



TANGO
Device
Server

NeslabEx User's Guide

NeslabEx Class

Revision: release_1_0_11 - Author: vince_soleil
Implemented in C++ - CVS repository: tango-ds

Introduction:

NESLAB EX Bath/Circulator Tango device server Tested hardware : Neslab EX17

Class Inheritance:

- Tango::Device_4Impl
 - NeslabEx

Properties:

Device Properties		
Property name	Property type	Description
CommProxy	Tango::DEV_STRING	Communication proxy device name. For the Neslab Ex17 in RS-232 mode the Serial device must be configured in 19200 baud, 1 stop bit, no parity
CommType	Tango::DEV_LONG	Communication interface type 0 = RS-232 1 = RS-485
CommAddr	Tango::DEV_LONG	Communication interface address RS-232 : must be 1 RS-485 : address of the controller (0x01-0x64) on the bus

Device Properties Default Values:

Property Name	Default Values
CommProxy	No default value
CommType	0
CommAddr	1

There is no Class properties.

States:

States	
Names	Descriptions
ALARM	The controller is in ALARM state. See status for details.
FAULT	The controller is in FAULT state. See status for details.
OFF	Controller turned off.
ON	Controller running.
STANDBY	Ready.
UNKNOWN	Unable to communicate with the controller !

Attributes:

Scalar Attributes			
Attribute name	Data Type	R/W Type	Expert
channel: NOT SUPPORTED	DEV_LONG	READ_WRITE	No
controlSensor: NOT SUPPORTED	DEV_LONG	READ_WRITE	No
gasAuto: NOT SUPPORTED	DEV_BOOLEAN	READ_WRITE	No
gasFlow: NOT SUPPORTED	DEV_DOUBLE	READ_WRITE	No
heaterAuto: NOT SUPPORTED	DEV_BOOLEAN	READ_WRITE	No
heaterMax: NOT SUPPORTED	DEV_DOUBLE	READ_WRITE	No
heaterPercent: NOT SUPPORTED	DEV_DOUBLE	READ_WRITE	No
pidAuto: NOT SUPPORTED	DEV_BOOLEAN	READ_WRITE	No
pidDifferentialTime: pid Differential action time	DEV_DOUBLE	READ_WRITE	No
pidIntegralTime: pid Integral action time	DEV_DOUBLE	READ_WRITE	No
pidProportionalFactor: pid Proportional band	DEV_DOUBLE	READ_WRITE	Yes
temperature: internal temperature	DEV_DOUBLE	READ	No
temperature1: external sensor	DEV_DOUBLE	READ	No
temperature2: NOT SUPPORTED	DEV_DOUBLE	READ	No
temperature3: NOT SUPPORTED	DEV_DOUBLE	READ	No
temperatureError: difference between set point and measured temperature	DEV_DOUBLE	READ	No
temperatureMax: temperature high limit	DEV_DOUBLE	READ_WRITE	No
temperatureMin: temperature low limit	DEV_DOUBLE	READ_WRITE	No
temperatureSetPoint: temperature set point	DEV_DOUBLE	READ_WRITE	No
version: controller version	DEV_STRING	READ	Yes

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
Start	DEV_VOID	DEV_VOID
Stop	DEV_VOID	DEV_VOID

Device Commands for Expert Level Only		
Command name	Argument In	Argument Out
SendCmd	DEV_STRING	DEV_STRING

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::ALARM
 - Tango::FAULT
 - Tango::OFF
 - Tango::ON
 - Tango::STANDBY
 - 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::ALARM
 - Tango::FAULT
 - Tango::OFF
 - Tango::ON
 - Tango::STANDBY
 - 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::ALARM
 - Tango::FAULT
 - Tango::OFF
 - Tango::ON
 - Tango::STANDBY
 - Tango::UNKNOWN

4 - SendCmd (for expert only)

- **Description:** Not implemented. For compatibility with other devices
- **Argin:**
DEV_STRING : The command to send
- **Argout:**
DEV_STRING : The response received
- **Command allowed for:**
 - Tango::ALARM
 - Tango::FAULT

- Tango::OFF
- Tango::ON
- Tango::STANDBY

5 - Start

- **Description:** Turn the controller ON
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ALARM
 - Tango::FAULT
 - Tango::OFF
 - Tango::ON
 - Tango::STANDBY

6 - Stop

- **Description:** Turn the controller OFF
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ALARM
 - Tango::FAULT
 - Tango::OFF
 - Tango::ON
 - Tango::STANDBY

TANGO is an open source project hosted by :


Core and Tools : CVS repository on tango-cs project
 Device Servers : CVS repository on tango-ds project