



TANGO
Device
Server

TANGO Device Server User's Guide

PyAFGenerator Class

Revision: - Author: sblanch
Implemented in Python

Introduction:

Class Identification:

- **Contact** : at cells.es - sblanch
- **Class Family** : Instrumentation
- **Platform** : All Platforms
- **Bus** : Visa

Class Inheritance:

- PyTango.Device_4Impl
 - PyAFGenerator

Properties:

Device Properties		
Property name	Property type	Description
NumChannels	Tango::DEV_SHORT	This information is used to generate dynamically the number of spaces will be in much of the spectrum values.
PyVisaDS	Tango::DEV_STRING	The tango name of the PyVisaDS who is connected to the oscilloscope.
logger_maxlen	Tango::DEV_LONG	A positive number to tune the number of characters of data to throw on the log file.
LockInstrument	Tango::DEV_BOOLEAN	Lock the front panel of the instrument on the device start up.

Device Properties Default Values:

Property Name	Default Values
NumChannels	No default value
PyVisaDS	No default value
logger_maxlen	No default value
LockInstrument	No default value

There is no Class properties.

States:

States	
Names	Descriptions
ON	Well connected to the visa device
OFF	Disconnected to the visa device
FAULT	Something wrong on the communication with the visa device
DISABLE	The visa device has no connectivity to the instrument

Attributes:

Scalar Attributes			
Attribute name	Data Type	R/W Type	Expert
click	DEV_BOOLEAN	READ_WRITE	No
beeper	DEV_BOOLEAN	READ_WRITE	No
lock	DEV_BOOLEAN	READ_WRITE	No

Spectrum Attributes			
Attribute name	Data Type	X Data Length	Expert
errorList	DEV_STRING	10	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
Reset	DEV_VOID	DEV_VOID
Start	DEV_VOID	DEV_VOID
Stop	DEV_VOID	DEV_VOID
Lock	DEV_VOID	DEV_VOID
Unlock	DEV_VOID	DEV_VOID
IDN	DEV_VOID	DEV_STRING
OpenCh	DEV_SHORT	DEV_VOID
CloseCh	DEV_SHORT	DEV_VOID
ChannelState	DEV_SHORT	DEV_BOOLEAN
InitVisa	DEV_VOID	DEV_VOID
ResetVisa	DEV_VOID	DEV_VOID

Device Commands for Expert Level Only		
Command name	Argument In	Argument Out
CMD	DEV_STRING	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::OFF
 - 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::OFF
 - 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::OFF
 - Tango::FAULT
 - Tango::DISABLE

4 - Reset

- **Description:**
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::FAULT

5 - Start

- **Description:**
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::OFF

6 - Stop

- **Description:**
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ON
 - Tango::DISABLE

7 - Lock

- **Description:**
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ON
 - Tango::DISABLE

8 - Unlock

- **Description:**
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ON
 - Tango::DISABLE

9 - IDN

- **Description:**
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_STRING :
- **Command allowed for:**
 - Tango::ON

10 - CMD (for expert only)

- **Description:**
- **Argin:**
DEV_STRING :
- **Argout:**
DEV_STRING :
- **Command allowed for:**
 - Tango::ON

11 - OpenCh

- **Description:**
- **Argin:**
DEV_SHORT :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ON

12 - CloseCh

- **Description:**
- **Argin:**
DEV_SHORT :

- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ON

13 - ChannelState

- **Description:**
- **Argin:**
DEV_SHORT :
- **Argout:**
DEV_BOOLEAN :
- **Command allowed for:**
 - Tango::ON

14 - InitVisa

- **Description:**
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::FAULT

15 - ResetVisa

- **Description:**
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::FAULT

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Device Servers : CVS repository on tango-ds project