



TANGO
Device
Server

LOM User's Guide

Lom Class

Revision: - Author: tkracht
Implemented in C++

Introduction:

the interface to the large offset monochromator motors

Class Inheritance:

- Tango::DeviceImpl
 - AbstractMotorHasy
 - Lom

Properties:

Device Properties		
Property name	Property type	Description
PlcServer	Tango::DEV_STRING	the server which exports the LOM PLC
Channel	Tango::DEV_LONG	the channel selects the motor, the first motor starts at offset 512, the next motor at 512 + 256

Device Properties Default Values:

Property Name	Default Values
PlcServer	No default value
Channel	0

There is no Class properties.

States:

States	
Names	Descriptions
MOVING	*
FAULT	*
ON	motor is idle

Attributes:

Scalar Attributes			
Attribute name	Data Type	R/W Type	Expert
CurrentUnitPosition	DEV_DOUBLE	READ	No
CwLimit	DEV_LONG	READ	No
CcwLimit	DEV_LONG	READ	No
UnitLimitMax	DEV_DOUBLE	READ_WRITE	No
UnitLimitMin	DEV_DOUBLE	READ_WRITE	No
SettleTime	DEV_DOUBLE	READ_WRITE	No
FlagProtected	DEV_LONG	READ_WRITE	No
FlagMotorReady : OmsVme58 compatibility feature	DEV_LONG	READ_WRITE	No
StepPositionController	DEV_LONG	READ_WRITE	No
StepPositionInternal	DEV_LONG	READ_WRITE	No
SlewRate	DEV_LONG	READ_WRITE	No
UnitBacklash	DEV_DOUBLE	READ_WRITE	No

Commands:

More Details on commands....

Device Commands for Operator Level		
Command name	Argument In	Argument Out
Init	DEV_VOID	DEV_VOID
State	DEV_VOID	DEV_STATE
Status	DEV_VOID	CONST_DEV_STRING
CompleteMove	DEV_VOID	DEV_LONG
SetupUnitMove	DEV_DOUBLE	DEV_LONG
StartMove	DEV_VOID	DEV_LONG
StopMove	DEV_VOID	DEV_LONG
Move	DEV_DOUBLE	DEV_LONG
ResetMotor	DEV_VOID	DEV_LONG
Calibrate	DEV_DOUBLE	DEV_LONG
UserCalibrate	DEV_DOUBLE	DEV_LONG
CheckMove	DEV_VOID	DEV_LONG
GetStepPosition	DEV_VOID	DEV_LONG

1 - Init

- **Description:** This commands re-initialise a device keeping the same network connection.
After an Init command executed on a device, it is not necessary for client to re-connect to the device.
This command first calls the device *delete_device()* method and then execute its *init_device()* method.
For C++ device server, all the memory allocated in the *nit_device()* method must be freed in the *delete_device()* method.
The language device desctructor automatically calls the *delete_device()* method.
- **Argin:**
DEV_VOID : none.
- **Argout:**
DEV_VOID : none.
- **Command allowed for:**
 - Tango::MOVING
 - Tango::FAULT
 - Tango::ON

2 - State

- **Description:** This command gets the device state (stored in its *device_state* data member) and returns it to the caller.
- **Argin:**
DEV_VOID : none.
- **Argout:**
DEV_STATE : State Code
- **Command allowed for:**
 - Tango::MOVING
 - Tango::FAULT
 - Tango::ON

3 - Status

- **Description:** This command gets the device status (stored in its *device_status* data member) and returns it to the caller.
- **Argin:**
DEV_VOID : none.
- **Argout:**
CONST_DEV_STRING : Status description
- **Command allowed for:**
 - Tango::MOVING
 - Tango::FAULT
 - Tango::ON

4 - CompleteMove

- **Description:** It calls a thread. The thread waits for the move to be finished, does the backlash, if FlagBacklash
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_LONG : return status of execution

- **Command allowed for:**

- Tango::MOVING
- Tango::FAULT
- Tango::ON

5 - SetupUnitMove

- **Description:** prepares a move, calculates the new step position from the argument, the calibration value and the conversion factor, takes backlash into account, sets FlagMotorReady

- **Argin:**

DEV_DOUBLE : final position, in units

- **Argout:**

DEV_LONG : completion status

- **Command allowed for:**

- Tango::MOVING
- Tango::FAULT
- Tango::ON

6 - StartMove

- **Description:** a motor with FlagMotorReady is started, the function returns immediately

- **Argin:**

DEV_VOID :

- **Argout:**

DEV_LONG : completion status

- **Command allowed for:**

- Tango::MOVING
- Tango::FAULT
- Tango::ON

7 - StopMove

- **Description:** stop a movement, return immediately, don't wait for de-acceleation, don't do backlash
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_LONG : completion status
- **Command allowed for:**
 - Tango::MOVING
 - Tango::FAULT
 - Tango::ON

8 - Move

- **Description:** Setup motor, start move, complete move.
- **Argin:**
DEV_DOUBLE : Final position, in units
- **Argout:**
DEV_LONG : Completion status
- **Command allowed for:**
 - Tango::ON

9 - ResetMotor

- **Description:** Reset the motor
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_LONG : Completion status
- **Command allowed for:**
 - Tango::MOVING
 - Tango::FAULT
 - Tango::ON

10 - Calibrate

- **Description:** Calibrate the motor: current position is calibrated to be the value given as an argument
- **Argin:**
DEV_DOUBLE : Value to be calibrated
- **Argout:**
DEV_LONG : Completion status
- **Command allowed for:**
 - Tango::MOVING
 - Tango::FAULT
 - Tango::ON

11 - UserCalibrate

- **Description:** Uses an user calibration for calibrating the motor keeping the general one.
- **Argin:**
DEV_DOUBLE : Value to be calibrated
- **Argout:**
DEV_LONG : Completion status
- **Command allowed for:**
 - Tango::MOVING
 - Tango::FAULT
 - Tango::ON

12 - CheckMove

- **Description:** returns MOVING or ON
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_LONG :
- **Command allowed for:**

- Tango::MOVING
- Tango::FAULT
- Tango::ON

13 - GetStepPosition

- **Description:**
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_LONG :
- **Command allowed for:**
 - Tango::MOVING
 - Tango::FAULT
 - Tango::ON

TANGO is an open source project hosted by :


Core and Tools : CVS repository on tango-cs project
 Device Servers : CVS repository on tango-ds project