



**TANGO**  
Device  
Server

# Premium PLC Vacuum Valve User's Guide

## PLCvacuumValve Class

Revision: V2-1 - Author: peru  
Implemented in C++ - CVS repository: ESRF

### Introduction:

Vacuum valve control through a PLC.

### Class Inheritance:

- Tango::Device\_4Impl
  - PLCvacuumValve

### Class Description:

## Properties:

<b>Class Properties</b>		
<b>Property name</b>	<b>Property type</b>	<b>Description</b>
<b>ValvesOffset</b>	Tango::DEV_SHORT	Address in the PLC where valves data start.
<b>ValveDataSize</b>	Tango::DEV_SHORT	Number of bits dedicated for one valve.
<b>UpdatePeriod</b>	Tango::DEV_SHORT	Time for a data to be re-read in seconds.

<b>Device Properties</b>		
<b>Property name</b>	<b>Property type</b>	<b>Description</b>
<b>PLCdevname</b>	Tango::DEV_STRING	PLC device name.
<b>ValveNumber</b>	Tango::DEV_SHORT	The valve number in read data.
<b>InterlockStrings</b>	Array of string	This property (array of strings) is used to build the state of the valve when there is an interlock condition.
<b>StateStrings</b>	Array of string	This property (array of strings) is used to build the state of the valve.
<b>IsManual</b>	Tango::DEV_BOOLEAN	indicates if the valve is a manual valve. If this property is True, the commands Open and Close will trig an exception and the interlock bits will not be checked;
<b>DeviceType</b>	Tango::DEV_STRING	this property allows to define a set of default interlock messages when the property ValveNumber is not specified. There is 2 different default type: StorageRing or BeamLine. if this resource is not specified, the default value will be StorageRing.
<b>Type</b>	Tango::DEV_STRING	This defines the device type (valve, beamshutter or moveableabsorber).
<b>Location</b>	Tango::DEV_SHORT	Relative abcisse of the valve in the cell.

### Class Properties Default Values:

<b>Property Name</b>	<b>Default Values</b>
ValvesOffset	No default value
ValveDataSize	No default value
UpdatePeriod	No default value

### Device Properties Default Values:

Property Name	Default Values
PLCdevname	No default value
ValveNumber	No default value
InterlockStrings	No default value
StateStrings	No default value
IsManual	No default value
DeviceType	No default value
Type	valve
Location	10

## Attributes:

<b>Scalar Attributes</b>			
Attribute name	Data Type	R/W Type	Expert
Location	DEV_SHORT	READ	No

## Commands:

More Details on commands....

<b>Device Commands for Operator Level</b>		
Command name	Argument In	Argument Out
<b>Init</b>	DEV_VOID	DEV_VOID
<b>State</b>	DEV_VOID	DEV_STATE
<b>Status</b>	DEV_VOID	CONST_DEV_STRING
<b>Open</b>	DEV_VOID	DEV_VOID
<b>Close</b>	DEV_VOID	DEV_VOID
<b>On</b>	DEV_VOID	DEV_VOID
<b>Off</b>	DEV_VOID	DEV_VOID
<b>Reset</b>	DEV_VOID	DEV_VOID

## 1 - Init

- **Description:** This commands re-initialise a device keeping the same network connection.  
After an Init command executed on a device, it is not necessary for client to re-connect to the device.  
This command first calls the device *delete\_device()* method and then execute its *init\_device()* method.  
For C++ device server, all the memory allocated in the *nit\_device()* method must be freed in the *delete\_device()* method.  
The language device desctructor automatically calls the *delete\_device()* method.
- **Argin:**  
**DEV\_VOID** : none.
- **Argout:**  
**DEV\_VOID** : none.
- **Command allowed for:**

## 2 - State

- **Description:** This command gets the device state (stored in its *device\_state* data member) and returns it to the caller.
- **Argin:**  
**DEV\_VOID** : none.
- **Argout:**  
**DEV\_STATE** : State Code
- **Command allowed for:**

## 3 - Status

- **Description:** This command gets the device status (stored in its *device\_status* data member) and returns it to the caller.
- **Argin:**  
**DEV\_VOID** : none.
- **Argout:**  
**CONST\_DEV\_STRING** : Status description
- **Command allowed for:**

## 4 - Open

- **Description:** Open the valve.
- **Argin:**  
DEV\_VOID :
- **Argout:**  
DEV\_VOID :
- **Command allowed for:**

## 5 - Close

- **Description:** Close the valve.
- **Argin:**  
DEV\_VOID :
- **Argout:**  
DEV\_VOID :
- **Command allowed for:**

## 6 - On

- **Description:**
- **Argin:**  
DEV\_VOID :
- **Argout:**  
DEV\_VOID :
- **Command allowed for:**

## 7 - Off

- **Description:**
- **Argin:**  
DEV\_VOID :
- **Argout:**  
DEV\_VOID :

- **Command allowed for:**

## 8 - Reset

- **Description:** This command resets the latched interlock bits of the PLC.
- **Argin:**  
DEV\_VOID :
- **Argout:**  
DEV\_VOID :
- **Command allowed for:**

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