

## 목 차

- 1 . Error Code definition
2. General functions
3. Camera control functions
4. Feature Information
5. Enumeration Feature Entry Definition

## 1. Error Code definition

MCAM_ERR_SUCCESS	0
MCAM_ERR_ERROR	-1001
MCAM_ERR_NOT_INITIALIZED	-1002
MCAM_ERR_NOT_IMPLEMENTED	-1003
MCAM_ERR_RESOURCE_IN_USE	-1004
MCAM_ERR_ACCESS_DENIED	-1005
MCAM_ERR_INVALID_HANDLE	-1006
MCAM_ERR_INVALID_ID	-1007
MCAM_ERR_NO_DATA	-1008
MCAM_ERR_INVALID_PARAMETER	-1009
MCAM_ERR_IO	-1010
MCAM_ERR_TIMEOUT	-1011
MCAM_ERR_ABORT	-1012
MCAM_ERR_INVALID_BUFFER	-1013
MCAM_ERR_NOT_AVAILABLE	-1014
MCAM_ERR_NOT_OPEN_DEVICE	-10000
MCAM_ERR_NO_DEVICE	-10001
MCAM_ERR_RESOURCE_USED	-10002
MCAM_ERR_NO_SYSTEM	-10003
MCAM_ERR_NOT_OPEN_SYSTEM	-10004
MCAM_ERR_INVALID_BUFFER_SIZE	-10005
MCAM_ERR_XML_PARSE	-10006
MCAM_ERR_EXTERNAL_LOAD_LIBRARY	-10007

## 2. General functions

각 함수의 Return 값은 "Error code" 입니다.

```
__int32 ST_InitSystem()
```

System module 생성 및 Library 를 초기화 합니다.

모든 함수들은 ST\_InitSystem()[IsInitSystem()] 호출 후 사용 가능 합니다.

```
__int32 ST_FreeSystem()
```

사용 중인 모든 Module 을 종료합니다.

```
__int32 ST_IsInitSystem(bool* pFlag);
```

라이브러리가 사용 가능한지 확인합니다.

- pFlag(IN, OUT) : IN : User value pointer, OUT : Init status(0 or 1)

```
__int32 ST_GetAvailableCameraNum(unsigned __int32* pNum)
```

연결 가능한 Device(Camera)의 개수를 가져옵니다.

- pNum(IN, OUT) : IN : User value pointer, OUT : 연결 가능한 카메라 개수.

```
__int32 ST_UpdateDevice()
```

연결된 Device 의 정보를 Update 합니다.

```
__int32 ST_GetEnumDeviceID(unsigned __int32 EnumNum, char* pDeviceID, unsigned __int32* pSize)
```

선택한 Device(Camera)의 고유 ID 를 가져옵니다

- EnumNum(IN) : Enumeration number.
- pDeviceID(IN,OUT) : IN:User buffer pointer, OUT:Device ID.
- pSize(IN,OUT) : IN : User buffer size, OUT : Return string size.

```
__int32 ST_GetEnumDeviceInfo(unsigned __int32 EnumNum, __int32 DeviceInfoCmd, char* pDeviceInfo, unsigned __int32* pSize)
```

선택한 Device(Camera)의 정보를 가져옵니다

- EnumNum(IN) : Enumeration number.
- DeviceInfoCmd(IN)

MCAM\_DEVICEINFO\_USER\_ID : Device User ID

MCAM\_DEVICEINFO\_MODEL\_NAME : Device Model Name

MCAM\_DEVICEINFO\_SERIAL\_NUMBER : Device Serial Number

MCAM\_DEVICEINFO\_DEVICE\_VERSION : Device Firmware Version

MCAM\_DEVICEINFO\_MAC\_ADDRESS : Device Mac Address(GigEVision only)

MCAM\_DEVICEINFO\_IP\_ADDRESS : Device IP Address(GigEVision Only)

- pDeviceInfo(IN,OUT) : IN:User buffer pointer, OUT:Device Information for Command.
- pSize(IN,OUT) : IN : User buffer size, OUT : Return string size.

```
__int32 ST_OpenDevice(unsigned __int32 EnumNum, __int32* hDevice, bool isDetailedLog = FALSE)
```

N 번째 카메라를 Open 합니다.

- EnumNum(IN) : Enumeration number.
- hDevice(IN,OUT) : IN:User value pointer, OUT:Device(camera) handle.
- IsDetailedLog(IN) : (Option) DetailedLog activate/deactivate by after OpenDevice.  
(Default : FALSE)

```
__int32 ST_IsOpenDevice(__int32 hDevice, bool* pFlag)
```

카메라의 Open 상태를 확인합니다.

- hDevice(IN) : Device handle.
- pFlag(IN, OUT) : IN : User value pointer, OUT : Init status(0 or 1)

```
__int32 ST_CloseDevice(__int32 hDevice)
```

Open 된 Device 를 종료합니다.

- hDevice(IN) : Device handle.

```
__int32 ST_AcqStart(__int32 hDevice)
```

Acquisition 을 시작합니다.

- hDevice(IN) : Device handle.

```
__int32 ST_AcqStop(__int32 hDevice)
```

Acquisition 을 정지합니다.

- hDevice(IN) : Device handle.

```
_int32 ST_DoAbortGrab(_int32 hDevice)
```

현재 Grab 작업을 강제 종료합니다.

- hDevice(IN) : Device handle.

```
_int32 ST_SetAcqInvalidTime(_int32 hDevice, unsigned _int32 Time)
```

Grab 명령 이후 유효하지 않은 영상 획득 시간을 설정합니다. Grab 명령 후부터 AcqInvalidTime 내에 획득한 영상은 무시됩니다. Fig. 1, Fig. 2 를 참고 바랍니다.

- hDevice(IN) : Device handle.
- Time(IN) : Acquisition invalid time(ms).

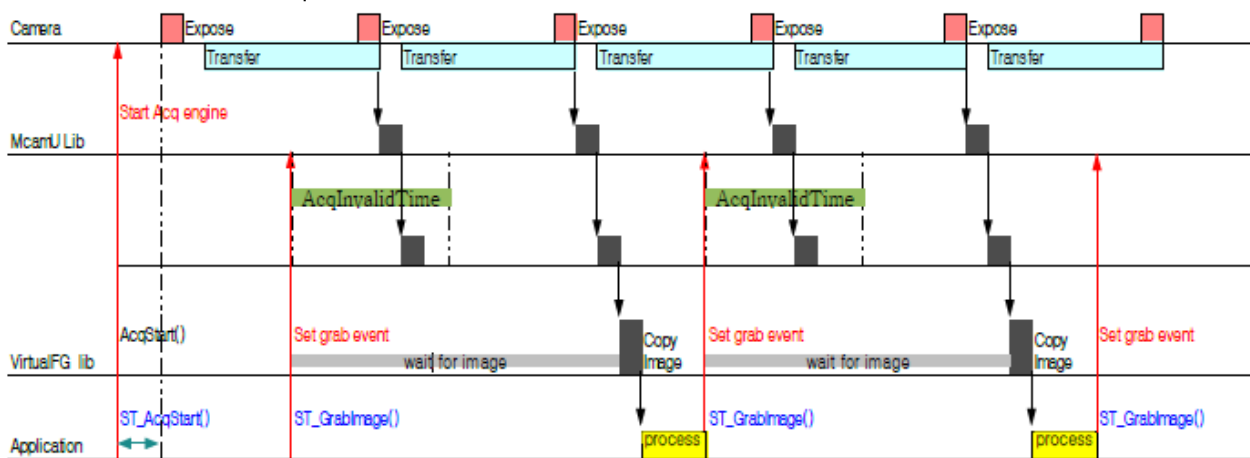


FIG. 1. GrabImage using parameter 'AcqInvalidTime'

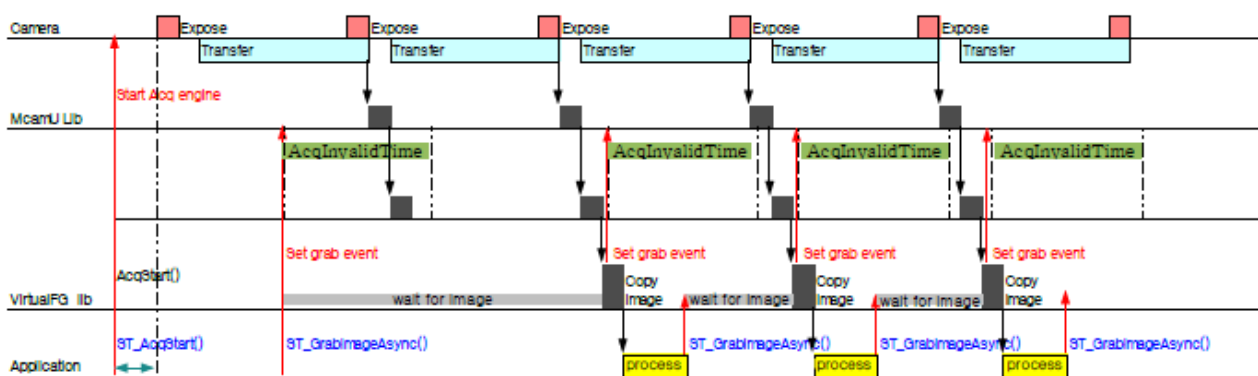


FIG. 2. GrabImageAsync using parameter 'AcqInvalidTime'

```
__int32 ST_GetAcqInvalidTime(__int32 hDevice, unsigned __int32* pTime)
```

현재 설정 된 AcqInvalidTimed 값을 가져옵니다.

- hDevice(IN) : Device handle.
- pTime(IN, OUT) : IN:User value pointer, OUT:Acquisition invalid time(ms).

```
__int32 ST_SetContinuousGrabbing(__int32 hDevice, unsigned __int32 Flag)
```

카메라로 부터 영상을 연속적으로 획득합니다. ContinuousGrabbing 모드를 enable(Flag = 1) 하면 획득된 모든 영상을 전달하여 최대 frame rate 를 사용 할 수 있습니다. Fig. 3.를 참고 바랍니다.

- hDevice(IN) : Device handle.

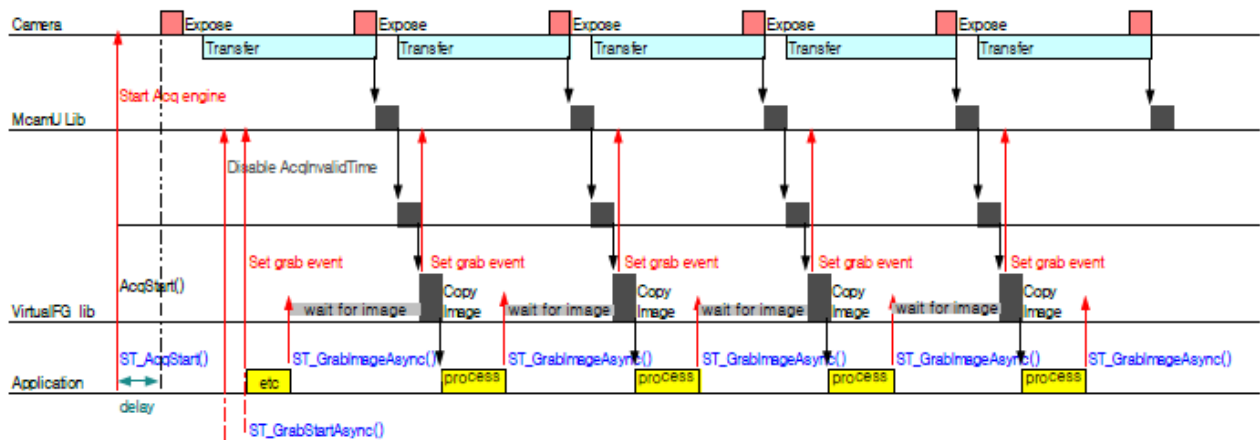


FIG. 3. GrabImageAsync using 'ContinuousGrabbing' mode

```
__int32 ST_GetContinuousGrabbing(__int32 hDevice, unsigned __int32* pFlag)
```

현재 설정된 ContinuousGrabbing 설정 값을 가져옵니다.

- hDevice(IN) : Device handle.
- pFlag(IN, OUT) : IN:User value pointer, OUT:ContinuousGrabbing (0 or 1).

```
__int32 ST_SetGrabTimeout(__int32 hDevice, unsigned __int32 Timeout)
```

Grab 명령의 timeout 시간을 설정합니다. GrabImage() 혹은 GrabImageAsync() 함수 호출 후 SetGrabTimeout()에 의해 설정된 시간까지 영상을 획득 할 수 없을 경우 MCAMU\_ERR\_TIMEOUT 를 반환합니다.

- hDevice(IN) : Device handle.
- Timeout(IN) : Timeout(ms).

```
__int32 ST_GetGrabTimeout(__int32 hDevice, unsigned __int32* pTimeout)
```

현재 설정된 GrabTimeout 값을 가져옵니다.

- hDevice(IN) : Device handle.
- pTimeout(IN, OUT) : IN:User value pointer, OUT:Grab timeout(ms).

```
__int32 ST_GrabStartAsync(__int32 hDevice, unsigned __int32 MaxDelay)
```

Asynchronous 모드로 영상을 획득할 때 사용합니다. Trigger mode 로 영상을 획득 시 유용합니다. 만약 획득된 영상이 MaxDelay 보다 오래된 경우 이 영상은 무시되며 다시 새로운 영상을 획득합니다. Fig. 4를 참고 바랍니다.

- hDevice(IN) : Device handle.
- MaxDelay(IN) : 영상 획득 최대 유효 시간(ms).

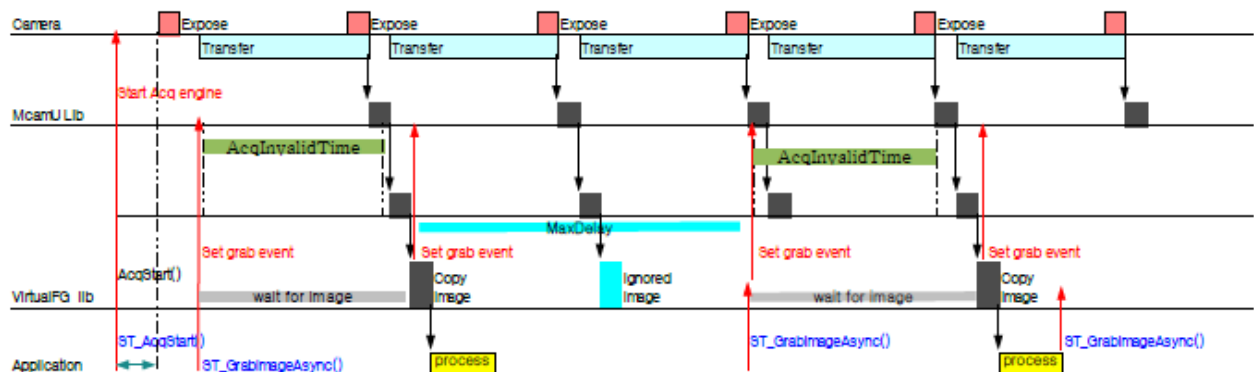


FIG. 4. GrabImageAsync using parameter 'MaxDelay'

```
__int32 ST_GrabImage(__int32 hDevice, void* pDest, unsigned __int32 Buffsize)
```

Synchronous 모드로 영상을 획득합니다. Fig. 1를 참고 바랍니다.

- hDevice(IN) : Device handle.
- pDest(IN,OUT) : IN:User buffer pointer, OUT : Image data.
- Buffsize(IN) : User buffer size.

```
__int32 ST_GrabImageAsync(__int32 hDevice, void* pDest, unsigned __int32 Buffsize, unsigned __int32 MaxDelay)
```

Asynchronous 모드로 영상을 획득합니다. Fig. 2를 참고 바랍니다.

- hDevice(IN) : Device handle.
- pDest(IN,OUT) : IN:User buffer pointer, OUT : Image data.
- Buffsize(IN) : User buffer size.
- MaxDelay(IN) : 영상 획득 최대 유효 시간(ms). ST\_GrabStartAsync() 함수의 파라미터와 같습니다.

```
__int32 ST_GetImageAvailable(__int32 hDevice, unsigned __int32* pFlag)
```

현재 새로운 영상이 획득 되었는지를 확인할 때 사용 합니다. Asynchronous 모드로 영상을 획득 할 때 pFlag 값이 1 이면 기다리지 않고 영상을 가져올 수 있습니다.

- hDevice(IN) : Device handle.
- pFlag(IN,OUT) : IN:User value pointer, OUT:ImageAvailable(0 or 1).

```
__int32 ST_GetTotalPacketCount(__int32 hDevice, unsigned __int64* TotalPacketCount, unsigned __int64* TotalLostPacketCount)
```

현재까지의 총 패킷의 수와 손실된 패킷의 수를 가져옵니다.

- hDevice(IN) : Device handle.
- TotalPacketCount(OUT) : Total Packet Count.
- TotalLostPacketCount(OUT) : Total Lost Packet Count.

```
__int32 ST_GetLastError(__int32 hDevice, const char* szError);
```

에러 발생시 마지막 에러의 정보를 문자열로 가져옵니다.

- hDevice(IN) : Device handle.
- szError(OUT) : Last Error Informaion.

```
__int32 ST_GetLastErrorDescription(__int32 errCode, const char* szDescription);
```

에러 코드에 대한 설명을 문자열로 가져옵니다.

- hDevice(IN) : Device handle.
- szDescription(OUT) : Error Informaion Description.

```
__int32 ST_SetDetailedLog(__int32 hDevice, bool Flag);
```

로그 기능을 활성화 시킵니다.

- hDevice(IN) : Device handle.



- Flag(IN) : DetailedLog Activate/Deactivate.

```
_int32 ST_GetDetailedLog(_int32 hDevice, bool* pFlag);
```

로그 기능을 활성화 여부를 가져옵니다.

- hDevice(IN) : Device handle.
- pFlag(OUT) : DetailedLog Status.

```
_int32 ST_CvtColor(void* pSrc, void* pDest, _int32 width, _int32 height, _int32 code)
```

Bayer Pattern 을 RGB 또는 BGR 로 변환합니다.

- Src(IN) : User value pointer.
- pDest(IN, OUT) : IN: User value pointer, OUT : Image Data.
- width(IN) : Image width.
- height(IN) : Image height.
- code(IN) : Convert Code :

CVP\_BGR2RGB : BGR → RGB

CVP\_RGB2BGR : RGB → BGR

CVP\_BayerBG2RGB : BayerBG8 → RGB

CVP\_BayerGB2RGB : BayerGB8 → RGB

CVP\_BayerRG2RGB : BayerRG8 → RGB

CVP\_BayerGR2RGB : BayerGR8 → RGB

CVP\_YUV2RGB\_UYVY : YUV(UYVY) → RGB

CVP\_YUV2BGR\_UYVY : YUV(UYVY) → BGR

CVP\_YUV2RGB\_YVYU : YUV(YVYU) → RGB

CVP\_YUV2BGR\_YVYU : YUV(YVYU) → BGR

CVP\_YUV2RGB\_YUYV : YUV(YUYV) → RGB

CVP\_YUV2BGR\_YUYV : YUV(YUYV) → BGR

```
_int32 ST_SetCallbackFunction(_int32 hDevice, _int32 Event, CALLBACKFUNC callbackFunc,  
void* UserData);
```

Callback 함수를 등록 합니다.

- hDevice(IN) : Device handle.
- Event ID(IN)
  - EVENT\_NEW\_IMAGE : New Image Event
  - EVENT\_GRAB\_ERROR : Error Event during Grab.
- callbackFunc(IN) : 호출할 Callback 함수 등록.
- UserData(IN, OUT) : User Define Data.

### 3. Camera control functions

각 함수의 Return 값은 "Error code" 입니다.

Feature Name 은 4 번 항목을 참조 바랍니다.

```
__int32 ST_SetIntReg (__int32 hDevice, const char* NodeName, __int32 val)
```

Integer 타입 Feature 에 값을 설정합니다.

- hDevice(IN) : Device handle.
- NodeName : Feature Name
- val(IN) : Integer Value.

```
__int32 ST_GetIntReg (__int32 hDevice, const char* NodeName, __int32* pVal)
```

Integer 타입 Feature 의 값을 가져옵니다.

- hDevice(IN) : Device handle.
- NodeName : NameFeature
- pVal(IN, OUT) : IN:User value pointer, OUT: Integer Value

```
__int32 ST_SetFloatReg(__int32 hDevice, const char* NodeName, double fVal)
```

Float 타입 Feature 에 값을 설정합니다.

- hDevice(IN) : Device handle.
- NodeName : Feature Name
- fVal(IN) : Float Value.

```
__int32 ST_GetFloatReg(__int32 hDevice, const char* NodeName, double *pFval)
```

Float 타입 Feature 의 값을 가져옵니다.

- hDevice(IN) : Device handle.
- NodeName : NameFeature
- pFval(IN, OUT) : IN:User value pointer, OUT: Float Value.

```
__int32 ST_SetBoolReg(__int32 hDevice, const char* NodeName, bool bVal)
```

Boolean 타입 Feature 에 값을 설정합니다.

- hDevice(IN) : Device handle.
- NodeName : Feature Name
- fVal(IN) : True or False.

```
__int32 ST_GetBoolReg(__int32 hDevice, const char* NodeName, bool *pBval)
```

Boolean 타입 Feature 의 값을 가져옵니다.

- hDevice(IN) : Device handle.
- NodeName : NameFeature
- pFval(IN, OUT) : IN:User value pointer, OUT: True or False.

```
__int32 ST_SetEnumReg(__int32 hDevice, const char* NodeName, char* val)
```

Enumeration 타입 Feature 의 값을 설정합니다.

- hDevice(IN) : Device handle.
- NodeName : Feature Name
- val(IN) : Enumeration Value. (Feature Table 참조.)

```
__int32 ST_GetEnumReg(__int32 hDevice, const char* NodeName, char* pInfo, unsigned __int32* pSize)
```

Enumeration 타입 Feature 의 값을 가져옵니다.

- hDevice(IN) : Device handle.
- NodeName : Feature Name
- pInfo(IN,OUT) : IN : User buffer pointer, OUT : Enumeration Value.
- pSize(IN,OUT) : IN : User buffer size, OUT : pInfo length.

```
__int32 ST_GetStrReg(__int32 hDevice, const char* NodeName, char* pInfo, unsigned __int32* pSize)
```

String 타입 Feature 의 값을 가져옵니다.

- hDevice(IN) : Device handle.
- NodeName : Feature Name
- pInfo(IN,OUT) : IN : User buffer pointer, OUT : String Value.
- pSize(IN,OUT) : IN : User buffer size, OUT : pInfo length.

```
__int32 ST_SetCmdReg(__int32 hDevice, const char* NodeName)
```

Command 타입 Feature 의 값을 설정합니다.

- hDevice(IN) : Device handle.
- NodeName : Feature Name
-

```
__int32 ST_GetIntRegRange(__int32 hDevice, const char* NodeName, __int32 *pMin, __int32 *pMax, __int32 *pInc)
```

Integer 타입 Feature 의 설정 가능한 범위를 가져옵니다.

- hDevice(IN) : Device handle.
- NodeName : Feature Name
- pMin(IN, OUT) : IN : User value pointer, OUT : 설정 가능한 최소값.
- pMax(IN, OUT) : IN : User value pointer, OUT : 설정 가능한 최대값.
- pInc(IN, OUT) : IN : User value pointer, OUT : 설정 가능한 증가량.

```
__int32 ST_GetFloatRegRange(__int32 hDevice, const char* NodeName, double *pMin, double *pMax)
```

Float 타입 Feature 의 설정 가능한 범위를 가져옵니다.

- hDevice(IN) : Device handle.
- NodeName : Feature Name
- pMin(IN, OUT) : IN : User value pointer, OUT : 설정 가능한 최소값.
- pMax(IN, OUT) : IN : User value pointer, OUT : 설정 가능한 최대값.

```
__int32 ST_GetEnumEntrySize(__int32 hDevice, const char* NodeName, __int32 *pVal)
```

Enumeration 타입 Feature 의 Entry 개수를 가져옵니다.

- hDevice(IN) : Device handle.
- NodeName : Feature Name
- pVal(IN, OUT) : IN : User value pointer, OUT : Number of Entry.

```
__int32 ST_GetEnumEntryIntValue(__int32 hDevice, const char* NodeName, __int32 EntryIdx, __int32 *pVal)
```

Enumeration 타입 Feature 의 Entry Index 에 해당하는 Integer 값을 가져옵니다.

- hDevice(IN) : Device handle.
- NodeName : Feature Name
- EntryIdx : Entry Index.
- pVal(IN, OUT) : IN : User value pointer, OUT : Integer Value.

```
__int32 ST_GetEnumEntryValue(__int32 hDevice, const char* NodeName, __int32 EntryIdx, char* pInfo, unsigned __int32 *pSize)
```

Enumeration 타입 Feature 의 Entry Index 에 해당하는 String 값을 가져옵니다.

- hDevice(IN) : Device handle.
- NodeName : Feature Name
- EntryIdx : Entry Index.
- pInfo(IN,OUT) : IN : User buffer pointer, OUT : String Value.
- pSize(IN,OUT) : IN : User buffer size, OUT : pInfo length.

#### 4. Feature Information

DeviceControl				
Feature Name	Interfaces		Type	AccessMode
	GigE	USB2.0		
Definition	Default Value		Range/Value	
Description				
DeviceID	O	O	String	RO
MCAM_DEVICE_ID				
Interface wide unique identifier of the selected device.				
DeviceVendorName	O	O	String	RO
MCAM_DEVICE_VENDOR_NAME				
Name of the device vendor.				
DeviceModelName	O	O	String	RO
MCAM_DEVICE_MODEL_NAME				
Name of the device model.				
DeviceManufacturerInfo	O	O	String	RO
MCAM_DEVICE_MANUFACTURER_INFO				
Manufacturer information about the remote device.				
DeviceVersion	O	O	String	RO
MCAM_DEVICE_VERSION				
The version of the remote device model.				
DeviceUserID	O	O	String	RW
MCAM_DEVICE_USER_ID				
User-programmable device identifier of the remote device.				
DeviceScanType	O	O	Enumeration	RO
MCAM_DEVICE_SCANTYPE	Areascan		Areascan	
Scan type of the device.				

ImageFormatControl				
Feature Name	Interfaces		Type	AccessMode
	GigE	USB2.0		
Definition	Default Value		Range/Value	
Description				
Width	O	O	Integer	RW
MCAM_WIDTH	~		~	
Width of the data in number of pixels.				
Height	O	O	Integer	RW
MCAM_HEIGHT	~		~	
Height of the data in number of pixels as configured.				
PixelFormat	O	O	Enumeration	RW
MCAM_PIXEL_FORMAT	GigE(M)	Mono8	Mono8/10/12, Mono10/12 Packed.	
	GigE(C)	BayerRG8	Include GigE(Mono), BayerRG8/10/12, BayerRG10/12Packed, YUV422Packed, RGB8Packed.	
	USB2.0(M)	Mono8	Mono8/10/12/14.	
	USB2.0(C)	RGB8Packed	Mono8, BayerBG8, RGB8Packed.	
Format of the pixels *				
WidthMax	O	O	Integer	RO
MCAM_WIDTH_MAX				
Max Width of the data in number of pixels.				
HeightMax	O	O	Integer	RO
MCAM_HEIGHT_MAX				
Max Height of the data in number of pixels.				
OffsetX	O	O	Integer	RW
MCAM_OFFSET_X	0		0 ~ (WidthMax - Width)	
XOffset of the data in the buffer in number of pixels from the image origin to handle areas of interest.				
OffsetY	O	O	Integer	RW
MCAM_OFFSET_Y	0		0 ~ (HeightMax - Height)	
YOffset of the data in the buffer in number of lines from the image origin to handle areas of interest.				
BinningHorizontal	X	Mono Only	Integer	RW
MCAM_BINNING_HORIZONTAL	1		1, 2	
Adjacent pixels in the line are summed out as a single pixel.				
BinningVertical	Mono Only	Mono Only	Integer	RW
MCAM_BINNING_VERTICAL	1		1, 2	



Adjacent pixels in multiple lines are summed out as a single pixel.

TestPattern	O	O	Enumeration	RW
MCAM_TEST_PATTERN	GigE	Off	Off, Grey Horizontal Ramp, Grey Vertical Ramp	
	USB2.0	Off	On, Off	
Set to acquire the test pattern.				

AcquisitionControl				
Feature Name	Interfaces		Type	AccessMode
	GigE	USB2.0		
Definition	Default Value		Range/Value	
Description				
AcquisitionStart	O		Command	WO
MCAM_ACQUISITION_START				
Start image acquisition using the specified acquisition mode.				
AcquisitionStop	O		Command	WO
MCAM_ACQUISITION_STOP				
Stop image acquisition using the specified acquisition mode.				
AcquisitionMode	O		Enumeration	RW
MCAM_ACQUISITION_MODE	Continuous		Continuous, SingleFrame, MultiFrame	
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.				
AcquisitionFrameCount	O		Integer	RW
MCAM_ACQUISITION_FRAME_COUNT	3		0 ~ 255	
Number of frames to acquire in MultiFrame Acquisition mode.				
TriggerSelector	O		Enumeration	RW
MCAM_TRIGGER_SELECTOR	FrameStart		FrameStart	
Selects the type of trigger to configure.				
TriggerMode	O	O	Enumeration	RW
MCAM_TRIGGER_MODE	Off		Off, On	
Controls if the selected trigger is active.				
TriggerSource	O	O	Enumeration	RW
MCAM_TRIGGER_SOURCE	Line1		Line1, Software	
Specifies the internal signal or physical input Line to use as the trigger source. The selected trigger must have its TriggerMode set to On. *				
TriggerActivation	O	O	Enumeration	RW
MCAM_TRIGGER_ACTIVATION	RisingEdge		RisingEdge, FallingEdge, LevelLow, LevelHigh	
Specifies the activation mode of the trigger. *				
TriggerSoftware	O	O	Command	WO
MCAM_TRIGGER_SOFTWARE				
Generates an internal trigger. TriggerSource must be set to Software.				

TriggerDelay	O	O	Float	RW
MCAM_TRIGGER_DELAY	0.0		0.0 ~	
Specifies the delay in microseconds (us) to apply after the trigger reception before activating it. *				
ExposureMode	O	O	Enumeration	RW
MCAM_EXPOSURE_MODE	Timed		Timed, TriggerWidth	
Sets the operation mode of the Exposure (or shutter).				
ExposureAuto	O	O	Enumeration	RW
MCAM_EXPOSURE_AUTO	Off		Off, Once, Continuous	
Sets the automatic ExposureTime. The exact algorithm used to implement this control is device-specific.				
ExposureTime	O	O	Float	RW
MCAM_EXPOSURE_TIME			0.0 ~	
This controls the duration where the photosensitive cells are exposed to light. *				
TransferDelay	O		Integer	RW
MCAM_TRANSFER_DELAY	0		0 ~	
Specifies the delay to apply after the image readout from sensor before transfer. This can be used as a crude flow-control mechanism if the application or the network infrastructure cannot keep up with the packets coming from the device.				
AcquisitionFrameRateEnable	O		Enumeration	RW
MCAM_ACQUISITION_FRAMERATE_ENABLE	Off		Off, On	
Set the acquisition rate (in Hertz) at which the frames are captured.				
AcquisitionFrameRate	O		Float	RW
MCAM_ACQUISITIONFRAMERATE			0.0 ~	
Controls the acquisition rate (in Hertz) at which the frames are captured. *				
AutoExposureTarget	O		Integer	RW
MCAM_AUTO_EXPOSURE_TARGET	0		0 ~ 255	
When the auto exposure is "once" or "continuous", the the exposure time will be changed, depending on the target value.				

DigitalIoControl				
Feature Name	Interfaces		Type	AccessMode
	GigE	USB2.0		
Definition	Default Value		Range/Value	
Description				
LineSelector	O		Enumeration	RW
MCAM_LINE_SELECTOR	Line1		Line1, Line2	
Selects the physical line (or pin) of the external device connector to configure.				
LineMode	O		Enumeration	RO
MCAM_LINE_MODE	Input		Input, Output	
Controls if the physical Line is used to Input or Output a signal.				
LineInverter	O		Boolean	RW
MCAM_LINE_INVERTER	FALSE		TRUE / FALSE	
Controls the inversion of the signal of the selected input or output Line.				
LineStatus	O		Boolean	RO
MCAM_LINE_STATUS	FALSE		TRUE / FALSE	
Returns the current status of the selected input or output Line.				
LineSource	O		Enumeration	RW
MCAM_LINE_SOURCE	Off		Off, ExposureActive, TimerActive, UserOutput1	
Selects which internal acquisition or I/O source signal to output on the selected Line. LineMode must be Output. *				
UserOutputSelector	O		Enumeration	RW
MCAM_USER_OUTPUT_SELECTOR	UserOutput1		UserOutput1	
Selects which bit of the User Output register will be set by UserOutputValue.				
UserOutputValue	O		Boolean	
MCAM_USER_OUTPUT_VALUE	FALSE		TRUE / FALSE	
Sets the value of the bit selected by UserOutputSelector.				

CounterandTimerControl				
Feature Name	Interfaces		Type	AccessMode
	GigE	USB2.0		
Definition	Default Value		Range/Value	
Description				
TimerSelector	O		Enumeration	RW
MCAM_TIMER_SELECTOR	Timer1		Timer1	
Selects which Timer to configure.				
TimerDuration	O		Float	RW
MCAM_TIMER_DURATION	0.0		0.0 ~	
Sets the duration (in microseconds) of the Timer pulse. *				
TimerDelay	O		Float	RW
MCAM_TIMER_DELAY	0.0		0.0 ~	
Sets the duration of the delay to apply at the reception of a trigger before to start the Timer.				

LUTControl				
Feature Name	Interfaces		Type	AccessMode
	GigE	USB2.0		
Definition	Default Value		Range/Value	
Description				
LUTEnable	O		Boolean	RW
MCAM_LUT_ENABLE	FALSE		TRUE / FALSE	
Activates the selected LUT.				
LUTIndex	O		Integer	RW
MCAM_LUT_INDEX	0		0 ~ 4095	
Control the index (offset) of the coefficient to access in the selected LUT.				
LUTValue	O		Integer	RW
MCAM_LUT_VALUE	0		0 ~ 4095	
Returns the Value at entry LUTIndex of the LUT selected by LUTSelector.				

AnalogControl				
Feature Name	Interfaces		Type	AccessMode
	GigE	USB2.0		
Definition	Default Value		Range/Value	
Description				
Gainselector	O		Enumeration	RW
MCAM_GAIN_SELECTOR	All		All	
Selects which Gain is controlled by the various Gain features.				
GainRaw	O	O	Integer	RW
MCAM_GAIN_RAW	0		0 ~	
Controls the selected gain as an absolute physical value. This is an amplification factor applied to the video signal. *				
GainAuto	O		Enumeration	RW
MCAM_GAIN_AUTO	Off		Off, Once, Continuous	
Sets the automatic gain control (AGC) mode. The exact algorithm used to implement AGC is device-specific. *				
BlackLevelSelector	O		Enumeration	RW
MCAM_BLACK_LEVEL_SELECTOR	All		All	
Selects which Black Level is controlled by the various Black Level features.				
BlackLevelRaw	O		Integer	RW
MCAM_BLACK_LEVEL_RAW	0		0 ~ 255	
Controls the analog black level as an absolute physical value. This represents a DC offset applied to the video signal.				
BalanceRatioSelector (Color Only)	O	O	Enumeration	RW
MCAM_BALANCE_RATIO_SELECTOR	Red		Red, Green, Blue	
Selects which Balance ratio to control.				
BalanceRatio (Color Only)	O		Float	RW
		O	Integer	
MCAM_BALANCE_RATIO	GigE	0.1	0.1 ~ 8.0	
	USB2.0	0.0	0.0 ~ 8191.0	
Controls ratio of the selected color component to a reference color component. It is used for white balancing. *				
BalanceWhiteAuto (Color Only)	O	O	Enumeration	RW
MCAM_BALANCE_WHITE_AUTO	Off		Off, Once, Continuous	
Controls the mode for automatic white balancing between the color channels. The white balancing ratios are automatically adjusted.				

TransportLayerControl				
Feature Name	Interfaces		Type	AccessMode
	GigE	USB2.0		
Definition	Default Value		Range/Value	
Description				
<b>PayloadSize</b>	O	O	Integer	RO
MCAM_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. *				
<b>GevVersionMajor</b>	O		Integer	RO
GEV_VERSION_MAJOR				
Major version of the specification.				
<b>GevVersionMinor</b>	O		Integer	RO
GEV_VERSION_MINOR				
Minor version of the specification.				
<b>GevDeviceModelsBigEndian</b>	O		Boolean	RO
GEV_DEVICE_MODE_IS_BIGENDIAN			TRUE / FALSE	
Endianness of the device registers.				
<b>GevDeviceModeChracterSet</b>	O		Enumeration	RO
GEV_DEVICE_MODE_CHARACTER_SET	UTF8		UTF8	
Character set used by all the strings of the bootstrap registers.				
<b>GevInerfaceSelector</b>	O		Integer	RW
GEV_INTERFACE_SELECTOR				
Selects which physical network interface to control.				
<b>GevMACAddress</b>	O		Integer	RO
GEV_MAC_ADDRESS				
MAC address of the network interface.				
<b>GevSupportedOptionSelector</b>	O		Enumeration	RW
GEV_SUPPORTED_OPTION_SELECTOR	UserDefinedName		UserDefinedName, SerialNumber, HeartbeatDisable, LinkSpeed, CCPApplicationSocket, ManifestTable, TestData, DiscoveryAckDelay, DiscoveryAckDelayWritable, ExtendedStatusCodes, PrimaryApplicationSwitchover, Action, PendingAck, EventData, Event, PacketResend, WriteMem, CommandsConcatenation, IPConfigurationLLA,	



		IPConfigurationDHCP, IPConfigurationPersistentIP, StreamChannelSourceSocket, MessageChannelSourceSocket, StreamChannel0BigAndLittleEndian, StreamChannel0IPReassembly, StreamChannel0UnconditionalStreamin g, StreamChannel0ExtendedChunkData
Selects the GEV option to interrogate for existing support.		
<b>GevSupportedOption</b>	O	Boolean RO
GEV_SUPPORTED_OPTION		TRUE / FALSE
Returns if the selected GEV option is supported.		
<b>GevCurrentIPConfigurationLLA</b>	O	Boolean RW
GEV_CURRENT_IP_CONFIGURATION_LLA		TRUE / FALSE
Indicates if Link Local Address IP configuration scheme is activated on the given network interface.		
<b>GevCurrentIPConfigurationDHCP</b>	O	Boolean RW
GEV_CURRENT_IP_CONFIGURATION_DHCP		TRUE / FALSE
Indicates if DHCP IP configuration scheme is activated on the given network interface.		
<b>GevCurrentIPConfigurationPersistnetIP</b>	O	Boolean RW
GEV_CURRENT_IP_CONFIGURATION_PERSISTENT_I P		TRUE / FALSE
Indicates if PersistentIP configuration scheme is activated on the given network interface.		
<b>GevCurrentIPAddress</b>	O	Integer RO
GEV_CURRENT_IP_ADDRESS		
Reports the IP address for the given network interface.		
<b>GevCurrentSubnetMask</b>	O	Integer RO
GEV_CURRENT_SUBNETMASK		
Provides the subnet mask of the given interface.		
<b>GevCurrentDefaultGateway</b>	O	Integer RO
GEV_CURRENT_DEFAULT_GATEWAY		
Indicates the default gateway IP address to be used on the given network interface.		
<b>GevFirstURL</b>	O	String RO
GEV_FIRST_URL		
Indicates the first URL to the XML device description file. The First URL is used as the first choice by the application to retrieve the XML device description file.		
<b>GevSecondURL</b>	O	String RO
GEV_SECOND_URL		
Indicates the second URL to the XML device description file. This URL is an alternative if the application was unsuccessful to retrieve the device description file using the first URL.		

<b>GevNumberOfInterfaces</b>	O		Integer	RO
GEV_NUMBER_OF_INTERFACES				
Indicates the number of physical network interfaces supported by this device.				
<b>GevPersistentIPAddress</b>	O		Integer	RW
GEV_PERSISTENT_IP_ADDRESS				
Indicates the Persistent IP address for this network interface. It is only used when the device boots with the Persistent IP configuration scheme.				
<b>GevPersistentSubnetMask</b>	O		Integer	RW
GEV_PERSISTENT_SUBNETMASK				
Indicates the Persistent subnet mask associated with the Persistent IP address on this network interface. It is only used when the device boots with the Persistent IP configuration scheme.				
<b>GevPersistentDefaultGateway</b>	O		Integer	RW
GEV_PERSISTENT_DEFAULT_GATEWAY				
Indicates the persistent default gateway for this network interface. It is only used when the device boots with the Persistent IP configuration scheme.				
<b>GevMessageChannelCount</b>	O		Integer	RO
GEV_MESSAGE_CHANNEL_COUNT				
Indicates the number of message channels supported by this device.				
<b>GevStreamChannelCount</b>	O		Integer	RO
GEV_STREAM_CHANNEL_COUNT				
Indicates the number of stream channels supported by this device.				
<b>GevTimestampTickFrequency</b>	O		Integer	RO
GEV_TIME_STAMP_TICK_FREQUENCY				
Indicates the number of timestamp ticks during 1 second (frequency in Hz).				
<b>GevTimestampControlLatch</b>	O		Command	WO
GEV_TIME_STAMP_CONTROL_LATCH				
Latches current timestamp counter into GevTimestampValue.				
<b>GevTimestampControlReset</b>	O		Command	WO
GEV_TIME_STAMP_CONTROLRE_SET				
Resets the Timestamp counter to 0.				
<b>GevTimestampValue</b>	O		Integer	RO
GEV_TIME_STAMP_VALUE				
Returns the latched 64-bit value of the timestamp counter.				
<b>GevHeartbeatTimeout</b>	O		Integer	RW
GEV_HEARTBEAT_TIMEOUT		3000	500 ~ 4294967295	
Indicates the current heartbeat timeout in milliseconds.				
<b>GevGVCPHeartbeatDisable</b>	O		Boolean	RW
GEV_GVCP_HEARTBEAT_DISABLE		FALSE	TRUE / FALSE	
Disables the GVCP heartbeat.				

<b>GevCCP</b>	O		Enumeration	RW
GEV_CCP	OpenAccess		OpenAccess, ExclusiveAccess, ControlAccess	
Controls the device access privilege of an application.				
<b>GevMCPHostPort</b>	O		Integer	RW
GEV_MCP_HOST_PORT				
Indicates the port to which the device must send messages. Setting this value to 0 closes the message channel.				
<b>GevMCTT</b>	O		Integer	RW
GEV_MCTT				
Provides the transmission timeout value in milliseconds.				
<b>GevMCRC</b>	O		Integer	RW
GEV_MCRC				
Indicates the number of retransmissions allowed when a message channel message times out.				
<b>GevStreamChannelSelector</b>	O		Integer	RW
GEV_STREAM_CHANNEL_SELECTOR				
Selects the stream channel to control.				
<b>GevSCPInterfaceIndex</b>	O		Integer	RW
GEV_SCP_INTERFACE_INDEX				
Index of network interface to use (from 0 to 3).				
<b>GevSCPHostPort</b>	O		Integer	RW
GEV_SCP_HOST_PORT				
Indicates the port to which the device must send data stream. Setting this value to 0 closes the stream channel.				
<b>GevSCPSFireTestPacket</b>	O		Boolean	RW
GEV_SCPS_FIRE_TEST_PACKET				
Sends a test packet. When this feature is set, the device will fire one test packet.				
<b>GevSCPSDoNotFragment</b>	O		Boolean	RW
GEV_SCPS_DO_NOT_FRAGMENT				
The state of this feature is copied into the "do not fragment" bit of IP header of each stream packet. It can be used by the application to prevent IP fragmentation of packets on the stream channel.				

<b>GevSCPSBigEndian</b>	O		Boolean	RW
GEV_SCPS_BIG_ENDIAN				
Endianess of multi-byte pixel data for this stream.				
<b>GevSCSPPacketSize</b>	O		Integer	RW
GEV_SCPS_PACKETSIZE	1400		512 ~ 9152	
Specifies the stream packet size in bytes to send on this channel.				
<b>GevSCPD</b>	O		Integer	RW

GEV_SCPD	0	0 ~
Indicates the delay (in timestamp counter unit) to insert between each packet for this stream channel. This can be used as a crude flow-control mechanism if the application or the network infrastructure cannot keep up with the packets coming from the device.		
GevSCDA	O	Integer RW
GEV_SCDA		
Indicates the destination IP address for this stream channel.		

UserSetControl				
Feature Name	Interfaces		Type	AccessMode
	GigE	USB2.0		
Definition	Default Value		Range/Value	
Description				
UserSetSelector	O	O	Enumeration	RW
USER_SET_SELECTOR	Default		Default, UserSet1, UserSet2, UserSet3	
Selects the feature User Set to load, save or configure.				
UserSetLoad	O	O	Command	WO
USER_SET_LOAD				
Loads the User Set specified by UserSetSelector to the device and makes it active.				
UserSetSave	O	O	Command	WO
USER_SET_SAVE				
Save the User Set specified by UserSetSelector to the non-volatile memory of the device.				

ColorTransformationControl				
Feature Name	Interfaces		Type	AccessMode
	GigE	USB2.0		
Definition	Default Value		Range/Value	
Description				
ColorTransformationEnable	O		Boolean	RW
MCAM_COLOR_TRANS_FORMATION_ENABLE				
Activates the selected Color Transformation module.				
ColorTransformationValueSelector	O		Enumeration	RW
MCAM_COLOR_TRANS_FORMATION_VALUE_SELECTOR			HUEBYGP, HUEBYGN, HUEBYHP, HUEBYHN, HUERYGP, HUERYGN, HUERYHP, HUERYHN, HUECG	
Selects the Gain factor or Offset of the Transformation matrix to access in the selected Color Transformation module.				
ColorTransformationValue	O		Float	RW
MCAM_COLOR_TRANS_FORMATION_VALUE				
Represents the value of the selected Gain factor or Offset inside the Transformation matrix.				

DeviceOptionControl				
Feature Name	Interfaces		Type	AccessMode
	GigE	USB2.0		
Definition	Default Value		Range/Value	
Description				
DeviceFilterDriverMode	O		Enumeration	RW
MCAM_DEVICE_FILTER_DRIVER_MODE	Off		Off, On	
Sets the Filter Driver use of the device.				
DeviceCommandTimeout	O		Integer	RW
MCAM_DEVICE_COMMAND_TIMEOUT			100 ~ 2147483647	
Sets the device command timeout.				
DeviceCommandRetryNumber	O		Integer	RW
MCAM_DEVICE_COMMAND_RETRY_NUMBER			1 ~ 20	
Sets the number of retries of command timeout of the device.				
DeviceStreamTimeout	O		Integer	RW
MCAM_DEVICE_STREAM_TIMEOUT			100 ~ 2147483647	
Sets the device stream timeout.				
DeviceMissingPacketReceive	O		Enumeration	RW
MCAM_DEVICE_MISSING_PACKET_RECEIVE	Off		Off, On	
Sets the missing packet receive.				
DevicePacketResend	O		Boolean	RW
MCAM_DEVICE_PACKET_RESEND	TRUE		TRUE / FALSE	
Sets to packet resend function.				
DeviceMaxPacketResendCount	O		Integer	RW
MCAM_DEVICE_MAX_PACKET_RESEND_COUNT	255		0 ~ 255	
Sets the maximum number of resend packets.				
DeviceFindMaxPacketSize	O		Command	WO
MCAM_DEVICE_FIND_MAX_PACKET_SIZE				
Find the maximum packet size.				
DeviceMaxPacketSize	O		Integer	RO
MCAM_DEVICE_MAX_PACKET_SIZE				
Gets the maximum packet size.				

## 5. Enumeration Feature Entry Definition

Feature Name	Enumeration Entry Name	Enumeration Entry Definition
PixelFormat	Mono8	PIXEL_FORMAT_MONO8
	Mono10	PIXEL_FORMAT_MONO10
	Mono12	PIXEL_FORMAT_MONO12
	Mono14	PIXEL_FORMAT_MONO14
	Mono10Packed	PIXEL_FORMAT_MONO10PACKED
	Mono12Packed	PIXEL_FORMAT_MONO12PACKED
	BayerBG8	PIXEL_FORMAT_BAYERBG8
	BayerBG10	PIXEL_FORMAT_BAYERBG10
	BayerBG12	PIXEL_FORMAT_BAYERBG12
	BayerBG10Packed	PIXEL_FORMAT_BAYERBG10PACKED
	BayerBG12Packed	PIXEL_FORMAT_BAYERBG12PACKED
	BayerRG8	PIXEL_FORMAT_BAYERRG8
	BayerRG10	PIXEL_FORMAT_BAYERRG10
	BayerRG12	PIXEL_FORMAT_BAYERRG12
	BayerRG10Packed	PIXEL_FORMAT_BAYERRG10PACKED
	BayerRG12Packed	PIXEL_FORMAT_BAYERRG12PACKED
	BayerGR8	PIXEL_FORMAT_BAYERGR8
	BayerGR10	PIXEL_FORMAT_BAYERGR10
	BayerGR12	PIXEL_FORMAT_BAYERGR12
	BayerGR10Packed	PIXEL_FORMAT_BAYERGR10PACKED
	BayerGR12Packed	PIXEL_FORMAT_BAYERGR12PACKED
	BayerGB8	PIXEL_FORMAT_BAYERGB8
	BayerGB10	PIXEL_FORMAT_BAYERGB10
	BayerGB12	PIXEL_FORMAT_BAYERGB12
	BayerGB10Packed	PIXEL_FORMAT_BAYERGB10PACKED
	BayerGB12Packed	PIXEL_FORMAT_BAYERGB12PACKED
	YUV422Packed	PIXEL_FORMAT_YUV422PACKED
	RGB8Packed	PIXEL_FORMAT_RGB8PACKED
	BGR8Packed	PIXEL_FORMAT_BGR8PACKED
TestPattern	Off	TEST_PATTERN_OFF
	GreyHorizontalRamp	TEST_PATTERN_GREY_HORIZONTAL_RAMP
	GreyVerticalRamp	TEST_PATTERN_GREY_VERTICAL_RAMP
AcquisitionMode	Continuous	ACQUISITION_MODE_CONTINUOUS
	SingleFrame	ACQUISITION_MODE_SINGLE_FRAME
	MultiFrame	ACQUISITION_MODE_MULTI_FRAME
TriggerSelector	FrameStart	TRIGGER_SELECTOR_FRAME_START
TriggerMode	Off	TRIGGER_MODE_OFF

	On	TRIGGER_MODE_ON
TriggerSource	Line1	TRIGGER_SOURCE_LINE1
	Software	TRIGGER_SOURCE_SOFTWARE
TriggerActivation	RisingEdge	TRIGGER_ACTIVATION_RISING_EDGE
	FallingEdge	TRIGGER_ACTIVATION_FALLING_EDGE
	LevelLow	TRIGGER_ACTIVATION_LEVEL_LOW
	LevelHigh	TRIGGER_ACTIVATION_LEVEL_HIGH
ExposureMode	Timed	EXPOSURE_MODE_TIMED
	TriggerWidth	EXPOSURE_MODE_TRIGGER_WIDTH
ExposureAuto	Off	EXPOSURE_AUTO_OFF
	Once	EXPOSURE_AUTO_ONCE
	Continuous	EXPOSURE_AUTO_CONTINUOUS
AcquisitionFrameRateEnable	Off	ACQUISITION_FRAMERATE_ENABLE_OFF
	On	ACQUISITION_FRAMERATE_ENABLE_ON
LineSelector	Line1	LINE_SELECTOR_LINE1
	Line2	LINE_SELECTOR_LINE2
LineMode	Input	LINE_MODE_INPUT
	Output	LINE_MODE_OUTPUT
LineSource	Off	LINE_SOURCE_OFF
	ExposureActive	LINE_SOURCE_EXPOSURE_ACTIVE
	TimerActive	LINE_SOURCE_TIMER_ACTIVE
	UserOutput1	LINE_SOURCE_USER_OUTPUT_1
UserOutputSelector	UserOutput1	USER_OUTPUT_SELECTOR_USER_OUTPUT_1
TimerSelector	Timer1	TIMER_SELECTOR_TIMER_1
Gainselector	All	GAIN_SELECTOR_ALL
GainAuto	Off	GAIN_AUTO_OFF
	Once	GAIN_AUTO_ONCE
	Continuous	GAIN_AUTO_CONTINUOUS
BlackLevelSelector	All	BLACK_LEVEL_SELECTOR_ALL
BalanceRatioSelector	Red	BALANCE_RATIO_SELECTOR_RED
	Green	BALANCE_RATIO_SELECTOR_GREEN
	Blue	BALANCE_RATIO_SELECTOR_BLUE
BalanceWhiteAuto	Off	BALANCE_WHITE_AUTO_OFF
	Once	BALANCE_WHITE_AUTO_ONCE
	Continuous	BALANCE_WHITE_AUTO_CONTINUOUS
GevDeviceModeCharacterSet	UTF8	GEV_DEVICE_MODE_CHARACTER_SET_UTF8
GevSupportedOptionSelector	UserDefinedName	GEV_SUPPORTED_OPTION_SELECTOR_USER_DEFINED_NAME
	SerialNumber	GEV_SUPPORTED_OPTION_SELECTOR_SERIAL_NUMBER
	HeartbeatDisable	GEV_SUPPORTED_OPTION_SELECTOR_HEART_BEAT_DISABLE
	LinkSpeed	GEV_SUPPORTED_OPTION_SELECTOR_LINK_SPEED



	CCPApplicationSocket	GEV_SUPPORTED_OPTION_SELECTOR_CCP_APPLICATION_SOCKET
	ManifestTable	GEV_SUPPORTED_OPTION_SELECTOR_MANIFEST_TABLE
	TestData	GEV_SUPPORTED_OPTION_SELECTOR_TEST_DATA
	DiscoveryAckDelay	GEV_SUPPORTED_OPTION_SELECTOR_DISCOVERY_ACK_DELAY
	DiscoveryAckDelayWritable	GEV_SUPPORTED_OPTION_SELECTOR_DISCOVERY_ACK_DELAY_WRITABLE
	ExtendedStatusCodes	GEV_SUPPORTED_OPTION_SELECTOR_EXTENDED_STATUS_CODES
	PrimaryApplicationSwitchover	GEV_SUPPORTED_OPTION_SELECTOR_PRIMARY_APPLICATION_SWITCH_OVER
	Action	GEV_SUPPORTED_OPTION_SELECTOR_ACTION
	PendingAck	GEV_SUPPORTED_OPTION_SELECTOR_PENDING_ACK
	EventData	GEV_SUPPORTED_OPTION_SELECTOR_EVENT_DATA
	Event	GEV_SUPPORTED_OPTION_SELECTOR_EVENT
	PacketResend	GEV_SUPPORTED_OPTION_SELECTOR_PACKET_RESEND
	WriteMem	GEV_SUPPORTED_OPTION_SELECTOR_WRITE_MEM
	CommandsConcatenation	GEV_SUPPORTED_OPTION_SELECTOR_COMMANDS_CONCATENATION
	IPConfigurationLLA	GEV_SUPPORTED_OPTION_SELECTOR_IP_CONFIGURATION_LLA
	IPConfigurationDHCP	GEV_SUPPORTED_OPTION_SELECTOR_IP_CONFIGURATION_DHCP
	IPConfigurationPersistentIP	GEV_SUPPORTED_OPTION_SELECTOR_IP_CONFIGURATION_PERSISTENT_IP
	StreamChannelSourceSocket	GEV_SUPPORTED_OPTION_SELECTOR_STREAM_CHANNEL_SOURCE_SOCKET
	MessageChannelSourceSocket	GEV_SUPPORTED_OPTION_SELECTOR_MESSAGE_CHANNEL_SOURCE_SOCKET
	StreamChannel0BigAndLittleEndian	GEV_SUPPORTED_OPTION_SELECTOR_STREAM_CHANNEL_0_BIG_AND_LITTLE_ENDIAN
	StreamChannel0IPReassembly	GEV_SUPPORTED_OPTION_SELECTOR_STREAM_CHANNEL_0_IP_REASSEMBLY
	StreamChannel0UnconditionalStreaming	GEV_SUPPORTED_OPTION_SELECTOR_STREAM_CHANNEL_0_UNCONDITIONAL_STREAMING
	StreamChannel0ExtendedChunkData	GEV_SUPPORTED_OPTION_SELECTOR_STREAM_CHANNEL_0_EXTENDED_CHUNK_DATA
GevCCP	OpenAccess	GEV_CCP_OPEN_ACCESS
	ExclusiveAccess	GEV_CCP_EXCLUSIVE_ACCESS
	ControlAccess	GEV_CCP_CONTROL_ACCESS
UserSetSelector	Default	USER_SET_SELECTOR_DEFAULT
	UserSet1	USER_SET_SELECTOR_USER_SET_1
	UserSet2	USER_SET_SELECTOR_USER_SET_2
	UserSet3	USER_SET_SELECTOR_USER_SET_3
ColorTransformationValueSelector	HUEBYGP	COLOR_TRANSFORMATION_VALUE_SELECTOR_HUEBYGP
	HUEBYGN	COLOR_TRANSFORMATION_VALUE_SELECTOR_HUEBYGN
	HUEBYHP	COLOR_TRANSFORMATION_VALUE_SELECTOR_HUEBYHP
	HUEBYHN	COLOR_TRANSFORMATION_VALUE_SELECTOR_HUEBYHN
	HUERYGP	COLOR_TRANSFORMATION_VALUE_SELECTOR_HUERYGP
	HUERYGN	COLOR_TRANSFORMATION_VALUE_SELECTOR_HUERYGN
	HUERYHP	COLOR_TRANSFORMATION_VALUE_SELECTOR_HUERYHP
	HUERYHN	COLOR_TRANSFORMATION_VALUE_SELECTOR_HUERYHN

	HUECG	COLOR_TRANSFORMATION_VALUE_SELECTOR_HUECG
DeviceFilterDriverMode	Off	DEVICE_FILTER_DRIVER_MODE_OFF
	On	DEVICE_FILTER_DRIVER_MODE_ON
DeviceMissingPacketReceive	Off	DEVICE_MISSING_PACKET_RECEIVE_OFF
	On	DEVICE_MISSING_PACKET_RECEIVE_ON