

Coaxlink

Coaxlink Driver Version 9.5.2



PCI 
EXPRESSTM

CoaxPress

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1. System Module

Categorized features list of System module version 9.5.2.131

- 1.1. Root Category12
- 1.2. SystemInformation Category13
- 1.3. InterfaceEnumeration Category17

1.1. Root Category

SystemInformation 12

InterfaceEnumeration 12

SystemInformation

Feature Info

Module	Category Path	Type	Access
System	Root	Category	RW

Category Members

Refer to "SystemInformation Category " on the next page

InterfaceEnumeration

Feature Info

Module	Category Path	Type	Access
System	Root	Category	RW

Category Members

Refer to "InterfaceEnumeration Category " on page 17

1.2. SystemInformation Category

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TLPath	14
TLType	15
GenTLVersionMajor	15
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TLVendorName

Feature Info

Module	Category Path	Type	Access
System	Root / SystemInformation	String	Imposed: RO

Short Description

Name of the GenTL Producer vendor.

TLModelName

Feature Info

Module	Category Path	Type	Access
System	Root / SystemInformation	String	Imposed: RO

Short Description

Name of the GenTL Producer.

TLID

Feature Info

Module	Category Path	Type	Access
System	Root / SystemInformation	String	Imposed: RO

Short Description

Unique identifier of the GenTL.

TLVersion

Feature Info

Module	Category Path	Type	Access
System	Root / SystemInformation	String	Imposed: RO

Short Description

Vendor specific version string.

TLPath

Feature Info

Module	Category Path	Type	Access
System	Root / SystemInformation	String	Imposed: RO

Short Description

Full path to the GenTL Producer driver including name and extension.

TLType

Feature Info

Module	Category Path	Type	Access
System	Root / SystemInformation	Enumeration	Imposed: RO

Short Description

Identifies the transport layer technology of the GenTL Producer implementation.

Enumeration Values

- CXP: This enumeration value indicates CoaXPress transport layer technology.

GenTLVersionMajor

Feature Info

Module	Category Path	Type	Access
System	Root / SystemInformation	IntReg	RO

Register Port: TLPort

Short Description

Major version number of the GenTL specification the GenTL Producer implementation complies with.

GenTLVersionMinor

Feature Info

Module	Category Path	Type	Access
System	Root / SystemInformation	IntReg	RO

Register Port: TLPort

Short Description

Minor version number of the GenTL specification the GenTL Producer implementation complies with.

1.3. InterfaceEnumeration Category

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InterfaceSelector	17
InterfaceID	18

InterfaceUpdateList

Feature Info

Module	Category Path	Type	Access
System	Root / InterfaceEnumeration	Command	RW

Short Description

Updates the internal interface list.

InterfaceSelector

Feature Info

Module	Category Path	Type	Access
System	Root / InterfaceEnumeration	Integer	RW

Value Info

Minimum value: 0

Short Description

Selector for the different GenTL Producer interfaces.

Selected Features

- "InterfaceID" on the next page

InterfaceID

Feature Info

Module	Category Path	Type	Access
System	Root / InterfaceEnumeration	String	Imposed: RO

Short Description

GenTL Producer wide unique identifier of the selected interface.

2. Interface Module

Categorized features list of Interface module version 9.5.2.131

- 2.1. Root Category20
- 2.2. InterfacelInformation Category24
- 2.3. DeviceEnumeration Category28
- 2.4. CoaXPress Category31
- 2.5. DigitalIOControl Category46
- 2.6. UserOutputRegister Category53
- 2.7. IOToolbox Category59
- 2.8. PCIExpress Category82
- 2.9. InterfaceControl Category87
- 2.10. InterfaceDetails Category90
- 2.11. EventControl Category94
- 2.12. OemSafetyKey Category104
- 2.13. CustomLogic Category107

2.1. Root Category

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DigitalIOControl	21
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IOToolbox	22
PCIExpress	22
InterfaceControl	22
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EventControl	23
OemSafetyKey	23

InterfaceInformation

Feature Info

Module	Category Path	Type	Access
Interface	Root	Category	RW

Category Members

Refer to "InterfaceInformation Category " on page 24

DeviceEnumeration

Feature Info

Module	Category Path	Type	Access
Interface	Root	Category	RW

Category Members

Refer to "DeviceEnumeration Category " on page 28

CoaXPress

Feature Info

Module	Category Path	Type	Access
Interface	Root	Category	RW

Category Members

Refer to "CoaXPress Category " on page 31

DigitalIOControl

Feature Info

Module	Category Path	Type	Access
Interface	Root	Category	RW

Category Members

Refer to "DigitalIOControl Category " on page 46

UserOutputRegister

Feature Info

Module	Category Path	Type	Access
Interface	Root	Category	RW

Category Members

Refer to "UserOutputRegister Category " on page 53

IOToolbox

Feature Info

Module	Category Path	Type	Access
Interface	Root	Category	RW

Category Members

Refer to ["IOToolbox Category "](#) on page 59

PCIExpress

Feature Info

Module	Category Path	Type	Access
Interface	Root	Category	RW

Category Members

Refer to ["PCIExpress Category "](#) on page 82

InterfaceControl

Feature Info

Module	Category Path	Type	Access
Interface	Root	Category	RW

Category Members

Refer to ["InterfaceControl Category "](#) on page 87

InterfaceDetails

Feature Info

Module	Category Path	Type	Access
Interface	Root	Category	RW

Category Members

Refer to "InterfaceDetails Category " on page 90

EventControl

Feature Info

Module	Category Path	Type	Access
Interface	Root	Category	RW

Category Members

Refer to "EventControl Category " on page 94

OemSafetyKey

Feature Info

Module	Category Path	Type	Access
Interface	Root	Category	RW

Category Members

Refer to "OemSafetyKey Category " on page 104

2.2. InterfaceInformation Category

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SerialNumber	25
PartNumber	25
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FirmwareRecoverySwitch	27

InterfaceID

Feature Info

Module	Category Path	Type	Access
Interface	Root / InterfaceInformation	String	Imposed: RO

Short Description

GenTL Producer wide unique identifier of the selected interface.

InterfaceType

Feature Info

Module	Category Path	Type	Access
Interface	Root / InterfaceInformation	Enumeration	Imposed: RO

Short Description

Identifies the transport layer technology of the interface.

Enumeration Values

- CXP: This enumeration value indicates CoaXPress transport layer technology.

ProductCode

Feature Info

Module	Category Path	Type	Access
Interface	Root / InterfaceInformation	String	Imposed: RO

Short Description

Product Code.

SerialNumber

Feature Info

Module	Category Path	Type	Access
Interface	Root / InterfaceInformation	String	Imposed: RO

Short Description

Serial Number.

PartNumber

Feature Info

Module	Category Path	Type	Access
Interface	Root / InterfaceInformation	String	Imposed: RO

Short Description

Part Number.

FirmwareRevision

Feature Info

Module	Category Path	Type	Access
Interface	Root / InterfaceInformation	IntReg	RO

Register Port: InterfacePort

Short Description

Firmware Revision.

FirmwareVariant

Feature Info

Module	Category Path	Type	Access
Interface	Root / InterfaceInformation	IntReg	RO

Register Port: InterfacePort

Short Description

Firmware Variant.

FirmwareStatus

Feature Info

Module	Category Path	Type	Access
Interface	Root / InterfaceInformation	Enumeration	RW

Short Description

Firmware Status.

Enumeration Values

- OK: OK.
- TooRecent: Firmware is too recent.
- TooOld: Firmware is too old.
- RecoveryMode: Firmware is in recovery mode.
- PCIeGen1NotSupported: PCIe gen 1 not supported.

FirmwareRecoverySwitch

Feature Info

Module	Category Path	Type	Access
Interface	Root / InterfaceInformation	Boolean	RW

Short Description

Position of the firmware recovery switch.

2.3. DeviceEnumeration Category

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DeviceSelector	28
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DeviceVendorName	29
DeviceModelName	29
DeviceAccessStatus	30

DeviceUpdateList

Feature Info

Module	Category Path	Type	Access
Interface	Root / DeviceEnumeration	Command	RW

Short Description

Updates the internal device list.

DeviceSelector

Feature Info

Module	Category Path	Type	Access
Interface	Root / DeviceEnumeration	Integer	RW

Value Info

Minimum value: 0

Short Description

Selector for the different devices on this interface.

Selected Features

- "DeviceID" below
- "DeviceVendorName" below
- "DeviceModelName" below
- "DeviceAccessStatus" on the next page

DeviceID

Feature Info

Module	Category Path	Type	Access
Interface	Root / DeviceEnumeration	String	Imposed: RO

Short Description

Interface wide unique identifier of the selected device.

DeviceVendorName

Feature Info

Module	Category Path	Type	Access
Interface	Root / DeviceEnumeration	String	Imposed: RO

Short Description

Name of the device vendor.

DeviceModelName

Feature Info

Module	Category Path	Type	Access
Interface	Root / DeviceEnumeration	String	Imposed: RO

Short Description

Name of the device model.

DeviceAccessStatus

Feature Info

Module	Category Path	Type	Access
Interface	Root / DeviceEnumeration	Enumeration	Imposed: RO

Short Description

Gives the device's access status at the moment of the last execution of DeviceUpdateList.

Enumeration Values

- **Unknown:** Unknown access.
- **ReadWrite:** Available to be opened with full access.
- **ReadOnly:** Available to be opened with read-only access.
- **NoAccess:** Not reachable.
- **Busy:** Already opened by another entity.
- **OpenReadWrite:** Opened with read-write access.
- **OpenReadOnly:** Opened with read-only access.

2.4. CoaXPress Category

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CxpPoCxpTripReset	33
CxpPoCxpConfigurationStatus	33
CxpPoCxpStatus	34
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CxpPoCxpVoltage	35
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CxpHostConnectionCount	36
CxpHostConnectionSelector	36
CxpConnectionState	37
CxpDownConnectionSpeed	37
CxpDeviceConnectionID	38
CXP1Supported	40
CXP2Supported	40
CXP3Supported	40
CXP5Supported	41
CXP6Supported	41
CXP10Supported	41
CXP12Supported	42
CxpHostConnectionTestMode	42
CxpHostConnectionTestErrorCount	42
CxpHostConnectionTestPacketCount	43
CxpHostConnectionTestInjectError	43
CxpRevisionSelector	44
CxpRevisionSupport	44

CxpPoCxpHostConnectionSelector

Feature Info

Module	Category Path	Type	Access
Interface	Root / CoaXPress	Enumeration	RW

Description

Selects one (or a group of) CoaXPress physical Host connection(s) for PoCXP control.

Default value: All.

Selected Features

- "CxpPoCxpAuto" below
- "CxpPoCxpTurnOff" on the next page
- "CxpPoCxpTripReset" on the next page
- "CxpPoCxpConfigurationStatus" on the next page
- "CxpPoCxpStatus" on page 34
- "CxpPoCxpCurrent" on page 34
- "CxpPoCxpVoltage" on page 35

Enumeration Values

- ALL: All CoaXPress physical host connections.
- A: CoaXPress physical host connection A.
- B: CoaXPress physical host connection B.
- C: CoaXPress physical host connection C.
- D: CoaXPress physical host connection D.
- E: CoaXPress physical host connection E.
- F: CoaXPress physical host connection F.
- G: CoaXPress physical host connection G.
- H: CoaXPress physical host connection H.

CxpPoCxpAuto

Feature Info

Module	Category Path	Type	Access
Interface	Root / CoaXPress	Command	Imposed: WO

Description

Activates automatic control of Power over CoaXPress (PoCXP) on the CoaXPress physical Host connection(s) designated by `CxpPoCxpHostConnectionSelector`.

CxpPoCxpTurnOff

Feature Info

Module	Category Path	Type	Access
Interface	Root / CoaXPress	Command	Imposed: WO

Description

Disables Power over CoaXPress (PoCXP) on the CoaXPress physical Host connection(s) designated by `CxpPoCxpHostConnectionSelector`.

CxpPoCxpTripReset

Feature Info

Module	Category Path	Type	Access
Interface	Root / CoaXPress	Command	Imposed: WO

Description

Resets Power over CoaXPress (PoCXP) after an over-current trip on the CoaXPress physical Host connection(s) designated by `CxpPoCxpHostConnectionSelector`.

CxpPoCxpConfigurationStatus

Feature Info

Module	Category Path	Type	Access
Interface	Root / CoaXPress	Enumeration	Imposed: RO

Description

Returns the Power over CoaXPress (PoCXP) configuration of the CoaXPress physical Host connection(s) designated by `CxpPoCxpHostConnectionSelector`.

Enumeration Values

- `OFF`: PoCXP is forced off.

- **Auto:** Normal automatic PoCXP operation.
- **Unknown:** PoCXP configuration is unknown.
- **Compound:** PoCXP configuration is compound.

CxpPoCxpStatus

Feature Info

Module	Category Path	Type	Access
Interface	Root / CoaXPress	Enumeration	Imposed: RO

Description

Returns the Power over CoaXPress (PoCXP) status on the CoaXPress physical Host connection(s) designated by `CxpPoCxpHostConnectionSelector`.

Enumeration Values

- **Off:** PoCXP is off.
- **On:** PoCXP is on.
- **Tripped:** PoCXP has shut down because of an over-current trip.
- **Compound:** PoCXP status is compound.

CxpPoCxpCurrent

Feature Info

Module	Category Path	Type	Access
Interface	Root / CoaXPress	SwissKnife	RW

Value Info

Dimension: Current

Unit: Ampere [A]

Description

Returns the current delivered by the PoCXP transmitter unit of the CoaXPress physical Host connection designated by `CxpPoCxpHostConnectionSelector`.

Unit: Ampere.

Value range: from 0.0 up to 1.020 by steps of 0.004.

CxpPoCxpVoltage

Feature Info

Module	Category Path	Type	Access
Interface	Root / CoaXPress	SwissKnife	RW

Value Info

Dimension: Voltage

Unit: Volt [V]

Description

Returns the output voltage delivered by the PoCXP transmitter unit of the CoaXPress physical Host connection designated by `CxpPoCxpHostConnectionSelector`.

Unit: Volt.

Value range: from 21.0 up to 29.16 by steps of 0.032.

CxpPoCxpPowerInputStatus

Feature Info

Module	Category Path	Type	Access
Interface	Root / CoaXPress	Enumeration	Imposed: RO

Description

Returns the status of the 24 V power converter delivering power to all the PoCXP transmitter units.

Enumeration Values

- NotOK: The 24V Power Converter is not OK.
- OK: The 24V Power Converter is OK.

CxpHostConnectionCount

Feature Info

Module	Category Path	Type	Access
Interface	Root / CoaXPress	IntReg	RO

Register Port: InterfacePort

Short Description

Cxp Host Connection Count.

CxpHostConnectionSelector

Feature Info

Module	Category Path	Type	Access
Interface	Root / CoaXPress	Enumeration	RW

Short Description

Selects the CoaXPress physical connection.

Selected Features

- "CxpConnectionState" on the next page
- "CxpDownConnectionSpeed" on the next page
- "CxpDeviceConnectionID" on page 38
- "CxpHostConnectionTestMode" on page 42
- "CxpHostConnectionTestErrorCount" on page 42

- ["CxpHostConnectionTestPacketCount" on page 43](#)
- ["CxpHostConnectionTestInjectError" on page 43](#)

Enumeration Values

- A: CoaXPress physical host connection A.
- B: CoaXPress physical host connection B.
- C: CoaXPress physical host connection C.
- D: CoaXPress physical host connection D.

CxpConnectionState

Feature Info

Module	Category Path	Type	Access
Interface	Root / CoaXPress	Enumeration	Imposed: RO

Description

Returns the CoaXPress connection state of the CoaXPress physical Host connection designated by `CxpHostConnectionSelector`.

Enumeration Values

- Undetected: Undetected.
- Detected: Detected.

CxpDownConnectionSpeed

Feature Info

Module	Category Path	Type	Access
Interface	Root / CoaXPress	Enumeration	Imposed: RO

Description

Returns the CoaXPress down-connection speed of the CoaXPress physical Host connection designated by `CxpHostConnectionSelector`.

Enumeration Values

- CXP1: 1.250 Gbps.
- CXP2: 2.500 Gbps.
- CXP3: 3.125 Gbps.
- CXP5: 5.000 Gbps.
- CXP6: 6.250 Gbps.
- CXP10: 10.000 Gbps.
- CXP12: 12.500 Gbps.

CxpDeviceConnectionID

Feature Info

Module	Category Path	Type	Access
Interface	Root / CoaXPress	Enumeration	Imposed: RO

Description

Returns the CoaXPress connection topology information of the CoaXPress physical Host connection designated by `CxpHostConnectionSelector`.

Enumeration Values

- `CameraW_Master`: Master Connection of Camera W.
- `CameraW_Extension1`: Extension 1 of Camera W.
- `CameraW_Extension2`: Extension 2 of Camera W.
- `CameraW_Extension3`: Extension 3 of Camera W.
- `CameraW_Extension4`: Extension 4 of Camera W.
- `CameraW_Extension5`: Extension 5 of Camera W.
- `CameraW_Extension6`: Extension 6 of Camera W.
- `CameraW_Extension7`: Extension 7 of Camera W.
- `CameraX_Master`: Master Connection of Camera X.
- `CameraX_Extension1`: Extension 1 of Camera X.
- `CameraX_Extension2`: Extension 2 of Camera X.
- `CameraX_Extension3`: Extension 3 of Camera X.
- `CameraX_Extension4`: Extension 4 of Camera X.

- CameraX_Extension5: Extension 5 of Camera X.
- CameraX_Extension6: Extension 6 of Camera X.
- CameraX_Extension7: Extension 7 of Camera X.
- CameraY_Master: Master Connection of Camera Y.
- CameraY_Extension1: Extension 1 of Camera Y.
- CameraY_Extension2: Extension 2 of Camera Y.
- CameraY_Extension3: Extension 3 of Camera Y.
- CameraY_Extension4: Extension 4 of Camera Y.
- CameraY_Extension5: Extension 5 of Camera Y.
- CameraY_Extension6: Extension 6 of Camera Y.
- CameraY_Extension7: Extension 7 of Camera Y.
- CameraZ_Master: Master Connection of Camera Z.
- CameraZ_Extension1: Extension 1 of Camera Z.
- CameraZ_Extension2: Extension 2 of Camera Z.
- CameraZ_Extension3: Extension 3 of Camera Z.
- CameraZ_Extension4: Extension 4 of Camera Z.
- CameraZ_Extension5: Extension 5 of Camera Z.
- CameraZ_Extension6: Extension 6 of Camera Z.
- CameraZ_Extension7: Extension 7 of Camera Z.
- SubLink_Extension1: Sub-Link Extension 1.
- SubLink_Extension2: Sub-Link Extension 2.
- SubLink_Extension3: Sub-Link Extension 3.
- SubLink_Extension4: Sub-Link Extension 4.
- SubLink_Extension5: Sub-Link Extension 5.
- SubLink_Extension6: Sub-Link Extension 6.
- SubLink_Extension7: Sub-Link Extension 7.
- NotReady: Not Ready.

CXP1Supported

Feature Info

Module	Category Path	Type	Access
Interface	Root / CoaXPress	Boolean	Imposed: RO

Short Description

CXP1Supported.

CXP2Supported

Feature Info

Module	Category Path	Type	Access
Interface	Root / CoaXPress	Boolean	Imposed: RO

Short Description

CXP2Supported.

CXP3Supported

Feature Info

Module	Category Path	Type	Access
Interface	Root / CoaXPress	Boolean	Imposed: RO

Short Description

CXP3Supported.

CXP5Supported

Feature Info

Module	Category Path	Type	Access
Interface	Root / CoaXPress	Boolean	Imposed: RO

Short Description

CXP5Supported.

CXP6Supported

Feature Info

Module	Category Path	Type	Access
Interface	Root / CoaXPress	Boolean	Imposed: RO

Short Description

CXP6Supported.

CXP10Supported

Feature Info

Module	Category Path	Type	Access
Interface	Root / CoaXPress	Boolean	Imposed: RO

Short Description

CXP10Supported.

CXP12Supported

Feature Info

Module	Category Path	Type	Access
Interface	Root / CoaXPress	Boolean	Imposed: RO

Short Description

CXP12Supported.

CxpHostConnectionTestMode

Feature Info

Module	Category Path	Type	Access
Interface	Root / CoaXPress	Enumeration	RW

Description

Controls the Host to Device connection test mode for the CoaXPress physical Host connection designated by `CxpHostConnectionSelector`.

Default value: `Off`.

Enumeration Values

- `Off`: The test mode is disabled on the selected Host connection.
- `Mode1`: The test mode is one on the selected Host connection.

CxpHostConnectionTestErrorCount

Feature Info

Module	Category Path	Type	Access
Interface	Root / CoaXPress	Integer	RW

Value Info

Minimum value: 0

Maximum value: 4294967295

Short Description

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

CxpHostConnectionTestPacketCount

Feature Info

Module	Category Path	Type	Access
Interface	Root / CoaXPress	Integer	RW

Value Info

Minimum value: 0

Maximum value: 4294967295

Description

Returns the current count of test packets received by the CoaXPress physical Host connection designated by `CxpHostConnectionSelector`.

This feature can be read at any time. It can be written to zero to reset the count between tests.

CxpHostConnectionTestInjectError

Feature Info

Module	Category Path	Type	Access
Interface	Root / CoaXPress	Command	RW

Description

Injects a single character error into the Host to Device test packet of the CoaXPress physical Host connection designated by `CxpHostConnectionSelector`.

CxpRevisionSelector

Feature Info

Module	Category Path	Type	Access
Interface	Root / CoaXPress	Enumeration	RW

Description

Selects the CoaXPress Standard Revision for current support.

Default value: `CXP_1_0`.

Selected Features

- "CxpRevisionSupport" below

Enumeration Values

- `CXP_1_0`: CoaXPress Standard Version 1.0.
- `CXP_1_1`: CoaXPress Standard Version 1.1.
- `CXP_1_1_1`: CoaXPress Standard Version 1.1.1.

CxpRevisionSupport

Feature Info

Module	Category Path	Type	Access
Interface	Root / CoaXPress	Enumeration	Imposed: RO

Short Description

Reports the current support of the selected CoaXPress Standard Revision.

Enumeration Values

- NotSupported: Not supported.
- PartiallySupported: Partially supported.
- Supported: Supported.

2.5. DigitalIOControl Category

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LineSelector

Feature Info

Module	Category Path	Type	Access
Interface	Root / DigitalIOControl	Enumeration	RW

Description

Selects one physical GPIO line.

Default value: DIN11.

Selected Features

- "LineFormat" on the next page
- "LineMode" on page 48
- "LineInverter" on page 48
- "LineFilterStrength" on page 49
- "LineFilterDelay" on page 49
- "LineStatus" on page 50
- "LineSource" on page 51

Enumeration Values

- DIN11: Differential input 1 of Internal I/O connector 1.

- DIN12: Differential input 2 of Internal I/O connector 1.
- DIN21: Differential input 1 of Internal I/O connector 2.
- DIN22: Differential input 2 of Internal I/O connector 2.
- IIN11: Isolated input 1 of Internal I/O connector 1.
- IIN12: Isolated input 2 of Internal I/O connector 1.
- IIN13: Isolated input 3 of Internal I/O connector 1.
- IIN14: Isolated input 4 of Internal I/O connector 1.
- IIN21: Isolated input 1 of Internal I/O connector 2.
- IIN22: Isolated input 2 of Internal I/O connector 2.
- IIN23: Isolated input 3 of Internal I/O connector 2.
- IIN24: Isolated input 4 of Internal I/O connector 2.
- IOUT11: Isolated output 1 of Internal I/O connector 1.
- IOUT12: Isolated output 2 of Internal I/O connector 1.
- IOUT21: Isolated output 1 of Internal I/O connector 2.
- IOUT22: Isolated output 2 of Internal I/O connector 2.
- TTLIO11: TTL input/output 1 of Internal I/O connector 1.
- TTLIO12: TTL input/output 2 of Internal I/O connector 1.
- TTLIO21: TTL input/output 1 of Internal I/O connector 2.
- TTLIO22: TTL input/output 2 of Internal I/O connector 2.

LineFormat

Feature Info

Module	Category Path	Type	Access
Interface	Root / DigitalIOControl	Enumeration	Imposed: RO

Description

Returns the electrical style of the selected physical GPIO line.

Enumeration Values

- ISO: The I/O line is opto-coupled.
- DIFF: The I/O line is accepting LVDS or RS422 level signals.
- TTL: The I/O line is accepting or sending TTL level signals.

LineMode

Feature Info

Module	Category Path	Type	Access
Interface	Root / DigitalIOControl	Enumeration	RW

Description

Direction and line driver mode of the selected physical GPIO line.

Default value: `Input` for the input-capable GPIO lines; `Output` for the output-only GPIO lines.

Enumeration Values

- `Input`: Input line.
- `Output`: Output line.
- `DriveLow`: Driven-low output line.
- `DriveHigh`: Driven-high output line.

LineInverter

Feature Info

Module	Category Path	Type	Access
Interface	Root / DigitalIOControl	Boolean	RW

Description

Signal inversion of the selected input or output line.

When set to `False`, the line signal is not inverted.

When set to `True`, the line signal is inverted.

Note: For bidirectional GPIO lines such as the TTL input/output lines, the settings applies equally to the signal input path and the signal output path!

Default value: `False`.

LineFilterStrength

Feature Info

Module	Category Path	Type	Access
Interface	Root / DigitalIOControl	Enumeration	RW

Description

Strength of the glitch removal filter of the selected physical GPIO line.

Note: This feature is only available for input-capable GPIO lines.

Default value: Low.

Enumeration Values

- **Lowest:** Lowest filter strength.
- **Low:** Low filter strength.
- **Medium:** Medium filter strength.
- **High:** High filter strength.
- **Highest:** Highest filter strength.
- **NotAvailable:** Filter strength not available on the selected I/O line.

LineFilterDelay

Feature Info

Module	Category Path	Type	Access
Interface	Root / DigitalIOControl	SwissKnife	RW

Description

Returns the latency delay, expressed in microseconds, introduced by the glitch removal filter of the selected physical GPIO line.

Note:

This feature is only available for input-capable GPIO lines.

LineStatus

Feature Info

Module	Category Path	Type	Access
Interface	Root / DigitalIOControl	Boolean	RW

Description

Returns the current status of the selected physical GPIO line.

When `False`, the logical state of the selected physical GPIO line is low.

When `True`, The logical state of the selected physical GPIO line is high.

Note: For input-capable I/O lines, the reported value is the logical state of the `LineInput` signal: a node in the input path of the I/O control block that is located after the Input Inverter.

Note: For output-only I/O lines, the reported value is the logical state of the `LineOutput` signal, a node in the output path of the I/O control block that is located before the Output Inverter.

LineStatusAll

Feature Info

Module	Category Path	Type	Access
Interface	Root / DigitalIOControl	Integer	RW

Description

Returns the current state of all available GPIO line signals at time of polling in a single bit field.

Bit values:

- 0: The logical state of the corresponding GPIO line is low.
- 1: The logical state of the corresponding GPIO line is high.

Bit assignments:

- Bit 0: DIN11 GPIO line.
- Bit 1: DIN12 GPIO line.
- Bit 2: DIN21 GPIO line.
- Bit 3: DIN22 GPIO line.
- Bit 4: IIN11 GPIO line.

- Bit 5: IIN12 GPIO line.
- Bit 6: IIN13 GPIO line.
- Bit 7: IIN14 GPIO line.
- Bit 8: IIN21 GPIO line.
- Bit 9: IIN22 GPIO line.
- Bit 10: IIN23GPIO line.
- Bit 11: IIN24 GPIO line.
- Bit 12: IOUT11 GPIO line.
- Bit 13: IOUT12 GPIO line.
- Bit 14: IOUT21 GPIO line.
- Bit 15: IOUT22 GPIO line.
- Bit 16: TTLIO11 GPIO line.
- Bit 17: TTLIO12 GPIO line.
- Bit 18: TTLIO21 GPIO line.

LineSource

Feature Info

Module	Category Path	Type	Access
Interface	Root / DigitalIOControl	Enumeration	RW

Description

Select the internal signal sourcing the output of the selected physical GPIO line.

Note:

This feature is only available for output-capable GPIO lines.

Enumeration Values

- UserOutput0: Bit 0 of user output register.
- UserOutput1: Bit 1 of user output register.
- UserOutput2: Bit 2 of user output register.
- UserOutput3: Bit 3 of user output register.
- UserOutput4: Bit 4 of user output register.
- UserOutput5: Bit 5 of user output register.
- UserOutput6: Bit 6 of user output register.
- UserOutput7: Bit 7 of user output register.
- Device0Strobe: Strobe output of device 0.

- Device1Strobe: Strobe output of device 1.
- Device2Strobe: Strobe output of device 2.
- Device3Strobe: Strobe output of device 3.
- Device0CameraTrigger: Camera trigger output of device 0.
- Device1CameraTrigger: Camera trigger output of device 1.
- Device2CameraTrigger: Camera trigger output of device 2.
- Device3CameraTrigger: Camera trigger output of device 3.
- Device0Stream0StartOfCameraReadout: Start of camera readout on stream 0 of device 0.
- Device1Stream0StartOfCameraReadout: Start of camera readout on stream 0 of device 1.
- Device2Stream0StartOfCameraReadout: Start of camera readout on stream 0 of device 2.
- Device3Stream0StartOfCameraReadout: Start of camera readout on stream 0 of device 3.
- Device0Stream1StartOfCameraReadout: Start of camera readout on stream 1 of device 0.
- Device0Stream2StartOfCameraReadout: Start of camera readout on stream 2 of device 0.
- Device0Stream3StartOfCameraReadout: Start of camera readout on stream 3 of device 0.
- Low: Low.
- NotAvailable: Not available on the selected I/O line.

2.6. UserOutputRegister Category

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UserOutputValueAll

Feature Info

Module	Category Path	Type	Access
Interface	Root / UserOutputRegister	Integer	RW

Value Info

Minimum value: 0

Maximum value: 255

Description

Value of all User Output Register bits as a bit-field in a single data word.

Bit values:

- 0: The value of the corresponding User Output Register bit is low.
- 1: The value of the corresponding User Output Register bit is high.

Bit assignments:

- Bit 0: Value for bit 0 of the user output register.
- Bit 1: Value for bit 1 of the user output register.
- Bit 2: Value for bit 2 of the user output register.
- Bit 3: Value for bit 3 of the user output register.
- Bit 4: Value for bit 4 of the user output register.

- Bit 5: Value for bit 5 of the user output register.
- Bit 6: Value for bit 6 of the user output register.
- Bit 7: Value for bit 7 of the user output register.

UserActions

Feature Info

Module	Category Path	Type	Access
Interface	Root / UserOutputRegister	Integer	RW

Value Info

Minimum value: 0

Maximum value: 2147483647

Description

Current set of user actions (built with `AddUserAction`) that can be executed immediately (c.f. `ExecuteUserActions`) or scheduled for execution at a specific time/position (c.f. `ScheduleUserActions`).

AddUserAction

Feature Info

Module	Category Path	Type	Access
Interface	Root / UserOutputRegister	Enumeration	Imposed: WO

Description

Add an action to the current set of user actions (`UserActions`).

Enumeration Values

- `UserEvent1`: User Event 1.
- `UserEvent2`: User Event 2.
- `UserEvent3`: User Event 3.
- `UserEvent4`: User Event 4.

- UserOutput0_High: Set User Output Register bit 0 high.
- UserOutput0_Low: Set User Output Register bit 0 low.
- UserOutput0_Toggle: Toggle User Output Register bit 0.
- UserOutput1_High: Set User Output Register bit 1 high.
- UserOutput1_Low: Set User Output Register bit 1 low.
- UserOutput1_Toggle: Toggle User Output Register bit 1.
- UserOutput2_High: Set User Output Register bit 2 high.
- UserOutput2_Low: Set User Output Register bit 2 low.
- UserOutput2_Toggle: Toggle User Output Register bit 2.
- UserOutput3_High: Set User Output Register bit 3 high.
- UserOutput3_Low: Set User Output Register bit 3 low.
- UserOutput3_Toggle: Toggle User Output Register bit 3.
- UserOutput4_High: Set User Output Register bit 4 high.
- UserOutput4_Low: Set User Output Register bit 4 low.
- UserOutput4_Toggle: Toggle User Output Register bit 4.
- UserOutput5_High: Set User Output Register bit 5 high.
- UserOutput5_Low: Set User Output Register bit 5 low.
- UserOutput5_Toggle: Toggle User Output Register bit 5.
- UserOutput6_High: Set User Output Register bit 6 high.
- UserOutput6_Low: Set User Output Register bit 6 low.
- UserOutput6_Toggle: Toggle User Output Register bit 6.
- UserOutput7_High: Set User Output Register bit 7 high.
- UserOutput7_Low: Set User Output Register bit 7 low.
- UserOutput7_Toggle: Toggle User Output Register bit 7.

ClearUserActions

Feature Info

Module	Category Path	Type	Access
Interface	Root / UserOutputRegister	Command	Imposed: WO

Description

Clear the current set of user actions (`UserActions`).

ExecuteUserActions

Feature Info

Module	Category Path	Type	Access
Interface	Root / UserOutputRegister	Command	Imposed: WO

Description

Immediately execute the current set of user actions (`UserActions`).

ScheduleUserActions

Feature Info

Module	Category Path	Type	Access
Interface	Root / UserOutputRegister	Integer	Imposed: WO

Value Info

Minimum value: 0

Maximum value: 4294967295

Description

Schedule the current set of user actions (`UserActions`) for execution at given time/position.

UserActionsSchedulerReference

Feature Info

Module	Category Path	Type	Access
Interface	Root / UserOutputRegister	Enumeration	RW

Description

Defines the reference used by the user action scheduler; can only be changed when `ScheduledUserActionsPoolStatus` is `Empty`.

Enumeration Values

- `InternalTime`: Coaxlink card internal time.
- `QDC1Position`: Quadrature Decoder Tool 1 Position.
- `QDC2Position`: Quadrature Decoder Tool 2 Position.
- `QDC3Position`: Quadrature Decoder Tool 3 Position.
- `QDC4Position`: Quadrature Decoder Tool 4 Position.

ScheduledUserActionsPoolStatus

Feature Info

Module	Category Path	Type	Access
Interface	Root / UserOutputRegister	Enumeration	RW

Description

Reports the status of the pool of scheduled user actions.

Enumeration Values

- `Empty`: The pool of scheduled user actions is empty.
- `PartiallyFilled`: The pool of scheduled user actions is partially filled.
- `AlmostFull`: The pool of scheduled user actions almost full.

DiscardScheduledUserActions

Feature Info

Module	Category Path	Type	Access
Interface	Root / UserOutputRegister	Command	Imposed: WO

Short Description

Discard all scheduled user actions.

2.7. IOToolbox Category

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LineInputToolSelector

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Enumeration	RW

Short Description

Selects a Line Input Tool.

Selected Features

- "LineInputToolSource" below
- "LineInputToolActivation" on the next page

Enumeration Values

- LIN1: Line Input Tool 1.
- LIN2: Line Input Tool 2.
- LIN3: Line Input Tool 3.
- LIN4: Line Input Tool 4.
- LIN5: Line Input Tool 5.
- LIN6: Line Input Tool 6.
- LIN7: Line Input Tool 7.
- LIN8: Line Input Tool 8.

LineInputToolSource

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Enumeration	RW

Description

Physical GPIO line used as input for the selected Line Input Tool.

Default value: DIN11.

Enumeration Values

- DIN11: Differential input 1 of Internal I/O connector 1.
- DIN12: Differential input 2 of Internal I/O connector 1.
- DIN21: Differential input 1 of Internal I/O connector 2.
- DIN22: Differential input 2 of Internal I/O connector 2.

- IIN11: Isolated input 1 of Internal I/O connector 1.
- IIN12: Isolated input 2 of Internal I/O connector 1.
- IIN13: Isolated input 3 of Internal I/O connector 1.
- IIN14: Isolated input 4 of Internal I/O connector 1.
- IIN21: Isolated input 1 of Internal I/O connector 2.
- IIN22: Isolated input 2 of Internal I/O connector 2.
- IIN23: Isolated input 3 of Internal I/O connector 2.
- IIN24: Isolated input 4 of Internal I/O connector 2.
- IOUT11: Isolated output 1 of Internal I/O connector 1.
- IOUT12: Isolated output 2 of Internal I/O connector 1.
- IOUT21: Isolated output 1 of Internal I/O connector 2.
- IOUT22: Isolated output 2 of Internal I/O connector 2.
- TTLIO11: TTL input/output 1 of Internal I/O connector 1.
- TTLIO12: TTL input/output 2 of Internal I/O connector 1.
- TTLIO21: TTL input/output 1 of Internal I/O connector 2.
- TTLIO22: TTL input/output 2 of Internal I/O connector 2.

LineInputToolActivation

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Enumeration	RW

Short Description

Edge activating the output of the selected Line Input Tool.

Enumeration Values

- RisingEdge:
- FallingEdge:

MultiplierDividerToolSelector

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Enumeration	RW

Short Description

Selects a Multiplier/Divider Tool.

Selected Features

- "MultiplierDividerToolSource" below
- "MultiplierDividerToolOutputControl" on page 64
- "MultiplierDividerToolMultiplicationFactor" on page 64
- "MultiplierDividerToolDivisionFactor" on page 65
- "MultiplierDividerToolEffectiveMultiplicationFactor" on page 66
- "MultiplierDividerToolEffectiveDivisionFactor" on page 66

Enumeration Values

- MDV1: Multiplier/Divider Tool 1.
- MDV2: Multiplier/Divider Tool 2.
- MDV3: Multiplier/Divider Tool 3.
- MDV4: Multiplier/Divider Tool 4.

MultiplierDividerToolSource

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Enumeration	RW

Short Description

I/O Toolbox event stream used as input for the selected Multiplier/Divider Tool.

Enumeration Values

- NONE: No event stream.
- LIN1: When an event occurs on Line Input Tool 1.
- LIN2: When an event occurs on Line Input Tool 2.
- LIN3: When an event occurs on Line Input Tool 3.
- LIN4: When an event occurs on Line Input Tool 4.
- LIN5: When an event occurs on Line Input Tool 5.
- LIN6: When an event occurs on Line Input Tool 6.
- LIN7: When an event occurs on Line Input Tool 7.
- LIN8: When an event occurs on Line Input Tool 8.
- QDC1: When an event occurs on Quadrature Decoder Tool 1.
- QDC2: When an event occurs on Quadrature Decoder Tool 2.
- QDC3: When an event occurs on Quadrature Decoder Tool 3.
- QDC4: When an event occurs on Quadrature Decoder Tool 4.
- MDV1: When an event occurs on Multiplier/Divider Tool 1.
- MDV2: When an event occurs on Multiplier/Divider Tool 2.
- MDV3: When an event occurs on Multiplier/Divider Tool 3.
- MDV4: When an event occurs on Multiplier/Divider Tool 4.
- DIV1: When an event occurs on Divider Tool 1.
- DIV2: When an event occurs on Divider Tool 2.
- DIV3: When an event occurs on Divider Tool 3.
- DIV4: When an event occurs on Divider Tool 4.
- DEL1_1: When an event occurs on Delay Tool 1 Output 1.
- DEL1_2: When an event occurs on Delay Tool 1 Output 2.
- DEL2_1: When an event occurs on Delay Tool 2 Output 1.
- DEL2_2: When an event occurs on Delay Tool 2 Output 2.
- DEL3_1: When an event occurs on Delay Tool 3 Output 1.
- DEL3_2: When an event occurs on Delay Tool 3 Output 2.
- DEL4_1: When an event occurs on Delay Tool 4 Output 1.

- DEL4_2: When an event occurs on Delay Tool 4 Output 2.
- EIN1: When an event occurs on Event Input Tool 1.
- EIN2: When an event occurs on Event Input Tool 2.
- UserEvent1: When an event occurs on User Event 1.
- UserEvent2: When an event occurs on User Event 2.
- UserEvent3: When an event occurs on User Event 3.
- UserEvent4: When an event occurs on User Event 4.

MultiplierDividerToolOutputControl

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Enumeration	RW

Short Description

Output control of the selected Multiplier/Divider Tool.

Enumeration Values

- Enable: Output enabled.
- Disable: Output disabled.

MultiplierDividerToolMultiplicationFactor

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Float	RW

Value Info

Minimum value: 0.001

Maximum value: 1000

Description

Multiplication factor of the selected Multiplier/Divider Tool.

This feature is the **numerator** of the fraction defining the Rate Conversion Ratio (RCR) of the Multiplier/Divider Tool.

RCR = M/D where:

- M = MultiplierDividerToolMultiplicationFactor
- D = MultiplierDividerToolDivisionFactor

The Multiplier/Divider Tools allows defining any RCR values in the range 0.001 to 1000.0.

Note: The user may define RCR using any of the following methods:

- A ratio of 2 integer numbers by assigning integer values to both the numerator and the denominator.
- A single non-integer number greater or smaller than 1 assigned to the numerator leaving the denominator to the default value (1.0).
- A single non-integer number greater or smaller than 1 assigned to the denominator leaving the numerator to the default value (1.0).

Default value: 1.0.

MultiplierDividerToolDivisionFactor

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Float	RW

Value Info

Minimum value: 0.001

Maximum value: 1000

Description

Division factor of the selected Multiplier/Divider Tool.

This feature is the **denominator** of the fraction defining the Rate Conversion Ratio (RCR) of the Multiplier/Divider Tool.

RCR = M/D where:

- M = MultiplierDividerToolMultiplicationFactor
- D = MultiplierDividerToolDivisionFactor

The Multiplier/Divider Tools allows defining any RCR values in the range 0.001 to 1000.0.

Note: The user may define RCR using any of the following methods:

- A ratio of 2 integer numbers by assigning integer values to both the numerator and the denominator.
- A single non-integer number greater or smaller than 1 assigned to the numerator leaving the denominator to the default value (1.0).
- A single non-integer number greater or smaller than 1 assigned to the denominator leaving the numerator to the default value (1.0).

Default value: 1.0.

MultiplierDividerToolEffectiveMultiplicationFactor

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Integer	RW

Description

Effective multiplication factor of the selected Multiplier/Divider Tool.

This feature is the **numerator** of the fraction defining the Effective Rate Conversion Ratio (Effective RCR) of the Multiplier/Divider Tool.

Effective RCR = Effective M/Effective D where:

- Effective M = MultiplierDividerToolEffectiveMultiplicationFactor
- Effective D = MultiplierDividerToolEffectiveDivisionFactor

MultiplierDividerToolEffectiveDivisionFactor

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Integer	RW

Description

Effective division factor of the selected Multiplier/Divider Tool.

This feature is the **denominator** of the fraction defining the Effective Rate Conversion Ratio (Effective RCR) of the Multiplier/Divider Tool.

Effective RCR = Effective M/Effective D where:

- Effective M = MultiplierDividerToolEffectiveMultiplicationFactor
- Effective D = MultiplierDividerToolEffectiveDivisionFactor

QuadratureDecoderToolSelector

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Enumeration	RW

Short Description

Selects a Quadrature Decoder Tool.

Selected Features

- ["QuadratureDecoderToolSources" on the next page](#)
- ["QuadratureDecoderToolActivation" on the next page](#)
- ["QuadratureDecoderToolForwardDirection" on page 69](#)
- ["QuadratureDecoderToolOutputMode" on page 69](#)
- ["QuadratureDecoderToolPosition" on page 70](#)
- ["QuadratureDecoderToolDirection" on page 70](#)
- ["QuadratureDecoderToolPositionReset" on page 71](#)

Enumeration Values

- QDC1: Quadrature Decoder Tool 1.
- QDC2: Quadrature Decoder Tool 2.
- QDC3: Quadrature Decoder Tool 3.
- QDC4: Quadrature Decoder Tool 4.

QuadratureDecoderToolSources

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Enumeration	RW

Description

Selects the pair of physical GPIO lines used as A/B inputs for the selected Quadrature Decoder Tool.

Enumeration Values

- DIN11_DIN12: Differential inputs 1 and 2 of Internal I/O connector 1.
- DIN21_DIN22: Differential inputs 1 and 2 of Internal I/O connector 2.
- IIN11_IIN12: Isolated inputs 1 and 2 of Internal I/O connector 1.
- IIN13_IIN14: Isolated inputs 3 and 4 of Internal I/O connector 1.
- IIN21_IIN22: Isolated inputs 1 and 2 of Internal I/O connector 2.
- IIN23_IIN24: Isolated inputs 3 and 4 of Internal I/O connector 2.
- TTLIO11_TTLIO12: TTL inputs 1 and 2 of Internal I/O connector 1.
- TTLIO21_TTLIO22: TTL inputs 1 and 2 of Internal I/O connector 2.

QuadratureDecoderToolActivation

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Enumeration	RW

Description

Edge activating the output of the selected Quadrature Decoder Tool.

Note: The A output of the quadrature encoder device connects to the first physical GPIO line of the designated pair, e.g. DIN11.

Note: The B output of the quadrature encoder device connects to the second physical GPIO line of the designated pair, e.g. DIN12.

Enumeration Values

- `RisingEdgeA`: The event is activated on the rising edge of the A signal.
- `FallingEdgeA`: The event is activated on the falling edge of the A signal.
- `AllEdgesA`: The event is activated on both edges of the A signal.
- `AllEdgesAB`: The event is activated on both edges of all signals.
- `None`: The event is not activated.

QuadratureDecoderToolForwardDirection

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Enumeration	RW

Short Description

Selects the A/B phase relationship corresponding to the forward direction.

Enumeration Values

- `A_Leads_B`: A leads B.
- `B_Leads_A`: B leads A.

QuadratureDecoderToolOutputMode

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Enumeration	RW

Short Description

Selects the filtering mode of the backward motion compensator.

Enumeration Values

- `Unfiltered`: All the quadrature decoder events are delivered.

- **ForwardOnly:** Only the events corresponding to the forward motion are delivered.
- **FirstPassForwardOnly:** Only the events corresponding to the first pass in the forward direction are delivered.

QuadratureDecoderToolPosition

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	IntReg	RO

Register Port: InterfacePort

Description

Position counter value of the selected Quadrature Decoder Tool.

The position counter is a 32-bit up/down counter that increments by 1 for any event corresponding to the forward direction and decrements by 1 for the backward direction.

Unit: encoder events as defined by `QuadratureDecoderToolActivation`.

Value range: from -2,147,483,648 up to 2,147,483,647.

QuadratureDecoderToolDirection

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Enumeration	RW

Short Description

Current direction of the selected Quadrature Decoder Tool.

Enumeration Values

- **Forward:** Forward.
- **Backward:** Backward.

QuadratureDecoderToolPositionReset

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Command	Imposed: WO

Short Description

Reset Position counter of the selected Quadrature Decoder Tool.

DividerToolSelector

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Enumeration	RW

Short Description

Selects a Divider Tool.

Selected Features

- "DividerToolSource" on the next page
- "DividerToolEnableControl" on page 73
- "DividerToolDivisionFactor" on page 74
- "DividerToolInitialOffset" on page 74

Enumeration Values

- DIV1: Divider Tool 1.
- DIV2: Divider Tool 2.
- DIV3: Divider Tool 3.
- DIV4: Divider Tool 4.

DividerToolSource

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Enumeration	RW

Short Description

I/O Toolbox event stream used as input for the selected Divider Tool.

Enumeration Values

- NONE: No event stream.
- LIN1: When an event occurs on Line Input Tool 1.
- LIN2: When an event occurs on Line Input Tool 2.
- LIN3: When an event occurs on Line Input Tool 3.
- LIN4: When an event occurs on Line Input Tool 4.
- LIN5: When an event occurs on Line Input Tool 5.
- LIN6: When an event occurs on Line Input Tool 6.
- LIN7: When an event occurs on Line Input Tool 7.
- LIN8: When an event occurs on Line Input Tool 8.
- QDC1: When an event occurs on Quadrature Decoder Tool 1.
- QDC2: When an event occurs on Quadrature Decoder Tool 2.
- QDC3: When an event occurs on Quadrature Decoder Tool 3.
- QDC4: When an event occurs on Quadrature Decoder Tool 4.
- MDV1: When an event occurs on Multiplier/Divider Tool 1.
- MDV2: When an event occurs on Multiplier/Divider Tool 2.
- MDV3: When an event occurs on Multiplier/Divider Tool 3.
- MDV4: When an event occurs on Multiplier/Divider Tool 4.
- DIV1: When an event occurs on Divider Tool 1.
- DIV2: When an event occurs on Divider Tool 2.
- DIV3: When an event occurs on Divider Tool 3.
- DIV4: When an event occurs on Divider Tool 4.

- DEL1_1: When an event occurs on Delay Tool 1 Output 1.
- DEL1_2: When an event occurs on Delay Tool 1 Output 2.
- DEL2_1: When an event occurs on Delay Tool 2 Output 1.
- DEL2_2: When an event occurs on Delay Tool 2 Output 2.
- DEL3_1: When an event occurs on Delay Tool 3 Output 1.
- DEL3_2: When an event occurs on Delay Tool 3 Output 2.
- DEL4_1: When an event occurs on Delay Tool 4 Output 1.
- DEL4_2: When an event occurs on Delay Tool 4 Output 2.
- EIN1: When an event occurs on Event Input Tool 1.
- EIN2: When an event occurs on Event Input Tool 2.
- UserEvent1: When an event occurs on User Event 1.
- UserEvent2: When an event occurs on User Event 2.
- UserEvent3: When an event occurs on User Event 3.
- UserEvent4: When an event occurs on User Event 4.

DividerToolEnableControl

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Enumeration	RW

Short Description

Output control of the selected Divider Tool.

Enumeration Values

- Enable: Output enabled.
- Disable: Output disabled.

DividerToolDivisionFactor

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Integer	RW

Value Info

Minimum value: 1

Maximum value: 65535

Default value: 2

Description

Division factor of the selected Divider Tool.

This feature is the **denominator** of the fraction defining the Rate Conversion Ratio (RCR) of the Divider Tool.

RCR = 1/D where:

- $D = \text{DividerToolDivisionFactor}$

DividerToolInitialOffset

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Integer	RW

Value Info

Minimum value: 0

Maximum value: 65535

Description

Initial offset of the selected Divider Tool.

This feature defines the number of skipped input events after enabling the Divider tool.

DelayToolSelector

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Enumeration	RW

Short Description

Selects a Delay Tool.

Selected Features

- "DelayToolSource1" below
- "DelayToolSource2" on page 77
- "DelayToolClockSource" on page 78
- "DelayToolDelayValue" on page 79

Enumeration Values

- DEL1: Delay Tool 1.
- DEL2: Delay Tool 2.
- DEL3: Delay Tool 3.
- DEL4: Delay Tool 4.

DelayToolSource1

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Enumeration	RW

Short Description

I/O Toolbox event stream used as input 1 for the selected Delay Tool.

Enumeration Values

- NONE: No event stream.
- LIN1: When an event occurs on Line Input Tool 1.
- LIN2: When an event occurs on Line Input Tool 2.
- LIN3: When an event occurs on Line Input Tool 3.
- LIN4: When an event occurs on Line Input Tool 4.
- LIN5: When an event occurs on Line Input Tool 5.
- LIN6: When an event occurs on Line Input Tool 6.
- LIN7: When an event occurs on Line Input Tool 7.
- LIN8: When an event occurs on Line Input Tool 8.
- QDC1: When an event occurs on Quadrature Decoder Tool 1.
- QDC2: When an event occurs on Quadrature Decoder Tool 2.
- QDC3: When an event occurs on Quadrature Decoder Tool 3.
- QDC4: When an event occurs on Quadrature Decoder Tool 4.
- MDV1: When an event occurs on Multiplier/Divider Tool 1.
- MDV2: When an event occurs on Multiplier/Divider Tool 2.
- MDV3: When an event occurs on Multiplier/Divider Tool 3.
- MDV4: When an event occurs on Multiplier/Divider Tool 4.
- DIV1: When an event occurs on Divider Tool 1.
- DIV2: When an event occurs on Divider Tool 2.
- DIV3: When an event occurs on Divider Tool 3.
- DIV4: When an event occurs on Divider Tool 4.
- DEL1_1: When an event occurs on Delay Tool 1 Output 1.
- DEL1_2: When an event occurs on Delay Tool 1 Output 2.
- DEL2_1: When an event occurs on Delay Tool 2 Output 1.
- DEL2_2: When an event occurs on Delay Tool 2 Output 2.
- DEL3_1: When an event occurs on Delay Tool 3 Output 1.
- DEL3_2: When an event occurs on Delay Tool 3 Output 2.
- DEL4_1: When an event occurs on Delay Tool 4 Output 1.
- DEL4_2: When an event occurs on Delay Tool 4 Output 2.
- EIN1: When an event occurs on Event Input Tool 1.
- EIN2: When an event occurs on Event Input Tool 2.

- **UserEvent1:** When an event occurs on User Event 1.
- **UserEvent2:** When an event occurs on User Event 2.
- **UserEvent3:** When an event occurs on User Event 3.
- **UserEvent4:** When an event occurs on User Event 4.

DelayToolSource2

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Enumeration	RW

Short Description

I/O Toolbox event stream used as input 2 for the selected Delay Tool.

Enumeration Values

- **NONE:** No event stream.
- **LIN1:** When an event occurs on Line Input Tool 1.
- **LIN2:** When an event occurs on Line Input Tool 2.
- **LIN3:** When an event occurs on Line Input Tool 3.
- **LIN4:** When an event occurs on Line Input Tool 4.
- **LIN5:** When an event occurs on Line Input Tool 5.
- **LIN6:** When an event occurs on Line Input Tool 6.
- **LIN7:** When an event occurs on Line Input Tool 7.
- **LIN8:** When an event occurs on Line Input Tool 8.
- **QDC1:** When an event occurs on Quadrature Decoder Tool 1.
- **QDC2:** When an event occurs on Quadrature Decoder Tool 2.
- **QDC3:** When an event occurs on Quadrature Decoder Tool 3.
- **QDC4:** When an event occurs on Quadrature Decoder Tool 4.
- **MDV1:** When an event occurs on Multiplier/Divider Tool 1.
- **MDV2:** When an event occurs on Multiplier/Divider Tool 2.
- **MDV3:** When an event occurs on Multiplier/Divider Tool 3.
- **MDV4:** When an event occurs on Multiplier/Divider Tool 4.

- DIV1: When an event occurs on Divider Tool 1.
- DIV2: When an event occurs on Divider Tool 2.
- DIV3: When an event occurs on Divider Tool 3.
- DIV4: When an event occurs on Divider Tool 4.
- DEL1_1: When an event occurs on Delay Tool 1 Output 1.
- DEL1_2: When an event occurs on Delay Tool 1 Output 2.
- DEL2_1: When an event occurs on Delay Tool 2 Output 1.
- DEL2_2: When an event occurs on Delay Tool 2 Output 2.
- DEL3_1: When an event occurs on Delay Tool 3 Output 1.
- DEL3_2: When an event occurs on Delay Tool 3 Output 2.
- DEL4_1: When an event occurs on Delay Tool 4 Output 1.
- DEL4_2: When an event occurs on Delay Tool 4 Output 2.
- EIN1: When an event occurs on Event Input Tool 1.
- EIN2: When an event occurs on Event Input Tool 2.
- UserEvent1: When an event occurs on User Event 1.
- UserEvent2: When an event occurs on User Event 2.
- UserEvent3: When an event occurs on User Event 3.
- UserEvent4: When an event occurs on User Event 4.

DelayToolClockSource

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Enumeration	RW

Short Description

I/O Toolbox event stream used as clock.

Enumeration Values

- NONE: No event stream.
- TIME8NS: Clock input 8 nanoseconds time base.
- TIME200NS: Clock input 200 nanoseconds time base.

- TIME1US: Clock input 1 microsecond time base.
- LIN1: When an event occurs on Line Input Tool 1.
- LIN2: When an event occurs on Line Input Tool 2.
- LIN3: When an event occurs on Line Input Tool 3.
- LIN4: When an event occurs on Line Input Tool 4.
- LIN5: When an event occurs on Line Input Tool 5.
- LIN6: When an event occurs on Line Input Tool 6.
- LIN7: When an event occurs on Line Input Tool 7.
- LIN8: When an event occurs on Line Input Tool 8.
- QDC1: When an event occurs on Quadrature Decoder Tool 1.
- QDC2: When an event occurs on Quadrature Decoder Tool 2.
- QDC3: When an event occurs on Quadrature Decoder Tool 3.
- QDC4: When an event occurs on Quadrature Decoder Tool 4.

DelayToolDelayValue

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Integer	RW

Value Info

Minimum value: 0

Maximum value: 16777215

Default value: 0

Description

Delay value of the selected Delay Tool.

Unit: time or event according to DelayToolClockSource.

EventInputToolSelector

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Enumeration	RW

Short Description

Selects an Event Input Tool.

Selected Features

- "EventInputToolSource" below
- "EventInputToolActivation" on the next page

Enumeration Values

- EIN1: Event Input Tool 1.
- EIN2: Event Input Tool 2.

EventInputToolSource

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Enumeration	RW

Short Description

CoaXPress connector used as input for the selected Event Input Tool.

Enumeration Values

- A: CoaXPress physical host connection A..

EventInputToolActivation

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	Enumeration	RW

Short Description

Signal activating the output of the selected Event Input Tool.

Enumeration Values

- StartOfScan: Receipt of start of scan signal.
- EndOfScan: Receipt of end of scan signal.

InternalTime

Feature Info

Module	Category Path	Type	Access
Interface	Root / IOToolbox	IntReg	RO

Register Port: InterfacePort

Short Description

Reports the Coaxlink card internal time.

2.8. PCIeExpress Category

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PCleMaxPayloadSizeSupported

Feature Info

Module	Category Path	Type	Access
Interface	Root / PCIeExpress	IntReg	RO

Register Port: InterfacePort

Short Description

Maximum payload size of PCIe TLPs (Transaction Layer Packets) that this interface can support (cf. PCIe Capability Structure offset 04h (Device Capabilities) bits 2:0).

PCleMaxPayloadSize

Feature Info

Module	Category Path	Type	Access
Interface	Root / PCIeExpress	IntReg	RO

Register Port: InterfacePort

Short Description

Maximum payload size of PCIe TLPs (Transaction Layer Packets) that this interface is allowed to generate (cf. PCIe Capability Structure offset 08h (Device Control) bits 7:5).

PCleMaxReadRequestSize

Feature Info

Module	Category Path	Type	Access
Interface	Root / PCIeExpress	IntReg	RO

Register Port: InterfacePort

Short Description

Maximum size of PCIe read requests that this interface is allowed to generate (cf. PCIe Capability Structure offset 08h (Device Control) bits 14:12).

PCleMaxLinkSpeed

Feature Info

Module	Category Path	Type	Access
Interface	Root / PCIeExpress	Enumeration	Imposed: RO

Short Description

Maximum PCIe transfer rate supported by this interface (cf. PCIe Capability Structure offset 0Ch (Link Capabilities) bits 3:0).

Enumeration Values

- NotAvailable: Not available.
- PCIeLinkSpeed2500MTps: 2.5 GT/s (PCIe Gen 1).
- PCIeLinkSpeed5000MTps: 5.0 GT/s (PCIe Gen 2).
- PCIeLinkSpeed8000MTps: 8.0 GT/s (PCIe Gen 3).

PCleCurrentLinkSpeed

Feature Info

Module	Category Path	Type	Access
Interface	Root / PCIeExpress	Enumeration	Imposed: RO

Short Description

Negotiated PCIe transfer rate (cf. PCIe Capability Structure offset 12h (Link Status) bits 3:0).

Enumeration Values

- NotAvailable: Not available.
- PCIeLinkSpeed2500MTps: 2.5 GT/s (PCIe Gen 1).
- PCIeLinkSpeed5000MTps: 5.0 GT/s (PCIe Gen 2).
- PCIeLinkSpeed8000MTps: 8.0 GT/s (PCIe Gen 3).

PCleMaximumLinkWidth

Feature Info

Module	Category Path	Type	Access
Interface	Root / PCIeExpress	Enumeration	Imposed: RO

Short Description

Maximum PCIe link width supported by this interface (cf. PCIe Capability Structure offset 0Ch (Link Capabilities) bits 9:4).

Enumeration Values

- NotAvailable: Not available.
- x1: 1 Lane.
- x2: 2 Lanes.
- x4: 4 Lanes.
- x8: 8 Lanes.

- x12: 12 Lanes.
- x16: 16 Lanes.
- x32: 32 Lanes.

PCleNegotiatedLinkWidth

Feature Info

Module	Category Path	Type	Access
Interface	Root / PCIeExpress	Enumeration	Imposed: RO

Short Description

Negotiated PCIe link width (cf. PCIe Capability Structure offset 12h (Link Status) bits 9:4).

Enumeration Values

- NotAvailable: Not available.
- x1: 1 Lane.
- x2: 2 Lanes.
- x4: 4 Lanes.
- x8: 8 Lanes.
- x12: 12 Lanes.
- x16: 16 Lanes.
- x32: 32 Lanes.

PCleLinkSpeed2500MTpsSupported

Feature Info

Module	Category Path	Type	Access
Interface	Root / PCIeExpress	Boolean	RW

Short Description

Reports whether this interface supports PCIe Gen 1 transfer rate (2.5 GT/s).

PCleLinkSpeed5000MTpsSupported

Feature Info

Module	Category Path	Type	Access
Interface	Root / PCIExpress	Boolean	RW

Short Description

Reports whether this interface supports PCIe Gen 2 transfer rate (5.0 GT/s).

PCleLinkSpeed8000MTpsSupported

Feature Info

Module	Category Path	Type	Access
Interface	Root / PCIExpress	Boolean	RW

Short Description

Reports whether this interface supports PCIe Gen 3 transfer rate (8.0 GT/s).

2.9. InterfaceControl Category

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FanStatus

Feature Info

Module	Category Path	Type	Access
Interface	Root / InterfaceControl	Enumeration	Imposed: RO

Short Description

Fan Status.

Enumeration Values

- OK: Fan speed is OK.
- NotOK: Fan speed is not OK.

TemperatureSensorSelector

Feature Info

Module	Category Path	Type	Access
Interface	Root / InterfaceControl	Enumeration	RW

Short Description

Temperature Sensor Selector.

Selected Features

- "Temperature" below

Enumeration Values

- Grabber: Grabber Temperature Sensor.

Temperature

Feature Info

Module	Category Path	Type	Access
Interface	Root / InterfaceControl	SwissKnife	RW

Description

Returns the temperature, expressed in °C measured by the selected temperature sensor.

AuxiliaryPowerInput

Feature Info

Module	Category Path	Type	Access
Interface	Root / InterfaceControl	Enumeration	Imposed: RO

Description

Auxiliary power input cable connection status.

Note: This status is valid only if a PEG-compliant power supply is attached to the Coaxlink auxiliary power input connector through a PEG-compliant power cable.

Enumeration Values

- Unconnected: There is no PEG-compliant power cable connected to the auxiliary power input.
- Connected: A PEG-compliant power cable is connected to the auxiliary power input.

AuxiliaryPower12VInput

Feature Info

Module	Category Path	Type	Access
Interface	Root / InterfaceControl	Enumeration	Imposed: RO

Short Description

Return the status of the 12V Auxiliary Power Input.

Enumeration Values

- `NotOK`: The 12V auxiliary power input is NOK.
- `OK`: The 12V auxiliary power input is OK.

2.10. InterfaceDetails Category

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BoardCapabilities

Feature Info

Module	Category Path	Type	Access
Interface	Root / InterfaceDetails	StringReg	RO

Short Description

Board Capabilities.

FirmwareBoardID

Feature Info

Module	Category Path	Type	Access
Interface	Root / InterfaceDetails	IntReg	RO

Register Port: InterfacePort

Short Description

Firmware Board ID.

CPLDRevision

Feature Info

Module	Category Path	Type	Access
Interface	Root / InterfaceDetails	Integer	RW

Short Description

CPLD Revision.

PreviousBootBank

Feature Info

Module	Category Path	Type	Access
Interface	Root / InterfaceDetails	IntSwissKnife	RW

Short Description

Flash bank used during the previous power on.

NextBootBank

Feature Info

Module	Category Path	Type	Access
Interface	Root / InterfaceDetails	IntSwissKnife	RW

Short Description

Flash bank that will be used during the next power on.

CurrentBankSelect

Feature Info

Module	Category Path	Type	Access
Interface	Root / InterfaceDetails	IntSwissKnife	RW

Short Description

Current Bank Select.

CurrentBankSelectReadback

Feature Info

Module	Category Path	Type	Access
Interface	Root / InterfaceDetails	IntSwissKnife	RW

Short Description

Current Bank Select Readback.

NextBankSelect

Feature Info

Module	Category Path	Type	Access
Interface	Root / InterfaceDetails	IntSwissKnife	RW

Short Description

Next Bank Select.

SpiBankStatus

Feature Info

Module	Category Path	Type	Access
Interface	Root / InterfaceDetails	IntReg	RO

Register Port: InterfacePort

Short Description

Spi Bank Status.

PotBankStatus

Feature Info

Module	Category Path	Type	Access
Interface	Root / InterfaceDetails	IntReg	RO

Register Port: InterfacePort

Short Description

Pot Bank Status.

2.11. EventControl Category

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EventSelector

Feature Info

Module	Category Path	Type	Access
Interface	Root / EventControl	Enumeration	RW

Short Description

Select an event.

Selected Features

- "EventNotification" on page 96
- "EventNotificationContext1" on page 96
- "EventNotificationContext2" on page 98
- "EventNotificationContext3" on page 100
- "EventCount" on page 102
- "EventCountReset" on page 102

Enumeration Values

- LIN1: Line Input Tool 1.
- LIN2: Line Input Tool 2.
- LIN3: Line Input Tool 3.

- LIN4: Line Input Tool 4.
- LIN5: Line Input Tool 5.
- LIN6: Line Input Tool 6.
- LIN7: Line Input Tool 7.
- LIN8: Line Input Tool 8.
- QDC1: Quadrature Decoder Tool 1.
- QDC1Dir: Quadrature Decoder Tool 1 Changed Direction.
- QDC2: Quadrature Decoder Tool 2.
- QDC2Dir: Quadrature Decoder Tool 2 Changed Direction.
- QDC3: Quadrature Decoder Tool 3.
- QDC3Dir: Quadrature Decoder Tool 3 Changed Direction.
- QDC4: Quadrature Decoder Tool 4.
- QDC4Dir: Quadrature Decoder Tool 4 Changed Direction.
- DIV1: Divider Tool 1.
- DIV2: Divider Tool 2.
- DIV3: Divider Tool 3.
- DIV4: Divider Tool 4.
- MDV1: Multiplier/Divider Tool 1.
- MDV2: Multiplier/Divider Tool 2.
- MDV3: Multiplier/Divider Tool 3.
- MDV4: Multiplier/Divider Tool 4.
- DEL11: Delay Tool 1 Output 1.
- DEL12: Delay Tool 1 Output 2.
- DEL21: Delay Tool 2 Output 1.
- DEL22: Delay Tool 2 Output 2.
- DEL31: Delay Tool 3 Output 1.
- DEL32: Delay Tool 3 Output 2.
- DEL41: Delay Tool 4 Output 1.
- DEL42: Delay Tool 4 Output 2.
- UserEvent1: User Event 1.
- UserEvent2: User Event 2.
- UserEvent3: User Event 3.
- UserEvent4: User Event 4.

- `EIN1`: Event Input Tool 1.
- `EIN2`: Event Input Tool 2.
- `CrcErrorCxpA`: Detected CRC error on CXP connector A.
- `CrcErrorCxpB`: Detected CRC error on CXP connector B.
- `CrcErrorCxpC`: Detected CRC error on CXP connector C.
- `CrcErrorCxpD`: Detected CRC error on CXP connector D.

EventNotification

Feature Info

Module	Category Path	Type	Access
Interface	Root / EventControl	Boolean	RW

Short Description

Activate or deactivate the notification to the host application of the occurrence of the selected event.

EventNotificationContext1

Feature Info

Module	Category Path	Type	Access
Interface	Root / EventControl	Enumeration	RW

Short Description

Select context information reported in `EVENT_DATA_CUSTOM_CONTEXT_1`.

Enumeration Values

- `EventSpecific`: Event-specific context information.
- `LineStatusAll`: Value of `LineStatusAll`.
- `QDC1Position`: Position of Quadrature Decoder Tool 1.
- `QDC2Position`: Position of Quadrature Decoder Tool 2.

- QDC3Position: Position of Quadrature Decoder Tool 3.
- QDC4Position: Position of Quadrature Decoder Tool 4.
- LIN1EventCount: Number of LIN1 events.
- LIN2EventCount: Number of LIN2 events.
- LIN3EventCount: Number of LIN3 events.
- LIN4EventCount: Number of LIN4 events.
- LIN5EventCount: Number of LIN5 events.
- LIN6EventCount: Number of LIN6 events.
- LIN7EventCount: Number of LIN7 events.
- LIN8EventCount: Number of LIN8 events.
- QDC1EventCount: Number of QDC1 events.
- QDC1DirEventCount: Number of QDC1Dir events.
- QDC2EventCount: Number of QDC2 events.
- QDC2DirEventCount: Number of QDC2Dir events.
- QDC3EventCount: Number of QDC3 events.
- QDC3DirEventCount: Number of QDC3Dir events.
- QDC4EventCount: Number of QDC4 events.
- QDC4DirEventCount: Number of QDC4Dir events.
- DIV1EventCount: Number of DIV1 events.
- DIV2EventCount: Number of DIV2 events.
- DIV3EventCount: Number of DIV3 events.
- DIV4EventCount: Number of DIV4 events.
- MDV1EventCount: Number of MDV1 events.
- MDV2EventCount: Number of MDV2 events.
- MDV3EventCount: Number of MDV3 events.
- MDV4EventCount: Number of MDV4 events.
- DEL11EventCount: Number of DEL11 events.
- DEL12EventCount: Number of DEL12 events.
- DEL21EventCount: Number of DEL21 events.
- DEL22EventCount: Number of DEL22 events.
- DEL31EventCount: Number of DEL31 events.
- DEL32EventCount: Number of DEL32 events.
- DEL41EventCount: Number of DEL41 events.

- **DEL42EventCount:** Number of DEL42 events.
- **UserEvent1EventCount:** Number of UserEvent1 events.
- **UserEvent2EventCount:** Number of UserEvent2 events.
- **UserEvent3EventCount:** Number of UserEvent3 events.
- **UserEvent4EventCount:** Number of UserEvent4 events.
- **EIN1EventCount:** Number of EIN1 events.
- **EIN2EventCount:** Number of EIN2 events.
- **CrcErrorCxpAEventCount:** Number of CrcErrorCxpA events.
- **CrcErrorCxpBEventCount:** Number of CrcErrorCxpB events.
- **CrcErrorCxpCEventCount:** Number of CrcErrorCxpC events.
- **CrcErrorCxpDEventCount:** Number of CrcErrorCxpD events.

EventNotificationContext2

Feature Info

Module	Category Path	Type	Access
Interface	Root / EventControl	Enumeration	RW

Short Description

Select context information reported in EVENT_DATA_CUSTOM_CONTEXT_2.

Enumeration Values

- **EventSpecific:** Event-specific context information.
- **LineStatusAll:** Value of LineStatusAll.
- **QDC1Position:** Position of Quadrature Decoder Tool 1.
- **QDC2Position:** Position of Quadrature Decoder Tool 2.
- **QDC3Position:** Position of Quadrature Decoder Tool 3.
- **QDC4Position:** Position of Quadrature Decoder Tool 4.
- **LIN1EventCount:** Number of LIN1 events.
- **LIN2EventCount:** Number of LIN2 events.
- **LIN3EventCount:** Number of LIN3 events.
- **LIN4EventCount:** Number of LIN4 events.

- LIN5EventCount: Number of LIN5 events.
- LIN6EventCount: Number of LIN6 events.
- LIN7EventCount: Number of LIN7 events.
- LIN8EventCount: Number of LIN8 events.
- QDC1EventCount: Number of QDC1 events.
- QDC1DirEventCount: Number of QDC1Dir events.
- QDC2EventCount: Number of QDC2 events.
- QDC2DirEventCount: Number of QDC2Dir events.
- QDC3EventCount: Number of QDC3 events.
- QDC3DirEventCount: Number of QDC3Dir events.
- QDC4EventCount: Number of QDC4 events.
- QDC4DirEventCount: Number of QDC4Dir events.
- DIV1EventCount: Number of DIV1 events.
- DIV2EventCount: Number of DIV2 events.
- DIV3EventCount: Number of DIV3 events.
- DIV4EventCount: Number of DIV4 events.
- MDV1EventCount: Number of MDV1 events.
- MDV2EventCount: Number of MDV2 events.
- MDV3EventCount: Number of MDV3 events.
- MDV4EventCount: Number of MDV4 events.
- DEL11EventCount: Number of DEL11 events.
- DEL12EventCount: Number of DEL12 events.
- DEL21EventCount: Number of DEL21 events.
- DEL22EventCount: Number of DEL22 events.
- DEL31EventCount: Number of DEL31 events.
- DEL32EventCount: Number of DEL32 events.
- DEL41EventCount: Number of DEL41 events.
- DEL42EventCount: Number of DEL42 events.
- UserEvent1EventCount: Number of UserEvent1 events.
- UserEvent2EventCount: Number of UserEvent2 events.
- UserEvent3EventCount: Number of UserEvent3 events.
- UserEvent4EventCount: Number of UserEvent4 events.
- EIN1EventCount: Number of EIN1 events.

- **EIN2EventCount:** Number of EIN2 events.
- **CrcErrorCxpAEventCount:** Number of CrcErrorCxpA events.
- **CrcErrorCxpBEventCount:** Number of CrcErrorCxpB events.
- **CrcErrorCxpCEventCount:** Number of CrcErrorCxpC events.
- **CrcErrorCxpDEventCount:** Number of CrcErrorCxpD events.

EventNotificationContext3

Feature Info

Module	Category Path	Type	Access
Interface	Root / EventControl	Enumeration	RW

Short Description

Select context information reported in EVENT_DATA_CUSTOM_CONTEXT_3.

Enumeration Values

- **EventSpecific:** Event-specific context information.
- **LineStatusAll:** Value of LineStatusAll.
- **QDC1Position:** Position of Quadrature Decoder Tool 1.
- **QDC2Position:** Position of Quadrature Decoder Tool 2.
- **QDC3Position:** Position of Quadrature Decoder Tool 3.
- **QDC4Position:** Position of Quadrature Decoder Tool 4.
- **LIN1EventCount:** Number of LIN1 events.
- **LIN2EventCount:** Number of LIN2 events.
- **LIN3EventCount:** Number of LIN3 events.
- **LIN4EventCount:** Number of LIN4 events.
- **LIN5EventCount:** Number of LIN5 events.
- **LIN6EventCount:** Number of LIN6 events.
- **LIN7EventCount:** Number of LIN7 events.
- **LIN8EventCount:** Number of LIN8 events.
- **QDC1EventCount:** Number of QDC1 events.
- **QDC1DirEventCount:** Number of QDC1Dir events.

- QDC2EventCount: Number of QDC2 events.
- QDC2DirEventCount: Number of QDC2Dir events.
- QDC3EventCount: Number of QDC3 events.
- QDC3DirEventCount: Number of QDC3Dir events.
- QDC4EventCount: Number of QDC4 events.
- QDC4DirEventCount: Number of QDC4Dir events.
- DIV1EventCount: Number of DIV1 events.
- DIV2EventCount: Number of DIV2 events.
- DIV3EventCount: Number of DIV3 events.
- DIV4EventCount: Number of DIV4 events.
- MDV1EventCount: Number of MDV1 events.
- MDV2EventCount: Number of MDV2 events.
- MDV3EventCount: Number of MDV3 events.
- MDV4EventCount: Number of MDV4 events.
- DEL11EventCount: Number of DEL11 events.
- DEL12EventCount: Number of DEL12 events.
- DEL21EventCount: Number of DEL21 events.
- DEL22EventCount: Number of DEL22 events.
- DEL31EventCount: Number of DEL31 events.
- DEL32EventCount: Number of DEL32 events.
- DEL41EventCount: Number of DEL41 events.
- DEL42EventCount: Number of DEL42 events.
- UserEvent1EventCount: Number of UserEvent1 events.
- UserEvent2EventCount: Number of UserEvent2 events.
- UserEvent3EventCount: Number of UserEvent3 events.
- UserEvent4EventCount: Number of UserEvent4 events.
- EIN1EventCount: Number of EIN1 events.
- EIN2EventCount: Number of EIN2 events.
- CrcErrorCxpAEventCount: Number of CrcErrorCxpA events.
- CrcErrorCxpBEventCount: Number of CrcErrorCxpB events.
- CrcErrorCxpCEventCount: Number of CrcErrorCxpC events.
- CrcErrorCxpDEventCount: Number of CrcErrorCxpD events.

EventCount

Feature Info

Module	Category Path	Type	Access
Interface	Root / EventControl	IntReg	RO

Register Port: InterfacePort

Short Description

Number of occurrences of the selected event (32-bit counter).

EventCountReset

Feature Info

Module	Category Path	Type	Access
Interface	Root / EventControl	Command	Imposed: WO

Short Description

Reset the selected EventCount.

EventNotificationAll

Feature Info

Module	Category Path	Type	Access
Interface	Root / EventControl	Boolean	Imposed: WO

Short Description

Activate or deactivate the notification of all events.

EventCountResetAll

Feature Info

Module	Category Path	Type	Access
Interface	Root / EventControl	Command	Imposed: WO

Short Description

Reset all EventCount.

2.12. OemSafetyKey Category

OemSafetyKeyVerification	104
CheckOemSafetyKey	105
ProgramOemSafetyKey	105
EncryptedOemSafetyKey	105
MaximumOemKeyLength	106

OemSafetyKeyVerification

Feature Info

Module	Category Path	Type	Access
Interface	Root / OemSafetyKey	Enumeration	RW

Description

Defines which key can be compared with the programmed OEM safety key.

Acts as a selector for `CheckOemSafetyKey`.

Recommended value: `EncryptedKey`.

Default value: `ProgrammingKeyOrEncryptedKey`.

Selected Features

- ["CheckOemSafetyKey" on the next page](#)

Enumeration Values

- `ProgrammingKey`: Only the key written to `ProgramOemSafetyKey` can be used to verify the OEM safety key.
- `EncryptedKey`: Only the key read from `EncryptedOemSafetyKey` can be used to verify the OEM safety key (recommended).
- `ProgrammingKeyOrEncryptedKey`: Both the key written to `ProgramOemSafetyKey` and the key read from `EncryptedOemSafetyKey` can be used to verify the OEM safety key.

CheckOemSafetyKey

Feature Info

Module	Category Path	Type	Access
Interface	Root / OemSafetyKey	String	Imposed: WO

Description

Write-only string to use for comparing a key (the key written to `ProgramOemSafetyKey` or the key read from `EncryptedOemSafetyKey`) and the programmed OEM safety key.

ProgramOemSafetyKey

Feature Info

Module	Category Path	Type	Access
Interface	Root / OemSafetyKey	String	Imposed: WO

Short Description

Write-only string to use for programming the non-volatile OEM safety key.

EncryptedOemSafetyKey

Feature Info

Module	Category Path	Type	Access
Interface	Root / OemSafetyKey	String	Imposed: RO

Description

Read-only string that contains the encrypted version of the OEM safety key just programmed with `ProgramOemSafetyKey`.

MaximumOemKeyLength

Feature Info

Module	Category Path	Type	Access
Interface	Root / OemSafetyKey	Integer	RW

Value Info

Minimum value: 40

Maximum value: 2147483647

Description

The length of ProgramOemSafetyKey and CheckOemSafetyKey is limited by MaximumOemKeyLength.

Default value: 4096.

2.13. CustomLogic Category

CustomLogicReg0	107
CustomLogicReg1	107

CustomLogicReg0

Feature Info

Module	Category Path	Type	Access
Interface	CustomLogic	Integer	RW

Value Info

Minimum value: 0

Maximum value: 4294967295

Short Description

Custom Logic Reg0.

CustomLogicReg1

Feature Info

Module	Category Path	Type	Access
Interface	CustomLogic	Integer	RW

Value Info

Minimum value: 0

Maximum value: 4294967295

Short Description

Custom Logic Reg1.

3. Device Module

Categorized features list of Device module version 9.5.2.131

- 3.1. Root Category110
- 3.2. DeviceInformation Category113
- 3.3. StreamEnumeration Category116
- 3.4. CoaXPress Category117
- 3.5. CameraAndIlluminationControl Category123
- 3.6. CameraModel Category126
- 3.7. CycleTiming Category131
- 3.8. CycleControl Category133
- 3.9. SequenceControl Category138
- 3.10. EventControl Category145
- 3.11. Errors Category155

3.1. Root Category

- DeviceInformation110
- StreamEnumeration110
- CameraAndIlluminationControl111
- CoaXPress111
- EventControl111
- Errors112

DeviceInformation

Feature Info

Module	Category Path	Type	Access
Device	Root	Category	RW

Category Members

Refer to "DeviceInformation Category " on page 113

StreamEnumeration

Feature Info

Module	Category Path	Type	Access
Device	Root	Category	RW

Category Members

Refer to "StreamEnumeration Category " on page 116

CameraAndIlluminationControl

Feature Info

Module	Category Path	Type	Access
Device	Root	Category	RW

Description

Set of features related to the Camera and Illumination Controller (CIC).

Category Members

Refer to "CameraAndIlluminationControl Category " on page 123

CoaXPress

Feature Info

Module	Category Path	Type	Access
Device	Root	Category	RW

Category Members

Refer to "CoaXPress Category " on page 117

EventControl

Feature Info

Module	Category Path	Type	Access
Device	Root	Category	RW

Category Members

Refer to "EventControl Category " on page 145

Errors

Feature Info

Module	Category Path	Type	Access
Device	Root	Category	RW

Category Members

Refer to "Errors Category " on page 155

3.2. DeviceInformation Category

DeviceID	113
DeviceVendorName	113
DeviceModelName	114
DeviceAccessStatus	114
DeviceType	115

DeviceID

Feature Info

Module	Category Path	Type	Access
Device	Root / DeviceInformation	String	Imposed: RO

Short Description

Interface wide unique identifier of this device.

DeviceVendorName

Feature Info

Module	Category Path	Type	Access
Device	Root / DeviceInformation	String	Imposed: RO

Short Description

Name of the device vendor.

DeviceModelName

Feature Info

Module	Category Path	Type	Access
Device	Root / DeviceInformation	String	Imposed: RO

Short Description

Name of the device model.

DeviceAccessStatus

Feature Info

Module	Category Path	Type	Access
Device	Root / DeviceInformation	Enumeration	Imposed: RO

Short Description

Gives the device's access status at the moment of the last execution of DeviceUpdateList.

Enumeration Values

- **Unknown:** Unknown access.
- **ReadWrite:** Available to be opened with full access.
- **ReadOnly:** Available to be opened with read-only access.
- **NoAccess:** Not reachable.
- **Busy:** Already opened by another entity.
- **OpenReadWrite:** Opened with read-write access.
- **OpenReadOnly:** Opened with read-only access.

DeviceType

Feature Info

Module	Category Path	Type	Access
Device	Root / DeviceInformation	Enumeration	Imposed: RO

Short Description

Identifies the transport layer technology of the interface.

Enumeration Values

- CXP: This enumeration value indicates CoaXPress transport layer technology.

3.3. StreamEnumeration Category

StreamSelector	116
StreamID	116

StreamSelector

Feature Info

Module	Category Path	Type	Access
Device	Root / StreamEnumeration	Integer	RW

Value Info

Minimum value: 0

Short Description

Selector for the different stream channels.

Selected Features

- "StreamID" below

StreamID

Feature Info

Module	Category Path	Type	Access
Device	Root / StreamEnumeration	String	Imposed: RO

Short Description

Device unique ID for the stream.

3.4. CoaXPress Category

CxpLinkConfiguration	117
CxpLinkConfigurationOption	118
CxpHostConnectionBase	119
CxpHostConnectionCount	120
CxpTriggerMessageFormat	120
CxpTriggerLevel	121
CxpTriggerAckTimeout	121
CxpTriggerMaxResendCount	122
CxpPacketArbiterReset	122

CxpLinkConfiguration

Feature Info

Module	Category Path	Type	Access
Device	Root / CoaXPress	Enumeration	RW

Description

Set/report the CoaXPress Link configuration.

Enumeration Values

- CXP1_X1: 1 connection @1.250 Gbps.
- CXP2_X1: 1 connection @2.500 Gbps.
- CXP3_X1: 1 connection @3.125 Gbps.
- CXP5_X1: 1 connection @5.000 Gbps.
- CXP6_X1: 1 connection @6.250 Gbps.
- CXP10_X1: 1 connection @10.000 Gbps.
- CXP12_X1: 1 connection @12.500 Gbps.
- CXP1_X2: 2 connections @1.250 Gbps.
- CXP2_X2: 2 connections @2.500 Gbps.
- CXP3_X2: 2 connections @3.125 Gbps.
- CXP5_X2: 2 connections @5.000 Gbps.
- CXP6_X2: 2 connections @6.250 Gbps.

- CXP10_X2: 2 connections @10.000 Gbps.
- CXP12_X2: 2 connections @12.500 Gbps.
- CXP1_X3: 3 connections @1.250 Gbps.
- CXP2_X3: 3 connections @2.500 Gbps.
- CXP3_X3: 3 connections @3.125 Gbps.
- CXP5_X3: 3 connections @5.000 Gbps.
- CXP6_X3: 3 connections @6.250 Gbps.
- CXP10_X3: 3 connections @10.000 Gbps.
- CXP12_X3: 3 connections @12.500 Gbps.
- CXP1_X4: 4 connections @1.250 Gbps.
- CXP2_X4: 4 connections @2.500 Gbps.
- CXP3_X4: 4 connections @3.125 Gbps.
- CXP5_X4: 4 connections @5.000 Gbps.
- CXP6_X4: 4 connections @6.250 Gbps.
- CXP10_X4: 4 connections @10.000 Gbps.
- CXP12_X4: 4 connections @12.500 Gbps.
- CXP1_X8: 8 connections @1.250 Gbps.
- CXP2_X8: 8 connections @2.500 Gbps.
- CXP3_X8: 8 connections @3.125 Gbps.
- CXP5_X8: 8 connections @5.000 Gbps.
- CXP6_X8: 8 connections @6.250 Gbps.
- CXP10_X8: 8 connections @10.000 Gbps.
- CXP12_X8: 8 connections @12.500 Gbps.
- Preferred: Camera Preferred Configuration adapted to the capabilities of the frame grabber.

CxpLinkConfigurationOption

Feature Info

Module	Category Path	Type	Access
Device	Root / CoaXPress	Enumeration	RW

Short Description

CxpLinkConfiguration option.

Selected Features

- "CxpLinkConfiguration" on page 117

Enumeration Values

- AlwaysWrite: Always write the link configuration to the camera.
- WriteIfDifferent: Write the link configuration to the camera only if it is different from the current configuration.

CxpHostConnectionBase

Feature Info

Module	Category Path	Type	Access
Device	Root / CoaXPress	Enumeration	RW

Short Description

Returns the base CoaXPress physical connection of this device.

Enumeration Values

- A: CoaXPress physical host connection A.
- B: CoaXPress physical host connection B.
- C: CoaXPress physical host connection C.
- D: CoaXPress physical host connection D.

CxpHostConnectionCount

Feature Info

Module	Category Path	Type	Access
Device	Root / CoaXPress	IntReg	RO

Register Port: DevicePort

Short Description

Returns the number of CoaXPress physical connections of this device.

CxpTriggerMessageFormat

Feature Info

Module	Category Path	Type	Access
Device	Root / CoaXPress	Enumeration	RW

Description

Sets/gets the CoaXPress Host to Device Trigger Message Format.

When set to `Pulse`, every Camera Trigger requires two transactions on the Host to Device I/O Channel: one **rising edge trigger packet** and one **falling edge trigger packet**. This is the standard behaviour.

When set to `"RisingEdge"`, every Camera Trigger requires a single transaction on the Host to Device I/O Channel: one **rising edge trigger packet**.

When set to `CxpTriggerMessageFormat`, every Camera Trigger generates a single message transaction on the Host to Device I/O Channel alternating rising edge or falling edge trigger messages.

Default value: `Pulse`.

Enumeration Values

- `Pulse`: Rising edge and falling edge CoaXPress trigger messages.
- `RisingEdge`: Rising edge CoaXPress trigger message.
- `Toggle`: Alternating rising edge or falling edge CoaXPress trigger message.

CxpTriggerLevel

Feature Info

Module	Category Path	Type	Access
Device	Root / CoaXPress	Enumeration	RW

Description

This feature allows to set or get the logical state of the CoaXPress Host to Device Trigger signal. Setting the logical state is only allowed when `CxpTriggerMessageFormat` is set to `Toggle`. Getting the logical state is allowed for any value of `CxpTriggerMessageFormat`.

Enumeration Values

- `Low`: Next trigger message format will be rising edge CoaXPress trigger message.
- `High`: Next trigger message format will be falling edge CoaXPress trigger message.

CxpTriggerAckTimeout

Feature Info

Module	Category Path	Type	Access
Device	Root / CoaXPress	Float	RW

Value Info

Minimum value: 0

Maximum value: 2097.1469999999999

Short Description

CoaXPress Host to Device trigger acknowledge timeout value.

CxpTriggerMaxResendCount

Feature Info

Module	Category Path	Type	Access
Device	Root / CoaXPress	Integer	RW

Value Info

Minimum value: 0

Maximum value: 7

Description

Sets/gets the maximum resend count of the CoaXPress Host to Device Trigger Message.

Default value: 3.

CxpPacketArbiterReset

Feature Info

Module	Category Path	Type	Access
Device	Root / CoaXPress	Command	RW

Description

CoaXPress Data Packet Arbiter Reset.

Reset the CoaXPress Data Packet Arbiter to Connection 0.

Note: This command is only useful for multi-connection cameras that unduly reset the round-Robin connection sequence order.

3.5. CameraAndIlluminationControl Category

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CameraAndIlluminationControllerStream	125

CameraModel

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl	Category	RW

Description

Set of features describing the behavioral model of a grabber-controlled camera.

Note: These features defines the operating limits of the camera and are used to configure the trigger-overrun protection mechanism of the CIC.

Note: An incorrectly set behavioral model may prevent reaching the highest achievable camera cycle rate or, reversely, allow the grabber to assert triggers too quickly.

Category Members

Refer to "[CameraModel Category](#) " on page 126

CycleTiming

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl	Category	RW

Description

Set of features describing the CIC Cycle timing properties.

Category Members

Refer to "CycleTiming Category " on page 131

CycleControl

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl	Category	RW

Description

Set of features describing the CIC cycle control properties.

Category Members

Refer to "CycleControl Category " on page 133

SequenceControl

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl	Category	RW

Description

Set of features describing the CIC cycle sequence control properties.

Default value: True.

Category Members

Refer to "SequenceControl Category " on page 138

DeviceReset

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl	Command	RW

Description

Reset the CIC. ***TBD***

CameraAndIlluminationControllerStream

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl	Enumeration	RW

Short Description

Defines which data stream the CIC uses to check whether a new cycle can be started.

Enumeration Values

- `Stream0`: CIC uses camera readout and frame buffer status from Stream0.
- `Stream1`: CIC uses camera readout and frame buffer status from Stream1.
- `Stream2`: CIC uses camera readout and frame buffer status from Stream2.
- `Stream3`: CIC uses camera readout and frame buffer status from Stream3.

3.6. CameraModel Category

CameraControlMethod	126
C2CLinkConfiguration	127
ExposureReadoutOverlap	127
ExposureRecoveryTime	128
ExposureTimeMin	128
ExposureTimeMax	129
CycleMinimumPeriod	130

CameraControlMethod

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl / CameraModel	Enumeration	RW

Description

Camera control method.

The **NC** camera control method is to be used with free-run or asynchronous reset cameras not controlled by the frame grabber.

The **RC** camera control method is to be used with asynchronous reset cameras having the camera cycle start controlled by the grabber CIC and the exposure time controlled by the camera.

The **RG** camera control method is to be used with asynchronous reset cameras having the camera cycle start and the exposure duration controlled by the grabber CIC.

The **EXTERNAL** camera control method is to be used with asynchronous reset cameras having the camera cycle start and the exposure duration controlled by a hardware signal applied by an external controller to any GPIO input port of the grabber.

Note: The **NC** and the **EXTERNAL** camera control methods doesn't use the CIC.

Enumeration Values

- **NC:** Not Controlled.
- **RC:** Grabber-controlled cycle start, Camera-controlled exposure time.
- **RG:** Grabber-controlled cycle start and exposure time.
- **EXTERNAL:** Externally-controlled cycle start and exposure time.

C2CLinkConfiguration

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl / CameraModel	Enumeration	RW

Description

Sets/gets the C2C-Link configuration.

Applies only when the CIC is used (i.e., when `CameraControlMethod` is RC or RG).

Default value: `Disconnected`.

Enumeration Values

- `Disconnected`: Disconnected from the C2C-Link.
- `Master`: Connected to the C2C-Link as the C2C-Link Master Device.
- `Slave`: Connected to the C2C-Link as a C2C-Link Slave Device.

ExposureReadoutOverlap

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl / CameraModel	Boolean	RW

Description

Declares the exposure overlapping capability of the camera.

Applies only when the CIC is used (i.e., when `CameraControlMethod` is RC or RG).

When set to true, it indicates that the camera allows overlapping. The exposure phase of a new camera cycle is allowed to begin during the readout phase.

When set to false, it indicates that the camera doesn't allow overlapping. The exposure phase of a new camera cycle is not allowed to begin before the completion of the readout phase.

Default value: `***TBD***`.

ExposureRecoveryTime

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl / CameraModel	Float	RW

Value Info

Minimum value: 0

Maximum value: 17179869.179000001

Dimension: Time

Unit: microsecond [μ s]

Increment: 0.008

Description

Sets/gets the exposure recovery time.

This time represents the minimum time interval between two consecutive exposure phases.

Note: *An incorrectly set value may, in case of large exposure time, prevent reaching the highest achievable camera cycle rate or, reversely, allow the grabber to assert triggers too quickly.*

Applies only when the CIC is used (i.e., when `CameraControlMethod` is RC or RG).

Default value: 1,000.0. (1 millisecond)

ExposureTimeMin

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl / CameraModel	Float	RW

Value Info

Minimum value: 3.3599999999999999

Dimension: Time

Unit: microsecond [μ s]

Increment: 0.008

Description

Sets/gets the minimum exposure time.

Applies only when `CameraControlMethod` is RG.

Defines the bottom boundary of `ExposureTime`.

Minimum value: 3.359999999999999 (3.36 microsecond)

Default value: 3.359999999999999 (3.36 microsecond)

Directive

Set this value to the minimum exposure time allowed by the camera.

ExposureTimeMax

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl / CameraModel	Float	RW

Value Info

Maximum value: 562949953421.30701

Dimension: Time

Unit: microsecond [μ s]

Increment: 0.008

Description

Sets/gets the maximum exposure time.

Applies only when `CameraControlMethod` is RG.

Defines the upper boundary of `ExposureTime` value range.

Maximum value: 562949953421.30701 (> 150 hours)

Default value: 562949953421.30701 (> 150 hours)

Directive

Set this value to the maximum exposure time allowed by the camera.

CycleMinimumPeriod

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl / CameraModel	Float	RW

Value Info

Minimum value: 3.3599999999999999

Maximum value: 562949953421.30701

Dimension: Time

Unit: microsecond [μ s]

Increment: 0.008

Description

Sets/gets the minimum cycle period.

Applies only when the CIC is used (i.e., when `CameraControlMethod` is RC or RG).

Minimum value: 5 (5 microsecond)

Maximum value: 562949953421.30701 (> 150 hours)

Default value: 1,000.0. (1 millisecond)

3.7. CycleTiming Category

ExposureTime	131
StrobeDelay	131
StrobeDuration	132

ExposureTime

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl / CycleTiming	Float	RW

Value Info

Dimension: Time

Unit: microsecond [μs]

Increment: 0.008

Description

Sets/gets the exposure time.

Applies only when CameraControlMethod is RG.

Note: Avoid using exposure time settings outside the exposure time range of the camera.

Note: The upper limit is very high: > 150 hours!

Default value: 1,000.0. (1 millisecond)

StrobeDelay

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl / CycleTiming	Float	RW

Value Info

Minimum value: -8589934.5869999994

Maximum value: 8589934.5869999994

Dimension: Time

Unit: microsecond [μ s]

Increment: 0.008

Description

Sets/gets the strobe pulse delay.

Applies only when the CIC is used (i.e., when `CameraControlMethod` is RC or RG).

Default value: 0

StrobeDuration

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl / CycleTiming	Float	RW

Value Info

Minimum value: 0

Maximum value: 562949953421.30701

Dimension: Time

Unit: microsecond [μ s]

Increment: 0.008

Description

Sets/gets the strobe pulse duration.

Applies only when the CIC is used (i.e., when `CameraControlMethod` is RC or RG).

Note: *The upper limit is very high: > 150 hours!*

Default value: 1,000.0. (1 millisecond)

3.8. CycleControl Category

CycleTriggerSource	133
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CycleTriggerSource

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl / CycleControl	Enumeration	RW

Description

Sets/gets the start-of-camera-cycle trigger conditions and selects a hardware or software trigger source.

Applies only when the CIC is used (i.e., when `CameraControlMethod` is RC or RG).

Default value: `CyclePeriodTarget`.

Enumeration Values

- **Immediate:** Immediately after the start of the sequence and then repeatedly every `CycleMinimumPeriod` period.
- **StartCycle:** On execution of the `StartCycle` command.
- **C2C:** Synchronized with the C2C-Link master device. This value is enforced when `C2CLinkConfiguration` = Slave.
- **LIN1:** When an event occurs on Line Input Tool 1 or on execution of the `StartCycle` command.
- **LIN2:** When an event occurs on Line Input Tool 2 or on execution of the `StartCycle` command.
- **LIN3:** When an event occurs on Line Input Tool 3 or on execution of the `StartCycle` command.

- LIN4: When an event occurs on Line Input Tool 4 or on execution of the StartCycle command.
- LIN5: When an event occurs on Line Input Tool 5 or on execution of the StartCycle command.
- LIN6: When an event occurs on Line Input Tool 6 or on execution of the StartCycle command.
- LIN7: When an event occurs on Line Input Tool 7 or on execution of the StartCycle command.
- LIN8: When an event occurs on Line Input Tool 8 or on execution of the StartCycle command.
- QDC1: When an event occurs on Quadrature Decoder Tool 1 or on execution of the StartCycle command.
- QDC2: When an event occurs on Quadrature Decoder Tool 2 or on execution of the StartCycle command.
- QDC3: When an event occurs on Quadrature Decoder Tool 3 or on execution of the StartCycle command.
- QDC4: When an event occurs on Quadrature Decoder Tool 4 or on execution of the StartCycle command.
- MDV1: When an event occurs on Multiplier/Divider Tool 1 or on execution of the StartCycle command.
- MDV2: When an event occurs on Multiplier/Divider Tool 2 or on execution of the StartCycle command.
- MDV3: When an event occurs on Multiplier/Divider Tool 3 or on execution of the StartCycle command.
- MDV4: When an event occurs on Multiplier/Divider Tool 4 or on execution of the StartCycle command.
- DIV1: When an event occurs on Divider Tool 1 or on execution of the StartCycle command.
- DIV2: When an event occurs on Divider Tool 2 or on execution of the StartCycle command.
- DIV3: When an event occurs on Divider Tool 3 or on execution of the StartCycle command.
- DIV4: When an event occurs on Divider Tool 4 or on execution of the StartCycle command.
- DEL1_1: When an event occurs on Delay Tool 1 Output 1 or on execution of the StartCycle command.
- DEL1_2: When an event occurs on Delay Tool 1 Output 2 or on execution of the StartCycle command.
- DEL2_1: When an event occurs on Delay Tool 2 Output 1 or on execution of the StartCycle command.
- DEL2_2: When an event occurs on Delay Tool 2 Output 2 or on execution of the StartCycle command.

- DEL3_1: When an event occurs on Delay Tool 3 Output 1 or on execution of the StartCycle command.
- DEL3_2: When an event occurs on Delay Tool 3 Output 2 or on execution of the StartCycle command.
- DEL4_1: When an event occurs on Delay Tool 4 Output 1 or on execution of the StartCycle command.
- DEL4_2: When an event occurs on Delay Tool 4 Output 2 or on execution of the StartCycle command.
- EIN1: When an event occurs on Event Input Tool 1 or on execution of the StartCycle command.
- EIN2: When an event occurs on Event Input Tool 2 or on execution of the StartCycle command.
- UserEvent1: When an event occurs on User Event 1 or on execution of the StartCycle command.
- UserEvent2: When an event occurs on User Event 2 or on execution of the StartCycle command.
- UserEvent3: When an event occurs on User Event 3 or on execution of the StartCycle command.
- UserEvent4: When an event occurs on User Event 4 or on execution of the StartCycle command.

StartCycle

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl / CycleControl	Command	RW

Description

Starts a camera cycle.

Applies only when the CIC is used (i.e., when `CameraControlMethod` is RC or RG).

Note: was named *CycleSoftwareTrigger* in Coaxlink Driver versions prior to 4.1.

CycleMaxPendingTriggerCount

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl / CycleControl	Integer	RW

Value Info

Minimum value: 0

Maximum value: 7

Description

The Camera and Illumination Controller is fitted with a trigger latching mechanism capable of recording triggers that cannot be served immediately and postponing their execution.

This feature determines the capacity of the latch :

- When 0, the trigger latch mechanism is disabled. Any cycle trigger that cannot be served immediately is rejected and increments `CycleLostTriggerCount`.
- When set to any value ranging from 1 to 7, the trigger latch mechanism is enabled. Providing that `CyclePendingTriggerCount` is below `CycleMaxPendingTriggerCount`, any cycle trigger that cannot be served immediately is latched and increments `CyclePendingTriggerCount`.

Applies only when the CIC is used (i.e., when `CameraControlMethod` is RC or RG).

Default value: 0 (Disabled)

CyclePendingTriggerCount

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl / CycleControl	IntReg	RO

Register Port: DevicePort

Description

Returns the count of pending CIC cycle trigger events.

Applies only when the CIC is used (i.e., when `CameraControlMethod` is RC or RG).

CycleLostTriggerCount

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl / CycleControl	IntReg	RO

Register Port: DevicePort

Description

Returns the count of lost CIC cycle trigger events.

Applies only when the CIC is used (i.e., when `CameraControlMethod` is RC or RG).

Value range: from 0 up to 4,294,967,295.

CycleLostTriggerCountReset

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl / CycleControl	Command	RW

Description

Resets the count of lost CIC cycle trigger events.

Applies only when the CIC is used (i.e., when `CameraControlMethod` is RC or RG).

3.9. SequenceControl Category

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StartOfSequenceTriggerSource

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl / SequenceControl	Enumeration	RW

Description

Sets/gets the start-of-sequence trigger conditions and selects a hardware or software trigger source.

- When set to `Immediate`, the sequence starts immediately.
- When set to `StartSequence`, the sequence starts only on execution of the `StartSequence` command.
- When set to `<any-event-source>`, the sequence starts on the next occurrence of an event on the specified event source or on execution of the `StartSequence` command. Possible event sources include any available `LIN*`, `QDC*`, `MDV*`, `DIV*`, `DEL*`, `EIN*`, `User Event*` event source.

Applies only when the CIC is used (i.e., when `CameraControlMethod` is `RC` or `RG`).

Enumeration Values

- `Immediate`: Immediate.
- `StartSequence`: `StartSequence` command.
- `LIN1`: When an event occurs on Line Input Tool 1 or on execution of the `StartSequence` command.
- `LIN2`: When an event occurs on Line Input Tool 2 or on execution of the `StartSequence` command.
- `LIN3`: When an event occurs on Line Input Tool 3 or on execution of the `StartSequence` command.

- LIN4: When an event occurs on Line Input Tool 4 or on execution of the StartSequence command.
- LIN5: When an event occurs on Line Input Tool 5 or on execution of the StartSequence command.
- LIN6: When an event occurs on Line Input Tool 6 or on execution of the StartSequence command.
- LIN7: When an event occurs on Line Input Tool 7 or on execution of the StartSequence command.
- LIN8: When an event occurs on Line Input Tool 8 or on execution of the StartSequence command.
- QDC1: When an event occurs on Quadrature Decoder Tool 1 or on execution of the StartSequence command.
- QDC2: When an event occurs on Quadrature Decoder Tool 2 or on execution of the StartSequence command.
- QDC3: When an event occurs on Quadrature Decoder Tool 3 or on execution of the StartSequence command.
- QDC4: When an event occurs on Quadrature Decoder Tool 4 or on execution of the StartSequence command.
- MDV1: When an event occurs on Multiplier/Divider Tool 1 or on execution of the StartSequence command.
- MDV2: When an event occurs on Multiplier/Divider Tool 2 or on execution of the StartSequence command.
- MDV3: When an event occurs on Multiplier/Divider Tool 3 or on execution of the StartSequence command.
- MDV4: When an event occurs on Multiplier/Divider Tool 4 or on execution of the StartSequence command.
- DIV1: When an event occurs on Divider Tool 1 or on execution of the StartSequence command.
- DIV2: When an event occurs on Divider Tool 2 or on execution of the StartSequence command.
- DIV3: When an event occurs on Divider Tool 3 or on execution of the StartSequence command.
- DIV4: When an event occurs on Divider Tool 4 or on execution of the StartSequence command.
- DEL1_1: When an event occurs on Delay Tool 1 Output 1 or on execution of the StartSequence command.
- DEL1_2: When an event occurs on Delay Tool 1 Output 2 or on execution of the StartSequence command.

- DEL2_1: When an event occurs on Delay Tool 2 Output 1 or on execution of the StartSequence command.
- DEL2_2: When an event occurs on Delay Tool 2 Output 2 or on execution of the StartSequence command.
- DEL3_1: When an event occurs on Delay Tool 3 Output 1 or on execution of the StartSequence command.
- DEL3_2: When an event occurs on Delay Tool 3 Output 2 or on execution of the StartSequence command.
- DEL4_1: When an event occurs on Delay Tool 4 Output 1 or on execution of the StartSequence command.
- DEL4_2: When an event occurs on Delay Tool 4 Output 2 or on execution of the StartSequence command.
- EIN1: When an event occurs on Event Input Tool 1 or on execution of the StartSequence command.
- EIN2: When an event occurs on Event Input Tool 2 or on execution of the StartSequence command.
- UserEvent1: When an event occurs on User Event 1 or on execution of the StartSequence command.
- UserEvent2: When an event occurs on User Event 2 or on execution of the StartSequence command.
- UserEvent3: When an event occurs on User Event 3 or on execution of the StartSequence command.
- UserEvent4: When an event occurs on User Event 4 or on execution of the StartSequence command.

EndOfSequenceTriggerSource

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl / SequenceControl	Enumeration	RW

Description

Sets/gets the end-of-sequence trigger conditions and selects a hardware or software trigger source.

- When set to `SequenceLength`, the sequence stops automatically after having executed a number of camera cycles specified by `SequenceLength`. The sequence can be stopped

anticipatively on execution of the `StopSequence` command.

- When set to `StopSequence`, the sequence stops only on execution of the `StopSequence` command.
- When set to `<any-event-source>`, the sequence stops on the next occurrence of an event on the specified event source or on execution of the `StopSequence` command. Possible event sources include any available `LIN*`, `QDC*`, `MDV*`, `DIV*`, `DEL*`, `EIN*`, `User Event*` event source.

Applies only when the CIC is used (i.e., when `CameraControlMethod` is `RC` or `RG`).

Enumeration Values

- `SequenceLength`: `SequenceLength`.
- `StopSequence`: `StopSequence` command.
- `LIN1`: When an event occurs on Line Input Tool 1 or on execution of the `StopSequence` command.
- `LIN2`: When an event occurs on Line Input Tool 2 or on execution of the `StopSequence` command.
- `LIN3`: When an event occurs on Line Input Tool 3 or on execution of the `StopSequence` command.
- `LIN4`: When an event occurs on Line Input Tool 4 or on execution of the `StopSequence` command.
- `LIN5`: When an event occurs on Line Input Tool 5 or on execution of the `StopSequence` command.
- `LIN6`: When an event occurs on Line Input Tool 6 or on execution of the `StopSequence` command.
- `LIN7`: When an event occurs on Line Input Tool 7 or on execution of the `StopSequence` command.
- `LIN8`: When an event occurs on Line Input Tool 8 or on execution of the `StopSequence` command.
- `QDC1`: When an event occurs on Quadrature Decoder Tool 1 or on execution of the `StopSequence` command.
- `QDC2`: When an event occurs on Quadrature Decoder Tool 2 or on execution of the `StopSequence` command.
- `QDC3`: When an event occurs on Quadrature Decoder Tool 3 or on execution of the `StopSequence` command.
- `QDC4`: When an event occurs on Quadrature Decoder Tool 4 or on execution of the `StopSequence` command.
- `MDV1`: When an event occurs on Multiplier/Divider Tool 1 or on execution of the `StopSequence` command.
- `MDV2`: When an event occurs on Multiplier/Divider Tool 2 or on execution of the `StopSequence` command.

- MDV3: When an event occurs on Multiplier/Divider Tool 3 or on execution of the StopSequence command.
- MDV4: When an event occurs on Multiplier/Divider Tool 4 or on execution of the StopSequence command.
- DIV1: When an event occurs on Divider Tool 1 or on execution of the StopSequence command.
- DIV2: When an event occurs on Divider Tool 2 or on execution of the StopSequence command.
- DIV3: When an event occurs on Divider Tool 3 or on execution of the StopSequence command.
- DIV4: When an event occurs on Divider Tool 4 or on execution of the StopSequence command.
- DEL1_1: When an event occurs on Delay Tool 1 Output 1 or on execution of the StopSequence command.
- DEL1_2: When an event occurs on Delay Tool 1 Output 2 or on execution of the StopSequence command.
- DEL2_1: When an event occurs on Delay Tool 2 Output 1 or on execution of the StopSequence command.
- DEL2_2: When an event occurs on Delay Tool 2 Output 2 or on execution of the StopSequence command.
- DEL3_1: When an event occurs on Delay Tool 3 Output 1 or on execution of the StopSequence command.
- DEL3_2: When an event occurs on Delay Tool 3 Output 2 or on execution of the StopSequence command.
- DEL4_1: When an event occurs on Delay Tool 4 Output 1 or on execution of the StopSequence command.
- DEL4_2: When an event occurs on Delay Tool 4 Output 2 or on execution of the StopSequence command.
- EIN1: When an event occurs on Event Input Tool 1 or on execution of the StopSequence command.
- EIN2: When an event occurs on Event Input Tool 2 or on execution of the StopSequence command.
- UserEvent1: When an event occurs on User Event 1 or on execution of the StopSequence command.
- UserEvent2: When an event occurs on User Event 2 or on execution of the StopSequence command.
- UserEvent3: When an event occurs on User Event 3 or on execution of the StopSequence command.

- `UserEvent4`: When an event occurs on User Event 4 or on execution of the `StopSequence` command.

SequenceLength

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl / SequenceControl	Integer	RW

Value Info

Minimum value: 1

Maximum value: 16777215

Short Description

Sequence Length.

StartSequence

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl / SequenceControl	Command	RW

Description

Starts a CIC sequence.

Applies only when the CIC is used (i.e., when `CameraControlMethod` is RC or RG) and `StartOfSequenceTriggerSource` is not set to Immediate.

StopSequence

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl / SequenceControl	Command	RW

Description

Stops a CIC sequence.

Applies only when the CIC is used (i.e., when `CameraControlMethod` is RC or RG).

AbortSequence

Feature Info

Module	Category Path	Type	Access
Device	Root / CameraAndIlluminationControl / SequenceControl	Command	RW

Description

Abort a CIC sequence.

Applies only when the CIC is used (i.e., when `CameraControlMethod` is RC or RG) and `StartOfSequenceTriggerSource` is not set to Immediate.

3.10. EventControl Category

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EventSelector

Feature Info

Module	Category Path	Type	Access
Device	Root / EventControl	Enumeration	RW

Short Description

Select an event.

Selected Features

- "EventNotification" on the next page
- "EventNotificationContext1" on the next page
- "EventNotificationContext2" on page 149
- "EventNotificationContext3" on page 151
- "EventCount" on page 153
- "EventCountReset" on page 153

Enumeration Values

- CameraTriggerRisingEdge: Start of camera trigger.
- CameraTriggerFallingEdge: End of camera trigger.
- StrobeRisingEdge: Start of light strobe.

- `StrobeFallingEdge`: End of light strobe.
- `AllowNextCycle`: CIC is ready for next camera cycle.
- `DiscardedCicTrigger`: Ignored CIC trigger because CIC is not ready for next camera cycle.
- `PendingCicTrigger`: Delayed CIC trigger until CIC is ready for next camera cycle.
- `CxpTriggerAck`: Received acknowledgement for previous CXP trigger message.
- `CxpTriggerResend`: Resent CXP trigger message (acknowledgement to previous CXP trigger message not received).
- `Trigger`: CIC trigger.

EventNotification

Feature Info

Module	Category Path	Type	Access
Device	Root / EventControl	Boolean	RW

Description

Activate or deactivate the notification to the host application of the occurrence of the selected event.

When true, activate the notification.

When false, deactivate the notification.

Default value: `False`.

EventNotificationContext1

Feature Info

Module	Category Path	Type	Access
Device	Root / EventControl	Enumeration	RW

Short Description

Select context information reported in `EVENT_DATA_CUSTOM_CONTEXT_1`.

Enumeration Values

- **EventSpecific:** Event-specific context information.
- **LineStatusAll:** Value of LineStatusAll.
- **QDC1Position:** Position of Quadrature Decoder Tool 1.
- **QDC2Position:** Position of Quadrature Decoder Tool 2.
- **QDC3Position:** Position of Quadrature Decoder Tool 3.
- **QDC4Position:** Position of Quadrature Decoder Tool 4.
- **PendingCicTriggerCount:** Number of currently pending CIC triggers.
- **LIN1EventCount:** Number of LIN1 events.
- **LIN2EventCount:** Number of LIN2 events.
- **LIN3EventCount:** Number of LIN3 events.
- **LIN4EventCount:** Number of LIN4 events.
- **LIN5EventCount:** Number of LIN5 events.
- **LIN6EventCount:** Number of LIN6 events.
- **LIN7EventCount:** Number of LIN7 events.
- **LIN8EventCount:** Number of LIN8 events.
- **QDC1EventCount:** Number of QDC1 events.
- **QDC1DirEventCount:** Number of QDC1Dir events.
- **QDC2EventCount:** Number of QDC2 events.
- **QDC2DirEventCount:** Number of QDC2Dir events.
- **QDC3EventCount:** Number of QDC3 events.
- **QDC3DirEventCount:** Number of QDC3Dir events.
- **QDC4EventCount:** Number of QDC4 events.
- **QDC4DirEventCount:** Number of QDC4Dir events.
- **DIV1EventCount:** Number of DIV1 events.
- **DIV2EventCount:** Number of DIV2 events.
- **DIV3EventCount:** Number of DIV3 events.
- **DIV4EventCount:** Number of DIV4 events.
- **MDV1EventCount:** Number of MDV1 events.
- **MDV2EventCount:** Number of MDV2 events.
- **MDV3EventCount:** Number of MDV3 events.
- **MDV4EventCount:** Number of MDV4 events.

- DEL11EventCount: Number of DEL11 events.
- DEL12EventCount: Number of DEL12 events.
- DEL21EventCount: Number of DEL21 events.
- DEL22EventCount: Number of DEL22 events.
- DEL31EventCount: Number of DEL31 events.
- DEL32EventCount: Number of DEL32 events.
- DEL41EventCount: Number of DEL41 events.
- DEL42EventCount: Number of DEL42 events.
- UserEvent1EventCount: Number of UserEvent1 events.
- UserEvent2EventCount: Number of UserEvent2 events.
- UserEvent3EventCount: Number of UserEvent3 events.
- UserEvent4EventCount: Number of UserEvent4 events.
- EIN1EventCount: Number of EIN1 events.
- EIN2EventCount: Number of EIN2 events.
- CrcErrorCxpAEventCount: Number of CrcErrorCxpA events.
- CrcErrorCxpBEventCount: Number of CrcErrorCxpB events.
- CrcErrorCxpCEventCount: Number of CrcErrorCxpC events.
- CrcErrorCxpDEventCount: Number of CrcErrorCxpD events.
- CameraTriggerRisingEdgeEventCount: Number of CameraTriggerRisingEdge events.
- CameraTriggerFallingEdgeEventCount: Number of CameraTriggerFallingEdge events.
- StrobeRisingEdgeEventCount: Number of StrobeRisingEdge events.
- StrobeFallingEdgeEventCount: Number of StrobeFallingEdge events.
- AllowNextCycleEventCount: Number of AllowNextCycle events.
- DiscardedCicTriggerEventCount: Number of DiscardedCicTrigger events.
- PendingCicTriggerEventCount: Number of PendingCicTrigger events.
- CxpTriggerAckEventCount: Number of CxpTriggerAck events.
- CxpTriggerResendEventCount: Number of CxpTriggerResend events.
- TriggerEventCount: Number of Trigger events.

EventNotificationContext2

Feature Info

Module	Category Path	Type	Access
Device	Root / EventControl	Enumeration	RW

Short Description

Select context information reported in EVENT_DATA_CUSTOM_CONTEXT_2.

Enumeration Values

- **EventSpecific:** Event-specific context information.
- **LineStatusAll:** Value of LineStatusAll.
- **QDC1Position:** Position of Quadrature Decoder Tool 1.
- **QDC2Position:** Position of Quadrature Decoder Tool 2.
- **QDC3Position:** Position of Quadrature Decoder Tool 3.
- **QDC4Position:** Position of Quadrature Decoder Tool 4.
- **PendingCicTriggerCount:** Number of currently pending CIC triggers.
- **LIN1EventCount:** Number of LIN1 events.
- **LIN2EventCount:** Number of LIN2 events.
- **LIN3EventCount:** Number of LIN3 events.
- **LIN4EventCount:** Number of LIN4 events.
- **LIN5EventCount:** Number of LIN5 events.
- **LIN6EventCount:** Number of LIN6 events.
- **LIN7EventCount:** Number of LIN7 events.
- **LIN8EventCount:** Number of LIN8 events.
- **QDC1EventCount:** Number of QDC1 events.
- **QDC1DirEventCount:** Number of QDC1Dir events.
- **QDC2EventCount:** Number of QDC2 events.
- **QDC2DirEventCount:** Number of QDC2Dir events.
- **QDC3EventCount:** Number of QDC3 events.
- **QDC3DirEventCount:** Number of QDC3Dir events.

- QDC4EventCount: Number of QDC4 events.
- QDC4DirEventCount: Number of QDC4Dir events.
- DIV1EventCount: Number of DIV1 events.
- DIV2EventCount: Number of DIV2 events.
- DIV3EventCount: Number of DIV3 events.
- DIV4EventCount: Number of DIV4 events.
- MDV1EventCount: Number of MDV1 events.
- MDV2EventCount: Number of MDV2 events.
- MDV3EventCount: Number of MDV3 events.
- MDV4EventCount: Number of MDV4 events.
- DEL11EventCount: Number of DEL11 events.
- DEL12EventCount: Number of DEL12 events.
- DEL21EventCount: Number of DEL21 events.
- DEL22EventCount: Number of DEL22 events.
- DEL31EventCount: Number of DEL31 events.
- DEL32EventCount: Number of DEL32 events.
- DEL41EventCount: Number of DEL41 events.
- DEL42EventCount: Number of DEL42 events.
- UserEvent1EventCount: Number of UserEvent1 events.
- UserEvent2EventCount: Number of UserEvent2 events.
- UserEvent3EventCount: Number of UserEvent3 events.
- UserEvent4EventCount: Number of UserEvent4 events.
- EIN1EventCount: Number of EIN1 events.
- EIN2EventCount: Number of EIN2 events.
- CrcErrorCxpAEventCount: Number of CrcErrorCxpA events.
- CrcErrorCxpBEventCount: Number of CrcErrorCxpB events.
- CrcErrorCxpCEventCount: Number of CrcErrorCxpC events.
- CrcErrorCxpDEventCount: Number of CrcErrorCxpD events.
- CameraTriggerRisingEdgeEventCount: Number of CameraTriggerRisingEdge events.
- CameraTriggerFallingEdgeEventCount: Number of CameraTriggerFallingEdge events.
- StrobeRisingEdgeEventCount: Number of StrobeRisingEdge events.
- StrobeFallingEdgeEventCount: Number of StrobeFallingEdge events.
- AllowNextCycleEventCount: Number of AllowNextCycle events.

- DiscardedCicTriggerEventCount: Number of DiscardedCicTrigger events.
- PendingCicTriggerEventCount: Number of PendingCicTrigger events.
- CxpTriggerAckEventCount: Number of CxpTriggerAck events.
- CxpTriggerResendEventCount: Number of CxpTriggerResend events.
- TriggerEventCount: Number of Trigger events.

EventNotificationContext3

Feature Info

Module	Category Path	Type	Access
Device	Root / EventControl	Enumeration	RW

Short Description

Select context information reported in EVENT_DATA_CUSTOM_CONTEXT_3.

Enumeration Values

- EventSpecific: Event-specific context information.
- LineStatusAll: Value of LineStatusAll.
- QDC1Position: Position of Quadrature Decoder Tool 1.
- QDC2Position: Position of Quadrature Decoder Tool 2.
- QDC3Position: Position of Quadrature Decoder Tool 3.
- QDC4Position: Position of Quadrature Decoder Tool 4.
- PendingCicTriggerCount: Number of currently pending CIC triggers.
- LIN1EventCount: Number of LIN1 events.
- LIN2EventCount: Number of LIN2 events.
- LIN3EventCount: Number of LIN3 events.
- LIN4EventCount: Number of LIN4 events.
- LIN5EventCount: Number of LIN5 events.
- LIN6EventCount: Number of LIN6 events.
- LIN7EventCount: Number of LIN7 events.
- LIN8EventCount: Number of LIN8 events.
- QDC1EventCount: Number of QDC1 events.

- QDC1DirEventCount: Number of QDC1Dir events.
- QDC2EventCount: Number of QDC2 events.
- QDC2DirEventCount: Number of QDC2Dir events.
- QDC3EventCount: Number of QDC3 events.
- QDC3DirEventCount: Number of QDC3Dir events.
- QDC4EventCount: Number of QDC4 events.
- QDC4DirEventCount: Number of QDC4Dir events.
- DIV1EventCount: Number of DIV1 events.
- DIV2EventCount: Number of DIV2 events.
- DIV3EventCount: Number of DIV3 events.
- DIV4EventCount: Number of DIV4 events.
- MDV1EventCount: Number of MDV1 events.
- MDV2EventCount: Number of MDV2 events.
- MDV3EventCount: Number of MDV3 events.
- MDV4EventCount: Number of MDV4 events.
- DEL11EventCount: Number of DEL11 events.
- DEL12EventCount: Number of DEL12 events.
- DEL21EventCount: Number of DEL21 events.
- DEL22EventCount: Number of DEL22 events.
- DEL31EventCount: Number of DEL31 events.
- DEL32EventCount: Number of DEL32 events.
- DEL41EventCount: Number of DEL41 events.
- DEL42EventCount: Number of DEL42 events.
- UserEvent1EventCount: Number of UserEvent1 events.
- UserEvent2EventCount: Number of UserEvent2 events.
- UserEvent3EventCount: Number of UserEvent3 events.
- UserEvent4EventCount: Number of UserEvent4 events.
- EIN1EventCount: Number of EIN1 events.
- EIN2EventCount: Number of EIN2 events.
- CrcErrorCxpAEventCount: Number of CrcErrorCxpA events.
- CrcErrorCxpBEventCount: Number of CrcErrorCxpB events.
- CrcErrorCxpCEventCount: Number of CrcErrorCxpC events.
- CrcErrorCxpDEventCount: Number of CrcErrorCxpD events.

- CameraTriggerRisingEdgeEventCount: Number of CameraTriggerRisingEdge events.
- CameraTriggerFallingEdgeEventCount: Number of CameraTriggerFallingEdge events.
- StrobeRisingEdgeEventCount: Number of StrobeRisingEdge events.
- StrobeFallingEdgeEventCount: Number of StrobeFallingEdge events.
- AllowNextCycleEventCount: Number of AllowNextCycle events.
- DiscardedCicTriggerEventCount: Number of DiscardedCicTrigger events.
- PendingCicTriggerEventCount: Number of PendingCicTrigger events.
- CxpTriggerAckEventCount: Number of CxpTriggerAck events.
- CxpTriggerResendEventCount: Number of CxpTriggerResend events.
- TriggerEventCount: Number of Trigger events.

EventCount

Feature Info

Module	Category Path	Type	Access
Device	Root / EventControl	IntReg	RO

Register Port: DevicePort

Short Description

Number of occurrences of the selected event (32-bit counter).

EventCountReset

Feature Info

Module	Category Path	Type	Access
Device	Root / EventControl	Command	Imposed: WO

Short Description

Reset the selected EventCount.

EventNotificationAll

Feature Info

Module	Category Path	Type	Access
Device	Root / EventControl	Boolean	Imposed: WO

Short Description

Activate or deactivate the notification of all events.

EventCountResetAll

Feature Info

Module	Category Path	Type	Access
Device	Root / EventControl	Command	Imposed: WO

Short Description

Reset all EventCount.

3.11. Errors Category

ErrorSelector	155
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ErrorSelector

Feature Info

Module	Category Path	Type	Access
Device	Root / Errors	Enumeration	RW

Short Description

Error Selector.

Selected Features

- "ErrorCount" on the next page
- "ErrorCountReset" on the next page

Enumeration Values

- All: All errors.
- StreamPacketSizeError: Stream packet size error.
- StreamPacketFifoOverflow: Stream packet FIFO overflow.
- CameraTriggerOverrun: New trigger sent to remote device even though readout of previous frame has not started yet.
- DidNotReceiveTriggerAck: Trigger ignored because ACK to previous trigger has not been received yet.
- TriggerPacketRetryError: Trigger packet resend not successful.
- InputStreamFifoHalfFull: Input stream FIFO half full.
- InputStreamFifoFull: Input stream FIFO full.
- ImageHeaderError: Image header error.

- MigAxiWriteError: MIG AXI write error.
- MigAxiReadError: MIG AXI read error.
- PacketWithUnexpectedTag: Received a CXP packet with unexpected tag.
- StreamPacketCrcError0: Stream packet CRC error on connector A.
- StreamPacketCrcError1: Stream packet CRC error on connector B.
- StreamPacketCrcError2: Stream packet CRC error on connector C.
- StreamPacketCrcError3: Stream packet CRC error on connector D.
- StartOfScanSkipped: Start of scan skipped (caused by internal exception: image buffer almost full).
- PrematureEndOfScan: End of scan (caused by internal exception: image buffer almost full).
- ExternalTriggerReqsTooClose: External trigger requests too close together.
- Unknown: Unknown errors.

ErrorCount

Feature Info

Module	Category Path	Type	Access
Device	Root / Errors	IntReg	RO

Register Port: DevicePort

Short Description

Error Count.

ErrorCountReset

Feature Info

Module	Category Path	Type	Access
Device	Root / Errors	Command	Imposed: WO

Short Description

Reset the selected ErrorCount.

4. Data Stream Module

Categorized features list of Data Stream module version 9.5.2.131

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4.1. Root Category

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StreamInformation

Feature Info

Module	Category Path	Type	Access
Data Stream	Root	Category	RW

Category Members

Refer to "StreamInformation Category " on page 165

ImageFormatControl

Feature Info

Module	Category Path	Type	Access
Data Stream	Root	Category	RW

Category Members

Refer to "ImageFormatControl Category " on page 166

PixelProcessing

Feature Info

Module	Category Path	Type	Access
Data Stream	Root	Category	RW

Category Members

Refer to ["PixelProcessing Category "](#) on page 177

LUTControl

Feature Info

Module	Category Path	Type	Access
Data Stream	Root	Category	RW

Category Members

Refer to ["LUTControl Category "](#) on page 179

TransportLayerControl

Feature Info

Module	Category Path	Type	Access
Data Stream	Root	Category	RW

Category Members

Refer to ["TransportLayerControl Category "](#) on page 184

BufferHandlingControl

Feature Info

Module	Category Path	Type	Access
Data Stream	Root	Category	RW

Category Members

Refer to ["BufferHandlingControl Category "](#) on page 185

LineScanAcquisitionControl

Feature Info

Module	Category Path	Type	Access
Data Stream	Root	Category	RW

Category Members

Refer to ["LineScanAcquisitionControl Category "](#) on page 187

StreamControl

Feature Info

Module	Category Path	Type	Access
Data Stream	Root	Category	RW

Category Members

Refer to ["StreamControl Category "](#) on page 194

Errors

Feature Info

Module	Category Path	Type	Access
Data Stream	Root	Category	RW

Category Members

Refer to ["Errors Category "](#) on page 197

StreamStatistics

Feature Info

Module	Category Path	Type	Access
Data Stream	Root	Category	RW

Category Members

Refer to ["StreamStatistics Category "](#) on page 200

LinearFilter

Feature Info

Module	Category Path	Type	Access
Data Stream	Root	Category	RW

Category Members

Refer to ["LinearFilter Category "](#) on page 204

Threshold

Feature Info

Module	Category Path	Type	Access
Data Stream	Root	Category	RW

Category Members

Refer to "Threshold Category " on page 206

LaserLineExtractor

Feature Info

Module	Category Path	Type	Access
Data Stream	Root	Category	RW

Category Members

Refer to "LaserLineExtractor Category " on page 207

Bayer

Feature Info

Module	Category Path	Type	Access
Data Stream	Root	Category	RW

Category Members

Refer to "Bayer Category " on page 209

EventControl

Feature Info

Module	Category Path	Type	Access
Data Stream	Root	Category	RW

Category Members

Refer to "EventControl Category " on page 211

4.2. StreamInformation Category

StreamID165

StreamType165

StreamID

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / StreamInformation	String	Imposed: RO

Short Description

Device unique ID for the data stream.

StreamType

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / StreamInformation	Enumeration	Imposed: RO

Short Description

Identifies the transport layer technology of the interface.

Enumeration Values

- CXP: This enumeration value indicates CoaXPress transport layer technology.

4.3. ImageFormatControl Category

PixelFormat	166
PixelFormatNamespace	174
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PixelFormat

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / ImageFormatControl	Enumeration	Imposed: RO

Short Description

Pixel format of the image.

Enumeration Values

- BayerBG10pmsb: BayerBG10pmsb.
- BayerBG12pmsb: BayerBG12pmsb.
- BayerBG14pmsb: BayerBG14pmsb.
- BayerGB10pmsb: BayerGB10pmsb.
- BayerGB12pmsb: BayerGB12pmsb.
- BayerGB14pmsb: BayerGB14pmsb.
- BayerGR10pmsb: BayerGR10pmsb.
- BayerGR12pmsb: BayerGR12pmsb.
- BayerGR14pmsb: BayerGR14pmsb.
- BayerRG10pmsb: BayerRG10pmsb.
- BayerRG12pmsb: BayerRG12pmsb.
- BayerRG14pmsb: BayerRG14pmsb.
- Mono10pmsb: Mono10pmsb.

- Mono12pmsb: Mono12pmsb.
- Mono14pmsb: Mono14pmsb.
- RGB10pmsb: RGB10pmsb.
- RGB12pmsb: RGB12pmsb.
- RGB14pmsb: RGB14pmsb.
- RGBa10pmsb: RGBa10pmsb.
- RGBa12pmsb: RGBa12pmsb.
- RGBa14pmsb: RGBa14pmsb.
- YCbCr601_10pmsb: YCbCr601_10pmsb.
- YCbCr601_12pmsb: YCbCr601_12pmsb.
- YCbCr601_14pmsb: YCbCr601_14pmsb.
- YCbCr601_16: YCbCr601_16.
- YCbCr601_411_10pmsb: YCbCr601_411_10pmsb.
- YCbCr601_411_12pmsb: YCbCr601_411_12pmsb.
- YCbCr601_411_14pmsb: YCbCr601_411_14pmsb.
- YCbCr601_411_16: YCbCr601_411_16.
- YCbCr601_411_8: YCbCr601_411_8.
- YCbCr601_422_10pmsb: YCbCr601_422_10pmsb.
- YCbCr601_422_12pmsb: YCbCr601_422_12pmsb.
- YCbCr601_422_14pmsb: YCbCr601_422_14pmsb.
- YCbCr601_422_16: YCbCr601_422_16.
- YCbCr601_8: YCbCr601_8.
- YCbCr709_10pmsb: YCbCr709_10pmsb.
- YCbCr709_12pmsb: YCbCr709_12pmsb.
- YCbCr709_14pmsb: YCbCr709_14pmsb.
- YCbCr709_16: YCbCr709_16.
- YCbCr709_411_10pmsb: YCbCr709_411_10pmsb.
- YCbCr709_411_12pmsb: YCbCr709_411_12pmsb.
- YCbCr709_411_14pmsb: YCbCr709_411_14pmsb.
- YCbCr709_411_16: YCbCr709_411_16.
- YCbCr709_411_8: YCbCr709_411_8.
- YCbCr709_422_10pmsb: YCbCr709_422_10pmsb.
- YCbCr709_422_12pmsb: YCbCr709_422_12pmsb.

- YCbCr709_422_14pmsb: YCbCr709_422_14pmsb.
- YCbCr709_422_16: YCbCr709_422_16.
- YCbCr709_8: YCbCr709_8.
- YUV10pmsb: YUV10pmsb.
- YUV12pmsb: YUV12pmsb.
- YUV14pmsb: YUV14pmsb.
- YUV16: YUV16.
- YUV411_10pmsb: YUV411_10pmsb.
- YUV411_12pmsb: YUV411_12pmsb.
- YUV411_14pmsb: YUV411_14pmsb.
- YUV411_16: YUV411_16.
- YUV411_8: YUV411_8.
- YUV422_10pmsb: YUV422_10pmsb.
- YUV422_12pmsb: YUV422_12pmsb.
- YUV422_14pmsb: YUV422_14pmsb.
- YUV422_16: YUV422_16.
- YUV8: YUV8.
- BayerBG10: BayerBG10.
- BayerBG10p: BayerBG10p.
- BayerBG10Packed: BayerBG10Packed.
- BayerBG12: BayerBG12.
- BayerBG12p: BayerBG12p.
- BayerBG12Packed: BayerBG12Packed.
- BayerBG14: BayerBG14.
- BayerBG16: BayerBG16.
- BayerBG8: BayerBG8.
- BayerGB10: BayerGB10.
- BayerGB10p: BayerGB10p.
- BayerGB10Packed: BayerGB10Packed.
- BayerGB12: BayerGB12.
- BayerGB12p: BayerGB12p.
- BayerGB12Packed: BayerGB12Packed.
- BayerGB14: BayerGB14.

- BayerGB16: BayerGB16.
- BayerGB8: BayerGB8.
- BayerGR10: BayerGR10.
- BayerGR10p: BayerGR10p.
- BayerGR10Packed: BayerGR10Packed.
- BayerGR12: BayerGR12.
- BayerGR12p: BayerGR12p.
- BayerGR12Packed: BayerGR12Packed.
- BayerGR14: BayerGR14.
- BayerGR16: BayerGR16.
- BayerGR8: BayerGR8.
- BayerRG10: BayerRG10.
- BayerRG10p: BayerRG10p.
- BayerRG10Packed: BayerRG10Packed.
- BayerRG12: BayerRG12.
- BayerRG12p: BayerRG12p.
- BayerRG12Packed: BayerRG12Packed.
- BayerRG14: BayerRG14.
- BayerRG16: BayerRG16.
- BayerRG8: BayerRG8.
- BGR10: BGR10.
- BGR10p: BGR10p.
- BGR12: BGR12.
- BGR12p: BGR12p.
- BGR14: BGR14.
- BGR16: BGR16.
- BGR565p: BGR565p.
- BGR8: BGR8.
- BGR8a32: BGR8a32.
- BGRa10: BGRa10.
- BGRa10p: BGRa10p.
- BGRa12: BGRa12.
- BGRa12p: BGRa12p.

- BGRa14: BGRa14.
- BGRa16: BGRa16.
- BGRa8: BGRa8.
- BiColorBGRG10: BiColorBGRG10.
- BiColorBGRG10p: BiColorBGRG10p.
- BiColorBGRG12: BiColorBGRG12.
- BiColorBGRG12p: BiColorBGRG12p.
- BiColorBGRG8: BiColorBGRG8.
- BiColorRGBG10: BiColorRGBG10.
- BiColorRGBG10p: BiColorRGBG10p.
- BiColorRGBG12: BiColorRGBG12.
- BiColorRGBG12p: BiColorRGBG12p.
- BiColorRGBG8: BiColorRGBG8.
- Confidence1: Confidence1.
- Confidence16: Confidence16.
- Confidence1p: Confidence1p.
- Confidence32f: Confidence32f.
- Confidence8: Confidence8.
- Coord3D_A16: Coord3D_A16.
- Coord3D_A32f: Coord3D_A32f.
- Coord3D_A8: Coord3D_A8.
- Coord3D_ABC16: Coord3D_ABC16.
- Coord3D_ABC16_Planar: Coord3D_ABC16_Planar.
- Coord3D_ABC32f: Coord3D_ABC32f.
- Coord3D_ABC32f_Planar: Coord3D_ABC32f_Planar.
- Coord3D_ABC8: Coord3D_ABC8.
- Coord3D_ABC8_Planar: Coord3D_ABC8_Planar.
- Coord3D_AC16: Coord3D_AC16.
- Coord3D_AC16_Planar: Coord3D_AC16_Planar.
- Coord3D_AC32f: Coord3D_AC32f.
- Coord3D_AC32f_Planar: Coord3D_AC32f_Planar.
- Coord3D_AC8: Coord3D_AC8.
- Coord3D_AC8_Planar: Coord3D_AC8_Planar.

- Coord3D_B16: Coord3D_B16.
- Coord3D_B32f: Coord3D_B32f.
- Coord3D_B8: Coord3D_B8.
- Coord3D_C16: Coord3D_C16.
- Coord3D_C32f: Coord3D_C32f.
- Coord3D_C8: Coord3D_C8.
- Mono10: Mono10.
- Mono10p: Mono10p.
- Mono10Packed: Mono10Packed.
- Mono12: Mono12.
- Mono12p: Mono12p.
- Mono12Packed: Mono12Packed.
- Mono14: Mono14.
- Mono16: Mono16.
- Mono1p: Mono1p.
- Mono2p: Mono2p.
- Mono4p: Mono4p.
- Mono8: Mono8.
- Mono8s: Mono8s.
- RGB10: RGB10.
- RGB10_Planar: RGB10_Planar.
- RGB10p: RGB10p.
- RGB10p32: RGB10p32.
- RGB10V1Packed: RGB10V1Packed.
- RGB12: RGB12.
- RGB12_Planar: RGB12_Planar.
- RGB12p: RGB12p.
- RGB12V1Packed: RGB12V1Packed.
- RGB14: RGB14.
- RGB16: RGB16.
- RGB16_Planar: RGB16_Planar.
- RGB565p: RGB565p.
- RGB8: RGB8.

- RGB8_Planar: RGB8_Planar.
- RGB8a32: RGB8a32.
- RGBa10: RGBa10.
- RGBa10p: RGBa10p.
- RGBa12: RGBa12.
- RGBa12p: RGBa12p.
- RGBa14: RGBa14.
- RGBa16: RGBa16.
- RGBa8: RGBa8.
- SCF1WBWG10: SCF1WBWG10.
- SCF1WBWG10p: SCF1WBWG10p.
- SCF1WBWG12: SCF1WBWG12.
- SCF1WBWG12p: SCF1WBWG12p.
- SCF1WBWG14: SCF1WBWG14.
- SCF1WBWG16: SCF1WBWG16.
- SCF1WBWG8: SCF1WBWG8.
- SCF1WGWB10: SCF1WGWB10.
- SCF1WGWB10p: SCF1WGWB10p.
- SCF1WGWB12: SCF1WGWB12.
- SCF1WGWB12p: SCF1WGWB12p.
- SCF1WGWB14: SCF1WGWB14.
- SCF1WGWB16: SCF1WGWB16.
- SCF1WGWB8: SCF1WGWB8.
- SCF1WGWR10: SCF1WGWR10.
- SCF1WGWR10p: SCF1WGWR10p.
- SCF1WGWR12: SCF1WGWR12.
- SCF1WGWR12p: SCF1WGWR12p.
- SCF1WGWR14: SCF1WGWR14.
- SCF1WGWR16: SCF1WGWR16.
- SCF1WGWR8: SCF1WGWR8.
- SCF1WRWG10: SCF1WRWG10.
- SCF1WRWG10p: SCF1WRWG10p.
- SCF1WRWG12: SCF1WRWG12.

- SCF1WRWG12p: SCF1WRWG12p.
- SCF1WRWG14: SCF1WRWG14.
- SCF1WRWG16: SCF1WRWG16.
- SCF1WRWG8: SCF1WRWG8.
- YCbCr10_CbYCr: YCbCr10_CbYCr.
- YCbCr10p_CbYCr: YCbCr10p_CbYCr.
- YCbCr12_CbYCr: YCbCr12_CbYCr.
- YCbCr12p_CbYCr: YCbCr12p_CbYCr.
- YCbCr411_8: YCbCr411_8.
- YCbCr411_8_CbYYCrYY: YCbCr411_8_CbYYCrYY.
- YCbCr422_10: YCbCr422_10.
- YCbCr422_10_CbYCrY: YCbCr422_10_CbYCrY.
- YCbCr422_10p: YCbCr422_10p.
- YCbCr422_10p_CbYCrY: YCbCr422_10p_CbYCrY.
- YCbCr422_12: YCbCr422_12.
- YCbCr422_12_CbYCrY: YCbCr422_12_CbYCrY.
- YCbCr422_12p: YCbCr422_12p.
- YCbCr422_12p_CbYCrY: YCbCr422_12p_CbYCrY.
- YCbCr422_8: YCbCr422_8.
- YCbCr422_8_CbYCrY: YCbCr422_8_CbYCrY.
- YCbCr601_10_CbYCr: YCbCr601_10_CbYCr.
- YCbCr601_10p_CbYCr: YCbCr601_10p_CbYCr.
- YCbCr601_12_CbYCr: YCbCr601_12_CbYCr.
- YCbCr601_12p_CbYCr: YCbCr601_12p_CbYCr.
- YCbCr601_411_8_CbYYCrYY: YCbCr601_411_8_CbYYCrYY.
- YCbCr601_422_10: YCbCr601_422_10.
- YCbCr601_422_10_CbYCrY: YCbCr601_422_10_CbYCrY.
- YCbCr601_422_10p: YCbCr601_422_10p.
- YCbCr601_422_10p_CbYCrY: YCbCr601_422_10p_CbYCrY.
- YCbCr601_422_12: YCbCr601_422_12.
- YCbCr601_422_12_CbYCrY: YCbCr601_422_12_CbYCrY.
- YCbCr601_422_12p: YCbCr601_422_12p.
- YCbCr601_422_12p_CbYCrY: YCbCr601_422_12p_CbYCrY.

- YCbCr601_422_8: YCbCr601_422_8.
- YCbCr601_422_8_CbYCrY: YCbCr601_422_8_CbYCrY.
- YCbCr601_8_CbYCr: YCbCr601_8_CbYCr.
- YCbCr709_10_CbYCr: YCbCr709_10_CbYCr.
- YCbCr709_10p_CbYCr: YCbCr709_10p_CbYCr.
- YCbCr709_12_CbYCr: YCbCr709_12_CbYCr.
- YCbCr709_12p_CbYCr: YCbCr709_12p_CbYCr.
- YCbCr709_411_8_CbYYCrYY: YCbCr709_411_8_CbYYCrYY.
- YCbCr709_422_10: YCbCr709_422_10.
- YCbCr709_422_10_CbYCrY: YCbCr709_422_10_CbYCrY.
- YCbCr709_422_10p: YCbCr709_422_10p.
- YCbCr709_422_10p_CbYCrY: YCbCr709_422_10p_CbYCrY.
- YCbCr709_422_12: YCbCr709_422_12.
- YCbCr709_422_12_CbYCrY: YCbCr709_422_12_CbYCrY.
- YCbCr709_422_12p: YCbCr709_422_12p.
- YCbCr709_422_12p_CbYCrY: YCbCr709_422_12p_CbYCrY.
- YCbCr709_422_8: YCbCr709_422_8.
- YCbCr709_422_8_CbYCrY: YCbCr709_422_8_CbYCrY.
- YCbCr709_8_CbYCr: YCbCr709_8_CbYCr.
- YCbCr8: YCbCr8.
- YCbCr8_CbYCr: YCbCr8_CbYCr.
- YUV411_8_UYYVYY: YUV411_8_UYYVYY.
- YUV422_8: YUV422_8.
- YUV422_8_UYVY: YUV422_8_UYVY.
- YUV8_UYV: YUV8_UYV.

PixelFormatNamespace

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / ImageFormatControl	Enumeration	Imposed: RO

Short Description

Namespace of the pixel format.

Enumeration Values

- Unknown: Unknown.
- GEV: GEV.
- IIDC: IIDC.
- PFNC_16BIT: PFNC 16-bit.
- PFNC_32BIT: PFNC 32-bit.

PixelFormat

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / ImageFormatControl	IntReg	RO

Register Port: StreamPort

Short Description

Pixel size in bits.

Width

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / ImageFormatControl	Integer	Imposed: RO

Short Description

Width of the image.

Height

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / ImageFormatControl	Integer	Imposed: RO

Short Description

Height of the image.

4.4. PixelProcessing Category

UnpackingMode	177
RedBlueSwap	178

UnpackingMode

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / PixelProcessing	Enumeration	RW

Description

Unpacking Mode of multi-byte pixel components.

When set to Lsb, each pixel component is unpacked to the least significant bit. Padding '0' bits are put as necessary in the most significant bits to reach the next 8-bit boundary. 16-bit data are delivered using the little-endian convention.

When set to Msb, each pixel component is unpacked to the most significant bit. Padding '0' bits are put as necessary in the least significant bits to reach the next 8-bit boundary. 16-bit data are delivered using the little-endian convention.

When set to Off, the pixel components are not unpacked. The pixel data stream is left unchanged.

Default value: Lsb.

Note: The default value was Msb for Coaxlink Driver versions prior to 4.3.

Enumeration Values

- Lsb: Unpacking to lsb.
- Msb: Unpacking to msb.
- Off: No unpacking.

RedBlueSwap

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / PixelProcessing	Boolean	RW

Description

Red-Blue component swapping.

When true, the first (Red) and the last (Blue) color components of an RGB packed pixel are swapped before being delivered.

When false, the pixel component order remains unchanged.

Default value: False.

4.5. LUTControl Category

LUTConfiguration	179
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LUTConfiguration

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / LUTControl	Enumeration	RW

Short Description

Configuration of the LUT processor.

Enumeration Values

- M_8x8: Monochrome 8-bit to 8-bit.
- M_10x8: Monochrome 10-bit to 8-bit.
- M_10x10: Monochrome 10-bit to 10-bit.
- M_10x16: Monochrome 10-bit to 16-bit.
- M_12x8: Monochrome 12-bit to 8-bit.
- M_12x12: Monochrome 12-bit to 12-bit.
- M_12x16: Monochrome 12-bit to 16-bit.

LUTLength

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / LUTControl	IntReg	RO

Register Port: StreamPort

Short Description

Number of table entries in a LUT device.

LUTMaxValue

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / LUTControl	IntReg	RO

Register Port: StreamPort

Short Description

Highest value of a table entry.

LUTSet

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / LUTControl	Enumeration	RW

Short Description

LUT set to access.

Selected Features

- "LUTValue" on the next page

Enumeration Values

- Set1: Select LUT set 1 for access.
- Set2: Select LUT set 2 for access.
- Set3: Select LUT set 3 for access.
- Set4: Select LUT set 4 for access.
- Set5: Select LUT set 5 for access.
- Set6: Select LUT set 6 for access.
- Set7: Select LUT set 7 for access.
- Set8: Select LUT set 8 for access.
- Set9: Select LUT set 9 for access.
- Set10: Select LUT set 10 for access.
- Set11: Select LUT set 11 for access.
- Set12: Select LUT set 12 for access.
- Set13: Select LUT set 13 for access.
- Set14: Select LUT set 14 for access.
- Set15: Select LUT set 15 for access.
- Set16: Select LUT set 16 for access.

LUTIndex

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / LUTControl	Integer	RW

Value Info

Minimum value: 0

Short Description

Index of the first entry to access.

Selected Features

- "LUTValue" below

LUTValue

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / LUTControl	StringReg	RW

Short Description

String of value(s) to read from- or to write to- the accessed LUT at location LUTIndex.

LUTReadBlockLength

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / LUTControl	Integer	RW

Value Info

Minimum value: 1

Short Description

Number of consecutive table entries to read.

LUTEnable

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / LUTControl	Enumeration	RW

Short Description

Enables the LUT processor with a specific LUT set..

Enumeration Values

- Off:
- Set1: Enables the LUT processor with LUT set 1.
- Set2: Enables the LUT processor with LUT set 2.
- Set3: Enables the LUT processor with LUT set 3.
- Set4: Enables the LUT processor with LUT set 4.
- Set5: Enables the LUT processor with LUT set 5.
- Set6: Enables the LUT processor with LUT set 6.
- Set7: Enables the LUT processor with LUT set 7.
- Set8: Enables the LUT processor with LUT set 8.
- Set9: Enables the LUT processor with LUT set 9.
- Set10: Enables the LUT processor with LUT set 10.
- Set11: Enables the LUT processor with LUT set 11.
- Set12: Enables the LUT processor with LUT set 12.
- Set13: Enables the LUT processor with LUT set 13.
- Set14: Enables the LUT processor with LUT set 14.
- Set15: Enables the LUT processor with LUT set 15.
- Set16: Enables the LUT processor with LUT set 16.

4.6. TransportLayerControl Category

PayloadSize184

PayloadSize

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / TransportLayerControl	IntReg	RO

Register Port: StreamPort

Short Description

Provides the number of bytes transferred for each image on the stream channel.

4.7. BufferHandlingControl Category

StreamAnnouncedBufferCount	185
StreamBufferHandlingMode	185
StreamAnnounceBufferMinimum	186
StreamAcquisitionModeSelector	186

StreamAnnouncedBufferCount

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / BufferHandlingControl	Integer	Imposed: RO

Short Description

Number of announced buffers on the stream.

StreamBufferHandlingMode

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / BufferHandlingControl	Enumeration	RW

Short Description

Available buffer handling modes of this Stream.

Enumeration Values

- **Default:** Default Buffer Handling Mode.

StreamAnnounceBufferMinimum

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / BufferHandlingControl	Integer	Imposed: RO

Short Description

Minimal number of buffers to announce to enable selected buffer handling mode.

StreamAcquisitionModeSelector

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / BufferHandlingControl	Enumeration	RW

Short Description

Available buffer handling modes of this Stream. Deprecated.

Enumeration Values

- **Default:** Default Buffer Handling Mode.

4.8. LineScanAcquisitionControl Category

StartOfScanTriggerSource	187
EndOfScanTriggerSource	189
ScanLength	191
BufferHeight	192
StartScan	192
StopScan	192

StartOfScanTriggerSource

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / LineScanAcquisitionControl	Enumeration	RW

Description

Start-of-scan trigger conditions and trigger source.

Default value: Immediate.

Enumeration Values

- Immediate: Immediate.
- StartScan: StartScan command.
- LIN1: When an event occurs on Line Input Tool 1 or on execution of the StartScan command.
- LIN2: When an event occurs on Line Input Tool 2 or on execution of the StartScan command.
- LIN3: When an event occurs on Line Input Tool 3 or on execution of the StartScan command.
- LIN4: When an event occurs on Line Input Tool 4 or on execution of the StartScan command.
- LIN5: When an event occurs on Line Input Tool 5 or on execution of the StartScan command.

- LIN6: When an event occurs on Line Input Tool 6 or on execution of the StartScan command.
- LIN7: When an event occurs on Line Input Tool 7 or on execution of the StartScan command.
- LIN8: When an event occurs on Line Input Tool 8 or on execution of the StartScan command.
- QDC1: When an event occurs on Quadrature Decoder Tool 1 or on execution of the StartScan command.
- QDC2: When an event occurs on Quadrature Decoder Tool 2 or on execution of the StartScan command.
- QDC3: When an event occurs on Quadrature Decoder Tool 3 or on execution of the StartScan command.
- QDC4: When an event occurs on Quadrature Decoder Tool 4 or on execution of the StartScan command.
- MDV1: When an event occurs on Multiplier/Divider Tool 1 or on execution of the StartScan command.
- MDV2: When an event occurs on Multiplier/Divider Tool 2 or on execution of the StartScan command.
- MDV3: When an event occurs on Multiplier/Divider Tool 3 or on execution of the StartScan command.
- MDV4: When an event occurs on Multiplier/Divider Tool 4 or on execution of the StartScan command.
- DIV1: When an event occurs on Divider Tool 1 or on execution of the StartScan command.
- DIV2: When an event occurs on Divider Tool 2 or on execution of the StartScan command.
- DIV3: When an event occurs on Divider Tool 3 or on execution of the StartScan command.
- DIV4: When an event occurs on Divider Tool 4 or on execution of the StartScan command.
- DEL1_1: When an event occurs on Delay Tool 1 Output 1 or on execution of the StartScan command.
- DEL1_2: When an event occurs on Delay Tool 1 Output 2 or on execution of the StartScan command.
- DEL2_1: When an event occurs on Delay Tool 2 Output 1 or on execution of the StartScan command.
- DEL2_2: When an event occurs on Delay Tool 2 Output 2 or on execution of the StartScan command.
- DEL3_1: When an event occurs on Delay Tool 3 Output 1 or on execution of the StartScan command.
- DEL3_2: When an event occurs on Delay Tool 3 Output 2 or on execution of the StartScan command.

- **DEL4_1:** When an event occurs on Delay Tool 4 Output 1 or on execution of the StartScan command.
- **DEL4_2:** When an event occurs on Delay Tool 4 Output 2 or on execution of the StartScan command.
- **EIN1:** When an event occurs on Event Input Tool 1 or on execution of the StartScan command.
- **EIN2:** When an event occurs on Event Input Tool 2 or on execution of the StartScan command.
- **UserEvent1:** When an event occurs on User Event 1 or on execution of the StartScan command.
- **UserEvent2:** When an event occurs on User Event 2 or on execution of the StartScan command.
- **UserEvent3:** When an event occurs on User Event 3 or on execution of the StartScan command.
- **UserEvent4:** When an event occurs on User Event 4 or on execution of the StartScan command.

EndOfScanTriggerSource

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / LineScanAcquisitionControl	Enumeration	RW

Description

End-of-scan trigger conditions and trigger source.

Default value: ScanLength.

Enumeration Values

- **ScanLength:** ScanLength.
- **StopScan:** StopScan command.
- **LIN1:** When an event occurs on Line Input Tool 1 or on execution of the StopScan command.
- **LIN2:** When an event occurs on Line Input Tool 2 or on execution of the StopScan command.
- **LIN3:** When an event occurs on Line Input Tool 3 or on execution of the StopScan command.
- **LIN4:** When an event occurs on Line Input Tool 4 or on execution of the StopScan command.
- **LIN5:** When an event occurs on Line Input Tool 5 or on execution of the StopScan command.

- LIN6: When an event occurs on Line Input Tool 6 or on execution of the StopScan command.
- LIN7: When an event occurs on Line Input Tool 7 or on execution of the StopScan command.
- LIN8: When an event occurs on Line Input Tool 8 or on execution of the StopScan command.
- QDC1: When an event occurs on Quadrature Decoder Tool 1 or on execution of the StopScan command.
- QDC2: When an event occurs on Quadrature Decoder Tool 2 or on execution of the StopScan command.
- QDC3: When an event occurs on Quadrature Decoder Tool 3 or on execution of the StopScan command.
- QDC4: When an event occurs on Quadrature Decoder Tool 4 or on execution of the StopScan command.
- MDV1: When an event occurs on Multiplier/Divider Tool 1 or on execution of the StopScan command.
- MDV2: When an event occurs on Multiplier/Divider Tool 2 or on execution of the StopScan command.
- MDV3: When an event occurs on Multiplier/Divider Tool 3 or on execution of the StopScan command.
- MDV4: When an event occurs on Multiplier/Divider Tool 4 or on execution of the StopScan command.
- DIV1: When an event occurs on Divider Tool 1 or on execution of the StopScan command.
- DIV2: When an event occurs on Divider Tool 2 or on execution of the StopScan command.
- DIV3: When an event occurs on Divider Tool 3 or on execution of the StopScan command.
- DIV4: When an event occurs on Divider Tool 4 or on execution of the StopScan command.
- DEL1_1: When an event occurs on Delay Tool 1 Output 1 or on execution of the StopScan command.
- DEL1_2: When an event occurs on Delay Tool 1 Output 2 or on execution of the StopScan command.
- DEL2_1: When an event occurs on Delay Tool 2 Output 1 or on execution of the StopScan command.
- DEL2_2: When an event occurs on Delay Tool 2 Output 2 or on execution of the StopScan command.
- DEL3_1: When an event occurs on Delay Tool 3 Output 1 or on execution of the StopScan command.
- DEL3_2: When an event occurs on Delay Tool 3 Output 2 or on execution of the StopScan command.
- DEL4_1: When an event occurs on Delay Tool 4 Output 1 or on execution of the StopScan command.

- **DEL4_2:** When an event occurs on Delay Tool 4 Output 2 or on execution of the StopScan command.
- **EIN1:** When an event occurs on Event Input Tool 1 or on execution of the StopScan command.
- **EIN2:** When an event occurs on Event Input Tool 2 or on execution of the StopScan command.
- **UserEvent1:** When an event occurs on User Event 1 or on execution of the StopScan command.
- **UserEvent2:** When an event occurs on User Event 2 or on execution of the StopScan command.
- **UserEvent3:** When an event occurs on User Event 3 or on execution of the StopScan command.
- **UserEvent4:** When an event occurs on User Event 4 or on execution of the StopScan command.

ScanLength

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / LineScanAcquisitionControl	Integer	RW

Value Info

Minimum value: 1

Maximum value: 16777215

Unit: lines

Default value: 512

Description

Sets/gets the number of captured lines before stopping the scanning.

Note: Applies only when *EndOfScanTriggerSource* = *ScanLength*.

BufferHeight

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / LineScanAcquisitionControl	Integer	RW

Value Info

Unit: lines

Default value: ***TBD***

Short Description

Height of the image in line-scan mode. This feature is only used in line-scan acquisition scenarios to compute PayloadSize

StartScan

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / LineScanAcquisitionControl	Command	RW

Short Description

Starts a scan.

StopScan

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / LineScanAcquisitionControl	Command	RW

Short Description

Stops a scan.

4.9. StreamControl Category

StreamReset	194
LineWidth	194
LinePitch	195
StripeHeight	195
StripePitch	196
StripeArrangement	196

StreamReset

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / StreamControl	Command	RW

Short Description

Stream Reset.

LineWidth

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / StreamControl	Integer	RW

Value Info

Minimum value: 0

Short Description

Line width in bytes.

LinePitch

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / StreamControl	Integer	RW

Value Info

Minimum value: 0

Short Description

Line pitch in bytes.

StripeHeight

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / StreamControl	Integer	RW

Value Info

Minimum value: 0

Short Description

Stripe height in lines.

StripePitch

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / StreamControl	Integer	RW

Value Info

Minimum value: 0

Short Description

Stripe pitch in lines.

StripeArrangement

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / StreamControl	Enumeration	RW

Short Description

The stripe arrangement defines how image data is arranged in user buffers.

Enumeration Values

- `Geometry_1X_1Y`: Regular (top-down) image.
- `Geometry_1X_1YE`: Vertically flipped (bottom-up) image.

4.10. Errors Category

ErrorSelector	197
ErrorCount	198
ErrorCountReset	198

ErrorSelector

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / Errors	Enumeration	RW

Short Description

Error Selector.

Selected Features

- "ErrorCount" on the next page
- "ErrorCountReset" on the next page

Enumeration Values

- All: All errors.
- StreamPacketSizeError: Stream packet size error.
- StreamPacketFifoOverflow: Stream packet FIFO overflow.
- CameraTriggerOverrun: New trigger sent to remote device even though readout of previous frame has not started yet.
- DidNotReceiveTriggerAck: Trigger ignored because ACK to previous trigger has not been received yet.
- TriggerPacketRetryError: Trigger packet resend not successful.
- InputStreamFifoHalfFull: Input stream FIFO half full.
- InputStreamFifoFull: Input stream FIFO full.
- ImageHeaderError: Image header error.

- MigAxiWriteError: MIG AXI write error.
- MigAxiReadError: MIG AXI read error.
- PacketWithUnexpectedTag: Received a CXP packet with unexpected tag.
- StreamPacketCrcError0: Stream packet CRC error on connector A.
- StreamPacketCrcError1: Stream packet CRC error on connector B.
- StreamPacketCrcError2: Stream packet CRC error on connector C.
- StreamPacketCrcError3: Stream packet CRC error on connector D.
- StartOfScanSkipped: Start of scan skipped (caused by internal exception: image buffer almost full).
- PrematureEndOfScan: End of scan (caused by internal exception: image buffer almost full).
- ExternalTriggerReqsTooClose: External trigger requests too close together.
- Unknown: Unknown errors.

ErrorCount

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / Errors	IntReg	RO

Register Port: StreamPort

Short Description

Error Count.

ErrorCountReset

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / Errors	Command	Imposed: WO

Short Description

Reset the selected ErrorCount.

4.11. StreamStatistics Category

StatisticsSamplingSelector	200
StatisticsFrameRate	201
StatisticsLineRate	201
StatisticsDataRate	202
StatisticsStartSampling	202
StatisticsStopSampling	203

StatisticsSamplingSelector

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / StreamStatistics	Enumeration	RW

Description

Selects the stream statistics sampling method.

Default value: LastSecond.

Selected Features

- "StatisticsFrameRate" on the next page
- "StatisticsLineRate" on the next page
- "StatisticsDataRate" on page 202

Enumeration Values

- LastSecond: During the last second.
- LastTenSeconds: During the last 10 seconds.
- Last2Buffers: For the last 2 buffers.
- Last10Buffers: For the last 10 buffers.
- Last100Buffers: For the last 100 buffers.
- Last1000Buffers: For the last 1000 buffers.

- **LastAcquisition:** During the last acquisition activity period. Namely since the last `DSStartAcquisition()` function call until now, if the acquisition is still active otherwise until the last `DSStopAcquisition()` function call.
- **Custom:** Custom sampling using `StatisticsStartSampling` and `StatisticsStopSampling` commands.

StatisticsFrameRate

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / StreamStatistics	FloatReg	RO

Register Port: StreamPort

Value Info

Unit: Fps (Frames per second)

Unit: Frames per second

Description

Average frame delivery rate using the selected sampling method.

Note: This feature is only available for area-scan firmware variants.

Note: The statistics measures the frame rate at the level of the PCI Express interface, NOT at the level of the CoaXPress interface!

StatisticsLineRate

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / StreamStatistics	FloatReg	RO

Register Port: StreamPort

Value Info

Unit: Lps (Lines per second)

Unit: Lines per second

Description

Average line delivery rate using the selected sampling method.

Note: This feature is only available for line-scan firmware variants.

Note: The statistics measures the line rate at the level of the PCI Express interface, NOT at the level of the CoaXPress interface!

StatisticsDataRate

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / StreamStatistics	FloatReg	RO

Register Port: StreamPort

Value Info

Unit: MBps (Megabytes per second)

Unit: 1,000,000 bytes per second

Short Description

Get the average PCI data delivery rate using the selected sampling method.

StatisticsStartSampling

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / StreamStatistics	Command	RW

Short Description

Start sampling the stream data. Applies only when StatisticsSamplingSelector = Custom.

StatisticsStopSampling

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / StreamStatistics	Command	RW

Short Description

Stop sampling the stream data. Applies only when StatisticsSamplingSelector = Custom.

4.12. LinearFilter Category

LinearFilterControl	204
LinearFilterCoefficientA	204
LinearFilterCoefficientB	205
LinearFilterCoefficientC	205

LinearFilterControl

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / LinearFilter	Enumeration	RW

Short Description

Linear Filter Control.

Enumeration Values

- Disable: Disable.
- Enable: Enable.

LinearFilterCoefficientA

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / LinearFilter	Integer	RW

Value Info

Minimum value: 0

Maximum value: 512

Short Description

Linear filter coefficient A.

LinearFilterCoefficientB

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / LinearFilter	Integer	RW

Value Info

Minimum value: 0

Maximum value: 512

Short Description

Linear filter coefficient B.

LinearFilterCoefficientC

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / LinearFilter	Integer	RW

Value Info

Minimum value: 0

Maximum value: 512

Short Description

Linear filter coefficient C.

4.13. Threshold Category

ThresholdControl	206
ThresholdLevel	206

ThresholdControl

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / Threshold	Enumeration	RW

Short Description

Threshold Control.

Enumeration Values

- Disable: Disable.
- Enable: Enable.

ThresholdLevel

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / Threshold	Integer	RW

Value Info

Minimum value: 0

Maximum value: 255

Short Description

Threshold level.

4.14. LaserLineExtractor Category

Scan3dExtractionMethod	207
Scan3dOutputMode	207

Scan3dExtractionMethod

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / LaserLineExtractor	Enumeration	RW

Short Description

Scan3d Extraction Method.

Enumeration Values

- **Disable:** Disable extraction.
- **MaxDetection_8:** Maximum detection, 8-bit integer coordinates.
- **MaxDetection_16:** Maximum detection, 16-bit integer coordinates.
- **PeakDetection_11_5:** Peak detection, UQ11.5 fixed-point coordinates (fx11.16).
- **PeakDetection_8_8:** Peak detection, UQ8.8 fixed-point coordinates (fx8.16).
- **CenterOfGravity_11_5:** Center of gravity, UQ11.5 fixed-point coordinates (fx11.16).
- **CenterOfGravity_8_8:** Center of gravity, UQ8.8 fixed-point coordinates (fx8.16).

Scan3dOutputMode

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / LaserLineExtractor	Enumeration	RW

Short Description

Scan3d Output Mode.

Enumeration Values

- `UncalibratedC`: Uncalibrated 2.5D Depth map.

4.15. Bayer Category

BayerDecoder 209

BayerDecoder

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / Bayer	Enumeration	RW

Short Description

Bayer decoder control.

Enumeration Values

- Disable: Disable.
- Enable: Enable.

4.16. Debug Category

FlipBit210

FlipBit

Feature Info

Module	Category Path	Type	Access
Data Stream	Debug	IntReg	WO

Register Port: StreamPort

Short Description

Flip Bit.

4.17. EventControl Category

EventSelector	211
EventNotification	212
EventNotificationContext1	212
EventNotificationContext2	214
EventNotificationContext3	217
EventCount	219
EventCountReset	220
EventNotificationAll	220
EventCountResetAll	220

EventSelector

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / EventControl	Enumeration	RW

Short Description

Select an event.

Selected Features

- "EventNotification" on the next page
- "EventNotificationContext1" on the next page
- "EventNotificationContext2" on page 214
- "EventNotificationContext3" on page 217
- "EventCount" on page 219
- "EventCountReset" on page 220

Enumeration Values

- StartOfCameraReadout: Starts acquiring data of a new image frame (area-scan only).
- EndOfCameraReadout: Stops acquiring data of an image frame (area-scan only).
- StartOfScan: Starts acquiring data of a new image scan (line-scan only).

- **EndOfScan:** Stops acquiring data of an image scan (line-scan only).
- **RejectedFrame:** Dropped image frame data (area-scan only).
- **RejectedScan:** Dropped image scan data (line-scan only).

EventNotification

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / EventControl	Boolean	RW

Description

Activate or deactivate the notification to the host application of the occurrence of the selected event.

Default value: `True`.

EventNotificationContext1

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / EventControl	Enumeration	RW

Description

Select context information reported in `EVENT_DATA_CUSTOM_CONTEXT_1` (context information value is latched when the event occurs).

Default value: `EventSpecific`.

Enumeration Values

- **EventSpecific:** Event-specific context information.
- **LineStatusAll:** Value of `LineStatusAll`.
- **QDC1Position:** Position of Quadrature Decoder Tool 1.
- **QDC2Position:** Position of Quadrature Decoder Tool 2.
- **QDC3Position:** Position of Quadrature Decoder Tool 3.
- **QDC4Position:** Position of Quadrature Decoder Tool 4.

- PendingCicTriggerCount: Number of currently pending CIC triggers.
- LIN1EventCount: Number of LIN1 events.
- LIN2EventCount: Number of LIN2 events.
- LIN3EventCount: Number of LIN3 events.
- LIN4EventCount: Number of LIN4 events.
- LIN5EventCount: Number of LIN5 events.
- LIN6EventCount: Number of LIN6 events.
- LIN7EventCount: Number of LIN7 events.
- LIN8EventCount: Number of LIN8 events.
- QDC1EventCount: Number of QDC1 events.
- QDC1DirEventCount: Number of QDC1Dir events.
- QDC2EventCount: Number of QDC2 events.
- QDC2DirEventCount: Number of QDC2Dir events.
- QDC3EventCount: Number of QDC3 events.
- QDC3DirEventCount: Number of QDC3Dir events.
- QDC4EventCount: Number of QDC4 events.
- QDC4DirEventCount: Number of QDC4Dir events.
- DIV1EventCount: Number of DIV1 events.
- DIV2EventCount: Number of DIV2 events.
- DIV3EventCount: Number of DIV3 events.
- DIV4EventCount: Number of DIV4 events.
- MDV1EventCount: Number of MDV1 events.
- MDV2EventCount: Number of MDV2 events.
- MDV3EventCount: Number of MDV3 events.
- MDV4EventCount: Number of MDV4 events.
- DEL11EventCount: Number of DEL11 events.
- DEL12EventCount: Number of DEL12 events.
- DEL21EventCount: Number of DEL21 events.
- DEL22EventCount: Number of DEL22 events.
- DEL31EventCount: Number of DEL31 events.
- DEL32EventCount: Number of DEL32 events.
- DEL41EventCount: Number of DEL41 events.
- DEL42EventCount: Number of DEL42 events.

- UserEvent1EventCount: Number of UserEvent1 events.
- UserEvent2EventCount: Number of UserEvent2 events.
- UserEvent3EventCount: Number of UserEvent3 events.
- UserEvent4EventCount: Number of UserEvent4 events.
- EIN1EventCount: Number of EIN1 events.
- EIN2EventCount: Number of EIN2 events.
- CrcErrorCxpAEventCount: Number of CrcErrorCxpA events.
- CrcErrorCxpBEventCount: Number of CrcErrorCxpB events.
- CrcErrorCxpCEventCount: Number of CrcErrorCxpC events.
- CrcErrorCxpDEventCount: Number of CrcErrorCxpD events.
- CameraTriggerRisingEdgeEventCount: Number of CameraTriggerRisingEdge events.
- CameraTriggerFallingEdgeEventCount: Number of CameraTriggerFallingEdge events.
- StrobeRisingEdgeEventCount: Number of StrobeRisingEdge events.
- StrobeFallingEdgeEventCount: Number of StrobeFallingEdge events.
- AllowNextCycleEventCount: Number of AllowNextCycle events.
- DiscardedCicTriggerEventCount: Number of DiscardedCicTrigger events.
- PendingCicTriggerEventCount: Number of PendingCicTrigger events.
- CxpTriggerAckEventCount: Number of CxpTriggerAck events.
- CxpTriggerResendEventCount: Number of CxpTriggerResend events.
- TriggerEventCount: Number of Trigger events.
- StartOfCameraReadoutEventCount: Number of StartOfCameraReadout events.
- EndOfCameraReadoutEventCount: Number of EndOfCameraReadout events.
- StartOfScanEventCount: Number of StartOfScan events.
- EndOfScanEventCount: Number of EndOfScan events.
- RejectedFrameEventCount: Number of RejectedFrame events.
- RejectedScanEventCount: Number of RejectedScan events.

EventNotificationContext2

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / EventControl	Enumeration	RW

Short Description

Select context information reported in EVENT_DATA_CUSTOM_CONTEXT_2.

Enumeration Values

- **EventSpecific:** Event-specific context information.
- **LineStatusAll:** Value of LineStatusAll.
- **QDC1Position:** Position of Quadrature Decoder Tool 1.
- **QDC2Position:** Position of Quadrature Decoder Tool 2.
- **QDC3Position:** Position of Quadrature Decoder Tool 3.
- **QDC4Position:** Position of Quadrature Decoder Tool 4.
- **PendingCicTriggerCount:** Number of currently pending CIC triggers.
- **LIN1EventCount:** Number of LIN1 events.
- **LIN2EventCount:** Number of LIN2 events.
- **LIN3EventCount:** Number of LIN3 events.
- **LIN4EventCount:** Number of LIN4 events.
- **LIN5EventCount:** Number of LIN5 events.
- **LIN6EventCount:** Number of LIN6 events.
- **LIN7EventCount:** Number of LIN7 events.
- **LIN8EventCount:** Number of LIN8 events.
- **QDC1EventCount:** Number of QDC1 events.
- **QDC1DirEventCount:** Number of QDC1Dir events.
- **QDC2EventCount:** Number of QDC2 events.
- **QDC2DirEventCount:** Number of QDC2Dir events.
- **QDC3EventCount:** Number of QDC3 events.
- **QDC3DirEventCount:** Number of QDC3Dir events.
- **QDC4EventCount:** Number of QDC4 events.
- **QDC4DirEventCount:** Number of QDC4Dir events.
- **DIV1EventCount:** Number of DIV1 events.
- **DIV2EventCount:** Number of DIV2 events.
- **DIV3EventCount:** Number of DIV3 events.
- **DIV4EventCount:** Number of DIV4 events.
- **MDV1EventCount:** Number of MDV1 events.

- MDV2EventCount: Number of MDV2 events.
- MDV3EventCount: Number of MDV3 events.
- MDV4EventCount: Number of MDV4 events.
- DEL11EventCount: Number of DEL11 events.
- DEL12EventCount: Number of DEL12 events.
- DEL21EventCount: Number of DEL21 events.
- DEL22EventCount: Number of DEL22 events.
- DEL31EventCount: Number of DEL31 events.
- DEL32EventCount: Number of DEL32 events.
- DEL41EventCount: Number of DEL41 events.
- DEL42EventCount: Number of DEL42 events.
- UserEvent1EventCount: Number of UserEvent1 events.
- UserEvent2EventCount: Number of UserEvent2 events.
- UserEvent3EventCount: Number of UserEvent3 events.
- UserEvent4EventCount: Number of UserEvent4 events.
- EIN1EventCount: Number of EIN1 events.
- EIN2EventCount: Number of EIN2 events.
- CrcErrorCxpAEventCount: Number of CrcErrorCxpA events.
- CrcErrorCxpBEventCount: Number of CrcErrorCxpB events.
- CrcErrorCxpCEventCount: Number of CrcErrorCxpC events.
- CrcErrorCxpDEventCount: Number of CrcErrorCxpD events.
- CameraTriggerRisingEdgeEventCount: Number of CameraTriggerRisingEdge events.
- CameraTriggerFallingEdgeEventCount: Number of CameraTriggerFallingEdge events.
- StrobeRisingEdgeEventCount: Number of StrobeRisingEdge events.
- StrobeFallingEdgeEventCount: Number of StrobeFallingEdge events.
- AllowNextCycleEventCount: Number of AllowNextCycle events.
- DiscardedCicTriggerEventCount: Number of DiscardedCicTrigger events.
- PendingCicTriggerEventCount: Number of PendingCicTrigger events.
- CxpTriggerAckEventCount: Number of CxpTriggerAck events.
- CxpTriggerResendEventCount: Number of CxpTriggerResend events.
- TriggerEventCount: Number of Trigger events.
- StartOfCameraReadoutEventCount: Number of StartOfCameraReadout events.
- EndOfCameraReadoutEventCount: Number of EndOfCameraReadout events.

- StartOfScanEventCount: Number of StartOfScan events.
- EndOfScanEventCount: Number of EndOfScan events.
- RejectedFrameEventCount: Number of RejectedFrame events.
- RejectedScanEventCount: Number of RejectedScan events.

EventNotificationContext3

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / EventControl	Enumeration	RW

Short Description

Select context information reported in EVENT_DATA_CUSTOM_CONTEXT_3.

Enumeration Values

- EventSpecific: Event-specific context information.
- LineStatusAll: Value of LineStatusAll.
- QDC1Position: Position of Quadrature Decoder Tool 1.
- QDC2Position: Position of Quadrature Decoder Tool 2.
- QDC3Position: Position of Quadrature Decoder Tool 3.
- QDC4Position: Position of Quadrature Decoder Tool 4.
- PendingCicTriggerCount: Number of currently pending CIC triggers.
- LIN1EventCount: Number of LIN1 events.
- LIN2EventCount: Number of LIN2 events.
- LIN3EventCount: Number of LIN3 events.
- LIN4EventCount: Number of LIN4 events.
- LIN5EventCount: Number of LIN5 events.
- LIN6EventCount: Number of LIN6 events.
- LIN7EventCount: Number of LIN7 events.
- LIN8EventCount: Number of LIN8 events.
- QDC1EventCount: Number of QDC1 events.
- QDC1DirEventCount: Number of QDC1Dir events.

- QDC2EventCount: Number of QDC2 events.
- QDC2DirEventCount: Number of QDC2Dir events.
- QDC3EventCount: Number of QDC3 events.
- QDC3DirEventCount: Number of QDC3Dir events.
- QDC4EventCount: Number of QDC4 events.
- QDC4DirEventCount: Number of QDC4Dir events.
- DIV1EventCount: Number of DIV1 events.
- DIV2EventCount: Number of DIV2 events.
- DIV3EventCount: Number of DIV3 events.
- DIV4EventCount: Number of DIV4 events.
- MDV1EventCount: Number of MDV1 events.
- MDV2EventCount: Number of MDV2 events.
- MDV3EventCount: Number of MDV3 events.
- MDV4EventCount: Number of MDV4 events.
- DEL11EventCount: Number of DEL11 events.
- DEL12EventCount: Number of DEL12 events.
- DEL21EventCount: Number of DEL21 events.
- DEL22EventCount: Number of DEL22 events.
- DEL31EventCount: Number of DEL31 events.
- DEL32EventCount: Number of DEL32 events.
- DEL41EventCount: Number of DEL41 events.
- DEL42EventCount: Number of DEL42 events.
- UserEvent1EventCount: Number of UserEvent1 events.
- UserEvent2EventCount: Number of UserEvent2 events.
- UserEvent3EventCount: Number of UserEvent3 events.
- UserEvent4EventCount: Number of UserEvent4 events.
- EIN1EventCount: Number of EIN1 events.
- EIN2EventCount: Number of EIN2 events.
- CrcErrorCxpAEventCount: Number of CrcErrorCxpA events.
- CrcErrorCxpBEventCount: Number of CrcErrorCxpB events.
- CrcErrorCxpCEventCount: Number of CrcErrorCxpC events.
- CrcErrorCxpDEventCount: Number of CrcErrorCxpD events.
- CameraTriggerRisingEdgeEventCount: Number of CameraTriggerRisingEdge events.

- CameraTriggerFallingEdgeEventCount: Number of CameraTriggerFallingEdge events.
- StrobeRisingEdgeEventCount: Number of StrobeRisingEdge events.
- StrobeFallingEdgeEventCount: Number of StrobeFallingEdge events.
- AllowNextCycleEventCount: Number of AllowNextCycle events.
- DiscardedCicTriggerEventCount: Number of DiscardedCicTrigger events.
- PendingCicTriggerEventCount: Number of PendingCicTrigger events.
- CxpTriggerAckEventCount: Number of CxpTriggerAck events.
- CxpTriggerResendEventCount: Number of CxpTriggerResend events.
- TriggerEventCount: Number of Trigger events.
- StartOfCameraReadoutEventCount: Number of StartOfCameraReadout events.
- EndOfCameraReadoutEventCount: Number of EndOfCameraReadout events.
- StartOfScanEventCount: Number of StartOfScan events.
- EndOfScanEventCount: Number of EndOfScan events.
- RejectedFrameEventCount: Number of RejectedFrame events.
- RejectedScanEventCount: Number of RejectedScan events.

EventCount

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / EventControl	IntReg	RO

Register Port: StreamPort

Short Description

Number of occurrences of the selected event (32-bit counter).

EventCountReset

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / EventControl	Command	Imposed: WO

Short Description

Reset the selected EventCount.

EventNotificationAll

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / EventControl	Boolean	Imposed: WO

Short Description

Activate or deactivate the notification of all events.

EventCountResetAll

Feature Info

Module	Category Path	Type	Access
Data Stream	Root / EventControl	Command	Imposed: WO

Short Description

Reset all EventCount.