

RohdeSchwarzSMgx Tango Cpp Class

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RohdeSchwarzSMgx Class Identification :

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

Manufacturer ref. : SMGX

RohdeSchwarzSMgx Class Inheritance :

- [Tango::DeviceImpl](#)
 - SignalGenerator
 - RohdeSchwarzSMgx

RohdeSchwarzSMgx Class Description :

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

-SMG
-SMX

RohdeSchwarzSMgx Properties :

There is no class properties

Device Properties			
Name	Description	Type	Default Value
Gpib_device_name	This is the gpib device exported by gpibDeviceServer that will be controlled.	String	none
Mult_factor	Multiplicator factor. Warning Freq mul_factor should never be greater than signed 32bits integer max value.	double	1.0

RohdeSchwarzSMgx Class Commands				
Name	Input type	Output type	Level	Description
State	DEV_VOID	DEV_STATE	OPERATOR	This command gets the device state (stored in its <i>device_state</i> data member) and returns it to the caller.
Status	DEV_VOID	CONST_DEV_STRING	OPERATOR	This command gets the device status (stored in its <i>device_status</i> data member) and returns it to the caller.
On	DEV_VOID	DEV_VOID	OPERATOR	Switch signal generation ON according to settings.
Off	DEV_VOID	DEV_VOID	OPERATOR	Switch signal generation OFF.
Reset	DEV_VOID	DEV_VOID	OPERATOR	None.

Command State :

This command gets the device state (stored in its *device_state* data member) and returns it to the caller.

State Definition		
Input Argument	Tango::DEV_VOID	none.
Output Argument	Tango::DEV_STATE	State Code
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command Status :

This command gets the device status (stored in its *device_status* data member) and returns it to the caller.

Status Definition		
Input Argument	Tango::DEV_VOID	none.
Output Argument	Tango::CONST_DEV_STRING	Status description
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command On :

Switch signal generation ON according to settings.

On Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command Off :

Switch signal generation OFF.

Off Definition		
Input Argument	Tango::DEV_VOID	

Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command Reset :

Reset Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

RohdeSchwarzSMgx Class Attributes							
Name	Inherited	Abstract	Attr. type	R/W type	Data type	Level	Description
Frequency	true	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	This is the frequency of the signal in frequency mode.
Voltage	true	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	This is the signal amplitude in all modes.
VoltageOffset	true	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	
Function	true	false	Scalar	READ_WRITE	Tango::DEV_STRING	OPERATOR	This device only handle sinusoidal signal generation.\n`Sine` is the only value allowed for this attribute.
SweepStartFrequency	true	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	Starting frequency in sweep mode.

SweepStopFrequency	true	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	Endingf frequency in sweep mode.
SweepTime	true	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	Length of sweep in second.
TriggerSource	true	false	Scalar	READ_WRITE	Tango::DEV_STRING	OPERATOR	Two possibles values for this attribute. nIMM: sweep in continuous. nBUS: sweep is `single shot` nThis attribute has no effect in frequency mode.
BurstCycles	true	false	Scalar	READ_WRITE	Tango::DEV_LONG	OPERATOR	This device does not handle such feature.
BurstPhase	true	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	This device does not handle such feature.
Mode	true	false	Scalar	READ_WRITE	Tango::DEV_STRING	OPERATOR	This attribute toggles modes between frequency and sweep mode.
SweepStep	true	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	Read only attribute showing sweep step.
BurstRate	true	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	This device does not handle such feature.

There is no dynamic attribute defined.

Attribute Frequency :

This is the frequency of the signal in frequency mode.

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	true
Abstract	false

Attribute Properties	
label	Frequency
unit	hz
standard unit	hz
display unit	hz
format	%10.0f
max_value	1000000000

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not

Polling Period Memorized	Not polled Not set
Read allowed for	All states
Write allowed for	All states

min_value	100000
max_alarm	1000000000
min_alarm	100000
max_warning	
min_warning	
delta_time	
delta_val	

Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

Attribute Voltage :

This is the signal amplitude in all modes.

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	true
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	Voltage
unit	dBm
standard unit	1
display unit	1
format	%4.1f
max_value	15
min_value	-130
max_alarm	15
min_alarm	-130
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

Attribute VoltageOffset :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	true
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	Voltage offset
unit	-
standard unit	-
display unit	-
format	-
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

Attribute Function :

This device only handle sinusoidal signal generation.\n`Sine` is the only value allowed for this attribute.

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_STRING
Display Level	OPERATOR
Inherited	true
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	Function
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set

delta_time	
delta_val	

Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

Attribute SweepStartFrequency :

Starting frequency in sweep mode.

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	true
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	Sweep Start Frequency
unit	hz
standard unit	hz
display unit	hz
format	%10.0f
max_value	1000000000
min_value	100000
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

Attribute SweepStopFrequency :

Ending frequency in sweep mode.

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	true
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	Sweep Stop Frequency
unit	hz
standard unit	hz
display unit	hz
format	%10.0f
max_value	1000000000
min_value	100000
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

Attribute SweepTime :

Length of sweep in second.

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	true
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	Sweep time
unit	second
standard unit	second
display unit	second
format	%4.2f
max_value	1000
min_value	0
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user	false

code	
Push DataReady event by user code	Not set

Attribute TriggerSource :

Two possible values for this attribute.\nIMM: sweep in continuous.\nBUS: sweep is `single shot`\nThis attribute has no effect in frequency mode.

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_STRING
Display Level	OPERATOR
Inherited	true
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

Attribute BurstCycles :

This device does not handle such feature.

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE

Attribute Properties	
label	Burst cycles

Attribute Event Criteria	
Periodic	Not set
	Not

Data Type	Tango::DEV_LONG
Display Level	OPERATOR
Inherited	true
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

unit	cycles
standard unit	cycles
display unit	cycles
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Relative Change	set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

Attribute BurstPhase :

This device does not handle such feature.

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	true
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	Burst phase
unit	Degrees
standard unit	Degrees
display unit	Degrees
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

Attribute Mode :

This attribute toggles modes between frequency and sweep mode.

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_STRING
Display Level	OPERATOR
Inherited	true
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

Attribute SweepStep :

Read only attribute showing sweep step.

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	true

Attribute Properties	
label	Sweep Step
unit	Hz
standard unit	Hz
display unit	Hz
format	%8.0f

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set

Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	false

Attribute BurstRate :

This device does not handle such feature.

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	true
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	Burst rate
unit	hz
standard unit	hz
display unit	hz
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

RohdeSchwarzSMgx Class States	
Name	Description
ON	The device is generating the signal.
OFF	The device is NOT generating the signal.
FAULT	The device is in Fault.