



TANGO
Device
Server

Linac Gun User's Guide

LinacGun Class

Revision: LinacGun-Release_1_3 - Author: vedder
Implemented in C++ - CVS repository: ESRF

Introduction:

This class will manage the gun of the linac. The gun is the electrons source of the accelerator. It defines the pulsed characteristics of the electron beam (duration, rate).

Class Inheritance:

- Tango::Device_4Impl
 - LinacGun

Class Description:

Properties:

Device Properties		
Property name	Property type	Description
Daresbury	Tango::DEV_STRING	Name of the daresbury device.
GridV_adc	Tango::DEV_STRING	ADC device to get the grid Voltage.
GridV_dac	Tango::DEV_STRING	DAC device to set the grid voltage.
Offrelay	Tango::DEV_STRING	Name of the relay used to switch off the gun.
Onrelay	Tango::DEV_STRING	Name of the relay used to switch on the gun.
PulseL_dac	Tango::DEV_STRING	DAC device to set the pulse length.
Pulsetime	Tango::DEV_LONG	Duration in milliseconds of the pulse to do on the pulsed relays.
PulseV_adc	Tango::DEV_STRING	ADC device to get the pulse voltage.
PulseV_dac	Tango::DEV_STRING	DAC device to set the pulse voltage.
Relay352Mhz	Tango::DEV_STRING	Name of the 352Mhz relay device.
Short_relay	Tango::DEV_STRING	Name of the short relay device.
Stateonnum	Tango::DEV_DOUBLE	number of the interlock relay used to determine whether the Gun 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
GridV_adc	No default value
GridV_dac	No default value
Offrelay	No default value
Onrelay	No default value
PulseL_dac	No default value
Pulsetime	No default value
PulseV_adc	No default value
PulseV_dac	No default value
Relay352Mhz	No default value
Short_relay	No default value
Stateonnum	No default value
Statepermnum	No default value

There is no Class properties.

States:

States	
Names	Descriptions
ON	*
OFF	*
DISABLE	*
FAULT	*
ALARM	ALARM: short pulse mode and 352 Mhz On.

Attributes:

Scalar Attributes			
Attribute name	Data Type	R/W Type	Expert
PulseV : Pulse Voltage	DEV_DOUBLE	READ_WRITE	No
PulseL : Pulse length	DEV_DOUBLE	READ_WRITE	No
GridV : Grid Voltage	DEV_DOUBLE	READ_WRITE	No
PulseType : Pulse Type : Possible values are : short or long	DEV_STRING	READ_WRITE	No
In352Mhz : 352Mhz prebunching enabled.	DEV_BOOLEAN	READ_WRITE	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

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
- Tango::ALARM

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
- Tango::ALARM

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
- Tango::ALARM

4 - On

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

5 - Off

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

6 - Reset

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

- Tango::FAULT
- Tango::ALARM

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Device Servers : CVS repository on tango-ds project