

FgenInterface

Generated by Doxygen 1.8.9.1

Wed Sep 30 2015 15:43:04

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Chapter 1

fgen_interface

This library exposes relevant functions on the Agilent 33522A over USB in a straightforward and easy to use way. All documentation is done using the doxygen system (LaTeX and HTML versions can be found in /doc).

Chapter 2

Namespace Index

2.1 Packages

Here are the packages with brief descriptions (if available):

fgen_test	9
FunctionGenerator	9
usbtmc	9
usbtmc.usbtmc	10
usbtmc.version	10

Chapter 3

Class Index

3.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

[FunctionGenerator.FunctionGenerator](#)

This class wraps much of the functionality required to control an Agilent 33522A function generator over USB

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Chapter 4

File Index

4.1 File List

Here is a list of all files with brief descriptions:

fgen_test.py	15
FunctionGenerator.py	15
usbtmc/___init___py	15
usbtmc/usbtmc.py	16
usbtmc/version.py	16

Chapter 5

Namespace Documentation

5.1 fgen_test Namespace Reference

Variables

- string `__author__` = "Suyash Kumar (sk317)"
- tuple `fgen` = `FunctionGenerator(1)`

5.1.1 Variable Documentation

5.1.1.1 string `fgen_test.__author__` = "Suyash Kumar (sk317)"

5.1.1.2 tuple `fgen_test.fgen` = `FunctionGenerator(1)`

5.2 FunctionGenerator Namespace Reference

Classes

- class `FunctionGenerator`
This class wraps much of the functionality required to control an Agilent 33522A function generator over USB.

5.3 usbtmc Namespace Reference

Namespaces

- `usbtmc`
- `version`

Variables

- list `__all__` = ["usbtmc"]
Python USBTMC driver.

5.3.1 Variable Documentation

5.3.1.1 `list usbtmp.__all__ = ["usbtmp"]`

Python USBTMC driver.

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5.4 `usbtmp.usbtmp` Namespace Reference

5.5 `usbtmp.version` Namespace Reference

Variables

- string `__version__` = '0.6'

5.5.1 Variable Documentation

5.5.1.1 `string usbtmp.version.__version__ = '0.6'`

Chapter 6

Class Documentation

6.1 FunctionGenerator.FunctionGenerator Class Reference

This class wraps much of the functionality required to control an Agilent 33522A function generator over USB.

Public Member Functions

- def `__init__` (self, instrumentSelector)
The constructor for the function generator object needs to know the USBTMC address of the device being used.
- def `getIdn` (self)
Asks the function generator to identify itself and returns a unicode string of the response.
- def `write` (self, command)
Writes the given custom SCPI command to the instrument over usbtmc.
- def `getStatus` ()
Gets function generator's status and what output/settings are currently set to.
- def `pushSin`
Pushes sin wave of the given parameters to function generator AND turns on output.
- def `setSin`
- def `getError` (self)
- def `loadFromMemory` (self, stateName)

Public Attributes

- `addr`
- `instr`

Static Public Attributes

- dictionary `selectorMap` = {1:"USB0::2391::8967::MY50000586::INSTR"}

6.1.1 Detailed Description

This class wraps much of the functionality required to control an Agilent 33522A function generator over USB.

6.1.2 Constructor & Destructor Documentation

6.1.2.1 `def FunctionGenerator.FunctionGenerator.__init__(self, instrumentSelector)`

The constructor for the function generator object needs to know the USBTMC address of the device being used.

The address can be directly supplied as a string, or an integer representing the function generator in Dr. Nightingale's lab can be passed.

Parameters

<i>instrumentSelector</i>	Either a string representing the USBTMC address of the function generator or a int identifier representing one of the function generators in Kathy Nightingale's lab.
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6.1.3 Member Function Documentation

6.1.3.1 `def FunctionGenerator.FunctionGenerator.getError(self)`

6.1.3.2 `def FunctionGenerator.FunctionGenerator.getIdn(self)`

Asks the function generator to identify itself and returns a unicode string of the response.

Returns

identity a unicode string the attached function generator uses to identify itself.

6.1.3.3 `def FunctionGenerator.FunctionGenerator.getStatus()`

Gets function generator's status and what output/settings are currently set to.

Returns

status string of current status

6.1.3.4 `def FunctionGenerator.FunctionGenerator.loadFromMemory(self, stateName)`

6.1.3.5 `def FunctionGenerator.FunctionGenerator.pushSin(self, frequency, amplitude = 1, offset = 0)`

Pushes sin wave of the given parameters to function generator AND turns on output.

Parameters

<i>frequency</i>	the frequency in Hz of the sin wave
<i>amplitude</i>	(optional, default set to 1V), amplitude of the sin wave in volts
<i>offset</i>	(optional, default set to 0V), dc offset of sin wave in volts.

6.1.3.6 `def FunctionGenerator.FunctionGenerator.setSin(self, frequency, amplitude = 1, offset = 0)`

6.1.3.7 `def FunctionGenerator.FunctionGenerator.write(self, command)`

Writes the given custom SCPI command to the instrument over usbtmc.

Parameters

<i>command</i>	A string representing the SCPI command
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6.1.4 Member Data Documentation

6.1.4.1 FunctionGenerator.FunctionGenerator.addr

6.1.4.2 FunctionGenerator.FunctionGenerator.instr

6.1.4.3 dictionary FunctionGenerator.FunctionGenerator.selectorMap = {"USB0::2391::8967::MY50000586::INSTR"}
[static]

The documentation for this class was generated from the following file:

- [FunctionGenerator.py](#)

Chapter 7

File Documentation

7.1 fgen_test.py File Reference

Namespaces

- [fgen_test](#)

Variables

- string [fgen_test.__author__](#) = "Suyash Kumar (sk317)"
- tuple [fgen_test.fgen](#) = FunctionGenerator(1)

7.2 FunctionGenerator.py File Reference

Classes

- class [FunctionGenerator.FunctionGenerator](#)
This class wraps much of the functionality required to control an Agilent 33522A function generator over USB.

Namespaces

- [FunctionGenerator](#)

7.3 README.md File Reference

7.4 usbtmc/__init__.py File Reference

Namespaces

- [usbtmc](#)

Variables

- list [usbtmc.__all__](#) = ["usbtmc"]
Python USBTMC driver.

7.5 usbtmc/usbtmc.py File Reference

Namespaces

- [usbtmc.usbtmc](#)

7.6 usbtmc/version.py File Reference

Namespaces

- [usbtmc.version](#)

Variables

- string [usbtmc.version.__version__](#) = '0.6'