Vacuum cell gauges management
User's Guide

VacCellGauge Class

Introduction:

This class is able to manage vacuum gauges in a cell.

Class Inheritance:

- Tango::Device_4Impl
  - VacCellGauge

Class Description:

This class is able to manage vacuum gauges in a cell.
It compute a cell state depending of on gauge states .
Attributes (Pressure, MaxPressure, State, DerivativePressure....) are polled.
They are updated only during Pressure polling to read all attributes in one call.
These attributes read as scalar are returned as spectrum.
The index of the value is defined by the index of the gauge (see GaugeList attribute).

The index of a gauge is given by it's location property.
The gauges are ordered at startup and on a UpdateGaugeLocations command.

Properties:

There is no Class properties.
There is no Device Properties.

States:

States	
Names	**Descriptions**
ON	All gauges for this cell are ON.
OFF	At least one gauge of this cell is OFF.
ALARM	At least one gauge of this cell is ALARM.
FAULT	At least one gauge of this cell is FAULT.
UNKNOWN	At least one gauge of this cell is UNKNOWN.

Attributes:

Scalar Attributes			
Attribute name	**Data Type**	**R/W Type**	**Expert**
AveragePressure: Average pressure in the cell.	DEV_DOUBLE	READ	No

Spectrum Attributes

Attribute name	Data Type	X Data Length	Expert
DerivativePressure: Derivative Pressure calculated	DEV_DOUBLE	60	No
DeviceStates: Spectrum of gauge states. All states are mapped on a short value (DevState spectrum does not exists).	DEV_SHORT	60	No
DisabledGauges: The disabled gauges are taken in acount for cell state calculation.	DEV_BOOLEAN	60	No
GaugeList: Gauge list for the cell (found by database browsiing). Gauge names are ordered by gauge Locations. This order is the same for all attributes of the device.	DEV_STRING	60	No
GaugeLocations: Gauge locationst for the cell (found by database browsiing).	DEV_DOUBLE	60	No
MaxPressure: for each gauge: [i+0] - Maximum pressure measured since reset. [i+1] - Time when maximum pressure has been measured. [i+2] - Time when maximum pressure has been reseted.	DEV_DOUBLE	180	No
Pressure: Pressure measured on each gauge.	DEV_DOUBLE	60	No
GaugeWeight: The wight of gauges taken in acount to compute pressure average.	DEV_DOUBLE	60	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
UpdateGaugeLocations	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::ALARM
  - Tango::FAULT
  - Tango::UNKNOWN

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::ALARM
  - Tango::FAULT
  - Tango::UNKNOWN

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::ALARM
- ○ Tango::FAULT
- ○ Tango::UNKNOWN

4 - UpdateGaugeLocations

- **Description:** Re-read gauge positions and re-order them.

- **Argin:**
  DEV_VOID :

- **Argout:**
  DEV_VOID :

- **Command allowed for:**
- ○ Tango::ON
- ○ Tango::OFF
- ○ Tango::ALARM
- ○ Tango::FAULT
- ○ Tango::UNKNOWN