

Pvcam Tango Cpp Class

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Pvcam Class Identification :

Contact : at null - null
Class Family :
Platform :
Bus :
Manufacturer :
Manufacturer ref. :

Pvcam Class Inheritance :

- [Tango::DeviceImpl](#)
 - Ccd
 - Pvcam

Pvcam Class Description :

This device server implements the Ccd abstract class for ccd`s that can be accessed using the PVCAM library e.g. Photometrics and Princeton cameras.

This server has been tested with the following cameras :

Quantix from Photometrics

Pvcam Properties :

There is no class properties

There is no device properties

Pvcam Class Commands				
Name	Input type	Output type	Level	Description
State	DEV_VOID	DEV_STATE	OPERATOR	This command gets the device state (stored in its <i>device_state</i> data member) and returns it to the caller.
Status	DEV_VOID	CONST_DEV_STRING	OPERATOR	This command gets the device status (stored in its <i>device_status</i> data member) and returns it to the caller.
Start	DEV_VOID	DEV_VOID	OPERATOR	start camera exposing
Stop	DEV_VOID	DEV_VOID	OPERATOR	stop camera exposing
Reset	DEV_VOID	DEV_VOID	OPERATOR	reset camera
WriteFile	DEV_VOID	DEV_VOID	OPERATOR	write image to file in the selected format, use the file parameters to generate file name

Command State :

This command gets the device state (stored in its *device_state* data member) and returns it to the caller.

State Definition		
Input Argument	Tango::DEV_VOID	none.
Output Argument	Tango::DEV_STATE	State Code
DisplayLevel	OPERATOR	..
Inherited	true	..

Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command Status :

This command gets the device status (stored in its *device_status* data member) and returns it to the caller.

Status Definition		
Input Argument	Tango::DEV_VOID	none.
Output Argument	Tango::CONST_DEV_STRING	Status description
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command Start :

start camera exposing

Start Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	• FAULT	..

Command Stop :

stop camera exposing

Stop Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	• FAULT	..

Command Reset :

reset camera

Reset Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command WriteFile :

write image to file in the selected format, use the file parameters to generate file name

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WriteFile Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	• FAULT	..

Pvcam Class Attributes							
Name	Inherited	Abstract	Attr. type	R/W type	Data type	Level	Description
Exposure	true	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	the exposure time for the image
Roi	true	false	Spectrum	READ_WRITE	Tango::DEV_LONG	OPERATOR	coordinates of the region of interest
Binning	true	false	Spectrum	READ_WRITE	Tango::DEV_SHORT	OPERATOR	binning factor of image
Trigger	true	false	Scalar	READ_WRITE	Tango::DEV_SHORT	OPERATOR	trigger mode of camera (0=internal, 1=external)
Width	true	false	Scalar	READ	Tango::DEV_LONG	OPERATOR	width of image in pixels
Height	true	false	Scalar	READ	Tango::DEV_LONG	OPERATOR	height of image in pixels
Frames	true	false	Scalar	READ_WRITE	Tango::DEV_LONG	OPERATOR	number of images to take
Depth	true	false	Scalar	READ	Tango::DEV_SHORT	OPERATOR	number of bits per pixel
FileParams	true	false	Spectrum	READ_WRITE	Tango::DEV_STRING	OPERATOR	the file parameters for generating file names (directory, prefix, suffix,

FileFormat	true	false	Scalar	READ_WRITE	Tango::DEV_STRING	OPERATOR	number) file format for saving images to disk
Image	true	false	Image	READ	Tango::DEV_UCHAR	OPERATOR	image data
ImageFormat	true	false	Scalar	WRITE	Tango::DEV_STRING	OPERATOR	
ImageCounter	true	false	Scalar	READ	Tango::DEV_LONG	OPERATOR	
JpegImage	true	false	Spectrum	READ	Tango::DEV_UCHAR	OPERATOR	
JpegQuality	true	false	Scalar	READ_WRITE	Tango::DEV_SHORT	OPERATOR	
JpegCompression	true	false	Scalar	READ_WRITE	Tango::DEV_BOOLEAN	OPERATOR	

There is no dynamic attribute defined.

Attribute Exposure :

the exposure time for the image

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	true
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	exposure
unit	seconds
standard unit	seconds
display unit	seconds
format	%6.3d
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

Attribute Roi :

coordinates of the region of interest

Attribute Definition	
Attribute Type	Spectrum (4)
R/W Type	READ_WRITE
Data Type	Tango::DEV_LONG
Display Level	OPERATOR
Inherited	true
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	region of interest
unit	pixels
standard unit	pixels
display unit	pixels
format	%d
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

Attribute Binning :

binning factor of image

Attribute Definition	
Attribute Type	Spectrum (2)
R/W Type	READ_WRITE
Data Type	Tango::DEV_SHORT

Attribute Properties	
label	binning
unit	pixels
standard unit	pixels

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set

Display Level	OPERATOR
Inherited	true
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

display unit	pixels
format	%d
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

Attribute Trigger :

trigger mode of camera (0=internal, 1=external)

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_SHORT
Display Level	OPERATOR
Inherited	true
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	trigger
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user	Not

Attribute Width :

width of image in pixels

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_LONG
Display Level	OPERATOR
Inherited	true
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

Attribute Properties	
label	width
unit	pixels
standard unit	pixels
display unit	pixels
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

Attribute Height :

height of image in pixels

Attribute Definition	
	Scalar

Attribute Properties	
label	height

Attribute Event Criteria	
Periodic	Not set

Attribute Type	
R/W Type	READ
Data Type	Tango::DEV_LONG
Display Level	OPERATOR
Inherited	true
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

unit	pixels
standard unit	pixels
display unit	pixels
format	%d
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

Attribute Frames :

number of images to take

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_LONG
Display Level	OPERATOR
Inherited	true
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	frames
unit	
standard unit	
display unit	
format	%d
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false

Push DataReady event by user code	Not set

Attribute Depth :

number of bits per pixel

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_SHORT
Display Level	OPERATOR
Inherited	true
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

Attribute Properties	
label	depth
unit	bits
standard unit	bits
display unit	bits
format	%d
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

Attribute FileParams :

the file parameters for generating file names (directory, prefix, suffix, number)

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Attribute Definition	
Attribute Type	Spectrum (6)
R/W Type	READ_WRITE
Data Type	Tango::DEV_STRING
Display Level	OPERATOR
Inherited	true
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	file parameters
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

Attribute FileFormat :

file format for saving images to disk

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_STRING
Display Level	OPERATOR
Inherited	true
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed	All states

Attribute Properties	
label	file format
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user	

for _____

delta_time	
delta_val	

code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

Attribute Image :

image data

Attribute Definition	
Attribute Type	Image (4096 x 4096)
R/W Type	READ
Data Type	Tango::DEV_UCHAR
Display Level	OPERATOR
Inherited	true
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read NOT allowed for	<ul style="list-style-type: none">• FAULT

Attribute Properties	
label	image
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

Attribute ImageFormat :

Attribute Definition	
Attribute Type	Scalar
R/W Type	WRITE
Data Type	Tango::DEV_STRING
Display Level	OPERATOR
Inherited	true
Abstract	false
Polling Period	Not polled
Memorized	Not set
Write allowed for	All states

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

Attribute ImageCounter :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_LONG
Display Level	OPERATOR
Inherited	true
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false

Push Archive event by user code	false
Push DataReady event by user code	Not set

Attribute JpegImage :

Attribute Definition	
Attribute Type	Spectrum (64000000)
R/W Type	READ
Data Type	Tango::DEV_UCHAR
Display Level	OPERATOR
Inherited	true
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

Attribute JpegQuality :

Attribute Definition	
Attribute Type	Scalar

Attribute Properties	
label	

Attribute Event Criteria	
Periodic	Not set

R/W Type	READ_WRITE
Data Type	Tango::DEV_SHORT
Display Level	OPERATOR
Inherited	true
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

Attribute JpegCompression :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_BOOLEAN
Display Level	OPERATOR
Inherited	true
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set



Pvcam Class States	
Name	Description
ON	camera is exposing
OFF	camera is ready to start a new exposure
FAULT	camera is in fault