

SmarActSCUMotor Tango Cpp Class

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SmarActSCUMotor Class Identification :

Contact : at desy.de - johannes.blume

Class Family : Motion

Platform : Unix Like

Bus : Not Applicable

Manufacturer : SmarAct

Manufacturer :

ref. <http://www.smaract.de/index.php/products/controlsystems/scu>

SmarActSCUMotor Class Inheritance :

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

SmarActSCUMotor Class Description :

Class to control a single axis of an SmarActSCU controller

SmarActSCUMotor Properties :

There is no class properties

Device Properties			
Name	Description	Type	Default Value
SmarActSCUCtrl	SmarActSCUCtrl controller device name	String	none
AxisNumber	Number of axis	int	none
RefFaultOnStartup	If this is set to true, the device will go to state FAULT if the hardware is not referenced on server startup. If set to false, no reference check on startup will be done.	boolean	false

SmarActSCUMotor 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.
Stop	DEV_VOID	DEV_VOID	OPERATOR	Stop movement
Home	DEV_VOID	DEV_VOID	OPERATOR	Move to reference mark

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	false	..
Polling Period	Not polled	..

Command allowed for	All states	..
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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 Stop :

Stop movement

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 Home :

Move to reference mark

Home 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	• INIT	..

SmarActSCUMotor Class Attributes							
Name	Inherited	Abstract	Attr. type	R/W type	Data type	Level	Description
Position	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	The current position (write = move to new position)
MaxFrequency	false	false	Scalar	READ_WRITE	Tango::DEV_LONG	OPERATOR	Get/set the maximum closed loop frequency
SensorType	false	false	Scalar	READ_WRITE	Tango::DEV_LONG	OPERATOR	Read / write connected sensor type for this channel
Homed	false	false	Scalar	READ	Tango::DEV_BOOLEAN	OPERATOR	Check whethr the motor has been homed, i.e. knows its physical position. false: not homed true: homed
							true: the position will be set to 0 after reference mark search

AutoZero	false	false	Scalar	READ_WRITE	Tango::DEV_BOOLEAN	OPERATOR	false: the position will not be set to 0 after reference mark search
HoldTime	false	false	Scalar	READ_WRITE	Tango::DEV_LONG	OPERATOR	Time in milliseconds the position will be held after movement. 60000 is infinite.
UnitLimitMin	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	The minimum allowed position
UnitLimitMax	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	The maximum allowed position
Conversion	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	Conversion (= encoder steps -> movement units)
HomeDirection	false	false	Scalar	READ_WRITE	Tango::DEV_BOOLEAN	OPERATOR	Direction to use when running reference mark search false = forward true = backward
AxisType	false	false	Scalar	READ	Tango::DEV_STRING	OPERATOR	The axis type (Linear, rotary, goniometer + positioner series description)

There is no dynamic attribute defined.

Attribute Position :

The current position (write = move to new position)



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 NOT allowed for	<ul style="list-style-type: none"> • FAULT • INIT
Write NOT allowed for	<ul style="list-style-type: none"> • FAULT • INIT

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 MaxFrequency :

Get/set the maximum closed loop frequency

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

Attribute Properties	
label	
unit	kHz
standard unit	kHz
display unit	kHz
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

Read NOT allowed for	<ul style="list-style-type: none"> • FAULT • INIT
Write NOT allowed for	<ul style="list-style-type: none"> • FAULT • INIT

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

Attribute SensorType :

Read / write connected sensor type for this channel

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 NOT allowed for	<ul style="list-style-type: none"> • FAULT • INIT
Write NOT allowed for	<ul style="list-style-type: none"> • FAULT • INIT

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 Homed :

Check whether the motor has been homed, i.e. knows its physical position.

false: not homed

true: homed

Attribute Definition	
Attribute Type	Scalar
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	<ul style="list-style-type: none"> • FAULT • INIT

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 AutoZero :

true: the position will be set to 0 after reference mark search
false: the position will not be set to 0 after reference mark search

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_BOOLEAN
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
	Not

Polling Period	Not polled
Memorized	true
Write hardware at init.	true
Read NOT allowed for	<ul style="list-style-type: none"> • FAULT • INIT
Write NOT allowed for	<ul style="list-style-type: none"> • FAULT • INIT

min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Archive Periodic	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 HoldTime :

Time in milliseconds the position will be held after movement. 60000 is infinite.

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 NOT allowed for	<ul style="list-style-type: none"> • FAULT • INIT
Write NOT allowed for	<ul style="list-style-type: none"> • FAULT • INIT

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 UnitLimitMin :

The minimum allowed position

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	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	false

Attribute UnitLimitMax :

The maximum allowed position

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

Attribute Properties	
label	
unit	
standard unit	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set

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

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	false

Attribute Conversion :

Conversion (= encoder steps -> movement units)

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	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	false
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Attribute HomeDirection :

Direction to use when running reference mark search
false = forward
true = backward

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	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	false

Attribute AxisType :

The axis type (Linear, rotary, goniometer + positioner series description)

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_STRING
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

SmarActSCUMotor Class States	
Name	Description
ON	Everything ok, device ready to move.
FAULT	Soemthing went wrong, check status.
INIT	The device is calibrating or referencing.