DigitalDelayGenerator Tango Cpp Class

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DigitalDelayGenerator Class Identification :

Contact	: at synchrotron-soleil.fr - elattaoui
Class Family	: Instrumentation
Platform	: All Platforms
Bus	: Ethernet
Manufacturer	: Highland Technology
Manufacturer ref.	: T560

DigitalDelayGenerator Class Inheritance :

- Tango::DeviceImpl
  - DigitalDelayGenerator

DigitalDelayGenerator Class Description :

This device controls a T560 Digital Delay Generator :
- four TTL-level pulse outputs, each programmable for delay and width up to 10 seconds each, with 10-picosecond resolution.
- Programmable-level trigger input with divide/burst features and trigger enable GATE input.
Controlled via a RS232 serial interface or a 10/100-mbps Ethernet interface.

NOTE :
- RS232 config : 38400, 8, N, 1
- ETHERNET port : 2000

DigitalDelayGenerator Properties :

There is no class properties

Device Properties			
Name	**Description**	**Type**	**Default Value**
CommunicationProxy	Name of the device which controls the communication link. This module support both RS232 and Ethernet interfaces.	String	noCommunication/ProxyName/Defined

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DigitalDelayGenerator Class Commands				
Name	**Input type**	**Output type**	**Level**	**Description**
State	DEV_VOID	DEV_STATE	OPERATOR	This command gets the device state (stored in its *device_state* data member) and returns it to the caller.
Status	DEV_VOID	CONST_DEV_STRING	OPERATOR	This command gets the device status (stored in its *device_status* data member) and returns it to the caller.
HardwareReset	DEV_VOID	DEV_VOID	OPERATOR	Performs a hardware reset/restart of the T560 (equivalent to a power off/on cycle. NOTE : the reset takes about 4 seconds, after which the T560 will respond with the following string "Highland Thechnology T560 DDG " The last-saved setup will be installed.
ClearErrors	DEV_VOID	DEV_VOID	OPERATOR	Clear error flag.
ResetShots	DEV_VOID	DEV_VOID	EXPERT	Reset shot counter.
SaveModuleConfiguration	DEV_VOID	DEV_VOID	OPERATOR	Save the T560 module configuration in its intrenal flash memory. This configuartion is applied after a reset.
RecallModuleConfiguration	DEV_VOID	DEV_VOID	EXPERT	Reapply the previous module configuration. No need to do a reset.

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 HardwareReset :

Performs a hardware reset/restart of the T560 (equivalent to a power off/on cycle.
NOTE : the reset takes about 4 seconds, after which the T560 will respond with the following string
"Highland Thechnology T560 DDG "
The last-saved setup will be installed.

HardwareReset Definition		
Input Argument	Tango::DEV_VOID	no argin
Output Argument	Tango::DEV_VOID	no argout
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command ClearErrors :

Clear error flag.

ClearErrors Definition		
Input Argument	Tango::DEV_VOID	no argin
Output Argument	Tango::DEV_VOID	no argout
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command ResetShots :

Reset shot counter.

ResetShots 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 allowed for	All states	..

Command SaveModuleConfiguration :

Save the T560 module configuration in its intrenal flash memory.
This configuartion is applied after a reset.

SaveModuleConfiguration Definition		
Input Argument	Tango::DEV_VOID	no argin
Output Argument	Tango::DEV_VOID	no argout
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command RecallModuleConfiguration :

Reapply the previous module configuration. No need to do a reset.

RecallModuleConfiguration 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 allowed for	All states	..

DigitalDelayGenerator Class Attributes							
Name	Inherited	Abstract	Attr.	R/W type	Data type	Level	Description

			type				
shotsCounter	false	false	Scalar	READ	Tango::DEV_ULONG	OPERATOR	Query shot counter
pulseDelayChannelA	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	Channel A pulse delay (unit : nanosecond).
pulseWidthChannelA	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	Channel A pulse width
activateChannelA	false	false	Scalar	READ_WRITE	Tango::DEV_BOOLEAN	EXPERT	TRUE : enable channel A output\nFALSE: disable channel A output
pulseDelayChannelB	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	Channel B pulse delay (unit : nanosecond).
pulseWidthChannelB	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	Channel B pulse width
activateChannelB	false	false	Scalar	READ_WRITE	Tango::DEV_BOOLEAN	EXPERT	TRUE : enable channel B output\nFALSE: disable channel B output
pulseDelayChannelC	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	Channel C pulse delay (unit : nanosecond).
pulseWidthChannelC	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	Channel C pulse width
activateChannelC	false	false	Scalar	READ_WRITE	Tango::DEV_BOOLEAN	EXPERT	TRUE : enable channel C output\nFALSE: disable channel C output
pulseDelayChannelD	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	Channel D pulse delay (unit : nanosecond).
pulseWidthChannelD	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	Channel D pulse width
activateChannelD	false	false	Scalar	READ_WRITE	Tango::DEV_BOOLEAN	EXPERT	TRUE : enable channel D output\nFALSE: disable channel D output

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There is no dynamic attribute defined.

Attribute shotsCounter :

Query shot counter

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

Attribute Properties	
label	shots counter
unit	
standard unit	
display unit	
format	%6.0d
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 pulseDelayChannelA :

Channel A pulse delay (unit : nanosecond).

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false

Attribute Properties	
label	pulse delay channel A
unit	ns
standard unit	ns
display unit	ns
format	%6.2f
max_value	

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

Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

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	Not set

Attribute pulseWidthChannelA :

Channel A pulse width

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_DOUBLE
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	pulse width channel A
unit	
standard unit	
display unit	
format	%6.2f
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 activateChannelA :

TRUE : enable channel A output\nFALSE: disable channel A output

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

Attribute Properties	
label	activate channel A
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 pulseDelayChannelB :

Channel B pulse delay (unit : nanosecond).

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false

Attribute Properties	
label	pulse delay channel B
unit	ns
standard unit	ns
display unit	ns
format	%6.2f
max_value	
min_value	

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

Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

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	Not set

Attribute pulseWidthChannelB :

Channel B pulse width

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_DOUBLE
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	pulse width channel B
unit	
standard unit	
display unit	
format	%6.2f
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 activateChannelB :

TRUE : enable channel B output\nFALSE: disable channel B output

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

Attribute Properties	
label	activate channel B
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 pulseDelayChannelC :

Channel C pulse delay (unit : nanosecond).

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

Attribute Properties	
label	pulse delay channel C
unit	ns
standard unit	ns
display unit	ns
format	%6.2f
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

Memorized	Not set
Read allowed for	All states
Write allowed for	All states

min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

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 pulseWidthChannelC :

Channel C pulse width

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_DOUBLE
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	pulse width channel C
unit	
standard unit	
display unit	
format	%6.2f
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 activateChannelC :

TRUE : enable channel C output\nFALSE: disable channel C output

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

Attribute Properties	
label	activate channel C
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 pulseDelayChannelD :

Channel D pulse delay (unit : nanosecond).

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

Attribute Properties	
label	pulse delay channel D
unit	ns
standard unit	ns
display unit	ns
format	%6.2f
max_value	
min_value	
max_alarm	
min_alarm	

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

Read allowed for	All states
Write allowed for	All states

max_warning	
min_warning	
delta_time	
delta_val	

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

Attribute pulseWidthChannelD :

Channel D pulse width

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_DOUBLE
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	pulse width channel D
unit	
standard unit	
display unit	
format	%6.2f
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 activateChannelD :

TRUE : enable channel D output\nFALSE: disable channel D output

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

Attribute Properties	
label	activate channel D
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

DigitalDelayGenerator Class States	
Name	**Description**
FAULT	No communication with the T560 module.
ALARM	The T560 module reports error(s).
ON	The T560 module is OK.