

ABC1260 Tango Cpp Class

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ABC1260 Class Identification :

Contact : at esrf.fr - chaize
Class Family : RadioProtection
Platform : All Platforms
Bus : Serial Line
Manufacturer : none
Manufacturer ref. :

ABC1260 Class Inheritance :

- [Tango::DeviceImpl](#)
 - ABC1260

ABC1260 Class Description :

This class reads dose and dose rate from the ABC1260 through a serial line.
The communication interface used is RS485.
No commands Start, Stop needed.

ABC1260 Properties :

Class Properties			
Name	Description	Type	Default Value
PeriodicResetTimes	list of hours at which the device server will reset the dose of the neutron monitor. If this property is not set, no reset will be performed	String	none
GammaGain	gain on the measurement to add the gamma contribution to the dose and the dose rate. If you want Neutrons only, let this gain to 1. If you want the total dose including gamma contribution, then set it to 1.56	double	1.0

Device Properties			
Name	Description	Type	Default Value
SerialProxyName	The name of the Serial DServer used	String	none
PeriodicResetTimes	list of hours at which we want an automatic reset of the dose. If this property is not set, no reset will be done	short[]	none
GammaGain	gain on the measurement to add the gamma contribution to the dose and the dose rate. If you want Neutrons only, let this gain to 1. If you want the total dose including gamma contribution, then set it to 1.56	double	none
InhibitRelayName	There is a possibility of inhibiting the output alarm externally. In that case, you have to define a tnago device name for reading the state of the inhibition key. if this property is not defined, no inhibition is possible.	String	None
IsABC1260Model	Specify if this is an ABC1260 model (false means this an APFEL).	boolean	true

ABC1260 Class Commands				
Name	Input type	Output type	Level	Description
State	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.
Status	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.
Reset	DEV_VOID	DEV_VOID	EXPERT	Reset the current dose to start a new acquisition.
GetBatteryCharge	DEV_VOID	DEV_STRING	EXPERT	This command returns the battery charge value in %. It returns "00" for 100% and "AC" for AC power.
GetFirmwareVersion	DEV_VOID	DEV_STRING	EXPERT	Returns the ABC firmware version number
GetSerialNumber	DEV_VOID	DEV_STRING	EXPERT	Returns the ABC serial number to identify the ABC1260.
GetDoseAlarmSettings	DEV_VOID	DEVVAR_DOUBLESTRINGARRAY	EXPERT	This command returns the dose alarm state as following : - the string part is the alarm state : OFF, ON or ON + EXTERNAL - the value is the dose alarm level in $\text{Å}^{-\text{Å}}_{\text{Å}}\text{Å}^{\frac{1}{2}}\text{Gy}$
GetRateAlarmSettings	DEV_VOID	DEVVAR_DOUBLESTRINGARRAY	EXPERT	This command returns the rate alarm state as following : - the string part is the alarm state : OFF, ON or ON + EXTERNAL - the value is the rate alarm level in $\text{Å}^{-\text{Å}}_{\text{Å}}\text{Å}^{\frac{1}{2}}\text{Gy/h}$
				This command returns the rate alarm state as

Get4hourRateAlarmSettings	DEV_VOID	DEVVAR_DOUBLESTRINGARRAY	EXPERT	<p>following :</p> <ul style="list-style-type: none"> - the string part is the alarm state : OFF, ON or ON + EXTERNAL - the value is the rate alarm level in $\mu\text{Gy/h}$
UnlockCmd	DEVVAR_LONGSTRINGARRAY	DEV_VOID	EXPERT	<p>Command to reset all neutron monitors devices specified in the property NeutronList.</p> <p>Expected argins must be in this order :</p> <ol style="list-style-type: none"> 1 - the password in clear (string) 2 - the key n value (unsigned long) 3 - the key d value (unsigned long) 4 - list of codes (results of the crypted password.) (unsigned longs)

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	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

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	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command Reset :

Reset the current dose to start a new acquisition.

Reset Definition		
Input Argument	Tango::DEV_VOID	no argin
Output Argument	Tango::DEV_VOID	no argout
DisplayLevel	EXPERT	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	<ul style="list-style-type: none"> • FAULT • UNKNOWN 	..

Command GetBatteryCharge :

This command returns the battery charge value in %.
It returns "00" for 100% and "AC" for AC power.

GetBatteryCharge Definition		
Input Argument	Tango::DEV_VOID	no argin
Output Argument	Tango::DEV_STRING	battery charge in % if ABC not on AC
DisplayLevel	EXPERT	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	<ul style="list-style-type: none"> • FAULT • UNKNOWN 	..

Command GetFirmwareVersion :

Returns the ABC firmware version number

GetFirmwareVersion Definition		
Input Argument	Tango::DEV_VOID	no argin
Output Argument	Tango::DEV_STRING	Firmware Version
DisplayLevel	EXPERT	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	<ul style="list-style-type: none"> • FAULT • UNKNOWN 	..

Command GetSerialNumber :

Returns the ABC serial number to identify the ABC1260.

GetSerialNumber Definition		
Input Argument	Tango::DEV_VOID	no argin
Output Argument	Tango::DEV_STRING	ABC serial number
DisplayLevel	EXPERT	..
Inherited	false	..

Command Get4hourRateAlarmSettings :

- This command returns the rate alarm state as following :
- the string part is the alarm state : OFF, ON or ON + EXTERNAL
 - the value is the rate alarm level in $\mu\text{Gy/h}$

Get4hourRateAlarmSettings Definition		
Input Argument	Tango::DEV_VOID	no argin
Output Argument	Tango::DEVVAR_DOUBLESTRINGARRAY	string = alaram enable state, 4 digits = value
DisplayLevel	EXPERT	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	<ul style="list-style-type: none">• FAULT• UNKNOWN	..

Command UnlockCmd :

Command to reset all neutron monitors devices specified in the property NeutronList.

Expected argins must be in this order :

- 1 - the password in clear (string)
- 2 - the key n value (unsigned long)
- 3 - the key d value (unsigned long)
- 4 - list of codes (results of the crypted password.) (unsigned longs)

UnlockCmd Definition		
Input Argument	Tango::DEVVAR_LONGSTRINGARRAY	1) the string password in clear\n2) the key n value\n3) the key d value\n4) list of codes (3 codes min expected).\n
Output Argument	Tango::DEV_VOID	no argout (but may throw an exception !).
DisplayLevel	EXPERT	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..

Command NOT allowed for	<ul style="list-style-type: none"> • FAULT • UNKNOWN 	..
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ABC1260 Class Attributes							
Name	Inherited	Abstract	Attr. type	R/W type	Data type	Level	Description
TotalDose	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	The total Dose
TotalCounts	false	false	Scalar	READ	Tango::DEV_LONG	EXPERT	Total counts
DoseSinceReset	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	The current dose since the last reset
CountsSinceReset	false	false	Scalar	READ	Tango::DEV_LONG	EXPERT	Counts since the last reset
DoseRate	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	The current dose rate
TimeSinceReset	false	false	Scalar	READ	Tango::DEV_DOUBLE	EXPERT	The time in second since last reset
Timestamp	false	false	Scalar	READ	Tango::DEV_STRING	EXPERT	
ExternalAlarm	false	false	Scalar	READ	Tango::DEV_BOOLEAN	OPERATOR	
Temperature	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	
LastResetDate	false	false	Scalar	READ	Tango::DEV_STRING	OPERATOR	
VialName	false	false	Scalar	READ	Tango::DEV_STRING	EXPERT	
SerialNumber	false	false	Scalar	READ	Tango::DEV_STRING	EXPERT	
RemainingDrops	false	false	Scalar	READ	Tango::DEV_LONG	EXPERT	drops remaining in the vial

There is no dynamic attribute defined.

Attribute TotalDose :

The total Dose

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

Attribute Properties	
label	total dose
unit	microSv
standard unit	1
display unit	
format	
max_value	

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

Memorized	Not set
Read NOT allowed for	<ul style="list-style-type: none"> • FAULT • UNKNOWN

min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

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 TotalCounts :

Total counts

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_LONG
Display Level	EXPERT
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read NOT allowed for	<ul style="list-style-type: none"> • FAULT • UNKNOWN

Attribute Properties	
label	total counts
unit	pops
standard unit	
display unit	
format	%d
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 DoseSinceReset :

The current dose since the last reset

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 NOT allowed for	<ul style="list-style-type: none"> • FAULT • UNKNOWN

Attribute Properties	
label	dose since reset
unit	microSv
standard unit	1
display unit	1
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 CountsSinceReset :

Counts since the last reset

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_LONG
Display Level	EXPERT
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read NOT allowed for	<ul style="list-style-type: none"> • FAULT • UNKNOWN

Attribute Properties	
label	counts since reset
unit	pops
standard unit	1
display unit	1
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 DoseRate :

The current dose rate

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 NOT allowed for	<ul style="list-style-type: none"> • FAULT • UNKNOWN

Attribute Properties	
label	Rate
unit	microSv/h
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 TimeSinceReset :

The time in second since last reset

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
Display Level	EXPERT

Attribute Properties	
label	time since reset
unit	S
standard unit	1

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

Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read NOT allowed for	<ul style="list-style-type: none"> • FAULT • UNKNOWN

display unit format	%d
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

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 Timestamp :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_STRING
Display Level	EXPERT
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read NOT allowed for	<ul style="list-style-type: none"> • FAULT • UNKNOWN

Attribute Properties	
label	Time stamp
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 ExternalAlarm :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_BOOLEAN
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read NOT allowed for	<ul style="list-style-type: none"> • FAULT • UNKNOWN

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 Temperature :

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 NOT allowed for	<ul style="list-style-type: none"> • FAULT • UNKNOWN

Attribute Properties	
label	
unit	DegC
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 LastResetDate :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_STRING
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read NOT allowed for	<ul style="list-style-type: none"> • FAULT • UNKNOWN

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 VialName :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_STRING
Display Level	EXPERT
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read NOT allowed for	<ul style="list-style-type: none"> • FAULT • UNKNOWN

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

delta_val

Attribute SerialNumber :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_STRING
Display Level	EXPERT
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read NOT allowed for	<ul style="list-style-type: none">• FAULT• UNKNOWN

Attribute Properties	
label	Serial Number
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 RemainingDrops :

drops remaining in the vial

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_LONG
Display Level	EXPERT
Inherited	false

Attribute Properties	
label	Remaining drops
unit	pops
standard unit	
display unit	
format	%d

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

Abstract	false
Polling Period	Not polled
Memorized	Not set
Read NOT allowed for	<ul style="list-style-type: none"> • FAULT • UNKNOWN

max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

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

ABC1260 Class States	
Name	Description
ALARM	The relay connected to the PSS is opened
FAULT	Serial communication broken
ON	ABC is OK. It returns `O` for ok when receives a `?` command.
UNKNOWN	ABC is in an unkwnon state. Please swtich OFF it before sending any command.