

Xspress3 Tango Cpp Class

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Xspress3 Class Identification :

Contact : at mail.desy.de - tnunez
Class Family : Acquisition
Platform : Unix Like
Bus : Ethernet
Manufacturer : Quantum Detectors
Manufacturer ref. : Xspress3

Xspress3 Class Inheritance :

- [Tango::DeviceImpl](#)
 - Xspress3

Xspress3 Class Description :

Xspress3 detector server

Xspress3 Properties :

There is no class properties

Device Properties			
Name	Description	Type	Default Value
NbCards	Number of Xspress3 boxes	int	1
MaxFrames		int	16384
BaseIPAddress		String	192.168.0.1
BasePort		int	30123
BaseMACAddress		String	02.00.00.00.00.00
NbChannels	4, 6 or 8, depending on the firmware	int	4
CreateScopeModule		boolean	0
ScopeModuleName		String	None
Debug	0 is off, 1 is on, 2 is verbose cardIndex = 0 (for a 1 xspress system)	int	0
CardIndex	0 for a 1 xspress system	int	0
ConfigFileDirectory	Directory with configuration file. If None, not configuration from file will be applied.	String	None

Xspress3 Class Commands				
Name	Input type	Output type	Level	Description
State	DEV_VOID	DEV_STATE	OPERATOR	This command gets the device state (stored in its device_state data member) and returns it to the caller.
Status	DEV_VOID	CONST_DEV_STRING	OPERATOR	This command gets the device status (stored in its device_status data member) and returns it to the caller.
StartAcquisition	DEV_VOID	DEV_VOID	OPERATOR	Start Acquisition
StopAcquisition	DEV_VOID	DEV_VOID	OPERATOR	Stop acquisition

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	Device state
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	Device status
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command StartAcquisition :

Start Acquisition

StartAcquisition Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..

		..
Command allowed for	All states	..

Command StopAcquisition :

Stop acquisition

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

Xspress3 Class Attributes							
Name	Inherited	Abstract	Attr. type	R/W type	Data type	Level	Description
ExposureTime	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	Exposure time
NbFrames	false	false	Scalar	READ_WRITE	Tango::DEV_LONG	OPERATOR	
TriggerMode	false	false	Scalar	READ_WRITE	Tango::DEV_LONG	OPERATOR	0 -> internal trigger, 1 -> external gate
FileDir	false	false	Scalar	READ_WRITE	Tango::DEV_STRING	OPERATOR	Path to the detector image files.
LastFrame	false	false	Scalar	READ	Tango::DEV_LONG	OPERATOR	Last acquired frame
FilePrefix	false	false	Scalar	READ_WRITE	Tango::DEV_STRING	OPERATOR	Name of the file to store the data. The end .nxs will be automatically

MCALength	false	false	Scalar	READ_WRITE	Tango::DEV_LONG	EXPERT	added. Length of the MCA data to store. If 0 the maximum mca length will be saved.
FramesPerFile	false	false	Scalar	READ_WRITE	Tango::DEV_LONG	EXPERT	Number of frames to save in each file. If 0 all frames will be in the same file.
RunMode	false	false	Spectrum	READ_WRITE	Tango::DEV_LONG	OPERATOR	RunMode: playback, scope, scalers, hist, diag_hist, circular_buffer

There is no dynamic attribute defined.

Attribute ExposureTime :

Exposure time

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	true
Write hardware at	true

Attribute Properties	
label	
unit	s
standard unit	
display unit	
format	
max_value	54
min_value	0.000000025
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	

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	

init.	
Read allowed for	All states
Write allowed for	All states

delta_val	
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code	false
Push Archive event by user code	false
Push DataReady event by user code	false

Attribute NbFrames :

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

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	
min_value	0
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	false

Attribute TriggerMode :

0 -> internal trigger, 1 -> external gate

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

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	1
min_value	0
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	false

Attribute FileDir :

Path to the detector image files.

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_STRING
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	true
Write hardware	

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set

at init.	true
Read allowed for	All states
Write allowed for	All states

max_warning	
min_warning	
delta_time	
delta_val	

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	false

Attribute LastFrame :

Last acquired frame

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_LONG
Display Level	OPERATOR
Inherited	false
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	false

Attribute FilePrefix :

Name of the file to store the data. The end .nxs will be automatically added.

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_STRING
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	true
Write hardware at init.	true
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	false

Attribute MCALength :

Length of the MCA data to store. If 0 the maximum mca length will be saved.

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_LONG
Display Level	EXPERT

Attribute Properties	
label	
unit	
standard unit	
display unit	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set

Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	true
Write hardware at init.	true
Read allowed for	All states
Write allowed for	All states

format	
max_value	4096
min_value	0
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

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	false

Attribute FramesPerFile :

Number of frames to save in each file. If 0 all frames will be in the same file.

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_LONG
Display Level	EXPERT
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	true
Write hardware at init.	true
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	false

Attribute RunMode :

RunMode: playback, scope, scalers, hist, diag_hist, circular_buffer

Attribute Definition	
Attribute Type	Spectrum (6)
R/W Type	READ_WRITE
Data Type	Tango::DEV_LONG
Display Level	OPERATOR
Inherited	false
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	false

Xspress3 Class States	
Name	Description
ON	
FAULT	