



TANGO Device Server

TANGO Device Server
User's Guide

PyElComat Class

Revision: - Author: sergiblanch
Implemented in Python

Introduction:

Wrapper Device server to access to an elcomat autocollimator, by a PySerialDS bridge

Class Inheritance:

- PyTango.Device_4Impl
  - PyElComat

Properties:

Device Properties		
Property name	**Property type**	**Description**
PySerialDS	Tango::DEV_STRING	Name of the pyserial device who is connected to the serial port where the elcomat is
Elcomat_Frequency	Tango::DEV_USHORT	Number of samples per second that the instruments aquires.

Device Properties Default Values:

Property Name	**Default Values**
PySerialDS	No default value
Elcomat_Frequency	No default value

There is no Class properties.

States:

States	
Names	**Descriptions**
INIT	The device is starting the comunication to the PySerialDS
OPEN	The device is well connected to a PySerialDS
CLOSE	The device is NOT connected to the PySerialDS
ON	The instrument is acquiring
OFF	The instrument is NOT acquiring
RUNNING	The device is busy acquiring data from the elcomat
FAULT	Something wrong with the device. Details on the status

Attributes:

Scalar Attributes

Attribute name	Data Type	R/W Type	Expert
Last_x: Last measured value for X angle	DEV_DOUBLE	READ	No
Last_y: Last measured value for Y angle	DEV_DOUBLE	READ	No
Av_x_ts: Average of the timestamped measured on X angle	DEV_DOUBLE	READ	No
Av_y_ts: Average of the timestamped measured on Y angle	DEV_DOUBLE	READ	No
Stdv_x_ts: Standard deviation of the timestamped measured on X angle	DEV_DOUBLE	READ	No
Stdv_y_ts: Standard deviation of the timestamped measured on Y angle	DEV_DOUBLE	READ	No
TimeStamp: The time stamp from the start of the last acquisition	DEV_STRING	READ	No
MeasurementType: 'abs' for absolute measurements or 'rel' for relative measurements	DEV_STRING	READ_WRITE	No
Num_samples: Number of values collected in a measurement	DEV_ULONG	READ_WRITE	No
acqTimer: Set the time to collect, and read the time collected.	DEV_DOUBLE	READ_WRITE	No

Spectrum Attributes

Attribute name	Data Type	X Data Length	Expert
X: Measured values for X angle	DEV_DOUBLE	100000	No
X_ts: Measured values for X angle, related with the timestamped acquisition	DEV_DOUBLE	100000	No
Y: Measured values for Y angle	DEV_DOUBLE	100000	No
Y_ts: Measured values for Y angle, related with the timestamped acquisition	DEV_DOUBLE	100000	No

Image Attributes

Attribute name	Data Type	X Data Length	Y Data Length	Expert
Table	DEV_DOUBLE	100000	100000	No
Table_ts	DEV_DOUBLE	100000	100000	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
Open	DEV_VOID	DEV_VOID
Close	DEV_VOID	DEV_VOID
On	DEV_VOID	DEV_VOID
Off	DEV_VOID	DEV_VOID
Start	DEV_VOID	DEV_VOID
Stop	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::INIT
  - Tango::OPEN
  - Tango::CLOSE
  - Tango::ON
  - Tango::OFF
  - Tango::RUNNING
  - 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::INIT
  - Tango::OPEN
  - Tango::CLOSE
  - Tango::ON
  - Tango::OFF
  - Tango::RUNNING
  - 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::INIT
  - Tango::OPEN
  - Tango::CLOSE
  - Tango::ON
  - Tango::OFF
  - Tango::RUNNING
  - Tango::FAULT

4 - Open

- **Description:**

- **Argin:**
  DEV_VOID :

- **Argout:**
  DEV_VOID :

- **Command allowed for:**
  - Tango::INIT
  - Tango::CLOSE

5 - Close

- **Description:**

- **Argin:**
  DEV_VOID :

- **Argout:**
  DEV_VOID :

- **Command allowed for:**
  - Tango::INIT
  - Tango::OPEN
  - Tango::OFF

6 - On

- **Description:**

- **Argin:**
  DEV_VOID :

- **Argout:**
  DEV_VOID :

- **Command allowed for:**
  - Tango::OPEN
  - Tango::OFF

7 - Off

- **Description:**

- **Argin:**
  DEV_VOID :

- **Argout:**

DEV_VOID :

- **Command allowed for:**
  - Tango::OPEN
  - Tango::ON

8 - Start

- **Description:**

- **Argin:**
  DEV_VOID :

- **Argout:**
  DEV_VOID :

- **Command allowed for:**
  - Tango::ON

9 - Stop

- **Description:**

- **Argin:**
  DEV_VOID :

- **Argout:**
  DEV_VOID :

- **Command allowed for:**
  - Tango::RUNNING