



TANGO Device Server

IncaaAdc
User's Guide

IncaaAdc Class

Revision: IncaaAdc-Release_1_0_0 - Author: bourtemb
Implemented in C++ - CVS repository: ESRF

Introduction:

Device server to control Incaa Analogic to Digital converter.

Class Inheritance:

- Tango::DeviceImpl
  - Adc
    - IncaaAdc

Class Description:

Properties:

Device Properties		
Property name	**Property type**	**Description**
BoardAddress	Tango::DEV_STRING	Base Address of Incaa board. must begin with 0x
Channel	Tango::DEV_SHORT	channel possible values are 0 -> 7
Fbus_pathname	Tango::DEV_STRING	Field bus pathname ex: /dev/cfb1
Fbus_nodenum	Tango::DEV_SHORT	Field bus node number.
A0	Tango::DEV_DOUBLE	The first coefficient of the formula defined by Calc_type attribute. a0+a1x+a2x^2+a3x^3 where x is the card output (if calc_type = POLYNOM) This property is optional and is set to 0 by default.
A1	Tango::DEV_DOUBLE	The second coefficient of the formula defined by Calc_type attribute: a0+a1x+a2x^2+a3x^3 where x is the card output (if Calc_type = POLYNOM) This property is optional and is set by default to 1.
A2	Tango::DEV_DOUBLE	The third coefficient of the formula defined by Calc_type attribute: a0+a1x+a2x^2+a3x^3 where x is the card output (if Calc_type = POLYNOM) This property is optional and is set by default to 0.
A3	Tango::DEV_DOUBLE	The fourth coefficient of the formula defined by Calc_type attribute: a0+a1x+a2x^2+a3x^3 where x is the card output (if Calc_type = POLYNOM) This property is optional and is set by default to 0.
Calc_type	Tango::DEV_STRING	Type of formula used to calculate the value attribute. could be set to POLYNOM or POW10. POLYNOM: the formula used is : a0 + a1X + a2X^2 + a3X^3 POW10: the formula is : a0 + a1*10^(a2 + a3*X)) Set by default to POLYNOM.
Calibrated	Tango::DEV_BOOLEAN	When this property is set to true, the channel is considered as calibrated and a certain number of attributes cannot be changed anymore. (e.g. a0,a1,a2,a3,calc_type) The goal is to avoid undesired change when the calibration process has been performed. Set to false by default.

Device Properties Default Values:

Property Name	Default Values
BoardAddress	0x000
Channel	0
Fbus_pathname	/dev/cfb0
Fbus_nodenum	1
A0	0
A1	1.0
A2	0.0
A3	0.0
Calc_type	POLYNOM
Calibrated	false

There is no Class properties.

States:

States	
Names	**Descriptions**
ON	Running

Attributes:

Scalar Attributes			
Attribute name	**Data Type**	**R/W Type**	**Expert**
Value: analog value	DEV_DOUBLE	READ	No
NAverage: number of values to average	DEV_SHORT	WRITE	No
A0: the first coefficient of the formula choosen with the attribute calc_type.	DEV_DOUBLE	READ_WRITE	Yes
A1: the second coefficient of the formula choosen with the attribute calc_type.	DEV_DOUBLE	READ_WRITE	Yes
A2: the third coefficient of the formula choosen with the attribute calc_type.	DEV_DOUBLE	READ_WRITE	Yes
A3: the fourth coefficient of the formula choosen with the attribute calc_type.	DEV_DOUBLE	READ_WRITE	Yes
Calc_type: Type of formula used to calculate the value attribute. could be set to POLYNOM or POW10. POLYNOM: the formula used is : a0 + a1X + a2X^2 + a3X^3 POW10: the formula is : a0 + a1*10^(a2 + a3*X))	DEV_STRING	READ_WRITE	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
Reset	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

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

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

4 - Reset

- **Description:** reset the Field Bus controller

- **Argin:**
  DEV_VOID :

- **Argout:**
  DEV_VOID :

- **Command allowed for:**

  - Tango::ON