



TANGO
Device
Server

LFI_3751

User's Guide

LFI_3751 Class

Revision: release_1_1_3 - Author: vince_soleil
Implemented in C++ - CVS repository: tango-ds

Introduction:

this devices controls the NMR20 gaussmeter which measures a magnetic field

Class Inheritance:

- Tango::Device_4Impl
 - LFI_3751

Class Description:

This device controls the LFI 3751 temperature controller

Properties:

Device Properties		
Property name	Property type	Description
SerialProxyName	Tango::DEV_STRING	name of the serial line proxy device

Device Properties Default Values:

Property Name	Default Values
SerialProxyName	instrum_lambda/Serialline/serial01

There is no Class properties.

States:

States	
Names	Descriptions
ALARM	
UNKNOWN	
FAULT	
ON	

Attributes:

Scalar Attributes			
Attribute name	Data Type	R/W Type	Expert
temperaturePreset: temperature to reach. the unit depends on the probe used.	DEV_DOUBLE	READ_WRITE	No
temperatureMeasured: gets the temperature measured by the probe. the unit depends on the probe type used	DEV_DOUBLE	READ	No
resistanceMeasured: gets the resistance measured by the probe.	DEV_DOUBLE	READ	No
heaterPercent: provides information about the heating. this value is calculated as following expression: %heat = [I(measured) / I(limit)]*100	DEV_DOUBLE	READ	No
temperatureError: provides the interval error between the temperature preset and the measured temperature.	DEV_DOUBLE	READ	No
coeffP: this is the proportional gain parameter to set	DEV_DOUBLE	READ_WRITE	No
coeffI: this is the Integrator parameter to set	DEV_DOUBLE	READ_WRITE	No
coeffD: this is the Derivator parameter to set	DEV_DOUBLE	READ_WRITE	No
outputCurrent: to enabled or disabled the output current	DEV_BOOLEAN	READ_WRITE	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
PidAutotuneS	DEV_VOID	DEV_VOID
PidAutotuneD	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 destructor automatically calls the *delete_device()* method.

- **Argin:**
DEV_VOID : none.
- **Argout:**
DEV_VOID : none.
- **Command allowed for:**
 - Tango::ALARM
 - Tango::UNKNOWN
 - Tango::FAULT
 - Tango::ON

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::UNKNOWN
 - Tango::FAULT
 - Tango::ON

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::UNKNOWN
 - Tango::FAULT

- Tango::ON

4 - PidAutotuneS

- **Description:** This command gets the device status (stored in its *device_status* data member) and returns it to the caller.
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ALARM
 - Tango::UNKNOWN
 - Tango::FAULT
 - Tango::ON

5 - PidAutotuneD

- **Description:** to start a Disturbance Rejection Tuning to make an automatic PID setting. This method is valuable when your thermal load is exposed to varied environmental conditions, such as air currents or ambient temperature fluctuations. It also improves temperature stability in applications where the device being temperature controlled experiences significant power or heat transients, such as those found in pulsed laser diode applications.
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ALARM
 - Tango::UNKNOWN
 - Tango::FAULT
 - Tango::ON

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