

ScientaAcquisition Tango Cpp Class

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ScientaAcquisition Class Identification :

Contact : at synchrotron-soleil.fr - langlois
 Class Family : Acquisition
 Platform : Windows
 Bus : Not Applicable
 Manufacturer : Scienta
 Manufacturer ref. : Scienta

ScientaAcquisition Class Inheritance :

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

ScientaAcquisition Class Description :**ScientaAcquisition Properties :**

There is no class properties

Device Properties			
Name	Description	Type	Default Value
SesRootDirectory	The ses root directory (where ses.exe is installed)	String	D:\dev\SES-1.2.5-rc6
InstrumentFilePath	The name of the instrument file (eg:D:\dev\SES-1.2.5-rc6\data\Instrument.dat)	String	D:\dev\SES-1.2.5-rc6\data\Instrument.dat
UseSpin	if use or not spin	boolean	false

ScientaAcquisition 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 the acquisition for one region with parameters configured in the attributes.
Stop	DEV_VOID	DEV_VOID	OPERATOR	Stop the current acquisition.
ResetInstrument	DEV_VOID	DEV_VOID	OPERATOR	Reset instrument.
ResetSupplies	DEV_VOID	DEV_VOID	OPERATOR	Reset supplies.
TestCommunication	DEV_VOID	DEV_VOID	EXPERT	Test communication with hardware.
GetHardwareInfo	DEV_VOID	DEV_STRING	EXPERT	Retrieve hardware informations.
GetLensModeList	DEV_VOID	DEVVAR_STRINGARRAY	OPERATOR	None.
GetPassEnergyList	DEV_VOID	DEVVAR_DOUBLEARRAY	OPERATOR	None.
GetPassModeList	DEV_VOID	DEVVAR_STRINGARRAY	OPERATOR	None.
Calibrate	DEV_VOID	DEV_VOID	OPERATOR	Enter calibration mode (perform acquisition in an endless loop)
LoadParameters	DEV_VOID	DEV_VOID	OPERATOR	Send acquisition parameters to the detector

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	false	..
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	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command Start :

Start the acquisition for one region with parameters configured in the attributes.

Start 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 Stop :

Stop the current acquisition.

Stop 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 ResetInstrument :

Reset instrument.

ResetInstrument 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 ResetSupplies :

Reset supplies.

ResetSupplies 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 TestCommunication :

Test communication with hardware.

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

Command GetHardwareInfo :

Retrieve hardware informations.

GetHardwareInfo Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_STRING	A decription of the hardware
DisplayLevel	EXPERT	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command GetLensModeList :

GetLensModeList Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEVVAR_STRINGARRAY	The list of possible lens modes
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command GetPassEnergyList :

GetPassEnergyList Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEVVAR_DOUBLEARRAY	The list of possible pass energies
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command GetPassModeList :

GetPassModeList Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEVVAR_STRINGARRAY	The possible values for Pass Modes
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command Calibrate :

Enter calibration mode (perform acquisition in an endless loop)

Calibrate Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	<ul style="list-style-type: none"> • RUNNING • UNKNOWN • FAULT 	..

Command LoadParameters :

Send acquisition parameters to the detector

LoadParameters 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	..

ScientaAcquisition Class Attributes							
Name	Inherited	Abstract	Attr. type	R/W type	Data type	Level	Description
excitationEnergy	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	The excitation or photon energy of the region
mode	false	false	Scalar	READ_WRITE	Tango::DEV_STRING	EXPERT	Whether ADC or discriminator should be used for acquisition (boolean : 0 or 1). This value is only used if the detector system has both ADC and discriminator
highEnergy	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	The stopping energy for swept mode acquisitions
lowEnergy	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	The starting energy for swept mode acquisitions
							The energy at the centre of the active region of the

fixEnergy	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	detector for fixed mode acquisitions
energyStep	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	The energy step for swept mode acquisitions
stepTime	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	The step or dwell time in milliseconds for the region
lensMode	false	false	Scalar	READ_WRITE	Tango::DEV_STRING	OPERATOR	The lens mode. The possible values depend on the instrument (ex: Transmission, Angular1, Angular2, Angular3)
passEnergy	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	The pass energy of the region. The possible values depend on the instrument (ex: 1,2,5,10,20,50,100,200,500)
passMode	false	false	Scalar	READ_WRITE	Tango::DEV_STRING	OPERATOR	Low Pass or High Pass.
detectorFirstXChannel	false	false	Scalar	READ_WRITE	Tango::DEV_SHORT	OPERATOR	The first active channel in the energy direction of the detector
detectorLastXChannel	false	false	Scalar	READ_WRITE	Tango::DEV_SHORT	OPERATOR	The last active channel in the energy direction of the detector
detectorFirstYChannel	false	false	Scalar	READ_WRITE	Tango::DEV_SHORT	OPERATOR	The first active channel in the angular or spatial direction of the detector
detectorLastYChannel	false	false	Scalar	READ_WRITE	Tango::DEV_SHORT	OPERATOR	The last active channel in the angular or spatial direction of the detector
detectorSlices	false	false	Scalar	READ_WRITE	Tango::DEV_SHORT	OPERATOR	The number of spectrum channels or slices in the angular or spatial direction of the detector
ADCMode	false	false	Scalar	READ_WRITE	Tango::DEV_SHORT	EXPERT	Whether ADC or discriminator should be used for acquisition (boolean : 0 or 1). This value is only used if the detector system has both ADC and discriminator
ADCMask	false	false	Scalar	READ_WRITE	Tango::DEV_SHORT	EXPERT	The grayscale bitmask of the detector. Valid bitmasks are 0xFF, 0xFE, 0xFC, 0xF8, 0xF0, 0xE0, 0xC0 and 0x80
discriminatorLevel	false	false	Scalar	READ_WRITE	Tango::DEV_SHORT	EXPERT	The discriminator level of the detector (0 to 255)
channels	false	false	Scalar	READ	Tango::DEV_LONG	OPERATOR	The number of channels acquired in the energy direction of the spectrum
slices	false	false	Scalar	READ	Tango::DEV_LONG	EXPERT	Channels acquired in the angular or spatial direction of the spectrum
sweeps	false	false	Scalar	READ	Tango::DEV_LONG	EXPERT	The number of times the spectrum has been acquired
spinFixed1	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	
spinFixed2	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	
spinFixed3	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	
spinFixed4	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	
							Sum of the sum_data array

area	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	elements
loadParametersAtStart	false	false	Scalar	READ_WRITE	Tango::DEV_BOOLEAN	OPERATOR	Control acquisition parameter transmission to the detector at acquisition start
channelScale	false	false	Spectrum	READ	Tango::DEV_DOUBLE	OPERATOR	Channels elements containing the energy scale of the spectrum
sliceScale	false	false	Spectrum	READ	Tango::DEV_DOUBLE	OPERATOR	Slices elements containing the angular or spatial scale of the spectrum
sumData	false	false	Spectrum	READ	Tango::DEV_DOUBLE	OPERATOR	Channels elements containing the sum over all slices over the acquired data of the spectrum
spinSwept1	false	false	Spectrum	READ	Tango::DEV_DOUBLE	OPERATOR	
spinSwept2	false	false	Spectrum	READ	Tango::DEV_DOUBLE	OPERATOR	
spinSwept3	false	false	Spectrum	READ	Tango::DEV_DOUBLE	OPERATOR	
spinSwept4	false	false	Spectrum	READ	Tango::DEV_DOUBLE	OPERATOR	
data	false	false	Image	READ	Tango::DEV_DOUBLE	OPERATOR	Matrix with Slices times Channels elements containing the acquired data. This matrix is a table of spectrum

There is no dynamic attribute defined.

Attribute excitationEnergy :

The excitation or photon energy of the region

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

Attribute Properties	
label	excitation energy
unit	eV
standard unit	
display unit	
format	%7.3f
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 mode :

Whether ADC or discriminator should be used for acquisition (boolean : 0 or 1). This value is only used if the detector system has both ADC and discriminator

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_STRING
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	Mode
unit	
standard unit	
display unit	
format	%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 highEnergy :

The stopping energy for swept mode acquisitions

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

Attribute Properties	
label	high energy
unit	eV
standard unit	
display unit	
format	%8.4f
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 code	false

delta_time	
delta_val	

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

Attribute lowEnergy :

The starting energy for swept mode acquisitions

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

Attribute Properties	
label	low energy
unit	eV
standard unit	
display unit	
format	%8.4f
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 fixEnergy :

The energy at the centre of the active region of the detector for fixed mode acquisitions

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false

Attribute Properties	
label	fixEnergy
unit	eV
standard unit	
display unit	
format	%8.4f
max_value	
min_value	

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

Polling Period Memorized	Not polled Not set
Read allowed for	All states
Write allowed for	All states

max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

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 energyStep :

The energy step for swept mode acquisitions

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

Attribute Properties	
label	energy step
unit	eV
standard unit	
display unit	
format	%8.4f
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 stepTime :

The step or dwell time in milliseconds for the region

Attribute Definition	
Attribute Type	Scalar

Attribute Properties	
label	step time

Attribute Event Criteria	
Periodic	Not set

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

unit	milliseconds
standard unit	
display unit	
format	%5.3f
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 lensMode :

The lens mode. The possible values depend on the instrument (ex: Transmission, Angular1, Angular2, Angular3)

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	lens mode
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 passEnergy :

The pass energy of the region. The possible values depend on the instrument (ex: 1,2,5,10,20,50,100,200,500)

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

Attribute Properties	
label	pass energy
unit	eV
standard unit	
display unit	
format	%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 passMode :

Low Pass or High Pass.

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	Pass Mode
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 detectorFirstXChannel :

The first active channel in the energy direction of the detector

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_SHORT
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	Detector FirstXChannel
unit	
standard unit	
display unit	
format	%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 detectorLastXChannel :

The last active channel in the energy direction of the detector

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

Attribute Properties	
label	Detector LastXChannel
unit	
standard unit	
display unit	
format	%3d
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
	Not

Read allowed for	All states
Write allowed for	All states

max_warning	
min_warning	
delta_time	
delta_val	

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

Attribute detectorFirstYChannel :

The first active channel in the angular or spatial direction of the detector

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_SHORT
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	Detector FirstYChannel
unit	
standard unit	
display unit	
format	%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 detectorLastYChannel :

The last active channel in the angular or spatial direction of the detector

Attribute Definition	
Attribute Type	Scalar

Attribute Properties	
	Detector

Attribute Event Criteria	
Periodic	Not set

R/W Type	READ_WRITE
Data Type	Tango::DEV_SHORT
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

label	LastYChannel
unit	
standard unit	
display unit	
format	%3d
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 detectorSlices :

The number of spectrum channels or slices in the angular or spatial direction of the detector

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_SHORT
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	Detector slices
unit	
standard unit	
display unit	
format	%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 ADCMode :

Whether ADC or discriminator should be used for acquisition (boolean : 0 or 1). This value is only used if the detector system has both ADC and discriminator

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_SHORT
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	ADCMode
unit	
standard unit	
display unit	
format	%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 ADCMask :

The grayscale bitmask of the detector. Valid bitmasks are 0xFF, 0xFE, 0xFC, 0xF8, 0xF0, 0xE0, 0xC0 and 0x80

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_SHORT
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	ADCMask
unit	
standard unit	
display unit	
format	%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 discriminatorLevel :

The discriminator level of the detector (0 to 255)

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_SHORT
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	discriminator level
unit	
standard unit	
display unit	
format	%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 channels :

The number of channels acquired in the energy direction of the spectrum

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	channels
unit	
standard unit	
display unit	
format	%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 slices :

Channels acquired in the angular or spatial direction of the spectrum

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

Attribute Properties	
label	slices
unit	
standard unit	
display unit	
format	%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 sweeps :

The number of times the spectrum has been acquired

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

Attribute Properties	
label	sweeps
unit	
standard unit	
display unit	
format	%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 spinFixed1 :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
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	Not set

Attribute spinFixed2 :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
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	Not set

Attribute spinFixed3 :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
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	Not set

Attribute spinFixed4 :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
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	Not set

Attribute area :

Sum of the sum_data array elements

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
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	Not set

Attribute loadParametersAtStart :

Control acquisition parameter transmission to the detector at acquisition start

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_BOOLEAN
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	Not set

Attribute channelScale :

Channels elements containing the energy scale of the spectrum

Attribute Definition	
Attribute Type	Spectrum (1000000)
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

Attribute Properties	
label	channel scale
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 sliceScale :

Slices elements containing the angular or spatial scale of the spectrum

Attribute Definition	
Attribute Type	Spectrum (1000000)
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

Attribute Properties	
label	slice scale
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 sumData :

Channels elements containing the sum over all slices over the acquired data of the spectrum

Attribute Definition	
Attribute Type	Spectrum (1000000)
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

Attribute Properties	
label	sum data
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 spinSwept1 :

Attribute Definition	
Attribute Type	Spectrum (1000000)
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
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	Not set

Attribute spinSwept2 :

Attribute Definition	
Attribute Type	Spectrum (1000000)
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
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	Not set

Attribute spinSwept3 :

Attribute Definition	
Attribute Type	Spectrum (1000000)
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
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	Not set

Attribute spinSwept4 :

Attribute Definition	
Attribute Type	Spectrum (1000000)
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
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	Not set

Attribute data :

Matrix with Slices times Channels elements containing the acquired data. This matrix is a table of spectrum

Attribute Definition	
Attribute Type	Image (10000 x 10000)
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

Attribute Properties	
label	data
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

ScientaAcquisition Class States	
Name	Description
RUNNING	An acquisition is currently running.
UNKNOWN	Unknown state of the equipment.
FAULT	The previous acquisition has failed.
STANDBY	Everything is OK.