

## IonGunSPECS Tango Cpp Class

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### **IonGunSPECS Class Identification :**

Contact : at nexeya.com - sebastien.gara  
Class Family : PowerSupply  
Platform : All Platforms  
Bus : GPIB  
Manufacturer : SPECS  
Manufacturer ref. : PU IQE 11/35

### **IonGunSPECS Class Inheritance :**

- [Tango::DeviceImpl](#)
  - IonGunSPECS

### **IonGunSPECS Class Description :**

This class aims to control a IonGunSPECS power supply.

## IonGunSPECS Properties :

There is no class properties

Device Properties			
Name	Description	Type	Default Value
GpibDeviceName	This property contains the name of the GPIB device used to control the power supply	String	none

IonGunSPECS Class Commands				
Name	Input type	Output type	Level	Description
<a href="#">State</a>	DEV_VOID	DEV_STATE	OPERATOR	This command gets the device state (stored in its <i>device_state</i> data member) and returns it to the caller.
<a href="#">Status</a>	DEV_VOID	CONST_DEV_STRING	OPERATOR	This command gets the device status (stored in its <i>device_status</i> data member) and returns it to the caller.
<a href="#">Operate</a>	DEV_VOID	DEV_VOID	OPERATOR	This command sets the operation mode to OPERATE
<a href="#">Standby</a>	DEV_VOID	DEV_VOID	OPERATOR	This command sets the operation mode to STANDBY
<a href="#">Degas</a>	DEV_VOID	DEV_VOID	OPERATOR	This command sets the operation mode to DEGAS
<a href="#">Off</a>	DEV_VOID	DEV_VOID	OPERATOR	This command sets the operation mode to OFF
<a href="#">Reset</a>	DEV_VOID	DEV_VOID	OPERATOR	This command initializes the power supply unit

## Command State :

This command gets the device state (stored in its *device\_state* data member) and returns it to the caller.

State Definition		
Input Argument	Tango::DEV_VOID	none.
Output Argument	Tango::DEV_STATE	State Code
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

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### **Command Status :**

This command gets the device status (stored in its *device\_status* data member) and returns it to the caller.

<b>Status Definition</b>		
Input Argument	Tango::DEV_VOID	none.
Output Argument	Tango::CONST_DEV_STRING	Status description
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

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### **Command Operate :**

This command sets the operation mode to OPERATE

<b>Operate Definition</b>		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

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### **Command Standby :**

This command sets the operation mode to STANDBY

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<b>Standby Definition</b>		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
		..
Command allowed for	All states	..

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### **Command Degas :**

This command sets the operation mode to DEGAS

<b>Degas Definition</b>		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
		..
Command allowed for	All states	..

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### **Command Off :**

This command sets the operation mode to OFF

<b>Off Definition</b>		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
		..
Command allowed for	All states	..

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**Command Reset :**

This command initializes the power supply unit

Reset Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
		..
Command allowed for	All states	..

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IonGunSPECS Class Attributes							
Name	Inherited	Abstract	Attr. type	R/W type	Data type	Level	Description
<a href="#">energy</a>	false	false	Scalar	READ_WRITE	Tango::DEV_USHORT	OPERATOR	Energy of the IonGun
<a href="#">emissionCurrent</a>	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	Value of the gun emission current
<a href="#">energyCurrent</a>	false	false	Scalar	READ	Tango::DEV_SHORT	OPERATOR	Value of the leak energy current of the HT module
<a href="#">temperature</a>	false	false	Scalar	READ	Tango::DEV_FLOAT	OPERATOR	Temperature of the HT module
<a href="#">filamentVoltage</a>	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	Value of the voltage of the filament
<a href="#">filamentCurrent</a>	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	Value of the current of the filament
<a href="#">operationMode</a>	false	false	Scalar	READ	Tango::DEV_STRING	OPERATOR	Value of the operation mode among :nSTANDBY, DEGAS,

							OPERATE, OFF, UNKNOWN
<a href="#">highVoltage</a>	false	false	Scalar	READ_WRITE	Tango::DEV_BOOLEAN	OPERATOR	Value of the High Voltage activation
<a href="#">remoteControlEnabled</a>	false	false	Scalar	READ_WRITE	Tango::DEV_BOOLEAN	EXPERT	Remote control activation state.\nAt initialization time, the Device enables the remote control.

**There is no dynamic attribute defined.**

**Attribute energy :**

Energy of the IonGun

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_USHORT
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	energy
unit	eV
standard unit	
display unit	
format	4.0f
max_value	5000
min_value	0
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user	Not

**Attribute emissionCurrent :**

Value of the gun emission current

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	emissionCurrent
unit	mA
standard unit	
display unit	
format	4.2f
max_value	100
min_value	0.1
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

**Attribute energyCurrent :**

Value of the leak energy current of the HT module

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ

Attribute Properties	
label	energyCurrent
unit	$\bar{i}_{\frac{1}{2}}A$

Attribute Event Criteria	
Periodic	Not set

Data Type	Tango::DEV_SHORT
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

standard unit	
display unit	
format	4.0f
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

**Attribute temperature :**

Temperature of the HT module

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_FLOAT
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

Attribute Properties	
label	temperature
unit	°C
standard unit	
display unit	
format	2.0f
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by	Not



**Attribute filamentVoltage :**

Value of the voltage of the filament

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

Attribute Properties	
label	filamentVoltage
unit	V
standard unit	
display unit	
format	2.1f
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

**Attribute filamentCurrent :**

Value of the current of the filament

Attribute Definition	
Attribute Type	Scalar

Attribute Properties	
label	filamentCurrent
unit	A

Attribute Event Criteria	
Periodic	Not set

R/W Type	READ
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

standard unit	
display unit	
format	2.1f
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

**Attribute operationMode :**

Value of the operation mode among \nSTANDBY, DEGAS, OPERATE, OFF, UNKNOWN

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_STRING
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

Attribute Properties	
label	operationMode
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

**Attribute highVoltage :**

Value of the High Voltage activation

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_BOOLEAN
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	highVoltage
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

**Attribute remoteControlEnabled :**

Remote control activation state.\nAt initialization time, the Device enables the remote control.

Attribute Definition	
Attribute Type	Scalar

Attribute Properties	
label	remoteControlEnabled
unit	

Attribute Event Criteria	
Periodic	Not set

RAW Type	READ_WRITE
Data Type	Tango::DEV_BOOLEAN
Display Level	EXPERT
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

IonGunSPECS Class States	
Name	Description
INIT	The device is initializing
FAULT	Device Error or Equipment Error
OFF	OperationMode is OFF
STANDBY	OperationMode is STANDBY
RUNNING	OperationMode is OPERATE
EXTRACT	OperationMode is DEGAS
DISABLE	The device isn't remotely controllable (remoteControlEnabled is False)
MOVING	The PU is "busy", i.e. moving to the specified state.