



# Featureset Reference Manual

## SVCam-CXP Series

Digital CoaXpress Area Scan Cameras

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Device Control

Category for device information and control.

Feature

Device Type Type: Enumeration

GenICam Name: DeviceType  
Returns the device type.

Enumeration Entities

Name	GenICam Name
Transmitter	Transmitter
Description:	Data stream transmitter device.
Receiver	Receiver
Description:	Data stream receiver device.

Feature

Device Scan Type Type: Enumeration

GenICam Name: DeviceScanType  
Scan type of the sensor of the device.

Enumeration Entities

Name	GenICam Name
Areascan	Areascan
Description:	2D sensor.
Linescan	Linescan
Description:	1D sensor.

Feature

Device Vendor Name Type: String

GenICam Name: DeviceVendorName  
Name of the manufacturer of the device.

Feature

Device Model Name Type: String

GenICam Name: DeviceModelName  
Model of the device.

Feature

Device Manufacturer Info Type: String

GenICam Name: DeviceManufacturerInfo  
Manufacturer information about the device.

Feature

Device Version Type: String

GenICam Name: DeviceVersion  
Version of the device.

Feature

**Device Firmware Version**

Type: String

GenICam Name: DeviceFirmwareVersion  
Version of the firmware in the device.

Feature

**Device Serial Number**

Type: String

GenICam Name: DeviceSerialNumber  
Device's serial number. This string is a unique identifier of the device.

Feature

**Device User ID**

Type: String

GenICam Name: DeviceUserID  
User-programmable device identifier.

Feature

**Device SFNC Version Major**

Type: Integer

GenICam Name: DeviceSFNCVersionMajor  
Major version of the Standard Features Naming Convention that was used to create the device's GenICam XML.

Feature

**Device SFNC Version Minor**

Type: Integer

GenICam Name: DeviceSFNCVersionMinor  
Minor version of the Standard Features Naming Convention that was used to create the device's GenICam XML.

Feature

**Device SFNC Version Sub Minor**

Type: Integer

GenICam Name: DeviceSFNCVersionSubMinor  
Sub minor version of Standard Features Naming Convention that was used to create the device's GenICam XML.

Feature

**Device Manifest Entry Selector**

Type: Integer

GenICam Name: DeviceManifestEntrySelector  
Selects the manifest entry to reference.

Feature

**Device Manifest XML Major Version**

Type: Integer

GenICam Name: DeviceManifestXMLMajorVersion  
Indicates the major version number of the GenICam XML file of the selected manifest entry.

Feature

**Device Manifest XML Minor Version**

Type: Integer

GenICam Name: DeviceManifestXMLMinorVersion  
Indicates the minor version number of the GenICam XML file of the selected manifest entry.

Feature

**Device Manifest XML Sub Minor Version**

Type: Integer

GenICam Name: DeviceManifestXMLSubMinorVersion  
Indicates the subminor version number of the GenICam XML file of the selected manifest entry.



Feature

Device Manifest Schema Major Version

Type: Integer

GenICam Name: DeviceManifestSchemaMajorVersion

Indicates the major version number of the schema file of the selected manifest entry.

Feature

Device Manifest Schema Minor Version

Type: Integer

GenICam Name: DeviceManifestSchemaMinorVersion

Indicates the minor version number of the schema file of the selected manifest entry.

Feature

Device Manifest Schema Sub Minor Version

Type: Integer

GenICam Name: DeviceManifestSchemaSubMinorVersion

Indicates the subminor version number of the schema file of the selected manifest entry.

Feature

Device Manifest Primary URL

Type: String

GenICam Name: DeviceManifestPrimaryURL

Indicates the first URL to the GenICam XML device description file of the selected manifest entry.

Feature

Device TL Type

Type: Enumeration

GenICam Name: DeviceTLType

Transport Layer type of the device.

Enumeration Entities

Name	GenICam Name
CoaXPress	CoaXPress
Description:	CoaXPress.

Feature

Device TL Version Major

Type: Integer

GenICam Name: DeviceTLVersionMajor

Major version of the Transport Layer of the device.

Feature

Device TL Version Minor

Type: Integer

GenICam Name: DeviceTLVersionMinor

Minor version of the Transport Layer of the device.

Feature

Device TL Version Sub Minor

Type: Integer

GenICam Name: DeviceTLVersionSubMinor

Sub minor version of the Transport Layer of the device.

Feature

Device Stream Channel Count

Type: Integer

GenICam Name: DeviceStreamChannelCount

Indicates the number of streaming channels supported by the device.

Feature

Device Stream Channel Selector

Type: Integer

GenICam Name: DeviceStreamChannelSelector

Selects the stream channel to control.

Feature

Device Stream Channel Type

Type: Enumeration

GenICam Name: DeviceStreamChannelType

Reports the type of the stream channel.

Enumeration Entities

Name	GenICam Name
Transmitter	<i>Transmitter</i>
Description:	<i>Data stream transmitter channel.</i>
Receiver	<i>Receiver</i>
Description:	<i>Data stream receiver channel.</i>

Feature

Device Stream Channel Endianness

Type: Enumeration

GenICam Name: DeviceStreamChannelEndianness

Endianness of multi-byte pixel data for this stream.

Enumeration Entities

Name	GenICam Name
Big	<i>Big</i>
Description:	<i>Stream channel data is big Endian.</i>
Little	<i>Little</i>
Description:	<i>Stream channel data is little Endian.</i>

Feature

Device Stream Channel Packet Size

Type: Integer

GenICam Name: DeviceStreamChannelPacketSize

Specifies the stream packet size, in bytes, to send on the selected channel for a Transmitter or specifies the maximum packet size supported by a receiver.

Feature

Device Temperature Selector

Type: Enumeration

GenICam Name: DeviceTemperatureSelector

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

Enumeration Entities

Name	GenICam Name
Mainboard	<i>Mainboard</i>
Description:	<i>This enumeration value selects the temperature measured on the mainboard.</i>
Powersupply	<i>Power</i>
Description:	<i>This enumeration value selects the temperature measured at the powersupply.</i>

Enumeration Entities

Name	GenICam Name
FPGA	FPGA
Description:	<i>This enumeration value selects the temperature measured at the FPGA.</i>
Imager	Imager
Description:	<i>This enumeration value selects the temperature measured at the imager.</i>

Feature

Device Temperature
 Type: Float

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

Feature

Fan Control
 Type: Enumeration

GenICam Name: FanControl  
 Control the Fan of the Device.

Enumeration Entities

Name	GenICam Name
Off	OFF
Description:	<i>The Fan is permanently off.</i>
On	ON
Description:	<i>The Fan is permanently on.</i>
Auto	AUTO
Description:	<i>The Fan is controlled by temperature.</i>

Feature

Fan Control Threshold
 Type: Float

GenICam Name: FanControlThreshold  
 Temperature in C when the Fan should be switched on with a hysteresis of 2C.

Feature

Device Indicator Mode
 Type: Enumeration

GenICam Name: DeviceIndicatorMode  
 Controls the behavior of the indicators (such as LEDs) showing the status of the Device.

Enumeration Entities

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

Feature

**Device Reset**

Type: Command

GenICam Name: DeviceReset  
Resets the device to its power up state.

Image Format Control

This category includes items that control the size of the acquired image and the format of the transferred pixel data

Feature

Sensor Width Type: Integer

GenICam Name: SensorWidth  
This is a read only element. It is an integer that indicates the actual width of the camera's sensor in pixels.

Feature

Sensor Height Type: Integer

GenICam Name: SensorHeight  
This is a read only element. It is an integer that indicates the actual width of the camera's sensor in pixels.

Feature

X Offset Type: Integer

GenICam Name: OffsetX  
This value sets the left offset for the area of interest in pixels, i.e., the distance in pixels between the left side of the sensor and the left side of the image.

Feature

Y Offset Type: Integer

GenICam Name: OffsetY  
This value sets the top offset for the area of interest, i.e., the distance in pixels between the top of the sensor and the top of the image,

Feature

Width Type: Integer

GenICam Name: Width  
This value sets the width of the area of interest in pixels.

Feature

Height Type: Integer

GenICam Name: Height  
This value sets the height of the area of interest in pixels.

Feature

Max Width Type: Integer

GenICam Name: WidthMax  
This is a read only element. It is an integer that indicates maximum allowed width of the image in pixels taking into account any function that may limit the allowed width.

Feature

Max Height Type: Integer

GenICam Name: HeightMax  
This is a read only element. It is an integer that indicates maximum allowed height of the image in pixels taking into account any function that may limit the allowed height.



Feature

**Sensor Pixel Size** Type: Enumeration

GenICam Name: SensorPixelFormat  
This enumeration lists the sensor pixel sizes available. With pixel size set to Auto, pixel size follows pixel format.

Enumeration Entities	
Name	GenICam Name
SensorBppAuto	SensorBppAuto
SensorBpp8	SensorBpp8
SensorBpp10	SensorBpp10
SensorBpp11	SensorBpp11
SensorBpp12	SensorBpp12
SensorBpp14	SensorBpp14
SensorBpp16	SensorBpp16

Feature

**Pixel Size** Type: Enumeration

GenICam Name: PixelSize  
Available pixelsize settings

Enumeration Entities	
Name	GenICam Name
Bpp8	Bpp8
Bpp10	Bpp10
Bpp12	Bpp12
Bpp16	Bpp16

Feature

**Pixel Format** Type: Enumeration

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

Enumeration Entities	
Name	GenICam Name
Mono8	Mono8
Description: Mono 8 bit.	
Mono10	Mono10
Description: Mono 10 bit.	
Mono12	Mono12
Description: Mono 12 bit.	
Mono16	Mono16
Description: Mono 16 bit.	
BayerGR8	BayerGR8
Description: BayerGR 8 bit.	
BayerRG8	BayerRG8
Description: BayerRG 8 bit.	

#### Enumeration Entities

Name	GenICam Name
BayerGB8	<i>BayerGB8</i>
Description: <i>BayerGB 8 bit.</i>	
BayerBG8	<i>BayerBG8</i>
Description: <i>BayerBG 8 bit.</i>	
BayerGR10	<i>BayerGR10</i>
Description: <i>BayerGR 10 bit.</i>	
BayerRG10	<i>BayerRG10</i>
Description: <i>BayerRG 10 bit.</i>	
BayerGB10	<i>BayerGB10</i>
Description: <i>BayerGB 10 bit.</i>	
BayerBG10	<i>BayerBG10</i>
Description: <i>BayerBG 10 bit.</i>	
BayerGR12	<i>BayerGR12</i>
Description: <i>BayerGR 12 bit.</i>	
BayerRG12	<i>BayerRG12</i>
Description: <i>BayerRG 12 bit.</i>	
BayerGB12	<i>BayerGB12</i>
Description: <i>BayerGB 12 bit.</i>	
BayerBG12	<i>BayerBG12</i>
Description: <i>BayerBG 12 bit.</i>	
BayerGR16	<i>BayerGR16</i>
Description: <i>BayerGR 16 bit.</i>	
BayerRG16	<i>BayerRG16</i>
Description: <i>BayerRG 16 bit.</i>	
BayerGB16	<i>BayerGB16</i>
Description: <i>BayerGB 16 bit.</i>	
BayerBG16	<i>BayerBG16</i>
Description: <i>BayerBG 16 bit.</i>	

#### Feature

##### **Pixel Color Filter**

Type: Enumeration

GenICam Name: PixelColorFilter

This is a read only feature. This enumeration provides a list of values that indicate the alignment of the camera's Bayer filter to the pixels in the acquired images.

#### Enumeration Entities

Name	GenICam Name
None	<i>None</i>
BayerRG	<i>BayerRG</i>
BayerGR	<i>BayerGR</i>
BayerGB	<i>BayerGB</i>
BayerBG	<i>BayerBG</i>

Feature

**Binning Horizontal**

GenICam Name: BinningHorizontal

This enumeration controls the horizontal binning setting

Type: Integer

Feature

**Binning Vertical**

GenICam Name: BinningVertical

This enumeration controls the horizontal binning setting

Type: Integer

Feature

**Decimation Horizontal**

GenICam Name: DecimationHorizontal

This enumeration controls the horizontal decimation setting

Type: Enumeration

Enumeration Entities

Name	GenICam Name
Off	Off
On	On

Feature

**Decimation Vertical**

GenICam Name: DecimationVertical

This enumeration controls the horizontal decimation setting

Type: Enumeration

Enumeration Entities

Name	GenICam Name
Off	Off
On	On

Feature

**ReverseX**

GenICam Name: ReverseX

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

Type: Boolean

Feature

**ReverseY**

GenICam Name: ReverseY

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

Type: Boolean

Acquisition Control

Category for the acquisition and trigger control features.

Feature

Acquisition Mode

Type: Enumeration

GenICam Name: 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.

Enumeration Entities

Name	GenICam Name
Single Frame	SingleFrame
Description:	One frame is captured.
Multi Frame	MultiFrame
Description:	The number of frames specified by AcquisitionFrameCount is captured.
Continuous	Continuous
Description:	Frames are captured continuously until stopped with the AcquisitionStop command.

Feature

Acquisition Start

Type: Command

GenICam Name: AcquisitionStart

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

Feature

Acquisition Stop

Type: Command

GenICam Name: 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

Trigger Selector

Type: Enumeration

GenICam Name: TriggerSelector

This enumeration lists the types of trigger that are available for selection. Once a trigger type has been selected, all the other trigger features will be applied to the selected trigger.

Enumeration Entities

Name	GenICam Name
Acquisition Start	AcquisitionStart
Description:	This enumeration value selects the acquisition start trigger.
Frame Start	FrameStart
Description:	This enumeration value selects the frame start trigger.

Feature

Trigger Mode

Type: Enumeration

GenICam Name: TriggerMode

This enumeration provides a list of the values available for setting the trigger mode for the selected trigger.

Enumeration Entities

Name	GenICam Name
Off	Off
Description:	This enumeration value sets the mode for the selected trigger to off.
On	On
Description:	This enumeration value sets the mode for the selected trigger to on.

Feature

Generate Software Trigger Type: Command

GenICam Name: TriggerSoftware  
This command generates a software trigger signal. The software trigger signal will be used if the trigger source is set to 'software'.

Feature

Trigger Source Type: Enumeration

GenICam Name: TriggerSource  
This enumeration lists the available trigger sources for the selected trigger.

Enumeration Entities

Name	GenICam Name
Trigger Software	Software
Description:	This enumeration value sets the source for the selected trigger to software trigger.
Line 1	Line1
Description:	This enumeration value sets the source for the selected trigger to line 1.

Feature

Trigger Activation Type: Enumeration

GenICam Name: TriggerActivation  
This enumeration lists the trigger activation types available for the selected trigger.

Enumeration Entities

Name	GenICam Name
Rising Edge	RisingEdge
Description:	This enumeration value sets the trigger to be valid when the trigger signal is going high.
Falling Edge	FallingEdge
Description:	This enumeration value sets the trigger to be valid when the trigger signal is going low.
Both Edges	BothEdges
Description:	This enumeration value sets the trigger to be valid when the trigger signal is going high or low.

Feature

Trigger Delay Type: Float

GenICam Name: TriggerDelay  
Trigger Delay specifies the absolute delay in microseconds (us) to apply the trigger reception before effectively activating it.

## Feature

### Sensor Trigger Mode

Type: Enumeration

GenICam Name: SensorTriggerMode

This enumeration lists the sensor trigger modes available.

#### Enumeration Entities

Name	GenICam Name
Precise	Precise
Description:	<i>This enumeration value sets the trigger mode to a constant delay</i>
Fast	Fast
Description:	<i>This enumeration value sets the trigger mode to a variable delay</i>
Freerunning	Freerunning
Description:	<i>Camera is running at max speed according to programmable Integration Time. Trigger not possible.</i>
FixedFrequency	FixedFrequency
Description:	<i>Camera is triggered by internal or external timer, Integration is overlapping.</i>
Triggered	Triggered
Description:	<i>Camera is triggered by internal or external trigger, Integration is non-overlapping.</i>
TriggerOverlap	TriggerOverlap
Description:	<i>Camera is triggered by internal or external trigger, Integration is overlapping.</i>
PIV	PIV
Description:	<i>Camera is triggered by internal or external trigger, Integration is using PIV Mode.</i>

## Feature

### Sensor Shutter Mode

Type: Enumeration

GenICam Name: SensorShutterMode

This enumeration sets the shutter mode.

#### Enumeration Entities

Name	GenICam Name
Global Shutter	Global
Description:	<i>This enumeration value sets the camera's shutter mode to global shutter</i>
Rolling Shutter	Rolling
Description:	<i>This enumeration value sets the camera's shutter mode to rolling shutter.</i>
Global Reset Shutter	GlobalReset
Description:	<i>This enumeration value sets the camera's shutter mode to global reset shutter.</i>

## Feature

### Exposure Mode

Type: Enumeration

GenICam Name: ExposureMode

This enumeration lists the available exposure modes.

#### Enumeration Entities

Name	GenICam Name
Timed	Timed
Description:	<i>This enumeration value sets the exposure mode to timed.</i>

Enumeration Entities

Name	GenICam Name
Trigger Width	TriggerWidth
Description:	This enumeration value sets the exposure mode to trigger width.

Feature

**Acquisition Frame Rate** Type: Float  
GenICam Name: AcquisitionFrameRate  
This float value sets the camera's acquisition frame rate in Hz.

Feature

**Exposure Time** Type: Float  
GenICam Name: ExposureTime  
This float value sets the camera's exposure time in microseconds.

Feature

**Exposure Effective** Type: Float  
GenICam Name: ExposureEffective  
This value shows the camera's effective exposure time in microseconds.

Feature

**Exposure Auto** Type: Enumeration  
GenICam Name: ExposureAuto  
Sets the automatic exposure mode when ExposureMode is Timed. The exact algorithm used to implement this control is device-specific.

Enumeration Entities

Name	GenICam Name
Off	Off
Description:	Exposure duration is user controlled using ExposureTime.
Once	Once
Description:	Exposure duration is adapted once by the device. Once it has converged, it returns to the Off state.
Continuous	Continuous
Description:	Exposure duration is constantly adapted by the device to maximize the dynamic range.

Feature

**Exposure First** Type: Boolean  
GenICam Name: ExposureAutoOrder  
This value sets the priority of both exposure and gain settings. True means exposure before gain.

Feature

**ExposureAutoMin** Type: Float  
GenICam Name: ExposureAutoMin  
This float value sets the camera's minimum exposure time for auto exposure in microseconds.

Feature

**ExposureAutoMax**

Type:   Float

GenlCam Name: ExposureAutoMax

This float value sets the camera's maximum exposure time for auto exposure in microseconds.



## Analog Control

This category includes items that control the analog characteristics of the video signal

### Feature

#### Gain Selector

Type: Enumeration

GenICam Name: GainSelector

This enumeration selects the gain control to configure. Once a gain control has been selected, all changes to the gain settings will be applied to the selected control.

#### Enumeration Entities

Name	GenICam Name
All	All
Description:	<i>This enumeration value selects all available gain controls for adjustment.</i>

### Feature

#### Gain (dB)

Type: Float

GenICam Name: Gain

Sets the dB value of the selected gain control.

### Feature

#### Black Level Selector

Type: Enumeration

GenICam Name: BlackLevelSelector

This enumeration selects the black level control to configure. Once a black level control has been selected, all changes to the black level settings will be applied to the selected control.

#### Enumeration Entities

Name	GenICam Name
All	All
Description:	<i>This enumeration value selects all available black level controls for adjustment.</i>

### Feature

#### Offset (Raw)

Type: Integer

GenICam Name: BlackLevelRaw

This value sets the selected black level control as an integer.

### Feature

#### Gain Auto

Type: Enumeration

GenICam Name: GainAuto

Sets the automatic gain control (AGC) mode. The exact algorithm used to implement AGC is device-specific.

#### Enumeration Entities

Name	GenICam Name
Off	Off
Description:	<i>Gain is User controlled using Gain.</i>
Once	Once
Description:	<i>Gain is automatically adjusted once by the device. Once it has converged, it automatically returns to the Off state.</i>



Enumeration Entities

Name	GenICam Name
Continuous	<i>Continuous</i>
Description:	<i>Gain is constantly adjusted by the device.</i>

Feature

<b>Autogain Level</b>	Type: Integer
GenICam Name: GainAutoLevel	

Feature

<b>GainAutoMin</b>	Type: Float
GenICam Name: GainAutoMin	
This Float value sets the minimum applied gain for AGC in dB	

Feature

<b>GainAutoMax</b>	Type: Float
GenICam Name: GainAutoMax	
This Float value sets the maximum applied gain for AGC in dB	

Feature

<b>Balance Ratio Selector</b>	Type: Enumeration
GenICam Name: BalanceRatioSelector	
This enumeration selects a balance ratio control to configuration. Once a balance ratio control has been selected, all changes to the balance ratio settings will be applied to the selected control.	

Enumeration Entities

Name	GenICam Name
Red	<i>Red</i>
Description:	<i>This enumeration value selects the red balance ratio control for adjustment.</i>
Green	<i>Green</i>
Description:	<i>This enumeration value selects the green balance ratio control for adjustment.</i>
Blue	<i>Blue</i>
Description:	<i>This enumeration value selects the blue balance ratio control for adjustment.</i>

Feature

<b>Balance Ratio</b>	Type: Float
GenICam Name: BalanceRatio	
Controls ratio of the selected color component to a reference color component. It is used for white balancing.	

Feature

<b>Gain Auto Balance</b>	Type: Enumeration
GenICam Name: GainAutoBalance	
Sets the mode for automatic gain balancing between the taps. The gain coefficients of each channel or tap are adjusted so they are matched.	

Enumeration Entities

Name	GenICam Name
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Enumeration Entities

Name	GenICam Name
Off	Off
Description:	Gain tap balancing is user controlled using Gain.
Once	Once
Description:	Gain tap balancing is automatically adjusted once by the device. Once it has converged, it automatically returns to the Off state.
Continuous	Continuous
Description:	Gain tap balancing is constantly adjusted by the device.
Reset	Reset
Description:	Gain tap balancing is resetted.

Feature

BalanceWhiteAuto Type: Enumeration

GenICam Name: BalanceWhiteAuto  
Controls the mode for automatic white balancing between the color channels.

Enumeration Entities

Name	GenICam Name
Off	Off
Description:	Auto white balancing is user controlled using Gain.
Once	Once
Description:	Auto white balancing is automatically adjusted once by the device. Once it has converged, it automatically returns to the Off state.
Continuous	Continuous
Description:	Auto white balancing is constantly adjusted by the device.
Reset	Reset
Description:	Auto white balancing is resetted.

## Digital IO Control

This category includes items used to control the operation of the camera's digital I/O lines

### Feature

#### LineSelector

Type: Enumeration

GenICam Name: LineSelector

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

#### Enumeration Entities

Name	GenICam Name
Output 0 - Line0	Line0
Description:	<i>This enumeration value selects 'Output 0' for configuration.</i>
Output 1 - Line1	Line1
Description:	<i>This enumeration value selects 'Output 1' for configuration.</i>
Output 2 - Line2	Line2
Description:	<i>This enumeration value selects 'Output 2' for configuration.</i>
Output 3 - Line3	Line3
Description:	<i>This enumeration value selects 'Output 3' for configuration.</i>
Output 4 - Line4	Line4
Description:	<i>This enumeration value selects 'Output 4' for configuration.</i>
Uart In - Line5	Line5
Description:	<i>This enumeration value selects 'Uart In' for configuration.</i>
Trigger - Line6	Line6
Description:	<i>This enumeration value selects 'Trigger' for configuration.</i>
Sequencer - Line7	Line7
Description:	<i>This enumeration value selects 'Sequencer' for configuration.</i>
Debouncer - Line8	Line8
Description:	<i>This enumeration value selects 'Debouncer' for configuration.</i>
Prescaler - Line9	Line9
Description:	<i>This enumeration value selects 'Prescaler' for configuration.</i>
Logic A - Line15	Line15
Description:	<i>This enumeration value selects 'Logic A' for configuration.</i>
Logic B - Line16	Line16
Description:	<i>This enumeration value selects 'Logic B' for configuration.</i>
Lens TXD - Line17	Line17
Description:	<i>This enumeration value selects 'Lens TXD' for configuration.</i>
Pulse 0 - Line18	Line18
Description:	<i>This enumeration value selects 'Pulse 0' for configuration.</i>
Pulse 1 - Line19	Line19
Description:	<i>This enumeration value selects 'Pulse 1' for configuration.</i>
Pulse 2 - Line20	Line20
Description:	<i>This enumeration value selects 'Pulse 2' for configuration.</i>

#### Enumeration Entities

Name	GenICam Name
Pulse 3 - Line21	Line21
Description:	<i>This enumeration value selects 'Pulse 3' for configuration.</i>
Uart2 In - Line22	Line22
Description:	<i>This enumeration value selects 'Uart2' In for configuration.</i>
Input 0 - Line10	Line10
Description:	<i>This enumeration value selects 'Input 0' for configuration.</i>
Input 1 - Line11	Line11
Description:	<i>This enumeration value selects 'Input 1' for configuration.</i>
Input 2 - Line12	Line12
Description:	<i>This enumeration value selects 'Input 2' for configuration.</i>
Input 3 - Line13	Line13
Description:	<i>This enumeration value selects 'Input 3' for configuration.</i>
Input 4 - Line14	Line14
Description:	<i>This enumeration value selects 'Input 4' for configuration.</i>

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#### Feature

##### **LineMode**

Type: Enumeration

GenICam Name: LineMode

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

#### Enumeration Entities

Name	GenICam Name
Input	Input
Description:	<i>This enumeration value sets the mode for the selected line to 'input', i.e., the line is used to input an electrical signal.</i>
Output	Output
Description:	<i>This enumeration value sets the mode for the selected line to 'Output', i.e., the line is used to output an electrical signal.</i>

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#### Feature

##### **LineInverter**

Type: Boolean

GenICam Name: LineInverter

Controls the inversion of the signal of the selected input or output Line.

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#### Feature

##### **LineStatus**

Type: Boolean

GenICam Name: LineStatus

This boolean value indicates the current logical state for the selected line.

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#### Feature

##### **LineSource**

Type: Enumeration

GenICam Name: LineSource

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



### Enumeration Entities

Name	GenICam Name
Off	Off
Description:	<i>This enumeration value sets the source signal for the selected output line to Off.</i>
Input 0	Input0
Description:	<i>This enumeration value sets the source signal for the selected output line to 'Input 0'.</i>
Input 1	Input1
Description:	<i>This enumeration value sets the source signal for the selected output line to 'Input 1'.</i>
Input 2	Input2
Description:	<i>This enumeration value sets the source signal for the selected output line to 'Input 2'.</i>
Input 3	Input3
Description:	<i>This enumeration value sets the source signal for the selected output line to 'Input 3'.</i>
Input 4	Input4
Description:	<i>This enumeration value sets the source signal for the selected output line to 'Input 4'.</i>
User Output 0	UserOutput0
Description:	<i>This enumeration value sets the source signal for the selected output line to 'User Output 0'.</i>
User Output 1	UserOutput1
Description:	<i>This enumeration value sets the source signal for the selected output line to 'User Output 1'.</i>
User Output 2	UserOutput2
Description:	<i>This enumeration value sets the source signal for the selected output line to 'User Output 2'.</i>
User Output 3	UserOutput3
Description:	<i>This enumeration value sets the source signal for the selected output line to 'User Output 3'.</i>
User Output 4	UserOutput4
Description:	<i>This enumeration value sets the source signal for the selected output line to 'User Output 4'.</i>
UART Out	UartOut
Description:	<i>This enumeration value sets the source signal for the selected output line to 'UART Out'.</i>
Strobe 0	Strobe0
Description:	<i>This enumeration value sets the source signal for the selected output line to 'Strobe 0'.</i>
Strobe 1	Strobe1
Description:	<i>This enumeration value sets the source signal for the selected output line to 'Strobe 1'.</i>
Strobe 2	Strobe2
Description:	<i>This enumeration value sets the source signal for the selected output line to 'Strobe 2'.</i>
Strobe 3	Strobe3
Description:	<i>This enumeration value sets the source signal for the selected output line to 'Strobe 3'.</i>
PWM 0	PWM0
Description:	<i>This enumeration value sets the source signal for the selected output line to 'PWM 0'.</i>
PWM 1	PWM1
Description:	<i>This enumeration value sets the source signal for the selected output line to 'PWM 1'.</i>
PWM 2	PWM2
Description:	<i>This enumeration value sets the source signal for the selected output line to 'PWM 2'.</i>
PWM 3	PWM3
Description:	<i>This enumeration value sets the source signal for the selected output line to 'PWM 3'.</i>

#### Enumeration Entities

Name	GenICam Name
Expose	Expose
Description:	<i>This enumeration value sets the source signal for the selected output line to 'Expose'.</i>
Readout	Readout
Description:	<i>This enumeration value sets the source signal for the selected output line to 'Readout'.</i>
SeqPulse A	SeqPulseA
Description:	<i>This enumeration value sets the source signal for the selected output line to 'SeqPulse A'.</i>
SeqPulse B	SeqPulseB
Description:	<i>This enumeration value sets the source signal for the selected output line to 'SeqPulse B'.</i>
Sequencer active	SeqActive
Description:	<i>This enumeration value sets the source signal for the selected output line to 'Sequencer active'.</i>
Debouncer	Debouncer
Description:	<i>This enumeration value sets the source signal for the selected output line to 'Debouncer'.</i>
Prescaler	Prescaler
Description:	<i>This enumeration value sets the source signal for the selected output line to 'Prescaler'.</i>
Logic	Logic
Description:	<i>This enumeration value sets the source signal for the selected output line to 'Logic'.</i>
CXP Upconnection Trigger	LensUartOut
Description:	<i>This enumeration value sets the source signal for the selected output line to 'CXP Upconnection Trigger'.</i>
Triggerfeedback	Triggerfeedback
Description:	<i>This enumeration value sets the source signal for the selected output line to 'Triggerfeedback'.</i>
Uart 2 Out	Uart2Out
Description:	<i>This enumeration value sets the source signal for the selected output line to 'Uart 2 Out'.</i>

#### Feature

##### **LineStatusAll**

Type: Integer

GenICam Name: LineStatusAll

This integer value is a single bitfield that indicates the current logical state of all available lines at time of polling.

#### Feature

##### **UserOutputSelector**

Type: Enumeration

GenICam Name: UserOutputSelector

Selects which bit of the User Output register will be set by 'User Output Value'.

#### Enumeration Entities

Name	GenICam Name
UserOutput 0	UserOutput0
Description:	<i>This enumeration value selects user settable output 'UserOutput 0' for configuration.</i>
UserOutput 1	UserOutput1
Description:	<i>This enumeration value selects user settable output 'UserOutput 1' for configuration.</i>
UserOutput 2	UserOutput2
Description:	<i>This enumeration value selects user settable output 'UserOutput 2' for configuration.</i>

Enumeration Entities

Name	GenICam Name
UserOutput 3	UserOutput3
Description:	<i>This enumeration value selects user settable output 'UserOutput 3' for configuration.</i>
UserOutput 4	UserOutput4
Description:	<i>This enumeration value selects user settable output 'UserOutput 4' for configuration.</i>

Feature

**UserOutputValue** Type: Boolean  
GenICam Name: UserOutputValue  
This boolean value sets the state of the selected user settable output signal.

Feature

**UserOutputValueAll** Type: Integer  
GenICam Name: UserOutputValueAll  
Sets the value of all the bits of the User Output register.

Feature

**UserOutputValueAllMask** Type: Integer  
GenICam Name: UserOutputValueAllMask  
Sets the write mask to apply to the value specified by UserOutputValueAll before writing it in the User Output register.setting the user Output register using UserOutputValueAll will only change the bits that have a corresponding bit in the mask set to one.



Strobe Control

This category includes items used to set the parameters for the integrated strobe controller

Feature

Strobe Selector Type: Enumeration

GenICam Name: StrobeSelector  
Selector for the strobe signal to be configure.

Enumeration Entities

Name	GenICam Name
Strobe 0	Strobe0
Description:	Selects 'Strobe 0' to configure.
Strobe 1	Strobe1
Description:	Selects 'Strobe 1' to configure.
Strobe 2	Strobe2
Description:	Selects 'Strobe 2' to configure.
Strobe 3	Strobe3
Description:	Selects 'Strobe 3' to configure.

Feature

Strobe Polarity Type: Enumeration

GenICam Name: StrobePolarity  
This Enumeration sets the camera's strobe polarity.

Enumeration Entities

Name	GenICam Name
positive	positive
Description:	Sets the strobe polarity to be positive.
negative	negative
Description:	Sets the strobe polarity to be negative.

Feature

Strobe Duration Type: Float

GenICam Name: StrobeDuration  
This float value sets the camera's strobe duration in microseconds.

Feature

Strobe Delay Type: Float

GenICam Name: StrobeDelay  
This float value sets the camera's strobe delay in microseconds.

Enhanced IO

This category includes items used to control the integrated PWM Controller

Feature		
<b>PWMEnable</b>	Type: Boolean	
GenICam Name: PWMEnable		
This feature enables or disables the PWM settings.		
Feature		
<b>PWMMax</b>	Type: Integer	
GenICam Name: PWMMax		
This feature sets the common PWM frequency in system clock ticks.		
Feature		
<b>PWMChange0</b>	Type: Integer	
GenICam Name: PWMChange0		
This feature sets the Duty Cycle for PWM register		
Feature		
<b>PWMChange1</b>	Type: Integer	
GenICam Name: PWMChange1		
This feature sets the Duty Cycle for PWM register		
Feature		
<b>PWMChange2</b>	Type: Integer	
GenICam Name: PWMChange2		
This feature sets the Duty Cycle for PWM register		
Feature		
<b>PWMChange3</b>	Type: Integer	
GenICam Name: PWMChange3		
This feature sets the Duty Cycle for PWM register		
Feature		
<b>SeqTrigger</b>	Type: Command	
GenICam Name: SeqTrigger		
This feature starts the sequencer with a software signal.		
Feature		
<b>SeqTriggermode</b>	Type: Enumeration	
GenICam Name: SeqTriggermode		
This feature selects the sequencer trigger mode.		
<u>Enumeration Entities</u>		
<b>Name</b>	<b>GenICam Name</b>	
Trigger on high level	<i>LevelHigh</i>	
Description:	<i>This feature sets the sequencer trigger on high level.</i>	
Trigger on rising edge	<i>RisingEdge</i>	
Description:	<i>This feature sets the sequencer trigger on rising edge.</i>	

Feature

SeqSelector

GenICam Name: SeqSelector  
Index to the sequencer array.

Type: Integer

Feature

SeqCount

GenICam Name: SeqCount  
Number of sequencer inputs.

Type: Integer

Feature

SeqEnable

GenICam Name: SeqEnable  
Activate the sequencer.

Type: Boolean

Feature

SeqLoop

GenICam Name: SeqLoop  
Sequencer loop enables/disables.

Type: Boolean

Feature

DebounceDuration

GenICam Name: DebounceDuration  
Sets the value for the debouncer duration.

Type: Integer

Feature

PrescaleDivisor

GenICam Name: PrescaleDivisor  
Sets the value of the prescaler divisor.

Type: Integer

Feature

LogicFunction

GenICam Name: LogicFunction  
Controls if the physical Line is used to Input or Output a signal.

Type: Enumeration

Enumeration Entities

Name	GenICam Name
AND	AND_Function
Description: AND logic block.	
OR	OR_Function
Description: OR logic block.	
XOR	XOR_Function
Description: XOR logic block.	
NAND	NAND_Function
Description: NAND logic block.	
NOR	NOR_Function
Description: NOR logic block.	

#### Enumeration Entities

Name	GenICam Name
XNOR	<i>XNOR_Function</i>
Description:	<i>XNOR logic block.</i>
Trigger Enable	<i>TRIGGER_ENABLE</i>
Description:	<i>Trigger enable logic block.</i>

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#### Feature

<b>SeqInterval</b>	Type: Integer
GenICam Name: SeqInterval	
Sets the duration of the sequencer segments.	

---

#### Feature

<b>SeqPulseAStart</b>	Type: Integer
GenICam Name: SeqPulseAStart	
Begin of the integration time in the sequencer segment.	

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#### Feature

<b>SeqPulseAStop</b>	Type: Integer
GenICam Name: SeqPulseAStop	
End of the integration time in the sequencer segment.	

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#### Feature

<b>SeqPulseBStart</b>	Type: Integer
GenICam Name: SeqPulseBStart	
Begin of the PWM mask in the sequencer segment.	

---

#### Feature

<b>SeqPulseBStop</b>	Type: Integer
GenICam Name: SeqPulseBStop	
End of the integration time in the sequencer segment.	

LUT Control

Category that includes the LUT control features.

Feature

**LUT Selector** Type: Enumeration

GenICam Name: LUTSelector  
Selects which LUT to control.

Enumeration Entities

Name	GenICam Name
Luminance	<i>Luminance</i>
Description:	<i>Selects the Luminance LUT.</i>

Feature

**LUT Enable** Type: Boolean

GenICam Name: LUTEnable  
This boolean value enables the selected LUT.

Feature

**LUT Index** Type: Integer

GenICam Name: LUTIndex  
Control the index (offset) of the coefficient to access in the selected LUT.

Feature

**LUT Value** Type: Integer

GenICam Name: LUTValue  
Returns the Value at entry LUTIndex of the LUT selected by LUTSelector.

Lens Control

This category includes items used to set the parameters for lens control.

Feature

Lens Control Type
 Type: Enumeration

GenICam Name: LensControlType  
 Selected Lenscontroller type.

Enumeration Entities

Name	GenICam Name
none	none
Description:	No lens controller available.
Birger Mount	birger
Description:	Birger Mount connected to camera.
SVCam-EF lens adapter	svcamef
Description:	EF lens connected to camera.

Feature

Focus
 Type: Integer

GenICam Name: LensControlFocus  
 This integer value sets the focus.

Feature

Iris
 Type: Integer

GenICam Name: LensControlIris  
 This integer value sets the iris.

Feature

Lens Init
 Type: Command

GenICam Name: LensControlLensInit  
 Resets the Lens.

Defect Pixel Correction

This category includes items used to set the parameters for the Defect Pixel Correction

Feature

Control Type: Enumeration

GenICam Name: DefectPixelCorrectionEnable\_Control  
This enumeration provides a list of the values available for controlling the defect pixel correction.

Enumeration Entities

Name	GenICam Name
Off	Off
Description:	<i>This enumeration value disables the defect pixel correction.</i>
On	On
Description:	<i>This enumeration value enables the defect pixel correction.</i>

Feature

Mark defect pixels Type: Enumeration

GenICam Name: DefectPixelCorrectionMark\_Control  
This enumeration provides a list of the values available for setting test modes for the defect pixel correction.

Enumeration Entities

Name	GenICam Name
Off	Off
Description:	<i>This enumeration value disables the marking of the defect pixels.</i>
Mark	Mark
Description:	<i>This enumeration value enables the marking of the defect pixels.</i>

Feature

Defect Pixel Map Selector Type: Enumeration

GenICam Name: DefectPixelCorrection\_MapSelect  
This enumeration provides a list of maps available for the defect pixel correction.

Enumeration Entities

Name	GenICam Name
Factory Map	factory
Description:	<i>This enumeration value selects the factory map, containing defect pixels from sensor data sheet.</i>
Custom1 Map	custom1
Description:	<i>This enumeration value selects the custom1 map, handled by customer.</i>
Custom2 Map	custom2
Description:	<i>This enumeration value selects the custom2 map, handled by customer.</i>

Feature

Defect Pixel Map Max Size Type: Integer

GenICam Name: DefectPixelCorrection\_MapMaxSize  
This integer value reads the maximal number of defect pixels per map.

Feature

**Defect Pixel Map Size** Type: Integer  
GenICam Name: DefectPixelCorrection\_MapSize  
This integer value reads the current number of defect pixels of the selected map.

Feature

**Dynamic Hot Pixel Correction Control** Type: Enumeration  
GenICam Name: DynamicHotPixelCorrectionEnable\_Control  
This enumeration provides a list of the values available for controlling the dynamic hot pixel correction.

Enumeration Entities

Name	GenICam Name
Off	Off
Description:	<i>This enumeration value disables the dynamic hot pixel correction.</i>
On	On
Description:	<i>This enumeration value enables the dynamic hot pixel correction.</i>



## Shading

This category includes items used to set the parameters for the Shading Correction

Feature

Shading Control

Type: Enumeration

GenICam Name: Shading\_Control  
This enumeration provides a list of the values available for controlling the shading correction.

Enumeration Entities

Name	GenICam Name
Off	Off
Description:	<i>This enumeration value disables the shading correction.</i>
On	On
Description:	<i>This enumeration value enables the shading correction.</i>

Feature

Shading Map Selector

Type: Enumeration

GenICam Name: Shading\_MapSelect  
This enumeration provides a list of maps available for the shading correction.

Enumeration Entities

Name	GenICam Name
Shading Map 0	ShadingMap0
Description:	<i>This enumeration value selects the shading map 0.</i>
Shading Map 1	ShadingMap1
Description:	<i>This enumeration value selects the shading map 1.</i>
Shading Map 2	ShadingMap2
Description:	<i>This enumeration value selects the shading map 2.</i>

## Sensor Tap Correction

This category includes items used to set the parameters for the Sensor Tap Correction

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### Feature

Correction Map Selector

Type: Enumeration

GenICam Name: SensorTapCorrectionMap  
This enumeration provides a list of maps available for the sensor tap correction.

Enumeration Entities

Name	GenICam Name
Entocentric Lens Map	CorrectionTubus
Description:	This enumeration value selects the Entocentric Lens map.
Bi-telecentric Lens Map	CorrectionLens
Description:	This enumeration value selects Bi-telecentric Lens map.
Correction Map User	CorrectionUser
Description:	This enumeration value selects the user correction map.
Off	Off
Description:	This enumeration value disables the correction.

## Transport Layer Control

Category that contains the transport Layer control features.

Feature

**Payload Size** Type: Integer

GenICam Name: PayloadSize  
Provides the number of bytes transferred for each image 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

**Device Tap Geometry** Type: Enumeration

GenICam Name: DeviceTapGeometry  
This device tap geometry feature describes the geometrical properties characterizing the taps of a camera as presented at the output of the device.

Enumeration Entities

Name	GenICam Name
Geometry_1X_1Y	Geometry_1X_1Y
Description:	Geometry_1X_1Y

Feature

**Image1StreamID** Type: Integer

GenICam Name: Image1StreamID  
Provides the Stream ID of the primary image stream from the Device.

Feature

**CoaXPress** Type: Category

GenICam Name: CoaXPress  
Category that contains the features pertaining to the CoaXPress transport layer of the device.

## User Set Control

User Sets provides the features used to save camera settings to on-board non-volatile memory.

### Feature

#### UserSetSelector

Type: Enumeration

GenICam Name: UserSetSelector

This enumeration selects the user set to load, save, or configure. Once a user set has been selected, all changes to the user set settings will be applied to the selected user set.

#### Enumeration Entities

Name	GenICam Name
Default User Set	Default
Description:	<i>This enumeration value selects the default user set. This is a user set that contains factory settings. It is read-only and cannot be modified.</i>
User Set 1	UserSet1
Description:	<i>This enumeration value selects the user set 1 configuration set.</i>

### Feature

#### UserSetLoad

Type: Command

GenICam Name: UserSetLoad

This command loads the User Set specified by UserSetSelector to the device and makes it active.

### Feature

#### UserSetSave

Type: Command

GenICam Name: UserSetSave

This command copies the parameters in the current active user set into the selected user set in the camera's non-volatile memory.

Debug

Feature

**RegisterAddress** Type: Integer  
GenICam Name: RegisterAddress  
This feature allows the direct access to the camera via register for debug purpose.

Feature

**RegisterValue(DEC)** Type: Integer  
GenICam Name: RegisterValue\_dec  
This feature outputs the value of the accessed register in decimal.

Feature

**RegisterValue(HEX)** Type: Integer  
GenICam Name: RegisterValue\_hex  
This feature outputs the value of the accessed register in hexadecimal.