

RetrigAO Tango Cpp Class

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RetrigAO Class Identification :

Contact : at nexeya.com - sebastien.gara
Class Family : Miscellaneous
Platform : All Platforms
Bus : Not Applicable
Manufacturer : none
Manufacturer ref. :

RetrigAO Class Inheritance :

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

RetrigAO Class Description :

Perform continuous analog output (waveform generation) on the selected outputs.

RetrigAO Properties :

There is no class properties

Device Properties			
Name	Description	Type	Default Value
BoardNum	The number of the board in the chassis cPCI.	short	none
Frequency	The output frequency (the rate the samples are outputed).	double	none
TriggerMode	Trigger mode: POST trigger or DELAY trigger.	short	none
TriggerSource	The trigger source. The possible values are internal trigger INTRIG, digital trigger DTRIG or analog trigger ATRIG.	short	none
ATRIGSelection	select the type of analog trigger. Can be BELOW (trigger occurs below ATRIGLevel) or can be ABOVE (trigger occurs above ATRIGLevel).	short	none
ATRIGLevel	The analog trigger level in volts.	double	none
DTRIGPolarity	The edges on which the trigger are detected. Can be RISING or FALLING.	short	none
AORefA	The value of the reference voltage gave on pin AORefA.	double	none
AORefB	The value of the reference voltage gave on pin AORefB.	double	none
Polarity	BP for unipolar outputs or UP for bipolar outputs.	short	none
AORefSource	Select the internal reference (10.0 volts) with INTERN or the external references AORefA and AORefB with EXTERN.	short	none
Channel0Enable	1 if enable channel 0, 0 otherwise.	short	none
Channel1Enable	1 if enable channel 1, 0 otherwise.	short	none
Channel2Enable	1 if enable channel 2, 0 otherwise.	short	none
Channel3Enable	1 if enable channel 3, 0 otherwise.	short	none
Channel4Enable	1 if enable channel 4, 0 otherwise.	short	none
Channel5Enable	1 if enable channel 5, 0 otherwise.	short	none
Channel6Enable	1 if enable channel 6, 0 otherwise.	short	none
Channel7Enable	1 if enable channel 7, 0 otherwise.	short	none
Delay	If trigger mode is delay, configure the delay in seconds.	short	none
BufferDepth	The buffer depth for one channel	short	none

Channel0Waveform	The waveform for channel 0 (attribute persistency).	double[]	none
Channel1Waveform	The waveform for channel 1 (attribute persistency).	double[]	none
Channel2Waveform	The waveform for channel 2 (attribute persistency).	double[]	none
Channel3Waveform	The waveform for channel 3 (attribute persistency).	double[]	none
Channel4Waveform	The waveform for channel 4 (attribute persistency).	double[]	none
Channel5Waveform	The waveform for channel 5 (attribute persistency).	double[]	none
Channel6Waveform	The waveform for channel 6 (attribute persistency).	double[]	none
Channel7Waveform	The waveform for channel 7 (attribute persistency).	double[]	none
FilePath	The path to waveforms persistency files	String	none
ConversionSource	Set the AO conversion signal source (i.e. DAC sampling source). Use one of the following: INTERNAL, EXTSAMPLING.	short	none

RetrigAO 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.
Start	DEV_VOID	DEV_VOID	OPERATOR	start the generation.
Stop	DEV_VOID	DEV_VOID	OPERATOR	stop the generation.
SetAOScaledData	DEVVAR_DOUBLESTRINGARRAY	DEV_VOID	OPERATOR	Give one period of the signal to generated of a specified channel in volts.

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 Start :

start the generation.

Start Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_VOID	

DisplayLevel Inherited	OPERATOR false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command Stop :

stop the generation.

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

Command SetAOScaledData :

Give one period of the signal to generated of a specified channel in volts.

SetAOScaledData Definition		
Input Argument	Tango::DEVVAR_DOUBLESTRINGARRAY	The channel number ,in string). The output data in volts ,in double)
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..

RetrigAO Class Attributes							
Name	Inherited	Abstract	Attr. type	R/W type	Data type	Level	Description
bufferDepth	false	false	Scalar	READ_WRITE	Tango::DEV_USHORT	OPERATOR	The buffer depth for one channel
errorCounter	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	
useBoardFifo	false	false	Scalar	READ	Tango::DEV_SHORT	OPERATOR	
channel0Enable	false	false	Scalar	READ	Tango::DEV_SHORT	OPERATOR	
channel1Enable	false	false	Scalar	READ	Tango::DEV_SHORT	OPERATOR	
channel2Enable	false	false	Scalar	READ	Tango::DEV_SHORT	OPERATOR	
channel3Enable	false	false	Scalar	READ	Tango::DEV_SHORT	OPERATOR	
channel4Enable	false	false	Scalar	READ	Tango::DEV_SHORT	OPERATOR	
channel5Enable	false	false	Scalar	READ	Tango::DEV_SHORT	OPERATOR	
channel6Enable	false	false	Scalar	READ	Tango::DEV_SHORT	OPERATOR	
channel7Enable	false	false	Scalar	READ	Tango::DEV_SHORT	OPERATOR	
frequency	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	The output frequency (the rate the samples are outputed).
channel0	false	false	Spectrum	READ	Tango::DEV_DOUBLE	OPERATOR	
channel1	false	false	Spectrum	READ	Tango::DEV_DOUBLE	OPERATOR	
channel2	false	false	Spectrum	READ	Tango::DEV_DOUBLE	OPERATOR	
channel3	false	false	Spectrum	READ	Tango::DEV_DOUBLE	OPERATOR	
channel4	false	false	Spectrum	READ	Tango::DEV_DOUBLE	OPERATOR	
channel5	false	false	Spectrum	READ	Tango::DEV_DOUBLE	OPERATOR	
channel6	false	false	Spectrum	READ	Tango::DEV_DOUBLE	OPERATOR	
channel7	false	false	Spectrum	READ	Tango::DEV_DOUBLE	OPERATOR	

There is no dynamic attribute defined.

Attribute bufferDepth :

The buffer depth for **one channel**

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_USHORT
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	buffer Depth
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 errorCounter :

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

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	

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

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

min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

	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 useBoardFifo :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_SHORT
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 channel0Enable :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_SHORT
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 channel1Enable :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_SHORT
Display Level	OPERATOR
Inherited	false

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	

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

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 channel2Enable :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_SHORT
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 channel3Enable :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_SHORT
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 channel4Enable :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_SHORT
Display Level	OPERATOR
Inherited	false

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	

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

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 channel5Enable :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_SHORT
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 channel6Enable :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_SHORT
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 channel7Enable :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_SHORT
Display Level	OPERATOR
Inherited	false

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	

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

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 frequency :

The output frequency (the rate the samples are outputed).

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

Attribute Properties	
label	
unit	Hz
standard unit	
display unit	Hz
format	
max_value	
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 code	false
Push DataReady event by user code	Not set

Attribute channel0 :

Attribute Definition	
Attribute Type	Spectrum (1000000)
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
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 channel1 :

Attribute Definition	
Attribute Type	Spectrum (1000000)
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
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 channel2 :

Attribute Definition	
Attribute Type	Spectrum (1000000)
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
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 channel3 :

Attribute Definition	
Attribute Type	Spectrum (1000000)
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
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 channel4 :

Attribute Definition	
Attribute Type	Spectrum (1000000)
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
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 channel5 :

Attribute Definition	
Attribute Type	Spectrum (1000000)
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
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 channel6 :

Attribute Definition	
Attribute Type	Spectrum (1000000)
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
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 channel7 :

Attribute Definition	
Attribute Type	Spectrum (1000000)
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
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

RetrigAO Class States	
Name	Description
UNKNOWN	
STANDBY	
RUNNING	
FAULT	