

REP1806 Tango Cpp Class

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REP1806 Class Identification :

Contact : at null - null
 Class Family :
 Platform :
 Bus :
 Manufacturer :
 Manufacturer ref. :

REP1806 Class Inheritance :

- [Tango::DeviceImpl](#)
 - REP1806

REP1806 Class Description :

This device is used to control the REP1806 device which include 2 parts:

- temperature controller (3504 process controller)
- Thyristor power unit B 70.9040)

it is possible to :

- configure the regulation parameters
- apply preset temperature
- monitor sample temperature
- monitor oven temperature
- limit heating power

To set regulation parameters, 2 modes are available:

- manual mode: the user independently set each regulation parameters (P, I, D, cutback)
 - auto mode: a predefined list is contained in a property and the parameters are loaded at init device
- the communication is managed by a device Serial line called "ds_Serial".

the communication parameters are: baudrate = 9600; parity = NONE; serialline = COMx;
 timeour = 2000 ms; charlength = 8; stopbit = 0 (means 1 stop bit).

REP1806 Properties :

There is no class properties

Device Properties			
Name	Description	Type	Default Value
PIDTable	list of PID parameters according to the: - oven model - sample environnement (air/vaccum) - temperature range each line is consisted of 8 fields separated by commas like: oven_model,sample_env,temp_min,temp_max,P,I,D,cutback ex: H10,air,0.75,1.2,31,5.2,10 H10,vaccum,75,100,3.2,13,2.1,27 ... H205,air,250,NotLimitMax,7.5,8,1.3,65	String[]	none
SafetyTemperature	limit the preset temperature	double	100
SerialProxyName	name of the serial line device proxy	String	none

REP1806 Class Commands				
Name	Input type	Output type	Level	Description
State	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.
Status	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.
PowerOff	DEV_VOID	DEV_VOID	OPERATOR	power off

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	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command Status :

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

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

Command PowerOff :

power off

PowerOff Definition		
Input Argument	Tango::DEV_VOID	void
Output Argument	Tango::DEV_VOID	void
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..

Command allowed for	All states	..

REP1806 Class Attributes							
Name	Inherited	Abstract	Attr. type	R/W type	Data type	Level	Description
autoPIDSetting	false	false	Scalar	WRITE	Tango::DEV_BOOLEAN	OPERATOR	to choose the setting PID parameters mode. \ntrue means auto, false means manual
rampTime	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	ramp time (memorized)
sampleTemperature	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	sample temperature to monitor
temperature	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	oven temperature (memorized)
proportionalRegulCoeff	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	proportional Regulation Coefficient
IntegralRegulCoeff	false	false	Scalar	READ_WRITE	Tango::DEV_BOOLEAN	OPERATOR	Integral Regulation Coefficient (memorized)
DifferentialRegulCoeff	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	Differential Regulation Coeff (memorized)
cutBack	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	cut Back (memorized)

There is no dynamic attribute defined.

Attribute autoPIDSetting :

to choose the setting PID parameters mode. \ntrue means auto, false means manual

Attribute Definition	
Attribute Type	Scalar
R/W Type	WRITE
Data Type	Tango::DEV_BOOLEAN
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	true
Write hardware at init.	true
Write allowed for	All states

Attribute Properties	
label	auto mode
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 rampTime :

ramp time (memorized)

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	true
Write hardware at init.	Not set

Attribute Properties	
label	ramp time
unit	min
standard unit	min
display unit	min
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	

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

Read allowed for	All states
Write allowed for	All states

min_warning	
delta_time	
delta_val	

Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

Attribute sampleTemperature :

sample temperature to monitor

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	sample temperature
unit	̄½C
standard unit	̄½C
display unit	̄½C
format	%7.2f
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 temperature :

oven temperature (memorized)

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	true
Write hardware at init.	Not set
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	oven temperature
unit	̄½C
standard unit	̄½C
display unit	̄½C
format	%8.2f
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 proportionalRegulCoeff :

proportional Regulation Coefficient

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	true
Write hardware	Not set

Attribute Properties	
label	P
unit	
standard unit	
display unit	
format	%8.2f
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	

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

at init.	
Read allowed for	All states
Write allowed for	All states

min_warning	
delta_time	
delta_val	

	set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

Attribute IntegralRegulCoeff :

Integral Regulation Coefficient (memorized)

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	true
Write hardware at init.	Not set
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	I
unit	
standard unit	
display unit	
format	%8.2f
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 DifferentialRegulCoeff :

Differential Regulation Coeff (memorized)

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	true
Write hardware at init.	Not set
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	Differential Regulation Coeff
unit	
standard unit	
display unit	
format	%8.2f
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 cutBack :

cut Back (memorized)

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	true
Write hardware	

Attribute Properties	
label	cutBack
unit	
standard unit	
display unit	%8.2f
format	
max_value	
min_value	
max_alarm	
min_alarm	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set

at init.	Not set
Read allowed for	All states
Write allowed for	All states

max_warning	
min_warning	
delta_time	
delta_val	

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

There is no state defined