

# NemSyringeCtrl Tango Cpp Class

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## NemSyringeCtrl Class Identification :

Contact : at desy.de - johannes.blume  
Class Family : Motion  
Platform : Unix Like  
Bus : Not Applicable  
Manufacturer : none  
Manufacturer ref. :

## NemSyringeCtrl Class Inheritance :

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

## NemSyringeCtrl Class Description :

Controller Device server for Nemesys Syringe Pump

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## NemSyringeCtrl Properties :

There is no class properties

Device Properties			
Name	Description	Type	Default Value
HostName	Hostname of terminal server (or tty device file if using direct serial line)	String	""
PortNumber	Portnumber of terminal server (ignored if using direct serial line)	String	""
NumSyringes	Number of syringes connected to device	short	none
DeviceFile	tty device file name	String	none
BaudRate		int	0
ConnectType	either net or serial	String	""

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NemSyringeCtrl Class Commands				
Name	Input type	Output type	Level	Description
<a href="#">State</a>	DEV_VOID	DEV_STATE	OPERATOR	This command gets the device state (stored in its device_state data member) and returns it to the caller.
<a href="#">Status</a>	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.
<a href="#">Calibrate</a>	DEV_VOID	DEV_VOID	OPERATOR	None.
<a href="#">Dose</a>	DEV_DOUBLE	DEV_VOID	OPERATOR	Dose (= put out) specified volume
<a href="#">Aspire</a>	DEV_DOUBLE	DEV_VOID	OPERATOR	Aspire (= suck in) specified volume
<a href="#">StopSyringe</a>	DEV_VOID	DEV_VOID	OPERATOR	Stops active syringe
<a href="#">Reset</a>	DEV_VOID	DEV_VOID	OPERATOR	Tries to clear fault state on active syringe
<a href="#">IsMoving</a>	DEV_LONG	DEV_LONG	OPERATOR	None.
<a href="#">ConstantFlow</a>	DEV_VOID	DEV_VOID	OPERATOR	None.

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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.

<b>State Definition</b>		
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	..

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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.

<b>Status Definition</b>		
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	..

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### **Command Calibrate :**

Calibrate 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	..

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### **Command Dose :**

Dose (= put out) specified volume

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

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### **Command Aspire :**

Aspire (= suck in) specified volume

Aspire Definition		
Input Argument	Tango::DEV_DOUBLE	
Output Argument	Tango::DEV_VOID	

DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	• FAULT	..

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### **Command StopSyringe :**

Stops active syringe

<b>StopSyringe Definition</b>		
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	..

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### **Command Reset :**

Tries to clear fault state on active syringe

<b>Reset Definition</b>		
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	..

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### **Command IsMoving :**

<b>IsMoving Definition</b>		
Input Argument	Tango::DEV_LONG	
Output Argument	Tango::DEV_LONG	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

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### **Command ConstantFlow :**

<b>ConstantFlow Definition</b>		
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	..

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NemSyringeCtrl Class Attributes							
Name	Inherited	Abstract	Attr. type	R/W type	Data type	Level	Description
<a href="#">ActiveSyringe</a>	false	false	Scalar	READ_WRITE	Tango::DEV_LONG	OPERATOR	Number of syringe commands an attribute read/write act on
<a href="#">Level</a>	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	Current level in Syringe
<a href="#">Flow</a>	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	Flow rate
<a href="#">Diameter</a>	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	Syringe diameter of active syringe (in mm)
<a href="#">MaxVol</a>	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	
<a href="#">UnitLimitMax</a>	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	
<a href="#">UnitLimitMin</a>	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	

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**There is no dynamic attribute defined.**

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**Attribute ActiveSyringe :**

Number of syringe commands an attribute read/write act on

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_LONG
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	<ul style="list-style-type: none"> <li>• FAULT</li> </ul>
Write NOT allowed for	<ul style="list-style-type: none"> <li>• FAULT</li> </ul>

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 Level :

Current level in Syringe

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	<ul style="list-style-type: none"> <li>• FAULT</li> </ul>

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 Flow :**

Flow rate

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

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 Diameter :**

Syringe diameter of active syringe (in mm)

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

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 MaxVol :

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

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_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 allowed for	All states
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min_warning	
delta_time	
delta_val	

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

**Attribute UnitLimitMax :**

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	
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 :**

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	
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

NemSyringeCtrl Class States	
Name	Description
ON	Device is connected
FAULT	Communication problems