



TANGO
Device
Server

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

BeamLineEnergyTempo Class

Revision: release_1_0_4 - Author: postollec
Implemented in C++

Introduction:

Class Inheritance:

- Tango::Device_3Impl
 - BeamLineEnergyTempo

Properties:

Device Properties

Property name	Property type	Description
CommandStateName	Tango::DEV_STRING	The name of the state command name
CommandStopName	Tango::DEV_STRING	The name of the stop command name
DiaphragmGapAttributeName	Tango::DEV_STRING	The name of the diaphragm gap attribute name
DiaphragmProxyName	Tango::DEV_STRING	The name of the proxy to reach the diaphragm device
MirrorAProxyName	Tango::DEV_STRING	The name of the proxy to reach the mirror A device
MirrorBProxyName	Tango::DEV_STRING	The name of the proxy to reach the mirror B device
MirrorCProxyName	Tango::DEV_STRING	The name of the proxy to reach the mirror C device
MirrorThetaAttributeName	Tango::DEV_STRING	The name of the theta attribute of the mirror device.
MonochromatorEnergyAttributeName	Tango::DEV_STRING	The name of the energy attribute of the monochromator device.
MonochromatorProxyName	Tango::DEV_STRING	The name of the proxy to reach the monochromator device
OndulatorEnergyAttributeName	Tango::DEV_STRING	The name of the energy attribute of the ondulator device.
OndulatorHU40ProxyName	Tango::DEV_STRING	The name of the proxy to reach the HU40 ondulator device
OndulatorHU80ProxyName	Tango::DEV_STRING	The name of the proxy to reach the HU80 ondulator device

Device Properties Default Values:

Property Name	Default Values
CommandStateName	state
CommandStopName	stop
DiaphragmGapAttributeName	No default value
DiaphragmProxyName	No default value
MirrorAProxyName	No default value
MirrorBProxyName	No default value
MirrorCProxyName	No default value
MirrorThetaAttributeName	No default value
MonochromatorEnergyAttributeName	energy
MonochromatorProxyName	No default value
OndulatorEnergyAttributeName	energy
OndulatorHU40ProxyName	No default value
OndulatorHU80ProxyName	No default value

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 name of the current coupling	DEV_STRING	READ	No
currentConfiguration: The current energy configuration	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
ChangeCoupling	DEV_SHORT	DEV_VOID
ChangeConfiguration	DEV_USHORT	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 - ChangeCoupling

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

7 - ChangeConfiguration

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



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DiaphragmGapAttributeName	Tango::DEV_STRING	The name of the diaphragm gap attribute name
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Device Properties Default Values:

Property Name	Default Values
CommandStateName	state
CommandStopName	stop
DiaphragmGapAttributeName	No default value
DiaphragmProxyName	No default value
MirrorAProxyName	No default value
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MirrorCProxyName	No default value
MirrorThetaAttributeName	No default value
MonochromatorEnergyAttributeName	energy
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INIT	The beam line energy proxies initialization is ok but you need to call the InitializeBeamLineEnergy command

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Commands:

More Details on commands....

Device Commands for Operator Level

Command name	Argument In	Argument Out
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State	DEV_VOID	DEV_STATE
Status	DEV_VOID	CONST_DEV_STRING
InitializeBeamLine	DEV_VOID	DEV_VOID
Stop	DEV_VOID	DEV_VOID
ChangeCoupling	DEV_SHORT	DEV_VOID
ChangeConfiguration	DEV_USHORT	DEV_VOID

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

7 - ChangeConfiguration

- **Description:** Method to change the current coupling
- **Argin:**
DEV_USHORT : The index of the configuration
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ALARM
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Device Commands Description

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DEV_USHORT : The index of the configuration
- **Argout:**
DEV_VOID :
- **Command allowed for:**
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 - Tango::STANDBY

ESRF - Software Engineering Group