

List of supported camera features

This camera model supports the following GenICam standard features. More information on these features can be found in the GenICam™ Standard Features Naming Convention under <http://www.emva.org/standards-technology/genicam/genicam-downloads/>.

DeviceControl

| Name | Description | Values |
|-----------------------------------|--|----------------|
| Device Reset | Resets the device to its power up state. After reset, the device must be rediscovered. | |
| Device Vendor Name | Name of the manufacturer of the device. | |
| Device Model Name | Model of the device. | |
| Device Family Name | Identifier of the product family of the device. | |
| Device Manufacturer Info | Manufacturer information about the device. | |
| Device Firmware Version | Version of the firmware in the device. | |
| Device User ID | User-programmable device identifier. | |
| Device Character Set | Character set used by the strings of the device's bootstrap registers. | UTF 8 ASCII |
| Device Stream Channel Endianness | Endianness of multi-byte pixel data for this stream. | Big Little |
| Device Stream Channel Packet Size | 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. | |
| Device Link Heartbeat Mode | Activate or deactivate the Link's heartbeat. | On Off |
| Device Link Heartbeat Timeout | Controls the current heartbeat timeout of the specific Link. | |
| Device Link Command Timeout | Indicates the command timeout of the specified Link. This corresponds to the maximum response time of the device for a command sent on that link. | |
| Device Temperature Selector | Selects the location within the device, where the temperature will be measured. | Mainboard |
| Device Temperature | Device temperature in degrees Celsius (C). It is measured at the location selected by DeviceTemperatureSelector. | |
| Device Link Throughput Limit | Limits the maximum bandwidth of the data that will be streamed out by the device on the selected Link. If necessary, delays will be uniformly inserted between transport layer packets in order to control the peak bandwidth. | |

TransportLayerControl

| Name | Description | Values |
|--------------|--|--------|
| Payload Size | 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. | |

AcquisitionControl

| Name | Description | Values |
|-------------------------|--|--|
| Acquisition Mode | 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. | Single Frame Multi Frame Continuous |
| Acquisition Frame Count | Number of frames to acquire in MultiFrame Acquisition mode. | |
| Exposure Auto | Sets the automatic exposure mode when ExposureMode is Timed. The exact algorithm used to implement this control is device-specific. | Off Once Continuous |
| Acquisition Start | Starts the Acquisition of the device. The number of frames captured is specified by AcquisitionMode. | |
| Acquisition Stop | 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. | |
| Exposure Mode | Sets the operation mode of the Exposure. | Timed |
| Exposure Time | Sets the Exposure time when ExposureMode is Timed and ExposureAuto is Off. This controls the duration where the photosensitive cells are exposed to light. | |
| Acquisition Frame Rate | Controls the acquisition rate (in Hertz) at which the frames are captured. | |
| Trigger Selector | Selects the type of trigger to configure. | Exposure Start |
| Trigger Mode | Controls if the selected trigger is active. | Off On |
| Trigger Source | Specifies the internal signal or physical input Line to use as the trigger source. The selected trigger must have its TriggerMode set to On. | Software Line 0 Line 2 Line 3 User Output 0 User Output 1 User Output 2 User Output 3 |
| Trigger Activation | Specifies the activation mode of the trigger. | Rising Edge Falling Edge Any Edge |

AnalogControl

| Name | Description | Values |
|----------------------|--|---|
| Gamma | Controls the gamma correction of pixel intensity. Gamma correction is disabled when the LUTEnable is True. Gamma > 1 increases image brightness. Gamma < 1 decreases image brightness. | |
| Gain Auto | Sets the automatic gain control (AGC) mode. The exact algorithm used to implement AGC is device-specific. | Off Once Continuous |
| Gain Selector | Selects which Gain is controlled by the various Gain features. | Analog All Digital All AnalogAllSource |
| Gain | Controls the selected gain as an absolute physical value. This is an amplification factor applied to the video signal. | |
| Black Level Selector | Selects which Black Level is controlled by the various Black Level features. | All 8 Bit All 10 Bit All 12 Bit All 14 Bit All 16 Bit |
| Black Level | Controls the analog black level as an absolute physical value. This represents a DC offset applied to the video signal. | |
| Black Level Auto | Controls the mode for automatic black level adjustment. The exact algorithm used to implement this adjustment is device-specific. | Off Once Continuous |

LUTControl

| Name | Description | Values |
|---------------------|---|---|
| LUT Selector | Selects which LUT to control. | Raw |
| LUT Enable | Activates the selected LUT. True: Activates the selected LUT. False: Deactivates the selected LUT. If a LUT is active, gamma correction is disabled. When disabling LUT, the previous gamma correction is restored. | |
| LUT Index | Selects an index to access the corresponding entry in the LUT selected by LUTSelector. The LUT has 64 intervals with a control point at the beginning of each interval. The 64 intervals are uniformly distributed in the 12-bit range. The control points are: 0, 64, 128 ... 4032 | |
| LUT Value | Controls the i'th value of the LUT selected by LUTSelector, at the position i defined by LUTIndex. Values in 12 bit. | |
| LUT Preset Selector | Selects a LUT preset. | Identity Inverse Binarize DigitalGain2 EnhancedContrast |
| LUT Preset Load | Loads a LUT preset selected by LUTPresetSelector and applies it to the LUT selected by LUTSelector. | |

TestControl

| Name | Description | Values |
|---------------------|---|--------|
| Test Pending Ack | Tests the device's pending acknowledge feature. When this feature is written, the device waits a time period corresponding to the value of TestPendingAck before acknowledging the write. | |
| Test Event Generate | Generates a Test Event. | |

TransferControl

| Name | Description | Values |
|------------------------------------|--|-----------|
| Transfer Queue Current Block Count | Returns the number of Block(s) currently in the transfer queue. | |
| Transfer Queue Max Block Count | Controls the maximum number of data blocks that can be stored in the block queue of the selected stream. | |
| Transfer Control Mode | Selects the control method for the transfers. | Automatic |

ImageFormatControl

| Name | Description | Values |
|-----------------------|--|---|
| Decimation Horizontal | Horizontal sub-sampling of the image. This reduces the horizontal resolution (width) of the image by the specified horizontal decimation factor. | |
| Decimation Vertical | Vertical sub-sampling of the image. This reduces the vertical resolution (height) of the image by the specified vertical decimation factor. | |
| Sensor Width | Effective width of the sensor in pixels. | |
| Sensor Height | Effective height of the sensor in pixels. | |
| Width Max | Maximum width of the image (in pixels). The dimension is calculated after horizontal binning, decimation or any other function changing the horizontal dimension of the image. | |
| Height Max | Maximum height of the image (in pixels). This dimension is calculated after vertical binning, decimation or any other function changing the vertical dimension of the image. | |
| Width | Width of the image provided by the device (in pixels). | |
| Height | Height of the image provided by the device (in pixels). | |
| Offset X | Horizontal offset from the origin to the region of interest (in pixels). | |
| Offset Y | Vertical offset from the origin to the region of interest (in pixels). | |
| Test Pattern | Selects the type of test pattern that is generated by the device as image source. | Off Grey Horizontal Ramp GreyDiagonalRampMoving SequencePattern1 SequencePattern2 White(FPGA) VerticalGrayscale(FPGA) Chessboard(FPGA) Black(FPGA) Grayscale(FPGA) Framecount(FPGA) |
| Pixel Format | Format of the pixels provided by the device. It represents all the information provided by PixelSize, PixelColorFilter combined in a single feature. | Mono8 Mono10p Mono12p Mono10 Mono12 |
| Pixel Color Filter | Type of color filter that is applied to the image. | None BayerRG BayerGB BayerGR BayerBG |

GigEVision

| Name | Description | Values |
|--|--|---|
| Gev MAC Address | MAC address of the logical link. | |
| Gev Current IP Configuration Persistent IP | Controls whether the PersistentIP configuration scheme is activated on the given logical link. | |
| Gev Current IP Configuration LLA | Controls whether the Link Local Address IP configuration scheme is activated on the given logical link. | |
| Gev Current IP Configuration DHCP | Controls whether the DHCP IP configuration scheme is activated on the given logical link. | |
| Gev Current IP Address | Reports the IP address for the given logical link. | |
| Gev Current Subnet Mask | Reports the subnet mask of the given logical link. | |
| Gev Current Default Gateway | Reports the default gateway IP address to be used on the given logical link. | |
| Gev Persistent IP Address | Controls the Persistent IP address for this logical link. It is only used when the device boots with the Persistent IP configuration scheme. | |
| Gev Persistent Subnet Mask | Controls the Persistent subnet mask associated with the Persistent IP address on this logical link. It is only used when the device boots with the Persistent IP configuration scheme. | |
| Gev Persistent Default Gateway | Controls the persistent default gateway for this logical link. It is only used when the device boots with the Persistent IP configuration scheme. | |
| Gev MCDA | Controls the destination IP address for the message channel. | |
| Gev MCTT | Provides the transmission timeout value in milliseconds. | |
| Gev MCRC | Controls the number of retransmissions allowed when a message channel message times out. | |
| Gev MCSP | This feature indicates the source port for the message channel. | |
| Gev SCDA | Controls the destination IP address of the selected stream channel to which a GVSP transmitter must send data stream or the destination IP address from which a GVSP receiver may receive data stream. | |
| Gev GVCP Pending Ack | Enables the generation of PENDING_ACK. | |
| Gev CCP | Controls the device access privilege of an application. | Open Access Exclusive Access Control Access |
| Gev SCP Host Port | Controls the port of the selected channel to which a GVSP transmitter must send data stream or the port from which a GVSP receiver may receive data stream. Setting this value to 0 closes the stream channel. | |

BrightnessAutoControl

| Name | Description | Values |
|--|--|-----------|
| Brightness Auto Exposure Time Limit Mode | Controls if the limits BrightnessAutoExposureTimeMin and BrightnessAutoExposureTimeMax are active. When disabled, the range of ExposureTime is only limited by sensor properties and AcquisitionFrameRate. When enabled, the range of ExposureTime is limited additionally by BrightnessAutoExposureTimeMin and BrightnessAutoExposureTimeMax. When a brightness auto features is active, the ExposureTime can vary within this range. | Off On |
| Brightness Auto Exposure Time Min | Minimum limit of ExposureTime when ExposureAuto is enabled. | |
| Brightness Auto Exposure Time Max | Maximum limit of ExposureTime when ExposureAuto is enabled. When brightness auto features are active, the upper range of ExposureTime will be limited by BrightnessAutoExposureTimeMax, even if the frame rate would allow for longer exposure. | |
| Brightness Auto Gain Limit Mode | Controls if the limits BrightnessAutoGainMin and BrightnessAutoGainMax are active. When disabled, the range of Gain is only limited by sensor properties. When enabled, the range of Gain is limited additionally by BrightnessAutoGainMin and BrightnessAutoGainMax. When a brightness auto features is active, the Gain can vary within this range. | Off On |
| Brightness Auto Gain Min | Minimum limit of Gain when GainAuto is enabled. | |
| Brightness Auto Gain Max | Maximum limit of Gain when GainAuto is enabled. | |
| Brightness Auto Percentile | Defines the percentage of pixels that must be brighter than BrightnessAutoTarget. BrightnessAutoPercentile is a parameter for brightness auto features like ExposureAuto and GainAuto. | |
| Brightness Auto Target | Sets the target value for brightness auto features like ExposureAuto and GainAuto. The percentage of pixels, that must be brighter than BrightnessAutoTarget, is defined in BrightnessAutoPercentile. The value of BrightnessAutoTarget relates to the current PixelFormat. | |
| Brightness Auto Target Tolerance | Tolerance for BrightnessAutoTarget (in 8 bit). Defines an acceptance interval that surrounds BrightnessAutoTarget. If the brightness auto algorithm reaches a value within this acceptance interval, the algorithm has converged. | |

DigitalIOControl

| Name | Description | Values |
|-----------------------|--|--|
| Line Selector | Selects the physical line (or pin) of the external device connector or the virtual line of the Transport Layer to configure. | Line 0 Line 1 Line 2 Line 3 |
| Line Mode | Controls if the physical Line is used to Input or Output a signal. | Input Output |
| Line Inverter | Controls the inversion of the signal of the selected input or output Line. | |
| Line Status | Returns the current status of the selected input or output Line. | |
| Line Source | Selects which internal acquisition or I/O source signal to output on the selected Line. LineMode must be Output. | Off User Output 0 User Output 1 User Output 2 User Output 3 Exposure Active |
| Line Status All | Returns the current status of all available Line signals at time of polling in a single bitfield. | |
| User Output Selector | Selects which bit of the User Output register will be set by UserOutputValue. | User Output 0 User Output 1 User Output 2 User Output 3 |
| User Output Value | Sets the value of the bit selected by UserOutputSelector. | |
| User Output Value All | Sets the value of all the bits of the User Output register. It is subject to the UserOutputValueAllMask. | |