



TANGO
Device
Server

Linac High Voltage Power Supply User's Guide

LinacHVPS Class

Revision: LinacHVPS-Release_1_0_1 - Author: vedder
Implemented in C++ - CVS repository: ESRF

Introduction:

The high voltage power supply will provide high voltage to the modulators and to the the gun modulator of the linac.

Class Inheritance:

- Tango::Device_4Impl
 - LinacHVPS

Class Description:

Properties:

Device Properties		
Property name	Property type	Description
Daresbury	Tango::DEV_STRING	Name of the daresbury device.
HighVoltage_adc	Tango::DEV_STRING	ADC device to get the High Voltage.
HighVoltage_dac	Tango::DEV_STRING	DAC device to set the High Voltage.
Interlocks_list	Array of double	list of interlocks.
Offrelay	Tango::DEV_STRING	Name of the relay used to switch off the HVPS.
Onrelay	Tango::DEV_STRING	Name of the relay used to switch on the HVPS.
Pulsetime	Tango::DEV_LONG	Duration in milliseconds of the pulse to do on the pulsed relays.
Stateonnum	Tango::DEV_DOUBLE	number of the interlock relay used to determine whether the device is on or not.
Statepermnum	Tango::DEV_DOUBLE	Daresbury relay number which indicates if the device is allowed to be switched On.

Device Properties Default Values:

Property Name	Default Values
Daresbury	No default value
HighVoltage_adc	No default value
HighVoltage_dac	No default value
Interlocks_list	No default value
Offrelay	No default value
Onrelay	No default value
Pulsetime	No default value
Stateonnum	No default value
Statepermnum	No default value

There is no Class properties.

States:

States	
Names	Descriptions
ON	*
OFF	*
DISABLE	*
FAULT	

Attributes:

Scalar Attributes			
Attribute name	Data Type	R/W Type	Expert
HighVoltage: High Voltage read on the ADC. The set point corresponds to the value which will be set on the DAC during the ON sequence of the Linac. If the Power Supply is already on, this set point will be applied directly on the DAC.	DEV_DOUBLE	READ_WRITE	No
HVDac: High Voltage value set on the DAC.	DEV_DOUBLE	READ	No

Commands:

More Details on commands....

Device Commands for Operator Level		
Command name	Argument In	Argument Out
Init	DEV_VOID	DEV_VOID
State	DEV_VOID	DEV_STATE
Status	DEV_VOID	CONST_DEV_STRING
On	DEV_VOID	DEV_VOID
Off	DEV_VOID	DEV_VOID
Reset	DEV_VOID	DEV_VOID
HVZero	DEV_VOID	DEV_VOID
SetHV	DEV_VOID	DEV_VOID
SoftReset	DEV_VOID	DEV_VOID
SoftOn	DEV_VOID	DEV_VOID
SoftOff	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:**
 - Tango::ON
 - Tango::OFF
 - Tango::DISABLE
 - Tango::FAULT

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:**
 - Tango::ON
 - Tango::OFF
 - Tango::DISABLE
 - Tango::FAULT

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:**
 - Tango::ON
 - Tango::OFF
 - Tango::DISABLE
 - Tango::FAULT

4 - On

- **Description:**
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ON

- Tango::OFF
- Tango::DISABLE
- Tango::FAULT

5 - Off

- **Description:**
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ON
 - Tango::OFF
 - Tango::DISABLE
 - Tango::FAULT

6 - Reset

- **Description:**
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ON
 - Tango::OFF
 - Tango::DISABLE
 - Tango::FAULT

7 - HVZero

- **Description:** This command will set the High Voltage to 0 without losing the set point of the HighVoltage Attribute.
- **Argin:**
DEV_VOID :
- **Argout:**

DEV_VOID :

- **Command allowed for:**

- Tango::ON
- Tango::OFF
- Tango::DISABLE
- Tango::FAULT

8 - SetHV

- **Description:** This command will apply the setpoint of the HighVoltage Attribute on the HV DAC channel.

- **Argin:**

DEV_VOID :

- **Argout:**

DEV_VOID :

- **Command allowed for:**

- Tango::ON
- Tango::OFF
- Tango::DISABLE
- Tango::FAULT

9 - SoftReset

- **Description:** Reset without reset of the Daresbury.

- **Argin:**

DEV_VOID :

- **Argout:**

DEV_VOID :

- **Command allowed for:**

- Tango::ON
- Tango::OFF
- Tango::DISABLE
- Tango::FAULT

10 - SoftOn

- **Description:** Specify that we would like to reach On state. Do not execute Pulse command on the OnRelay.
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ON
 - Tango::OFF
 - Tango::DISABLE
 - Tango::FAULT

11 - SoftOff

- **Description:** Specify that we would like to reach OFF state. do not execute Pulse command on the OffRelay.
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ON
 - Tango::OFF
 - Tango::DISABLE
 - Tango::FAULT

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