



TANGO
Device
Server

National Instruments DMM4070 User's Guide

Dmm4070 Class

Revision: - Author: peru
Implemented in C++ - CVS repository: ESRF

Introduction:

This class is intended to drive a National Instruments digital multimeter type 4070.

Class Inheritance:

- Tango::Device_4Impl
 - Dmm4070

Properties:

Device Properties		
Property name	Property type	Description
NiDevicename	Tango::DEV_STRING	This is the device name (as allocated by the NI driver).
DefaultResolution	Tango::DEV_DOUBLE	Default resolution value (set to 1e-4).
DefaultRange	Tango::DEV_DOUBLE	Default range value (expressed in volts) for DC measurement. Can take one of this values: 0.1, 1.0, 10.0, 100.0 and 300.0 Set to 10.0V
DefaultTriggerSource	Tango::DEV_STRING	Default trigger source value (set to external).
DefaultAcquisitionInterval	Tango::DEV_LONG	Default acquisition interval value (set to 8ms).

Device Properties Default Values:

Property Name	Default Values
NiDevicename	No default value
DefaultResolution	0.0001
DefaultRange	10.0
DefaultTriggerSource	external
DefaultAcquisitionInterval	8

There is no Class properties.

States:

States	
Names	Descriptions
STANDBY	This is the state when no data are beeing acquired.
RUNNING	This is the state when data are beeing acquired.
UNKNOWN	No comment
ALARM	This is the state when something is wrong with the hard.

Attributes:

Scalar Attributes			
Attribute name	Data Type	R/W Type	Expert
Resolution	DEV_DOUBLE	READ_WRITE	No
Range	DEV_DOUBLE	READ_WRITE	No
TriggerSource	DEV_STRING	READ_WRITE	No
AcquisitionInterval	DEV_LONG	READ_WRITE	No
LastValue	DEV_DOUBLE	READ	No
Overflow	DEV_BOOLEAN	READ	No

Spectrum Attributes			
Attribute name	Data Type	X Data Length	Expert
Sample_values	DEV_DOUBLE	10000	No
Sample_dates	DEV_ULONG64	10000	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
StartAcquisition	DEV_VOID	DEV_VOID
StopAcquisition	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::STANDBY
 - Tango::RUNNING
 - Tango::UNKNOWN
 - Tango::ALARM

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::STANDBY
 - Tango::RUNNING
 - Tango::UNKNOWN
 - Tango::ALARM

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::STANDBY
 - Tango::RUNNING

- Tango::UNKNOWN
- Tango::ALARM

4 - StartAcquisition

- **Description:** Start acquisition process.
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::STANDBY
 - Tango::UNKNOWN
 - Tango::ALARM

5 - StopAcquisition

- **Description:** Stop acquisition process.
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::RUNNING
 - Tango::UNKNOWN
 - Tango::ALARM

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