



TANGO
Device
Server

TANGO Device Server User's Guide

PowerConsumption Class

**Revision: releasetag - Author: goudard
Implemented in Python**

Introduction:

This class is part of the HQPS project. Its aim is to give measurement of the power used by the ESRF. The power used by the ESRF is plitted on 2 lines called Process Facility. A third info is the total power consumed by the ESRF (sum of the other two). This class also reports the Geg 10 mins top date

Class Inheritance:

- PyTango.Device_4Impl
 - PowerConsumption

Properties:

Class Properties		
Property name	Property type	Description
GegIntegrationTime	Tango::DEV_LONG	Time on which we have to integrate power consumption in sec.
ModbusDevName	Tango::DEV_STRING	PLC Modbus device name

Device Properties		
Property name	Property type	Description
GegIntegrationTime	Tango::DEV_LONG	Time on which we have to integrate power consumption in sec.
ModbusDevName	Tango::DEV_STRING	PLC Modbus device name
ProcessAdr	Tango::DEV_LONG	Adress of the Process line power tops delta time
FacilityAdr	Tango::DEV_LONG	Address of the facility line power tops delta time
EsrAdr	Tango::DEV_LONG	Address of the Esr power tops delta time
Top10MinsAdr	Tango::DEV_LONG	Address of the 10 mins top data in PLC
MaxTop10MinsNumber	Tango::DEV_LONG	Maximum number of GEG 10 mins top date returned by the attribute Geg10MinsTopDate
Energy10MinsProcessAdr	Tango::DEV_LONG	EnergyConsumed over 10 minuts between 2 top GEG on Process
Energy10MinsFacilityAdr	Tango::DEV_LONG	EnergyConsumed over 10 minuts between 2 top GEG on Facility
Energy10MinsEsrAdr	Tango::DEV_LONG	EnergyConsumed over 10 minuts between 2 top GEG on ESRF

Class Properties Default Values:

Property Name	Default Values
GegIntegrationTime	10
ModbusDevName	No default value

Device Properties Default Values:

Property Name	Default Values
GegIntegrationTime	10
ModbusDevName	No default value
ProcessAdr	0
FacilityAdr	0
EsrAdr	0
Top10MinsAdr	0
MaxTop10MinsNumber	No default value
Energy10MinsProcessAdr	No default value
Energy10MinsFacilityAdr	No default value
Energy10MinsEsrAdr	No default value

States:

States	
Names	Descriptions
ON	
FAULT	

Attributes:

Scalar Attributes			
Attribute name	Data Type	R/W Type	Expert
ProcessPowerConsumption: Power consumed on the Process line	DEV_LONG	READ	No
FacilityPowerConsumption: Power consumed on the Facility line	DEV_LONG	READ	No
EsrpPowerConsumption: Power consumed by the whole ESRF (sum of process and facility)	DEV_LONG	READ	No
Geg10MinsTopDate	DEV_STRING	READ	No
ESRF_Energy_10Mins	DEV_LONG	READ	No
Facility_Energy_10Mins	DEV_LONG	READ	No
Process_Energy_10Mins	DEV_LONG	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
ReadEnergiesHistory	DEV_SHORT	DEV_STRING
SaveEnergiesHistorytoHDB	DEVVAR_SHORTARRAY	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::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::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::FAULT

4 - ReadEnergiesHistory

- **Description:**

- **Argin:**
DEV_SHORT : number of data to retrieve

- **Argout:**
DEV_STRING : returns the table of asked elements

- **Command allowed for:**

- Tango::ON

5 - SaveEnergiesHistorytoHDB

- **Description:** argin[1] = first element to store in HDB argin[2] = last element to store in HDB Values are taken from the table named whole_data of ReadEnergiesHistory command.

- **Argin:**

DEVVAR_SHORTARRAY : index of first and last elements to store in HDB from ReadHistory command.

- **Argout:**

DEV_VOID :

- **Command allowed for:**

- Tango::ON
- Tango::FAULT

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