

## SIS3820MCS Tango Cpp Class

### **Contents :**

- [Description](#)
- [Properties](#)
- [Commands](#)
  - [State](#)
  - [Status](#)
  - [ClearSetupMCS](#)
  - [ReadMCS](#)
- [Attributes](#)
  - [NbChannels](#)
  - [NbAcquisitions](#)
  - [Preset](#)
  - [FlagMCSSet](#)
  - [AcquiredTriggers](#)
  - [CountsArray](#)
- [States](#)

### **SIS3820MCS Class Identification :**

Contact : at desy.de - maria-teresa.nunez-pardo-de-vera  
 Class Family : CounterTimer  
 Platform : Unix Like  
 Bus : VME  
 Manufacturer : Struck  
 Manufacturer ref. : SIS3820

### **SIS3820MCS Class Inheritance :**

- [Tango::DeviceImpl](#)
  - SIS3820MCS

### **SIS3820MCS Class Description :**

Tango Class for the SIS3820 counter used in MultiChannelMode.

### **SIS3820MCS Properties :**

**There is no class properties**

Device Properties			
Name	Description	Type	Default Value
MaxNbChannels	Maximum number of channels en Multi Channel Scaler	int	none
MaxNbAcquisitions	Maximum number of acquisitions to be readout for every channel	int	none
Base	VME base address. Default: 0x38000000 (939524096)	int	939524096
SimulationMode	0 real mode, 1 simulation mode	int	none

FlagExternalTrigger	Set to 1 if the MCS is trigger externally. 0 for software trigger.	int	0
VmeCard	selets a VME card, can be 0 or 1, def.: 0	int	0

SIS3820MCS Class Commands				
Name	Input type	Output type	Level	Description
<a href="#">State</a>	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.
<a href="#">Status</a>	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.
<a href="#">ClearSetupMCS</a>	DEV_VOID	DEV_LONG	OPERATOR	Clear MCS memory and setup for receiving new external triggers.
<a href="#">ReadMCS</a>	DEV_VOID	DEV_LONG	OPERATOR	Read Multi Channel Scaler

#### **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	..
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### Command ClearSetupMCS :

Clear MCS memory and setup for receiving new external triggers.

ClearSetupMCS Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_LONG	Completion status
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

### Command ReadMCS :

Read Multi Channel Scaler

ReadMCS Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_LONG	Completion status
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

SIS3820MCS Class Attributes							
Name	Inherited	Abstract	Attr. type	R/W type	Data type	Level	Description
<a href="#">NbChannels</a>	false	false	Scalar	READ_WRITE	Tango::DEV_LONG	OPERATOR	Nb of channels to be readout
<a href="#">NbAcquisitions</a>	false	false	Scalar	READ_WRITE	Tango::DEV_LONG	OPERATOR	Nb of acquisitions to be readout. Set to 0 if trigger in continuous mode.
<a href="#">Preset</a>	false	false	Scalar	READ_WRITE	Tango::DEV_LONG	OPERATOR	MCS preset value
<a href="#">FlagMCSset</a>	false	false	Scalar	READ	Tango::DEV_LONG	OPERATOR	

<a href="#">AcquiredTriggers</a>	false	false	Scalar	READ	Tango::DEV_LONG	OPERATOR	Number of triggers received
<a href="#">CountsArray</a>	false	false	Image	READ	Tango::DEV_LONG	OPERATOR	Readout of the MCS. It is one array of effective dimension\nNbChannel*NbAcquisitions. These has to be used for\n extracting the readout of a given channel. The counts for all \nchannels in one acquisition are consecutive. For exempo if the\narray values are: 1, 3, 5, 6, 2, 8, for 2 channels in 3 acquisitions, the\nreadout of the first channel would be: 1, 5, 2 and of the\n second: 3, 6, 8.

**There is no dynamic attribute defined.**

**Attribute NbChannels :**

Nb of channels to be readout

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_LONG
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	true
Write hardware at init.	true
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 NbAcquisitions :**

Nb of acquisitions to be readout. Set to 0 if trigger in continuous mode.

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE

Attribute Properties	
label	
unit	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set

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

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

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 Preset :**

MCS preset value

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_LONG
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	true
Write hardware at init.	true
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 FlagMCSSet :**

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_LONG
Display Level	OPERATOR

Attribute Properties	
label	
unit	
standard unit	
display unit	

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

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

format	
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	Not set

**Attribute AcquiredTriggers :**

Number of triggers received.

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_LONG
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read 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 CountsArray :**

Readout of the MCS. It is one array of effective dimension  $NbChannel * NbAcquisitions$ . These has to be used for extracting the readout of a given channel. The counts for all channels in one acquisition are consecutive. For exemplo if the array values are: 1, 3, 5, 6, 2, 8, for 2 channels in 3 acquisitions, the readout of the first channel would be: 1, 5, 2 and of the second: 3, 6, 8.

Attribute Definition	
Attribute Type	Image ( 32 x 10000 )
R/W Type	READ
Data Type	Tango::DEV_LONG

Attribute Properties	
label	
unit	
standard unit	
display unit	

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

Display Level Inherited	OPERATOR false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

format
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	Not set

SIS3820MCS Class States	
Name	Description
ON	