XPSAxis Tango Cpp Class

Contents :

XPSAxis Class Identification :

Contact : at null - null

Class Family :

Platform :

Bus :

Manufacturer :

Manufacturer ref. :

XPSAxis Class Inheritance :

- Tango::DeviceImpl
  - XPSAxis

XPSAxis Class Description :

Pure virtual Class for Axis family

XPSAxis Properties :

There is no class properties

Device Properties			
Name	**Description**	**Type**	**Default Value**
Group_name	nom du groupe d`axes	String	none
Axis_name	nom de l`axe	String	none
IPAddress	IP Address of the XPS motion controller	String	none

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XPSAxis 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.
Off	DEV_VOID	DEV_VOID	OPERATOR	None.
On	DEV_VOID	DEV_VOID	OPERATOR	None.

Forward	DEV_VOID	DEV_VOID	OPERATOR	None.
Backward	DEV_VOID	DEV_VOID	OPERATOR	None.
Stop	DEV_VOID	DEV_VOID	OPERATOR	None.
InitializeReferencePosition	DEV_VOID	DEV_VOID	OPERATOR	None.
KillGroup	DEV_VOID	DEV_VOID	EXPERT	Kill the group owner of the axe.
GetSoftwareLimits	DEV_VOID	DEVVAR_DOUBLEARRAY	OPERATOR	None.
SetForwardLimit	DEV_DOUBLE	DEV_VOID	OPERATOR	None.
SetBackwardLimit	DEV_DOUBLE	DEV_VOID	OPERATOR	None.
ComputeNewOffset	DEV_DOUBLE	DEV_VOID	OPERATOR	the so smart program computes the offset to goal the user position
GetFirmwareRevision	DEV_VOID	DEV_STRING	EXPERT	Returns the firmware revision.
DefinePosition	DEV_DOUBLE	DEV_VOID	EXPERT	sets the XPS raw position at (Argin in user units) - offset The axis must be in uninitialized state if necessary use commmand KillGroup prior to DefinePosition to uninitialize the axis

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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 Off :

Off 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 On :

On 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 Forward :

Forward 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 Backward :

Backward 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 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 InitializeReferencePosition :

InitializeReferencePosition 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 KillGroup :

Kill the group owner of the axe.

KillGroup 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 GetSoftwareLimits :

GetSoftwareLimits Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEVVAR_DOUBLEARRAY	backward limit, forward limit
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command SetForwardLimit :

SetForwardLimit Definition		
Input Argument	Tango::DEV_DOUBLE	the software limit forward
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	• MOVING	..

Command SetBackwardLimit :

SetBackwardLimit Definition		
Input Argument	Tango::DEV_DOUBLE	the backward software limit
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	• MOVING	..

Command ComputeNewOffset :

the so smart program computes the offset to goal the user position

ComputeNewOffset Definition		
Input Argument	Tango::DEV_DOUBLE	the new user position

Output Argument DisplayLevel	Tango::DEV_VOID OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	• MOVING	..

Command GetFirmwareRevision :

Returns the firmware revision.

GetFirmwareRevision Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_STRING	The firmware revision
DisplayLevel	EXPERT	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command DefinePosition :

sets the XPS raw position at (Argin in user units) - offset
The axis must be in uninitialized state
if necessary use commmand KillGroup prior to DefinePosition to uninitialize the axis

DefinePosition Definition		
Input Argument	Tango::DEV_DOUBLE	initialisation position in user units
Output Argument	Tango::DEV_VOID	
DisplayLevel	EXPERT	..

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

XPSAxis Class Attributes							
Name	**Inherited**	**Abstract**	**Attr. type**	**R/W type**	**Data type**	**Level**	**Description**
position	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	Motor position in user units
acceleration	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	EXPERT	
deceleration	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	EXPERT	
velocity	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	EXPERT	
accuracy	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	EXPERT	
offset	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	offset added to XPS raw position to compute the \ncurrent position
relativeMove	false	false	Scalar	WRITE	Tango::DEV_DOUBLE	OPERATOR	moves the axis to the current position + relativeMove

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There is no dynamic attribute defined.

Attribute position :

Motor position in user units

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	Not set
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	Position
unit	Â°
standard unit	Â°
display unit	Â°
format	%7.4f
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 acceleration :

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

Attribute Properties	
label	
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

Period	Not polled
Memorized	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 deceleration :

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

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

Attribute accuracy :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE

Attribute Properties	
label	
unit	
standard unit	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set

Data Type	Tango::DEV_DOUBLE
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

display unit	
format	
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 offset :

offset added to XPS raw position to compute the \ncurrent position

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

Attribute Properties	
label	offset
unit	Â°
standard unit	Â°
display unit	Â°
format	%7.4f
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

Read NOT allowed for	• MOVING
Write allowed for	All states

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

Attribute relativeMove :

moves the axis to the current position + relativeMove

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

Attribute Properties	
label	relative move
unit	Â°
standard unit	Â°
display unit	Â°
format	%7.4f
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

XPSAxis Class States	
Name	**Description**
STANDBY	axis iddle, ready
MOVING	axis moving
ALARM	non-bloquing fault axis can move
FAULT	bloquing fault, axis cannot move
OFF	power unit off
UNKNOWN	communication broken with controller