



**TANGO**  
Device  
Server

# **Rohde and Schwarz signal generator device server. User's Guide**

## **RohdeSchwarzSMgx Class**

**Revision: keyword substitution - Author: vedder**  
**Implemented in C++ - CVS repository: tango-ds**

## **Introduction:**

This class handles Rohdes and Schwarz signal generators. Supported models are: -SMG -SMX

## **Class Identification:**

- **Contact** : at esrf.fr - vedder
- **Class Family** : Instrumentation
- **Platform** : All Platforms
- **Bus** : GPIB
- **Manufacturer** : RohdeSchwarz
- **Reference** : SMGX

## **Class Inheritance:**

- Tango::DeviceImpl
  - SignalGenerator
    - RohdeSchwarzSMgx

## Properties:

Device Properties		
Property name	Property type	Description
<b>Gpib_device_name</b>	Tango::DEV_STRING	This is the gpib device exported by gpibDeviceServer that will be controlled.
<b>Mult_factor</b>	Tango::DEV_DOUBLE	Multiplicator factor. Warning Freq mul_factor should never be greater than signed 32bits integer max value.

### Device Properties Default Values:

Property Name	Default Values
Gpib_device_name	No default value
Mult_factor	No default value

**There is no Class properties.**

## States:

States	
Names	Descriptions
<b>ON</b>	The device is generating the signal.
<b>OFF</b>	The device is NOT generating the signal.
<b>FAULT</b>	The device is in Fault.

## Attributes:

Scalar Attributes			
Attribute name	Data Type	R/W Type	Expert
<b>Frequency:</b> This is the frequency of the signal in frequency mode.	DEV_DOUBLE	READ_WRITE	No
<b>Voltage:</b> This is the signal amplitude in all modes.	DEV_DOUBLE	READ_WRITE	No
<b>VoltageOffset</b>	DEV_DOUBLE	READ_WRITE	No
<b>Function:</b> This device only handle sinusoidal signal generation. 'Sine' is the only value allowed for this attribute.	DEV_STRING	READ_WRITE	No
<b>SweepStartFrequency:</b> Starting frequency in sweep mode.	DEV_DOUBLE	READ_WRITE	No
<b>SweepStopFrequency:</b> Ending frequency in sweep mode.	DEV_DOUBLE	READ_WRITE	No
<b>SweepTime:</b> Length of sweep in second.	DEV_DOUBLE	READ_WRITE	No
<b>TriggerSource:</b> Two possibles values for this attribute. IMM: sweep in continuous. BUS: sweep is 'single shot' This attribute has no effect in frequency mode.	DEV_STRING	READ_WRITE	No
<b>BurstCycles:</b> This device does not handle such feature.	DEV_LONG	READ_WRITE	No
<b>BurstPhase:</b> This device does not handle such feature.	DEV_DOUBLE	READ_WRITE	No
<b>Mode:</b> This attribute toggles modes between frequency and sweep mode.	DEV_STRING	READ_WRITE	No
<b>SweepStep:</b> Read only attribute showing sweep step.	DEV_DOUBLE	READ	No
<b>BurstRate:</b> This device does not handle such feature.	DEV_DOUBLE	READ_WRITE	No

## Commands:

More Details on commands....

Device Commands for Operator Level		
Command name	Argument In	Argument Out
<b>Init</b>	DEV_VOID	DEV_VOID
<b>State</b>	DEV_VOID	DEV_STATE
<b>Status</b>	DEV_VOID	CONST_DEV_STRING
<b>On</b>	DEV_VOID	DEV_VOID
<b>Off</b>	DEV_VOID	DEV_VOID
<b>Reset</b>	DEV_VOID	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::ON
  - Tango::OFF
  - Tango::FAULT

## 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

## 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

## 4 - On

- **Description:**
- **Argin:**  
**DEV\_VOID** :
- **Argout:**  
**DEV\_VOID** :
- **Command allowed for:**
  - Tango::ON
  - Tango::OFF
  - Tango::FAULT

## 5 - Off

- **Description:**
- **Argin:**  
**DEV\_VOID** :
- **Argout:**  
**DEV\_VOID** :
- **Command allowed for:**
  - Tango::ON
  - Tango::OFF
  - Tango::FAULT

## 6 - Reset

- **Description:**
- **Argin:**  
**DEV\_VOID :**
- **Argout:**  
**DEV\_VOID :**
- **Command allowed for:**
  - Tango::ON
  - Tango::OFF
  - Tango::FAULT

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