature	Value
Display Name	Pixel Format
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	RW
Locked	During acquisition
Visibility	Beginner
Category	ImageFormatControl
Affects	AduOffset Width Height OffsetX

	OffsetY Sparse SparseWidth SparseHeight SparseOffsetX SparseOffsetY SparseMode BinningHorizontal BinningVertical ReverseX ReverseY HDRMode TestPattern AcquisitionFramerateAvailable AcquisitionLineDelay GlowReduction BlackLevelAuto ConversionEfficiency PayloadSize AcquisitionFrameRate MaximumExternalAcquisitionFrameRate ExposureTime MinimumExternalExposureTime Gain BlackLevel
--	---

Possible values	Description
<i>Mono8</i>	Monochrome 8-bit
<i>Mono12</i>	Monochrome 12-bit unpacked
<i>Mono14</i>	Monochrome 14-bit unpacked
<i>Mono16</i>	Monochrome 16-bit

### 5.31.HDRMode

Select the HDR computation mode. This field is only available if HDR is enabled, e.g PixelFormat is set to Mono14 or Mono16.

Feature	Value
Display Name	HDR Mode
Standard	Custom
Feature type	Enumeration
Access	RW
Locked	During acquisition
Visibility	Guru
Category	ImageFormatControl
Affects	AduOffset WidthMax HeightMax Width Height OffsetX OffsetY Sparse SparseWidth SparseHeight SparseOffsetX

	SparseOffsetY SparseMode
--	-----------------------------

Possible values	Description
<b>Standard</b>	Composite image is done using high and low gain images
<b>Low</b>	Composite image contains the image corresponding to the low gain.
<b>High</b>	Composite image contains the image corresponding to the high gain.
<b>Raw</b>	The image contains lines alternatively corresponding to low and high gain

## 5.32. TestPattern

Selects the type of test pattern that is generated by the device as image source.

Feature	Value
Display Name	Test Pattern
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	RW
Locked	During acquisition
Visibility	Beginner
Category	ImageFormatControl

Possible values	Description
<b>Off</b>	Image is coming from the sensor.
<b>Black</b>	Image is filled with the darkest possible image.
<b>White</b>	Image is filled with the brightest possible image.
<b>GreyHorizontalRamp</b>	Image is filled horizontally with an image that goes from the darkest possible value to the brightest.
<b>SimulatorGreyHorizontalRamp</b>	Image is filled horizontally with an image that goes from the darkest possible value to the brightest.
<b>SimulatorGreyHorizontalRampMoving</b>	Image is filled horizontally with an image that goes from the darkest possible value to the brightest and that moves horizontally from left to right at each frame.

# 6. AcquisitionControl

## 6.1. AcquisitionMode

Sets the acquisition mode of the device. It defines mainly the number of frames to capture during an acquisition and the way the acquisition stops.

Feature	Value
Display Name	Acquisition Mode
Standard	GeniCam SFNC Version 2.5

<b>Feature type</b>	Enumeration
<b>Access</b>	RW
<b>Locked</b>	During acquisition
<b>Visibility</b>	Beginner
<b>Category</b>	AcquisitionControl

Possible values	Description
<i>Continuous</i>	Frames are captured continuously until stopped with the AcquisitionStop command.

## 6.2. AcquisitionStart

Starts the Acquisition of the device. The number of frames captured is specified by AcquisitionMode.

Feature	Value
<b>Display Name</b>	Acquisition Start
<b>Standard</b>	GeniCam SFNC Version 2.5
<b>Feature type</b>	Command
<b>Access</b>	RW
<b>Visibility</b>	Beginner
<b>Category</b>	AcquisitionControl
<b>Affects</b>	AcquisitionFramerateAvailable ExposureTimeAvailable

## 6.3. AcquisitionStop

Stops the Acquisition of the device at the end of the current Frame. It is mainly used when AcquisitionMode is Continuous but can be used in any acquisition mode.

Feature	Value
<b>Display Name</b>	Acquisition Stop
<b>Standard</b>	GeniCam SFNC Version 2.5
<b>Feature type</b>	Command
<b>Access</b>	RW
<b>Visibility</b>	Beginner
<b>Category</b>	AcquisitionControl
<b>Affects</b>	AcquisitionFramerateAvailable ExposureTimeAvailable

## 6.4. AcquisitionAbort

Aborts the Acquisition immediately. This will end the capture without completing the current Frame or waiting on a trigger. If no Acquisition is in progress, the command is ignored.

Feature	Value
<b>Display Name</b>	Acquisition Abort
<b>Standard</b>	GeniCam SFNC Version 2.5
<b>Feature type</b>	Command
<b>Access</b>	RW
<b>Visibility</b>	Expert
<b>Category</b>	AcquisitionControl

## 6.5. AcquisitionBurstFrameCount

Number of frames to acquire for each FrameBurstStart trigger.

Feature	Value
Display Name	Acquisition Burst Frame Count
Standard	GeniCam SFNC Version 2.5
Feature type	Integer
Access	RW
Locked	During acquisition
Visibility	Beginner
Category	AcquisitionControl

## 6.6. AcquisitionFrameRate

Controls the acquisition rate (in Hertz) at which the frames are captured.

Feature	Value
Display Name	Acquisition Frame Rate
Standard	GeniCam SFNC Version 2.5
Feature type	Float
Access	RW
Locked	During acquisition
Visibility	Beginner
Unit	Hz
Category	AcquisitionControl
Affects	ExposureTime MinimumExternalExposureTime

## 6.7. MaximumExternalAcquisitionFrameRate

Tells the maximum external acquisition rate (in Hertz) at which the frames can be triggered.

Feature	Value
Display Name	Maximum External Acquisition Frame Rate
Standard	Custom
Feature type	Float
Access	R0
Visibility	Beginner
Unit	Hz
Category	AcquisitionControl

## 6.8. AcquisitionLineDelay

Extra delay between the acquisition of two lines. This impacts the maximum framerate and exposure granularity

Feature	Value
Display Name	Acquisition Line Delay
Standard	Custom

Feature type	Integer
Access	RW
Visibility	Guru
Category	AcquisitionControl
Affects	PayloadSize AcquisitionFrameRate MaximumExternalAcquisitionFrameRate

## 6.9. TriggerSelector

Selects the type of trigger to configure.

Feature	Value
Display Name	Trigger Selector
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	RW
Visibility	Beginner
Category	AcquisitionControl
Selects	TriggerMode TriggerSoftware TriggerSource TriggerActivation TriggerOverlap TriggerDelay

Possible values	Description
<i>AcquisitionStart</i>	Selects a trigger that starts the Acquisition of one or many frames according to AcquisitionMode.
<i>AcquisitionEnd</i>	Selects a trigger that ends the Acquisition of one or many frames according to AcquisitionMode.
<i>FrameStart</i>	Selects a trigger starting the capture of one frame.
<i>FrameBurstStart</i>	Selects a trigger starting the capture of the bursts of frames in an acquisition. AcquisitionBurstFrameCount controls the length of each burst unless a FrameBurstEnd trigger is active. The total number of frames captured is also conditioned by AcquisitionFrameCount if AcquisitionMode is MultiFrame.
<i>FrameBurstEnd</i>	Selects a trigger ending the capture of the bursts of frames in an acquisition.
<i>ExposureStart</i>	Selects a trigger controlling the start of the exposure of one Frame (or Line).
<i>ExposureEnd</i>	Selects a trigger controlling the end of the exposure of one Frame (or Line).

## 6.10. TriggerMode[TriggerSelector]

Controls if the selected trigger is active.

Feature	Value
Display Name	Trigger Mode
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	RW
Locked	During acquisition
Visibility	Beginner
Category	AcquisitionControl
Affects	AcquisitionFramerateAvailable ExposureTimeAvailable ExposureMode PayloadSize AcquisitionFrameRate MaximumExternalAcquisitionFrameRate ExposureTime MinimumExternalExposureTime

Possible values	Description
<i>Off</i>	Disables the selected trigger.
<i>On</i>	Enable the selected trigger.

### 6.11. TriggerSoftware[TriggerSelector]

Generates an internal trigger. TriggerSource must be set to Software.

Feature	Value
Display Name	Trigger Software
Standard	GeniCam SFNC Version 2.5
Feature type	Command
Access	WO
Visibility	Beginner
Category	AcquisitionControl

### 6.12. TriggerSource[TriggerSelector]

Specifies the internal signal or physical input Line to use as the trigger source. The selected trigger must have its TriggerMode set to On.

Feature	Value
Display Name	Trigger Source
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	RW
Locked	During acquisition
Visibility	Beginner
Category	AcquisitionControl

Possible values	Description
<i>Software</i>	Specifies that the trigger source will be generated by software using the TriggerSoftware command.

<b>Line0</b>	Specifies which physical line (or pin) and associated I/O control block to use as external source for the trigger signal.
<b>Line1</b>	Specifies which physical line (or pin) and associated I/O control block to use as external source for the trigger signal.
<b>LinkTrigger0</b>	Specifies which Link Trigger to use as source for the trigger (received from the transport layer).
<b>LinkTrigger1</b>	Specifies which Link Trigger to use as source for the trigger (received from the transport layer).

### 6.13. TriggerActivation[TriggerSelector]

Specifies the activation mode of the trigger.

Feature	Value
Display Name	Trigger Activation
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	RW
Locked	During acquisition
Visibility	Beginner
Category	AcquisitionControl

Possible values	Description
<b>RisingEdge</b>	Specifies that the trigger is considered valid on the rising edge of the source signal.
<b>FallingEdge</b>	Specifies that the trigger is considered valid on the falling edge of the source signal.

### 6.14. TriggerOverlap[TriggerSelector]

Specifies the type trigger overlap permitted with the previous frame or line. This defines when a valid trigger will be accepted (or latched) for a new frame or a new line.

Feature	Value
Display Name	Trigger Overlap
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	RW
Locked	During acquisition
Visibility	Expert
Category	AcquisitionControl

Possible values	Description
<b>Off</b>	No trigger overlap is permitted.

### 6.15. TriggerDelay[TriggerSelector]

Specifies the delay in microseconds (us) to apply after the trigger reception before activating it.



Feature	Value
Display Name	Trigger Delay
Standard	GeniCam SFNC Version 2.5
Feature type	Float
Access	RW
Locked	During acquisition
Visibility	Expert
Unit	us
Category	AcquisitionControl

## 6.16.ExposureMode

Sets the operation mode of the Exposure.

Feature	Value
Display Name	Exposure Mode
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	RW
Locked	During acquisition
Visibility	Beginner
Category	AcquisitionControl
Affects	TriggerMode

Possible values	Description
<i>Timed</i>	Timed exposure. The exposure duration time is set using the ExposureTime features and the exposure starts with the FrameStart.
<i>TriggerControlled</i>	Uses one or more trigger signal(s) to control the exposure duration. See ExposureStart, ExposureEnd of the TriggerSelector feature.

## 6.17.ExposureTime

Sets the Exposure time when ExposureMode is Timed and ExposureAuto is Off. This controls the duration where the photosensitive cells are exposed to light.

Feature	Value
Display Name	Exposure Time
Standard	GeniCam SFNC Version 2.5
Feature type	Float
Access	RW
Locked	During acquisition
Visibility	Beginner
Unit	us
Category	AcquisitionControl
Affects	AcquisitionFrameRate

## 6.18.MinimumExternalExposureTime

Tells the Minimum External Exposure time when ExposureMode is Timed, ExposureAuto is Off and Exposure Start/End triggers are enabled.

Feature	Value
Display Name	Minimal External Exposure Time
Standard	Custom
Feature type	Float
Access	R0
Visibility	Beginner
Unit	us
Category	AcquisitionControl

## 6.19. GlowReduction

Controls the glow reduction scheme in use.

Feature	Value
Display Name	Glow Reduction
Standard	Custom
Feature type	Enumeration
Access	RW
Locked	During acquisition
Visibility	Expert
Category	AcquisitionControl

Possible values	Description
<i>Off</i>	No glow reduction is applied.
<i>On</i>	Glow reduction is applied.

## 7. AnalogControl

### 7.1. GainSelector

Selects which Gain is controlled by the various Gain features.

Feature	Value
Display Name	Gain Selector
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	RW
Visibility	Beginner
Category	AnalogControl
Selects	Gain

Possible values	Description
<i>AnalogAll</i>	Gain will be applied to all analog channels or taps.
<i>DigitalAll</i>	Gain will be applied to all digital channels or taps.

### 7.2. Gain[GainSelector]

Controls the selected gain as an absolute physical value. This is an amplification factor applied to the video signal.

Feature	Value
Display Name	Gain
Standard	GeniCam SFNC Version 2.5
Feature type	Float
Access	RW
Locked	During acquisition
Visibility	Beginner
Unit	dB
Category	AnalogControl

### 7.3. BlackLevelSelector

Selects which Black Level is controlled by the various Black Level features.

Feature	Value
Display Name	Black Level Selector
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	RW
Visibility	Expert
Category	AnalogControl
Selects	BlackLevel BlackLevelAuto

Possible values	Description
<i>All</i>	Black Level will be applied to all channels or taps.

### 7.4. BlackLevel[BlackLevelSelector]

Controls the analog black level as an absolute physical value. This represents a DC offset applied to the video signal.

Feature	Value
Display Name	Black Level
Standard	GeniCam SFNC Version 2.5
Feature type	Float
Access	RW
Locked	During acquisition
Visibility	Expert
Category	AnalogControl

### 7.5. BlackLevelAuto[BlackLevelSelector]

Controls the mode for automatic black level adjustment. The exact algorithm used to implement this adjustment is device-specific.

Feature	Value
Display Name	Black Level Auto
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	RW
Locked	During acquisition
Visibility	Expert
Category	AnalogControl

Possible values	Description
<i>Off</i>	Analog black level is user controlled using BlackLevel.
<i>Continuous</i>	Analog black level is constantly adjusted by the device.

## 7.6. ConversionEfficiency

Controls the conversion efficiency.

Feature	Value
Display Name	Conversion Efficiency
Standard	Custom
Feature type	Enumeration
Access	RW
Locked	During acquisition
Visibility	Beginner
Category	AnalogControl

Possible values	Description
<i>Low</i>	The selected conversion efficiency is low.
<i>High</i>	The selected conversion efficiency is high.

## 8. DigitalIOControl

### 8.1. LineSelector

Selects the physical line (or pin) of the external device connector or the virtual line of the Transport Layer to configure.

Feature	Value
Display Name	Line Selector
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	RW
Visibility	Expert
Category	DigitalIOControl
Selects	LineMode LineSource

Possible values	Description
<i>Line2</i>	Pin #2 of the I/O connector.

<i>Line3</i>	Pin #3 of the I/O connector.
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## 8.2. LineMode[LineSelector]

Controls if the physical Line is used to Input or Output a signal.

Feature	Value
Display Name	Line Mode
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	R0
Visibility	Expert
Category	DigitalIOControl

Possible values	Description
<i>Input</i>	The selected physical line is used to Input an electrical signal.
<i>Output</i>	The selected physical line is used to Output an electrical signal.

## 8.3. LineSource[LineSelector]

Selects which internal acquisition or I/O source signal to output on the selected Line. LineMode must be Output.

Feature	Value
Display Name	Line Source
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	RW
Visibility	Expert
Category	DigitalIOControl

Possible values	Description
<i>ExposureActive</i>	Device is doing the exposure of a Frame (or Line).
<i>SensorReadout</i>	Readout of the sensor is in progress.
<i>SensorClock</i>	Clock sent to the sensor. Frequency is 74.25 MHz.

# 9. UserSetControl

## 9.1. UserSetSelector

Selects the feature User Set to load, save or configure.

Feature	Value
Display Name	User Set Selector
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	RW

Visibility	Beginner
Category	UserSetControl

Possible values	Description
<i>Default8bits</i>	Selects the 8 bits low sensitivity factory setting user set.
<i>Default12bits</i>	Selects the 12 bits low sensitivity factory setting user set.
<i>HighSensitivity8bits</i>	Selects the 8 bits high sensitivity factory setting user set.
<i>HighSensitivity12bits</i>	Selects the 12 bits high sensitivity factory setting user set.
<i>UserSet0</i>	Selects the user set 0.
<i>UserSet1</i>	Selects the user set 1.
<i>UserSet2</i>	Selects the user set 2.
<i>UserSet3</i>	Selects the user set 3.
<i>UserSet4</i>	Selects the user set 4.
<i>UserSet5</i>	Selects the user set 5.
<i>UserSet6</i>	Selects the user set 6.
<i>UserSet7</i>	Selects the user set 7.
<i>UserSet8</i>	Selects the user set 8.
<i>UserSet9</i>	Selects the user set 9.

## 9.2. UserSetLoad

Loads the User Set specified by UserSetSelector to the device and makes it active.

Feature	Value
Display Name	User Set Load
Standard	GeniCam SFNC Version 2.5
Feature type	Command
Access	RW
Visibility	Beginner
Category	UserSetControl

## 9.3. UserSetSave

Save the User Set specified by UserSetSelector to the non-volatile memory of the device.

Feature	Value
Display Name	User Set Save
Standard	GeniCam SFNC Version 2.5
Feature type	Command
Access	RW
Visibility	Beginner
Category	UserSetControl

## 9.4. UserSetDefault

Selects the feature User Set to load and make active by default when the device is reset.

Feature	Value
Display Name	User Set Default
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	RW
Visibility	Beginner
Category	UserSetControl

Possible values	Description
<i>Default8bits</i>	Selects the 8 bits low sensitivity factory setting user set.
<i>Default12bits</i>	Selects the 12 bits low sensitivity factory setting user set.
<i>HighSensitivity8bits</i>	Selects the 8 bits high sensitivity factory setting user set.
<i>HighSensitivity12bits</i>	Selects the 12 bits high sensitivity factory setting user set.
<i>UserSet0</i>	Selects the user set 0.
<i>UserSet1</i>	Select the user set 1.
<i>UserSet2</i>	Select the user set 2.
<i>UserSet3</i>	Select the user set 3.
<i>UserSet4</i>	Select the user set 4.
<i>UserSet5</i>	Select the user set 5.
<i>UserSet6</i>	Select the user set 6.
<i>UserSet7</i>	Select the user set 7.
<i>UserSet8</i>	Select the user set 8.
<i>UserSet9</i>	Select the user set 9.

## 10. FileAccessControl

### 10.1.FileSelector

Selects the target file in the device.

Feature	Value
Display Name	File Selector
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	RW
Visibility	Guru
Category	FileAccessControl
Selects	FileOperationSelector FileOpenMode FileSize

Possible values	Description
<i>Bias</i>	The bias correction.
<i>Flat</i>	The flat correction
<i>Firmware</i>	The firmware the device.

### 10.2.FileOperationSelector[FileSelector]

Selects the target operation for the selected file in the device. This Operation is executed when the FileOperationExecute feature is called.

Feature	Value
Display Name	File Operation Selector
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	RW
Visibility	Guru
Category	FileAccessControl
Selects	FileOperationExecute FileAccessOffset FileAccessLength FileOperationStatus FileOperationResult

Possible values	Description
<i>Open</i>	Opens the file selected by FileSelector in the device. The access mode in which the file is opened is selected by FileOpenMode.
<i>Close</i>	Closes the file selected by FileSelector in the device.
<i>Read</i>	Reads FileAccessLength bytes from the device storage at the file relative offset FileAccessOffset into FileAccessBuffer.
<i>Write</i>	Writes FileAccessLength bytes taken from the FileAccessBuffer into the device storage at the file relative offset FileAccessOffset.
<i>Delete</i>	Deletes the file selected by FileSelector in the device. Note that deleting a device file should not remove the associated FileSelector entry to allow future operation on this file.

### 10.3. FileOperationExecute[FileOperationSelector]

Executes the operation selected by FileOperationSelector on the selected file.

Feature	Value
Display Name	File Operation Execute
Standard	GeniCam SFNC Version 2.5
Feature type	Command
Access	WO
Visibility	Guru
Category	FileAccessControl
Affects	FileAccessOffset FileOperationStatus FileOperationResult

### 10.4. FileOpenMode[FileSelector]

Selects the access mode in which a file is opened in the device.



Feature	Value
Display Name	File Open Mode
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	RW
Visibility	Guru
Category	FileAccessControl

Possible values	Description
<i>Read</i>	This mode selects read-only open mode.
<i>Write</i>	This mode selects write-only open mode.

### 10.5.FileAccessOffset[FileOperationSelector]

Controls the Offset of the mapping between the device file storage and the FileAccessBuffer.

Feature	Value
Display Name	File Access Offset
Standard	GeniCam SFNC Version 2.5
Feature type	Integer
Access	RW
Visibility	Guru
Unit	B
Category	FileAccessControl

### 10.6.FileAccessLength[FileOperationSelector]

Controls the Length of the mapping between the device file storage and the FileAccessBuffer.

Feature	Value
Display Name	File Access Length
Standard	GeniCam SFNC Version 2.5
Feature type	Integer
Access	RW
Visibility	Guru
Unit	B
Category	FileAccessControl

### 10.7.FileOperationStatus[FileOperationSelector]

Represents the file operation execution status.

Feature	Value
Display Name	File Operation Status
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	R0
Visibility	Guru
Category	FileAccessControl

Possible values	Description
<b>Success</b>	File Operation was successful.
<b>Failure</b>	File Operation failed.

## 10.8.FileOperationResult[FileOperationSelector]

Represents the file operation result. For Read or Write operations, the number of successfully read/written bytes is returned.

Feature	Value
Display Name	File Operation Result
Standard	GeniCam SFNC Version 2.5
Feature type	Integer
Access	R0
Visibility	Guru
Category	FileAccessControl

## 10.9.FileSize[FileSelector]

Represents the size of the selected file in bytes.

Feature	Value
Display Name	File Size
Standard	GeniCam SFNC Version 2.5
Feature type	Integer
Access	R0
Visibility	Guru
Unit	B
Category	FileAccessControl

# 11. TransportLayerControl

## 11.1.TLParamsLocked

Used by the Transport Layer to prevent critical features from changing during acquisition.

Feature	Value
Display Name	TL Params Locked
Standard	GeniCam SFNC Version 2.5
Feature type	Integer
Access	RW
Visibility	Invisible
Category	TransportLayerControl

## 11.2.PayloadSize

Provides the number of bytes transferred for each data buffer or chunk on the stream channel. This includes any end-of-line, end-of-frame statistics or other stamp data. This is the total size of data payload for a data block.

Feature	Value
Display Name	Payload Size
Standard	GeniCam SFNC Version 2.5
Feature type	Integer
Access	R0
Visibility	Expert
Unit	B
Category	TransportLayerControl

## 12. CoaXPress

### 12.1.CxpLinkConfigurationStatus

This feature indicates the current and active Link configuration used by the Device.

Feature	Value
Display Name	Cxp Link Configuration Status
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	R0
Visibility	Beginner
Category	CoaXPress

Possible values	Description
<i>None</i>	The Link configuration of the Device is unknown. Either the configuration operation has failed or there is nothing connected.
<i>Pending</i>	The Device is in the process of configuring the Link. The Link cannot be used yet.
<i>CXP1_X1</i>	1 Connection operating at CXP-1 speed (1.25 Gbps).
<i>CXP3_X1</i>	1 Connection operating at CXP-3 speed (3.125 Gbps).
<i>CXP12_X1</i>	1 Connection operating at CXP-12 speed (12.50 Gbps).
<i>CXP1_X2</i>	2 Connections operating at CXP-1 speed (1.25 Gbps).
<i>CXP3_X2</i>	2 Connections operating at CXP-3 speed (3.125 Gbps).
<i>CXP6_X2</i>	2 Connections operating at CXP-6 speed (6.25 Gbps).
<i>CXP10_X2</i>	2 Connections operating at CXP-10 speed (10.00 Gbps).
<i>CXP12_X2</i>	2 Connections operating at CXP-12 speed (12.50 Gbps).

### 12.2.CxpLinkConfigurationPreferred

Provides the Link configuration that allows the Transmitter Device to operate in its default mode.

Feature	Value
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<b>Display Name</b>	Cxp Link Configuration Preferred
<b>Standard</b>	GeniCam SFNC Version 2.5
<b>Feature type</b>	Enumeration
<b>Access</b>	R0
<b>Visibility</b>	Expert
<b>Category</b>	CoaXPress

Possible values	Description
<i>CXP12_X1</i>	1 Connection operating at CXP-12 speed (12.50 Gbps).
<i>CXP6_X2</i>	2 Connections operating at CXP-6 speed (6.25 Gbps).
<i>CXP10_X2</i>	2 Connections operating at CXP-10 speed (10.00 Gbps).
<i>CXP12_X2</i>	2 Connections operating at CXP-12 speed (12.50 Gbps).

### 12.3.CxpLinkConfiguration

This feature allows specifying the Link configuration for the communication between the Receiver and Transmitter Device. In most cases this feature does not need to be written because automatic discovery will set configuration correctly to the value returned by CxpLinkConfigurationPreferred. Note that the currently active configuration of the Link can be read using CxpLinkConfigurationStatus.

Feature	Value
<b>Display Name</b>	Cxp Link Configuration
<b>Standard</b>	GeniCam SFNC Version 2.5
<b>Feature type</b>	Enumeration
<b>Access</b>	R0
<b>Visibility</b>	Beginner
<b>Category</b>	CoaXPress

Possible values	Description
<i>CXP6_X2</i>	Force the Link to 2 Connections operating at CXP-6 speed (6.25 Gbps).
<i>CXP10_X2</i>	Force the Link to 2 Connections operating at CXP-10 speed (10.00 Gbps).
<i>CXP12_X2</i>	Force the Link to 2 Connections operating at CXP-12 speed (12.50 Gbps).

### 12.4.CxpConnectionSelector

Selects the CoaXPress physical connection to control.

Feature	Value
<b>Display Name</b>	Cxp Connection Selector
<b>Standard</b>	GeniCam SFNC Version 2.5
<b>Feature type</b>	Integer
<b>Access</b>	RW
<b>Visibility</b>	Expert
<b>Category</b>	CoaXPress

<b>Selects</b>	CxpConnectionTestMode CxpConnectionTestErrorCount
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## 12.5.CxpConnectionTestMode[CxpConnectionSelectorReg]

Enables the test mode for an individual physical connection of the Device.

Feature	Value
<b>Display Name</b>	Cxp Connection Test Mode
<b>Standard</b>	GeniCam SFNC Version 2.5
<b>Feature type</b>	Enumeration
<b>Access</b>	RW
<b>Visibility</b>	Expert
<b>Category</b>	CoaXPress

Possible values	Description
<i>Off</i>	Off
<i>Mode1</i>	Mode 1

## 12.6.CxpConnectionTestErrorCount[CxpConnectionSelectorReg]

Reports the current connection error count for test packets received by the device on the connection selected by CxpConnectionSelector.

Feature	Value
<b>Display Name</b>	Cxp Connection Test Error Count
<b>Standard</b>	GeniCam SFNC Version 2.5
<b>Feature type</b>	Integer
<b>Access</b>	RW
<b>Visibility</b>	Expert
<b>Category</b>	CoaXPress

## 12.7.CxpSendReceiveSelector

Selects which one of the send or receive features to control.

Feature	Value
<b>Display Name</b>	Cxp Send Receive Selector
<b>Standard</b>	GeniCam SFNC Version 2.5
<b>Feature type</b>	Enumeration
<b>Access</b>	RW
<b>Visibility</b>	Expert
<b>Category</b>	CoaXPress
<b>Selects</b>	CxpConnectionTestPacketCount
<b>Affects</b>	CxpErrorCounterValue CxpErrorCounterStatus

Possible values	Description
<i>Send</i>	Send
<i>Receive</i>	Receive

## 12.8.CxpConnectionTestPacketCount[CxpSendReceiveSelector]

Reports the current count for the test packets on the connection selected by CxpConnectionSelector.

Feature	Value
Display Name	Cxp Connection Test Packet Count
Standard	GeniCam SFNC Version 2.5
Feature type	Integer
Access	RW
Visibility	Expert
Category	CoaXPress

## 12.9.CxpErrorCounterSelector

Selects which Cxp Error Counter to read or reset.

Feature	Value
Display Name	Cxp Error Counter Selector
Standard	GeniCam SFNC Version 2.5
Feature type	Enumeration
Access	RW
Visibility	Expert
Category	CoaXPress
Selects	CxpErrorCounterReset CxpErrorCounterValue CxpErrorCounterStatus

Possible values	Description
<i>ConnectionLockLoss</i>	Counts the number of times the lock was lost.
<i>Encoding</i>	Counts the number of protocol encoding errors detected.
<i>StreamDataPacketCrc</i>	Counts the number of CRC errors detected in a data packet. This counter is only available on the CoaXpress host.
<i>ControlPacketCrc</i>	Counts the number of CRC errors detected in a control packet.
<i>EventPacketCrc</i>	Counts the number of CRC errors detected in an event packet.
<i>DuplicatedCharactersCorrected</i>	Counts the number of corrected errors in the duplicated characters in CXP control words.
<i>DuplicatedCharactersUncorrected</i>	Counts the number of uncorrected errors in the duplicated characters in CXP control words.

## 12.10.CxpErrorCounterReset[CxpErrorCounterSelector]

Resets the selected Cxp Error Counter on the connection selected by CxpConnectionSelector. The counter starts counting events immediately after the reset.

Feature	Value
Display Name	Cxp Error Counter Reset
Standard	GeniCam SFNC Version 2.5

<b>Feature type</b>	Command
<b>Access</b>	RW
<b>Visibility</b>	Expert
<b>Category</b>	CoaXPress

### 12.11.CxpErrorCounterValue[CxpErrorCounterSelector]

Reads the current value of the selected Cxp Error Counter on the connection selected by CxpConnectionSelector.

Feature	Value
<b>Display Name</b>	Cxp Error Counter Value
<b>Standard</b>	GeniCam SFNC Version 2.5
<b>Feature type</b>	Integer
<b>Access</b>	RW
<b>Visibility</b>	Expert
<b>Category</b>	CoaXPress

### 12.12.CxpErrorCounterStatus[CxpErrorCounterSelector]

Returns the current status of the selected Cxp Error Counter on the connection selected by CxpConnectionSelector.

Feature	Value
<b>Display Name</b>	Cxp Error Counter Status
<b>Standard</b>	GeniCam SFNC Version 2.5
<b>Feature type</b>	Enumeration
<b>Access</b>	R0
<b>Visibility</b>	Expert
<b>Category</b>	CoaXPress

Possible values	Description
<b><i>CounterActive</i></b>	The counter is actively counting errors.
<b><i>CounterOverflow</i></b>	The counter exceeded its maximum error count.