

## MCA8715 Tango Cpp Class

### Contents :

- [Description](#)
- [Properties](#)
- [Commands](#)
  - [State](#)
  - [Status](#)
  - [Start](#)
  - [Stop](#)
  - [Read](#)
  - [Clear](#)
  - [TakeCountsReference](#)
- [Attributes](#)
  - [DataLength](#)
  - [BankId](#)
  - [StateBank0](#)
  - [StateBank1](#)
  - [NbRols](#)
  - [Counts1](#)
  - [Counts2](#)
  - [Counts3](#)
  - [Counts4](#)
  - [FlagRead](#)
  - [Counts1Diff](#)
  - [Counts2Diff](#)
  - [Counts3Diff](#)
  - [Counts4Diff](#)
  - [Data](#)
  - [Counts](#)
  - [CountsDiff](#)
  - [Rols](#)
- [States](#)

### MCA8715 Class Identification :

Contact : at desy.de - maria-teresa.nunez-pardo-de-  
vera  
Class Family : Acquisition  
Platform : Unix Like  
Bus : VME

### MCA8715 Class Inheritance

:

- [Tango::DeviceImpl](#)
  - MCA8715

Manufacturer : none  
Manufacturer :  
ref.

### **MCA8715 Class Description :**

Class for the histogramming module for the 8715/8710 ADCs of Canberra.

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### **MCA8715 Properties :**

**There is no class properties**

Device Properties			
Name	Description	Type	Default Value
Base	VME base address. Default value 0x7000 (28672 in decimal)	int	28672
Channel	Channel number	int	0
MaxDataLength	Maximum number of channels in the data spectrum	int	8192
Base2	VME A24/A32 address. Default: 0xd00000 (A24) (in decimal 13631488)	int	13631488
SimulationMode	0 real mode, 1 simulation mode	int	none
VmeCard	selects the VME card, can be 0 or 1, def.: 0	int	0

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MCA8715 Class Commands				
Name	Input type	Output type	Level	Description
<a href="#">State</a>	DEV_VOID	DEV_STATE	OPERATOR	This command gets the device state (stored in its <i>device_state</i> data member) and returns it to the caller.
<a href="#">Status</a>	DEV_VOID	CONST_DEV_STRING	OPERATOR	This command gets the device status (stored in its <i>device_status</i> data member) and returns it to the caller.
<a href="#">Start</a>	DEV_VOID	DEV_LONG	OPERATOR	Start MCA

<a href="#">Stop</a>	DEV_VOID	DEV_LONG	OPERATOR	Stop MCA
<a href="#">Read</a>	DEV_VOID	DEV_LONG	OPERATOR	Reads the VME MCA board (memory bank BankId)
<a href="#">Clear</a>	DEV_VOID	DEV_LONG	OPERATOR	Clears the MCA bank BankId
<a href="#">TakeCountsReference</a>	DEV_VOID	DEV_VOID	OPERATOR	Take current counts for start computing the CountsDiff values.

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### **Command State :**

This command gets the device state (stored in its *device\_state* data member) and returns it to the caller.

State Definition		
Input Argument	Tango::DEV_VOID	none.
Output Argument	Tango::DEV_STATE	State Code
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

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### **Command Status :**

This command gets the device status (stored in its *device\_status* data member) and returns it to the caller.

Status Definition		
Input Argument	Tango::DEV_VOID	none.
Output Argument	Tango::CONST_DEV_STRING	Status description
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..

Command allowed for	All states	..
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**Command Start :**

Start MCA

Start Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_LONG	Completion status
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

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**Command Stop :**

Stop MCA

Stop Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_LONG	Completion status
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

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### **Command Read :**

Reads the VME MCA board (memory bank BankId)

<b>Read Definition</b>		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_LONG	Completion status
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

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### **Command Clear :**

Clears the MCA bank BankId

<b>Clear Definition</b>		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_LONG	Completion status
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

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### **Command TakeCountsReference :**

Take current counts for start computing the CountsDiff values.

TakeCountsReference Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

MCA8715 Class Attributes							
Name	Inherited	Abstract	Attr. type	R/W type	Data type	Level	Description
<a href="#">DataLength</a>	false	false	Scalar	READ_WRITE	Tango::DEV_LONG	OPERATOR	Length of the data spectrum to be read from memory
<a href="#">BankId</a>	false	false	Scalar	READ_WRITE	Tango::DEV_LONG	OPERATOR	Selects bank 0 or 1 from the MCA memory
<a href="#">StateBank0</a>	false	false	Scalar	READ	Tango::DEV_LONG	OPERATOR	0 -> on\n1 -> running
<a href="#">StateBank1</a>	false	false	Scalar	READ	Tango::DEV_LONG	OPERATOR	0 -> on\n1 -> running
<a href="#">NbRols</a>	false	false	Scalar	READ_WRITE	Tango::DEV_LONG	OPERATOR	
<a href="#">Counts1</a>	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	
<a href="#">Counts2</a>	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	
<a href="#">Counts3</a>	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	
<a href="#">Counts4</a>	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	
<a href="#">FlagRead</a>	false	false	Scalar	READ	Tango::DEV_LONG	OPERATOR	1 if Read performed after Start
<a href="#">Counts1Diff</a>	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	
<a href="#">Counts2Diff</a>	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	

<a href="#">Counts3Diff</a>	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	
<a href="#">Counts4Diff</a>	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	
<a href="#">Data</a>	false	false	Spectrum	READ	Tango::DEV_LONG	OPERATOR	
<a href="#">Counts</a>	false	false	Spectrum	READ	Tango::DEV_DOUBLE	OPERATOR	
<a href="#">CountsDiff</a>	false	false	Spectrum	READ	Tango::DEV_DOUBLE	OPERATOR	Differential counts
<a href="#">Rols</a>	false	false	Image	READ_WRITE	Tango::DEV_LONG	OPERATOR	

**There is no dynamic attribute defined.**

**Attribute DataLength :**

Length of the data spectrum to be read from memory

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_LONG
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	true
Write hardware at init.	true
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

### **Attribute BankId :**

Selects bank 0 or 1 from the MCA memory

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_LONG
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	true
Write hardware at init.	true
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

### **Attribute StateBank0 :**

0 -> on\n1 -> running

Attribute Definition	
Attribute Type	Scalar

Attribute Properties	
label	

Attribute Event Criteria	
Periodic	Not set



R/W Type	READ
Data Type	Tango::DEV_LONG
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

**Attribute StateBank1 :**

0 -> on\n1 -> running

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_LONG
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set

delta_val	
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Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

**Attribute NbRols :**

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_LONG
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	false

**Attribute Counts1 :**

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	false

### **Attribute Counts2 :**

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set

Read allowed for	All states

min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

	set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	false

**Attribute Counts3 :**

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	false

**Attribute Counts4 :**

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	false

**Attribute FlagRead :**

1 if Read performed after Start

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_LONG

Attribute Properties	
label	
unit	
standard unit	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
	Not

Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Absolute Change	set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	false

**Attribute Counts1Diff :**

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false

Push DataReady event by user code	false
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**Attribute Counts2Diff :**

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	false

**Attribute Counts3Diff :**

Attribute Definition	

Attribute Properties	

Attribute Event Criteria	
	Not

Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

label	
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Periodic	set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	false

**Attribute Counts4Diff :**

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user	



delta_val	
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code	false
Push Archive event by user code	false
Push DataReady event by user code	false

**Attribute Data :**

Attribute Definition	
Attribute Type	Spectrum ( 10000 )
R/W Type	READ
Data Type	Tango::DEV_LONG
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

**Attribute Counts :**

Attribute Definition	
Attribute Type	Spectrum ( 100 )
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	false

### **Attribute CountsDiff :**

Differential counts

Attribute Definition	
Attribute Type	Spectrum ( 100 )
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	
min_value	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
	Not

Memorized	Not set
Read allowed for	All states

max_alarm
min_alarm
max_warning
min_warning
delta_time
delta_val

Archive Relative Change	set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	false

**Attribute Rols :**

Attribute Definition	
Attribute Type	Image ( 100 x 2 )
R/W Type	READ_WRITE
Data Type	Tango::DEV_LONG
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	false

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<b>MCA8715 Class States</b>	
<b>Name</b>	<b>Description</b>
ON	No problems in device