

PhyMotionMotor Tango Cpp Class

Contents :

- [Description](#)
- [Properties](#)
- [Commands](#)
 - [State](#)
 - [Status](#)
 - [Calibrate](#)
 - [StopMove](#)
- [Attributes](#)
 - [MovementType](#)
 - [PositionUnits](#)
 - [BaseRate](#)
 - [SlewRate](#)
 - [Acceleration](#)
 - [UnitLimitMin](#)
 - [UnitLimitMax](#)
 - [UnitBacklash](#)
 - [Position](#)
 - [UnitCalibration](#)
 - [LimitSwitchType](#)
 - [StopCurrent](#)
 - [RunCurrent](#)
 - [StepWidth](#)
 - [Temperature](#)
 - [Conversion](#)
- [States](#)

PhyMotionMotor Class Identification :

Contact : at mail.desy.de - tnunez
 Class Family : Motion
 Platform : Unix Like
 Bus : Socket
 Manufacturer : Pythron
 Manufacturer ref. : phyMotion

PhyMotionMotor Class Inheritance :

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

PhyMotionMotor Class Description :

Class for controlling a channel in a phyMotion module

PhyMotionMotor Properties :

There is no class properties

Device Properties			
Name	Description	Type	Default Value
ModuleNb	Module Number	int	none
Channel	Channel number	int	none
CtrlDevice	Name of the tango device making the socket connection	String	none

PhyMotionMotor 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.
Calibrate	DEV_DOUBLE	DEV_VOID	OPERATOR	Calibrate the motor: current position is calibrated to be the value given as an argument
StopMove	DEV_VOID	DEV_VOID	OPERATOR	Stop Movement

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	..

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 Calibrate :

Calibrate the motor: current position is calibrated to be the value given as an argument

Calibrate Definition		
Input Argument	Tango::DEV_DOUBLE	Value to be calibrated
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command StopMove :

Stop Movement

StopMove 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	..

PhyMotionMotor Class Attributes							
Name	Inherited	Abstract	Attr. type	R/W type	Data type	Level	Description
MovementType	false	false	Scalar	READ_WRITE	Tango::DEV_LONG	OPERATOR	Type of movement (free, relatib/absolute, reference move): 0 -> rotational 1 -> hardware limit switches 2 -> software limit switches 3 -> hw and sw limit switches
PositionUnits	false	false	Scalar	READ_WRITE	Tango::DEV_LONG	OPERATOR	Position units: 1-> Step 2 -> mm 3 -> Zoll 4 -> Grad
BaseRate	false	false	Scalar	READ_WRITE	Tango::DEV_LONG	OPERATOR	The motor starts to move with this rate, then accelerates
SlewRate	false	false	Scalar	READ_WRITE	Tango::DEV_LONG	OPERATOR	The motor speed
							The

Acceleration	false	false	Scalar	READ_WRITE	Tango::DEV_LONG	OPERATOR	acceleration
UnitLimitMin	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	
UnitLimitMax	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	
UnitBacklash	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	
Position	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	
UnitCalibration	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	Position = (Hw position) + UnitCalibration
LimitSwitchType	false	false	Scalar	READ_WRITE	Tango::DEV_LONG	OPERATOR	0 -> opener pos, neg, mit and ref limits 7 -> closer pos, neg, mit and ref limits
StopCurrent	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	
RunCurrent	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	
StepWidth	false	false	Scalar	READ_WRITE	Tango::DEV_LONG	OPERATOR	Step width: 0=1/1, 2=1/2, 3=1/4, 4=1/5, 5=1/8, 6=1/10, 7=1/16, 8=1/20, 9=1/32, 10=1/64, 11=1/128, 12=1/256, 13=1/512
Temperature	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	Current temperature from power stage.
Conversion	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	The conversion factor, steps = conversion*units

There is no dynamic attribute defined.

Attribute MovementType :

Type of movement (free, relatib/absolute, reference move):

0 -> rotational

1 -> hardware limit switches

2 -> software limit switches

3 -> hw and sw limit switches

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	3
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 PositionUnits :

Position units:

- 1 -> Step
- 2 -> mm
- 3 -> Zoll
- 4 -> Grad

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

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	4
min_value	1
max_alarm	

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

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

min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

	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 BaseRate :

The motor starts to move with this rate, then accelerates

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	1/s
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 SlewRate :

The motor speed

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	1/s
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 acceleration

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

Attribute Properties	
label	
unit	steps/s**2
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 allowed for	All states
Write allowed for	All states

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	false

Attribute UnitLimitMin :

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	
unit	units
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 UnitLimitMax :

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	
unit	units
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 UnitBacklash :

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

Attribute Properties	
label	
unit	units
standard unit	
display unit	

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

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

format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

	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 :

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	
unit	Units
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 UnitCalibration :

Position = (Hw position) + UnitCalibration

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	
unit	units
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 LimitSwitchType :

0 -> opener pos, neg, mit and ref limits

7 -> closer pos, neg, mit and ref limits

Attribute Definition	

Attribute Properties	

Attribute Event Criteria	
Periodic	Not set

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

label	
unit	
standard unit	
display unit	
format	
max_value	7
min_value	0
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 StopCurrent :

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	
unit	Aeff
standard unit	
display unit	
format	
max_value	6.30
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

code	
Push DataReady event by user code	false

Attribute RunCurrent :

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	
unit	Aeff
standard unit	
display unit	
format	
max_value	6.30
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 StepWidth :

Step width: 0=1/1, 2=1/2, 3=1/4, 4=1/5, 5=1/8, 6=1/10, 7=1/16, 8=1/20, 9=1/32, 10=1/64, 11=1/128, 12=1/256, 13=1/512



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

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	13
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 Temperature :

Current temperature from power stage.

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	Celsius
standard unit	
display unit	
format	
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

delta_time	
delta_val	

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

Attribute Conversion :

The conversion factor, steps = conversion*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 allowed for	All states
Write allowed for	All states

Attribute Properties	
label	
unit	steps/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

PhyMotionMotor Class States

Name	Description
ON	
MOVING	
FAULT	