



TANGO
Device
Server

Multi channel Steerer class for the ESRF storage ring User's Guide

MchSteererWrapper Class

Revision: MchSteererWrapper-Release_3_2 - Author: meyer
Implemented in C++ - CVS repository: ESRF

Introduction:

A multi channel steerer device should regroup all horizontal or vertical steerers of the ESRF storage ring. Reading and setting of steerer currents is done by spectrum attributes, which contain the values of the individual steerer devices.

Class Identification:

- **Contact** : at esrf.fr - meyer
- **Class Family** : Acquisition (ESRF Specific)
- **Platform** : Unix Like
- **Bus** : Not Applicable

Class Inheritance:

- Tango::Device_4Impl
 - MchSteererWrapper

Properties:

Device Properties		
Property name	Property type	Description
MchSteererDcs	Array of string	The names of the data collector Tango devices.
MchSteererDws	Array of string	The names of the data write Tango devices.
UpdatePeriod	Tango::DEV_LONG	The update period for the underlying Taco multi channel steerer devices in milli seconds.
SteererNames	Array of string	Ordered list of individual sterer device names

Device Properties Default Values:

Property Name	Default Values
MchSteererDcs	none
MchSteererDws	none
UpdatePeriod	2000
SteererNames	none

There is no Class properties.

States:

States	
Names	Descriptions
ON	All steerers switched on.
OFF	One or more steerers are off.
ALARM	Alarm detected on one or more steerers.
FAULT	Fault detected on one or more steerers.
UNKNOWN	Connection problems with one or more steerers.

Attributes:

Scalar Attributes			
Attribute name	Data Type	R/W Type	Expert
SlowUpdate: When the slow update rate is true, the update rate is only 10 seconds!	DEV_BOOLEAN	READ_WRITE	No

Spectrum Attributes			
Attribute name	Data Type	X Data Length	Expert
Current	DEV_DOUBLE	256	No
SteererStates	DEV_STATE	256	No
SteererNames	DEV_STRING	256	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
On	DEV_VOID	DEV_VOID
Off	DEV_VOID	DEV_VOID
Reset	DEV_VOID	DEV_VOID
SetpointCheck	DEVVAR_DOUBLEARRAY	DEV_SHORT

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::ON
 - Tango::OFF
 - Tango::ALARM
 - Tango::FAULT
 - Tango::UNKNOWN

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::ON
 - Tango::OFF
 - Tango::ALARM
 - Tango::FAULT
 - Tango::UNKNOWN

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::ON
 - Tango::OFF

- Tango::ALARM
- Tango::FAULT
- Tango::UNKNOWN

4 - On

- **Description:** Switch all steerers on.
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::OFF
 - Tango::ALARM
 - Tango::UNKNOWN

5 - Off

- **Description:** Switch all steerers off.
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ON
 - Tango::OFF
 - Tango::ALARM
 - Tango::FAULT
 - Tango::UNKNOWN

6 - Reset

- **Description:** Reset all steerers.
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :

- **Command allowed for:**

- Tango::ON
- Tango::OFF
- Tango::ALARM
- Tango::FAULT
- Tango::UNKNOWN

7 - SetpointCheck

- **Description:** Check the requested setpoint values for all steerers, against the steerer current limits. Returns 0 when inside the limits for all steerers and otherwise -1.

- **Argin:**

DEVVAR_DOUBLEARRAY :

- **Argout:**

DEV_SHORT :

- **Command allowed for:**

- Tango::ON
- Tango::OFF
- Tango::ALARM
- Tango::FAULT
- Tango::UNKNOWN

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