



**TANGO**  
Device  
Server

# **ARMO Controller User's Guide**

## **ARMO Class**

**Revision: release\_1\_0\_0 - Author: root  
Implemented in C++**

### **Introduction:**

Controls the position of ARMO

### **Properties:**

## Device Properties

Property name	Property type	Description
<b>DIODeviceName</b>	Tango::DEV_STRING	Name of the underlying DIO device [DIO_7432 or compatible - no default value]
<b>DIODeviceCtrlLine</b>	Tango::DEV_STRING	DIO device's line used to control the screen [no default value]
<b>DIODeviceUpLine</b>	Tango::DEV_STRING	DIO device's line connected to the up position detector [no default value]
<b>DIODeviceDownLine</b>	Tango::DEV_STRING	DIO device's line connected to the down position detector [no default value]
<b>Logic</b>	Tango::DEV_STRING	Use "HIGH" for active high or "LOW" for active low [no default value]
<b>Timeout</b>	Tango::DEV_SHORT	ARMO insertion/extraction timeout [in seconds]. If this timeout expired before the screen reaches its stable position [i.e inserted or extracted] , its state is changed from MOVING to FAULT.

### Device Properties Default Values:

Property Name	Default Values
DIODeviceName	No default value
DIODeviceCtrlLine	No default value
DIODeviceUpLine	No default value
DIODeviceDownLine	No default value
Logic	No default value
Timeout	No default value

**There is no Class properties.**

### States:

States	
Names	Descriptions
<b>FAULT</b>	Not connected to underlying DIO device [can't control screen position]
<b>INSERT</b>	The screen is inserted into the beam
<b>EXTRACT</b>	The screen is extracted from the beam
<b>UNKNOWN</b>	Can't conclude on screen position [underlying device does not respond or gave error]
<b>MOVING</b>	The screen is moving [i.e. device is currently responding to an insert or extract request]

## Attributes:

Scalar Attributes			
Attribute name	Data Type	R/W Type	Expert
<b>isInserted:</b> Set to TRUE (i.e. 1) if ARMO is currently inserted into the beam, set to FALSE (i.e. 0) otherwise	DEV_SHORT	READ	No
<b>isExtracted:</b> Set to TRUE (i.e. 1) if ARMO is currently extracted from the beam, set to FALSE (i.e. 0) otherwise	DEV_SHORT	READ	No

## Commands:

More Details on commands....

Device Commands for Operator Level		
Command name	Argument In	Argument Out
<b>Init</b>	DEV_VOID	DEV_VOID
<b>State</b>	DEV_VOID	DEV_STATE
<b>Status</b>	DEV_VOID	CONST_DEV_STRING
<b>Insert</b>	DEV_VOID	DEV_VOID
<b>Extract</b>	DEV_VOID	DEV_VOID
<b>IsInserted</b>	DEV_VOID	DEV_BOOLEAN
<b>IsExtracted</b>	DEV_VOID	DEV_BOOLEAN
<b>GetDependencies</b>	DEV_VOID	DEVVAR_STRINGARRAY

### 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::FAULT
  - Tango::INSERT
  - Tango::EXTRACT
  - Tango::UNKNOWN
  - Tango::MOVING

## 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::FAULT
  - Tango::INSERT
  - Tango::EXTRACT
  - Tango::UNKNOWN
  - Tango::MOVING

## 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::FAULT
  - Tango::INSERT
  - Tango::EXTRACT
  - Tango::UNKNOWN
  - Tango::MOVING

## 4 - Insert

- **Description:**
- **Argin:**  
**DEV\_VOID** : N/A

- **Argout:**  
**DEV\_VOID** : N/A
- **Command allowed for:**
  - Tango::FAULT
  - Tango::INSERT
  - Tango::EXTRACT
  - Tango::UNKNOWN
  - Tango::MOVING

## 5 - Extract

- **Description:**
- **Argin:**  
**DEV\_VOID** : N/A
- **Argout:**  
**DEV\_VOID** : N/A
- **Command allowed for:**
  - Tango::FAULT
  - Tango::INSERT
  - Tango::EXTRACT
  - Tango::UNKNOWN
  - Tango::MOVING

## 6 - IsInserted

- **Description:**
- **Argin:**  
**DEV\_VOID** : N/A
- **Argout:**  
**DEV\_BOOLEAN** : TRUE or FALSE depending on the screen position
- **Command allowed for:**
  - Tango::FAULT
  - Tango::INSERT
  - Tango::EXTRACT
  - Tango::UNKNOWN
  - Tango::MOVING

## 7 - IsExtracted

- **Description:**
- **Argin:**  
**DEV\_VOID** : N/A

- **Argout:**  
**DEV\_BOOLEAN** : TRUE or FALSE depending on the screen position
  
- **Command allowed for:**
  - Tango::FAULT
  - Tango::INSERT
  - Tango::EXTRACT
  - Tango::UNKNOWN
  - Tango::MOVING

## 8 - GetDependencies

- **Description:**
  
- **Argin:**  
**DEV\_VOID** :
  
- **Argout:**  
**DEVVAR\_STRINGARRAY** : The list of devices on which this device depends
  
- **Command allowed for:**
  - Tango::FAULT
  - Tango::INSERT
  - Tango::EXTRACT
  - Tango::UNKNOWN
  - Tango::MOVING

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<b>Logic</b>	Tango::DEV_STRING	Use "HIGH" for active high or "LOW" for active low [no default value]
<b>Timeout</b>	Tango::DEV_SHORT	ARMO insertion/extraction timeout [in seconds]. If this timeout expired before the screen reaches its stable position [i.e inserted or extracted] , its state is changed from MOVING to FAULT.

### Device Properties Default Values:

Property Name	Default Values
DIODeviceName	No default value
DIODeviceCtrlLine	No default value
DIODeviceUpLine	No default value
DIODeviceDownLine	No default value
Logic	No default value
Timeout	No default value

**There is no Class properties.**

### States:

States	
Names	Descriptions
<b>FAULT</b>	Not connected to underlying DIO device [can't control screen position]
<b>INSERT</b>	The screen is inserted into the beam
<b>EXTRACT</b>	The screen is extracted from the beam
<b>UNKNOWN</b>	Can't conclude on screen position [underlying device does not respond or gave error]
<b>MOVING</b>	The screen is moving [i.e. device is currently responding to an insert or extract request]



## Attributes:

Scalar Attributes			
Attribute name	Data Type	R/W Type	Expert
<b>isInserted:</b> Set to TRUE (i.e. 1) if ARMO is currently inserted into the beam, set to FALSE (i.e. 0) otherwise	DEV_SHORT	READ	No
<b>isExtracted:</b> Set to TRUE (i.e. 1) if ARMO is currently extracted from the beam, set to FALSE (i.e. 0) otherwise	DEV_SHORT	READ	No

## Commands:

More Details on commands....

Device Commands for Operator Level		
Command name	Argument In	Argument Out
<b>Init</b>	DEV_VOID	DEV_VOID
<b>State</b>	DEV_VOID	DEV_STATE
<b>Status</b>	DEV_VOID	CONST_DEV_STRING
<b>Insert</b>	DEV_VOID	DEV_VOID
<b>Extract</b>	DEV_VOID	DEV_VOID
<b>IsInserted</b>	DEV_VOID	DEV_BOOLEAN
<b>IsExtracted</b>	DEV_VOID	DEV_BOOLEAN
<b>GetDependencies</b>	DEV_VOID	DEVVAR_STRINGARRAY

### 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::FAULT
  - Tango::INSERT
  - Tango::EXTRACT
  - Tango::UNKNOWN
  - Tango::MOVING

## 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::FAULT
  - Tango::INSERT
  - Tango::EXTRACT
  - Tango::UNKNOWN
  - Tango::MOVING

## 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::FAULT
  - Tango::INSERT
  - Tango::EXTRACT
  - Tango::UNKNOWN
  - Tango::MOVING

## 4 - Insert

- **Description:**
- **Argin:**  
**DEV\_VOID** : N/A

- **Argout:**  
**DEV\_VOID** : N/A
- **Command allowed for:**
  - Tango::FAULT
  - Tango::INSERT
  - Tango::EXTRACT
  - Tango::UNKNOWN
  - Tango::MOVING

## 5 - Extract

- **Description:**
- **Argin:**  
**DEV\_VOID** : N/A
- **Argout:**  
**DEV\_VOID** : N/A
- **Command allowed for:**
  - Tango::FAULT
  - Tango::INSERT
  - Tango::EXTRACT
  - Tango::UNKNOWN
  - Tango::MOVING

## 6 - IsInserted

- **Description:**
- **Argin:**  
**DEV\_VOID** : N/A
- **Argout:**  
**DEV\_BOOLEAN** : TRUE or FALSE depending on the screen position
- **Command allowed for:**
  - Tango::FAULT
  - Tango::INSERT
  - Tango::EXTRACT
  - Tango::UNKNOWN
  - Tango::MOVING

## 7 - IsExtracted

- **Description:**
- **Argin:**  
**DEV\_VOID** : N/A

- **Argout:**  
**DEV\_BOOLEAN** : TRUE or FALSE depending on the screen position
  
- **Command allowed for:**
  - Tango::FAULT
  - Tango::INSERT
  - Tango::EXTRACT
  - Tango::UNKNOWN
  - Tango::MOVING

## 8 - GetDependencies

- **Description:**
  
- **Argin:**  
**DEV\_VOID** :
  
- **Argout:**  
**DEVVAR\_STRINGARRAY** : The list of devices on which this device depends
  
- **Command allowed for:**
  - Tango::FAULT
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# Frame Alert

This document is designed to be viewed using the frames feature. If you see this message, you are using a non-frame-capable web client.  
[Link to Non-frame version.](#)



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# ARMO Controller

## Device Commands Description

### ARMO Class

Revision: release\_1\_0\_0 - Author: root

## 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 *init\_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::FAULT
  - Tango::INSERT
  - Tango::EXTRACT
  - Tango::UNKNOWN
  - Tango::MOVING

## 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::FAULT
  - Tango::INSERT
  - Tango::EXTRACT
  - Tango::UNKNOWN
  - Tango::MOVING

### 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.
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- **Command allowed for:**
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  - Tango::UNKNOWN
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### 4 - Insert

- **Description:**
- **Argin:**  
**DEV\_VOID** : N/A
- **Argout:**  
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- **Command allowed for:**
  - Tango::FAULT
  - Tango::INSERT
  - Tango::EXTRACT
  - Tango::UNKNOWN
  - Tango::MOVING

## 5 - Extract

- **Description:**
- **Argin:**  
DEV\_VOID : N/A
- **Argout:**  
DEV\_VOID : N/A
- **Command allowed for:**
  - Tango::FAULT
  - Tango::INSERT
  - Tango::EXTRACT
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## 6 - IsInserted

- **Description:**
- **Argin:**  
DEV\_VOID : N/A
- **Argout:**  
DEV\_BOOLEAN : TRUE or FALSE depending on the screen position
- **Command allowed for:**
  - Tango::FAULT
  - Tango::INSERT
  - Tango::EXTRACT
  - Tango::UNKNOWN
  - Tango::MOVING

## 7 - IsExtracted

- **Description:**
- **Argin:**  
DEV\_VOID : N/A
- **Argout:**  
DEV\_BOOLEAN : TRUE or FALSE depending on the screen position
- **Command allowed for:**
  - Tango::FAULT



- Tango::INSERT
- Tango::EXTRACT
- Tango::UNKNOWN
- Tango::MOVING

## 8 - GetDependencies

- **Description:**
  - **Argin:**  
**DEV\_VOID :**
  - **Argout:**  
**DEVVAR\_STRINGARRAY :** The list of devices on which this device depends
  - **Command allowed for:**
    - Tango::FAULT
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