



TANGO
Device
Server

AbstractMotorHasy User's Guide

AbstractMotorHasy Class

Revision: - Author: tere29
Implemented in C++

Introduction:

Stepping motor

Class Inheritance:

- Tango::Device_4Impl
 - AbstractMotorHasy

Properties:

There is no Class properties.
There is no Device 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

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

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

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Device Servers : CVS repository on tango-ds project