

XbpmBeamLine Tango Cpp Class

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XbpmBeamLine Class Identification :

Contact : at synchrotron-soleil.fr - buteau
 Class Family : BeamDiag
 Platform : All Platforms
 Bus : Not Applicable
 Manufacturer : none
 Manufacturer ref. :

XbpmBeamLine Class Inheritance :

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

XbpmBeamLine Class Description :

This device calculates the vertical and horizontal positions of the beam:

$X = f(I_a, I_b, I_c, I_d, G, \text{offsets}, \text{factors}, \text{geometry} \dots)$
 $Y = f(I_a, I_b, I_c, I_d, G, \text{offsets}, \text{factors}, \text{geometry} \dots)$

where:

I_a = current read on blade A

I_b = current read on blade B

I_c = current read on blade C

I_d = current read on blade D

G = locum4 amplifier gain

offsets & factors = attributes of the device

geometry = property of the device

The calculation of beam position is the following:

for square geometry

```
{  
Qx = ((I0 + I3) - (I1 + I2))/Isum;  
Qz = ((I0 + I1) - (I3 + I2))/Isum;  
X = horizontalPositionFactor * Qx + horizontalPositionOffset;  
Z = verticalPositionFactor * Qz + verticalPositionOffset;  
}
```

for cross geometry

```
{  
Qx = (I1 - I0)/(I1 + I0);  
Qz = (I2 - I3)/(I2 + I3);  
X = horizontalPositionFactor * Qx + horizontalPositionOffset;  
Z = verticalPositionFactor * Qz + verticalPositionOffset;  
}
```

XbpmBeamLine Properties :

There is no class properties

Device Properties			
Name	Description	Type	Default Value

Locum4ProxyName	Locum4 Proxy Name	String	none
Geometry	you have to choose between 2 different modes, either insertion or bipolar mode. 2 possible values - 1 : insertion - 2 : bipolar	short	1
LowVoltageThreshold	if the input voltages of the ADC decrease this threshold, the corresponding average current attributes become ALARM (ex : if Vmes < low_threshold)	double	0.9
HighVoltageThreshold	if the input voltages of the ADC exceed this threshold, the corresponding average current attributes become ALARM (ex : if Vmes > threshold)	double	9.9
CurrentOffset0	current offset on channel 1	double	0
CurrentOffset1	current offset on channel 2	double	0
CurrentOffset2	current offset on channel 3	double	0
CurrentOffset3	current offset on channel 4	double	0
VoltageOffset0	voltage offset on channel 1	double	0
VoltageOffset1	Voltage Offset on channel 2	double	0
VoltageOffset2	Voltage Offset on channel3	double	0
VoltageOffset3	Voltage Offset on channel 4	double	0
VerticalPositionFactor	Vertical Position Factor	double	1
VerticalPositionOffset	Vertical Position Offset	double	0
HorizontalPositionFactor	Horizontal Position Factor	double	1
HorizontalPositionOffset	Horizontal Position Offset	double	0
IntensityThreshold	cuurent out of which the Measured Intensity has a meaning (in micro-A)	double	none
SaiControllerProxyName	saiControllerProxyName	String	none
StartAtInit	Launch command at Init. phase. [default = false]	boolean	false

XbpmBeamLine 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.
SetUnit	DEV_USHORT	DEV_VOID	OPERATOR	set beam intensity measurement unit
Start	DEV_VOID	DEV_VOID	OPERATOR	Start acquisitions in continuous mode
Stop	DEV_VOID	DEV_VOID	OPERATOR	Stop acquisitions

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

Command SetUnit :

set beam intensity measurement unit

SetUnit Definition		
Input Argument	Tango::DEV_USHORT	1: nA or 2 : microA or 3 : mA
Output Argument	Tango::DEV_VOID	nothing
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	• FAULT	..

Command Start :

Start acquisitions in continuous mode

Start Definition		
Input Argument	Tango::DEV_VOID	nothing
Output Argument	Tango::DEV_VOID	nothing
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	• FAULT	..

Command Stop :

Stop acquisitions

Stop Definition		
Input Argument	Tango::DEV_VOID	nothing
Output Argument	Tango::DEV_VOID	nothing
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	• FAULT	..

XbpmBeamLine Class Attributes							
Name	Inherited	Abstract	Attr. type	R/W type	Data type	Level	Description
quadrant1	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	average current calculated over N samples on

quadrant2	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	channel 1 average current calculated over N samples on channel 2
quadrant3	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	average current calculated over N samples on channel 3
quadrant4	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	average current calculated over N samples on channel 4
intensity	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	tsum of the 4 quadrants
standardDeviationIntensity1	false	false	Scalar	READ	Tango::DEV_DOUBLE	EXPERT	standard Deviation Intensity on channel 1
standardDeviationIntensity2	false	false	Scalar	READ	Tango::DEV_DOUBLE	EXPERT	standard Deviation Intensity on channel 2
standardDeviationIntensity3	false	false	Scalar	READ	Tango::DEV_DOUBLE	EXPERT	standard Deviation Intensity on channel 3
standardDeviationIntensity4	false	false	Scalar	READ	Tango::DEV_DOUBLE	EXPERT	standard Deviation Intensity on channel 4
horizontalPosition	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	horizontal position calculated as: $X = Xfactor * ((I1 + I4) - (I2 + I3)) / (sum) + Xoffset$ where: $I1 = (V1 + V1offset) * gain + I1offset$ $I2 = (V2 + V2offset) * gain + I2offset$ $I3 = (V3 + V3offset) * gain + I3offset$ $I4 = (V4 + V4offset) * gain + I4offset$
verticalPosition	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	vertical position calculated as: $Z = Zfactor * ((I1 + I2) - (I3 + I4)) / (sum) + Zoffset$ where: $I1 = (V1 + V1offset) * gain + I1offset$ $I2 = (V2 + V2offset) * gain + I2offset$ $I3 =$

							$(V3 + V3offset) * gain + I3offset$ $I4 = (V4 + V4offset) * gain + I4offset$
gain	false	false	Scalar	READ	Tango::DEV_DOUBLE	EXPERT	the gain change according to the Locum4 input range: Input Range gain(micro_A) (A/V) 100 100 10 10 1 1 0.1 0.1 0.01 0.01 0.001 0.001 0.0001 0.0001 0.00001
measurementUnit	false	false	Scalar	READ	Tango::DEV_STRING	OPERATOR	displays the current measurement unit
enableAutoRange	false	false	Scalar	WRITE	Tango::DEV_BOOLEAN	OPERATOR	true: enable auto range false: disable auto range
quadrant1Spectrum	false	false	Spectrum	READ	Tango::DEV_DOUBLE	OPERATOR	samples acquired on channel corresponding to quadrant1
quadrant2Spectrum	false	false	Spectrum	READ	Tango::DEV_DOUBLE	OPERATOR	samples acquired on channel corresponding to quadrant2.
quadrant3Spectrum	false	false	Spectrum	READ	Tango::DEV_DOUBLE	OPERATOR	samples acquired on channel corresponding to quadrant 3
quadrant4Spectrum	false	false	Spectrum	READ	Tango::DEV_DOUBLE	OPERATOR	samples acquired on channel corresponding to quadrant4

There is no dynamic attribute defined.

Attribute quadrant1 :

average current calculated over N samples on channel 1

Attribute

Attribute

Attribute Event Criteria

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 NOT allowed for	<ul style="list-style-type: none"> • FAULT

Properties	
label	l1
unit	
standard unit	
display unit	
format	%1.4e
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

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 quadrant2 :

average current calculated over N samples on channel 2

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 NOT allowed for	<ul style="list-style-type: none"> • FAULT

Attribute Properties	
label	l2
unit	
standard unit	
display unit	
format	%1.4e
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 quadrant3 :

average current calculated over N samples on channel 3

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 NOT allowed for	<ul style="list-style-type: none">• FAULT

Attribute Properties	
label	I3
unit	
standard unit	
display unit	
format	%1.4e
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 quadrant4 :

average current calculated over N samples on channel 4

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

Attribute Properties	
label	I4moy
unit	
standard unit	
display unit	
format	%1.4e

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

Abstract	false
Polling Period	Not polled
Memorized	Not set
Read NOT allowed for	• FAULT

max_value	
min_value	
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	Not set

Attribute intensity :

tsum of the 4 quadrants

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 NOT allowed for	• FAULT

Attribute Properties	
label	intensity
unit	
standard unit	
display unit	
format	%1.4e
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 standardDeviationIntensity1 :

standard Deviation Intensity on channel 1

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
Display Level	EXPERT
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read NOT allowed for	<ul style="list-style-type: none"> • FAULT

Attribute Properties	
label	sigma I1
unit	
standard unit	
display unit	
format	%1.4e
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 standardDeviationIntensity2 :

standard Deviation Intensity on channel 2

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
Display Level	EXPERT
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read NOT allowed for	<ul style="list-style-type: none"> • FAULT

Attribute Properties	
label	sigma I2
unit	
standard unit	
display unit	
format	%1.4e
max_value	
min_value	
max_alarm	
min_alarm	
max_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

min_warning	
delta_time	
delta_val	

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

Attribute standardDeviationIntensity3 :

standard Deviation Intensity on channel 3

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
Display Level	EXPERT
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read NOT allowed for	<ul style="list-style-type: none"> • FAULT

Attribute Properties	
label	sigma I3
unit	
standard unit	
display unit	
format	%1.4e
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 standardDeviationIntensity4 :

standard Deviation Intensity on channel 4

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
Display Level	EXPERT
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read NOT allowed for	<ul style="list-style-type: none"> FAULT

Attribute Properties	
label	sigma I4
unit	
standard unit	
display unit	
format	%1.4e
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 horizontalPosition :

horizontal position calculated as:

$$X = X_{factor} * ((I1 + I4) - (I2 + I3)) / (\text{sum}) + X_{offset}$$
where:

$$I1 = (V1 + V1_{offset}) * \text{gain} + I1_{offset}$$

$$I2 = (V2 + V2_{offset}) * \text{gain} + I2_{offset}$$

$$I3 = (V3 + V3_{offset}) * \text{gain} + I3_{offset}$$

$$I4 = (V4 + V4_{offset}) * \text{gain} + I4_{offset}$$

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 NOT allowed for	<ul style="list-style-type: none"> FAULT

Attribute Properties	
label	X
unit	mm
standard unit	mm
display unit	mm
format	%1.4e
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 verticalPosition :

vertical position calculated as:
 $Z = Zfactor * ((I1 + I2) - (I3 + I4)) / (sum) + Zoffset$
 where:
 $I1 = (V1 + V1offset) * gain + I1offset$
 $I2 = (V2 + V2offset) * gain + I2offset$
 $I3 = (V3 + V3offset) * gain + I3offset$
 $I4 = (V4 + V4offset) * gain + I4offset$

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 NOT allowed for	<ul style="list-style-type: none"> FAULT

Attribute Properties	
label	Z
unit	mm
standard unit	mm
display unit	mm
format	%1.4e
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 gain :

the gain change according to the Locum4 input range:
 Input Range gain (micro_A) (A/V)
 1000 100 100 10 10 1 1 0.1 0.1 0.01 0.01 0.001 0.001 0.0001 0.0001 0.00001

Attribute Definition	
----------------------	--

Attribute Properties	
----------------------	--

Attribute Event Criteria	
	Not

Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
Display Level	EXPERT
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read NOT allowed for	• FAULT

label	gain
unit	
standard unit	
display unit	
format	%1.4e
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Periodic	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 measurementUnit :

displays the current measurement unit

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_STRING
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read NOT allowed for	• FAULT

Attribute Properties	
label	current unity
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 enableAutoRange :

true: enable auto range\nfalse: disable auto range

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

Attribute Properties	
label	auto range
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 quadrant1Spectrum :

samples acquired on channel corresponding to quadrant1

Attribute Definition	
Attribute Type	Spectrum (1000000)
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR

Attribute Properties	
label	quadrant 1 buffer
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	Not set
Read NOT allowed for	• FAULT

format	
max_value	
min_value	
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	Not set

Attribute quadrant2Spectrum :

samples acquired on channel corresponding to quadrant2.

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 NOT allowed for	• FAULT

Attribute Properties	
label	quadrant 2 buffer
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 quadrant3Spectrum :

samples acquired on channel corresponding to quadrant 3

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 NOT allowed for	<ul style="list-style-type: none">• FAULT

Attribute Properties	
label	quadrant 3 buffer
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 quadrant4Spectrum :

samples acquired on channel corresponding to quadrant4

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

Attribute Properties	
label	quadrant 4 buffer
unit	
standard unit	
display unit	
format	
max_value	
min_value	

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

Memorized	Not set
Read NOT allowed for	<ul style="list-style-type: none"> • FAULT

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

XbpmBeamLine Class States	
Name	Description
FAULT	causes may be: - DAQ hardware driver failure - a fatal error occurred
RUNNING	DAQ is running
STANDBY	device is up and ready to acquire data