

Newport8742Axis Tango Cpp Class

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Newport8742Axis Class Identification :

Contact : at desy.de - johannes.blume
Class Family : Motion
Platform : Unix Like
Bus : Not Applicable
Manufacturer : NewPort
Manufacturer ref. :

Newport8742Axis Class Inheritance :

- [Tango::DeviceImpl](#)
 - Newport8742Axis

Newport8742Axis Class Description :

Axis class for motors connected to NewPort8742 controller

Newport8742Axis Properties :

There is no class properties

Device Properties			
Name	Description	Type	Default Value
NewPortCtrlDevice		String	""
AxisNumber	Number of axis (1-4)	short	0

Newport8742Axis 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.
StopMove	DEV_VOID	DEV_VOID	OPERATOR	Stop movement on this axis
Calibrate	DEV_DOUBLE	DEV_VOID	OPERATOR	Define the current position as position

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	false	..
Polling Period	Not polled	..

Command allowed for	All states	..
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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 StopMove :

Stop movement on this axis

StopMove 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"> • FAULT • INIT 	..

Command Calibrate :

Define the current position as position

Calibrate Definition		
Input Argument	Tango::DEV_DOUBLE	position value to be defined as current position
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
<hr/>		
Command NOT allowed for	<ul style="list-style-type: none"> • FAULT • INIT 	..

Newport8742Axis Class Attributes							
Name	Inherited	Abstract	Attr. type	R/W type	Data type	Level	Description
Conversion	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	conversion factor for steps to units
Position	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	The current or target position in units
							Minimum position limit. If not set, will default to -1. When both min and max are set to 0, the limit will be ignored.

UnitLimitMin	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	<p>The motors do not have end switches and the controller does not stop generating pulses when the wall is hit. If this happens, your position is lost. So make sure you set the limits properly.</p>
UnitLimitMax	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	<p>Maximum position limit. If not set, will default to 1.</p> <p>When both min and max are set to 0, the limit will be ignored.</p> <p>The motors do not have end switches and the controller does not stop generating pulses when the wall is hit. If this happens, your position is lost. So make sure you set the limits properly.</p>

MotorType	false	false	Scalar	READ	Tango::DEV_SHORT	OPERATOR	The type of the connected motor. 0: no motor connected 1: motor type unknown 2: tiny motor 3: standard motor
Speed	false	false	Scalar	READ_WRITE	Tango::DEV_LONG	OPERATOR	The axis velocity in steps/sec , min 0, max 2000
Acceleration	false	false	Scalar	READ_WRITE	Tango::DEV_LONG	OPERATOR	The axis acceleration in steps/sec ² , min 1, max 200000
StoredPosition	false	false	Scalar	READ_WRITE	Tango::DEV_LONG	EXPERT	Position in steps. This attribute is memorized and updated after every move. The value is used to recalibrate the position value (command `DH`) at server start in case the controller was switched off. Never edit this manually.

There is no dynamic attribute defined.

Attribute Conversion :

conversion factor for steps to 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	true
Write hardware at init.	true
Read NOT allowed for	<ul style="list-style-type: none"> • FAULT • INIT
Write NOT allowed for	<ul style="list-style-type: none"> • FAULT • INIT

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 Position :

The current or target position in units

Attribute Definition	
Attribute Type	Scalar

Attribute Properties	
label	

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

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	false

Attribute UnitLimitMin :

Minimum position limit. If not set, will default to -1.

When both min and max are set to 0, the limit will be ignored.

The motors do not have end switches and the controller does not stop generating pulses when the wall is hit. If this happens, your position is lost. So make sure you set the limits properly.

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

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

Memorized	true
Write hardware at init.	true
Read NOT allowed for	<ul style="list-style-type: none"> • FAULT • INIT
Write NOT allowed for	<ul style="list-style-type: none"> • FAULT • INIT

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	false

Attribute UnitLimitMax :

Maximum position limit. If not set, will default to 1.

When both min and max are set to 0, the limit will be ignored.

The motors do not have end switches and the controller does not stop generating pulses when the wall is hit. If this happens, your position is lost. So make sure you set the limits properly.

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

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	

allowed for

- INIT

code	false
Push DataReady event by user code	false

Attribute MotorType :

The type of the connected motor.

- 0: no motor connected
- 1: motor type unknown
- 2: tiny motor
- 3: standard motor

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_SHORT
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 • INIT

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 Speed :

The axis velocity in steps/sec , min 0, max 2000

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

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 Acceleration :

The axis acceleraion in steps/sec², min 1, max 200000

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

Attribute Properties	
label	
unit	
standard unit	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set

Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	true
Write hardware at init.	true
Read NOT allowed for	<ul style="list-style-type: none"> • FAULT • INIT
Write NOT allowed for	<ul style="list-style-type: none"> • FAULT • INIT

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	false

Attribute StoredPosition :

Position in steps. This attribute is memorized and updated after every move. The value is used to recalibrate the position value (command `DH`) at server start in case the controller was switched off. Never edit this manually.

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

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	
min_value	
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	

allowed for	• INIT
Write NOT allowed for	• FAULT • INIT

delta_val

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

Newport8742Axis Class States	
Name	Description
ON	idle, ready to move
FAULT	something went wrong, check status
MOVING	axis is moving
INIT	