



TANGO Device Server

LinacModulator User's Guide

LinacModulator Class

Revision: LinacModulator-Release_1_1 - Author: vedder
Implemented in C++ - CVS repository: ESRF

Introduction:

The linac is equiped with two identical modulators, supplying two klystrons with the power necessary for the two 6 meters accelerating sections, and for the buncher. The klystrons are multicavity amplifiers. The two modulators are line type with a Pulse Forming Network (PFN) short circuited by a thyratron through the primary of a pulse transformer. The secondary of this transformer supplies the klystron cathode with a 280kV pulse.

Class Inheritance:

- Tango::Device_4Impl
  - LinacModulator

Class Description:

Properties:

Device Properties		
Property name	**Property type**	**Description**
Daresbury	Tango::DEV_STRING	Name of the daresbury device.
Delay_name	Tango::DEV_STRING	Name of the device used to read and set the Delay Attribute.
DelayS_name	Tango::DEV_STRING	Name of the device used to read and set the DelayS Attribute.
Interlocks_list	Array of double	list of interlocks.
KlystPeakI_adc	Tango::DEV_STRING	Adc device used to get the Klystron Peak I value.
KlystPeakV_adc	Tango::DEV_STRING	ADC device used to get the Klystron Peak V value.
Offrelay	Tango::DEV_STRING	Name of the relay used to switch off the device.
Onrelay	Tango::DEV_STRING	Name of the relay used to switch on the device.
PeakPowerIn_adc	Tango::DEV_STRING	ADC device used to get Peak Power In value.
PeakPowerOut_adc	Tango::DEV_STRING	ADC device used to get Peak Power Out value.
Pulsetime	Tango::DEV_LONG	Duration in milliseconds of the pulse to do on the pulsed relays.
Resetrelay	Tango::DEV_STRING	name of the reset relay.
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.
VPFN_adc	Tango::DEV_STRING	ADC device to get the VPFN value.
VPFN_dac	Tango::DEV_STRING	DAC device used to set VPFN.

Device Properties Default Values:

Property Name	Default Values
Daresbury	No default value
Delay_name	No default value
DelayS_name	No default value
Interlocks_list	No default value
KlystPeakI_adc	No default value
KlystPeakV_adc	No default value
Offrelay	No default value
Onrelay	No default value
PeakPowerIn_adc	No default value
PeakPowerOut_adc	No default value
Pulsetime	No default value
Resetrelay	No default value
Stateonnum	No default value
Statepermnum	No default value
VPFN_adc	No default value
VPFN_dac	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**
VPFN: Voltage Pulse Forming Network.	DEV_DOUBLE	READ_WRITE	No
Delay: Delay	DEV_DOUBLE	READ_WRITE	No
DelayS: DelayS	DEV_DOUBLE	READ_WRITE	No
KlystronPeakI: Klystron Peak current	DEV_DOUBLE	READ	No
KlystronPeakV: Klystron Peak Voltage	DEV_DOUBLE	READ	No
PeakPowerIn: Peak Power In	DEV_DOUBLE	READ	No
PeakPowerOut: Peak Power Out.	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
TimingOn	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 - TimingOn

- **Description:** Switch on the timing devices.

- **Argin:**
  DEV_VOID :

- **Argout:**
  DEV_VOID :

- **Command allowed for:**
  - Tango::ON
  - Tango::OFF
  - Tango::DISABLE
  - Tango::FAULT

8 - 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

9 - 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