Featureset Reference Manual

SVCam-U3V Series

Digital USB3Vision Area Scan Cameras

Version 1.7.2 Date 2020/11/09

exo

Scale your vision.

Device Control

Category for Device information and control.

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 name 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

DeviceFirmwareVersion

Type: String

GenICam Name: DeviceFirmwareVersion
Device Firmware Version

Feature

Device ID

Type: String

GenICam Name: DeviceID
Device identifier (serial number).

Feature

Device User ID

Type: String

GenICam Name: DeviceUserID
User-programmable device identifier.

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	*Mainboard*
Description:	*This enumeration value selects the temperature measured on the mainboard.*

Feature

Device Temperature

Type: Float

GenICam Name: DeviceTemperature

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

Feature

Device Reset

Type: Command

GenICam Name: DeviceReset

Resets the device to its power up state.

Feature

U3V Device Capability

Type: Integer

GenICam Name: U3VDeviceCapability

Describes Device Capability.

Feature

User Name Available

Type: Boolean

GenICam Name: UserNameAvailable

Set if User Defined Name is available.

Feature

Access Privilege Available

Type: Boolean

GenICam Name: AccessPrivilegeAvailable

Set if Heartbeat/Access Privilege is available.

Feature

Message Channel Supported

Type: Boolean

GenICam Name: MessageChannelSupported

Set if the device supports a Message Channel.

Feature

Timestamp Supported

Type: Boolean

GenICam Name: TimestampSupported

Set if the device supports a timestamp register.

Feature

String Encoding

Type: Integer

GenICam Name: StringEncoding

String Encoding of the BRM.

Feature

Family Register Available

Type: Boolean

GenICam Name: FamilyRegisterAvailable

Set if the device supports the Family Name register.

Feature

SBRM Supported

Type: Boolean

GenICam Name: SBRMSupported

Set if the device supports a SBRM.

Feature

Endianess Registers Supported

Type: Boolean

GenICam Name: EndianessRegistersSupported

Set if the device supports the Protocol Endianess and Implementation Endianess registers.

Feature

Written Length Field Supported

Type: Boolean

GenICam Name: WrittenLengthFieldSupported

Set to 1 if the device sends the length_written field in the SCD section of the WriteMemAck command.

Image Format Control

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

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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

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Feature

Sensor Height
Type: Integer

GenICam Name: SensorHeight

This is a read only element. It is an integer that indicates the actual height of the camera

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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,

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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

Pixel Size

Type: Enumeration

GenICam Name: PixelSize

This is a read only feature. This enumeration provides a list of values that indicate the depth of the pixel values in the acquired images in bits per pixel.

Enumeration Entities

Name	GenICam Name
Bpp8	*Bpp8*

Description: *This enumeration value indicates that the depth of the pixel values in the acquired images is 8 bits per pixel.*

Bpp12	*Bpp12*

Description: *This enumeration value indicates that the depth of the pixel values in the acquired images is 12 bits per pixel.*

Bpp16	*Bpp16*

Description: *This enumeration value indicates that the depth of the pixel values in the acquired images is 16 bits per pixel.*

Feature

Pixel Format

Type: Enumeration

GenICam Name: PixelFormat

Format of the pixel to use for acquisition. It represents all the informations provided by PixelCoding, PixelSize, PixelColorFilter but combined in one single value.

Enumeration Entities

Name	GenICam Name
Mono8	*Mono8*

Description: *This enumeration value sets the pixel format of the image data transmitted by the camera to 'Mono 8'.*

Mono12Packed	*Mono12Packed*

Description: *This enumeration value sets the pixel format of the image data transmitted by the camera to 'Mono 12 packed'.*

Mono16	*Mono16*

Description: *This enumeration value sets the pixel format of the image data transmitted by the camera to 'Mono 16'.*

BayerGR8	*BayerGR8*

Description: *This enumeration value sets the pixel format of the image data transmitted by the camera to 'Bayer GR 8'.*

BayerRG8	*BayerRG8*

Description: *This enumeration value sets the pixel format of the image data transmitted by the camera to 'Bayer RG 8'.*

BayerGB8	*BayerGB8*

Description: *This enumeration value sets the pixel format of the image data transmitted by the camera to 'Bayer GB 8'.*

BayerBG8	*BayerBG8*

Description: *This enumeration value sets the pixel format of the image data transmitted by the camera to 'Bayer BG 8'.*

BayerGR12Packed	*BayerGR12Packed*

Description: *This enumeration value sets the pixel format of the image data transmitted by the camera to 'Bayer GR 12 packed'.*

<u>Enumeration Entities</u>

Name	GenICam Name
BayerRG12Packed	*BayerRG12Packed*

Description:	*This enumeration value sets the pixel format of the image data transmitted by the camera to 'Bayer RG 12 packed'.*

Name	GenICam Name
BayerGB12Packed	*BayerGB12Packed*

Description:	*This enumeration value sets the pixel format of the image data transmitted by the camera to 'Bayer GB 12 packed'.*

BayerBG12Packed	*BayerBG12Packed*

Description:	*This enumeration value sets the pixel format of the image data transmitted by the camera to 'Bayer BG 12 packed'.*

BayerGR12	*BayerGR12*

Description:	*This enumeration value sets the pixel format of the image data transmitted by the camera to 'Bayer GR 12'.*

BayerRG12	*BayerRG12*

Description:	*This enumeration value sets the pixel format of the image data transmitted by the camera to 'Bayer RG 12'.*

BayerGB12	*BayerGB12*

Description:	*This enumeration value sets the pixel format of the image data transmitted by the camera to 'Bayer GB 12'.*

BayerBG12	*BayerBG12*

Description:	*This enumeration value sets the pixel format of the image data transmitted by the camera to 'Bayer BG 12'.*

<u>Feature</u>

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.

<u>Enumeration Entities</u>

Name	GenICam Name
None	*None*

Description:	*This enumeration value indicates that no Bayer filter is present on the camera.*

BayerRG	*BayerRG*

Description:	*This enumeration value indicates that the Bayer filter has an RG/GB alignment to the pixels in the acquired images.*

BayerGR	*BayerGR*

Description:	*This enumeration value indicates that the Bayer filter has an RG/GB alignment to the pixels in the acquired images.*

BayerGB	*BayerGB*

Description:	*This enumeration value indicates that the Bayer filter has an RG/GB alignment to the pixels in the acquired images.*

BayerBG	*BayerBG*

Description:	*This enumeration value indicates that the Bayer filter has an RG/GB alignment to the pixels in the acquired images.*

Feature

PixelDynamicRangeMin

Type: Integer

GenICam Name: PixelDynamicRangeMin

Minimum value that can be returned during the digitization process. This corresponds to the darkest value of the camera.

Feature

PixelDynamicRangeMax

Type: Integer

GenICam Name: PixelDynamicRangeMax

Maximum value that will be returned during the digitization process. This corresponds to the brightest value of the camera.

Feature

Binning Horizontal

Type: Integer

GenICam Name: BinningHorizontal

This enumeration controls the horizontal binning setting

Feature

Binning Vertical

Type: Integer

GenICam Name: BinningVertical

This enumeration controls the horizontal binning setting

Feature

Decimation Horizontal

Type: Enumeration

GenICam Name: DecimationHorizontal

This enumeration reduces the horizontal resolution(Width) of the image by the specified horizontal decimation factor.No increased frame rate

Enumeration Entities

Name	GenICam Name
Off	*Off*
On	*On*

Feature

Decimation Vertical

Type: Enumeration

GenICam Name: DecimationVertical

This enumeration reduces the vertical resolution(Height) of the image by the specified vertical decimation factor.Increased frame rate

Enumeration Entities

Name	GenICam Name
Off	*Off*
On	*On*

Feature

ReverseX

Type: Boolean

GenICam Name: ReverseX

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

Feature

ReverseY

Type: Boolean

GenICam Name: ReverseY

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

Acquisition Control

This category includes items used to set the image acquisition parameters and to start and stop acquisition

Acquisition Mode

Type: Enumeration

GenICam Name: AcquisitionMode

This enumeration sets the image acquisition mode.

Enumeration Entities

Name	GenICam Name
Single Frame	*SingleFrame*
Description:	*This enumeration value sets the camera's acquisition mode to single frame*
Multi Frame	*MultiFrame*
Description:	*This enumeration value sets the camera's acquisition mode to multi frame.*
Continuous	*Continuous*
Description:	*This enumeration value sets the camera's acquisition mode to continuous.*

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.

<u>Enumeration Entities</u>

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.

<u>Enumeration Entities</u>

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.

<u>Enumeration Entities</u>

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.*

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

Exposure Mode

Type: Enumeration

GenICam Name: ExposureMode

This enumeration lists the available exposure modes.

<u>Enumeration Entities</u>

Name	GenICam Name
Timed	*Timed*

Description: *This enumeration value sets the exposure mode to timed.*

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 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.

<u>Enumeration Entities</u>

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

ExposureTimeMin

Type: Float

GenICam Name: ExposureTimeMin

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

Feature

ExposureTimeMax

Type: Float

GenICam Name: ExposureTimeMax

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

Feature

Sensor Shutter Mode

Type: Enumeration

GenICam Name: SensorShutterMode

This enumeration sets the shutter mode.

Enumeration Entities

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

Feature

PIV Mode

Type: Enumeration

GenICam Name: PIVMode

This enumeration activates the PIV mode.

Enumeration Entities

Name	GenICam Name
Off	*Off*
Description:	*This enumeration disables the PIV mode*
On	*On*
Description:	*This enumeration enables the PIV mode*

Analog Control

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

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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.

<u>Enumeration Entities</u>

Name	GenICam Name
All	*All*

Description: *This enumeration value selects all available gain controls for adjustment.*

Feature

Gain (dB)

Type: Float

GenICam Name: Gain

Sets the dB value of the selected gain control.

Feature

Digital Gain

Type: Integer

GenICam Name: DigitalGain

Sets the dB value of the selected digital 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.

<u>Enumeration Entities</u>

Name	GenICam Name
All	*All*

Description: *This enumeration value selects all available black level controls for adjustment.*

Feature

Offset(Raw)

Type: Integer

GenICam Name: BlackLevelRaw

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

Feature

Digital Offset

Type: Integer

GenICam Name: DigitalOffset

This value sets the control of the digital Offset.

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.

<u>Enumeration Entities</u>

Name	GenICam Name
Off	*Off*
Description:	*Gain is User controlled using Gain.*
Once	*Once*
Description:	*Gain is automatically adjusted once by the device. Once it has converged, it automatically returns to the Off state.*
Continuous	*Continuous*
Description:	*Gain is constantly adjusted by the device.*

Feature

Gain Speed

Type: Enumeration

GenICam Name: GainSpeed

This value sets the speed of the autogain:standard speed or fast speed.

<u>Enumeration Entities</u>

Name	GenICam Name
Standard	*Standard*
Fast	*Fast*

Feature

GainAutoMin

Type: Float

GenICam Name: GainAutoMin

This Float value sets the minimum applied gain for AGC in dB

Feature

GainAutoMax

Type: Float

GenICam Name: GainAutoMax

This Float value sets the maximum applied gain for AGC in dB

Feature

Autogain Level

Type: Integer

GenICam Name: GainAutoLevel

this feature sets the automatic gain level

Feature

Balance Ratio Selector

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.

<u>Enumeration Entities</u>

Name	GenICam Name
Red	*Red*
Description:	*This enumeration value selects the red balance ratio control for adjustment.*
Green	*Green*
Description:	*This enumeration value selects the green balance ratio control for adjustment.*

<u>Enumeration Entities</u>

Name	GenICam Name
Blue	*Blue*

Description: *This enumeration value selects the blue balance ratio control for adjustment.*

Feature

Balance Ratio

Type: Float

GenICam Name: BalanceRatio

Controls ratio of the selected color component to a reference color component. It is used for white balancing.

Feature

Gain Auto Balance

Type: Enumeration

GenICam Name: GainAutoBalance

Sets the mode for automatic gain balancing between the aps. The gain coefficients of each channel or tap are adjusted so they are matched.

<u>Enumeration Entities</u>

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.

<u>Enumeration Entities</u>

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

This enumeration selects the I/O line to configure.

Enumeration Entities

Name	GenICam Name
Output 0 - Line0	*Line0*

Description: *This enumeration value selects 'Output 0' for configuration.*

Output 1 - Line1	*Line1*

Description: *This enumeration value selects 'Output 1' for configuration.*

Output 2 - Line2	*Line2*

Description: *This enumeration value selects 'Output 2' for configuration.*

Output 3 - Line3	*Line3*

Description: *This enumeration value selects 'Output 3' for configuration.*

Output 4 - Line4	*Line4*

Description: *This enumeration value selects 'Output 4 for configuration.*

Uart In - Line5	*Line5*

Description: *This enumeration value selects 'Uart In' for configuration.*

Trigger - Line6	*Line6*

Description: *This enumeration value selects 'Trigger' for configuration.*

Sequencer - Line7	*Line7*

Description: *This enumeration value selects 'Sequencer' for configuration.*

Debouncer - Line8	*Line8*

Description: *This enumeration value selects 'Debouncer' for configuration.*

Prescaler - Line9	*Line9*

Description: *This enumeration value selects 'Prescaler' for configuration.*

Logic A - Line15	*Line15*

Description: *This enumeration value selects 'Logic A' for configuration.*

Logic B - Line16	*Line16*

Description: *This enumeration value selects 'Logic B' for configuration.*

Lens TXD - Line17	*Line17*

Description: *This enumeration value selects 'Lens TXD' for configuration.*

Pulse 0 - Line18	*Line18*

Description: *This enumeration value selects 'Pulse 0' for configuration.*

Pulse 1 - Line19	*Line19*

Description: *This enumeration value selects 'Pulse 1' for configuration.*

Pulse 2 - Line20	*Line20*

Description: *This enumeration value selects 'Pulse 2' for configuration.*

<u>Enumeration Entities</u>

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

Feature

LineMode

Type: Enumeration

GenICam Name: LineMode

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

<u>Enumeration Entities</u>

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

Feature

LineInverter

Type: Boolean

GenICam Name: LineInverter

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

Feature

LineStatus

Type: Boolean

GenICam Name: LineStatus

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

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.

<u>Enumeration Entities</u>

Name	GenICam Name
Off	*Off*

Description: *This enumeration value sets the source signal for the selected output line to Off.*

Input 0	*Input0*

Description: *This enumeration value sets the source signal for the selected output line to 'Input 0'.*

Input 1	*Input1*

Description: *This enumeration value sets the source signal for the selected output line to 'Input 1'.*

Input 2	*Input2*

Description: *This enumeration value sets the source signal for the selected output line to 'Input 2'.*

Input 3	*Input3*

Description: *This enumeration value sets the source signal for the selected output line to 'Input 3'.*

Input 4	*Input4*

Description: *This enumeration value sets the source signal for the selected output line to 'Input 4'.*

User Output 0	*UserOutput0*

Description: *This enumeration value sets the source signal for the selected output line to 'User Output 0'.*

User Output 1	*UserOutput1*

Description: *This enumeration value sets the source signal for the selected output line to 'User Output 1'.*

User Output 2	*UserOutput2*

Description: *This enumeration value sets the source signal for the selected output line to 'User Output 2'.*

User Output 3	*UserOutput3*

Description: *This enumeration value sets the source signal for the selected output line to 'User Output 3'.*

User Output 4	*UserOutput4*

Description: *This enumeration value sets the source signal for the selected output line to 'User Output 4'.*

UART Out	*UartOut*

Description: *This enumeration value sets the source signal for the selected output line to 'UART Out'.*

Strobe 0	*Strobe0*

Description: *This enumeration value sets the source signal for the selected output line to 'Strobe 0'.*

Strobe 1	*Strobe1*

Description: *This enumeration value sets the source signal for the selected output line to 'Strobe 1'.*

Strobe 2	*Strobe2*

Description: *This enumeration value sets the source signal for the selected output line to 'Strobe 2'.*

Strobe 3	*Strobe3*

Description: *This enumeration value sets the source signal for the selected output line to 'Strobe 3'.*

PWM 0	*PWM0*

Description: *This enumeration value sets the source signal for the selected output line to 'PWM 0'.*

PWM 1	*PWM1*

Description: *This enumeration value sets the source signal for the selected output line to 'PWM 1'.*

PWM 2	*PWM2*

Description: *This enumeration value sets the source signal for the selected output line to 'PWM 2'.*

PWM 3	*PWM3*

Description: *This enumeration value sets the source signal for the selected output line to 'PWM 3'.*

Enumeration Entities

Name	GenICam Name
Expose	*Expose*

Description: *This enumeration value sets the source signal for the selected output line to 'Expose'.*

Readout	*Readout*

Description: *This enumeration value sets the source signal for the selected output line to 'Readout'.*

SeqPulse A	*SeqPulseA*

Description: *This enumeration value sets the source signal for the selected output line to 'SeqPulse A'.*

SeqPulse B	*SeqPulseB*

Description: *This enumeration value sets the source signal for the selected output line to 'SeqPulse B'.*

Sequencer active	*SeqActive*

Description: *This enumeration value sets the source signal for the selected output line to 'Sequencer active'.*

Debouncer	*Debouncer*

Description: *This enumeration value sets the source signal for the selected output line to 'Debouncer'.*

Prescaler	*Prescaler*

Description: *This enumeration value sets the source signal for the selected output line to 'Prescaler'.*

Logic	*Logic*

Description: *This enumeration value sets the source signal for the selected output line to 'Logic'.*

Lens Uart out	*LensUartOut*

Description: *This enumeration value sets the source signal for the selected output line to 'Lens Uart out'.*

Triggerfeedback	*Triggerfeedback*

Description: *This enumeration value sets the source signal for the selected output line to 'Triggerfeedback'.*

Uart 2 Out	*Uart2Out*

Description: *This enumeration value sets the source signal for the selected output line to 'Uart 2 Out'.*

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: *This enumeration value selects user settable output 'UserOutput 0' for configuration.*

UserOutput 1	*UserOutput1*

Description: *This enumeration value selects user settable output 'UserOutput 1' for configuration.*

UserOutput 2	*UserOutput2*

Description: *This enumeration value selects user settable output 'UserOutput 2' for configuration.*

<u>Enumeration Entities</u>

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

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
Selects which strobe to 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

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Feature

PWMEnable

Type: Boolean

GenICam Name: PWMEnable

This feature enables or disables the PWM settings.

Feature

PWMMax

Type: Integer

GenICam Name: PWMMax

This feature sets the common PWM frequency in system clock ticks.

Feature

PWMChange0

Type: Integer

GenICam Name: PWMChange0

This feature sets the Duty Cycle for PWM register

Feature

PWMChange1

Type: Integer

GenICam Name: PWMChange1

This feature sets the Duty Cycle for PWM register

Feature

PWMChange2

Type: Integer

GenICam Name: PWMChange2

This feature sets the Duty Cycle for PWM register

Feature

PWMChange3

Type: Integer

GenICam Name: PWMChange3

This feature sets the Duty Cycle for PWM register

Feature

SeqTrigger

Type: Command

GenICam Name: SeqTrigger

This feature starts the sequencer with a software signal.

Feature

SeqTriggermode

Type: Enumeration

GenICam Name: SeqTriggermode

This feature selects the sequencer trigger mode.

Enumeration Entities

Name	GenICam Name
Trigger on high level	*LevelHigh*

Description: *This feature sets the sequencer trigger on high level.*

Name	GenICam Name
Trigger on rising edge	*RisingEdge*

Description: *This feature sets the sequencer trigger on rising edge.*

Feature

SeqSelector

Type: Integer

GenICam Name: SeqSelector
Index to the sequencer array.

Feature

SeqCount

Type: Integer

GenICam Name: SeqCount
Number of sequencer inputs.

Feature

SeqEnable

Type: Boolean

GenICam Name: SeqEnable
Activate the sequencer.

Feature

SeqLoop

Type: Boolean

GenICam Name: SeqLoop
Sequencer loop enables/disables.

Feature

DebounceDuration

Type: Integer

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

Feature

PrescaleDivisor

Type: Integer

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

Feature

LogicFunction

Type: Enumeration

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

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	*XNOR_Function*

Description: *XNOR logic block.*

Trigger Enable	TRIGGER_ENABLE

Description: *Trigger enable logic block.*

Feature

SeqInterval

Type: Integer

GenICam Name: SeqInterval

Sets the duration of the sequencer segments.

Feature

SeqPulseAStart

Type: Integer

GenICam Name: SeqPulseAStart

Begin of the integration time in the sequencer segment.

Feature

SeqPulseAStop

Type: Integer

GenICam Name: SeqPulseAStop

End of the integration time in the sequencer segment.

Feature

SeqPulseBStart

Type: Integer

GenICam Name: SeqPulseBStart

Begin of the PWM mask in the sequencer segment.

Feature

SeqPulseBStop

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	*Luminance*
Description: *Selects the Luminace LUT.*	

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.

Feature

Gamma

Type: Float

GenICam Name: Gamma
Controls the gamma correction of pixel intensity. This is typically used to compensate for nonlinearity of the display system (such as CRT). The realization of the gamma correction is implemented using a LUT. Therefore, some LUT functionality is not available when gamma correction is activated.

Customer ID Protection

This category includes items used for licensing.

Feature

Customer ID

Type: Integer

GenICam Name: CustomerID
This integer value includes the customer id set by manufacturer.

Feature

Customer Value

Type: Integer

GenICam Name: CustomerValue
This integer value includes the customer value set by customer.

Feature

Customer Value Key

Type: Integer

GenICam Name: CustomerValueKey
This integer value includes the key for setting the customer value by customer.

Feature

Customer Data Index

Type: Integer

GenICam Name: CustomerDataIndex
Control the index (offset) of the CustomerData Array.

Feature

Customer Data Value

Type: Integer

GenICam Name: CustomerDataValue
Returns the Value at entry CustomerDataIndex of the CustomerData Array.

Lens Control

This category includes items used to set the parameters for the MFT Lens Control

Feature

Lens Set State

Type: Enumeration

GenICam Name: MFTLensState
This enumeration activate/deactivate the MFT lens.

Enumeration Entities

Name	GenICam Name
inactive	*inactive*
Description:	*This enumeration value sets the lens inactive.*
active	*active*
Description:	*This enumeration value activates the lens.*

Feature

Lens Name

Type: String

GenICam Name: MFTLensName
Shows the MFT lens name

Feature

Focal Length

Type: Integer

GenICam Name: MFTFocalLength
This integer value sets the focal length.

Feature

Focus

Type: Integer

GenICam Name: MFTFocus
This integer value sets the focus.

Feature

Focus Unit

Type: Enumeration

GenICam Name: MFTFocusUnit
This integer value sets the focus unit: 1mm or 1/10mm.

Enumeration Entities

Name	GenICam Name
1mm	*mft_unit_mm*
Description:	*focus unit 1mm.*
1/10mm	*mft_unit_deci_mm*
Description:	*focus unit 1/10mm.*

Feature

Aperture

Type: Integer

GenICam Name: MFTAperture
This integer value sets the aperture.

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.*
Varioptic	*varioptic*
Description:	*Varioptic 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:	*This enumeration value disables the defect pixel correction.*
On	*On*
Description:	*This enumeration value enables the defect pixel correction.*

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:	*This enumeration value disables the marking of the defect pixels.*
Mark	*Mark*
Description:	*This enumeration value enables the marking of the defect pixels.*

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:	*This enumeration value selects the factory map, containing defect pixels from sensor data sheet.*
Custom1 Map	*custom1*
Description:	*This enumeration value selects the custom1 map, handled by customer.*
Custom2 Map	*custom2*
Description:	*This enumeration value selects the custom2 map, handled by customer.*

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:	*This enumeration value disables the dynamic hot pixel correction.*
On	*On*
Description:	*This enumeration value enables the dynamic hot pixel correction.*

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:	*This enumeration value disables the shading correction.*
On	*On*
Description:	*This enumeration value enables the shading correction.*

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:	*This enumeration value selects the shading map 0.*
Shading Map 1	*ShadingMap1*
Description:	*This enumeration value selects the shading map 1.*
Shading Map 2	*ShadingMap2*
Description:	*This enumeration value selects the shading map 2.*

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

GenCP Version Major

Type: Integer

GenICam Name: GenCPVersionMajor

Major version of the specification.

Feature

GenCP Version Minor

Type: Integer

GenICam Name: GenCPVersionMinor

Minor version of the specification.

Feature

Max Response Time

Type: Integer

GenICam Name: U3VMaxDeviceResponseTime

Max Resonse Time in ms.

Feature

U3V Version Major

Type: Integer

GenICam Name: U3VVersionMajor

U3V Version.

Feature

U3V Version Minor

Type: Integer

GenICam Name: U3VVersionMinor

U3V Version.

Feature

U3V Capability

Type: Integer

GenICam Name: U3VCPCapability

Indicates additional features on the control channel.

Feature

U3V SIRM Available

Type: Boolean

GenICam Name: U3VCPSIRMAvailable

Set if the device supports at least one device streaming interface.

Feature

U3V EIRM Available

Type: Boolean

GenICam Name: U3VCPEIRMAvailable

Set if the device supports at least one device event interface.

Feature

U3V IIDC2 Available

Type: Boolean

GenICam Name: U3VCPIIDC2Available
Set if the device supports IIDC2 register map.

Feature

Max Command Transfer Length

Type: Integer

GenICam Name: U3VMaxCommandTransferLength
Specifies the max suuported command transfer length of the device.

Feature

Max Ack Transfer Length

Type: Integer

GenICam Name: U3VMaxAcknowledgeTransferLength
Specifies the max suuported ack transfer length of the device.

Feature

Number of Stream Channels

Type: Integer

GenICam Name: U3VNumberOfStreamChannels
Number of Stream Channels and its Corresponding Streaming Interface Register Maps.

Feature

Current Speed

Type: Integer

GenICam Name: U3VCurrentSpeed
Specifies the current speed of the USB link.

Feature

DeviceTapGeometry

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:	*1X 1Y tap geometry.*
Geometry_2XE_1Y	*Geometry_2XE_1Y*
Description:	*2XE 1Y tap geometry.*
Geometry_1X_2YE	*Geometry_1X_2YE*
Description:	*1X 2YE tap geometry.*
Geometry_2XE_2YE	*Geometry_2XE_2YE*
Description:	*2XE 2YE tap geometry.*
Geometry_2X_1Y	*Geometry_2X_1Y*
Description:	*2X 1Y tap geometry.*

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:	*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.*
User Set 1	*UserSet1*
Description:	*This enumeration value selects the user set 1 configuration set.*
User Set 2	*UserSet2*
Description:	*This enumeration value selects the user set 2 configuration set.*
User Set 3	*UserSet3*
Description:	*This enumeration value selects the user set 3 configuration set.*
User Set 4	*UserSet4*
Description:	*This enumeration value selects the user set 4 configuration set.*
User Set 5	*UserSet5*
Description:	*This enumeration value selects the user set 5 configuration set.*
User Set 6	*UserSet6*
Description:	*This enumeration value selects the user set 6 configuration set.*
User Set 7	*UserSet7*
Description:	*This enumeration value selects the user set 7 configuration set.*
User Set 8	*UserSet8*
Description:	*This enumeration value selects the user set 8 configuration set.*

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.

Feature

UserSetDefault

Type: Enumeration

GenICam Name: UserSetDefault

This enumeration sets the user set to be used as the default startup set. The user set that has been selected as the default startup set will be loaded as the active set whenever the camera is powered on or reset.

Enumeration Entities

Name	GenICam Name
Default User Set	*Default*
Description:	*This enumeration value sets the default user set as the default startup set.*
User Set 1	*UserSet1*
Description:	*This enumeration value sets user set 1 as the default startup set.*
User Set 2	*UserSet2*
Description:	*This enumeration value sets user set 2 as the default startup set.*
User Set 3	*UserSet3*
Description:	*This enumeration value sets user set 3 as the default startup set.*
User Set 4	*UserSet4*
Description:	*This enumeration value sets user set 3 as the default startup set.*
User Set 5	*UserSet5*
Description:	*This enumeration value sets user set 5 as the default startup set.*
User Set 6	*UserSet6*
Description:	*This enumeration value sets user set 6 as the default startup set.*
User Set 7	*UserSet7*
Description:	*This enumeration value sets user set 7 as the default startup set.*
User Set 8	*UserSet8*
Description:	*This enumeration value sets user set 8 as the default startup set.*

Debug

Feature

RegisterAddress

Type: Integer

GenICam Name: RegisterAddress

This feature allows the direct acces 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.

Feature

Refresh Register

Type: Command

GenICam Name: Refresh

This feature allows to update the register content manually.

Feature

FB Statistic

Type: Integer

GenICam Name: FB_Statistic

Camera framebuffer informations.

Feature

FB Used Max

Type: Integer

GenICam Name: FB_UsedDW_Max

Camera framebuffer informations.

Feature

FB Discard Count

Type: Integer

GenICam Name: FB_Discard_Count

Camera framebuffer informations.

Feature

FB Critical Set

Type: Integer

GenICam Name: FB_Critical_Set

Camera framebuffer informations.

Feature

FB Critical Reset

Type: Integer

GenICam Name: FB_Critical_Reset

Camera framebuffer informations.

Feature

FB Critical Watermark

Type: Integer

GenICam Name: FB_Critical_Watermark
Camera framebuffer informations.

FB Critical Watermark

Type: Integer