

FMBOxfDCMMotor Tango Cpp Class

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FMBOxfDCMMotor Class Identification :

Contact : at desy.de - maria-teresa.nunez-pardo-de-
vera

Class Family : Motion

Platform : Unix Like

Bus : Serial Line

Manufacturer : none

Manufacturer :
ref.

FMBOxfDCMMotor Class Inheritance

⋮

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

FMBOxfDCMMotor Class Description :

Class for controlling a single motor of the Double Crystal Monochromator from FMB Oxford

FMBOxfDCMMotor Properties :

There is no class properties

Device Properties			
Name	Description	Type	Default Value
FMBOxfDCMCtrlDevice	FMBOxfDCMCtrl server for RS232 interface	String	none
SimulationMode	0 -> real mode, 1 -> simulation mode	int	0
AxisNb	Axis number	int	none
Version	0 -> old , 1 -> new	int	none

FMBOxfDCMMotor 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.
Calibrate	DEV_DOUBLE	DEV_LONG	OPERATOR	Calibrate the motor: current position is calibrated to be the value given as an argument
StopMove	DEV_VOID	DEV_VOID	OPERATOR	Stop all motors in PMAC
Home	DEV_VOID	DEV_VOID	OPERATOR	Move motor to home position.
ChangeModeAndHome	DEV_LONG	DEV_VOID	OPERATOR	Change mode (0->openloop,1->close loop) and home the motor.
ReadAxisStatus	DEV_VOID	DEV_STRING	OPERATOR	Read status from hardware.

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	true	..
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 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_LONG	Completion status
DisplayLevel	OPERATOR	..
Inherited	false	..

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

Command StopMove :

Stop all motors in PMAC

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	..

Command Home :

Move motor to home position.

Home 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 ChangeModeAndHome :

Change mode (0->openloop,1->close loop) and home the motor.

ChangeModeAndHome Definition		
Input Argument	Tango::DEV_LONG	0->OpenLoop,1->CloseLoop
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command ReadAxisStatus :

Read status from hardware.

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

FMBoxfDCMMotor Class Attributes							
Name	Inherited	Abstract	Attr. type	R/W type	Data type	Level	Description
Position	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	Position in degrees for motor 1, and mm for motors 3 and 4

AxisName	false	false	Scalar	READ_WRITE	Tango::DEV_STRING	OPERATOR	
PositionCts	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	Position in counts
UnitCalibration	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	Offset factor for the position (in units: degrees for Bragg motor, mm for perpendicular and paralel motors). Limits sets for Bragg motor, this class is not used for par or perp.
Conversion	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	the conversion factor, counts = conversion*units
UnitLimitMax	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	the upper motor limit
UnitLimitMin	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	the lower limit of a motor
UpdateStatusRate	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	Rate for checking the status during a movement
PositionAccuracy	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	
EstimatedMoveTime	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	
SlewRate	false	false	Scalar	READ_WRITE	Tango::DEV_FLOAT	OPERATOR	
SlewDoubleMax	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	
SlewDouble	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	
Mode	false	false	Scalar	READ_WRITE	Tango::DEV_LONG	OPERATOR	0 -> Open Loop/ 1 -> Close Loop (-1 ->not implemented)
Active	false	false	Scalar	READ_WRITE	Tango::DEV_LONG	OPERATOR	1 if motor is active. Set to 1 for activating it.
Backlash	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	

There is no dynamic attribute defined.

Attribute Position :

Position in degrees for motor 1, and mm for motors 3 and 4

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	deg/mm
standard unit	deg/mm
display unit	deg/mm
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 AxisName :

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

Attribute Properties	
label	
unit	
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

Read allowed for	All states
Write allowed for	All states

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 PositionCts :

Position in counts

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	counts
standard unit	counts
display unit	counts
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 UnitCalibration :

Offset factor for the position (in units: degrees for Bragg motor, mm for perpendicular and parallel motors).
Limits sets for Bragg motor, this class is not used for par or perp.

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	2
min_value	-2
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 Conversion :

the conversion factor, counts = 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

Attribute Properties	
label	
unit	counts/unit
standard unit	
display unit	
format	
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

Read allowed for	All states
Write allowed for	All states

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 UnitLimitMax :

the upper motor limit

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	Not set

Attribute UnitLimitMin :

the lower limit of a motor

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	Not set

Attribute UpdateStatusRate :

Rate for checking the status during a movement

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	
unit	s
standard unit	
display unit	
format	
max_value	1
min_value	0
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

Read allowed for	All states
Write allowed for	All states

min_warning	
delta_time	
delta_val	

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

Attribute PositionAccuracy :

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	Not set

Attribute EstimatedMoveTime :

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	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	Not set

Attribute SlewRate :

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

Attribute SlewDoubleMax :

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	cts/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	Not set

Attribute SlewDouble :

Attribute Definition	

Attribute Properties	

Attribute Event Criteria	
Periodic	Not set

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

label	
unit	cts/s
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	Not set

Attribute Mode :

0 -> Open Loop/ 1 -> Close Loop (-1 ->not implemented)

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	All states

Attribute Properties	
label	
unit	0->OpenLoop,1->CloseLoop
standard unit	
display unit	
format	
max_value	1
min_value	-1
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

allowed for Write	All states
allowed for	

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

Attribute Active :

1 if motor is active. Set to 1 for activating it.

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	1
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	Not set

Attribute Backlash :

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

unit	deg/mm
standard unit	deg/mm
display unit	deg/mm
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	Not set

FMBoxfDCMMotor Class States	
Name	Description
ON	
MOVING	
FAULT	
ALARM	Mode changed but motors not homed (for GKSS monochromators).