

WindowProtocol Tango Cpp Class

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WindowProtocol Class Identification :

Contact : at esrf.fr - nicolas.tappret
Class Family : vacuum

WindowProtocol Class Inheritance :

- [Tango::DeviceImpl](#)
 - Serial
 - WindowProtocol

Platform : Unix Like
 Bus : Serial Line
 Manufacturer : Agilent
 Manufacturer ref. : window

WindowProtocol Class Description :

WINDOW Protocol to controle a controller Ion Pump (ex: 4UHV)

WindowProtocol Properties :

There is no class properties

Device Properties			
Name	Description	Type	Default Value
Serialline	The path and name of the serial line device to be used.	String	/dev/ttyR1
Timeout	The timout value im ms for for answers of requests send to the serial line. This value should be lower than the Tango client server timout value.	short	100
Parity	The parity used with the serial line protocol. The possibilities are none, even or odd.	String	none
Charlength	The character length used with the serial line protocol. The possibilities are 8, 7, 6 or 5 bits per character.	short	8
Stopbits	The number of stop bits used with the serial line protocol. The possibilities are 1 or 2 stop bits	short	1
Baudrate	The communication speed in baud used with the serial line protocol.	int	9600
Newline	End of message Character used in particular by the DevSerReadLine command Default = 13	short	13
DeleteEcho	echo suppression induced by mounting RS485 to RS422 true = delete echo false = not delete echo	boolean	false
adresseRS485	adresse RS485	short	1

WindowProtocol 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.
DevSerWriteString	DEV_STRING	DEV_LONG	OPERATOR	Write a string of characters to a serial line and return the number of characters written.
DevSerWriteChar	DEVVAR_CHARARRAY	DEV_LONG	OPERATOR	Write N characters to a serial line and return the number of characters written.
DevSerReadString	DEV_LONG	DEV_STRING	OPERATOR	Win32 method : Read a string of characters, the type of read is specified in the input parameter SL_RAW SL_NCHAR SL_LINE
DevSerReadChar	DEV_LONG	DEVVAR_CHARARRAY	OPERATOR	Win32 method : Read an array of characters, the type of read is specified in the input parameter, it

				can be SL_RAW SL_NCHAR SL_LINE
WriteRead	DEVVAR_LONGSTRINGARRAY	DEV_STRING	OPERATOR	This method permit to send a request to a device throw the serial line and returns the response of the device. The commands write and read don't return until they have not finished.
DevSerGetNChar	DEV_VOID	DEV_LONG	OPERATOR	Return the number of chars available in receiving buffer
DevSerReadNChar	DEV_LONG	DEV_STRING	OPERATOR	Read a string of N characters from the serial line If there are no characters to be read returns an empty string.
DevSerReadRaw	DEV_VOID	DEV_STRING	OPERATOR	read a string from the serialline device in mode raw (no end of string expected, just empty the entire serialline receiving buffer).
DevSerReadLine	DEV_VOID	DEV_STRING	OPERATOR	read a string from the serialline device in mode line (up to

				and including the character specified by the NewLine property
DevSerFlush	DEV_LONG	DEV_VOID	OPERATOR	Win32 method : Flush serial line port according to argin passed.
DevSerSetParameter	DEVVAR_LONGARRAY	DEV_VOID	OPERATOR	Set serial line parameters
DevSerSetTimeout	DEV_SHORT	DEV_VOID	OPERATOR	This command sets the new timeout (in ms).
DevSerSetParity	DEV_SHORT	DEV_VOID	OPERATOR	Sets the new parity of the serial line. NONE 0 ODD 1 EVEN 3
DevSerSetCharLength	DEV_SHORT	DEV_VOID	OPERATOR	Sets the new charlength. 0 = 8 bits 1 = 7 bits 2 = 6 bits 3 = 5 bits
DevSerSetStopbit	DEV_SHORT	DEV_VOID	OPERATOR	Sets the new stop bit. 0 = none 1 = one stop 2 = 1.5 stop bit
DevSerSetBaudrate	DEV_ULONG	DEV_VOID	OPERATOR	Sets the new baudrateof the serial line (up to 4 Mega). Default is 9600.
DevSerSetNewline	DEV_SHORT	DEV_VOID	OPERATOR	The new ending character in hexa. Default is 0x13 (=CR
				read a string from the serialline device in mode raw (no end

DevSerReadRetry	DEV_LONG	DEV_STRING	OPERATOR	of string expected, just empty the entire serialline receiving buffer). If read successfull, read again "nretry" times.
DevSerReadNBinData	DEV_LONG	DEVVAR_CHARARRAY	OPERATOR	Read the specified number of char from the serial line. If the number of characters is greater than characters available, this command returns all characters available. If there are no characters to be read returns an empty array.
readLogic	DEV_SHORT	DEV_SHORT	OPERATOR	read a state with window protocol at the window adresse specified
readNumeric	DEV_SHORT	DEV_LONG	OPERATOR	read a long with window protocol at the window adresse specified
readAlphanumeric	DEV_SHORT	DEV_DOUBLE	OPERATOR	read a Alphanumeric with window protocol at the window adresse specified
readString	DEV_SHORT	DEV_STRING	OPERATOR	read a string with window protocol at the window adresse

writeLogic	DEVVAR_LONGARRAY	DEV_VOID	OPERATOR	specified write a Logic with window protocol at the window adresse specified
writeNumeric	DEVVAR_LONGARRAY	DEV_VOID	OPERATOR	wirte a Numeric with window protocol at the window adresse specified
writeAlphanumeric	DEVVAR_DOUBLEARRAY	DEV_VOID	OPERATOR	write a Alphanumeric with window protocol at the window adresse specified
writeWordAlphanumeric	DEVVAR_ULONGARRAY	DEV_VOID	OPERATOR	write a Alphanumeric with window protocol at the window adresse specified
writeString	DEVVAR_LONGSTRINGARRAY	DEV_VOID	OPERATOR	write a string with window protocol at the window adresse specified

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 DevSerWriteString :

Write a string of characters to a serial line and return the number of characters written.

DevSerWriteString Definition		
Input Argument	Tango::DEV_STRING	String to write
Output Argument	Tango::DEV_LONG	Number of characters written
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command DevSerWriteChar :

Write N characters to a serial line and return the number of characters written.

DevSerWriteChar Definition		
Input Argument	Tango::DEVVAR_CHARARRAY	Characters to write
Output Argument	Tango::DEV_LONG	Number of characters written
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command DevSerReadString :

Win32 method :

Read a string of characters, the type of read is specified in the input parameter SL_RAW SL_NCHAR SL_LINE

DevSerReadString Definition		
Input Argument	Tango::DEV_LONG	type of read SL_RAW SL_NCHAR SL_LINE
Output Argument	Tango::DEV_STRING	String read
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command DevSerReadChar :

Win32 method :

Read an array of characters, the type of read is specified in the input parameter, it can be SL_RAW SL_NCHAR SL_LINE

DevSerReadChar Definition		
Input Argument	Tango::DEV_LONG	type of read SL_RAW SL_NCHAR SL_LINE
Output Argument	Tango::DEVVAR_CHARARRAY	Array of characters read
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command WriteRead :

This method permit to send a request to a device throw the serial line and returns the response of the device.

The commands write and read don't return until they have not finished.

WriteRead Definition		
Input Argument	Tango::DEVVAR_LONGSTRINGARRAY	type of reading strategy(RAW,NCHAR..),command to write on the port com
Output Argument	Tango::DEV_STRING	response of the device behind the serial line
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command DevSerGetNChar :

Return the number of chars available in receiving buffer

DevSerGetNChar Definition		
Input Argument	Tango::DEV_VOID	no argin
Output Argument	Tango::DEV_LONG	number of char available in receiving buffer
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command DevSerReadNChar :

Read a string of N characters from the serial line
If there are no characters to be read returns an empty string.

DevSerReadNChar Definition		
Input Argument	Tango::DEV_LONG	number of the caracters to read on the serial line
Output Argument	Tango::DEV_STRING	pointer to the string read updated
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command DevSerReadRaw :

read a string from the serialline device in mode raw (no end of string expected, just empty the entire serialline receiving buffer).



DevSerReadRaw Definition

Input Argument	Tango::DEV_VOID	no argin
Output Argument	Tango::DEV_STRING	pointer to the string read updated
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command DevSerReadLine :

read a string from the serialline device in mode line (up to and including the character specified by the NewLine property

DevSerReadLine Definition

Input Argument	Tango::DEV_VOID	no argin
Output Argument	Tango::DEV_STRING	pointer to the string read updated
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command DevSerFlush :

Win32 method :
Flush serial line port according to argin passed.

DevSerFlush Definition

Input Argument	Tango::DEV_LONG	flush to do 0=input 1=output 2=both
Output Argument	Tango::DEV_VOID	no argout
DisplayLevel	OPERATOR	..

Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command DevSerSetParameter :

Set serial line parameters

DevSerSetParameter Definition		
Input Argument	Tango::DEVVAR_LONGARRAY	device parameters in pair
Output Argument	Tango::DEV_VOID	no argout
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command DevSerSetTimeout :

This command sets the new timeout (in ms).

DevSerSetTimeout Definition		
Input Argument	Tango::DEV_SHORT	Value of the timeout to set
Output Argument	Tango::DEV_VOID	no argout
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command DevSerSetParity :

Sets the new parity of the serial line.

NONE 0

ODD 1

EVEN 3

DevSerSetParity Definition		
Input Argument	Tango::DEV_SHORT	The new parity to set.
Output Argument	Tango::DEV_VOID	no argout
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command DevSerSetCharLength :

Sets the new charlength.

0 = 8 bits

1 = 7 bits

2 = 6 bits

3 = 5 bits

DevSerSetCharLength Definition		
Input Argument	Tango::DEV_SHORT	The new charlength to set
Output Argument	Tango::DEV_VOID	no argout
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command DevSerSetStopbit :

Sets the new stop bit.

0 = none

1 = one stop

2 = 1.5 stop bit

DevSerSetStopbit Definition		
Input Argument	Tango::DEV_SHORT	The new stopbit to set
Output Argument	Tango::DEV_VOID	no argout
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command DevSerSetBaudrate :

Sets the new baudrateof the serial line (up to 4 Mega).

Default is 9600.

DevSerSetBaudrate Definition		
Input Argument	Tango::DEV_ULONG	The new baudrate to set
Output Argument	Tango::DEV_VOID	no argout
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command DevSerSetNewline :

The new ending character in hexa.
Default is 0x13 (=CR

DevSerSetNewline Definition		
Input Argument	Tango::DEV_SHORT	The new line character to set
Output Argument	Tango::DEV_VOID	no argout
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command DevSerReadRetry :

read a string from the serialline device in mode raw (no end of string expected, just empty the entire serialline receiving buffer).
If read successfull, read again "nretry" times.

DevSerReadRetry Definition		
Input Argument	Tango::DEV_LONG	number of reading retries
Output Argument	Tango::DEV_STRING	pointer to the string read updated
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command DevSerReadNBinData :

Read the specified number of char from the serial line.

If the number of characters is greater than characters available, this command returns all characters available.

If there are no characters to be read returns an empty array.

DevSerReadNBinData Definition		
Input Argument	Tango::DEV_LONG	nb char to read
Output Argument	Tango::DEVVAR_CHARARRAY	array of data
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command readLogic :

read a state with window protocol at the window adresse specified

readLogic Definition		
Input Argument	Tango::DEV_SHORT	window adresse from 0 to 999
Output Argument	Tango::DEV_SHORT	return 0 or 1
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command readNumeric :

read a long with window protocol at the window adresse specified

readNumeric Definition		
Input Argument	Tango::DEV_SHORT	window adresse from 0 to 999
Output Argument	Tango::DEV_LONG	return long possibly
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command readAlphanumeric :

read a Alphanumeric with window protocol at the window adresse specified

readAlphanumeric Definition		
Input Argument	Tango::DEV_SHORT	window adresse from 0 to 999
Output Argument	Tango::DEV_DOUBLE	return a Double possibly
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command readString :

read a string with window protocol at the window adresse specified

readString Definition		
Input Argument	Tango::DEV_SHORT	window adresse from 0 to 999
Output Argument	Tango::DEV_STRING	return a string possibly
DisplayLevel	OPERATOR	..

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

Command writeLogic :

write a Logic with window protocol at the window adresse specified

writeLogic Definition		
Input Argument	Tango::DEVVAR_LONGARRAY	[0] : window adresse from 0 to 999 [1] : Logic to write (0 = OFF, 1= ON)
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command writeNumeric :

wirte a Numeric with window protocol at the window adresse specified

writeNumeric Definition		
Input Argument	Tango::DEVVAR_LONGARRAY	[0] : window adresse from 0 to 999 [1] : Numeric to write
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..

Command allowed for	All states	..
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Command writeAlphanumeric :

write a Alphanumeric with window protocol at the window adresse specified

writeAlphanumeric Definition		
Input Argument	Tango::DEVVAR_DOUBLEARRAY	double[0] : window adresse from 0 to 999 double[1] : double to write
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command writeWordAlphanumeric :

write a Alphanumeric with window protocol at the window adresse specified

writeWordAlphanumeric Definition		
Input Argument	Tango::DEVVAR_ULONGARRAY	Ulong[0] : window adresse from 0 to 999 Ulong[1] : long to write (warring only for word 10 bits) see documentation 4UHV.
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command writeString :

write a string with window protocol at the window adresse specified

writeString Definition		
Input Argument	Tango::DEVVAR_LONGSTRINGARRAY	long[0] : window adresse from 0 to 999 string[0] : string to write (10 char max)
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