



TANGO
Device
Server

The Beam Line Energy device for the Proxima Beam Line User's Guide

BeamLineEnergyProxima Class

Revision: release_1_2_0 - Author: delos
Implemented in C++

Introduction:

Class Inheritance:

- Tango::Device_3Impl
 - BeamLineEnergyProxima

Properties:

Device Properties

Property name	Property type	Description
DefaultCouplingNumber	Tango::DEV_SHORT	Used to parameterize the device when we start it.
OndulatorProxyName	Tango::DEV_STRING	The name of the proxy to reach the undulator device
OndulatorEnergyAttributeName	Tango::DEV_STRING	The name of the energy attribute of the undulator device.
MonochromatorProxyName	Tango::DEV_STRING	The name of the proxy to reach the monochromator device
MonochromatorPitchAttributeName	Tango::DEV_STRING	The name of the mono pitch attribute to reach.
MonochromatorEnergyAttributeName	Tango::DEV_STRING	The name of the energy attribute of the monochromator device.
MonochromatorBeamExitHeightAttributeName	Tango::DEV_STRING	The name of the beam exit height attribute computed in the monochromator device to position the table at this elevation.
SlitDistance	Tango::DEV_DOUBLE	Horizontal distance from the monochromator to the slit.
SlitProxyName	Tango::DEV_STRING	Name of the slit device to reach
SlitPositionAttributeName	Tango::DEV_STRING	Name of the slit attribute to reach
TableDistance	Tango::DEV_STRING	Horizontal distance from the monochromator to the table.
TableProxyName	Tango::DEV_STRING	The name of the proxy to reach the table device
TableElevationAttributeName	Tango::DEV_STRING	The name of the elevation attribute of the table device.
CommandStateName	Tango::DEV_STRING	The state command name.
CommandStopName	Tango::DEV_STRING	The stop command name.
AbsolutePosition	Tango::DEV_DOUBLE	Used to be subtracted to the TPP height.

There is no Class properties.

States:

States	
Names	Descriptions
ALARM	The device is in the ALARM state. (At least one device is in an alarm state).
MOVING	The device is in the MOVING state. (At least one device is in an moving).
STANDBY	The beam line energy device is waiting for request.
FAULT	At least one device is unreachable.
INIT	The beam line energy proxies initialization is ok but you need to call the InitializeBeamLineEnergy command

Attributes:

Scalar Attributes			
Attribute name	Data Type	R/W Type	Expert
energy: The energy of the beam line	DEV_DOUBLE	READ_WRITE	No
currentCouplingName: The current coupling used	DEV_STRING	READ	No
currentConfiguration: The current energy range	DEV_STRING	READ	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
InitializeBeamLine	DEV_VOID	DEV_VOID
Stop	DEV_VOID	DEV_VOID
ChangeConfiguration	DEV_SHORT	DEV_VOID
ChangeCoupling	DEV_SHORT	DEV_VOID

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::ALARM
 - Tango::MOVING
 - Tango::STANDBY
 - Tango::FAULT
 - Tango::INIT

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::ALARM
 - Tango::MOVING
 - Tango::STANDBY
 - Tango::FAULT
 - Tango::INIT

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::ALARM
 - Tango::MOVING
 - Tango::STANDBY

- Tango::FAULT
- Tango::INIT

4 - InitializeBeamLine

- **Description:** Initialize the beam line energy device (Lib objects)
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ALARM
 - Tango::STANDBY
 - Tango::INIT

5 - Stop

- **Description:** The command to send a stop to all the coupled devices.
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ALARM
 - Tango::MOVING
 - Tango::STANDBY

6 - ChangeConfiguration

- **Description:** Method to change the current configuration
- **Argin:**
DEV_SHORT :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ALARM
 - Tango::STANDBY

7 - ChangeCoupling

- **Description:** Method to change the current coupling
- **Argin:**
DEV_SHORT : The index of the wanted coupling
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ALARM
 - Tango::STANDBY

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The Beam Line Energy device for the Proxima Beam Line

Device Commands Description

BeamLineEnergyProxima Class

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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::ALARM
 - Tango::MOVING
 - Tango::STANDBY
 - Tango::FAULT
 - Tango::INIT

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::ALARM
 - Tango::MOVING
 - Tango::STANDBY
 - Tango::FAULT
 - Tango::INIT

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::ALARM
 - Tango::MOVING
 - Tango::STANDBY
 - Tango::FAULT
 - Tango::INIT

4 - InitializeBeamLine

- **Description:** Initialize the beam line energy device (Lib objects)

- **Argin:**
DEV_VOID :

- **Argout:**
DEV_VOID :

- **Command allowed for:**
 - Tango::ALARM
 - Tango::STANDBY
 - Tango::INIT

5 - Stop

- **Description:** The command to send a stop to all the coupled devices.
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ALARM
 - Tango::MOVING
 - Tango::STANDBY

6 - ChangeConfiguration

- **Description:** Method to change the current configuration
- **Argin:**
DEV_SHORT :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ALARM
 - Tango::STANDBY

7 - ChangeCoupling

- **Description:** Method to change the current coupling
- **Argin:**
DEV_SHORT : The index of the wanted coupling
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ALARM
 - Tango::STANDBY

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