



TANGO
Device
Server

Vertical Kicker User's Guide

Kicker_v Class

Revision: Kicker_v-Release_1_8 - Author: bourtemb
Implemented in C++ - CVS repository: ESRF

Introduction:

Control of the vertical kicker installed in storage ring

Class Inheritance:

- Tango::Device_4Impl
 - Kicker_v

Properties:

Device Properties		
Property name	Property type	Description
Discharge_time	Tango::DEV_SHORT	time in second necessary for HVPS to discharge before being disabled
Gescio_name	Tango::DEV_STRING	name of the gescio1 device
Adevpfn_name	Tango::DEV_STRING	name of the adc device for reading the vpfm
ICharger	Tango::DEV_DOUBLE	default value of the setpoint for I charger.
Adcich_name	Tango::DEV_STRING	name of the device to read the I charger
Adcimagn_name	Tango::DEV_STRING	name of the device to read the I magnet
Icharger_gain	Tango::DEV_DOUBLE	number of mA per Volt in the DAC
Vpfn_gain	Tango::DEV_DOUBLE	number of KV per Volt in the DAC
Dacvpfn_name	Tango::DEV_STRING	Name of the device to set the VPFN.
Dacich_name	Tango::DEV_STRING	name of the device to set the I charger
Local_bit	Tango::DEV_SHORT	Bit on the Gescio to know if the power supply is in local or remote control.
Aux_bit	Tango::DEV_SHORT	Bit on the Gescio to know if the auxiliaries are on or off.
Hv_enable_bit	Tango::DEV_SHORT	Bit on the Gescio to know whether or not the High Voltage is enabled.
Hvps_on_bit	Tango::DEV_SHORT	Bit on the Gescio to know whether the HVPS is on or off.
Trigon_bit	Tango::DEV_SHORT	Bit on the Gescio to know whether the trig is on or off
Interlock_bit	Tango::DEV_SHORT	Bit on the Gescio to know whether or not there is an external interlock.
Outputrange_bit	Tango::DEV_SHORT	Bit on the Gescio to know the outputrange (2 kV or 10 kV)
Cmd_aux_bit	Tango::DEV_SHORT	Bit on the Gescio to command the auxiliaries
Cmd_hve_bit	Tango::DEV_SHORT	Bit on the Gescio to command the HV enable
Cmd_hvoff_bit	Tango::DEV_SHORT	Bit on the Gescio to switch off the HV
Cmd_hvon_bit	Tango::DEV_SHORT	Bit on the Gescio to switch on the HV
Cmd_trigoff_bit	Tango::DEV_SHORT	Bit on the Gescio to switch off the trig
Cmd_trigon_bit	Tango::DEV_SHORT	Bit on the Gescio to switch on the trig
Cmd_outputrange_bit	Tango::DEV_SHORT	Bit on the Gescio to change the outputrange 0 --> 10 kV 1 --> 2 kV

Device Properties Default Values:

Property Name	Default Values
Discharge_time	10
Gescio_name	sy/ps-gescio1/v-kicker
Adcvpfn_name	sy/ps-incaa/vk-vpfn
ICharger	0
Adcich_name	sy/ps-incaa/vk-ich
Adcim名称	sy/ps-incaa/vk-imag
Icharger_gain	6
Vpfn_gain	2
Dacvpfn_name	sy/ps-gesdac/vk-vpfn
Dacich_name	sy/ps-incaa/vk-imag
Local_bit	0
Aux_bit	1
Hv_enable_bit	2
Hvpson_bit	3
Trigon_bit	4
Interlock_bit	5
Outputrange_bit	7
Cmd_aux_bit	0
Cmd_hve_bit	1
Cmd_hvoff_bit	2
Cmd_hvon_bit	3
Cmd_trigoff_bit	4
Cmd_trigon_bit	5
Cmd_outputrange_bit	6

There is no Class properties.

States:

States	
Names	Descriptions
ON	Trig ON. * * * * *
STANDBY	HV enable * * * * *
OFF	OFF * * * * *
FAULT	External Interlock * * *

Attributes:

Scalar Attributes			
Attribute name	Data Type	R/W Type	Expert
VPFN: Voltage of the PFN	DEV_DOUBLE	READ_WRITE	No
ICharger: I Charger	DEV_DOUBLE	READ_WRITE	Yes
IMagnet: Pulsed current in the magnet	DEV_DOUBLE	READ	Yes
OutputRange: Output Range : possible values are : 2kV or 10kV	DEV_STRING	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
Standby	DEV_VOID	DEV_VOID
Off	DEV_VOID	DEV_VOID

Device Commands for Expert Level Only		
Command name	Argument In	Argument Out
AuxOn	DEV_VOID	DEV_VOID
AuxOff	DEV_VOID	DEV_VOID
HVEnable	DEV_VOID	DEV_VOID
HVDisable	DEV_VOID	DEV_VOID
HVON	DEV_VOID	DEV_VOID
HVOFF	DEV_VOID	DEV_VOID
TrigON	DEV_VOID	DEV_VOID
TrigOFF	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::STANDBY
 - Tango::OFF
 - 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::STANDBY
- Tango::OFF
- 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::STANDBY
- Tango::OFF
- Tango::FAULT

4 - On

- **Description:** switch the pulser ON

- **Argin:**

DEV_VOID :

- **Argout:**

DEV_VOID :

- **Command allowed for:**

- Tango::ON
- Tango::STANDBY
- Tango::OFF
- Tango::FAULT

5 - Standby

- **Description:** Switch HV enabled
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ON
 - Tango::STANDBY
 - Tango::OFF
 - Tango::FAULT

6 - Off

- **Description:** Switch off all active element
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ON
 - Tango::STANDBY
 - Tango::OFF
 - Tango::FAULT

7 - AuxOn (for expert only)

- **Description:** switch the auxiliaries ON
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ON
 - Tango::STANDBY
 - Tango::OFF

- Tango::FAULT

8 - AuxOff (for expert only)

- **Description:** Switch the auxiliaries OFF
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ON
 - Tango::STANDBY
 - Tango::OFF
 - Tango::FAULT

9 - HVEnable (for expert only)

- **Description:** Enable the HV
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ON
 - Tango::STANDBY
 - Tango::OFF
 - Tango::FAULT

10 - HVDisable (for expert only)

- **Description:** Disable the HV
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**

- Tango::ON
- Tango::STANDBY
- Tango::OFF
- Tango::FAULT

11 - HVON (for expert only)

- **Description:** Switch the HV ON
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ON
 - Tango::STANDBY
 - Tango::OFF
 - Tango::FAULT

12 - HVOFF (for expert only)

- **Description:** Switch the HV OFF
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ON
 - Tango::STANDBY
 - Tango::OFF
 - Tango::FAULT

13 - TrigON (for expert only)

- **Description:** Switch the trig ON
- **Argin:**
DEV_VOID :
- **Argout:**

DEV_VOID :

- **Command allowed for:**

- Tango::ON
- Tango::STANDBY
- Tango::OFF
- Tango::FAULT

14 - TrigOFF (for expert only)

- **Description:** Switch the trigger OFF

- **Argin:**

DEV_VOID :

- **Argout:**

DEV_VOID :

- **Command allowed for:**

- Tango::ON
- Tango::STANDBY
- Tango::OFF
- Tango::FAULT

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