ABS300 Tango Cpp Class

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ABS300 Class Identification :

Contact	: at desy.de - johannes.blume
Class Family	: BeamlineComponents
Platform	: Unix Like
Bus	: Modbus
Manufacturer	: www.adc9001.com
Manufacturer ref.	: www.adc9001.com/products/view/637

ABS300 Class Inheritance :

- Tango::DeviceImpl
  - ABS300

ABS300 Class Description :

Server to control ABS300 Precision attenuator

ABS300 Properties :

There is no class properties

Device Properties			
Name	**Description**	**Type**	**Default Value**
HostName	Hostname/IP address of device	String	none
PortNumber	Portnumber of device	short	502
NumberOfSlides		short	12
DynAttrList	for internal use only	String[]	none
Gauges	The gauge / thickness of the single slides, one per line in Âµ.	double[]	none
KeepAlivePoll	The PAC CPU (= the controller) closes the conection after approx. 30 secs of no activity on the TCP connction. To avoid this a thread is running which request the state of Slide01 every KeepAlivePoll secs. Decrease this value if you experience connection losses.	short	25
InvertIOLogic	Depending on the assembly position (upside down or not) it might be necessary to invert the logic of true (= slide in) and false (= slide out). If this is set to true, the logic will be inverted.	boolean	false
XrayLibDevice	Device name of xraylib server	String	""
EnergyAttribute	Attribute name where we can get the beam energy, e.g: petra/globals/keyword/Energy	String	""
Materials	Atomic number of material the slides are made of, one per line	String[]	none
SimulationMode		boolean	true

ABS300 Class Commands				
Name	**Input type**	**Output type**	**Level**	**Description**
State	DEV_VOID	DEV_STATE	OPERATOR	This command gets the device state (stored in its device_state data member) and returns it to the caller.
Status	DEV_VOID	CONST_DEV_STRING	OPERATOR	This command gets the device status (stored in its device_status data member) and returns it to the caller.
Move	DEV_VOID	DEV_VOID	OPERATOR	Move to the in position the sliders set in the SetIn attribute.

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	Device state
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	Device status
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command Move :

Move to the in position the sliders set in the SetIn attribute.

Move Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	• FAULT • RUNNING	..

ABS300 Class Attributes							
Name	**Inherited**	**Abstract**	**Attr. type**	**R/W type**	**Data type**	**Level**	**Description**
Position	false	false	Scalar	READ_WRITE	Tango::DEV_ULONG	EXPERT	
Attenuation	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	
UseOnly	false	false	Scalar	READ_WRITE	Tango::DEV_STRING	OPERATOR	If you set this to any of the blade materials (e.g. Al), only blades with this material will be used when setting up the desired attenuation. Special value `any` sets the use of all blades. If you want to put in more than one material, separate names by `;` or `,`.
NextUpper	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	
NextLower	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	
							Spectrum of thenumber of sliders in the

SlidersIn	false	false	Spectrum	READ	Tango::DEV_BOOLEAN	OPERATOR	system)telling which sliders are in the IN position. Only read.
SetIn	false	false	Spectrum	READ_WRITE	Tango::DEV_LONG	OPERATOR	Spectrum of number of sliders in the system. for selecting the sliders that should be put in (they will be only move after executing the Move command). The read value indicates the sliders currently selected. 0 = not moved in 1 = moved in
SlidersOut	false	false	Spectrum	READ	Tango::DEV_BOOLEAN	OPERATOR	Spectrum of thenumber of sliders in the system)telling which sliders are in the OUT position. Only read.

ABS300 Class Dynamic Attributes							
Name	**Inherited**	**Abstract**	**Attr. type**	**R/W type**	**Data type**	**Level**	**Description**
SlideDynAttr	false	false	Scalar	READ_WRITE	Tango::DEV_BOOLEAN	OPERATOR	
Combinations	false	false	Scalar	READ	Tango::DEV_ULONG	OPERATOR	
TotalGauge	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	
SimulationEnergy	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	
Energy	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	

Attribute Position :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_ULONG
Display Level	EXPERT
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read NOT allowed for	• FAULT
Write NOT allowed for	• FAULT

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	false

Attribute Attenuation :

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

Attribute Properties	
label	
unit	\%
standard unit	\%
display unit	\%
format	
max_value	
min_value	
max_alarm	
min_alarm	

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

Read NOT allowed for	• FAULT
Write NOT allowed for	• FAULT

max_warning	
min_warning	
delta_time	
delta_val	

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 UseOnly :

If you set this to any of the blade materials (e.g. Al), only blades with this material will be used when setting up the desired attenuation. Special value `any` sets the use of all blades. If you want to put in more than one material, separate names by `;` or `,`.

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

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	false

Attribute NextUpper :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read NOT allowed for	• FAULT

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	false

Attribute NextLower :

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

Attribute Properties	
label	
unit	%
standard unit	%
display unit	%
format	

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

~~Abstract~~	~~false~~
Polling Period	Not polled
Memorized	Not set
Read NOT allowed for	• FAULT

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 SlidersIn :

Spectrum of thenumber of sliders in the system)telling which sliders are in the IN position. Only read.

Attribute Definition	
Attribute Type	Spectrum (24)
R/W Type	READ
Data Type	Tango::DEV_BOOLEAN
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read NOT allowed for	• FAULT

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	false

Attribute SetIn :

Spectrum of number of sliders in the system. for selecting the sliders that should be put in (they will be only move after executing the Move command). The read value indicates the sliders currently selected.
0 = not moved in
1 = moved in

Attribute Definition	
Attribute Type	Spectrum (24)
R/W Type	READ_WRITE
Data Type	Tango::DEV_LONG
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read NOT allowed for	• FAULT
Write NOT allowed for	• FAULT

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	false

Attribute SlidersOut :

Spectrum of thenumber of sliders in the system)telling which sliders are in the OUT position. Only read.

Attribute	

Attribute

Attribute Event Criteria	

Definition	
Attribute Type	Spectrum (24)
R/W Type	READ
Data Type	Tango::DEV_BOOLEAN
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read NOT allowed for	• FAULT

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

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	false

Dynamic attribute SlideDynAttr :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_BOOLEAN
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

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

Write allowed for	All states

delta_time
delta_val

Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	false

Dynamic attribute Combinations :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_ULONG
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	false

Dynamic attribute TotalGauge :

Attribute Definition	
Attribute Type	Scalar
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	um
standard unit	um
display unit	um
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	false

Dynamic attribute SimulationEnergy :

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	

Attribute Properties	
label	
unit	keV
standard unit	keV
display unit	keV
format	
max_value	
min_value	1
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

for	All states

delta_time	
delta_val	

Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	false

Dynamic attribute Energy :

Attribute Definition	
Attribute Type	Scalar
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	keV
standard unit	keV
display unit	keV
format	
max_value	
min_value	1
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	false

ABS300 Class States	
Name	Description

ON	
FAULT	
RUNNING	
ALARM	