

Agilent4uhvCtrl Tango Cpp Class

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Agilent4uhvCtrl Class Identification :

Contact : at esrf.fr - tappret
Class Family : Vacuum
Platform : Unix Like
Bus : Serial Line
Manufacturer : Agilent
Manufacturer ref. : UHV

Agilent4uhvCtrl Class Inheritance :

- [Tango::DeviceImpl](#)
 - Agilent4uhvCtrl

Agilent4uhvCtrl Class Description :

This device server is intended to drive a Agilent 4UHV ion pump controller.

Agilent4uhvCtrl Properties :

There is no class properties

Device Properties			
Name	Description	Type	Default Value
WindowDeviceName	The name of the associated WindowPortocol device.	String	none
LoopTime	time between each read (in milliseconds)	int	3000

Agilent4uhvCtrl 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.
AddPump	DEV_SHORT	DEV_VOID	OPERATOR	Add a pump to be controlled. The controller thread will initialize the specified pump and then control it.
ChangeSetpoint	DEVVAR_FLOATARRAY	DEV_VOID	OPERATOR	Change the setpoint of specified channel, and specified current
GetChannelState	DEV_SHORT	DEV_STATE	OPERATOR	Get the considered channel state ("ON" or "OFF").
GetChannelStatus	DEV_SHORT	DEV_STRING	OPERATOR	Get the status of the considered channel.
GetControlType	DEV_VOID	DEV_STRING	OPERATOR	Read the type of control of the controller ("remote" or "local").
GetSize	DEV_SHORT	DEV_STRING	OPERATOR	Return the pump size.
GetVersion	DEV_VOID	DEV_STRING	OPERATOR	Get the controller firmware version.
IsInitialized	DEV_SHORT	DEV_BOOLEAN	OPERATOR	return true if specified pump is initialized.
Local	DEV_VOID	DEV_VOID	OPERATOR	Set the controller to local mode (operated from front panel).
				Set to OFF the

Off	DEV_SHORT	DEV_VOID	OPERATOR	considered channel.
On	DEV_SHORT	DEV_VOID	OPERATOR	Set to ON the considered channel.
ReadCurrent	DEV_SHORT	DEV_FLOAT	OPERATOR	Get the measure current value of the considered channel.
ReadFixedMode	DEV_SHORT	DEV_BOOLEAN	OPERATOR	Returns TRUE if the pump is in FIXED mode, FALSE if the mode is STEP.
ReadImax	DEV_SHORT	DEV_LONG	OPERATOR	Read the imax of the considered channel.
ReadIprotect	DEV_SHORT	DEV_LONG	OPERATOR	Read the iprotect of the considered channel.
ReadIstep1	DEV_SHORT	DEV_FLOAT	OPERATOR	Read the istep1 of the considered channel.
ReadIstep2	DEV_SHORT	DEV_FLOAT	OPERATOR	Read the istep2 of the considered channel.
ReadPressure	DEV_SHORT	DEV_FLOAT	OPERATOR	Read the pressure of the considered channel.
ReadStartMode	DEV_SHORT	DEV_BOOLEAN	OPERATOR	Returns TRUE if the pump is in START mode, FALSE if the mode is PROTECT
ReadState	DEV_SHORT	DEV_STATE	OPERATOR	Get the state of the considered channel.
ReadVmax	DEV_SHORT	DEV_LONG	OPERATOR	Read the Vmax of the considered channel.
				Get the

ReadVoltage	DEV_SHORT	DEV_FLOAT	OPERATOR	measure voltage value of the considered pump.
ReadVstep1	DEV_SHORT	DEV_LONG	OPERATOR	Read the vstep1 of the considered channel.
ReadVstep2	DEV_SHORT	DEV_LONG	OPERATOR	Read the vstep2 of the considered channel.
Remote	DEV_VOID	DEV_VOID	OPERATOR	Set the controller to the remote mode (operated using the serial line).
SetFixedMode	DEV_SHORT	DEV_VOID	OPERATOR	Set the considered channel to the fixed mode.
SetMaxVoltage	DEVVAR_SHORTARRAY	DEV_VOID	OPERATOR	Set the max voltage for the considered channel. - argin[0] = channel number - argin[1] = max voltage value
SetProtectMode	DEV_SHORT	DEV_VOID	OPERATOR	Set the considered channel to the protect mode.
SetStartMode	DEV_SHORT	DEV_VOID	OPERATOR	Set the considered channel to the start mode.
SetStepMode	DEV_SHORT	DEV_VOID	OPERATOR	Set the considered channel to the step mode.
GetController	DEV_VOID	DEV_STRING	OPERATOR	get the type on Controller
				set default step see below. Pump Type: Current for switching Current for

SetDefaultStepCurrent	DEV_VOID	DEV_VOID	switching from 7kV to 5kV: from 5kV to 3kV: 500 diode 1.4E- 3 A 3.9E-5 A 300 diode 7.2E- 4 A 2.1E-5 A 150 diode 3.6E- 4 A 9.5E-6 A 75-55-40 diode 2.2E-4 A 6.7E-6 A 20 diode 2.0E-4 A 2.7E-6 A 10 diode 2.0E-5 A 6.0E-6 A 500 StarCell 9.0E-4 A 2.5E-5 A 300 StarCell 5.5E-4 A 1.6E-5 A 150 StarCell 3.0E-4 A 8.5E-6 A 75-55-40 StarCell 1.3E-4 A 3.8E-6 A 20 StarCell 6.5E-5 A 1.9E-6 A
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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 AddPump :

Add a pump to be controlled.\n\nThe controller thread will initialize the specified pump and then control it.

AddPump Definition		
Input Argument	Tango::DEV_SHORT	Channel number
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..

Polling Period	Not polled	..
Command allowed for	All states	..

Command ChangeSetpoint :

Change the setpoint of specified channel, and specified current

ChangeSetpoint Definition		
Input Argument	Tango::DEVVAR_FLOATARRAY	argin[0] = channel number coded as a float.\nargin[1] = setpoint value.\nargin[2] = 1 for first step current - 2 for second step current.
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command GetChannelState :

Get the considered channel state ("ON" or "OFF").

GetChannelState Definition		
Input Argument	Tango::DEV_SHORT	The channel number
Output Argument	Tango::DEV_STATE	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..

Polling Period	Not polled	..
Command allowed for	All states	..

Command GetChannelStatus :

Get the status of the considered channel.

GetChannelStatus Definition		
Input Argument	Tango::DEV_SHORT	The channel number
Output Argument	Tango::DEV_STRING	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command GetControlType :

Read the type of control of the controller ("remote" or "local").

GetControlType Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_STRING	The controller control type
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command GetSize :

Return the pump size.

GetSize Definition		
Input Argument	Tango::DEV_SHORT	The channel number.
Output Argument	Tango::DEV_STRING	The pump size
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command GetVersion :

Get the controller firmware version.

GetVersion Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_STRING	The firmware version string.
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command IsInitialized :

return true if specified pump is nitialized.

IsInitialized Definition		
Input Argument	Tango::DEV_SHORT	Channel number.
Output Argument	Tango::DEV_BOOLEAN	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command Local :

Set the controller to local mode (operated from front panel).

Local 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 Off :

Set to OFF the considered channel.

Off Definition		
Input Argument	Tango::DEV_SHORT	The channel number.
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command On :

Set to ON the considered channel.

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

Command ReadCurrent :

Get the measure current value of the considered channel.

ReadCurrent Definition		
Input Argument	Tango::DEV_SHORT	The channel number
Output Argument	Tango::DEV_FLOAT	The current value
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command ReadFixedMode :

Returns TRUE if the pump is in FIXED mode, FALSE if the mode is STEP.

ReadFixedMode Definition		
Input Argument	Tango::DEV_SHORT	Channel number
Output Argument	Tango::DEV_BOOLEAN	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command ReadImax :

Read the imax of the considered channel.



Readmax Definition		
Input Argument	Tango::DEV_SHORT	The channel number
Output Argument	Tango::DEV_LONG	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command Readprotect :

Read the iprotect of the considered channel.

Readprotect Definition		
Input Argument	Tango::DEV_SHORT	The channel number
Output Argument	Tango::DEV_LONG	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command Readstep1 :

Read the istep1 of the considered channel.

Readstep1 Definition		
Input Argument	Tango::DEV_SHORT	The channel number
Output Argument	Tango::DEV_FLOAT	

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

Command Readstep2 :

Read the istep2 of the considered channel.

Readstep2 Definition		
Input Argument	Tango::DEV_SHORT	The channel number
Output Argument	Tango::DEV_FLOAT	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command ReadPressure :

Read the pressure of the considered channel.

ReadPressure Definition		
Input Argument	Tango::DEV_SHORT	The channel number.
Output Argument	Tango::DEV_FLOAT	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..

Polling Period	Not polled	..
Command allowed for	All states	..

Command ReadStartMode :

Returns TRUE if the pump is in START mode, FALSE if the mode is PROTECT

ReadStartMode Definition		
Input Argument	Tango::DEV_SHORT	Channel number
Output Argument	Tango::DEV_BOOLEAN	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command ReadState :

Get the state of the considered channel.

ReadState Definition		
Input Argument	Tango::DEV_SHORT	The channel number
Output Argument	Tango::DEV_STATE	The state of the channel
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command ReadVmax :

Read the Vmax of the considered channel.

ReadVmax Definition		
Input Argument	Tango::DEV_SHORT	The channel number
Output Argument	Tango::DEV_LONG	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command ReadVoltage :

Get the measure voltage value of the considered pump.

ReadVoltage Definition		
Input Argument	Tango::DEV_SHORT	The channel number
Output Argument	Tango::DEV_FLOAT	The voltage value
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command ReadVstep1 :

Read the vstep1 of the considered channel.

ReadVstep1 Definition		
Input Argument	Tango::DEV_SHORT	The channel number
Output Argument	Tango::DEV_LONG	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command ReadVstep2 :

Read the vstep2 of the considered channel.

ReadVstep2 Definition		
Input Argument	Tango::DEV_SHORT	The channel number
Output Argument	Tango::DEV_LONG	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command Remote :

Set the controller to the remote mode (operated using the serial line).

Remote 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 SetFixedMode :

Set the considered channel to the fixed mode.

SetFixedMode Definition		
Input Argument	Tango::DEV_SHORT	The channel number
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command SetMaxVoltage :

Set the max voltage for the considered channel.

- argin[0] = channel number
- argin[1] = max voltage value

SetMaxVoltage Definition		
Input Argument	Tango::DEVVAR_SHORTARRAY	The channel number.
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command SetProtectMode :

Set the considered channel to the protect mode.

SetProtectMode Definition		
Input Argument	Tango::DEV_SHORT	The channel number
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command SetStartMode :

Set the considered channel to the start mode.



SetStartMode Definition		
Input Argument	Tango::DEV_SHORT	The channel number
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command SetStepMode :

Set the considered channel to the step mode.

SetStepMode Definition		
Input Argument	Tango::DEV_SHORT	The channel number
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command GetController :

get the type on Controller

GetController Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_STRING	type of controller

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

Command SetDefaultStepCurrent :

set default step see below.

Pump Type: Current for switching Current for switching
from 7kV to 5kV: from 5kV to 3kV:

500 diode 1.4E-3 A 3.9E-5 A
300 diode 7.2E-4 A 2.1E-5 A
150 diode 3.6E-4 A 9.5E-6 A
75-55-40 diode 2.2E-4 A 6.7E-6 A
20 diode 2.0E-4 A 2.7E-6 A
10 diode 2.0E-5 A 6.0E-6 A
500 StarCell 9.0E-4 A 2.5E-5 A
300 StarCell 5.5E-4 A 1.6E-5 A
150 StarCell 3.0E-4 A 8.5E-6 A
75-55-40 StarCell 1.3E-4 A 3.8E-6 A
20 StarCell 6.5E-5 A 1.9E-6 A

SetDefaultStepCurrent 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	..

There is no attribute defined.

There is no dynamic attribute defined.

There is no state defined