



**TANGO
Device
Server**

DOF Magnet User's Guide

DofMagnet Class

**Revision: release_1_1_0 - Author: langlois
Implemented in C++**

Introduction:

This Device controls a **DOF Magnet** of the **Soleil Accelerators**

The control consist of a read of Temperatures thru a PLC : this device uses the PLCServer gateway and the Temperature device.

There is also a read of a current spectrum thru a 2005: it uses the RetrigAI device.

Class Inheritance:

- Tango::Device_3Impl
 - DofMagnet

Properties:

Device Properties		
Property name	Property type	Description
TemperatureServerName	Tango::DEV_STRING	Name of the Temperature Device.
SAIBoardName	Tango::DEV_STRING	Name of the SAI Board Device Server (uses 2005).
SAICurrentChannel	Tango::DEV_STRING	Index of the SAI Channel for the Current : 0 to 3. (default = 0).

Device Properties Default Values:

Property Name	Default Values
TemperatureServerName	No default value
SAIBoardName	No default value
SAICurrentChannel	0

There is no Class properties.

States:

States	
Names	Descriptions
ON	Magnet is Ok
ALARM	MagnetDefault occurred (temperatures alarms).
FAULT	Hardware or thermocouple error on Temperatures
DISABLE	Communication with PLC is broken

Attributes:

Scalar Attributes

Attribute name	Data Type	R/W Type	Expert
currentPeakValue: Peak current of the magnet	DEV_DOUBLE	READ	No
temperature: Temperature of the magnet	DEV_DOUBLE	READ	No
magnetDefault: Default on the Magnet: 0 -> Ok 1 -> Default	DEV_SHORT	READ	No

Spectrum Attributes

Attribute name	Data Type	X Data Length	Expert
currentSpectrum: Readback of the Current on the magnet	DEV_DOUBLE	10000	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

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::ALARM
 - Tango::FAULT
 - Tango::DISABLE

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::ALARM
 - Tango::FAULT
 - Tango::DISABLE

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::ALARM
 - Tango::FAULT
 - Tango::DISABLE

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Commands:

More Details on commands....

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Init	DEV_VOID	DEV_VOID
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- **Argout:**
DEV_VOID : none.
- **Command allowed for:**
 - Tango::ON
 - Tango::ALARM
 - Tango::FAULT
 - Tango::DISABLE

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::ALARM
 - Tango::FAULT
 - Tango::DISABLE

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::ALARM
 - Tango::FAULT
 - Tango::DISABLE

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DOF Magnet

Device Commands Description

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- **Argin:**
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- **Argout:**
DEV_VOID : none.
- **Command allowed for:**
 - Tango::ON
 - Tango::ALARM
 - Tango::FAULT
 - Tango::DISABLE

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::ALARM
 - Tango::FAULT
 - Tango::DISABLE

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::ALARM
 - Tango::FAULT
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