labscript-utils

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labscript suite contributors

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DOCUMENTATION

labscript-utils contains code shared between multiple programs in the labscript suite. This documentation is primarily for developers who might want to use this common code in their own custom features.

CHAPTER

ONE

THE *LABCONFIG.INI* FILE

The `labconfig.ini` file is a global configuration file for your **labscript-suite** installation. It contains configurable settings that govern how the individual components of the suite operate. The name of this file must be the host computer's system name. So if my system's name was `heisenberg`, the labconfig file name would be `heisenberg.ini`. This file should be located in the `labscript-suite` directory in the user space, in the `labconfig` subdirectory.

When installing the **labscript-suite** for the first time, running the `labscript-profile-create` command will automatically generate the `labscript-suite` user space directory in the correct place and generate a `labconfig.ini` file for use on your system. By editing the `ini` file named after your system, you can update the configuration settings of your **labscript-suite** installation.

1.1 The Default *labconfig.ini*

Below is a copy of the default lab configuration if you were to install the **labscript-suite** today.

Note: When updates are made to the suite that add or change keys available in the labconfig, your local file will **NOT** be automatically updated to include them. Instead, if keys are missing from your local profile, default behavior will be assumed. To implement the added functionality, you will need to manually add/change the keys in your local labconfig.

```
[DEFAULT]
apparatus_name = example_apparatus
shared_drive = C:
experiment_shot_storage = %(shared_drive)s\Experiments\%(apparatus_name)s
userlib= %(labscript_suite)s\userlib
pythonlib = %(userlib)s\pythonlib
labscriptlib = %(userlib)s\labscriptlib\%(apparatus_name)s
analysislib = %(userlib)s\analysislib\%(apparatus_name)s
app_saved_configs = %(labscript_suite)s\app_saved_configs\%(apparatus_name)s
user_devices = user_devices

[paths]
connection_table_h5 = %(experiment_shot_storage)s\connection_table.h5
connection_table_py = %(labscriptlib)s\connection_table.py

[servers]
zlock = localhost
runmanager = localhost

[ports]
```

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```
BLACS = 42517
lyse = 42519
runviewer = 42521
runmanager = 42523
zlock = 7339
zlog = 7340
zprocess_remote = 7341

[timeouts]
communication_timeout = 60

[programs]
text_editor = %%PROGRAMFILES%%\Sublime Text 3\sublime_text.exe
text_editor_arguments = {file}
hdf5_viewer = %%LOCALAPPDATA%%\HDF_Group\HDFView\3.1.0\hdfview.bat
hdf5_viewer_arguments = {file}

[labscript]
save_hg_info = False
save_git_info = False

[BLACS/plugins]
connection_table = True
connection_table.hashable_types = ['.py', '.txt', '.ini', '.json']
connection_table.polling_interval = 1.0

delete_repeated_shots = False
general = True
memory = False
progress_bar = False
theme = True


[lyse]
autoload_config_file = %(app_saved_configs)s\lyse\lyse.ini
integer_indexing = False

[runmanager]
autoload_config_file = %(app_saved_configs)s\runmanager\runmanager.ini
output_folder_format = %%Y\%%m\%%d\{sequence_index:04d}
filename_prefix_format = %%Y-%%m-%%d_{sequence_index:04d}_{script_basename}

[security]
shared_secret = %(labscript_suite)s\labconfig\zpsecret-b810f83f.key
```

CHAPTER

TWO

API REFERENCE

2.1 labscript_utils

Sub-Modules

labscript_utils.camera_server	
labscript_utils.connections	
labscript_utils.device_registry	
labscript_utils.dict_diff	
labscript_utils.double_import_denier	
labscript_utils.excepthook	
labscript_utils.filewatcher	
labscript_utils.h5_lock	
labscript_utils.impprof	
labscript_utils.labconfig	
labscript_utils.ls_zprocess	
labscript_utils.memprof	
labscript_utils.modulewatcher	
labscript_utils.properties	
labscript_utils.qtwidgets	
labscript_utils.remote	Script to run a zprocess.remote server configured according to LabConfig.
labscript_utils.settings	
labscript_utils.setup_logging	
labscript_utils.shared_drive	
labscript_utils.shot_utils	
labscript_utils.splash	
labscript_utils.testing_utils	
labscript_utils.tracelog	
labscript_utils.unitconversions	
labscript_utils.versions	
labscript_utils.zlock	Script to run a zlock server configured according to LabConfig.
labscript_utils.zlog	Script to run a zlog server configured according to LabConfig.

2.1.1 labscript_utils.camera_server

Classes

CameraServer(port)	
TubingenCameraServer(port)	Minimalistic camera server.

labscript_utils.camera_server.CameraServer

class labscript_utils.camera_server.**CameraServer**(*port*)

Bases: ZMQServer

__init__(*port*)

Methods

__init__(port)	
abort()	To be overridden by subclasses.
handler(request_data)	To be overridden by subclasses.
mainloop()	
setup_auth(context)	Deprecated.
shutdown()	
shutdown_on_interrupt()	
timeout()	A function to call every self.timeout_interval seconds in the same thread as the handler.
transition_to_buffered(h5_filepath)	To be overridden by subclasses.
transition_to_static(h5_filepath)	To be overridden by subclasses.

abort()

To be overridden by subclasses. Return cameras and any other state to one in which transition_to_buffered() can be called again. abort() will be called if there was an exception in either transition_to_buffered() or transtition_to_static(), and so should ideally be written to return things to a sensible state even if those methods did not complete. Like any cleanup function, abort() should proceed to further cleanups even if earlier cleanups fail. As such it should make liberal use of try: except: blocks, so that an exception in performing one cleanup operation does not stop it from proceeding to subsequent cleanup operations

handler(*request_data*)

To be overridden by subclasses. This is an example implementation

transition_to_buffered(*h5_filepath*)

To be overridden by subclasses. Do any preparatory processing before a shot, eg setting exposure times, readying cameras to receive triggers etc.

transition_to_static(*h5_filepath*)

To be overridden by subclasses. Do any post processing after a shot, eg computing optical depth, fits, displaying images, saving images and results to the h5 file, returning cameras to an idle state.

labscript_utils.camera_server.TubingenCameraServer

class labscript_utils.camera_server.**TubingenCameraServer**(*port*)

Bases: *CameraServer*

Minimalistic camera server. Transition to buffered and abort are not implemented, because we don't need to do anything in those cases. This camera server simply writes to the h5 file the images, which have been saved to disk during each shot by an external program.

__init__(*port*)

Methods

__init__(port)	
abort()	To be overridden by subclasses.
handler(request_data)	To be overridden by subclasses.
mainloop()	
setup_auth(context)	Deprecated.
shutdown()	
shutdown_on_interrupt()	
timeout()	A function to call every self.timeout_interval seconds in the same thread as the handler.
transition_to_buffered(h5_filepath)	To be overridden by subclasses.
transition_to_static(h5_filepath)	Read FITS images from file saved by an external program, and save them to the h5 file

abort()

To be overridden by subclasses. Return cameras and any other state to one in which transition_to_buffered() can be called again. abort() will be called if there was an exception in either transition_to_buffered() or transtition_to_static(), and so should ideally be written to return things to a sensible state even if those methods did not complete. Like any cleanup function, abort() should proceed to further cleanups even if earlier cleanups fail. As such it should make liberal use of try: except: blocks, so that an exception in performing one cleanup operation does not stop it from proceeding to subsequent cleanup operations

transition_to_buffered(*h5_filepath*)

To be overridden by subclasses. Do any preparatory processing before a shot, eg setting exposure times, readying cameras to receive triggers etc.

transition_to_static(*h5_filepath*)

Read FITS images from file saved by an external program, and save them to the h5 file

2.1.2 labscript_utils.connections

Classes

Connection(raw_row)	A class to represent a row in the connection table, present the contents as instance attributes after deserialising their contents, and providing default values for backward compatibility with older HDF5 files.
ConnectionTable(h5file[, logging_prefix, ...])	

labscript_utils.connections.Connection

class labscript_utils.connections.**Connection**(*raw_row*)

Bases: object

A class to represent a row in the connection table, present the contents as instance attributes after deserialising their contents, and providing default values for backward compatibility with older HDF5 files. Contains links to Connection objects for child devices of each device

__init__(*raw_row*)

Methods

__init__(raw_row)
compare_to(other_connection)
diff(other)
find_by_name(name)
find_child(parent_name, parent_port)
print_details(indent)

Attributes

properties
unit_conversion_params

compare_to(*other_connection*)

diff(*other*)

find_by_name(*name*)

find_child(*parent_name*, *parent_port*)

print_details(*indent*)

property properties

property unit_conversion_params

labscript_utils.connections.ConnectionTable

class labscript_utils.connections.**ConnectionTable**(*h5file*, *logging_prefix=None*, *exceptions_in_thread=False*)

Bases: object

__init__(*h5file*, *logging_prefix=None*, *exceptions_in_thread=False*)

Object to represent a connection table. Set logging prefix if you desire logging. Log used will be <prefix>.ConnectionTable

Methods

__init__(h5file[, logging_prefix, ...])	Object to represent a connection table.
assert_superset(other)	
compare_to(other)	
find_by_name(name)	
find_child(parent_name, parent_port)	
get_attached_devices()	Finds out which devices in the connection table are connected to BLACS, based on whether their 'BLACS_connection' attribute is non-empty.
print_details()	
remove_device(device_name)	Removes a device from the ConnectionTable, but keeps it in the raw_table.

assert_superset(*other*)

compare_to(*other*)

find_by_name(*name*)

find_child(*parent_name*, *parent_port*)

get_attached_devices()

Finds out which devices in the connection table are connected to BLACS, based on whether their 'BLACS_connection' attribute is non-empty. Returns a dictionary of them in the form {device_instance_name: labscript_class_name}

print_details()

remove_device(*device_name*)

Removes a device from the ConnectionTable, but keeps it in the raw_table. This can help make comparissons of connection tables fail for tables with broken devices.

2.1.3 labscript_utils.device_registry

2.1.4 labscript_utils.dict_diff

Functions

dict_diff(dict1, dict2)	Return the difference between two dictionaries as a dictionary of key: [val1, val2] pairs.

labscript_utils.dict_diff.dict_diff

labscript_utils.dict_diff.**dict_diff**(*dict1*, *dict2*)

Return the difference between two dictionaries as a dictionary of key: [val1, val2] pairs. Keys unique to either dictionary are included as key: [val1, '-'] or key: ['-', val2].

2.1.5 labscript_utils.double_import_denier

Functions

disable()
enable()

labscript_utils.double_import_denier.disable

labscript_utils.double_import_denier.**disable**()

labscript_utils.double_import_denier.enable

labscript_utils.double_import_denier.**enable**()

Classes

DoubleImportDenier()	A module finder that tracks what's been imported and disallows multiple imports of the same module under different names, raising an exception upon detecting that this has occured

labscript_utils.double_import_denier.DoubleImportDenier

class labscript_utils.double_import_denier.**DoubleImportDenier**

Bases: object

A module finder that tracks what's been imported and disallows multiple imports of the same module under different names, raising an exception upon detecting that this has occured

__init__()

Methods

__init__()
find_spec(fullname[, path, target])

find_spec(*fullname*, *path=None*, *target=None*)

2.1.6 labscript_utils.excepthook

Sub-Modules

labscript_utils.excepthook.tk_exception

labscript_utils.excepthook.tk_exception

Classes

ErrorWindow([master])	Class to display the error in a textbox.

labscript_utils.excepthook.tk_exception.ErrorWindow

class labscript_utils.excepthook.tk_exception.**ErrorWindow**(*master=None*, ***kw*)

Bases: Text

Class to display the error in a textbox. Parts copied from Tkinter's ScrolledText widget

__init__(*master=None*, ***kw*)

Construct a text widget with the parent MASTER.

STANDARD OPTIONS

background, borderwidth, cursor, exportselection, font, foreground, highlightbackground, highlightcolor, highlightthickness, insertbackground, insertborderwidth, insertofftime, insertontime, insertwidth, padx, pady, relief, selectbackground, selectborderwidth, selectforeground, setgrid, takefocus, xscrollcommand, yscrollcommand,

WIDGET-SPECIFIC OPTIONS

autoseparators, height, maxundo, spacing1, spacing2, spacing3, state, tabs, undo, width, wrap,

Methods

__init__([master])	Construct a text widget with the parent MASTER.
after(ms[, func])	Call function once after given time.
after_cancel(id)	Cancel scheduling of function identified with ID.
after_idle(func, *args)	Call FUNC once if the Tcl main loop has no event to process.
anchor([anchor])	The anchor value controls how to place the grid within the master when no row/column has any weight.
bbox(index)	Return a tuple of (x,y,width,height) which gives the bounding box of the visible part of the character at the given index.
bell([displayof])	Ring a display's bell.
bind([sequence, func, add])	Bind to this widget at event SEQUENCE a call to function FUNC.
bind_all([sequence, func, add])	Bind to all widgets at an event SEQUENCE a call to function FUNC.
bind_class(className[, sequence, func, add])	Bind to widgets with bindtag CLASSNAME at event SEQUENCE a call of function FUNC.
bindtags([tagList])	Set or get the list of bindtags for this widget.
cget(key)	Return the resource value for a KEY given as string.
clipboard_append(string, **kw)	Append STRING to the Tk clipboard.
clipboard_clear(**kw)	Clear the data in the Tk clipboard.
clipboard_get(**kw)	Retrieve data from the clipboard on window's display.
columnconfigure(index[, cnf])	Configure column INDEX of a grid.
compare(index1, op, index2)	Return whether between index INDEX1 and index INDEX2 the relation OP is satisfied.
config([cnf])	Configure resources of a widget.
configure([cnf])	Configure resources of a widget.
copy([event])	

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Table 2.1 – continued from previous page

count(index1, index2, *args)	Counts the number of relevant things between the two indices.
debug([boolean])	Turn on the internal consistency checks of the B-Tree inside the text widget according to BOOLEAN.
delete(index1[, index2])	Delete the characters between INDEX1 and INDEX2 (not included).
deletecommand(name)	Internal function.
destroy()	Destroy this and all descendants widgets.
dlineinfo(index)	Return tuple (x,y,width,height,baseline) giving the bounding box and baseline position of the visible part of the line containing the character at INDEX.
dump(index1[, index2, command])	Return the contents of the widget between index1 and index2.
edit(*args)	Internal method
edit_modified([arg])	Get or Set the modified flag
edit_redo()	Redo the last undone edit
edit_reset()	Clears the undo and redo stacks
edit_separator()	Inserts a separator (boundary) on the undo stack.
edit_undo()	Undoes the last edit action
event_add(virtual, *sequences)	Bind a virtual event VIRTUAL (of the form <<Name>>) to an event SEQUENCE such that the virtual event is triggered whenever SEQUENCE occurs.
event_delete(virtual, *sequences)	Unbind a virtual event VIRTUAL from SEQUENCE.
event_generate(sequence, **kw)	Generate an event SEQUENCE.
event_info([virtual])	Return a list of all virtual events or the information about the SEQUENCE bound to the virtual event VIRTUAL.
focus()	Direct input focus to this widget.
focus_displayof()	Return the widget which has currently the focus on the display where this widget is located.
focus_force()	Direct input focus to this widget even if the application does not have the focus.
focus_get()	Return the widget which has currently the focus in the application.
focus_lastfor()	Return the widget which would have the focus if top level for this widget gets the focus from the window manager.
focus_set()	Direct input focus to this widget.
forget()	Unmap this widget and do not use it for the packing order.
get(index1[, index2])	Return the text from INDEX1 to INDEX2 (not included).
getboolean(s)	Return a boolean value for Tcl boolean values true and false given as parameter.
getdouble(s)	
getint(s)	
getvar([name])	Return value of Tcl variable NAME.
grab_current()	Return widget which has currently the grab in this application or None.

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Table 2.1 – continued from previous page

grab_release()	Release grab for this widget if currently set.
grab_set()	Set grab for this widget.
grab_set_global()	Set global grab for this widget.
grab_status()	Return None, "local" or "global" if this widget has no, a local or a global grab.
grid([cnf])	Position a widget in the parent widget in a grid. Use as options: column=number - use cell identified with given column (starting with 0) columnspan=number - this widget will span several columns in=master - use master to contain this widget in_=master - see 'in' option description ipadx=amount - add internal padding in x direction ipady=amount - add internal padding in y direction padx=amount - add padding in x direction pady=amount - add padding in y direction row=number - use cell identified with given row (starting with 0) rowspan=number - this widget will span several rows sticky=NSEW - if cell is larger on which sides will this widget stick to the cell boundary.
grid_anchor([anchor])	The anchor value controls how to place the grid within the master when no row/column has any weight.
grid_bbox([column, row, col2, row2])	Return a tuple of integer coordinates for the bounding box of this widget controlled by the geometry manager grid.
grid_columnconfigure(index[, cnf])	Configure column INDEX of a grid.
grid_configure([cnf])	Position a widget in the parent widget in a grid. Use as options: column=number - use cell identified with given column (starting with 0) columnspan=number - this widget will span several columns in=master - use master to contain this widget in_=master - see 'in' option description ipadx=amount - add internal padding in x direction ipady=amount - add internal padding in y direction padx=amount - add padding in x direction pady=amount - add padding in y direction row=number - use cell identified with given row (starting with 0) rowspan=number - this widget will span several rows sticky=NSEW - if cell is larger on which sides will this widget stick to the cell boundary.
grid_forget()	Unmap this widget.
grid_info()	Return information about the options for positioning this widget in a grid.
grid_location(x, y)	Return a tuple of column and row which identify the cell at which the pixel at position X and Y inside the master widget is located.
grid_propagate([flag])	Set or get the status for propagation of geometry information.
grid_remove()	Unmap this widget but remember the grid options.
grid_rowconfigure(index[, cnf])	Configure row INDEX of a grid.
grid_size()	Return a tuple of the number of column and rows in the grid.
grid_slaves([row, column])	Return a list of all slaves of this widget in its packing order.

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Table 2.1 – continued from previous page

image_cget(index, option)	Return the value of OPTION of an embedded image at INDEX.
image_configure(index[, cnf])	Configure an embedded image at INDEX.
image_create(index[, cnf])	Create an embedded image at INDEX.
image_names()	Return all names of embedded images in this widget.
image_types()	Return a list of all available image types (e.g. photo bitmap).
index(index)	Return the index in the form line.char for INDEX.
info()	Return information about the packing options for this widget.
info_patchlevel()	Returns the exact version of the Tcl library.
insert(index, chars, *args)	Insert CHARS before the characters at INDEX.
keys()	Return a list of all resource names of this widget.
lift([aboveThis])	Raise this widget in the stacking order.
location(x, y)	Return a tuple of column and row which identify the cell at which the pixel at position X and Y inside the master widget is located.
lower([belowThis])	Lower this widget in the stacking order.
mainloop([n])	Call the mainloop of Tk.
mark_gravity(markName[, direction])	Change the gravity of a mark MARKNAME to DIRECTION (LEFT or RIGHT).
mark_names()	Return all mark names.
mark_next(index)	Return the name of the next mark after INDEX.
mark_previous(index)	Return the name of the previous mark before INDEX.
mark_set(markName, index)	Set mark MARKNAME before the character at INDEX.
mark_unset(*markNames)	Delete all marks in MARKNAMES.
nametowidget(name)	Return the Tkinter instance of a widget identified by its Tcl name NAME.
ok_clicked(*ignore)	
option_add(pattern, value[, priority])	Set a VALUE (second parameter) for an option PATTERN (first parameter).
option_clear()	Clear the option database.
option_get(name, className)	Return the value for an option NAME for this widget with CLASSNAME.
option_readfile(fileName[, priority])	Read file FILENAME into the option database.
pack([cnf])	Pack a widget in the parent widget. Use as options: after=widget - pack it after you have packed widget anchor=NSEW (or subset) - position widget according to given direction before=widget - pack it before you will pack widget expand=bool - expand widget if parent size grows fill=NONE or X or Y or BOTH - fill widget if widget grows in=master - use master to contain this widget in_=master - see 'in' option description ipadx=amount - add internal padding in x direction ipady=amount - add internal padding in y direction padx=amount - add padding in x direction pady=amount - add padding in y direction side=TOP or BOTTOM or LEFT or RIGHT - where to add this widget.

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Table 2.1 – continued from previous page

pack_configure([cnf])	Pack a widget in the parent widget. Use as options: after=widget - pack it after you have packed widget anchor=NSEW (or subset) - position widget according to given direction before=widget - pack it before you will pack widget expand=bool - expand widget if parent size grows fill=NONE or X or Y or BOTH - fill widget if widget grows in=master - use master to contain this widget in_=master - see 'in' option description ipadx=amount - add internal padding in x direction ipady=amount - add internal padding in y direction padx=amount - add padding in x direction pady=amount - add padding in y direction side=TOP or BOTTOM or LEFT or RIGHT - where to add this widget.
pack_forget()	Unmap this widget and do not use it for the packing order.
pack_info()	Return information about the packing options for this widget.
pack_propagate([flag])	Set or get the status for propagation of geometry information.
pack_slaves()	Return a list of all slaves of this widget in its packing order.
peer_create(newPathName[, cnf])	Creates a peer text widget with the given newPathName, and any optional standard configuration options.
peer_names()	Returns a list of peers of this widget (this does not include the widget itself).
place([cnf])	Place a widget in the parent widget. Use as options: in=master - master relative to which the widget is placed in_=master - see 'in' option description x=amount - locate anchor of this widget at position x of master y=amount - locate anchor of this widget at position y of master relx=amount - locate anchor of this widget between 0.0 and 1.0 relative to width of master (1.0 is right edge) rely=amount - locate anchor of this widget between 0.0 and 1.0 relative to height of master (1.0 is bottom edge) anchor=NSEW (or subset) - position anchor according to given direction width=amount - width of this widget in pixel height=amount - height of this widget in pixel relwidth=amount - width of this widget between 0.0 and 1.0 relative to width of master (1.0 is the same width as the master) relheight=amount - height of this widget between 0.0 and 1.0 relative to height of master (1.0 is the same height as the master) bordermode="inside" or "outside" - whether to take border width of master widget into account.

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Table 2.1 – continued from previous page

place_configure([cnf])	Place a widget in the parent widget. Use as options: in=master - master relative to which the widget is placed in_=master - see 'in' option description x=amount - locate anchor of this widget at position x of master y=amount - locate anchor of this widget at position y of master relx=amount - locate anchor of this widget between 0.0 and 1.0 relative to width of master (1.0 is right edge) rely=amount - locate anchor of this widget between 0.0 and 1.0 relative to height of master (1.0 is bottom edge) anchor=NSEW (or subset) - position anchor according to given direction width=amount - width of this widget in pixel height=amount - height of this widget in pixel relwidth=amount - width of this widget between 0.0 and 1.0 relative to width of master (1.0 is the same width as the master) relheight=amount - height of this widget between 0.0 and 1.0 relative to height of master (1.0 is the same height as the master) bordermode="inside" or "outside" - whether to take border width of master widget into account.
place_forget()	Unmap this widget.
place_info()	Return information about the placing options for this widget.
place_slaves()	Return a list of all slaves of this widget in its packing order.
propagate([flag])	Set or get the status for propagation of geometry information.
quit()	Quit the Tcl interpreter.
register(func[, subst, needcleanup])	Return a newly created Tcl function.
replace(index1, index2, chars, *args)	Replaces the range of characters between index1 and index2 with the given characters and tags specified by args.
rowconfigure(index[, cnf])	Configure row INDEX of a grid.
scan_dragto(x, y)	Adjust the view of the text to 10 times the difference between X and Y and the coordinates given in scan_mark.
scan_mark(x, y)	Remember the current X, Y coordinates.
search(pattern, index[, stopindex, ...])	Search PATTERN beginning from INDEX until STOPINDEX.
see(index)	Scroll such that the character at INDEX is visible.
selection_clear(**kw)	Clear the current X selection.
selection_get(**kw)	Return the contents of the current X selection.
selection_handle(command, **kw)	Specify a function COMMAND to call if the X selection owned by this widget is queried by another application.
selection_own(**kw)	Become owner of X selection.
selection_own_get(**kw)	Return owner of X selection.
send(interp, cmd, *args)	Send Tcl command CMD to different interpreter INTERP to be executed.
setvar([name, value])	Set Tcl variable NAME to VALUE.
size()	Return a tuple of the number of column and rows in the grid.

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Table 2.1 – continued from previous page

slaves()	Return a list of all slaves of this widget in its packing order.
tag_add(tagName, index1, *args)	Add tag TAGNAME to all characters between INDEX1 and index2 in ARGS.
tag_bind(tagName, sequence, func[, add])	Bind to all characters with TAGNAME at event SEQUENCE a call to function FUNC.
tag_cget(tagName, option)	Return the value of OPTION for tag TAGNAME.
tag_config(tagName[, cnf])	Configure a tag TAGNAME.
tag_configure(tagName[, cnf])	Configure a tag TAGNAME.
tag_delete(*tagNames)	Delete all tags in TAGNAMES.
tag_lower(tagName[, belowThis])	Change the priority of tag TAGNAME such that it is lower than the priority of BELOWTHIS.
tag_names([index])	Return a list of all tag names.
tag_nextrange(tagName, index1[, index2])	Return a list of start and end index for the first sequence of characters between INDEX1 and INDEX2 which all have tag TAGNAME.
tag_prevrange(tagName, index1[, index2])	Return a list of start and end index for the first sequence of characters between INDEX1 and INDEX2 which all have tag TAGNAME.
tag_raise(tagName[, aboveThis])	Change the priority of tag TAGNAME such that it is higher than the priority of ABOVETHIS.
tag_ranges(tagName)	Return a list of ranges of text which have tag TAGNAME.
tag_remove(tagName, index1[, index2])	Remove tag TAGNAME from all characters between INDEX1 and INDEX2.
tag_unbind(tagName, sequence[, funcid])	Unbind for all characters with TAGNAME for event SEQUENCE the function identified with FUNCID.
tk_bisque()	Change the color scheme to light brown as used in Tk 3.6 and before.
tk_focusFollowsMouse()	The widget under mouse will get automatically focus.
tk_focusNext()	Return the next widget in the focus order which follows widget which has currently the focus.
tk_focusPrev()	Return previous widget in the focus order.
tk_setPalette(*args, **kw)	Set a new color scheme for all widget elements.
tk_strictMotif([boolean])	Set Tcl internal variable, whether the look and feel should adhere to Motif.
tkraise([aboveThis])	Raise this widget in the stacking order.
unbind(sequence[, funcid])	Unbind for this widget for event SEQUENCE the function identified with FUNCID.
unbind_all(sequence)	Unbind for all widgets for event SEQUENCE all functions.
unbind_class(className, sequence)	Unbind for all widgets with bindtag CLASSNAME for event SEQUENCE all functions.
update()	Enter event loop until all pending events have been processed by Tcl.
update_idletasks()	Enter event loop until all idle callbacks have been called.
wait_variable([name])	Wait until the variable is modified.
wait_visibility([window])	Wait until the visibility of a WIDGET changes (e.g. it appears).
wait_window([window])	Wait until a WIDGET is destroyed.
waitvar([name])	Wait until the variable is modified.

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Table 2.1 – continued from previous page

window_cget(index, option)	Return the value of OPTION of an embedded window at INDEX.
window_config(index[, cnf])	Configure an embedded window at INDEX.
window_configure(index[, cnf])	Configure an embedded window at INDEX.
window_create(index[, cnf])	Create a window at INDEX.
window_names()	Return all names of embedded windows in this widget.
winfo_atom(name[, displayof])	Return integer which represents atom NAME.
winfo_atomname(id[, displayof])	Return name of atom with identifier ID.
winfo_cells()	Return number of cells in the colormap for this widget.
winfo_children()	Return a list of all widgets which are children of this widget.
winfo_class()	Return window class name of this widget.
winfo_colormapfull()	Return True if at the last color request the colormap was full.
winfo_containing(rootX, rootY[, displayof])	Return the widget which is at the root coordinates ROOTX, ROOTY.
winfo_depth()	Return the number of bits per pixel.
winfo_exists()	Return true if this widget exists.
winfo_fpixels(number)	Return the number of pixels for the given distance NUMBER (e.g. "3c") as float.
winfo_geometry()	Return geometry string for this widget in the form "widthxheight+X+Y".
winfo_height()	Return height of this widget.
winfo_id()	Return identifier ID for this widget.
winfo_interps([displayof])	Return the name of all Tcl interpreters for this display.
winfo_ismapped()	Return true if this widget is mapped.
winfo_manager()	Return the window manager name for this widget.
winfo_name()	Return the name of this widget.
winfo_parent()	Return the name of the parent of this widget.
winfo_pathname(id[, displayof])	Return the pathname of the widget given by ID.
winfo_pixels(number)	Rounded integer value of winfo_fpixels.
winfo_pointerx()	Return the x coordinate of the pointer on the root window.
winfo_pointerxy()	Return a tuple of x and y coordinates of the pointer on the root window.
winfo_pointery()	Return the y coordinate of the pointer on the root window.
winfo_reqheight()	Return requested height of this widget.
winfo_reqwidth()	Return requested width of this widget.
winfo_rgb(color)	Return a tuple of integer RGB values in range(65536) for color in this widget.
winfo_rootx()	Return x coordinate of upper left corner of this widget on the root window.
winfo_rooty()	Return y coordinate of upper left corner of this widget on the root window.
winfo_screen()	Return the screen name of this widget.
winfo_screencells()	Return the number of the cells in the colormap of the screen of this widget.
winfo_screendepth()	Return the number of bits per pixel of the root window of the screen of this widget.

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Table 2.1 – continued from previous page

winfo_screenheight()	Return the number of pixels of the height of the screen of this widget in pixel.
winfo_screenmmheight()	Return the number of pixels of the height of the screen of this widget in mm.
winfo_screenmmwidth()	Return the number of pixels of the width of the screen of this widget in mm.
winfo_screenvisual()	Return one of the strings directcolor, grayscale, pseudocolor, staticcolor, staticgray, or truecolor for the default colormodel of this screen.
winfo_screenwidth()	Return the number of pixels of the width of the screen of this widget in pixel.
winfo_server()	Return information of the X-Server of the screen of this widget in the form "XmajorRminor vendor vendorVersion".
winfo_toplevel()	Return the toplevel widget of this widget.
winfo_viewable()	Return true if the widget and all its higher ancestors are mapped.
winfo_visual()	Return one of the strings directcolor, grayscale, pseudocolor, staticcolor, staticgray, or truecolor for the colormodel of this widget.
winfo_visualid()	Return the X identifier for the visual for this widget.
winfo_visualsavailable([includeids])	Return a list of all visuals available for the screen of this widget.
winfo_vrootheight()	Return the height of the virtual root window associated with this widget in pixels.
winfo_vrootwidth()	Return the width of the virtual root window associated with this widget in pixel.
winfo_vrootx()	Return the x offset of the virtual root relative to the root window of the screen of this widget.
winfo_vrooty()	Return the y offset of the virtual root relative to the root window of the screen of this widget.
winfo_width()	Return the width of this widget.
winfo_x()	Return the x coordinate of the upper left corner of this widget in the parent.
winfo_y()	Return the y coordinate of the upper left corner of this widget in the parent.
xview(*args)	Query and change the horizontal position of the view.
xview_moveto(fraction)	Adjusts the view in the window so that FRACTION of the total width of the canvas is off-screen to the left.
xview_scroll(number, what)	Shift the x-view according to NUMBER which is measured in "units" or "pages" (WHAT).
yview(*args)	Query and change the vertical position of the view.
yview_moveto(fraction)	Adjusts the view in the window so that FRACTION of the total height of the canvas is off-screen to the top.
yview_pickplace(*what)	Obsolete function, use see.
yview_scroll(number, what)	Shift the y-view according to NUMBER which is measured in "units" or "pages" (WHAT).

copy(*event=None*)

ok_clicked(**ignore*)

Functions

install_thread_excepthook()	Workaround for sys.excepthook thread bug (https://sourceforge.net/tracker/?func=detail&atid=105470&aid=1230540&group_id=5470).
logwarning(message, category, filename, lineno)	
set_logger(logger)	
tkhandler(exceptclass, exception, exec_info)	

labscript_utils.excepthook.install_thread_excepthook

`labscript_utils.excepthook.`**`install_thread_excepthook`**`()`

Workaround for sys.excepthook thread bug (https://sourceforge.net/tracker/?func=detail&atid=105470&aid=1230540&group_id=5470). Call once from __main__ before creating any threads.

labscript_utils.excepthook.logwarning

`labscript_utils.excepthook.`**`logwarning`**`(`*message*, *category*, *filename*, *lineno*, *file=None*, *line=None*`)`

labscript_utils.excepthook.set_logger

`labscript_utils.excepthook.`**`set_logger`**`(`*logger*`)`

labscript_utils.excepthook.tkhandler

`labscript_utils.excepthook.`**`tkhandler`**`(`*exceptclass*, *exception*, *exec_info*, *reraise=True*`)`

Classes

l()

labscript_utils.excepthook.l

class `labscript_utils.excepthook.`**`l`**

Bases: `object`

`__init__``()`

Methods

__init__()

Attributes

logger

logger = None

2.1.7 labscript_utils.filewatcher

Classes

FileWatcher(callback[, files, folders, ...])

labscript_utils.filewatcher.FileWatcher

class labscript_utils.filewatcher.**FileWatcher**(*callback*, *files=None*, *folders=None*, *clean_modified_info=None*, *hashable_types=None*, *interval=1*, ***kwargs*)

Bases: object

__init__(*callback*, *files=None*, *folders=None*, *clean_modified_info=None*, *hashable_types=None*, *interval=1*, ***kwargs*)

Detect modification, deletion, creation, or restoration of specific files (and all files in specific folders).

Parameters

- **callback** (*function*) – elicited whenever file events are detected, requires at least (name, info) arguments. Event specific callback requires (name, info, event) arguments, where event is on of: 'modified', 'deleted' (or None), 'created', 'restored', 'original' The 'original' event corresponds to a state change that results in the original file info at instantiation.
- **files** (*list, optional*) – List of specific files to watch. A single file can be specified as a string (default None).
- **folders** (*list, optional*) – List of specific folders to watch. A single folder can be specified as a string (default None). If a file is created/deleted in/from any watched folder, it is added/ removed to/from the FileWatcher.files attribute.
- **clean_modified_info** (*dict, optional*) – File info to detect modification/restoration with respect to. If None (default), or for files not present in clean_modified_info, the initial modified info will be based on the first polling of files.

- **hashable_types** (*iterable, optional*) – File extensions for which MD5 checksum will be used to detect modification/restoration with (default None). Files of any other type will be watched using their modified time. Restoration cannot be detected for types not in hashable_types.
- **interval** (*float, optional*) – Polling interval in seconds (default 1).

Methods

__init__(callback[, files, folders, ...])	Detect modification, deletion, creation, or restoration of specific files (and all files in specific folders).
add_file(path)	
add_files(files[, clean_modified_info])	
add_folder(folder)	
add_folders(folders[, clean_modified_info])	
check([trigger_callback])	
get_clean_modified_info()	
get_modified_info()	
get_modified_times()	
mainloop()	
stop()	
update_files([folders, trigger_callback, ...])	Refresh the watchlist of files (FileWatcher.files) by checking the folders kwarg or Filewatcher.folders if this is not specified.

add_file(*path*)

add_files(*files*, *clean_modified_info=None*)

add_folder(*folder*)

add_folders(*folders*, *clean_modified_info=None*)

check(*trigger_callback=True*)

get_clean_modified_info()

get_modified_info()

get_modified_times()

mainloop()

stop()

update_files(*folders=None*, *trigger_callback=True*, *recursive=True*)

Refresh the watchlist of files (FileWatcher.files) by checking the folders kwarg or Filewatcher.folders if this is not specified.

2.1.8 labscript_utils.h5_lock

Functions

hack_locks_onto_h5py()

labscript_utils.h5_lock.hack_locks_onto_h5py

labscript_utils.h5_lock.**hack_locks_onto_h5py**()

Classes

File(name[, mode, driver, libver])

labscript_utils.h5_lock.File

class labscript_utils.h5_lock.**File**(*name*, *mode=None*, *driver=None*, *libver=None*, ***kwds*)

Bases: File

__init__(*name*, *mode=None*, *driver=None*, *libver=None*, ***kwds*)

Create a new file object.

See the h5py user guide for a detailed explanation of the options.

name
Name of the file on disk, or file-like object. Note: for files created with the 'core' driver, HDF5 still requires this be non-empty.

mode
r Readonly, file must exist (default) r+ Read/write, file must exist w Create file, truncate if exists w- or x Create file, fail if exists a Read/write if exists, create otherwise

driver
Name of the driver to use. Legal values are None (default, recommended), 'core', 'sec2', 'direct', 'stdio', 'mpio', 'ros3'.

libver
Library version bounds. Supported values: 'earliest', 'v108', 'v110', 'v112' and 'latest'. The 'v108', 'v110' and 'v112' options can only be specified with the HDF5 1.10.2 library or later.

userblock_size
Desired size of user block. Only allowed when creating a new file (mode w, w- or x).

swmr
Open the file in SWMR read mode. Only used when mode = 'r'.

rdcc_nbytes
Total size of the dataset chunk cache in bytes. The default size is 1024**2 (1 MiB) per dataset. Applies to all datasets unless individually changed.

rdcc_w0
The chunk preemption policy for all datasets. This must be between 0 and 1 inclusive and indicates the weighting according to which chunks which have been fully read or written are penalized when determining which chunks to flush from cache. A value of 0 means fully read or written chunks are treated no differently than other chunks (the preemption is strictly LRU) while a value of 1 means fully read or written chunks are always preempted before other chunks. If your application only reads or writes data once, this can be safely set to 1. Otherwise, this should be set lower depending on how often you re-read or re-write the same data. The default value is 0.75. Applies to all datasets unless individually changed.

rdcc_nslots
The number of chunk slots in the raw data chunk cache for this file. Increasing this value reduces the number of cache collisions, but slightly increases the memory used. Due to the hashing strategy, this value should ideally be a prime number. As a rule of thumb, this value should be at least 10 times the number of chunks that can fit in rdcc_nbytes bytes. For maximum performance, this value should be set approximately 100 times that number of chunks. The default value is 521. Applies to all datasets unless individually changed.

track_order
Track dataset/group/attribute creation order under root group if True. If None use global default h5.get_config().track_order.

fs_strategy
The file space handling strategy to be used. Only allowed when creating a new file (mode w, w- or x). Defined as: "fsm" FSM, Aggregators, VFD "page" Paged FSM, VFD "aggregate" Aggregators, VFD "none" VFD If None use HDF5 defaults.

fs_page_size
File space page size in bytes. Only used when fs_strategy="page". If None use the HDF5 default (4096 bytes).

fs_persist
A boolean value to indicate whether free space should be persistent or not. Only allowed when creating a new file. The default value is False.

fs_threshold
The smallest free-space section size that the free space manager will track. Only allowed when creating a new file. The default value is 1.

page_buf_size
Page buffer size in bytes. Only allowed for HDF5 files created with fs_strategy="page". Must be a power of two value and greater or equal than the file space page size when creating the file. It is not used by default.

min_meta_keep
Minimum percentage of metadata to keep in the page buffer before allowing pages containing metadata to be evicted. Applicable only if page_buf_size is set. Default value is zero.

min_raw_keep
Minimum percentage of raw data to keep in the page buffer before allowing pages containing raw data to be evicted. Applicable only if page_buf_size is set. Default value is zero.

locking
The file locking behavior. Defined as:

- False (or "false") – Disable file locking

- True (or "true") – Enable file locking
- "best-effort" – Enable file locking but ignore some errors
- None – Use HDF5 defaults

> **Warning:** The HDF5_USE_FILE_LOCKING environment variable can override this parameter.

Only available with HDF5 >= 1.12.1 or 1.10.x >= 1.10.7.

alignment_threshold
Together with `alignment_interval`, this property ensures that any file object greater than or equal in size to the alignement threshold (in bytes) will be aligned on an address which is a multiple of alignment interval.

alignment_interval
This property should be used in conjunction with `alignment_threshold`. See the description above. For more details, see https://portal.hdfgroup.org/display/HDF5/H5P_SET_ALIGNMENT

meta_block_size
Set the current minimum size, in bytes, of new metadata block allocations. See https://portal.hdfgroup.org/display/HDF5/H5P_SET_META_BLOCK_SIZE

Additional keywords
Passed on to the selected file driver.

Methods

__init__(name[, mode, driver, libver])	Create a new file object.
build_virtual_dataset(name, shape, dtype[, ...])	Assemble a virtual dataset in this group.
clear()	
close()	Close the file.
copy(source, dest[, name, shallow, ...])	Copy an object or group.
create_dataset(name[, shape, dtype, data])	Create a new HDF5 dataset
create_dataset_like(name, other, **kwupdate)	Create a dataset similar to `other`.
create_group(name[, track_order])	Create and return a new subgroup.
create_virtual_dataset(name, layout[, fillvalue])	Create a new virtual dataset in this group.
flush()	Tell the HDF5 library to flush its buffers.
get(name[, default, getclass, getlink])	Retrieve an item or other information.
items()	Get a view object on member items
keys()	Get a view object on member names
move(source, dest)	Move a link to a new location in the file.
pop(k[,d])	If key is not found, d is returned if given, otherwise KeyError is raised.
popitem()	as a 2-tuple; but raise KeyError if D is empty.
require_dataset(name, shape, dtype[, exact])	Open a dataset, creating it if it doesn't exist.
require_group(name)	Return a group, creating it if it doesn't exist.
setdefault(k[,d])	
update([E,]**F)	If E present and has a .keys() method, does: for k in E: D[k] = E[k] If E present and lacks .keys() method, does: for (k, v) in E: D[k] = v In either case, this is followed by: for k, v in F.items(): D[k] = v
values()	Get a view object on member objects
visit(func)	Recursively visit all names in this group and subgroups.
visititems(func)	Recursively visit names and objects in this group.

Attributes

attrs	Attributes attached to this object
driver	Low-level HDF5 file driver used to open file
file	Return a File instance associated with this object
filename	File name on disk
id	Low-level identifier appropriate for this object
libver	low, high)
meta_block_size	Meta block size (in bytes)
mode	Python mode used to open file
name	Return the full name of this object.
parent	Return the parent group of this object.
ref	An (opaque) HDF5 reference to this object
regionref	Create a region reference (Datasets only).
swmr_mode	Controls single-writer multiple-reader mode
userblock_size	User block size (in bytes)

close()

Close the file. All open objects become invalid

2.1.9 labscript_utils.impprof

Functions

disable()	
enable([threshold])	

labscript_utils.impprof.disable

labscript_utils.impprof.**disable**()

labscript_utils.impprof.enable

labscript_utils.impprof.**enable**(*threshold=0.1*)

2.1.10 labscript_utils.labconfig

Functions

load_appconfig(filename)	Load an .ini file and return a dictionary of its contents.
save_appconfig(filename, data)	Save a dictionary as an ini file.

labscript_utils.labconfig.load_appconfig

labscript_utils.labconfig.**load_appconfig**(*filename*)

Load an .ini file and return a dictionary of its contents. All values will be converted to Python objects with ast.literal_eval(). All keys will be lowercase regardless of the written contents on the .ini file.

labscript_utils.labconfig.save_appconfig

labscript_utils.labconfig.**save_appconfig**(*filename*, *data*)

Save a dictionary as an ini file. The keys of the dictionary comprise the section names, and the values must themselves be dictionaries for the names and values within each section. All section values will be converted to strings with pprint.pformat().

Classes

EnvInterpolation()	Interpolation which expands environment variables in values, by post-filtering BasicInterpolation.before_get()
LabConfig([config_path, required_params, ...])	

labscript_utils.labconfig.EnvInterpolation

class labscript_utils.labconfig.**EnvInterpolation**

Bases: BasicInterpolation

Interpolation which expands environment variables in values, by post-filtering BasicInterpolation.before_get()

__init__()

Methods

__init__()
before_get(*args)
before_read(parser, section, option, value)
before_set(parser, section, option, value)
before_write(parser, section, option, value)

before_get(**args*)

labscript_utils.labconfig.LabConfig

class labscript_utils.labconfig.**LabConfig**(*config_path=PosixPath('/home/docs/labscript-suite/labconfig/build-23421419-project-24586-labscript-utils.ini'), required_params=None, defaults=None*)

Bases: ConfigParser

__init__(*config_path=PosixPath('/home/docs/labscript-suite/labconfig/build-23421419-project-24586-labscript-utils.ini'), required_params=None, defaults=None*)

Methods

__init__([config_path, required_params, ...])	
add_section(section)	Create a new section in the configuration.
clear()	
defaults()	
get(section, option, *[, raw, vars, fallback])	Get an option value for a given section.
getboolean(section, option, *[, raw, vars, ...])	
getfloat(section, option, *[, raw, vars, ...])	
getint(section, option, *[, raw, vars, fallback])	
has_option(section, option)	Check for the existence of a given option in a given section.
has_section(section)	Indicate whether the named section is present in the configuration.
items([section, raw, vars])	Return a list of (name, value) tuples for each option in a section.
keys()	
options(section)	Return a list of option names for the given section name.
optionxform(optionstr)	
pop(k[,d])	If key is not found, d is returned if given, otherwise KeyError is raised.
popitem()	Remove a section from the parser and return it as a (section_name, section_proxy) tuple.
read(filenames[, encoding])	Read and parse a filename or an iterable of filenames.
read_dict(dictionary[, source])	Read configuration from a dictionary.
read_file(f[, source])	Like read() but the argument must be a file-like object.
read_string(string[, source])	Read configuration from a given string.
readfp(fp[, filename])	Deprecated, use read_file instead.
remove_option(section, option)	Remove an option.
remove_section(section)	Remove a file section.
sections()	Return a list of section names, excluding [DEFAULT]
set(section, option[, value])	Set an option.
setdefault(k[,d])	
update([E,]**F)	If E present and has a .keys() method, does: for k in E: D[k] = E[k] If E present and lacks .keys() method, does: for (k, v) in E: D[k] = v In either case, this is followed by: for k, v in F.items(): D[k] = v
values()	
write(fp[, space_around_delimiters])	Write an .ini-format representation of the configuration state.

Attributes

BOOLEAN_STATES
NONSPACECRE
OPTCRE
OPTCRE_NV
SECTCRE
converters

exception NoOptionError(*option*, *section*)

Bases: Error

A requested option was not found.

exception NoSectionError(*section*)

Bases: Error

Raised when no section matches a requested option.

2.1.11 labscript_utils.ls_zprocess

Functions

Event(*args, **kwargs)	
Handler(*args, **kwargs)	
Lock(*args, **kwargs)	
RemoteProcessClient(host[, port])	
connect_to_zlock_server()	
ensure_connected_to_zlog()	Ensure we are connected to a zlog server.
get_config()	Get relevant options from LabConfig, substituting defaults where appropriate and return as a dict
zmq_get(*args, **kwargs)	
zmq_get_multipart(*args, **kwargs)	
zmq_get_raw(*args, **kwargs)	
zmq_get_string(*args, **kwargs)	
zmq_push(*args, **kwargs)	
zmq_push_multipart(*args, **kwargs)	
zmq_push_raw(*args, **kwargs)	
zmq_push_string(*args, **kwargs)	

labscript_utils.ls_zprocess.Event

`labscript_utils.ls_zprocess.`**`Event`**`(`**args*, ***kwargs*`)`

labscript_utils.ls_zprocess.Handler

`labscript_utils.ls_zprocess.Handler(*args, **kwargs)`

labscript_utils.ls_zprocess.Lock

`labscript_utils.ls_zprocess.Lock(*args, **kwargs)`

labscript_utils.ls_zprocess.RemoteProcessClient

`labscript_utils.ls_zprocess.RemoteProcessClient(host, port=None)`

labscript_utils.ls_zprocess.connect_to_zlock_server

`labscript_utils.ls_zprocess.connect_to_zlock_server()`

labscript_utils.ls_zprocess.ensure_connected_to_zlog

`labscript_utils.ls_zprocess.ensure_connected_to_zlog()`

Ensure we are connected to a zlog server. If one is not running and we are the top-level process, start a zlog server configured according to LabConfig.

labscript_utils.ls_zprocess.get_config

`labscript_utils.ls_zprocess.get_config()`

Get relevant options from LabConfig, substituting defaults where appropriate and return as a dict

labscript_utils.ls_zprocess.zmq_get

`labscript_utils.ls_zprocess.zmq_get(*args, **kwargs)`

labscript_utils.ls_zprocess.zmq_get_multipart

`labscript_utils.ls_zprocess.zmq_get_multipart(*args, **kwargs)`

labscript_utils.ls_zprocess.zmq_get_raw

`labscript_utils.ls_zprocess.zmq_get_raw(*args, **kwargs)`

labscript_utils.ls_zprocess.zmq_get_string

`labscript_utils.ls_zprocess.zmq_get_string(*args, **kwargs)`

labscript_utils.ls_zprocess.zmq_push

`labscript_utils.ls_zprocess.zmq_push(*args, **kwargs)`

labscript_utils.ls_zprocess.zmq_push_multipart

`labscript_utils.ls_zprocess.zmq_push_multipart(*args, **kwargs)`

labscript_utils.ls_zprocess.zmq_push_raw

`labscript_utils.ls_zprocess.zmq_push_raw(*args, **kwargs)`

labscript_utils.ls_zprocess.zmq_push_string

`labscript_utils.ls_zprocess.zmq_push_string(*args, **kwargs)`

Classes

Context([io_threads, shared_secret])	Subclass of zprocess.security.SecureContext configured with settings from labconfig, substitutable for a zmq.Context.
ProcessTree([shared_secret, allow_insecure, ...])	A singleton zprocess.ProcessTree configured with settings from labconfig for security, zlock and zlog.
ZMQClient()	A singleton zprocess.ZMQClient configured with settings from labconfig for security.
ZMQServer([port, dtype, pull_only, ...])	A ZMQServer configured with security settings from labconfig

labscript_utils.ls_zprocess.Context

class `labscript_utils.ls_zprocess.Context(io_threads=1, shared_secret=None)`

Bases: `SecureContext`

Subclass of zprocess.security.SecureContext configured with settings from labconfig, substitutable for a zmq.Context. Can be instantiated to get a unique context, or call the .instance() classmethod to possibly get an already-existing one. Only use the latter if you do not indent to terminate the context.

__init__(*io_threads=1, shared_secret=None*)

Methods

__init__([io_threads, shared_secret])	
destroy([linger])	Close all sockets associated with this context and then terminate the context.
get(option)	Get the value of a context option.
getsockopt(opt)	get default socket options for new sockets created by this Context
instance()	Returns a shared instance with the same shared secret, if there is one, otherwise creates it.
set(option, optval)	Set a context option.
setsockopt(opt, value)	set default socket options for new sockets created by this Context
shadow(address)	Shadow an existing libzmq context
shadow_pyczmq(ctx)	Shadow an existing pyczmq context
socket(socket_type[, socket_class])	Create a Socket associated with this Context.
term()	Close or terminate the context.

Attributes

auth	
client_publickey	
client_secretkey	
closed	
secure	
server_publickey	
server_secretkey	
underlying	The address of the underlying libzmq context
zap_domain	
sockopts	

classmethod instance()

Returns a shared instance with the same shared secret, if there is one, otherwise creates it. If an instance already exists, io_threads will be ignored, otherwise it will be used in the new instance. Takes into account subclasses such that a subclass calling this method will always get back an instance of its own class

socket(*socket_type*, *socket_class=None*, ***kwargs*)

Create a Socket associated with this Context.

Parameters

- **socket_type** (*int*) – The socket type, which can be any of the 0MQ socket types: REQ, REP, PUB, SUB, PAIR, DEALER, ROUTER, PULL, PUSH, etc.
- **socket_class** (*zmq.Socket or a subclass*) – The socket class to instantiate, if different from the default for this Context. e.g. for creating an asyncio socket attached to a default Context or vice versa.

  New in version 25.
- **kwargs** – will be passed to the __init__ method of the socket class.

labscript_utils.ls_zprocess.ProcessTree

class labscript_utils.ls_zprocess.**ProcessTree**(*shared_secret=None*, *allow_insecure=False*, *zlock_host=None*, *zlock_port=7339*, *zlog_host=None*, *zlog_port=7340*)

Bases: ProcessTree

A singleton zprocess.ProcessTree configured with settings from labconfig for security, zlock and zlog. Being a singleton is not enforced - the class can still be instantiated as normal - but calling the .instance() classmethod will give the singleton.

__init__(*shared_secret=None*, *allow_insecure=False*, *zlock_host=None*, *zlock_port=7339*, *zlog_host=None*, *zlog_port=7340*)

Methods

__init__([shared_secret, allow_insecure, ...])	
check_broker()	
connect_to_parent()	
event(event_name[, role, external_broker])	
instance()	
lock(key[, read_only])	Return a zprocess.locking.Lock for a resource identified by the given key.
logging_handler(filepath[, name])	Return a zprocess.zlog.ZMQLoggingHandler for the given filepath.
remote_process_client(host[, port])	Return a RemoteProcessClient configured with this ProcessTree's security settings
subprocess(path[, output_redirection_host, ...])	Start a subprocess and set up communication with it.

classmethod instance()

labscript_utils.ls_zprocess.ZMQClient

class labscript_utils.ls_zprocess.**ZMQClient**

Bases: ZMQClient

A singleton zprocess.ZMQClient configured with settings from labconfig for security. Being a singleton is not enforced - the class can still be instantiated as normal - but calling the .instance() classmethod will give the singleton.

__init__()

Methods

__init__()	
clear_interrupt()	Clear our internal Interruptor object so that future get*()/push*() calls can proceed as normal.
instance()	
interrupt([reason])	Interrupt any current and future get*()/push*() calls, causing them to raise Interrupted(reason) until clear_interrupt() is called.

classmethod instance()

labscript_utils.ls_zprocess.ZMQServer

class labscript_utils.ls_zprocess.**ZMQServer**(*port=None*, *dtype='pyobj'*, *pull_only=False*, *bind_address='tcp://0.0.0.0'*, *timeout_interval=None*, ***kwargs*)

Bases: ZMQServer

A ZMQServer configured with security settings from labconfig

__init__(*port=None*, *dtype='pyobj'*, *pull_only=False*, *bind_address='tcp://0.0.0.0'*, *timeout_interval=None*, ***kwargs*)

Methods

__init__([port, dtype, pull_only, ...])	
handler(request_data)	To be overridden by subclasses.
mainloop()	
setup_auth(context)	Deprecated.
shutdown()	
shutdown_on_interrupt()	
timeout()	A function to call every self.timeout_interval seconds in the same thread as the handler.

2.1.12 labscript_utils.memprof

Functions

check()	
start([filepath])	

labscript_utils.memprof.check

labscript_utils.memprof.**check**()

labscript_utils.memprof.start

labscript_utils.memprof.**start**(*filepath='memprof.txt'*)

Classes

MemoryProfiler()	Class to count number instances of each type in the interpreter in order to detect Python memory leaks

labscript_utils.memprof.MemoryProfiler

class labscript_utils.memprof.**MemoryProfiler**

Bases: object

Class to count number instances of each type in the interpreter in order to detect Python memory leaks

__init__()

Methods

__init__()	
check()	
count_types()	
start([filepath])	
write_to_file(types)	

check()

count_types()

start(*filepath='memprof.txt'*)

write_to_file(*types*)

2.1.13 labscript_utils.modulewatcher

Classes

ModuleWatcher([debug])	A watcher that reloads modules that have been modified on disk

labscript_utils.modulewatcher.ModuleWatcher

class labscript_utils.modulewatcher.**ModuleWatcher**(*debug=False*)

Bases: object

A watcher that reloads modules that have been modified on disk

Only reloads modules imported after instantiation. Does not reload C extensions.

Parameters

debug (*bool, optional*) – When True, prints debugging information when reloading modules.

__init__(*debug=False*)

Methods

__init__([debug])	
check()	
mainloop()	
unload()	

check()

mainloop()

unload()

2.1.14 labscript_utils.properties

Functions

deserialise(value)	
get(h5_file, device_name, location)	
get_attribute(group, name)	Return the attribute of the given name from the given HDF5 group, deserialising it if it has been encoded as JSON
get_attributes(group)	Return attributes of a HDF5 group as a dict, deserialising any that have been encoded as JSON
is_json(value)	
serialise(value)	
set_attributes(group, attributes)	Add attributes to a HDF5 group, serialising them to JSON if they do not map to native HDF5 datatypes
set_device_properties(h5_file, device_name, ...)	

labscript_utils.properties.deserialise

labscript_utils.properties.**deserialise**(*value*)

labscript_utils.properties.get

`labscript_utils.properties.`**`get`**(*h5_file*, *device_name*, *location*)

labscript_utils.properties.get_attribute

`labscript_utils.properties.`**`get_attribute`**(*group*, *name*)

Return the attribute of the given name from the given HDF5 group, deserialising it if it has been encoded as JSON

labscript_utils.properties.get_attributes

`labscript_utils.properties.`**`get_attributes`**(*group*)

Return attributes of a HDF5 group as a dict, deserialising any that have been encoded as JSON

labscript_utils.properties.is_json

`labscript_utils.properties.`**`is_json`**(*value*)

labscript_utils.properties.serialise

`labscript_utils.properties.`**`serialise`**(*value*)

labscript_utils.properties.set_attributes

`labscript_utils.properties.`**`set_attributes`**(*group*, *attributes*)

Add attributes to a HDF5 group, serialising them to JSON if they do not map to native HDF5 datatypes

labscript_utils.properties.set_device_properties

`labscript_utils.properties.`**`set_device_properties`**(*h5_file*, *device_name*, *properties*)

2.1.15 labscript_utils.qtwidgets

Sub-Modules

labscript_utils.qtwidgets.InputPlotWindow
labscript_utils.qtwidgets.analoginput
labscript_utils.qtwidgets.analogoutput
labscript_utils.qtwidgets.ddsoutput
labscript_utils.qtwidgets.digitaloutput
labscript_utils.qtwidgets.dragdroptab
labscript_utils.qtwidgets.elide_label
labscript_utils.qtwidgets.enumoutput
labscript_utils.qtwidgets.fingertab
labscript_utils.qtwidgets.headerview_with_widgets
labscript_utils.qtwidgets.imageoutput
labscript_utils.qtwidgets.outputbox
labscript_utils.qtwidgets.toolpalette

labscript_utils.qtwidgets.InputPlotWindow

Classes

PlotWindow(*args, **kwargs)

labscript_utils.qtwidgets.InputPlotWindow.PlotWindow

class labscript_utils.qtwidgets.InputPlotWindow.**PlotWindow**(**args*, ***kwargs*)

Bases: `Process`

__init__(**args*, ***kwargs*)

Methods

__init__(*args, **kwargs)	
interrupt_startup([reason])	Called from the parent process.
run(connection_name, hardware_name, device_name)	The method that gets called in the subprocess.
setTopLevelWindow()	
start(*args, **kwargs)	Call in the parent process to start a subprocess.
terminate([wait_timeout])	Interrupt process startup if not already done, ensuring self.child exists or is None if startup was interrupted before the process was created.
update_plot(new_data)	

run(*connection_name*, *hardware_name*, *device_name*)

The method that gets called in the subprocess. To be overridden by subclasses

setTopLevelWindow()

update_plot(*new_data*)

labscript_utils.qtwidgets.analoginput

Classes

AnalogInput(device_name, hardware_name[, ...])

labscript_utils.qtwidgets.analoginput.AnalogInput

class labscript_utils.qtwidgets.analoginput.**AnalogInput**(*device_name*, *hardware_name*, *connection_name='-'*, *display_name=None*, *horizontal_alignment=False*, *parent=None*)

Bases: QWidget

__init__(*device_name*, *hardware_name*, *connection_name='-'*, *display_name=None*, *horizontal_alignment=False*, *parent=None*)

Methods

__init__(device_name, hardware_name[, ...])
acceptDrops(self)
accessibleDescription(self)
accessibleName(self)
actionEvent(self, a0)
actions(self)
activateWindow(self)
addAction(self, action)
addActions(self, actions)
adjustSize(self)
autoFillBackground(self)
backgroundRole(self)
baseSize(self)
blockSignals(self, b)
changeEvent(self, a0)
childAt(-> Optional[QWidget])
childEvent(self, a0)
children(self)
childrenRect(self)
childrenRegion(self)
clearFocus(self)
clearMask(self)
close(self)
closeEvent(self, a0)
colorCount(self)

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Table 2.2 – continued from previous page

connectNotify(self, signal)
contentsMargins(self)
contentsRect(self)
contextMenuEvent(self, a0)
contextMenuPolicy(self)
create(self[, window, initializeWindow, ...])
createWindowContainer(window[, parent, flags])
cursor(self)
customEvent(self, a0)
deleteLater(self)
depth(self)
destroy(self[, destroyWindow, destroySubWindows])
devType(self)
devicePixelRatio(self)
devicePixelRatioF(self)
devicePixelRatioFScale()
disconnect(-> bool)
disconnectNotify(self, signal)
dragEnterEvent(self, a0)
dragLeaveEvent(self, a0)
dragMoveEvent(self, a0)
dropEvent(self, a0)
dumpObjectInfo(self)
dumpObjectTree(self)
dynamicPropertyNames(self)
effectiveWinId(self)

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Table 2.2 – continued from previous page

ensurePolished(self)
enterEvent(self, a0)
event(self, a0)
eventFilter(self, a0, a1)
find(a0)
findChild(-> QObjectT)
findChildren(...)
focusInEvent(self, a0)
focusNextChild(self)
focusNextPrevChild(self, next)
focusOutEvent(self, a0)
focusPolicy(self)
focusPreviousChild(self)
focusProxy(self)
focusWidget(self)
font(self)
fontInfo(self)
fontMetrics(self)
foregroundRole(self)
frameGeometry(self)
frameSize(self)
geometry(self)
getContentsMargins(self)
get_AI()
grab(self[, rectangle])
grabGesture(self, type[, flags])

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Table 2.2 – continued from previous page

grabKeyboard(self)
grabMouse()
grabShortcut(self, key[, context])
graphicsEffect(self)
graphicsProxyWidget(self)
hasFocus(self)
hasHeightForWidth(self)
hasMouseTracking(self)
hasTabletTracking(self)
height(self)
heightForWidth(self, a0)
heightMM(self)
hide(self)
hideEvent(self, a0)
inherits(self, classname)
initPainter(self, painter)
inputMethodEvent(self, a0)
inputMethodHints(self)
inputMethodQuery(self, a0)
insertAction(self, before, action)
insertActions(self, before, actions)
installEventFilter(self, a0)
isActiveWindow(self)
isAncestorOf(self, child)
isEnabled(self)
isEnabledTo(self, a0)

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Table 2.2 – continued from previous page

isFullScreen(self)
isHidden(self)
isLeftToRight(self)
isMaximized(self)
isMinimized(self)
isModal(self)
isRightToLeft(self)
isSignalConnected(self, signal)
isVisible(self)
isVisibleTo(self, a0)
isWidgetType(self)
isWindow(self)
isWindowModified(self)
isWindowType(self)
keyPressEvent(self, a0)
keyReleaseEvent(self, a0)
keyboardGrabber()
killTimer(self, id)
layout(self)
layoutDirection(self)
leaveEvent(self, a0)
locale(self)
logicalDpiX(self)
logicalDpiY(self)
lower(self)
mapFrom(self, a0, a1)

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Table 2.2 – continued from previous page

mapFromGlobal(self, a0)
mapFromParent(self, a0)
mapTo(self, a0, a1)
mapToGlobal(self, a0)
mapToParent(self, a0)
mask(self)
maximumHeight(self)
maximumSize(self)
maximumWidth(self)
metaObject(self)
metric(self, a0)
minimumHeight(self)
minimumSize(self)
minimumSizeHint(self)
minimumWidth(self)
mouseDoubleClickEvent(self, a0)
mouseGrabber()
mouseMoveEvent(self, a0)
mousePressEvent(self, a0)
mouseReleaseEvent(self, a0)
move()
moveEvent(self, a0)
moveToThread(self, thread)
nativeEvent(self, eventType, message)
nativeParentWidget(self)
nextInFocusChain(self)

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Table 2.2 – continued from previous page

normalGeometry(self)	
objectName(self)	
open_plot_window()	
overrideWindowFlags(self, type)	
overrideWindowState(self, state)	
paintEngine(self)	
paintEvent(self, a0)	
paintingActive(self)	
palette(self)	
parent(self)	
parentWidget(self)	
physicalDpiX(self)	
physicalDpiY(self)	
pos(self)	
previousInFocusChain(self)	
property(self, name)	
pyqtConfigure(...)	Each keyword argument is either the name of a Qt property or a Qt signal.
raise_(self)	
receivers(self, signal)	
rect(self)	
releaseKeyboard(self)	
releaseMouse(self)	
releaseShortcut(self, id)	
removeAction(self, action)	
removeEventFilter(self, a0)	
render(, sourceRegion, flags, ...)	

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Table 2.2 – continued from previous page

repaint(-> None -> None)
resize()
resizeEvent(self, a0)
restoreGeometry(self, geometry)
saveGeometry(self)
screen(self)
scroll()
sender(self)
senderSignalIndex(self)
setAcceptDrops(self, on)
setAccessibleDescription(self, description)
setAccessibleName(self, name)
setAttribute(self, attribute[, on])
setAutoFillBackground(self, enabled)
setBackgroundRole(self, a0)
setBaseSize()
setContentsMargins()
setContextMenuPolicy(self, policy)
setCursor(self, a0)
setDisabled(self, a0)
setEnabled(self, a0)
setFixedHeight(self, h)
setFixedSize()
setFixedWidth(self, w)
setFocus()
setFocusPolicy(self, policy)

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Table 2.2 – continued from previous page

setFocusProxy(self, a0)
setFont(self, a0)
setForegroundRole(self, a0)
setGeometry()
setGraphicsEffect(self, effect)
setHidden(self, hidden)
setInputMethodHints(self, hints)
setLayout(self, a0)
setLayoutDirection(self, direction)
setLocale(self, locale)
setMask()
setMaximumHeight(self, maxh)
setMaximumSize()
setMaximumWidth(self, maxw)
setMinimumHeight(self, minh)
setMinimumSize()
setMinimumWidth(self, minw)
setMouseTracking(self, enable)
setObjectName(self, name)
setPalette(self, a0)
setParent()
setProperty(self, name, value)
setShortcutAutoRepeat(self, id[, enabled])
setShortcutEnabled(self, id[, enabled])
setSizeIncrement()
setSizePolicy()

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Table 2.2 – continued from previous page

setStatusTip(self, a0)
setStyle(self, a0)
setStyleSheet(self, styleSheet)
setTabOrder(a0, a1)
setTabletTracking(self, enable)
setToolTip(self, a0)
setToolTipDuration(self, msec)
setUpdatesEnabled(self, enable)
setVisible(self, visible)
setWhatsThis(self, a0)
setWindowFilePath(self, filePath)
setWindowFlag(self, a0[, on])
setWindowFlags(self, type)
setWindowIcon(self, icon)
setWindowIconText(self, a0)
setWindowModality(self, windowModality)
setWindowModified(self, a0)
setWindowOpacity(self, level)
setWindowRole(self, a0)
setWindowState(self, state)
setWindowTitle(self, a0)
set_AI(AI[, notify_old_AI, notify_new_AI])
set_value(value)
sharedPainter(self)
show(self)
showEvent(self, a0)

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Table 2.2 – continued from previous page

showFullScreen(self)
showMaximized(self)
showMinimized(self)
showNormal(self)
signalsBlocked(self)
size(self)
sizeHint(self)
sizeIncrement(self)
sizePolicy(self)
stackUnder(self, a0)
startTimer(self, interval[, timerType])
statusTip(self)
style(self)
styleSheet(self)
tabletEvent(self, a0)
testAttribute(self, attribute)
thread(self)
timerEvent(self, a0)
toolTip(self)
toolTipDuration(self)
tr(self, sourceText[, disambiguation, n])
underMouse(self)
ungrabGesture(self, type)
unsetCursor(self)
unsetLayoutDirection(self)
unsetLocale(self)

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Table 2.2 – continued from previous page

update(-> None -> None)
updateGeometry(self)
updateMicroFocus(self)
updatesEnabled(self)
visibleRegion(self)
whatsThis(self)
wheelEvent(self, a0)
width(self)
widthMM(self)
winId(self)
window(self)
windowFilePath(self)
windowFlags(self)
windowHandle(self)
windowIcon(self)
windowIconText(self)
windowModality(self)
windowOpacity(self)
windowRole(self)
windowState(self)
windowTitle(self)
windowType(self)
x(self)
y(self)

Attributes

DrawChildren	
DrawWindowBackground	
IgnoreMask	
PdmDepth	
PdmDevicePixelRatio	
PdmDevicePixelRatioScaled	
PdmDpiX	
PdmDpiY	
PdmHeight	
PdmHeightMM	
PdmNumColors	
PdmPhysicalDpiX	
PdmPhysicalDpiY	
PdmWidth	
PdmWidthMM	
customContextMenuRequested	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
destroyed	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
objectNameChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
staticMetaObject	
windowIconChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowIconTextChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowTitleChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL

get_AI()

open_plot_window()

set_AI(*AI*, *notify_old_AI=True*, *notify_new_AI=True*)

set_value(*value*)

labscript_utils.qtwidgets.analogoutput

Classes

AnalogOutput(hardware_name[, ...])	
NoStealFocusDoubleSpinBox(*args, **kwargs)	A QDoubleSpinBox that doesn't steal focus as you scroll over it with a mouse wheel.

labscript_utils.qtwidgets.analogoutput.AnalogOutput

class labscript_utils.qtwidgets.analogoutput.**AnalogOutput**(*hardware_name*, *connection_name='-'*, *display_name=None*, *horizontal_alignment=False*, *parent=None*)

Bases: QWidget

__init__(*hardware_name*, *connection_name='-'*, *display_name=None*, *horizontal_alignment=False*, *parent=None*)

Methods

__init__(hardware_name[, connection_name, ...])
acceptDrops(self)
accessibleDescription(self)
accessibleName(self)
actionEvent(self, a0)
actions(self)
activateWindow(self)
addAction(self, action)
addActions(self, actions)
adjustSize(self)
autoFillBackground(self)
backgroundRole(self)

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Table 2.3 – continued from previous page

baseSize(self)
blockSignals(self, b)
block_combobox_signals()
block_spinbox_signals()
changeEvent(self, a0)
childAt(-> Optional[QWidget])
childEvent(self, a0)
children(self)
childrenRect(self)
childrenRegion(self)
clearFocus(self)
clearMask(self)
close(self)
closeEvent(self, a0)
colorCount(self)
connectNotify(self, signal)
connect_value_change(func)
contentsMargins(self)
contentsRect(self)
contextMenuEvent(self, a0)
contextMenuPolicy(self)
create(self[, window, initializeWindow, ...])
createWindowContainer(window[, parent, flags])
cursor(self)
customEvent(self, a0)
deleteLater(self)

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Table 2.3 – continued from previous page

depth(self)
destroy(self[, destroyWindow, destroySubWindows])
devType(self)
devicePixelRatio(self)
devicePixelRatioF(self)
devicePixelRatioFScale()
disconnect(-> bool)
disconnectNotify(self, signal)
disconnect_value_change()
dragEnterEvent(self, a0)
dragLeaveEvent(self, a0)
dragMoveEvent(self, a0)
dropEvent(self, a0)
dumpObjectInfo(self)
dumpObjectTree(self)
dynamicPropertyNames(self)
effectiveWinId(self)
ensurePolished(self)
enterEvent(self, a0)
event(self, a0)
eventFilter(self, a0, a1)
find(a0)
findChild(-> QObjectT)
findChildren(...)
focusInEvent(self, a0)
focusNextChild(self)

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Table 2.3 – continued from previous page

focusNextPrevChild(self, next)
focusOutEvent(self, a0)
focusPolicy(self)
focusPreviousChild(self)
focusProxy(self)
focusWidget(self)
font(self)
fontInfo(self)
fontMetrics(self)
foregroundRole(self)
frameGeometry(self)
frameSize(self)
geometry(self)
getContentsMargins(self)
get_AO()
grab(self[, rectangle])
grabGesture(self, type[, flags])
grabKeyboard(self)
grabMouse()
grabShortcut(self, key[, context])
graphicsEffect(self)
graphicsProxyWidget(self)
hasFocus(self)
hasHeightForWidth(self)
hasMouseTracking(self)
hasTabletTracking(self)

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Table 2.3 – continued from previous page

height(self)
heightForWidth(self, a0)
heightMM(self)
hide(self)
hideEvent(self, a0)
inherits(self, classname)
initPainter(self, painter)
inputMethodEvent(self, a0)
inputMethodHints(self)
inputMethodQuery(self, a0)
insertAction(self, before, action)
insertActions(self, before, actions)
installEventFilter(self, a0)
isActiveWindow(self)
isAncestorOf(self, child)
isEnabled(self)
isEnabledTo(self, a0)
isFullScreen(self)
isHidden(self)
isLeftToRight(self)
isMaximized(self)
isMinimized(self)
isModal(self)
isRightToLeft(self)
isSignalConnected(self, signal)
isVisible(self)

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Table 2.3 – continued from previous page

isVisibleTo(self, a0)
isWidgetType(self)
isWindow(self)
isWindowModified(self)
isWindowType(self)
keyPressEvent(self, a0)
keyReleaseEvent(self, a0)
keyboardGrabber()
killTimer(self, id)
layout(self)
layoutDirection(self)
leaveEvent(self, a0)
locale(self)
lock([notify_ao])
logicalDpiX(self)
logicalDpiY(self)
lower(self)
mapFrom(self, a0, a1)
mapFromGlobal(self, a0)
mapFromParent(self, a0)
mapTo(self, a0, a1)
mapToGlobal(self, a0)
mapToParent(self, a0)
mask(self)
maximumHeight(self)
maximumSize(self)

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Table 2.3 – continued from previous page

maximumWidth(self)
metaObject(self)
metric(self, a0)
minimumHeight(self)
minimumSize(self)
minimumSizeHint(self)
minimumWidth(self)
mouseDoubleClickEvent(self, a0)
mouseGrabber()
mouseMoveEvent(self, a0)
mousePressEvent(self, a0)
mouseReleaseEvent(self, a0)
move()
moveEvent(self, a0)
moveToThread(self, thread)
nativeEvent(self, eventType, message)
nativeParentWidget(self)
nextInFocusChain(self)
normalGeometry(self)
objectName(self)
overrideWindowFlags(self, type)
overrideWindowState(self, state)
paintEngine(self)
paintEvent(self, a0)
paintingActive(self)
palette(self)

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Table 2.3 – continued from previous page

parent(self)	
parentWidget(self)	
physicalDpiX(self)	
physicalDpiY(self)	
pos(self)	
previousInFocusChain(self)	
property(self, name)	
pyqtConfigure(...)	Each keyword argument is either the name of a Qt property or a Qt signal.
raise_(self)	
receivers(self, signal)	
rect(self)	
releaseKeyboard(self)	
releaseMouse(self)	
releaseShortcut(self, id)	
removeAction(self, action)	
removeEventFilter(self, a0)	
render(, sourceRegion, flags, ...)	
repaint(-> None -> None)	
resize()	
resizeEvent(self, a0)	
restoreGeometry(self, geometry)	
saveGeometry(self)	
screen(self)	
scroll()	
sender(self)	
senderSignalIndex(self)	

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Table 2.3 – continued from previous page

setAcceptDrops(self, on)
setAccessibleDescription(self, description)
setAccessibleName(self, name)
setAttribute(self, attribute[, on])
setAutoFillBackground(self, enabled)
setBackgroundRole(self, a0)
setBaseSize()
setContentsMargins()
setContextMenuPolicy(self, policy)
setCursor(self, a0)
setDisabled(self, a0)
setEnabled(self, a0)
setFixedHeight(self, h)
setFixedSize()
setFixedWidth(self, w)
setFocus()
setFocusPolicy(self, policy)
setFocusProxy(self, a0)
setFont(self, a0)
setForegroundRole(self, a0)
setGeometry()
setGraphicsEffect(self, effect)
setHidden(self, hidden)
setInputMethodHints(self, hints)
setLayout(self, a0)
setLayoutDirection(self, direction)

continues on next page

Table 2.3 – continued from previous page

setLocale(self, locale)
setMask()
setMaximumHeight(self, maxh)
setMaximumSize()
setMaximumWidth(self, maxw)
setMinimumHeight(self, minh)
setMinimumSize()
setMinimumWidth(self, minw)
setMouseTracking(self, enable)
setObjectName(self, name)
setPalette(self, a0)
setParent()
setProperty(self, name, value)
setShortcutAutoRepeat(self, id[, enabled])
setShortcutEnabled(self, id[, enabled])
setSizeIncrement()
setSizePolicy()
setStatusTip(self, a0)
setStyle(self, a0)
setStyleSheet(self, styleSheet)
setTabOrder(a0, a1)
setTabletTracking(self, enable)
setToolTip(self, a0)
setToolTipDuration(self, msec)
setUpdatesEnabled(self, enable)
setVisible(self, visible)

continues on next page

Table 2.3 – continued from previous page

setWhatsThis(self, a0)
setWindowFilePath(self, filePath)
setWindowFlag(self, a0[, on])
setWindowFlags(self, type)
setWindowIcon(self, icon)
setWindowIconText(self, a0)
setWindowModality(self, windowModality)
setWindowModified(self, a0)
setWindowOpacity(self, level)
setWindowRole(self, a0)
setWindowState(self, state)
setWindowTitle(self, a0)
set_AO(AO[, notify_old_AO, notify_new_AO])
set_combobox_model(model)
set_limits(lower, upper)
set_num_decimals(decimals)
set_selected_unit(unit)
set_spinbox_value(value, unit)
set_step_size(step)
sharedPainter(self)
show(self)
showEvent(self, a0)
showFullScreen(self)
showMaximized(self)
showMinimized(self)
showNormal(self)

continues on next page

Table 2.3 – continued from previous page

signalsBlocked(self)
size(self)
sizeHint(self)
sizeIncrement(self)
sizePolicy(self)
stackUnder(self, a0)
startTimer(self, interval[, timerType])
statusTip(self)
style(self)
styleSheet(self)
tabletEvent(self, a0)
testAttribute(self, attribute)
thread(self)
timerEvent(self, a0)
toolTip(self)
toolTipDuration(self)
tr(self, sourceText[, disambiguation, n])
unblock_combobox_signals()
unblock_spinbox_signals()
underMouse(self)
ungrabGesture(self, type)
unlock([notify_ao])
unsetCursor(self)
unsetLayoutDirection(self)
unsetLocale(self)
update(-> None -> None)

continues on next page

Table 2.3 – continued from previous page

updateGeometry(self)
updateMicroFocus(self)
updatesEnabled(self)
visibleRegion(self)
whatsThis(self)
wheelEvent(self, a0)
width(self)
widthMM(self)
winId(self)
window(self)
windowFilePath(self)
windowFlags(self)
windowHandle(self)
windowIcon(self)
windowIconText(self)
windowModality(self)
windowOpacity(self)
windowRole(self)
windowState(self)
windowTitle(self)
windowType(self)
x(self)
y(self)

Attributes

DrawChildren	
DrawWindowBackground	
IgnoreMask	
PdmDepth	
PdmDevicePixelRatio	
PdmDevicePixelRatioScaled	
PdmDpiX	
PdmDpiY	
PdmHeight	
PdmHeightMM	
PdmNumColors	
PdmPhysicalDpiX	
PdmPhysicalDpiY	
PdmWidth	
PdmWidthMM	
customContextMenuRequested	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
destroyed	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
objectNameChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
selected_unit	
staticMetaObject	
windowIconChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowIconTextChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowTitleChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL

block_combobox_signals()

block_spinbox_signals()

connect_value_change(*func*)

disconnect_value_change()

eventFilter(*self*, *a0: QObject | None*, *a1: QEvent | None*) → bool

get_AO()

lock(*notify_ao=True*)

property selected_unit

set_AO(*AO*, *notify_old_AO=True*, *notify_new_AO=True*)

set_combobox_model(*model*)

set_limits(*lower*, *upper*)

set_num_decimals(*decimals*)

set_selected_unit(*unit*)

set_spinbox_value(*value*, *unit*)

set_step_size(*step*)

unblock_combobox_signals()

unblock_spinbox_signals()

unlock(*notify_ao=True*)

labscript_utils.qtwidgets.analogoutput.NoStealFocusDoubleSpinBox

class labscript_utils.qtwidgets.analogoutput.**NoStealFocusDoubleSpinBox**(**args*, ***kwargs*)

Bases: QDoubleSpinBox

A QDoubleSpinBox that doesn't steal focus as you scroll over it with a mouse wheel.

__init__(**args*, ***kwargs*)

Methods

__init__(*args, **kwargs)
acceptDrops(self)
accessibleDescription(self)
accessibleName(self)
actionEvent(self, a0)

continues on next page

Table 2.4 – continued from previous page

actions(self)
activateWindow(self)
addAction(self, action)
addActions(self, actions)
adjustSize(self)
alignment(self)
autoFillBackground(self)
backgroundRole(self)
baseSize(self)
blockSignals(self, b)
buttonSymbols(self)
changeEvent(self, e)
childAt(-> Optional[QWidget])
childEvent(self, a0)
children(self)
childrenRect(self)
childrenRegion(self)
cleanText(self)
clear(self)
clearFocus(self)
clearMask(self)
close(self)
closeEvent(self, e)
colorCount(self)
connectNotify(self, signal)
contentsMargins(self)

continues on next page

Table 2.4 – continued from previous page

contentsRect(self)
contextMenuEvent(self, e)
contextMenuPolicy(self)
correctionMode(self)
create(self[, window, initializeWindow, ...])
createWindowContainer(window[, parent, flags])
cursor(self)
customEvent(self, a0)
decimals(self)
deleteLater(self)
depth(self)
destroy(self[, destroyWindow, destroySubWindows])
devType(self)
devicePixelRatio(self)
devicePixelRatioF(self)
devicePixelRatioFScale()
disconnect(-> bool)
disconnectNotify(self, signal)
dragEnterEvent(self, a0)
dragLeaveEvent(self, a0)
dragMoveEvent(self, a0)
dropEvent(self, a0)
dumpObjectInfo(self)
dumpObjectTree(self)
dynamicPropertyNames(self)
effectiveWinId(self)

continues on next page

Table 2.4 – continued from previous page

ensurePolished(self)
enterEvent(self, a0)
event(self, event)
eventFilter(self, a0, a1)
find(a0)
findChild(-> QObjectT)
findChildren(...)
fixup(self, str)
focusInEvent(self, e)
focusNextChild(self)
focusNextPrevChild(self, next)
focusOutEvent(self, e)
focusPolicy(self)
focusPreviousChild(self)
focusProxy(self)
focusWidget(self)
font(self)
fontInfo(self)
fontMetrics(self)
foregroundRole(self)
frameGeometry(self)
frameSize(self)
geometry(self)
getContentsMargins(self)
grab(self[, rectangle])
grabGesture(self, type[, flags])

continues on next page

Table 2.4 – continued from previous page

grabKeyboard(self)
grabMouse()
grabShortcut(self, key[, context])
graphicsEffect(self)
graphicsProxyWidget(self)
hasAcceptableInput(self)
hasFocus(self)
hasFrame(self)
hasHeightForWidth(self)
hasMouseTracking(self)
hasTabletTracking(self)
height(self)
heightForWidth(self, a0)
heightMM(self)
hide(self)
hideEvent(self, e)
inherits(self, classname)
initPainter(self, painter)
initStyleOption(self, option)
inputMethodEvent(self, a0)
inputMethodHints(self)
inputMethodQuery(self, a0)
insertAction(self, before, action)
insertActions(self, before, actions)
installEventFilter(self, a0)
interpretText(self)

continues on next page

Table 2.4 – continued from previous page

isAccelerated(self)
isActiveWindow(self)
isAncestorOf(self, child)
isEnabled(self)
isEnabledTo(self, a0)
isFullScreen(self)
isGroupSeparatorShown(self)
isHidden(self)
isLeftToRight(self)
isMaximized(self)
isMinimized(self)
isModal(self)
isReadOnly(self)
isRightToLeft(self)
isSignalConnected(self, signal)
isVisible(self)
isVisibleTo(self, a0)
isWidgetType(self)
isWindow(self)
isWindowModified(self)
isWindowType(self)
keyPressEvent(self, e)
keyReleaseEvent(self, e)
keyboardGrabber()
keyboardTracking(self)
killTimer(self, id)

continues on next page

Table 2.4 – continued from previous page

layout(self)
layoutDirection(self)
leaveEvent(self, a0)
lineEdit(self)
locale(self)
logicalDpiX(self)
logicalDpiY(self)
lower(self)
mapFrom(self, a0, a1)
mapFromGlobal(self, a0)
mapFromParent(self, a0)
mapTo(self, a0, a1)
mapToGlobal(self, a0)
mapToParent(self, a0)
mask(self)
maximum(self)
maximumHeight(self)
maximumSize(self)
maximumWidth(self)
metaObject(self)
metric(self, a0)
minimum(self)
minimumHeight(self)
minimumSize(self)
minimumSizeHint(self)
minimumWidth(self)

continues on next page

Table 2.4 – continued from previous page

mouseDoubleClickEvent(self, a0)
mouseGrabber()
mouseMoveEvent(self, e)
mousePressEvent(self, e)
mouseReleaseEvent(self, e)
move()
moveEvent(self, a0)
moveToThread(self, thread)
nativeEvent(self, eventType, message)
nativeParentWidget(self)
nextInFocusChain(self)
normalGeometry(self)
objectName(self)
overrideWindowFlags(self, type)
overrideWindowState(self, state)
paintEngine(self)
paintEvent(self, e)
paintingActive(self)
palette(self)
parent(self)
parentWidget(self)
physicalDpiX(self)
physicalDpiY(self)
pos(self)
prefix(self)
previousInFocusChain(self)

continues on next page

Table 2.4 – continued from previous page

`property`(self, name)	
`pyqtConfigure`(...)	Each keyword argument is either the name of a Qt property or a Qt signal.
`raise_`(self)	
`receivers`(self, signal)	
`rect`(self)	
`releaseKeyboard`(self)	
`releaseMouse`(self)	
`releaseShortcut`(self, id)	
`removeAction`(self, action)	
`removeEventFilter`(self, a0)	
`render`(, sourceRegion, flags, ...)	
`repaint`(-> None -> None)	
`resize`()	
`resizeEvent`(self, e)	
`restoreGeometry`(self, geometry)	
`saveGeometry`(self)	
`screen`(self)	
`scroll`()	
`selectAll`(self)	
`sender`(self)	
`senderSignalIndex`(self)	
`setAccelerated`(self, on)	
`setAcceptDrops`(self, on)	
`setAccessibleDescription`(self, description)	
`setAccessibleName`(self, name)	
`setAlignment`(self, flag)	

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Table 2.4 – continued from previous page

setAttribute(self, attribute[, on])
setAutoFillBackground(self, enabled)
setBackgroundRole(self, a0)
setBaseSize()
setButtonSymbols(self, bs)
setContentsMargins()
setContextMenuPolicy(self, policy)
setCorrectionMode(self, cm)
setCursor(self, a0)
setDecimals(self, prec)
setDisabled(self, a0)
setEnabled(self, a0)
setFixedHeight(self, h)
setFixedSize()
setFixedWidth(self, w)
setFocus()
setFocusPolicy(self, policy)
setFocusProxy(self, a0)
setFont(self, a0)
setForegroundRole(self, a0)
setFrame(self, a0)
setGeometry()
setGraphicsEffect(self, effect)
setGroupSeparatorShown(self, shown)
setHidden(self, hidden)
setInputMethodHints(self, hints)

continues on next page

Table 2.4 – continued from previous page

setKeyboardTracking(self, kt)
setLayout(self, a0)
setLayoutDirection(self, direction)
setLineEdit(self, e)
setLocale(self, locale)
setMask()
setMaximum(self, max)
setMaximumHeight(self, maxh)
setMaximumSize()
setMaximumWidth(self, maxw)
setMinimum(self, min)
setMinimumHeight(self, minh)
setMinimumSize()
setMinimumWidth(self, minw)
setMouseTracking(self, enable)
setObjectName(self, name)
setPalette(self, a0)
setParent()
setPrefix(self, p)
setProperty(self, name, value)
setRange(self, min, max)
setReadOnly(self, r)
setShortcutAutoRepeat(self, id[, enabled])
setShortcutEnabled(self, id[, enabled])
setSingleStep(self, val)
setSizeIncrement()

continues on next page

Table 2.4 – continued from previous page

setSizePolicy()
setSpecialValueText(self, s)
setStatusTip(self, a0)
setStepType(self, stepType)
setStyle(self, a0)
setStyleSheet(self, styleSheet)
setSuffix(self, s)
setTabOrder(a0, a1)
setTabletTracking(self, enable)
setToolTip(self, a0)
setToolTipDuration(self, msec)
setUpdatesEnabled(self, enable)
setValue(self, val)
setVisible(self, visible)
setWhatsThis(self, a0)
setWindowFilePath(self, filePath)
setWindowFlag(self, a0[, on])
setWindowFlags(self, type)
setWindowIcon(self, icon)
setWindowIconText(self, a0)
setWindowModality(self, windowModality)
setWindowModified(self, a0)
setWindowOpacity(self, level)
setWindowRole(self, a0)
setWindowState(self, state)
setWindowTitle(self, a0)

continues on next page

Table 2.4 – continued from previous page

setWrapping(self, w)
sharedPainter(self)
show(self)
showEvent(self, e)
showFullScreen(self)
showMaximized(self)
showMinimized(self)
showNormal(self)
signalsBlocked(self)
singleStep(self)
size(self)
sizeHint(self)
sizeIncrement(self)
sizePolicy(self)
specialValueText(self)
stackUnder(self, a0)
startTimer(self, interval[, timerType])
statusTip(self)
stepBy(self, steps)
stepDown(self)
stepEnabled(self)
stepType(self)
stepUp(self)
style(self)
styleSheet(self)
suffix(self)

continues on next page

Table 2.4 – continued from previous page

tabletEvent(self, a0)
testAttribute(self, attribute)
text(self)
textFromValue(self, v)
thread(self)
timerEvent(self, e)
toolTip(self)
toolTipDuration(self)
tr(self, sourceText[, disambiguation, n])
underMouse(self)
ungrabGesture(self, type)
unsetCursor(self)
unsetLayoutDirection(self)
unsetLocale(self)
update(-> None -> None)
updateGeometry(self)
updateMicroFocus(self)
updatesEnabled(self)
validate(self, input, pos)
value(self)
valueFromText(self, text)
visibleRegion(self)
whatsThis(self)
wheelEvent(self, e)
width(self)
widthMM(self)

continues on next page

Table 2.4 – continued from previous page

winId(self)
window(self)
windowFilePath(self)
windowFlags(self)
windowHandle(self)
windowIcon(self)
windowIconText(self)
windowModality(self)
windowOpacity(self)
windowRole(self)
windowState(self)
windowTitle(self)
windowType(self)
wrapping(self)
x(self)
y(self)

Attributes

AdaptiveDecimalStepType
CorrectToNearestValue
CorrectToPreviousValue
DefaultStepType
DrawChildren
DrawWindowBackground
IgnoreMask

continues on next page

Table 2.5 – continued from previous page

NoButtons	
PdmDepth	
PdmDevicePixelRatio	
PdmDevicePixelRatioScaled	
PdmDpiX	
PdmDpiY	
PdmHeight	
PdmHeightMM	
PdmNumColors	
PdmPhysicalDpiX	
PdmPhysicalDpiY	
PdmWidth	
PdmWidthMM	
PlusMinus	
StepDownEnabled	
StepNone	
StepUpEnabled	
UpDownArrows	
customContextMenuRequested	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
destroyed	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
editingFinished	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
objectNameChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
staticMetaObject	
textChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
valueChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowIconChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL

continues on next page

Table 2.5 – continued from previous page

windowIconTextChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowTitleChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL

focusInEvent(*self*, *e: QFocusEvent | None*)

focusOutEvent(*self*, *e: QFocusEvent | None*)

wheelEvent(*self*, *e: QWheelEvent | None*)

labscript_utils.qtwidgets.ddsoutput

Classes

DDSOutput(hardware_name[, connection_name, ...])

labscript_utils.qtwidgets.ddsoutput.DDSOutput

class labscript_utils.qtwidgets.ddsoutput.**DDSOutput**(*hardware_name*, *connection_name='-'*, *parent=None*)

Bases: QWidget

__init__(*hardware_name*, *connection_name='-'*, *parent=None*)

Methods

__init__(hardware_name[, connection_name, ...])
acceptDrops(self)
accessibleDescription(self)
accessibleName(self)
actionEvent(self, a0)
actions(self)
activateWindow(self)
addAction(self, action)
addActions(self, actions)

continues on next page

Table 2.6 – continued from previous page

adjustSize(self)
autoFillBackground(self)
backgroundRole(self)
baseSize(self)
blockSignals(self, b)
changeEvent(self, a0)
childAt(-> Optional[QWidget])
childEvent(self, a0)
children(self)
childrenRect(self)
childrenRegion(self)
clearFocus(self)
clearMask(self)
close(self)
closeEvent(self, a0)
colorCount(self)
connectNotify(self, signal)
contentsMargins(self)
contentsRect(self)
contextMenuEvent(self, a0)
contextMenuPolicy(self)
create(self[, window, initializeWindow, ...])
createWindowContainer(window[, parent, flags])
cursor(self)
customEvent(self, a0)
deleteLater(self)

continues on next page

Table 2.6 – continued from previous page

depth(self)
destroy(self[, destroyWindow, destroySubWindows])
devType(self)
devicePixelRatio(self)
devicePixelRatioF(self)
devicePixelRatioFScale()
disconnect(-> bool)
disconnectNotify(self, signal)
dragEnterEvent(self, a0)
dragLeaveEvent(self, a0)
dragMoveEvent(self, a0)
dropEvent(self, a0)
dumpObjectInfo(self)
dumpObjectTree(self)
dynamicPropertyNames(self)
effectiveWinId(self)
ensurePolished(self)
enterEvent(self, a0)
event(self, a0)
eventFilter(self, a0, a1)
find(a0)
findChild(-> QObjectT)
findChildren(...)
focusInEvent(self, a0)
focusNextChild(self)
focusNextPrevChild(self, next)

continues on next page

Table 2.6 – continued from previous page

focusOutEvent(self, a0)
focusPolicy(self)
focusPreviousChild(self)
focusProxy(self)
focusWidget(self)
font(self)
fontInfo(self)
fontMetrics(self)
foregroundRole(self)
frameGeometry(self)
frameSize(self)
geometry(self)
getContentsMargins(self)
get_sub_widget(subchnl)
grab(self[, rectangle])
grabGesture(self, type[, flags])
grabKeyboard(self)
grabMouse()
grabShortcut(self, key[, context])
graphicsEffect(self)
graphicsProxyWidget(self)
hasFocus(self)
hasHeightForWidth(self)
hasMouseTracking(self)
hasTabletTracking(self)
height(self)

continues on next page

Table 2.6 – continued from previous page

heightForWidth(self, a0)
heightMM(self)
hide(self)
hideEvent(self, a0)
hide_sub_widget(subchnl)
inherits(self, classname)
initPainter(self, painter)
inputMethodEvent(self, a0)
inputMethodHints(self)
inputMethodQuery(self, a0)
insertAction(self, before, action)
insertActions(self, before, actions)
installEventFilter(self, a0)
isActiveWindow(self)
isAncestorOf(self, child)
isEnabled(self)
isEnabledTo(self, a0)
isFullScreen(self)
isHidden(self)
isLeftToRight(self)
isMaximized(self)
isMinimized(self)
isModal(self)
isRightToLeft(self)
isSignalConnected(self, signal)
isVisible(self)

continues on next page

Table 2.6 – continued from previous page

isVisibleTo(self, a0)
isWidgetType(self)
isWindow(self)
isWindowModified(self)
isWindowType(self)
keyPressEvent(self, a0)
keyReleaseEvent(self, a0)
keyboardGrabber()
killTimer(self, id)
layout(self)
layoutDirection(self)
leaveEvent(self, a0)
locale(self)
logicalDpiX(self)
logicalDpiY(self)
lower(self)
mapFrom(self, a0, a1)
mapFromGlobal(self, a0)
mapFromParent(self, a0)
mapTo(self, a0, a1)
mapToGlobal(self, a0)
mapToParent(self, a0)
mask(self)
maximumHeight(self)
maximumSize(self)
maximumWidth(self)

continues on next page

Table 2.6 – continued from previous page

metaObject(self)
metric(self, a0)
minimumHeight(self)
minimumSize(self)
minimumSizeHint(self)
minimumWidth(self)
mouseDoubleClickEvent(self, a0)
mouseGrabber()
mouseMoveEvent(self, a0)
mousePressEvent(self, a0)
mouseReleaseEvent(self, a0)
move()
moveEvent(self, a0)
moveToThread(self, thread)
nativeEvent(self, eventType, message)
nativeParentWidget(self)
nextInFocusChain(self)
normalGeometry(self)
objectName(self)
overrideWindowFlags(self, type)
overrideWindowState(self, state)
paintEngine(self)
paintEvent(self, a0)
paintingActive(self)
palette(self)
parent(self)

continues on next page

Table 2.6 – continued from previous page

parentWidget(self)	
physicalDpiX(self)	
physicalDpiY(self)	
pos(self)	
previousInFocusChain(self)	
property(self, name)	
pyqtConfigure(...)	Each keyword argument is either the name of a Qt property or a Qt signal.
raise_(self)	
receivers(self, signal)	
rect(self)	
releaseKeyboard(self)	
releaseMouse(self)	
releaseShortcut(self, id)	
removeAction(self, action)	
removeEventFilter(self, a0)	
render(, sourceRegion, flags, ...)	
repaint(-> None -> None)	
resize()	
resizeEvent(self, a0)	
restoreGeometry(self, geometry)	
saveGeometry(self)	
screen(self)	
scroll()	
sender(self)	
senderSignalIndex(self)	
setAcceptDrops(self, on)	

continues on next page

Table 2.6 – continued from previous page

setAccessibleDescription(self, description)
setAccessibleName(self, name)
setAttribute(self, attribute[, on])
setAutoFillBackground(self, enabled)
setBackgroundRole(self, a0)
setBaseSize()
setContentsMargins()
setContextMenuPolicy(self, policy)
setCursor(self, a0)
setDisabled(self, a0)
setEnabled(self, a0)
setFixedHeight(self, h)
setFixedSize()
setFixedWidth(self, w)
setFocus()
setFocusPolicy(self, policy)
setFocusProxy(self, a0)
setFont(self, a0)
setForegroundRole(self, a0)
setGeometry()
setGraphicsEffect(self, effect)
setHidden(self, hidden)
setInputMethodHints(self, hints)
setLayout(self, a0)
setLayoutDirection(self, direction)
setLocale(self, locale)

continues on next page

Table 2.6 – continued from previous page

setMask()
setMaximumHeight(self, maxh)
setMaximumSize()
setMaximumWidth(self, maxw)
setMinimumHeight(self, minh)
setMinimumSize()
setMinimumWidth(self, minw)
setMouseTracking(self, enable)
setObjectName(self, name)
setPalette(self, a0)
setParent()
setProperty(self, name, value)
setShortcutAutoRepeat(self, id[, enabled])
setShortcutEnabled(self, id[, enabled])
setSizeIncrement()
setSizePolicy()
setStatusTip(self, a0)
setStyle(self, a0)
setStyleSheet(self, styleSheet)
setTabOrder(a0, a1)
setTabletTracking(self, enable)
setToolTip(self, a0)
setToolTipDuration(self, msec)
setUpdatesEnabled(self, enable)
setVisible(self, visible)
setWhatsThis(self, a0)

continues on next page

Table 2.6 – continued from previous page

setWindowFilePath(self, filePath)
setWindowFlag(self, a0[, on])
setWindowFlags(self, type)
setWindowIcon(self, icon)
setWindowIconText(self, a0)
setWindowModality(self, windowModality)
setWindowModified(self, a0)
setWindowOpacity(self, level)
setWindowRole(self, a0)
setWindowState(self, state)
setWindowTitle(self, a0)
sharedPainter(self)
show(self)
showEvent(self, a0)
showFullScreen(self)
showMaximized(self)
showMinimized(self)
showNormal(self)
show_sub_widget(subchnl)
signalsBlocked(self)
size(self)
sizeHint(self)
sizeIncrement(self)
sizePolicy(self)
stackUnder(self, a0)
startTimer(self, interval[, timerType])

continues on next page

Table 2.6 – continued from previous page

statusTip(self)
style(self)
styleSheet(self)
tabletEvent(self, a0)
testAttribute(self, attribute)
thread(self)
timerEvent(self, a0)
toolTip(self)
toolTipDuration(self)
tr(self, sourceText[, disambiguation, n])
underMouse(self)
ungrabGesture(self, type)
unsetCursor(self)
unsetLayoutDirection(self)
unsetLocale(self)
update(-> None -> None)
updateGeometry(self)
updateMicroFocus(self)
updatesEnabled(self)
visibleRegion(self)
whatsThis(self)
wheelEvent(self, a0)
width(self)
widthMM(self)
winId(self)
window(self)

continues on next page

Table 2.6 – continued from previous page

`windowFilePath`(self)
`windowFlags`(self)
`windowHandle`(self)
`windowIcon`(self)
`windowIconText`(self)
`windowModality`(self)
`windowOpacity`(self)
`windowRole`(self)
`windowState`(self)
`windowTitle`(self)
`windowType`(self)
`x`(self)
`y`(self)

Attributes

DrawChildren	
DrawWindowBackground	
IgnoreMask	
PdmDepth	
PdmDevicePixelRatio	
PdmDevicePixelRatioScaled	
PdmDpiX	
PdmDpiY	
PdmHeight	
PdmHeightMM	
PdmNumColors	
PdmPhysicalDpiX	
PdmPhysicalDpiY	
PdmWidth	
PdmWidthMM	
customContextMenuRequested	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
destroyed	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
objectNameChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
staticMetaObject	
windowIconChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowIconTextChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowTitleChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL

get_sub_widget(*subchnl*)

hide_sub_widget(*subchnl*)

show_sub_widget(*subchnl*)

labscript_utils.qtwidgets.digitaloutput

Classes

DigitalOutput(*args, **kwargs)	
InvertedDigitalOutput(*args, **kwargs)	

labscript_utils.qtwidgets.digitaloutput.DigitalOutput

class labscript_utils.qtwidgets.digitaloutput.**DigitalOutput**(**args*, ***kwargs*)

Bases: QPushButton

__init__(**args*, ***kwargs*)

Methods

__init__(*args, **kwargs)	
acceptDrops(self)	
accessibleDescription(self)	
accessibleName(self)	
actionEvent(self, a0)	
actions(self)	
activateWindow(self)	
addAction(self, action)	
addActions(self, actions)	
adjustSize(self)	
animateClick(self[, msecs])	
autoDefault(self)	
autoExclusive(self)	
autoFillBackground(self)	
autoRepeat(self)	

continues on next page

Table 2.7 – continued from previous page

autoRepeatDelay(self)
autoRepeatInterval(self)
backgroundRole(self)
baseSize(self)
blockSignals(self, b)
changeEvent(self, e)
checkStateSet(self)
childAt(-> Optional[QWidget])
childEvent(self, a0)
children(self)
childrenRect(self)
childrenRegion(self)
clearFocus(self)
clearMask(self)
click(self)
close(self)
closeEvent(self, a0)
colorCount(self)
connectNotify(self, signal)
contentsMargins(self)
contentsRect(self)
contextMenuEvent(self, a0)
contextMenuPolicy(self)
create(self[, window, initializeWindow, ...])
createWindowContainer(window[, parent, flags])
cursor(self)

continues on next page

Table 2.7 – continued from previous page

customEvent(self, a0)
deleteLater(self)
depth(self)
destroy(self[, destroyWindow, destroySubWindows])
devType(self)
devicePixelRatio(self)
devicePixelRatioF(self)
devicePixelRatioFScale()
disconnect(-> bool)
disconnectNotify(self, signal)
dragEnterEvent(self, a0)
dragLeaveEvent(self, a0)
dragMoveEvent(self, a0)
dropEvent(self, a0)
dumpObjectInfo(self)
dumpObjectTree(self)
dynamicPropertyNames(self)
effectiveWinId(self)
ensurePolished(self)
enterEvent(self, a0)
event(self, e)
eventFilter(self, a0, a1)
find(a0)
findChild(-> QObjectT)
findChildren(...)
focusInEvent(self, a0)

continues on next page

Table 2.7 – continued from previous page

focusNextChild(self)
focusNextPrevChild(self, next)
focusOutEvent(self, a0)
focusPolicy(self)
focusPreviousChild(self)
focusProxy(self)
focusWidget(self)
font(self)
fontInfo(self)
fontMetrics(self)
foregroundRole(self)
frameGeometry(self)
frameSize(self)
geometry(self)
getContentsMargins(self)
get_DO()
grab(self[, rectangle])
grabGesture(self, type[, flags])
grabKeyboard(self)
grabMouse()
grabShortcut(self, key[, context])
graphicsEffect(self)
graphicsProxyWidget(self)
group(self)
hasFocus(self)
hasHeightForWidth(self)

continues on next page

Table 2.7 – continued from previous page

hasMouseTracking(self)
hasTabletTracking(self)
height(self)
heightForWidth(self, a0)
heightMM(self)
hide(self)
hideEvent(self, a0)
hitButton(self, pos)
icon(self)
iconSize(self)
inherits(self, classname)
initPainter(self, painter)
initStyleOption(self, option)
inputMethodEvent(self, a0)
inputMethodHints(self)
inputMethodQuery(self, a0)
insertAction(self, before, action)
insertActions(self, before, actions)
installEventFilter(self, a0)
isActiveWindow(self)
isAncestorOf(self, child)
isCheckable(self)
isChecked(self)
isDefault(self)
isDown(self)
isEnabled(self)

continues on next page

Table 2.7 – continued from previous page

isEnabledTo(self, a0)
isFlat(self)
isFullScreen(self)
isHidden(self)
isLeftToRight(self)
isMaximized(self)
isMinimized(self)
isModal(self)
isRightToLeft(self)
isSignalConnected(self, signal)
isVisible(self)
isVisibleTo(self, a0)
isWidgetType(self)
isWindow(self)
isWindowModified(self)
isWindowType(self)
keyPressEvent(self, a0)
keyReleaseEvent(self, e)
keyboardGrabber()
killTimer(self, id)
layout(self)
layoutDirection(self)
leaveEvent(self, a0)
locale(self)
lock([notify_do])
logicalDpiX(self)

continues on next page

Table 2.7 – continued from previous page

logicalDpiY(self)
lower(self)
mapFrom(self, a0, a1)
mapFromGlobal(self, a0)
mapFromParent(self, a0)
mapTo(self, a0, a1)
mapToGlobal(self, a0)
mapToParent(self, a0)
mask(self)
maximumHeight(self)
maximumSize(self)
maximumWidth(self)
menu(self)
metaObject(self)
metric(self, a0)
minimumHeight(self)
minimumSize(self)
minimumSizeHint(self)
minimumWidth(self)
mouseDoubleClickEvent(self, a0)
mouseGrabber()
mouseMoveEvent(self, e)
mousePressEvent(self, e)
mouseReleaseEvent(self, e)
move()
moveEvent(self, a0)

continues on next page

Table 2.7 – continued from previous page

moveToThread(self, thread)	
nativeEvent(self, eventType, message)	
nativeParentWidget(self)	
nextCheckState(self)	
nextInFocusChain(self)	
normalGeometry(self)	
objectName(self)	
overrideWindowFlags(self, type)	
overrideWindowState(self, state)	
paintEngine(self)	
paintEvent(self, a0)	
paintingActive(self)	
palette(self)	
parent(self)	
parentWidget(self)	
physicalDpiX(self)	
physicalDpiY(self)	
pos(self)	
previousInFocusChain(self)	
property(self, name)	
pyqtConfigure(...)	Each keyword argument is either the name of a Qt property or a Qt signal.
raise_(self)	
receivers(self, signal)	
rect(self)	
releaseKeyboard(self)	
releaseMouse(self)	

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Table 2.7 – continued from previous page

`releaseShortcut`(self, id)
`removeAction`(self, action)
`removeEventFilter`(self, a0)
`render`(, sourceRegion, flags, ...)
`repaint`(-> None -> None)
`resize`()
`resizeEvent`(self, a0)
`restoreGeometry`(self, geometry)
`saveGeometry`(self)
`screen`(self)
`scroll`()
`sender`(self)
`senderSignalIndex`(self)
`setAcceptDrops`(self, on)
`setAccessibleDescription`(self, description)
`setAccessibleName`(self, name)
`setAttribute`(self, attribute[, on])
`setAutoDefault`(self, a0)
`setAutoExclusive`(self, a0)
`setAutoFillBackground`(self, enabled)
`setAutoRepeat`(self, a0)
`setAutoRepeatDelay`(self, a0)
`setAutoRepeatInterval`(self, a0)
`setBackgroundRole`(self, a0)
`setBaseSize`()
`setCheckable`(self, a0)

continues on next page

Table 2.7 – continued from previous page

setChecked(self, a0)
setContentsMargins()
setContextMenuPolicy(self, policy)
setCursor(self, a0)
setDefault(self, a0)
setDisabled(self, a0)
setDown(self, a0)
setEnabled(self, a0)
setFixedHeight(self, h)
setFixedSize()
setFixedWidth(self, w)
setFlat(self, a0)
setFocus()
setFocusPolicy(self, policy)
setFocusProxy(self, a0)
setFont(self, a0)
setForegroundRole(self, a0)
setGeometry()
setGraphicsEffect(self, effect)
setHidden(self, hidden)
setIcon(self, icon)
setIconSize(self, size)
setInputMethodHints(self, hints)
setLayout(self, a0)
setLayoutDirection(self, direction)
setLocale(self, locale)

continues on next page

Table 2.7 – continued from previous page

setMask()
setMaximumHeight(self, maxh)
setMaximumSize()
setMaximumWidth(self, maxw)
setMenu(self, menu)
setMinimumHeight(self, minh)
setMinimumSize()
setMinimumWidth(self, minw)
setMouseTracking(self, enable)
setObjectName(self, name)
setPalette(self, a0)
setParent()
setProperty(self, name, value)
setShortcut(self, key)
setShortcutAutoRepeat(self, id[, enabled])
setShortcutEnabled(self, id[, enabled])
setSizeIncrement()
setSizePolicy()
setStatusTip(self, a0)
setStyle(self, a0)
setStyleSheet(self, styleSheet)
setTabOrder(a0, a1)
setTabletTracking(self, enable)
setText(self, text)
setToolTip(self, a0)
setToolTipDuration(self, msec)

continues on next page

Table 2.7 – continued from previous page

setUpdatesEnabled(self, enable)
setVisible(self, visible)
setWhatsThis(self, a0)
setWindowFilePath(self, filePath)
setWindowFlag(self, a0[, on])
setWindowFlags(self, type)
setWindowIcon(self, icon)
setWindowIconText(self, a0)
setWindowModality(self, windowModality)
setWindowModified(self, a0)
setWindowOpacity(self, level)
setWindowRole(self, a0)
setWindowState(self, state)
setWindowTitle(self, a0)
set_DO(DO[, notify_old_DO, notify_new_DO])
sharedPainter(self)
shortcut(self)
show(self)
showEvent(self, a0)
showFullScreen(self)
showMaximized(self)
showMenu(self)
showMinimized(self)
showNormal(self)
signalsBlocked(self)
size(self)

continues on next page

Table 2.7 – continued from previous page

sizeHint(self)
sizeIncrement(self)
sizePolicy(self)
stackUnder(self, a0)
startTimer(self, interval[, timerType])
statusTip(self)
style(self)
styleSheet(self)
tabletEvent(self, a0)
testAttribute(self, attribute)
text(self)
thread(self)
timerEvent(self, e)
toggle(self)
toolTip(self)
toolTipDuration(self)
tr(self, sourceText[, disambiguation, n])
underMouse(self)
ungrabGesture(self, type)
unlock([notify_do])
unsetCursor(self)
unsetLayoutDirection(self)
unsetLocale(self)
update(-> None -> None)
updateGeometry(self)
updateMicroFocus(self)

continues on next page

Table 2.7 – continued from previous page

updatesEnabled(self)
visibleRegion(self)
whatsThis(self)
wheelEvent(self, a0)
width(self)
widthMM(self)
winId(self)
window(self)
windowFilePath(self)
windowFlags(self)
windowHandle(self)
windowIcon(self)
windowIconText(self)
windowModality(self)
windowOpacity(self)
windowRole(self)
windowState(self)
windowTitle(self)
windowType(self)
x(self)
y(self)

Attributes

DrawChildren	
DrawWindowBackground	
IgnoreMask	
PdmDepth	
PdmDevicePixelRatio	
PdmDevicePixelRatioScaled	
PdmDpiX	
PdmDpiY	
PdmHeight	
PdmHeightMM	
PdmNumColors	
PdmPhysicalDpiX	
PdmPhysicalDpiY	
PdmWidth	
PdmWidthMM	
clicked	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
customContextMenuRequested	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
destroyed	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
objectNameChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
pressed	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
released	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
state	
staticMetaObject	
toggled	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowIconChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowIconTextChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowTitleChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL

eventFilter(*self*, *a0: QObject | None*, *a1: QEvent | None*) → bool

get_DO()

lock(*notify_do=True*)

set_DO(*DO*, *notify_old_DO=True*, *notify_new_DO=True*)

property state

unlock(*notify_do=True*)

labscript_utils.qtwidgets.digitaloutput.InvertedDigitalOutput

class labscript_utils.qtwidgets.digitaloutput.**InvertedDigitalOutput**(**args*, ***kwargs*)

Bases: *DigitalOutput*

__init__(**args*, ***kwargs*)

Methods

__init__(*args, **kwargs)
acceptDrops(self)
accessibleDescription(self)
accessibleName(self)
actionEvent(self, a0)
actions(self)
activateWindow(self)
addAction(self, action)
addActions(self, actions)
adjustSize(self)
animateClick(self[, msecs])
autoDefault(self)
autoExclusive(self)
autoFillBackground(self)
autoRepeat(self)

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Table 2.8 – continued from previous page

autoRepeatDelay(self)
autoRepeatInterval(self)
backgroundRole(self)
baseSize(self)
blockSignals(self, b)
changeEvent(self, e)
checkStateSet(self)
childAt(-> Optional[QWidget])
childEvent(self, a0)
children(self)
childrenRect(self)
childrenRegion(self)
clearFocus(self)
clearMask(self)
click(self)
close(self)
closeEvent(self, a0)
colorCount(self)
connectNotify(self, signal)
contentsMargins(self)
contentsRect(self)
contextMenuEvent(self, a0)
contextMenuPolicy(self)
create(self[, window, initializeWindow, ...])
createWindowContainer(window[, parent, flags])
cursor(self)

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Table 2.8 – continued from previous page

customEvent(self, a0)
deleteLater(self)
depth(self)
destroy(self[, destroyWindow, destroySubWindows])
devType(self)
devicePixelRatio(self)
devicePixelRatioF(self)
devicePixelRatioFScale()
disconnect(-> bool)
disconnectNotify(self, signal)
dragEnterEvent(self, a0)
dragLeaveEvent(self, a0)
dragMoveEvent(self, a0)
dropEvent(self, a0)
dumpObjectInfo(self)
dumpObjectTree(self)
dynamicPropertyNames(self)
effectiveWinId(self)
ensurePolished(self)
enterEvent(self, a0)
event(self, e)
eventFilter(self, a0, a1)
find(a0)
findChild(-> QObjectT)
findChildren(...)
focusInEvent(self, a0)

continues on next page

Table 2.8 – continued from previous page

focusNextChild(self)
focusNextPrevChild(self, next)
focusOutEvent(self, a0)
focusPolicy(self)
focusPreviousChild(self)
focusProxy(self)
focusWidget(self)
font(self)
fontInfo(self)
fontMetrics(self)
foregroundRole(self)
frameGeometry(self)
frameSize(self)
geometry(self)
getContentsMargins(self)
get_DO()
grab(self[, rectangle])
grabGesture(self, type[, flags])
grabKeyboard(self)
grabMouse()
grabShortcut(self, key[, context])
graphicsEffect(self)
graphicsProxyWidget(self)
group(self)
hasFocus(self)
hasHeightForWidth(self)

continues on next page

Table 2.8 – continued from previous page

hasMouseTracking(self)
hasTabletTracking(self)
height(self)
heightForWidth(self, a0)
heightMM(self)
hide(self)
hideEvent(self, a0)
hitButton(self, pos)
icon(self)
iconSize(self)
inherits(self, classname)
initPainter(self, painter)
initStyleOption(self, option)
inputMethodEvent(self, a0)
inputMethodHints(self)
inputMethodQuery(self, a0)
insertAction(self, before, action)
insertActions(self, before, actions)
installEventFilter(self, a0)
isActiveWindow(self)
isAncestorOf(self, child)
isCheckable(self)
isChecked(self)
isDefault(self)
isDown(self)
isEnabled(self)

continues on next page

Table 2.8 – continued from previous page

isEnabledTo(self, a0)
isFlat(self)
isFullScreen(self)
isHidden(self)
isLeftToRight(self)
isMaximized(self)
isMinimized(self)
isModal(self)
isRightToLeft(self)
isSignalConnected(self, signal)
isVisible(self)
isVisibleTo(self, a0)
isWidgetType(self)
isWindow(self)
isWindowModified(self)
isWindowType(self)
keyPressEvent(self, a0)
keyReleaseEvent(self, e)
keyboardGrabber()
killTimer(self, id)
layout(self)
layoutDirection(self)
leaveEvent(self, a0)
locale(self)
lock([notify_do])
logicalDpiX(self)

continues on next page

Table 2.8 – continued from previous page

logicalDpiY(self)
lower(self)
mapFrom(self, a0, a1)
mapFromGlobal(self, a0)
mapFromParent(self, a0)
mapTo(self, a0, a1)
mapToGlobal(self, a0)
mapToParent(self, a0)
mask(self)
maximumHeight(self)
maximumSize(self)
maximumWidth(self)
menu(self)
metaObject(self)
metric(self, a0)
minimumHeight(self)
minimumSize(self)
minimumSizeHint(self)
minimumWidth(self)
mouseDoubleClickEvent(self, a0)
mouseGrabber()
mouseMoveEvent(self, e)
mousePressEvent(self, e)
mouseReleaseEvent(self, e)
move()
moveEvent(self, a0)

continues on next page

Table 2.8 – continued from previous page

moveToThread(self, thread)	
nativeEvent(self, eventType, message)	
nativeParentWidget(self)	
nextCheckState(self)	
nextInFocusChain(self)	
normalGeometry(self)	
objectName(self)	
overrideWindowFlags(self, type)	
overrideWindowState(self, state)	
paintEngine(self)	
paintEvent(self, a0)	
paintingActive(self)	
palette(self)	
parent(self)	
parentWidget(self)	
physicalDpiX(self)	
physicalDpiY(self)	
pos(self)	
previousInFocusChain(self)	
property(self, name)	
pyqtConfigure(...)	Each keyword argument is either the name of a Qt property or a Qt signal.
raise_(self)	
receivers(self, signal)	
rect(self)	
releaseKeyboard(self)	
releaseMouse(self)	

continues on next page

Table 2.8 – continued from previous page

`releaseShortcut`(self, id)
`removeAction`(self, action)
`removeEventFilter`(self, a0)
`render`(, sourceRegion, flags, ...)
`repaint`(-> None -> None)
`resize`()
`resizeEvent`(self, a0)
`restoreGeometry`(self, geometry)
`saveGeometry`(self)
`screen`(self)
`scroll`()
`sender`(self)
`senderSignalIndex`(self)
`setAcceptDrops`(self, on)
`setAccessibleDescription`(self, description)
`setAccessibleName`(self, name)
`setAttribute`(self, attribute[, on])
`setAutoDefault`(self, a0)
`setAutoExclusive`(self, a0)
`setAutoFillBackground`(self, enabled)
`setAutoRepeat`(self, a0)
`setAutoRepeatDelay`(self, a0)
`setAutoRepeatInterval`(self, a0)
`setBackgroundRole`(self, a0)
`setBaseSize`()
`setCheckable`(self, a0)

continues on next page

Table 2.8 – continued from previous page

setChecked(self, a0)
setContentsMargins()
setContextMenuPolicy(self, policy)
setCursor(self, a0)
setDefault(self, a0)
setDisabled(self, a0)
setDown(self, a0)
setEnabled(self, a0)
setFixedHeight(self, h)
setFixedSize()
setFixedWidth(self, w)
setFlat(self, a0)
setFocus()
setFocusPolicy(self, policy)
setFocusProxy(self, a0)
setFont(self, a0)
setForegroundRole(self, a0)
setGeometry()
setGraphicsEffect(self, effect)
setHidden(self, hidden)
setIcon(self, icon)
setIconSize(self, size)
setInputMethodHints(self, hints)
setLayout(self, a0)
setLayoutDirection(self, direction)
setLocale(self, locale)

continues on next page

Table 2.8 – continued from previous page

setMask()
setMaximumHeight(self, maxh)
setMaximumSize()
setMaximumWidth(self, maxw)
setMenu(self, menu)
setMinimumHeight(self, minh)
setMinimumSize()
setMinimumWidth(self, minw)
setMouseTracking(self, enable)
setObjectName(self, name)
setPalette(self, a0)
setParent()
setProperty(self, name, value)
setShortcut(self, key)
setShortcutAutoRepeat(self, id[, enabled])
setShortcutEnabled(self, id[, enabled])
setSizeIncrement()
setSizePolicy()
setStatusTip(self, a0)
setStyle(self, a0)
setStyleSheet(self, styleSheet)
setTabOrder(a0, a1)
setTabletTracking(self, enable)
setText(self, text)
setToolTip(self, a0)
setToolTipDuration(self, msec)

continues on next page

Table 2.8 – continued from previous page

setUpdatesEnabled(self, enable)
setVisible(self, visible)
setWhatsThis(self, a0)
setWindowFilePath(self, filePath)
setWindowFlag(self, a0[, on])
setWindowFlags(self, type)
setWindowIcon(self, icon)
setWindowIconText(self, a0)
setWindowModality(self, windowModality)
setWindowModified(self, a0)
setWindowOpacity(self, level)
setWindowRole(self, a0)
setWindowState(self, state)
setWindowTitle(self, a0)
set_DO(DO[, notify_old_DO, notify_new_DO])
sharedPainter(self)
shortcut(self)
show(self)
showEvent(self, a0)
showFullScreen(self)
showMaximized(self)
showMenu(self)
showMinimized(self)
showNormal(self)
signalsBlocked(self)
size(self)

continues on next page

Table 2.8 – continued from previous page

sizeHint(self)
sizeIncrement(self)
sizePolicy(self)
stackUnder(self, a0)
startTimer(self, interval[, timerType])
statusTip(self)
style(self)
styleSheet(self)
tabletEvent(self, a0)
testAttribute(self, attribute)
text(self)
thread(self)
timerEvent(self, e)
toggle(self)
toolTip(self)
toolTipDuration(self)
tr(self, sourceText[, disambiguation, n])
underMouse(self)
ungrabGesture(self, type)
unlock([notify_do])
unsetCursor(self)
unsetLayoutDirection(self)
unsetLocale(self)
update(-> None -> None)
updateGeometry(self)
updateMicroFocus(self)

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Table 2.8 – continued from previous page

updatesEnabled(self)
visibleRegion(self)
whatsThis(self)
wheelEvent(self, a0)
width(self)
widthMM(self)
winId(self)
window(self)
windowFilePath(self)
windowFlags(self)
windowHandle(self)
windowIcon(self)
windowIconText(self)
windowModality(self)
windowOpacity(self)
windowRole(self)
windowState(self)
windowTitle(self)
windowType(self)
x(self)
y(self)

Attributes

DrawChildren	
DrawWindowBackground	
IgnoreMask	
PdmDepth	
PdmDevicePixelRatio	
PdmDevicePixelRatioScaled	
PdmDpiX	
PdmDpiY	
PdmHeight	
PdmHeightMM	
PdmNumColors	
PdmPhysicalDpiX	
PdmPhysicalDpiY	
PdmWidth	
PdmWidthMM	
clicked	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
customContextMenuRequested	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
destroyed	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
objectNameChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
pressed	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
released	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
state	
staticMetaObject	
toggled	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowIconChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowIconTextChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowTitleChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL

property state

labscript_utils.qtwidgets.dragdroptab

Classes

DragDropTabBar(parent, group_id)	
DragDropTabWidget([group_id, ...])	A tab widget that supports dragging and dropping of tabs between tab widgets that share a group_id.
Tab(widget, text, data, text_color, tooltip, ...)	
TabAnimation(parent)	
debug()	

labscript_utils.qtwidgets.dragdroptab.DragDropTabBar

class labscript_utils.qtwidgets.dragdroptab.**DragDropTabBar**(*parent*, *group_id*)

Bases: _BaseDragDropTabBar

__init__(*parent*, *group_id*)

Methods

__init__(parent, group_id)
acceptDrops(self)
accessibleDescription(self)
accessibleName(self)
accessibleTabName(self, index)
actionEvent(self, a0)
actions(self)
activateWindow(self)
addAction(self, action)
addActions(self, actions)
addTab(-> int)

continues on next page

Table 2.9 – continued from previous page

add_dragged_tab(index, tab)	Insert the tab at the given index and set all of its configuration
adjustSize(self)	
autoFillBackground(self)	
autoHide(self)	
backgroundRole(self)	
baseSize(self)	
blockSignals(self, b)	
changeCurrentOnDrag(self)	
changeEvent(self, a0)	
childAt(-> Optional[QWidget])	
childEvent(self, a0)	
children(self)	
childrenRect(self)	
childrenRegion(self)	
clearFocus(self)	
clearMask(self)	
close(self)	
closeEvent(self, a0)	
colorCount(self)	
connectNotify(self, signal)	
contentsMargins(self)	
contentsRect(self)	
contextMenuEvent(self, a0)	
contextMenuPolicy(self)	
count(self)	
create(self[, window, initializeWindow, ...])	

continues on next page

Table 2.9 – continued from previous page

`createWindowContainer`(window[, parent, flags])
`currentIndex`(self)
`cursor`(self)
`customEvent`(self, a0)
`deleteLater`(self)
`depth`(self)
`destroy`(self[, destroyWindow, destroySubWindows])
`devType`(self)
`devicePixelRatio`(self)
`devicePixelRatioF`(self)
`devicePixelRatioFScale`()
`disconnect`(-> bool)
`disconnectNotify`(self, signal)
`documentMode`(self)
`dragEnterEvent`(self, a0)
`dragLeaveEvent`(self, a0)
`dragMoveEvent`(self, a0)
`drawBase`(self)
`dropEvent`(self, a0)
`dumpObjectInfo`(self)
`dumpObjectTree`(self)
`dynamicPropertyNames`(self)
`effectiveWinId`(self)
`elideMode`(self)
`ensurePolished`(self)
`ensure_visible`(index[, prefer_left])

continues on next page

Table 2.9 – continued from previous page

enterEvent(self, a0)
event(self, a0)
eventFilter(self, a0, a1)
expanding(self)
find(a0)
findChild(-> QObjectT)
findChildren(...)
focusInEvent(self, a0)
focusNextChild(self)
focusNextPrevChild(self, next)
focusOutEvent(self, a0)
focusPolicy(self)
focusPreviousChild(self)
focusProxy(self)
focusWidget(self)
font(self)
fontInfo(self)
fontMetrics(self)
foregroundRole(self)
frameGeometry(self)
frameSize(self)
geometry(self)
getContentsMargins(self)
grab(self[, rectangle])
grabGesture(self, type[, flags])
grabKeyboard(self)

continues on next page

Table 2.9 – continued from previous page

grabMouse()	
grabShortcut(self, key[, context])	
graphicsEffect(self)	
graphicsProxyWidget(self)	
hasFocus(self)	
hasHeightForWidth(self)	
hasMouseTracking(self)	
hasTabletTracking(self)	
height(self)	
heightForWidth(self, a0)	
heightMM(self)	
hide(self)	
hideEvent(self, a0)	
iconSize(self)	
inherits(self, classname)	
initPainter(self, painter)	
initStyleOption(self, option, tabIndex)	
inputMethodEvent(self, a0)	
inputMethodHints(self)	
inputMethodQuery(self, a0)	
insertAction(self, before, action)	
insertActions(self, before, actions)	
insertTab(-> int)	
insertion_index_at(pos)	Compute at which index the tab with given upper left corner position in global coordinates should be inserted into the tabBar.
installEventFilter(self, a0)	

continues on next page

Table 2.9 – continued from previous page

isActiveWindow(self)	
isAncestorOf(self, child)	
isEnabled(self)	
isEnabledTo(self, a0)	
isFullScreen(self)	
isHidden(self)	
isLeftToRight(self)	
isMaximized(self)	
isMinimized(self)	
isModal(self)	
isMovable(self)	
isRightToLeft(self)	
isSignalConnected(self, signal)	
isTabEnabled(self, index)	
isTabVisible(self, index)	
isVisible(self)	
isVisibleTo(self, a0)	
isWidgetType(self)	
isWindow(self)	
isWindowModified(self)	
isWindowType(self)	
is_dragged_tab(index)	Return whether the tab at the given index is currently being dragged
keyPressEvent(self, a0)	
keyReleaseEvent(self, a0)	
keyboardGrabber()	
killTimer(self, id)	

continues on next page

Table 2.9 – continued from previous page

layout(self)
layoutDirection(self)
leaveEvent(self, a0)
locale(self)
logicalDpiX(self)
logicalDpiY(self)
lower(self)
mapFrom(self, a0, a1)
mapFromGlobal(self, a0)
mapFromParent(self, a0)
mapTo(self, a0, a1)
mapToGlobal(self, a0)
mapToParent(self, a0)
mask(self)
maximumHeight(self)
maximumSize(self)
maximumWidth(self)
metaObject(self)
metric(self, a0)
minimumHeight(self)
minimumSize(self)
minimumSizeHint(self)
minimumTabSizeHint(self, index)
minimumWidth(self)
mouseDoubleClickEvent(self, a0)
mouseGrabber()

continues on next page

Table 2.9 – continued from previous page

mouseMoveEvent(event)	Update the parent of the tab to be the DragDropTabWidget under the mouse, if any, otherwise update it to the limbo object.
mousePressEvent(event)	Take note of the tab that was clicked so it can be dragged on mouseMoveEvents
mouseReleaseEvent(event)	Same as mouseMove event - update the DragDropTabWidget and position of the tab to the current mouse position.
move()	
moveEvent(self, a0)	
moveTab(self, from_, to)	
moveToThread(self, thread)	
nativeEvent(self, eventType, message)	
nativeParentWidget(self)	
nextInFocusChain(self)	
normalGeometry(self)	
objectName(self)	
on_scroll_button_clicked(button)	
overrideWindowFlags(self, type)	
overrideWindowState(self, state)	
paintEngine(self)	
paintEvent(self, a0)	
paint_tab(index, painter, option)	
paintingActive(self)	
palette(self)	
parent(self)	
parentWidget(self)	
physicalDpiX(self)	
physicalDpiY(self)	
pos(self)	

continues on next page

Table 2.9 – continued from previous page

previousInFocusChain(self)	
property(self, name)	
pyqtConfigure(...)	Each keyword argument is either the name of a Qt property or a Qt signal.
raise_(self)	
receivers(self, signal)	
rect(self)	
releaseKeyboard(self)	
releaseMouse(self)	
releaseShortcut(self, id)	
removeAction(self, action)	
removeEventFilter(self, a0)	
removeTab(self, index)	
remove_dragged_tab(index)	Remove the tab at the given index and return all its configuration
render(, sourceRegion, flags, ...)	
repaint(-> None -> None)	
resize()	
resizeEvent(self, a0)	
restoreGeometry(self, geometry)	
saveGeometry(self)	
screen(self)	
scroll()	
selectionBehaviorOnRemove(self)	
sender(self)	
senderSignalIndex(self)	
setAcceptDrops(self, on)	
setAccessibleDescription(self, description)	

continues on next page

Table 2.9 – continued from previous page

`setAccessibleName`(self, name)
`setAccessibleTabName`(self, index, name)
`setAttribute`(self, attribute[, on])
`setAutoFillBackground`(self, enabled)
`setAutoHide`(self, hide)
`setBackgroundRole`(self, a0)
`setBaseSize`()
`setChangeCurrentOnDrag`(self, change)
`setContentsMargins`()
`setContextMenuPolicy`(self, policy)
`setCurrentIndex`(self, index)
`setCursor`(self, a0)
`setDisabled`(self, a0)
`setDocumentMode`(self, set)
`setDrawBase`(self, drawTheBase)
`setElideMode`(self, a0)
`setEnabled`(self, a0)
`setExpanding`(self, enabled)
`setFixedHeight`(self, h)
`setFixedSize`()
`setFixedWidth`(self, w)
`setFocus`()
`setFocusPolicy`(self, policy)
`setFocusProxy`(self, a0)
`setFont`(self, a0)
`setForegroundRole`(self, a0)

continues on next page

Table 2.9 – continued from previous page

setGeometry()
setGraphicsEffect(self, effect)
setHidden(self, hidden)
setIconSize(self, size)
setInputMethodHints(self, hints)
setLayout(self, a0)
setLayoutDirection(self, direction)
setLocale(self, locale)
setMask()
setMaximumHeight(self, maxh)
setMaximumSize()
setMaximumWidth(self, maxw)
setMinimumHeight(self, minh)
setMinimumSize()
setMinimumWidth(self, minw)
setMouseTracking(self, enable)
setMovable(self, movable)
setObjectName(self, name)
setPalette(self, a0)
setParent()
setProperty(self, name, value)
setSelectionBehaviorOnRemove(self, behavior)
setShape(self, shape)
setShortcutAutoRepeat(self, id[, enabled])
setShortcutEnabled(self, id[, enabled])
setSizeIncrement()

continues on next page

Table 2.9 – continued from previous page

setSizePolicy()
setStatusTip(self, a0)
setStyle(self, a0)
setStyleSheet(self, styleSheet)
setTabButton(self, index, position, widget)
setTabData(self, index, data)
setTabEnabled(self, index, a1)
setTabIcon(self, index, icon)
setTabOrder(a0, a1)
setTabText(self, index, text)
setTabTextColor(self, index, color)
setTabToolTip(self, index, tip)
setTabVisible(self, index, visible)
setTabWhatsThis(self, index, text)
setTabletTracking(self, enable)
setTabsClosable(self, closable)
setToolTip(self, a0)
setToolTipDuration(self, msec)
setUpdatesEnabled(self, enable)
setUsesScrollButtons(self, useButtons)
setVisible(self, visible)
setWhatsThis(self, a0)
setWindowFilePath(self, filePath)
setWindowFlag(self, a0[, on])
setWindowFlags(self, type)
setWindowIcon(self, icon)

continues on next page

Table 2.9 – continued from previous page

setWindowIconText(self, a0)	
setWindowModality(self, windowModality)	
setWindowModified(self, a0)	
setWindowOpacity(self, level)	
setWindowRole(self, a0)	
setWindowState(self, state)	
setWindowTitle(self, a0)	
set_tab_parent(dest[, index, pos])	Move the tab to the given parent DragDropTabBar if it's not already there.
shape(self)	
sharedPainter(self)	
show(self)	
showEvent(self, a0)	
showFullScreen(self)	
showMaximized(self)	
showMinimized(self)	
showNormal(self)	
signalsBlocked(self)	
size(self)	
sizeHint(self)	
sizeIncrement(self)	
sizePolicy(self)	
stackUnder(self, a0)	
startTimer(self, interval[, timerType])	
statusTip(self)	
style(self)	
styleSheet(self)	

continues on next page

Table 2.9 – continued from previous page

tabAt(self, pos)
tabButton(self, index, position)
tabData(self, index)
tabIcon(self, index)
tabInserted(self, index)
tabLayoutChange(self)
tabRect(self, index)
tabRemoved(self, index)
tabSizeHint(self, index)
tabText(self, index)
tabTextColor(self, index)
tabToolTip(self, index)
tabWhatsThis(self, index)
tabletEvent(self, a0)
tabsClosable(self)
testAttribute(self, attribute)
thread(self)
timerEvent(self, event)
toolTip(self)
toolTipDuration(self)
tr(self, sourceText[, disambiguation, n])
underMouse(self)
ungrabGesture(self, type)
unsetCursor(self)
unsetLayoutDirection(self)
unsetLocale(self)

continues on next page

Table 2.9 – continued from previous page

update(-> None -> None)	
updateGeometry(self)	
updateMicroFocus(self)	
update_dragged_tab_animation_pos(pos)	
update_scroll_button_state()	
update_tab_index(index, pos)	Check if the tab at the given index, being dragged by the mouse at the given position, needs to be moved.
updatesEnabled(self)	
usesScrollButtons(self)	
visibleRegion(self)	
whatsThis(self)	
wheelEvent(self, event)	
widgetAt(pos)	If the given position is over a DragDropTabBar belonging to the current group, return the DragDropTabBar.
width(self)	
widthMM(self)	
winId(self)	
window(self)	
windowFilePath(self)	
windowFlags(self)	
windowHandle(self)	
windowIcon(self)	
windowIconText(self)	
windowModality(self)	
windowOpacity(self)	
windowRole(self)	
windowState(self)	

continues on next page

Table 2.9 – continued from previous page

windowTitle(self)
windowType(self)
x(self)
y(self)

Attributes

DrawChildren
DrawWindowBackground
FLUSH_GAP
IgnoreMask
LeftSide
PdmDepth
PdmDevicePixelRatio
PdmDevicePixelRatioScaled
PdmDpiX
PdmDpiY
PdmHeight
PdmHeightMM
PdmNumColors
PdmPhysicalDpiX
PdmPhysicalDpiY
PdmWidth
PdmWidthMM
RightSide
RoundedEast

continues on next page

Table 2.10 – continued from previous page

RoundedNorth	
RoundedSouth	
RoundedWest	
SCROLL_BUTTON_GAP	
SCROLL_BUTTON_WIDTH	
SelectLeftTab	
SelectPreviousTab	
SelectRightTab	
TriangularEast	
TriangularNorth	
TriangularSouth	
TriangularWest	
currentChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
customContextMenuRequested	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
destroyed	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
drag_in_progress	
dragged_tab_grab_point	
dragged_tab_index	
dragged_tab_parent	
limbo	
objectNameChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
staticMetaObject	
tabBarClicked	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
tabBarDoubleClicked	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
tabCloseRequested	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
tabMoved	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL

continues on next page

Table 2.10 – continued from previous page

tab_widgets	
windowIconChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowIconTextChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowTitleChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL

FLUSH_GAP = 5

SCROLL_BUTTON_GAP = 2

SCROLL_BUTTON_WIDTH = 15

property drag_in_progress

property dragged_tab_index

property dragged_tab_parent

ensure_visible(*index*, *prefer_left=True*)

insertion_index_at(*pos*)

Compute at which index the tab with given upper left corner position in global coordinates should be inserted into the tabBar.

is_dragged_tab(*index*)

Return whether the tab at the given index is currently being dragged

limbo = None

minimumSizeHint(*self*) → QSize

mouseMoveEvent(*event*)

Update the parent of the tab to be the DragDropTabWidget under the mouse, if any, otherwise update it to the limbo object. Update the position of the tab in the widget it's in.

mousePressEvent(*event*)

Take note of the tab that was clicked so it can be dragged on mouseMoveEvents

mouseReleaseEvent(*event*)

Same as mouseMove event - update the DragDropTabWidget and position of the tab to the current mouse position. Unless the mouse position is outside of any widgets at the time of mouse release, in which case move the tab to its last known parent and position.

on_scroll_button_clicked(*button*)

paintEvent(*self*, *a0: QPaintEvent* | *None*)

paint_tab(*index*, *painter*, *option*)

setUsesScrollButtons(*self*, *useButtons: bool*)

set_tab_parent(*dest*, *index=None*, *pos=None*)

Move the tab to the given parent DragDropTabBar if it's not already there. index=None will determined the insertion index from the given mouse position.

sizeHint(*self*) → QSize

tabAt(*self*, *pos: QPoint*) → int

tabInserted(*self*, *index: int*)

tabLayoutChange(*self*)

tabRect(*self*, *index: int*) → QRect

tabRemoved(*self*, *index: int*)

tab_widgets = {}

update(*self*)
update(*self*, *a0: QRect*) → None
update(*self*, *a0: QRegion*) → None
update(*self*, *ax: int*, *ay: int*, *aw: int*, *ah: int*) → None

update_dragged_tab_animation_pos(*pos*)

update_scroll_button_state()

update_tab_index(*index*, *pos*)

Check if the tab at the given index, being dragged by the mouse at the given position, needs to be moved. Move it and return the new index.

widgetAt(*pos*)

If the given position is over a DragDropTabBar belonging to the current group, return the DragDropTabBar. If it is over a TabWidget in the same group that has no tabs, or the dragged tab as its only tab, return its DragDropTabBar. Otherwise return the limbo object.

labscript_utils.qtwidgets.dragdroptab.DragDropTabWidget

class labscript_utils.qtwidgets.dragdroptab.**DragDropTabWidget**(*group_id=None*, *accept_drops_bar_only=False*)

Bases: QTabWidget

A tab widget that supports dragging and dropping of tabs between tab widgets that share a group_id. a group_id of None indicates that tab dragging is disabled.

__init__(*group_id=None*, *accept_drops_bar_only=False*)

Methods

__init__([group_id, accept_drops_bar_only])
acceptDrops(self)
accessibleDescription(self)
accessibleName(self)

continues on next page

Table 2.11 – continued from previous page

actionEvent(self, a0)
actions(self)
activateWindow(self)
addAction(self, action)
addActions(self, actions)
addTab(-> int)
adjustSize(self)
autoFillBackground(self)
backgroundRole(self)
baseSize(self)
blockSignals(self, b)
changeEvent(self, a0)
childAt(-> Optional[QWidget])
childEvent(self, a0)
children(self)
childrenRect(self)
childrenRegion(self)
clear(self)
clearFocus(self)
clearMask(self)
close(self)
closeEvent(self, a0)
colorCount(self)
connectNotify(self, signal)
contentsMargins(self)
contentsRect(self)

continues on next page

Table 2.11 – continued from previous page

`contextMenuEvent`(self, a0)
`contextMenuPolicy`(self)
`cornerWidget`(self[, corner])
`count`(self)
`create`(self[, window, initializeWindow, ...])
`createWindowContainer`(window[, parent, flags])
`currentIndex`(self)
`currentWidget`(self)
`cursor`(self)
`customEvent`(self, a0)
`deleteLater`(self)
`depth`(self)
`destroy`(self[, destroyWindow, destroySubWindows])
`devType`(self)
`devicePixelRatio`(self)
`devicePixelRatioF`(self)
`devicePixelRatioFScale`()
`disconnect`(-> bool)
`disconnectNotify`(self, signal)
`documentMode`(self)
`dragEnterEvent`(self, a0)
`dragLeaveEvent`(self, a0)
`dragMoveEvent`(self, a0)
`dropEvent`(self, a0)
`dumpObjectInfo`(self)
`dumpObjectTree`(self)

continues on next page

Table 2.11 – continued from previous page

dynamicPropertyNames(self)
effectiveWinId(self)
elideMode(self)
ensurePolished(self)
enterEvent(self, a0)
event(self, a0)
eventFilter(self, a0, a1)
find(a0)
findChild(-> QObjectT)
findChildren(...)
focusInEvent(self, a0)
focusNextChild(self)
focusNextPrevChild(self, next)
focusOutEvent(self, a0)
focusPolicy(self)
focusPreviousChild(self)
focusProxy(self)
focusWidget(self)
font(self)
fontInfo(self)
fontMetrics(self)
foregroundRole(self)
frameGeometry(self)
frameSize(self)
geometry(self)
getContentsMargins(self)

continues on next page

Table 2.11 – continued from previous page

grab(self[, rectangle])
grabGesture(self, type[, flags])
grabKeyboard(self)
grabMouse()
grabShortcut(self, key[, context])
graphicsEffect(self)
graphicsProxyWidget(self)
hasFocus(self)
hasHeightForWidth(self)
hasMouseTracking(self)
hasTabletTracking(self)
height(self)
heightForWidth(self, width)
heightMM(self)
hide(self)
hideEvent(self, a0)
iconSize(self)
indexOf(self, widget)
inherits(self, classname)
initPainter(self, painter)
initStyleOption(self, option)
inputMethodEvent(self, a0)
inputMethodHints(self)
inputMethodQuery(self, a0)
insertAction(self, before, action)
insertActions(self, before, actions)

continues on next page

Table 2.11 – continued from previous page

insertTab(-> int)
installEventFilter(self, a0)
isActiveWindow(self)
isAncestorOf(self, child)
isEnabled(self)
isEnabledTo(self, a0)
isFullScreen(self)
isHidden(self)
isLeftToRight(self)
isMaximized(self)
isMinimized(self)
isModal(self)
isMovable(self)
isRightToLeft(self)
isSignalConnected(self, signal)
isTabEnabled(self, index)
isTabVisible(self, index)
isVisible(self)
isVisibleTo(self, a0)
isWidgetType(self)
isWindow(self)
isWindowModified(self)
isWindowType(self)
keyPressEvent(self, a0)
keyReleaseEvent(self, a0)
keyboardGrabber()

continues on next page

Table 2.11 – continued from previous page

`killTimer`(self, id)
`layout`(self)
`layoutDirection`(self)
`leaveEvent`(self, a0)
`locale`(self)
`logicalDpiX`(self)
`logicalDpiY`(self)
`lower`(self)
`mapFrom`(self, a0, a1)
`mapFromGlobal`(self, a0)
`mapFromParent`(self, a0)
`mapTo`(self, a0, a1)
`mapToGlobal`(self, a0)
`mapToParent`(self, a0)
`mask`(self)
`maximumHeight`(self)
`maximumSize`(self)
`maximumWidth`(self)
`metaObject`(self)
`metric`(self, a0)
`minimumHeight`(self)
`minimumSize`(self)
`minimumSizeHint`(self)
`minimumWidth`(self)
`mouseDoubleClickEvent`(self, a0)
`mouseGrabber`()

continues on next page

Table 2.11 – continued from previous page

mouseMoveEvent(self, a0)	
mousePressEvent(self, a0)	
mouseReleaseEvent(self, a0)	
move()	
moveEvent(self, a0)	
moveToThread(self, thread)	
nativeEvent(self, eventType, message)	
nativeParentWidget(self)	
nextInFocusChain(self)	
normalGeometry(self)	
objectName(self)	
overrideWindowFlags(self, type)	
overrideWindowState(self, state)	
paintEngine(self)	
paintEvent(self, a0)	
paintingActive(self)	
palette(self)	
parent(self)	
parentWidget(self)	
physicalDpiX(self)	
physicalDpiY(self)	
pos(self)	
previousInFocusChain(self)	
property(self, name)	
pyqtConfigure(...)	Each keyword argument is either the name of a Qt property or a Qt signal.
raise_(self)	

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Table 2.11 – continued from previous page

receivers(self, signal)
rect(self)
releaseKeyboard(self)
releaseMouse(self)
releaseShortcut(self, id)
removeAction(self, action)
removeEventFilter(self, a0)
removeTab(self, index)
render(, sourceRegion, flags, ...)
repaint(-> None -> None)
resize()
resizeEvent(self, a0)
restoreGeometry(self, geometry)
saveGeometry(self)
screen(self)
scroll()
sender(self)
senderSignalIndex(self)
setAcceptDrops(self, on)
setAccessibleDescription(self, description)
setAccessibleName(self, name)
setAttribute(self, attribute[, on])
setAutoFillBackground(self, enabled)
setBackgroundRole(self, a0)
setBaseSize()
setContentsMargins()

continues on next page

Table 2.11 – continued from previous page

setContextMenuPolicy(self, policy)
setCornerWidget(self, widget[, corner])
setCurrentIndex(self, index)
setCurrentWidget(self, widget)
setCursor(self, a0)
setDisabled(self, a0)
setDocumentMode(self, set)
setElideMode(self, a0)
setEnabled(self, a0)
setFixedHeight(self, h)
setFixedSize()
setFixedWidth(self, w)
setFocus()
setFocusPolicy(self, policy)
setFocusProxy(self, a0)
setFont(self, a0)
setForegroundRole(self, a0)
setGeometry()
setGraphicsEffect(self, effect)
setHidden(self, hidden)
setIconSize(self, size)
setInputMethodHints(self, hints)
setLayout(self, a0)
setLayoutDirection(self, direction)
setLocale(self, locale)
setMask()

continues on next page

Table 2.11 – continued from previous page

setMaximumHeight(self, maxh)
setMaximumSize()
setMaximumWidth(self, maxw)
setMinimumHeight(self, minh)
setMinimumSize()
setMinimumWidth(self, minw)
setMouseTracking(self, enable)
setMovable(self, movable)
setObjectName(self, name)
setPalette(self, a0)
setParent()
setProperty(self, name, value)
setShortcutAutoRepeat(self, id[, enabled])
setShortcutEnabled(self, id[, enabled])
setSizeIncrement()
setSizePolicy()
setStatusTip(self, a0)
setStyle(self, a0)
setStyleSheet(self, styleSheet)
setTabBar(self, a0)
setTabBarAutoHide(self, enabled)
setTabEnabled(self, index, a1)
setTabIcon(self, index, icon)
setTabOrder(a0, a1)
setTabPosition(self, a0)
setTabShape(self, s)

continues on next page

Table 2.11 – continued from previous page

setTabText(self, index, a1)
setTabToolTip(self, index, tip)
setTabVisible(self, index, visible)
setTabWhatsThis(self, index, text)
setTabletTracking(self, enable)
setTabsClosable(self, closeable)
setToolTip(self, a0)
setToolTipDuration(self, msec)
setUpdatesEnabled(self, enable)
setUsesScrollButtons(self, useButtons)
setVisible(self, visible)
setWhatsThis(self, a0)
setWindowFilePath(self, filePath)
setWindowFlag(self, a0[, on])
setWindowFlags(self, type)
setWindowIcon(self, icon)
setWindowIconText(self, a0)
setWindowModality(self, windowModality)
setWindowModified(self, a0)
setWindowOpacity(self, level)
setWindowRole(self, a0)
setWindowState(self, state)
setWindowTitle(self, a0)
sharedPainter(self)
show(self)
showEvent(self, a0)

continues on next page

Table 2.11 – continued from previous page

showFullScreen(self)
showMaximized(self)
showMinimized(self)
showNormal(self)
signalsBlocked(self)
size(self)
sizeHint(self)
sizeIncrement(self)
sizePolicy(self)
stackUnder(self, a0)
startTimer(self, interval[, timerType])
statusTip(self)
style(self)
styleSheet(self)
tabBar(self)
tabBarAutoHide(self)
tabIcon(self, index)
tabInserted(self, index)
tabPosition(self)
tabRemoved(self, index)
tabShape(self)
tabText(self, index)
tabToolTip(self, index)
tabWhatsThis(self, index)
tabletEvent(self, a0)
tabsClosable(self)

continues on next page

Table 2.11 – continued from previous page

`testAttribute`(self, attribute)
`thread`(self)
`timerEvent`(self, a0)
`toolTip`(self)
`toolTipDuration`(self)
`tr`(self, sourceText[, disambiguation, n])
`underMouse`(self)
`ungrabGesture`(self, type)
`unsetCursor`(self)
`unsetLayoutDirection`(self)
`unsetLocale`(self)
`update`(-> None -> None)
`updateGeometry`(self)
`updateMicroFocus`(self)
`updatesEnabled`(self)
`usesScrollButtons`(self)
`visibleRegion`(self)
`whatsThis`(self)
`wheelEvent`(self, a0)
`widget`(self, index)
`width`(self)
`widthMM`(self)
`winId`(self)
`window`(self)
`windowFilePath`(self)
`windowFlags`(self)

continues on next page

Table 2.11 – continued from previous page

windowHandle(self)
windowIcon(self)
windowIconText(self)
windowModality(self)
windowOpacity(self)
windowRole(self)
windowState(self)
windowTitle(self)
windowType(self)
x(self)
y(self)

Attributes

DrawChildren
DrawWindowBackground
East
IgnoreMask
North
PdmDepth
PdmDevicePixelRatio
PdmDevicePixelRatioScaled
PdmDpiX
PdmDpiY
PdmHeight
PdmHeightMM

continues on next page

Table 2.12 – continued from previous page

PdmNumColors	
PdmPhysicalDpiX	
PdmPhysicalDpiY	
PdmWidth	
PdmWidthMM	
Rounded	
South	
Triangular	
West	
currentChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
customContextMenuRequested	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
destroyed	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
objectNameChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
staticMetaObject	
tabBarClicked	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
tabBarDoubleClicked	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
tabCloseRequested	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowIconChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowIconTextChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowTitleChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL

setElideMode(*self*, *a0: Qt.TextElideMode*)

setUsesScrollButtons(*self*, *useButtons: bool*)

labscript_utils.qtwidgets.dragdroptab.Tab

class `labscript_utils.qtwidgets.dragdroptab.Tab`(*widget*, *text*, *data*, *text_color*, *tooltip*, *whats_this*, *button_left*, *button_right*, *icon*)

Bases: `tuple`

__init__()

Methods

__init__()	
`count`(value, /)	Return number of occurrences of value.
`index`(value[, start, stop])	Return first index of value.

Attributes

button_left	Alias for field number 6
button_right	Alias for field number 7
data	Alias for field number 2
icon	Alias for field number 8
text	Alias for field number 1
text_color	Alias for field number 3
tooltip	Alias for field number 4
whats_this	Alias for field number 5
widget	Alias for field number 0

button_left

Alias for field number 6

button_right

Alias for field number 7

data

Alias for field number 2

icon

Alias for field number 8

text

Alias for field number 1

text_color

Alias for field number 3

tooltip

Alias for field number 4

whats_this

Alias for field number 5

widget

Alias for field number 0

labscript_utils.qtwidgets.dragdroptab.TabAnimation

class labscript_utils.qtwidgets.dragdroptab.**TabAnimation**(*parent*)

Bases: QAbstractAnimation

__init__(*parent*)

Methods

__init__(parent)	
animate_limbo(limbo, index)	If the floating tab in limbo is being sucked back into one of our tabs, then we can animate that by hiding the relevant tab rect off to the side somwhere whilst the floating tab swoops in.
blockSignals(self, b)	
childEvent(self, a0)	
children(self)	
connectNotify(self, signal)	
currentLoop(self)	
currentLoopTime(self)	
currentTime(self)	
customEvent(self, a0)	
deleteLater(self)	
direction(self)	
disconnect(-> bool)	
disconnectNotify(self, signal)	
dumpObjectInfo(self)	
dumpObjectTree(self)	
duration(self)	
dynamicPropertyNames(self)	

continues on next page

Table 2.13 – continued from previous page

ensure_running()	
event(self, event)	
eventFilter(self, a0, a1)	
findChild(-> QObjectT)	
findChildren(...)	
group(self)	
inherits(self, classname)	
installEventFilter(self, a0)	
isSignalConnected(self, signal)	
isWidgetType(self)	
isWindowType(self)	
killTimer(self, id)	
loopCount(self)	
metaObject(self)	
moveToThread(self, thread)	
objectName(self)	
on_tab_moved(source_index, dest_index)	
parent(self)	
pause(self)	
property(self, name)	
pyqtConfigure(...)	Each keyword argument is either the name of a Qt property or a Qt signal.
receivers(self, signal)	
removeEventFilter(self, a0)	
resume(self)	
sender(self)	
senderSignalIndex(self)	

continues on next page

Table 2.13 – continued from previous page

setCurrentTime(self, msecs)	
setDirection(self, direction)	
setLoopCount(self, loopCount)	
setObjectName(self, name)	
setParent(self, a0)	
setPaused(self, a0)	
setProperty(self, name, value)	
signalsBlocked(self)	
start(self[, policy])	
startTimer(self, interval[, timerType])	
state(self)	
stop(self)	
tabInserted(index)	
tabRemoved(index)	
target(i)	Return the target position we are animating toward for a tab
thread(self)	
timerEvent(self, a0)	
totalDuration(self)	
tr(self, sourceText[, disambiguation, n])	
updateCurrentTime(self, currentTime)	
updateDirection(self, direction)	
updateState(self, newState, oldState)	

Attributes

Backward	
DeleteWhenStopped	
Forward	
KeepWhenStopped	
Paused	
Running	
Stopped	
currentLoopChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
destroyed	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
directionChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
finished	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
objectNameChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
stateChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
staticMetaObject	
tau	

animate_limbo(*limbo*, *index*)

If the floating tab in limbo is being sucked back into one of our tabs, then we can animate that by hiding the relevant tab rect off to the side somwhere whilst the floating tab swoops in.

duration(*self*) → int

ensure_running()

on_tab_moved(*source_index*, *dest_index*)

tabInserted(*index*)

tabRemoved(*index*)

target(*i*)

Return the target position we are animating toward for a tab

tau = 60.0

updateCurrentTime(*self*, *currentTime: int*)

labscript_utils.qtwidgets.dragdroptab.debug

class labscript_utils.qtwidgets.dragdroptab.**debug**

Bases: object

__init__()

Methods

__init__()	
trace(f)	decorator to print function entries and exits

Attributes

DEBUG
depth

DEBUG = False

depth = 0

classmethod trace(*f*)

decorator to print function entries and exits

labscript_utils.qtwidgets.elide_label

Functions

elide_label(label, layout, elide_mode)	Take an existing label that is in a layout, and wrap it in our widgets that elide the text, and insert it back into the layout.

labscript_utils.qtwidgets.elide_label.elide_label

labscript_utils.qtwidgets.elide_label.**elide_label**(*label*, *layout*, *elide_mode*)

Take an existing label that is in a layout, and wrap it in our widgets that elide the text, and insert it back into the layout. This is a hack that allows us to elide a QLabel with a single line of (possibly rich) text, a task that seems pretty much impossible to do in any kosher way.

This function is for modifying an existing label already in a layout, but if you are programatically creating a label, then you can wrap it in ElidedLabelContainer(label) before inserting it into a layout or other container widget, which is more flexible than this function which only works if the label is in a QBoxLayout

Classes

ElideScrollArea(*args, **kwargs)	A ScrollArea for containing a label that we want to elide.
ElidedLabelContainer(label)	A QWidget to contain a QLabel with a single line of (possibly rich) text that we want to elide.

labscript_utils.qtwidgets.elide_label.ElideScrollArea

class labscript_utils.qtwidgets.elide_label.**ElideScrollArea**(**args*, ***kwargs*)

Bases: QScrollArea

A ScrollArea for containing a label that we want to elide. The elision is attained by just letting the text we don't want to see be scrolled off to the side with the scrollbars hidden.

__init__(**args*, ***kwargs*)

Methods

__init__(*args, **kwargs)
acceptDrops(self)
accessibleDescription(self)
accessibleName(self)
actionEvent(self, a0)
actions(self)
activateWindow(self)
addAction(self, action)
addActions(self, actions)
addScrollBarWidget(self, widget, alignment)
adjustSize(self)
alignment(self)
autoFillBackground(self)
backgroundRole(self)
baseSize(self)

continues on next page

Table 2.14 – continued from previous page

blockSignals(self, b)
changeEvent(self, a0)
childAt(-> Optional[QWidget])
childEvent(self, a0)
children(self)
childrenRect(self)
childrenRegion(self)
clearFocus(self)
clearMask(self)
close(self)
closeEvent(self, a0)
colorCount(self)
connectNotify(self, signal)
contentsMargins(self)
contentsRect(self)
contextMenuEvent(self, a0)
contextMenuPolicy(self)
cornerWidget(self)
create(self[, window, initializeWindow, ...])
createWindowContainer(window[, parent, flags])
cursor(self)
customEvent(self, a0)
deleteLater(self)
depth(self)
destroy(self[, destroyWindow, destroySubWindows])
devType(self)

continues on next page

Table 2.14 – continued from previous page

devicePixelRatio(self)
devicePixelRatioF(self)
devicePixelRatioFScale()
disconnect(-> bool)
disconnectNotify(self, signal)
dragEnterEvent(self, a0)
dragLeaveEvent(self, a0)
dragMoveEvent(self, a0)
drawFrame(self, a0)
dropEvent(self, a0)
dumpObjectInfo(self)
dumpObjectTree(self)
dynamicPropertyNames(self)
effectiveWinId(self)
ensurePolished(self)
ensureVisible(self, x, y[, xMargin, yMargin])
ensureWidgetVisible(self, childWidget[, ...])
enterEvent(self, a0)
event(self, a0)
eventFilter(self, a0, a1)
find(a0)
findChild(-> QObjectT)
findChildren(...)
focusInEvent(self, a0)
focusNextChild(self)
focusNextPrevChild(self, next)

continues on next page

Table 2.14 – continued from previous page

focusOutEvent(self, a0)
focusPolicy(self)
focusPreviousChild(self)
focusProxy(self)
focusWidget(self)
font(self)
fontInfo(self)
fontMetrics(self)
foregroundRole(self)
frameGeometry(self)
frameRect(self)
frameShadow(self)
frameShape(self)
frameSize(self)
frameStyle(self)
frameWidth(self)
geometry(self)
getContentsMargins(self)
grab(self[, rectangle])
grabGesture(self, type[, flags])
grabKeyboard(self)
grabMouse()
grabShortcut(self, key[, context])
graphicsEffect(self)
graphicsProxyWidget(self)
hasFocus(self)

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Table 2.14 – continued from previous page

hasHeightForWidth(self)
hasMouseTracking(self)
hasTabletTracking(self)
height(self)
heightForWidth(self, a0)
heightMM(self)
hide(self)
hideEvent(self, a0)
horizontalScrollBar(self)
horizontalScrollBarPolicy(self)
inherits(self, classname)
initPainter(self, painter)
initStyleOption(self, option)
inputMethodEvent(self, a0)
inputMethodHints(self)
inputMethodQuery(self, a0)
insertAction(self, before, action)
insertActions(self, before, actions)
installEventFilter(self, a0)
isActiveWindow(self)
isAncestorOf(self, child)
isEnabled(self)
isEnabledTo(self, a0)
isFullScreen(self)
isHidden(self)
isLeftToRight(self)

continues on next page

Table 2.14 – continued from previous page

isMaximized(self)
isMinimized(self)
isModal(self)
isRightToLeft(self)
isSignalConnected(self, signal)
isVisible(self)
isVisibleTo(self, a0)
isWidgetType(self)
isWindow(self)
isWindowModified(self)
isWindowType(self)
keyPressEvent(self, a0)
keyReleaseEvent(self, a0)
keyboardGrabber()
killTimer(self, id)
layout(self)
layoutDirection(self)
leaveEvent(self, a0)
lineWidth(self)
locale(self)
logicalDpiX(self)
logicalDpiY(self)
lower(self)
mapFrom(self, a0, a1)
mapFromGlobal(self, a0)
mapFromParent(self, a0)

continues on next page

Table 2.14 – continued from previous page

mapTo(self, a0, a1)
mapToGlobal(self, a0)
mapToParent(self, a0)
mask(self)
maximumHeight(self)
maximumSize(self)
maximumViewportSize(self)
maximumWidth(self)
metaObject(self)
metric(self, a0)
midLineWidth(self)
minimumHeight(self)
minimumSize(self)
minimumSizeHint(self)
minimumWidth(self)
mouseDoubleClickEvent(self, a0)
mouseGrabber()
mouseMoveEvent(self, a0)
mousePressEvent(self, a0)
mouseReleaseEvent(self, a0)
move()
moveEvent(self, a0)
moveToThread(self, thread)
nativeEvent(self, eventType, message)
nativeParentWidget(self)
nextInFocusChain(self)

continues on next page

Table 2.14 – continued from previous page

normalGeometry(self)	
objectName(self)	
overrideWindowFlags(self, type)	
overrideWindowState(self, state)	
paintEngine(self)	
paintEvent(self, a0)	
paintingActive(self)	
palette(self)	
parent(self)	
parentWidget(self)	
physicalDpiX(self)	
physicalDpiY(self)	
pos(self)	
previousInFocusChain(self)	
property(self, name)	
pyqtConfigure(...)	Each keyword argument is either the name of a Qt property or a Qt signal.
raise_(self)	
receivers(self, signal)	
rect(self)	
releaseKeyboard(self)	
releaseMouse(self)	
releaseShortcut(self, id)	
removeAction(self, action)	
removeEventFilter(self, a0)	
render(, sourceRegion, flags, ...)	
repaint(-> None -> None)	

continues on next page

Table 2.14 – continued from previous page

resize()
resizeEvent(self, a0)
restoreGeometry(self, geometry)
saveGeometry(self)
screen(self)
scroll()
scrollBarWidgets(self, alignment)
scrollContentsBy(self, dx, dy)
sender(self)
senderSignalIndex(self)
setAcceptDrops(self, on)
setAccessibleDescription(self, description)
setAccessibleName(self, name)
setAlignment(self, a0)
setAttribute(self, attribute[, on])
setAutoFillBackground(self, enabled)
setBackgroundRole(self, a0)
setBaseSize()
setContentsMargins()
setContextMenuPolicy(self, policy)
setCornerWidget(self, widget)
setCursor(self, a0)
setDisabled(self, a0)
setElideMode(elideMode)
setEnabled(self, a0)
setFixedHeight(self, h)

continues on next page

Table 2.14 – continued from previous page

setFixedSize()
setFixedWidth(self, w)
setFocus()
setFocusPolicy(self, policy)
setFocusProxy(self, a0)
setFont(self, a0)
setForegroundRole(self, a0)
setFrameRect(self, a0)
setFrameShadow(self, a0)
setFrameShape(self, a0)
setFrameStyle(self, a0)
setGeometry()
setGraphicsEffect(self, effect)
setHidden(self, hidden)
setHorizontalScrollBar(self, scrollbar)
setHorizontalScrollBarPolicy(self, a0)
setInputMethodHints(self, hints)
setLayout(self, a0)
setLayoutDirection(self, direction)
setLineWidth(self, a0)
setLocale(self, locale)
setMask()
setMaximumHeight(self, maxh)
setMaximumSize()
setMaximumWidth(self, maxw)
setMidLineWidth(self, a0)

continues on next page

Table 2.14 – continued from previous page

setMinimumHeight(self, minh)
setMinimumSize()
setMinimumWidth(self, minw)
setMouseTracking(self, enable)
setObjectName(self, name)
setPalette(self, a0)
setParent()
setProperty(self, name, value)
setShortcutAutoRepeat(self, id[, enabled])
setShortcutEnabled(self, id[, enabled])
setSizeAdjustPolicy(self, policy)
setSizeIncrement()
setSizePolicy()
setStatusTip(self, a0)
setStyle(self, a0)
setStyleSheet(self, styleSheet)
setTabOrder(a0, a1)
setTabletTracking(self, enable)
setToolTip(self, a0)
setToolTipDuration(self, msec)
setUpdatesEnabled(self, enable)
setVerticalScrollBar(self, scrollbar)
setVerticalScrollBarPolicy(self, a0)
setViewport(self, widget)
setViewportMargins()
setVisible(self, visible)

continues on next page

Table 2.14 – continued from previous page

setWhatsThis(self, a0)
setWidget(self, w)
setWidgetResizable(self, resizable)
setWindowFilePath(self, filePath)
setWindowFlag(self, a0[, on])
setWindowFlags(self, type)
setWindowIcon(self, icon)
setWindowIconText(self, a0)
setWindowModality(self, windowModality)
setWindowModified(self, a0)
setWindowOpacity(self, level)
setWindowRole(self, a0)
setWindowState(self, state)
setWindowTitle(self, a0)
setupViewport(self, viewport)
sharedPainter(self)
show(self)
showEvent(self, a0)
showFullScreen(self)
showMaximized(self)
showMinimized(self)
showNormal(self)
signalsBlocked(self)
size(self)
sizeAdjustPolicy(self)
sizeHint(self)

continues on next page

Table 2.14 – continued from previous page

sizeIncrement(self)
sizePolicy(self)
stackUnder(self, a0)
startTimer(self, interval[, timerType])
statusTip(self)
style(self)
styleSheet(self)
tabletEvent(self, a0)
takeWidget(self)
testAttribute(self, attribute)
thread(self)
timerEvent(self, a0)
toolTip(self)
toolTipDuration(self)
tr(self, sourceText[, disambiguation, n])
underMouse(self)
ungrabGesture(self, type)
unsetCursor(self)
unsetLayoutDirection(self)
unsetLocale(self)
update(-> None -> None)
updateGeometry(self)
updateMicroFocus(self)
updatesEnabled(self)
verticalScrollBar(self)
verticalScrollBarPolicy(self)

continues on next page

Table 2.14 – continued from previous page

viewport(self)
viewportEvent(self, a0)
viewportMargins(self)
viewportSizeHint(self)
visibleRegion(self)
whatsThis(self)
wheelEvent(self, a0)
widget(self)
widgetResizable(self)
width(self)
widthMM(self)
winId(self)
window(self)
windowFilePath(self)
windowFlags(self)
windowHandle(self)
windowIcon(self)
windowIconText(self)
windowModality(self)
windowOpacity(self)
windowRole(self)
windowState(self)
windowTitle(self)
windowType(self)
x(self)

continues on next page

Table 2.14 – continued from previous page

y(self)

Attributes

AdjustIgnored
AdjustToContents
AdjustToContentsOnFirstShow
Box
DrawChildren
DrawWindowBackground
HLine
IgnoreMask
NoFrame
Panel
PdmDepth
PdmDevicePixelRatio
PdmDevicePixelRatioScaled
PdmDpiX
PdmDpiY
PdmHeight
PdmHeightMM
PdmNumColors
PdmPhysicalDpiX
PdmPhysicalDpiY
PdmWidth
PdmWidthMM

continues on next page

Table 2.15 – continued from previous page

Plain	
Raised	
Shadow_Mask	
Shape_Mask	
StyledPanel	
Sunken	
VLine	
WinPanel	
customContextMenuRequested	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
destroyed	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
objectNameChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
staticMetaObject	
windowIconChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowIconTextChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowTitleChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL

event(*self*, *a0: QEvent | None*) → bool

minimumSizeHint(*self*) → QSize

setElideMode(*elideMode*)

setWidget(*self*, *w: QWidget | None*)

sizeHint(*self*) → QSize

labscript_utils.qtwidgets.elide_label.ElidedLabelContainer

class labscript_utils.qtwidgets.elide_label.**ElidedLabelContainer**(*label*)

Bases: QWidget

A QWidget to contain a QLabel with a single line of (possibly rich) text that we want to elide. The elision is obtained by putting the QLabel in a QScrollArea and having the QScrollarea only show the part of the text we want to see. An extra label with the elision indication "…" is also inserted next to the QScrollArea.

__init__(*label*)

Methods

__init__(label)
acceptDrops(self)
accessibleDescription(self)
accessibleName(self)
actionEvent(self, a0)
actions(self)
activateWindow(self)
addAction(self, action)
addActions(self, actions)
adjustSize(self)
autoFillBackground(self)
backgroundRole(self)
baseSize(self)
blockSignals(self, b)
changeEvent(self, a0)
childAt(-> Optional[QWidget])
childEvent(self, a0)
children(self)
childrenRect(self)
childrenRegion(self)
clearFocus(self)
clearMask(self)
close(self)
closeEvent(self, a0)
colorCount(self)

continues on next page

Table 2.16 – continued from previous page

connectNotify(self, signal)
contentsMargins(self)
contentsRect(self)
contextMenuEvent(self, a0)
contextMenuPolicy(self)
create(self[, window, initializeWindow, ...])
createWindowContainer(window[, parent, flags])
cursor(self)
customEvent(self, a0)
deleteLater(self)
depth(self)
destroy(self[, destroyWindow, destroySubWindows])
devType(self)
devicePixelRatio(self)
devicePixelRatioF(self)
devicePixelRatioFScale()
disconnect(-> bool)
disconnectNotify(self, signal)
dragEnterEvent(self, a0)
dragLeaveEvent(self, a0)
dragMoveEvent(self, a0)
dropEvent(self, a0)
dumpObjectInfo(self)
dumpObjectTree(self)
dynamicPropertyNames(self)
effectiveWinId(self)

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Table 2.16 – continued from previous page

elideMode()
ensurePolished(self)
enterEvent(self, a0)
event(self, a0)
eventFilter(self, a0, a1)
find(a0)
findChild(-> QObjectT)
findChildren(...)
focusInEvent(self, a0)
focusNextChild(self)
focusNextPrevChild(self, next)
focusOutEvent(self, a0)
focusPolicy(self)
focusPreviousChild(self)
focusProxy(self)
focusWidget(self)
font(self)
fontInfo(self)
fontMetrics(self)
foregroundRole(self)
frameGeometry(self)
frameSize(self)
geometry(self)
getContentsMargins(self)
grab(self[, rectangle])
grabGesture(self, type[, flags])

continues on next page

Table 2.16 – continued from previous page

grabKeyboard(self)
grabMouse()
grabShortcut(self, key[, context])
graphicsEffect(self)
graphicsProxyWidget(self)
hasFocus(self)
hasHeightForWidth(self)
hasMouseTracking(self)
hasTabletTracking(self)
height(self)
heightForWidth(self, a0)
heightMM(self)
hide(self)
hideEvent(self, a0)
inherits(self, classname)
initPainter(self, painter)
inputMethodEvent(self, a0)
inputMethodHints(self)
inputMethodQuery(self, a0)
insertAction(self, before, action)
insertActions(self, before, actions)
installEventFilter(self, a0)
isActiveWindow(self)
isAncestorOf(self, child)
isEnabled(self)
isEnabledTo(self, a0)

continues on next page

Table 2.16 – continued from previous page

isFullScreen(self)
isHidden(self)
isLeftToRight(self)
isMaximized(self)
isMinimized(self)
isModal(self)
isRightToLeft(self)
isSignalConnected(self, signal)
isVisible(self)
isVisibleTo(self, a0)
isWidgetType(self)
isWindow(self)
isWindowModified(self)
isWindowType(self)
keyPressEvent(self, a0)
keyReleaseEvent(self, a0)
keyboardGrabber()
killTimer(self, id)
layout(self)
layoutDirection(self)
leaveEvent(self, a0)
locale(self)
logicalDpiX(self)
logicalDpiY(self)
lower(self)
mapFrom(self, a0, a1)

continues on next page

Table 2.16 – continued from previous page

mapFromGlobal(self, a0)
mapFromParent(self, a0)
mapTo(self, a0, a1)
mapToGlobal(self, a0)
mapToParent(self, a0)
mask(self)
maximumHeight(self)
maximumSize(self)
maximumWidth(self)
metaObject(self)
metric(self, a0)
minimumHeight(self)
minimumSize(self)
minimumSizeHint(self)
minimumWidth(self)
mouseDoubleClickEvent(self, a0)
mouseGrabber()
mouseMoveEvent(self, a0)
mousePressEvent(self, a0)
mouseReleaseEvent(self, a0)
move()
moveEvent(self, a0)
moveToThread(self, thread)
nativeEvent(self, eventType, message)
nativeParentWidget(self)
nextInFocusChain(self)

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Table 2.16 – continued from previous page

normalGeometry(self)	
objectName(self)	
overrideWindowFlags(self, type)	
overrideWindowState(self, state)	
paintEngine(self)	
paintEvent(self, a0)	
paintingActive(self)	
palette(self)	
parent(self)	
parentWidget(self)	
physicalDpiX(self)	
physicalDpiY(self)	
pos(self)	
previousInFocusChain(self)	
property(self, name)	
pyqtConfigure(...)	Each keyword argument is either the name of a Qt property or a Qt signal.
raise_(self)	
receivers(self, signal)	
rect(self)	
releaseKeyboard(self)	
releaseMouse(self)	
releaseShortcut(self, id)	
removeAction(self, action)	
removeEventFilter(self, a0)	
render(, sourceRegion, flags, ...)	
repaint(-> None -> None)	

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Table 2.16 – continued from previous page

resize()
resizeEvent(self, a0)
restoreGeometry(self, geometry)
saveGeometry(self)
screen(self)
scroll()
sender(self)
senderSignalIndex(self)
setAcceptDrops(self, on)
setAccessibleDescription(self, description)
setAccessibleName(self, name)
setAttribute(self, attribute[, on])
setAutoFillBackground(self, enabled)
setBackgroundRole(self, a0)
setBaseSize()
setContentsMargins()
setContextMenuPolicy(self, policy)
setCursor(self, a0)
setDisabled(self, a0)
setElideMode(elideMode)
setEnabled(self, a0)
setFixedHeight(self, h)
setFixedSize()
setFixedWidth(self, w)
setFocus()
setFocusPolicy(self, policy)

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Table 2.16 – continued from previous page

setFocusProxy(self, a0)
setFont(self, a0)
setForegroundRole(self, a0)
setGeometry()
setGraphicsEffect(self, effect)
setHidden(self, hidden)
setInputMethodHints(self, hints)
setLayout(self, a0)
setLayoutDirection(self, direction)
setLocale(self, locale)
setMask()
setMaximumHeight(self, maxh)
setMaximumSize()
setMaximumWidth(self, maxw)
setMinimumHeight(self, minh)
setMinimumSize()
setMinimumWidth(self, minw)
setMouseTracking(self, enable)
setObjectName(self, name)
setPalette(self, a0)
setParent()
setProperty(self, name, value)
setShortcutAutoRepeat(self, id[, enabled])
setShortcutEnabled(self, id[, enabled])
setSizeIncrement()
setSizePolicy()

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Table 2.16 – continued from previous page

setStatusTip(self, a0)
setStyle(self, a0)
setStyleSheet(self, styleSheet)
setTabOrder(a0, a1)
setTabletTracking(self, enable)
setToolTip(self, a0)
setToolTipDuration(self, msec)
setUpdatesEnabled(self, enable)
setVisible(self, visible)
setWhatsThis(self, a0)
setWindowFilePath(self, filePath)
setWindowFlag(self, a0[, on])
setWindowFlags(self, type)
setWindowIcon(self, icon)
setWindowIconText(self, a0)
setWindowModality(self, windowModality)
setWindowModified(self, a0)
setWindowOpacity(self, level)
setWindowRole(self, a0)
setWindowState(self, state)
setWindowTitle(self, a0)
sharedPainter(self)
show(self)
showEvent(self, a0)
showFullScreen(self)
showMaximized(self)

continues on next page

Table 2.16 – continued from previous page

showMinimized(self)
showNormal(self)
signalsBlocked(self)
size(self)
sizeHint(self)
sizeIncrement(self)
sizePolicy(self)
stackUnder(self, a0)
startTimer(self, interval[, timerType])
statusTip(self)
style(self)
styleSheet(self)
tabletEvent(self, a0)
testAttribute(self, attribute)
thread(self)
timerEvent(self, a0)
toolTip(self)
toolTipDuration(self)
tr(self, sourceText[, disambiguation, n])
underMouse(self)
ungrabGesture(self, type)
unsetCursor(self)
unsetLayoutDirection(self)
unsetLocale(self)
update(-> None -> None)
updateGeometry(self)

continues on next page

Table 2.16 – continued from previous page

updateMicroFocus(self)
update_elide_widget()
updatesEnabled(self)
visibleRegion(self)
whatsThis(self)
wheelEvent(self, a0)
width(self)
widthMM(self)
winId(self)
window(self)
windowFilePath(self)
windowFlags(self)
windowHandle(self)
windowIcon(self)
windowIconText(self)
windowModality(self)
windowOpacity(self)
windowRole(self)
windowState(self)
windowTitle(self)
windowType(self)
x(self)
y(self)

Attributes

DrawChildren	
DrawWindowBackground	
IgnoreMask	
PdmDepth	
PdmDevicePixelRatio	
PdmDevicePixelRatioScaled	
PdmDpiX	
PdmDpiY	
PdmHeight	
PdmHeightMM	
PdmNumColors	
PdmPhysicalDpiX	
PdmPhysicalDpiY	
PdmWidth	
PdmWidthMM	
customContextMenuRequested	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
destroyed	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
objectNameChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
staticMetaObject	
windowIconChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowIconTextChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowTitleChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL

elideMode()

event(*self*, *a0: QEvent | None*) → bool

minimumSizeHint(*self*) → QSize

setElideMode(*elideMode*)

sizeHint(*self*) → QSize

update_elide_widget()

labscript_utils.qtwidgets.enumoutput

Classes

EnumOutput(hardware_name[, connection_name, ...])

labscript_utils.qtwidgets.enumoutput.EnumOutput

class labscript_utils.qtwidgets.enumoutput.**EnumOutput**(*hardware_name*, *connection_name='-'*, *display_name=None*, *horizontal_alignment=False*, *parent=None*)

Bases: QWidget

__init__(*hardware_name*, *connection_name='-'*, *display_name=None*, *horizontal_alignment=False*, *parent=None*)

Methods

__init__(hardware_name[, connection_name, ...])
acceptDrops(self)
accessibleDescription(self)
accessibleName(self)
actionEvent(self, a0)
actions(self)
activateWindow(self)
addAction(self, action)
addActions(self, actions)
adjustSize(self)
autoFillBackground(self)

continues on next page

Table 2.17 – continued from previous page

backgroundRole(self)
baseSize(self)
blockSignals(self, b)
block_combobox_signals()
changeEvent(self, a0)
childAt(-> Optional[QWidget])
childEvent(self, a0)
children(self)
childrenRect(self)
childrenRegion(self)
clearFocus(self)
clearMask(self)
close(self)
closeEvent(self, a0)
colorCount(self)
connectNotify(self, signal)
connect_value_change(func)
contentsMargins(self)
contentsRect(self)
contextMenuEvent(self, a0)
contextMenuPolicy(self)
create(self[, window, initializeWindow, ...])
createWindowContainer(window[, parent, flags])
cursor(self)
customEvent(self, a0)
deleteLater(self)

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Table 2.17 – continued from previous page

depth(self)
destroy(self[, destroyWindow, destroySubWindows])
devType(self)
devicePixelRatio(self)
devicePixelRatioF(self)
devicePixelRatioFScale()
disconnect(-> bool)
disconnectNotify(self, signal)
disconnect_value_change()
dragEnterEvent(self, a0)
dragLeaveEvent(self, a0)
dragMoveEvent(self, a0)
dropEvent(self, a0)
dumpObjectInfo(self)
dumpObjectTree(self)
dynamicPropertyNames(self)
effectiveWinId(self)
ensurePolished(self)
enterEvent(self, a0)
event(self, a0)
eventFilter(self, a0, a1)
find(a0)
findChild(-> QObjectT)
findChildren(...)
focusInEvent(self, a0)
focusNextChild(self)

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Table 2.17 – continued from previous page

focusNextPrevChild(self, next)
focusOutEvent(self, a0)
focusPolicy(self)
focusPreviousChild(self)
focusProxy(self)
focusWidget(self)
font(self)
fontInfo(self)
fontMetrics(self)
foregroundRole(self)
frameGeometry(self)
frameSize(self)
geometry(self)
getContentsMargins(self)
get_EO()
grab(self[, rectangle])
grabGesture(self, type[, flags])
grabKeyboard(self)
grabMouse()
grabShortcut(self, key[, context])
graphicsEffect(self)
graphicsProxyWidget(self)
hasFocus(self)
hasHeightForWidth(self)
hasMouseTracking(self)
hasTabletTracking(self)

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Table 2.17 – continued from previous page

height(self)
heightForWidth(self, a0)
heightMM(self)
hide(self)
hideEvent(self, a0)
inherits(self, classname)
initPainter(self, painter)
inputMethodEvent(self, a0)
inputMethodHints(self)
inputMethodQuery(self, a0)
insertAction(self, before, action)
insertActions(self, before, actions)
installEventFilter(self, a0)
isActiveWindow(self)
isAncestorOf(self, child)
isEnabled(self)
isEnabledTo(self, a0)
isFullScreen(self)
isHidden(self)
isLeftToRight(self)
isMaximized(self)
isMinimized(self)
isModal(self)
isRightToLeft(self)
isSignalConnected(self, signal)
isVisible(self)

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Table 2.17 – continued from previous page

isVisibleTo(self, a0)
isWidgetType(self)
isWindow(self)
isWindowModified(self)
isWindowType(self)
keyPressEvent(self, a0)
keyReleaseEvent(self, a0)
keyboardGrabber()
killTimer(self, id)
layout(self)
layoutDirection(self)
leaveEvent(self, a0)
locale(self)
lock([notify_eo])
logicalDpiX(self)
logicalDpiY(self)
lower(self)
mapFrom(self, a0, a1)
mapFromGlobal(self, a0)
mapFromParent(self, a0)
mapTo(self, a0, a1)
mapToGlobal(self, a0)
mapToParent(self, a0)
mask(self)
maximumHeight(self)
maximumSize(self)

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Table 2.17 – continued from previous page

maximumWidth(self)
metaObject(self)
metric(self, a0)
minimumHeight(self)
minimumSize(self)
minimumSizeHint(self)
minimumWidth(self)
mouseDoubleClickEvent(self, a0)
mouseGrabber()
mouseMoveEvent(self, a0)
mousePressEvent(self, a0)
mouseReleaseEvent(self, a0)
move()
moveEvent(self, a0)
moveToThread(self, thread)
nativeEvent(self, eventType, message)
nativeParentWidget(self)
nextInFocusChain(self)
normalGeometry(self)
objectName(self)
overrideWindowFlags(self, type)
overrideWindowState(self, state)
paintEngine(self)
paintEvent(self, a0)
paintingActive(self)
palette(self)

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Table 2.17 – continued from previous page

parent(self)	
parentWidget(self)	
physicalDpiX(self)	
physicalDpiY(self)	
pos(self)	
previousInFocusChain(self)	
property(self, name)	
pyqtConfigure(...)	Each keyword argument is either the name of a Qt property or a Qt signal.
raise_(self)	
receivers(self, signal)	
rect(self)	
releaseKeyboard(self)	
releaseMouse(self)	
releaseShortcut(self, id)	
removeAction(self, action)	
removeEventFilter(self, a0)	
render(, sourceRegion, flags, ...)	
repaint(-> None -> None)	
resize()	
resizeEvent(self, a0)	
restoreGeometry(self, geometry)	
saveGeometry(self)	
screen(self)	
scroll()	
sender(self)	
senderSignalIndex(self)	

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Table 2.17 – continued from previous page

setAcceptDrops(self, on)
setAccessibleDescription(self, description)
setAccessibleName(self, name)
setAttribute(self, attribute[, on])
setAutoFillBackground(self, enabled)
setBackgroundRole(self, a0)
setBaseSize()
setContentsMargins()
setContextMenuPolicy(self, policy)
setCursor(self, a0)
setDisabled(self, a0)
setEnabled(self, a0)
setFixedHeight(self, h)
setFixedSize()
setFixedWidth(self, w)
setFocus()
setFocusPolicy(self, policy)
setFocusProxy(self, a0)
setFont(self, a0)
setForegroundRole(self, a0)
setGeometry()
setGraphicsEffect(self, effect)
setHidden(self, hidden)
setInputMethodHints(self, hints)
setLayout(self, a0)
setLayoutDirection(self, direction)

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Table 2.17 – continued from previous page

setLocale(self, locale)
setMask()
setMaximumHeight(self, maxh)
setMaximumSize()
setMaximumWidth(self, maxw)
setMinimumHeight(self, minh)
setMinimumSize()
setMinimumWidth(self, minw)
setMouseTracking(self, enable)
setObjectName(self, name)
setPalette(self, a0)
setParent()
setProperty(self, name, value)
setShortcutAutoRepeat(self, id[, enabled])
setShortcutEnabled(self, id[, enabled])
setSizeIncrement()
setSizePolicy()
setStatusTip(self, a0)
setStyle(self, a0)
setStyleSheet(self, styleSheet)
setTabOrder(a0, a1)
setTabletTracking(self, enable)
setToolTip(self, a0)
setToolTipDuration(self, msec)
setUpdatesEnabled(self, enable)
setVisible(self, visible)

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Table 2.17 – continued from previous page

setWhatsThis(self, a0)
setWindowFilePath(self, filePath)
setWindowFlag(self, a0[, on])
setWindowFlags(self, type)
setWindowIcon(self, icon)
setWindowIconText(self, a0)
setWindowModality(self, windowModality)
setWindowModified(self, a0)
setWindowOpacity(self, level)
setWindowRole(self, a0)
setWindowState(self, state)
setWindowTitle(self, a0)
set_EO(EO[, notify_old_EO, notify_new_EO])
set_combobox_model(model)
sharedPainter(self)
show(self)
showEvent(self, a0)
showFullScreen(self)
showMaximized(self)
showMinimized(self)
showNormal(self)
signalsBlocked(self)
size(self)
sizeHint(self)
sizeIncrement(self)
sizePolicy(self)

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Table 2.17 – continued from previous page

stackUnder(self, a0)
startTimer(self, interval[, timerType])
statusTip(self)
style(self)
styleSheet(self)
tabletEvent(self, a0)
testAttribute(self, attribute)
thread(self)
timerEvent(self, a0)
toolTip(self)
toolTipDuration(self)
tr(self, sourceText[, disambiguation, n])
unblock_combobox_signals()
underMouse(self)
ungrabGesture(self, type)
unlock([notify_eo])
unsetCursor(self)
unsetLayoutDirection(self)
unsetLocale(self)
update(-> None -> None)
updateGeometry(self)
updateMicroFocus(self)
updatesEnabled(self)
visibleRegion(self)
whatsThis(self)
wheelEvent(self, a0)

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Table 2.17 – continued from previous page

width(self)
widthMM(self)
winId(self)
window(self)
windowFilePath(self)
windowFlags(self)
windowHandle(self)
windowIcon(self)
windowIconText(self)
windowModality(self)
windowOpacity(self)
windowRole(self)
windowState(self)
windowTitle(self)
windowType(self)
x(self)
y(self)

Attributes

DrawChildren	
DrawWindowBackground	
IgnoreMask	
PdmDepth	
PdmDevicePixelRatio	
PdmDevicePixelRatioScaled	
PdmDpiX	
PdmDpiY	
PdmHeight	
PdmHeightMM	
PdmNumColors	
PdmPhysicalDpiX	
PdmPhysicalDpiY	
PdmWidth	
PdmWidthMM	
customContextMenuRequested	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
destroyed	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
objectNameChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
selected_index	
selected_option	
staticMetaObject	
windowIconChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowIconTextChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowTitleChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL

block_combobox_signals()

connect_value_change(*func*)

disconnect_value_change()

eventFilter(*self*, *a0: QObject | None*, *a1: QEvent | None*) → bool

get_EO()

lock(*notify_eo=True*)

property selected_index

property selected_option

set_EO(*EO*, *notify_old_EO=True*, *notify_new_EO=True*)

set_combobox_model(*model*)

unblock_combobox_signals()

unlock(*notify_eo=True*)

labscript_utils.qtwidgets.fingertab

Classes

FingerTabBarWidget([parent])	
FingerTabWidget(parent, *args)	A QTabWidget equivalent which uses our FingerTabBarWidget

labscript_utils.qtwidgets.fingertab.FingerTabBarWidget

class labscript_utils.qtwidgets.fingertab.**FingerTabBarWidget**(*parent=None*, **args*, ***kwargs*)

Bases: QTabBar

__init__(*parent=None*, **args*, ***kwargs*)

Methods

__init__([parent])
acceptDrops(self)
accessibleDescription(self)
accessibleName(self)
accessibleTabName(self, index)

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Table 2.18 – continued from previous page

actionEvent(self, a0)
actions(self)
activateWindow(self)
addAction(self, action)
addActions(self, actions)
addTab(-> int)
adjustSize(self)
autoFillBackground(self)
autoHide(self)
backgroundRole(self)
baseSize(self)
blockSignals(self, b)
changeCurrentOnDrag(self)
changeEvent(self, a0)
childAt(-> Optional[QWidget])
childEvent(self, a0)
children(self)
childrenRect(self)
childrenRegion(self)
clearFocus(self)
clearMask(self)
close(self)
closeEvent(self, a0)
colorCount(self)
connectNotify(self, signal)
contentsMargins(self)

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Table 2.18 – continued from previous page

`contentsRect`(self)
`contextMenuEvent`(self, a0)
`contextMenuPolicy`(self)
`count`(self)
`create`(self[, window, initializeWindow, ...])
`createWindowContainer`(window[, parent, flags])
`currentIndex`(self)
`cursor`(self)
`customEvent`(self, a0)
`deleteLater`(self)
`depth`(self)
`destroy`(self[, destroyWindow, destroySubWindows])
`devType`(self)
`devicePixelRatio`(self)
`devicePixelRatioF`(self)
`devicePixelRatioFScale`()
`disconnect`(-> bool)
`disconnectNotify`(self, signal)
`documentMode`(self)
`dragEnterEvent`(self, a0)
`dragLeaveEvent`(self, a0)
`dragMoveEvent`(self, a0)
`drawBase`(self)
`dropEvent`(self, a0)
`dumpObjectInfo`(self)
`dumpObjectTree`(self)

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Table 2.18 – continued from previous page

dynamicPropertyNames(self)
effectiveWinId(self)
elideMode(self)
ensurePolished(self)
enterEvent(self, a0)
event(self, a0)
eventFilter(self, a0, a1)
expanding(self)
find(a0)
findChild(-> QObjectT)
findChildren(...)
focusInEvent(self, a0)
focusNextChild(self)
focusNextPrevChild(self, next)
focusOutEvent(self, a0)
focusPolicy(self)
focusPreviousChild(self)
focusProxy(self)
focusWidget(self)
font(self)
fontInfo(self)
fontMetrics(self)
foregroundRole(self)
frameGeometry(self)
frameSize(self)
geometry(self)

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Table 2.18 – continued from previous page

getContentsMargins(self)
grab(self[, rectangle])
grabGesture(self, type[, flags])
grabKeyboard(self)
grabMouse()
grabShortcut(self, key[, context])
graphicsEffect(self)
graphicsProxyWidget(self)
hasFocus(self)
hasHeightForWidth(self)
hasMouseTracking(self)
hasTabletTracking(self)
height(self)
heightForWidth(self, a0)
heightMM(self)
hide(self)
hideEvent(self, a0)
iconSize(self)
inherits(self, classname)
initPainter(self, painter)
initStyleOption(self, option, tabIndex)
inputMethodEvent(self, a0)
inputMethodHints(self)
inputMethodQuery(self, a0)
insertAction(self, before, action)
insertActions(self, before, actions)

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Table 2.18 – continued from previous page

insertTab(-> int)
installEventFilter(self, a0)
isActiveWindow(self)
isAncestorOf(self, child)
isEnabled(self)
isEnabledTo(self, a0)
isFullScreen(self)
isHidden(self)
isLeftToRight(self)
isMaximized(self)
isMinimized(self)
isModal(self)
isMovable(self)
isRightToLeft(self)
isSignalConnected(self, signal)
isTabEnabled(self, index)
isTabVisible(self, index)
isVisible(self)
isVisibleTo(self, a0)
isWidgetType(self)
isWindow(self)
isWindowModified(self)
isWindowType(self)
keyPressEvent(self, a0)
keyReleaseEvent(self, a0)
keyboardGrabber()

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Table 2.18 – continued from previous page

`killTimer`(self, id)
`layout`(self)
`layoutDirection`(self)
`leaveEvent`(self, a0)
`locale`(self)
`logicalDpiX`(self)
`logicalDpiY`(self)
`lower`(self)
`mapFrom`(self, a0, a1)
`mapFromGlobal`(self, a0)
`mapFromParent`(self, a0)
`mapTo`(self, a0, a1)
`mapToGlobal`(self, a0)
`mapToParent`(self, a0)
`mask`(self)
`maximumHeight`(self)
`maximumSize`(self)
`maximumWidth`(self)
`metaObject`(self)
`metric`(self, a0)
`minimumHeight`(self)
`minimumSize`(self)
`minimumSizeHint`(self)
`minimumTabSizeHint`(self, index)
`minimumWidth`(self)
`mouseDoubleClickEvent`(self, a0)

continues on next page

Table 2.18 – continued from previous page

mouseGrabber()
mouseMoveEvent(self, a0)
mousePressEvent(self, a0)
mouseReleaseEvent(self, a0)
move()
moveEvent(self, a0)
moveTab(self, from_, to)
moveToThread(self, thread)
nativeEvent(self, eventType, message)
nativeParentWidget(self)
nextInFocusChain(self)
normalGeometry(self)
objectName(self)
overrideWindowFlags(self, type)
overrideWindowState(self, state)
paintEngine(self)
paintEvent(self, a0)
paintingActive(self)
palette(self)
parent(self)
parentWidget(self)
physicalDpiX(self)
physicalDpiY(self)
pos(self)
previousInFocusChain(self)
property(self, name)

continues on next page

Table 2.18 – continued from previous page

pyqtConfigure(...)	Each keyword argument is either the name of a Qt property or a Qt signal.
raise_(self)	
receivers(self, signal)	
rect(self)	
releaseKeyboard(self)	
releaseMouse(self)	
releaseShortcut(self, id)	
removeAction(self, action)	
removeEventFilter(self, a0)	
removeTab(self, index)	
render(, sourceRegion, flags, ...)	
repaint(-> None -> None)	
resize()	
resizeEvent(self, a0)	
restoreGeometry(self, geometry)	
saveGeometry(self)	
screen(self)	
scroll()	
selectionBehaviorOnRemove(self)	
sender(self)	
senderSignalIndex(self)	
setAcceptDrops(self, on)	
setAccessibleDescription(self, description)	
setAccessibleName(self, name)	
setAccessibleTabName(self, index, name)	
setAttribute(self, attribute[, on])	

continues on next page

Table 2.18 – continued from previous page

setAutoFillBackground(self, enabled)
setAutoHide(self, hide)
setBackgroundRole(self, a0)
setBaseSize()
setChangeCurrentOnDrag(self, change)
setContentsMargins()
setContextMenuPolicy(self, policy)
setCurrentIndex(self, index)
setCursor(self, a0)
setDisabled(self, a0)
setDocumentMode(self, set)
setDrawBase(self, drawTheBase)
setElideMode(self, a0)
setEnabled(self, a0)
setExpanding(self, enabled)
setFixedHeight(self, h)
setFixedSize()
setFixedWidth(self, w)
setFocus()
setFocusPolicy(self, policy)
setFocusProxy(self, a0)
setFont(self, a0)
setForegroundRole(self, a0)
setGeometry()
setGraphicsEffect(self, effect)
setHidden(self, hidden)

continues on next page

Table 2.18 – continued from previous page

setIconSize(self, size)
setInputMethodHints(self, hints)
setLayout(self, a0)
setLayoutDirection(self, direction)
setLocale(self, locale)
setMask()
setMaximumHeight(self, maxh)
setMaximumSize()
setMaximumWidth(self, maxw)
setMinimumHeight(self, minh)
setMinimumSize()
setMinimumWidth(self, minw)
setMouseTracking(self, enable)
setMovable(self, movable)
setObjectName(self, name)
setPalette(self, a0)
setParent()
setProperty(self, name, value)
setSelectionBehaviorOnRemove(self, behavior)
setShape(self, shape)
setShortcutAutoRepeat(self, id[, enabled])
setShortcutEnabled(self, id[, enabled])
setSizeIncrement()
setSizePolicy()
setStatusTip(self, a0)
setStyle(self, a0)

continues on next page

Table 2.18 – continued from previous page

setStyleSheet(self, styleSheet)
setTabButton(self, index, position, widget)
setTabData(self, index, data)
setTabEnabled(self, index, a1)
setTabIcon(self, index, icon)
setTabOrder(a0, a1)
setTabText(self, index, text)
setTabTextColor(self, index, color)
setTabToolTip(self, index, tip)
setTabVisible(self, index, visible)
setTabWhatsThis(self, index, text)
setTabletTracking(self, enable)
setTabsClosable(self, closable)
setToolTip(self, a0)
setToolTipDuration(self, msec)
setUpdatesEnabled(self, enable)
setUsesScrollButtons(self, useButtons)
setVisible(self, visible)
setWhatsThis(self, a0)
setWindowFilePath(self, filePath)
setWindowFlag(self, a0[, on])
setWindowFlags(self, type)
setWindowIcon(self, icon)
setWindowIconText(self, a0)
setWindowModality(self, windowModality)
setWindowModified(self, a0)

continues on next page

Table 2.18 – continued from previous page

setWindowOpacity(self, level)
setWindowRole(self, a0)
setWindowState(self, state)
setWindowTitle(self, a0)
shape(self)
sharedPainter(self)
show(self)
showEvent(self, a0)
showFullScreen(self)
showMaximized(self)
showMinimized(self)
showNormal(self)
signalsBlocked(self)
size(self)
sizeHint(self)
sizeIncrement(self)
sizePolicy(self)
stackUnder(self, a0)
startTimer(self, interval[, timerType])
statusTip(self)
style(self)
styleSheet(self)
tabAt(self, pos)
tabButton(self, index, position)
tabData(self, index)
tabIcon(self, index)

continues on next page

Table 2.18 – continued from previous page

tabInserted(self, index)
tabLayoutChange(self)
tabRect(self, index)
tabRemoved(self, index)
tabSizeHint(self, index)
tabText(self, index)
tabTextColor(self, index)
tabToolTip(self, index)
tabWhatsThis(self, index)
tabletEvent(self, a0)
tabsClosable(self)
testAttribute(self, attribute)
thread(self)
timerEvent(self, event)
toolTip(self)
toolTipDuration(self)
tr(self, sourceText[, disambiguation, n])
underMouse(self)
ungrabGesture(self, type)
unsetCursor(self)
unsetLayoutDirection(self)
unsetLocale(self)
update(-> None -> None)
updateGeometry(self)
updateMicroFocus(self)
updatesEnabled(self)

continues on next page

Table 2.18 – continued from previous page

usesScrollButtons(self)
visibleRegion(self)
whatsThis(self)
wheelEvent(self, event)
width(self)
widthMM(self)
winId(self)
window(self)
windowFilePath(self)
windowFlags(self)
windowHandle(self)
windowIcon(self)
windowIconText(self)
windowModality(self)
windowOpacity(self)
windowRole(self)
windowState(self)
windowTitle(self)
windowType(self)
x(self)
y(self)

Attributes

DrawChildren
DrawWindowBackground
IgnoreMask
LeftSide
PdmDepth
PdmDevicePixelRatio
PdmDevicePixelRatioScaled
PdmDpiX
PdmDpiY
PdmHeight
PdmHeightMM
PdmNumColors
PdmPhysicalDpiX
PdmPhysicalDpiY
PdmWidth
PdmWidthMM
RightSide
RoundedEast
RoundedNorth
RoundedSouth
RoundedWest
SelectLeftTab
SelectPreviousTab
SelectRightTab
TriangularEast

continues on next page

Table 2.19 – continued from previous page

TriangularNorth	
TriangularSouth	
TriangularWest	
currentChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
customContextMenuRequested	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
destroyed	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
objectNameChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
staticMetaObject	
tabBarClicked	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
tabBarDoubleClicked	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
tabCloseRequested	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
tabMoved	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowIconChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowIconTextChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowTitleChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL

paintEvent(*self*, *a0: QPaintEvent | None*)

tabSizeHint(*self*, *index: int*) → QSize

labscript_utils.qtwidgets.fingertab.FingerTabWidget

class labscript_utils.qtwidgets.fingertab.**FingerTabWidget**(*parent*, **args*)

Bases: QTabWidget

A QTabWidget equivalent which uses our FingerTabBarWidget

__init__(*parent*, **args*)

Methods

__init__(parent, *args)
acceptDrops(self)
accessibleDescription(self)
accessibleName(self)
actionEvent(self, a0)
actions(self)
activateWindow(self)
addAction(self, action)
addActions(self, actions)
addTab(-> int)
adjustSize(self)
autoFillBackground(self)
backgroundRole(self)
baseSize(self)
blockSignals(self, b)
changeEvent(self, a0)
childAt(-> Optional[QWidget])
childEvent(self, a0)
children(self)
childrenRect(self)
childrenRegion(self)
clear(self)
clearFocus(self)
clearMask(self)
close(self)

continues on next page

Table 2.20 – continued from previous page

closeEvent(self, a0)
colorCount(self)
connectNotify(self, signal)
contentsMargins(self)
contentsRect(self)
contextMenuEvent(self, a0)
contextMenuPolicy(self)
cornerWidget(self[, corner])
count(self)
create(self[, window, initializeWindow, ...])
createWindowContainer(window[, parent, flags])
currentIndex(self)
currentWidget(self)
cursor(self)
customEvent(self, a0)
deleteLater(self)
depth(self)
destroy(self[, destroyWindow, destroySubWindows])
devType(self)
devicePixelRatio(self)
devicePixelRatioF(self)
devicePixelRatioFScale()
disconnect(-> bool)
disconnectNotify(self, signal)
documentMode(self)
dragEnterEvent(self, a0)

continues on next page

Table 2.20 – continued from previous page

dragLeaveEvent(self, a0)
dragMoveEvent(self, a0)
dropEvent(self, a0)
dumpObjectInfo(self)
dumpObjectTree(self)
dynamicPropertyNames(self)
effectiveWinId(self)
elideMode(self)
ensurePolished(self)
enterEvent(self, a0)
event(self, a0)
eventFilter(self, a0, a1)
find(a0)
findChild(-> QObjectT)
findChildren(...)
focusInEvent(self, a0)
focusNextChild(self)
focusNextPrevChild(self, next)
focusOutEvent(self, a0)
focusPolicy(self)
focusPreviousChild(self)
focusProxy(self)
focusWidget(self)
font(self)
fontInfo(self)
fontMetrics(self)

continues on next page

Table 2.20 – continued from previous page

foregroundRole(self)
frameGeometry(self)
frameSize(self)
geometry(self)
getContentsMargins(self)
grab(self[, rectangle])
grabGesture(self, type[, flags])
grabKeyboard(self)
grabMouse()
grabShortcut(self, key[, context])
graphicsEffect(self)
graphicsProxyWidget(self)
hasFocus(self)
hasHeightForWidth(self)
hasMouseTracking(self)
hasTabletTracking(self)
height(self)
heightForWidth(self, width)
heightMM(self)
hide(self)
hideEvent(self, a0)
iconSize(self)
indexOf(self, widget)
inherits(self, classname)
initPainter(self, painter)
initStyleOption(self, option)

continues on next page

Table 2.20 – continued from previous page

`inputMethodEvent`(self, a0)
`inputMethodHints`(self)
`inputMethodQuery`(self, a0)
`insertAction`(self, before, action)
`insertActions`(self, before, actions)
`insertTab`(-> int)
`installEventFilter`(self, a0)
`isActiveWindow`(self)
`isAncestorOf`(self, child)
`isEnabled`(self)
`isEnabledTo`(self, a0)
`isFullScreen`(self)
`isHidden`(self)
`isLeftToRight`(self)
`isMaximized`(self)
`isMinimized`(self)
`isModal`(self)
`isMovable`(self)
`isRightToLeft`(self)
`isSignalConnected`(self, signal)
`isTabEnabled`(self, index)
`isTabVisible`(self, index)
`isVisible`(self)
`isVisibleTo`(self, a0)
`isWidgetType`(self)
`isWindow`(self)

continues on next page

Table 2.20 – continued from previous page

isWindowModified(self)
isWindowType(self)
keyPressEvent(self, a0)
keyReleaseEvent(self, a0)
keyboardGrabber()
killTimer(self, id)
layout(self)
layoutDirection(self)
leaveEvent(self, a0)
locale(self)
logicalDpiX(self)
logicalDpiY(self)
lower(self)
mapFrom(self, a0, a1)
mapFromGlobal(self, a0)
mapFromParent(self, a0)
mapTo(self, a0, a1)
mapToGlobal(self, a0)
mapToParent(self, a0)
mask(self)
maximumHeight(self)
maximumSize(self)
maximumWidth(self)
metaObject(self)
metric(self, a0)
minimumHeight(self)

continues on next page

Table 2.20 – continued from previous page

minimumSize(self)
minimumSizeHint(self)
minimumWidth(self)
mouseDoubleClickEvent(self, a0)
mouseGrabber()
mouseMoveEvent(self, a0)
mousePressEvent(self, a0)
mouseReleaseEvent(self, a0)
move()
moveEvent(self, a0)
moveToThread(self, thread)
nativeEvent(self, eventType, message)
nativeParentWidget(self)
nextInFocusChain(self)
normalGeometry(self)
objectName(self)
overrideWindowFlags(self, type)
overrideWindowState(self, state)
paintEngine(self)
paintEvent(self, a0)
paintingActive(self)
palette(self)
parent(self)
parentWidget(self)
physicalDpiX(self)
physicalDpiY(self)

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Table 2.20 – continued from previous page

pos(self)	
previousInFocusChain(self)	
property(self, name)	
pyqtConfigure(...)	Each keyword argument is either the name of a Qt property or a Qt signal.
raise_(self)	
receivers(self, signal)	
rect(self)	
releaseKeyboard(self)	
releaseMouse(self)	
releaseShortcut(self, id)	
removeAction(self, action)	
removeEventFilter(self, a0)	
removeTab(self, index)	
render(, sourceRegion, flags, ...)	
repaint(-> None -> None)	
resize()	
resizeEvent(self, a0)	
restoreGeometry(self, geometry)	
saveGeometry(self)	
screen(self)	
scroll()	
sender(self)	
senderSignalIndex(self)	
setAcceptDrops(self, on)	
setAccessibleDescription(self, description)	
setAccessibleName(self, name)	

continues on next page

Table 2.20 – continued from previous page

setAttribute(self, attribute[, on])
setAutoFillBackground(self, enabled)
setBackgroundRole(self, a0)
setBaseSize()
setContentsMargins()
setContextMenuPolicy(self, policy)
setCornerWidget(self, widget[, corner])
setCurrentIndex(self, index)
setCurrentWidget(self, widget)
setCursor(self, a0)
setDisabled(self, a0)
setDocumentMode(self, set)
setElideMode(self, a0)
setEnabled(self, a0)
setFixedHeight(self, h)
setFixedSize()
setFixedWidth(self, w)
setFocus()
setFocusPolicy(self, policy)
setFocusProxy(self, a0)
setFont(self, a0)
setForegroundRole(self, a0)
setGeometry()
setGraphicsEffect(self, effect)
setHidden(self, hidden)
setIconSize(self, size)

continues on next page

Table 2.20 – continued from previous page

setInputMethodHints(self, hints)
setLayout(self, a0)
setLayoutDirection(self, direction)
setLocale(self, locale)
setMask()
setMaximumHeight(self, maxh)
setMaximumSize()
setMaximumWidth(self, maxw)
setMinimumHeight(self, minh)
setMinimumSize()
setMinimumWidth(self, minw)
setMouseTracking(self, enable)
setMovable(self, movable)
setObjectName(self, name)
setPalette(self, a0)
setParent()
setProperty(self, name, value)
setShortcutAutoRepeat(self, id[, enabled])
setShortcutEnabled(self, id[, enabled])
setSizeIncrement()
setSizePolicy()
setStatusTip(self, a0)
setStyle(self, a0)
setStyleSheet(self, styleSheet)
setTabBar(self, a0)
setTabBarAutoHide(self, enabled)

continues on next page

Table 2.20 – continued from previous page

setTabEnabled(self, index, a1)
setTabIcon(self, index, icon)
setTabOrder(a0, a1)
setTabPosition(self, a0)
setTabShape(self, s)
setTabText(self, index, a1)
setTabToolTip(self, index, tip)
setTabVisible(self, index, visible)
setTabWhatsThis(self, index, text)
setTabletTracking(self, enable)
setTabsClosable(self, closeable)
setToolTip(self, a0)
setToolTipDuration(self, msec)
setUpdatesEnabled(self, enable)
setUsesScrollButtons(self, useButtons)
setVisible(self, visible)
setWhatsThis(self, a0)
setWindowFilePath(self, filePath)
setWindowFlag(self, a0[, on])
setWindowFlags(self, type)
setWindowIcon(self, icon)
setWindowIconText(self, a0)
setWindowModality(self, windowModality)
setWindowModified(self, a0)
setWindowOpacity(self, level)
setWindowRole(self, a0)

continues on next page

Table 2.20 – continued from previous page

setWindowState(self, state)
setWindowTitle(self, a0)
sharedPainter(self)
show(self)
showEvent(self, a0)
showFullScreen(self)
showMaximized(self)
showMinimized(self)
showNormal(self)
signalsBlocked(self)
size(self)
sizeHint(self)
sizeIncrement(self)
sizePolicy(self)
stackUnder(self, a0)
startTimer(self, interval[, timerType])
statusTip(self)
style(self)
styleSheet(self)
tabBar(self)
tabBarAutoHide(self)
tabIcon(self, index)
tabInserted(self, index)
tabPosition(self)
tabRemoved(self, index)
tabShape(self)

continues on next page

Table 2.20 – continued from previous page

tabText(self, index)
tabToolTip(self, index)
tabWhatsThis(self, index)
tabletEvent(self, a0)
tabsClosable(self)
testAttribute(self, attribute)
thread(self)
timerEvent(self, a0)
toolTip(self)
toolTipDuration(self)
tr(self, sourceText[, disambiguation, n])
underMouse(self)
ungrabGesture(self, type)
unsetCursor(self)
unsetLayoutDirection(self)
unsetLocale(self)
update(-> None -> None)
updateGeometry(self)
updateMicroFocus(self)
updatesEnabled(self)
usesScrollButtons(self)
visibleRegion(self)
whatsThis(self)
wheelEvent(self, a0)
widget(self, index)
width(self)

continues on next page

Table 2.20 – continued from previous page

widthMM(self)
winId(self)
window(self)
windowFilePath(self)
windowFlags(self)
windowHandle(self)
windowIcon(self)
windowIconText(self)
windowModality(self)
windowOpacity(self)
windowRole(self)
windowState(self)
windowTitle(self)
windowType(self)
x(self)
y(self)

Attributes

DrawChildren
DrawWindowBackground
East
IgnoreMask
North
PdmDepth
PdmDevicePixelRatio

continues on next page

Table 2.21 – continued from previous page

PdmDevicePixelRatioScaled	
PdmDpiX	
PdmDpiY	
PdmHeight	
PdmHeightMM	
PdmNumColors	
PdmPhysicalDpiX	
PdmPhysicalDpiY	
PdmWidth	
PdmWidthMM	
Rounded	
South	
Triangular	
West	
currentChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
customContextMenuRequested	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
destroyed	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
objectNameChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
staticMetaObject	
tabBarClicked	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
tabBarDoubleClicked	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
tabCloseRequested	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowIconChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowIconTextChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowTitleChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL

labscript_utils.qtwidgets.headerview_with_widgets

Classes

HorizontalHeaderViewWithWidgets(model[, parent])	A QHeaderView that supports inserting arbitrary widgets into sections.

labscript_utils.qtwidgets.headerview_with_widgets.HorizontalHeaderViewWithWidgets

class labscript_utils.qtwidgets.headerview_with_widgets.**HorizontalHeaderViewWithWidgets**(*model*, *parent=None*)

Bases: QHeaderView

A QHeaderView that supports inserting arbitrary widgets into sections. Use setWidget(logical_index, widget) to set and setWidget(logical_index, None) to unset. Decorations, checkboxes or anything other than text in the headers containing widgets is unsupported, and may result in garbled output

__init__(*model*, *parent=None*)

Methods

__init__(model[, parent])
acceptDrops(self)
accessibleDescription(self)
accessibleName(self)
actionEvent(self, a0)
actions(self)
activateWindow(self)
addAction(self, action)
addActions(self, actions)
addScrollBarWidget(self, widget, alignment)
adjustSize(self)
alternatingRowColors(self)
autoFillBackground(self)

continues on next page

Table 2.22 – continued from previous page

autoScrollMargin(self)
backgroundRole(self)
baseSize(self)
blockSignals(self, b)
cascadingSectionResizes(self)
changeEvent(self, a0)
childAt(-> Optional[QWidget])
childEvent(self, a0)
children(self)
childrenRect(self)
childrenRegion(self)
clearFocus(self)
clearMask(self)
clearSelection(self)
close(self)
closeEditor(self, editor, hint)
closeEvent(self, a0)
closePersistentEditor(self, index)
colorCount(self)
commitData(self, editor)
connectNotify(self, signal)
contentsMargins(self)
contentsRect(self)
contextMenuEvent(self, a0)
contextMenuPolicy(self)
cornerWidget(self)

continues on next page

Table 2.22 – continued from previous page

count(self)
create(self[, window, initializeWindow, ...])
createWindowContainer(window[, parent, flags])
currentChanged(self, current, old)
currentIndex(self)
cursor(self)
customEvent(self, a0)
dataChanged(self, topLeft, bottomRight[, roles])
defaultAlignment(self)
defaultDropAction(self)
defaultSectionSize(self)
deleteLater(self)
depth(self)
destroy(self[, destroyWindow, destroySubWindows])
devType(self)
devicePixelRatio(self)
devicePixelRatioF(self)
devicePixelRatioFScale()
dirtyRegionOffset(self)
disconnect(-> bool)
disconnectNotify(self, signal)
do_update_widget_positions()
dragDropMode(self)
dragDropOverwriteMode(self)
dragEnabled(self)
dragEnterEvent(self, e)

continues on next page

Table 2.22 – continued from previous page

dragLeaveEvent(self, e)	
dragMoveEvent(self, e)	
drawFrame(self, a0)	
dropEvent(self, e)	
dropIndicatorPosition(self)	
dumpObjectInfo(self)	
dumpObjectTree(self)	
dynamicPropertyNames(self)	
edit()	
editTriggers(self)	
editorDestroyed(self, editor)	
effectiveWinId(self)	
ensurePolished(self)	
enterEvent(self, a0)	
event(self, e)	
eventFilter(target, event)	Ensure we don't leave the curor set as a resize handle when the mouse moves onto a child widget:
executeDelayedItemsLayout(self)	
find(a0)	
findChild(-> QObjectT)	
findChildren(...)	
focusInEvent(self, e)	
focusNextChild(self)	
focusNextPrevChild(self, next)	
focusOutEvent(self, e)	
focusPolicy(self)	
focusPreviousChild(self)	

continues on next page

Table 2.22 – continued from previous page

focusProxy(self)
focusWidget(self)
font(self)
fontInfo(self)
fontMetrics(self)
foregroundRole(self)
frameGeometry(self)
frameRect(self)
frameShadow(self)
frameShape(self)
frameSize(self)
frameStyle(self)
frameWidth(self)
geometry(self)
getContentsMargins(self)
grab(self[, rectangle])
grabGesture(self, type[, flags])
grabKeyboard(self)
grabMouse()
grabShortcut(self, key[, context])
graphicsEffect(self)
graphicsProxyWidget(self)
hasAutoScroll(self)
hasFocus(self)
hasHeightForWidth(self)
hasMouseTracking(self)

continues on next page

Table 2.22 – continued from previous page

hasTabletTracking(self)
headerDataChanged(self, orientation, ...)
height(self)
heightForWidth(self, a0)
heightMM(self)
hiddenSectionCount(self)
hide(self)
hideEvent(self, a0)
hideSection(self, alogicalIndex)
highlightSections(self)
horizontalOffset(self)
horizontalScrollBar(self)
horizontalScrollBarPolicy(self)
horizontalScrollMode(self)
horizontalScrollbarAction(self, action)
horizontalScrollbarValueChanged(self, value)
iconSize(self)
indexAt(self, p)
indexWidget(self, index)
inherits(self, classname)
initPainter(self, painter)
initStyleOption(self, option)
initialize(self)
initializeSections()
inputMethodEvent(self, event)
inputMethodHints(self)

continues on next page

Table 2.22 – continued from previous page

`inputMethodQuery`(self, query)
`insertAction`(self, before, action)
`insertActions`(self, before, actions)
`installEventFilter`(self, a0)
`isActiveWindow`(self)
`isAncestorOf`(self, child)
`isEnabled`(self)
`isEnabledTo`(self, a0)
`isFirstSectionMovable`(self)
`isFullScreen`(self)
`isHidden`(self)
`isIndexHidden`(self, index)
`isLeftToRight`(self)
`isMaximized`(self)
`isMinimized`(self)
`isModal`(self)
`isPersistentEditorOpen`(self, index)
`isRightToLeft`(self)
`isSectionHidden`(self, logicalIndex)
`isSignalConnected`(self, signal)
`isSortIndicatorShown`(self)
`isVisible`(self)
`isVisibleTo`(self, a0)
`isWidgetType`(self)
`isWindow`(self)
`isWindowModified`(self)

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Table 2.22 – continued from previous page

isWindowType(self)
itemDelegate(-> Optional[QAbstractItemDelegate])
itemDelegateForColumn(self, column)
itemDelegateForRow(self, row)
keyPressEvent(self, e)
keyReleaseEvent(self, a0)
keyboardGrabber()
keyboardSearch(self, search)
killTimer(self, id)
layout(self)
layoutDirection(self)
leaveEvent(self, a0)
length(self)
lineWidth(self)
locale(self)
logicalDpiX(self)
logicalDpiY(self)
logicalIndex(self, visualIndex)
logicalIndexAt(-> int -> int)
lower(self)
mapFrom(self, a0, a1)
mapFromGlobal(self, a0)
mapFromParent(self, a0)
mapTo(self, a0, a1)
mapToGlobal(self, a0)
mapToParent(self, a0)

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Table 2.22 – continued from previous page

mask(self)
maximumHeight(self)
maximumSectionSize(self)
maximumSize(self)
maximumViewportSize(self)
maximumWidth(self)
metaObject(self)
metric(self, a0)
midLineWidth(self)
minimumHeight(self)
minimumSectionSize(self)
minimumSize(self)
minimumSizeHint(self)
minimumWidth(self)
model(self)
mouseDoubleClickEvent(self, e)
mouseGrabber()
mouseMoveEvent(self, e)
mousePressEvent(self, e)
mouseReleaseEvent(self, e)
move()
moveCursor(self, a0, a1)
moveEvent(self, a0)
moveSection(self, from_, to)
moveToThread(self, thread)
nativeEvent(self, eventType, message)

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Table 2.22 – continued from previous page

nativeParentWidget(self)	
nextInFocusChain(self)	
normalGeometry(self)	
objectName(self)	
offset(self)	
on_columnsInserted(parent, logical_first, ...)	
on_columnsRemoved(parent, logical_first, ...)	
openPersistentEditor(self, index)	
orientation(self)	
overrideWindowFlags(self, type)	
overrideWindowState(self, state)	
paintEngine(self)	
paintEvent(self, e)	
paintSection(self, painter, rect, logicalIndex)	
paintingActive(self)	
palette(self)	
parent(self)	
parentWidget(self)	
physicalDpiX(self)	
physicalDpiY(self)	
pos(self)	
previousInFocusChain(self)	
property(self, name)	
pyqtConfigure(...)	Each keyword argument is either the name of a Qt property or a Qt signal.
raise_(self)	
receivers(self, signal)	

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Table 2.22 – continued from previous page

rect(self)
releaseKeyboard(self)
releaseMouse(self)
releaseShortcut(self, id)
removeAction(self, action)
removeEventFilter(self, a0)
render(, sourceRegion, flags, ...)
repaint(-> None -> None)
reset(self)
resetDefaultSectionSize(self)
resetHorizontalScrollMode(self)
resetVerticalScrollMode(self)
resize()
resizeContentsPrecision(self)
resizeEvent(self, e)
resizeSection(self, logicalIndex, size)
resizeSections()
restoreGeometry(self, geometry)
restoreState(self, state)
rootIndex(self)
rowsAboutToBeRemoved(self, parent, start, end)
rowsInserted(self, parent, start, end)
saveGeometry(self)
saveState(self)
scheduleDelayedItemsLayout(self)
screen(self)

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Table 2.22 – continued from previous page

scroll()
scrollBarWidgets(self, alignment)
scrollContentsBy(self, dx, dy)
scrollDirtyRegion(self, dx, dy)
scrollTo(self, index, hint)
scrollToBottom(self)
scrollToTop(self)
sectionPosition(self, logicalIndex)
sectionResizeMode(self, logicalIndex)
sectionSize(self, logicalIndex)
sectionSizeFromContents(self, logicalIndex)
sectionSizeHint(self, logicalIndex)
sectionViewportPosition(self, logicalIndex)
sectionsAboutToBeRemoved(self, parent, ...)
sectionsClickable(self)
sectionsHidden(self)
sectionsInserted(self, parent, logicalFirst, ...)
sectionsMovable(self)
sectionsMoved(self)
selectAll(self)
selectedIndexes(self)
selectionBehavior(self)
selectionChanged(self, selected, deselected)
selectionCommand(self, index[, event])
selectionMode(self)
selectionModel(self)

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Table 2.22 – continued from previous page

sender(self)
senderSignalIndex(self)
setAcceptDrops(self, on)
setAccessibleDescription(self, description)
setAccessibleName(self, name)
setAlternatingRowColors(self, enable)
setAttribute(self, attribute[, on])
setAutoFillBackground(self, enabled)
setAutoScroll(self, enable)
setAutoScrollMargin(self, margin)
setBackgroundRole(self, a0)
setBaseSize()
setCascadingSectionResizes(self, enable)
setContentsMargins()
setContextMenuPolicy(self, policy)
setCornerWidget(self, widget)
setCurrentIndex(self, index)
setCursor(self, a0)
setDefaultAlignment(self, alignment)
setDefaultDropAction(self, dropAction)
setDefaultSectionSize(self, size)
setDirtyRegion(self, region)
setDisabled(self, a0)
setDragDropMode(self, behavior)
setDragDropOverwriteMode(self, overwrite)
setDragEnabled(self, enable)

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Table 2.22 – continued from previous page

setDropIndicatorShown(self, enable)
setEditTriggers(self, triggers)
setEnabled(self, a0)
setFirstSectionMovable(self, movable)
setFixedHeight(self, h)
setFixedSize()
setFixedWidth(self, w)
setFocus()
setFocusPolicy(self, policy)
setFocusProxy(self, a0)
setFont(self, a0)
setForegroundRole(self, a0)
setFrameRect(self, a0)
setFrameShadow(self, a0)
setFrameShape(self, a0)
setFrameStyle(self, a0)
setGeometry()
setGraphicsEffect(self, effect)
setHidden(self, hidden)
setHighlightSections(self, highlight)
setHorizontalScrollBar(self, scrollbar)
setHorizontalScrollBarPolicy(self, a0)
setHorizontalScrollMode(self, mode)
setIconSize(self, size)
setIndexWidget(self, index, widget)
setInputMethodHints(self, hints)

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Table 2.22 – continued from previous page

setItemDelegate(self, delegate)
setItemDelegateForColumn(self, column, delegate)
setItemDelegateForRow(self, row, delegate)
setLayout(self, a0)
setLayoutDirection(self, direction)
setLineWidth(self, a0)
setLocale(self, locale)
setMask()
setMaximumHeight(self, maxh)
setMaximumSectionSize(self, size)
setMaximumSize()
setMaximumWidth(self, maxw)
setMidLineWidth(self, a0)
setMinimumHeight(self, minh)
setMinimumSectionSize(self, size)
setMinimumSize()
setMinimumWidth(self, minw)
setModel(self, model)
setMouseTracking(self, enable)
setObjectName(self, name)
setOffset(self, offset)
setOffsetToLastSection(self)
setOffsetToSectionPosition(self, visualIndex)
setPalette(self, a0)
setParent()
setProperty(self, name, value)

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Table 2.22 – continued from previous page

setResizeContentsPrecision(self, precision)
setRootIndex(self, index)
setSectionHidden(self, logicalIndex, hide)
setSectionResizeMode()
setSectionsClickable(self, clickable)
setSectionsMovable(self, movable)
setSelection(self, rect, flags)
setSelectionBehavior(self, behavior)
setSelectionMode(self, mode)
setSelectionModel(self, selectionModel)
setShortcutAutoRepeat(self, id[, enabled])
setShortcutEnabled(self, id[, enabled])
setSizeAdjustPolicy(self, policy)
setSizeIncrement()
setSizePolicy()
setSortIndicator(self, logicalIndex, order)
setSortIndicatorShown(self, show)
setState(self, state)
setStatusTip(self, a0)
setStretchLastSection(self, stretch)
setStyle(self, a0)
setStyleSheet(self, styleSheet)
setTabKeyNavigation(self, enable)
setTabOrder(a0, a1)
setTabletTracking(self, enable)
setTextElideMode(self, mode)

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Table 2.22 – continued from previous page

setToolTip(self, a0)
setToolTipDuration(self, msec)
setUpdatesEnabled(self, enable)
setVerticalScrollBar(self, scrollbar)
setVerticalScrollBarPolicy(self, a0)
setVerticalScrollMode(self, mode)
setViewport(self, widget)
setViewportMargins()
setVisible(self, v)
setWhatsThis(self, a0)
setWidget(logical_index[, widget])
setWindowFilePath(self, filePath)
setWindowFlag(self, a0[, on])
setWindowFlags(self, type)
setWindowIcon(self, icon)
setWindowIconText(self, a0)
setWindowModality(self, windowModality)
setWindowModified(self, a0)
setWindowOpacity(self, level)
setWindowRole(self, a0)
setWindowState(self, state)
setWindowTitle(self, a0)
setupViewport(self, viewport)
sharedPainter(self)
show(self)
showDropIndicator(self)

continues on next page

Table 2.22 – continued from previous page

showEvent(self, a0)
showFullScreen(self)
showMaximized(self)
showMinimized(self)
showNormal(self)
showSection(self, alogicalIndex)
signalsBlocked(self)
size(self)
sizeAdjustPolicy(self)
sizeHint(self)
sizeHintForColumn(self, column)
sizeHintForIndex(self, index)
sizeHintForRow(self, row)
sizeIncrement(self)
sizePolicy(self)
sortIndicatorOrder(self)
sortIndicatorSection(self)
stackUnder(self, a0)
startDrag(self, supportedActions)
startTimer(self, interval[, timerType])
state(self)
statusTip(self)
stretchLastSection(self)
stretchSectionCount(self)
style(self)
styleSheet(self)

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Table 2.22 – continued from previous page

swapSections(self, first, second)
tabKeyNavigation(self)
tabletEvent(self, a0)
testAttribute(self, attribute)
textElideMode(self)
thread(self)
timerEvent(self, e)
toolTip(self)
toolTipDuration(self)
tr(self, sourceText[, disambiguation, n])
underMouse(self)
ungrabGesture(self, type)
unsetCursor(self)
unsetLayoutDirection(self)
unsetLocale(self)
update()
updateEditorData(self)
updateEditorGeometries(self)
updateGeometries(self)
updateGeometry(self)
updateMicroFocus(self)
updateSection(self, logicalIndex)
update_indents()
update_widget_positions()
updatesEnabled(self)
verticalOffset(self)

continues on next page

Table 2.22 – continued from previous page

verticalScrollBar(self)
verticalScrollBarPolicy(self)
verticalScrollMode(self)
verticalScrollbarAction(self, action)
verticalScrollbarValueChanged(self, value)
viewOptions(self)
viewport(self)
viewportEvent(self, e)
viewportMargins(self)
viewportSizeHint(self)
visibleRegion(self)
visualIndex(self, logicalIndex)
visualIndexAt(self, position)
visualRect(self, index)
visualRegionForSelection(self, selection)
whatsThis(self)
wheelEvent(self, a0)
width(self)
widthMM(self)
winId(self)
window(self)
windowFilePath(self)
windowFlags(self)
windowHandle(self)
windowIcon(self)
windowIconText(self)

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Table 2.22 – continued from previous page

windowModality(self)
windowOpacity(self)
windowRole(self)
windowState(self)
windowTitle(self)
windowType(self)
x(self)
y(self)

Attributes

AboveItem
AdjustIgnored
AdjustToContents
AdjustToContentsOnFirstShow
AllEditTriggers
AnimatingState
AnyKeyPressed
BelowItem
Box
CollapsingState
ContiguousSelection
CurrentChanged
Custom
DoubleClicked
DragDrop

continues on next page

Table 2.23 – continued from previous page

DragOnly
DragSelectingState
DraggingState
DrawChildren
DrawWindowBackground
DropOnly
EditKeyPressed
EditingState
EnsureVisible
ExpandingState
ExtendedSelection
Fixed
HLine
IgnoreMask
Interactive
InternalMove
MoveDown
MoveEnd
MoveHome
MoveLeft
MoveNext
MovePageDown
MovePageUp
MovePrevious
MoveRight
MoveUp

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Table 2.23 – continued from previous page

MultiSelection
NoDragDrop
NoEditTriggers
NoFrame
NoSelection
NoState
OnItem
OnViewport
Panel
PdmDepth
PdmDevicePixelRatio
PdmDevicePixelRatioScaled
PdmDpiX
PdmDpiY
PdmHeight
PdmHeightMM
PdmNumColors
PdmPhysicalDpiX
PdmPhysicalDpiY
PdmWidth
PdmWidthMM
Plain
PositionAtBottom
PositionAtCenter
PositionAtTop
Raised

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Table 2.23 – continued from previous page

ResizeToContents	
ScrollPerItem	
ScrollPerPixel	
SelectColumns	
SelectItems	
SelectRows	
SelectedClicked	
Shadow_Mask	
Shape_Mask	
SingleSelection	
Stretch	
StyledPanel	
Sunken	
VLine	
WinPanel	
activated	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
clicked	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
customContextMenuRequested	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
destroyed	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
doubleClicked	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
entered	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
geometriesChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
iconSizeChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
objectNameChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
pressed	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
sectionClicked	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL

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Table 2.23 – continued from previous page

sectionCountChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
sectionDoubleClicked	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
sectionEntered	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
sectionHandleDoubleClicked	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
sectionMoved	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
sectionPressed	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
sectionResized	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
sortIndicatorChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
staticMetaObject	
stylesheet	
thinspace	
viewportEntered	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowIconChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowIconTextChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowTitleChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL

do_update_widget_positions()

eventFilter(*target*, *event*)

Ensure we don't leave the curor set as a resize handle when the mouse moves onto a child widget:

hideSection(*self*, *alogicalIndex: int*)

on_columnsInserted(*parent*, *logical_first*, *logical_last*)

on_columnsRemoved(*parent*, *logical_first*, *logical_last*)

sectionSizeFromContents(*self*, *logicalIndex: int*) → QSize

setSectionHidden(*self*, *logicalIndex: int*, *hide: bool*)

setStyleSheet(*self*, *styleSheet: str* | *None*)

setWidget(*logical_index*, *widget=None*)

showEvent(*self*, *a0: QShowEvent* | *None*)

showSection(*self*, *alogicalIndex: int*)

```
stylesheet = '\n QHeaderView::section {\n /* Will be set dynamically:  */\n
padding-top:  %dpx;\n padding-bottom:  %dpx;\n /* Required, otherwise set to zero
upon setting any stylesheet at all:  */\n padding-left:  4px;\n /* Required for some
reason, otherwise other settings ignored:  */\n color:  black;\n }\n\n /* Any other
style goes here:  */\n %s\n '
```

thinspace = '\u2009'

update_indents()

update_widget_positions()

viewportEvent(*self*, *e: QEvent | None*) → bool

labscript_utils.qtwidgets.imageoutput

Classes

BrowseButton(image_output, *args, **kwargs)	
ImageOutput(name, width, height, *args, **kwargs)	
ImageView(*args, **kwargs)	

labscript_utils.qtwidgets.imageoutput.BrowseButton

class labscript_utils.qtwidgets.imageoutput.**BrowseButton**(*image_output*, **args*, ***kwargs*)

Bases: QPushButton

__init__(*image_output*, **args*, ***kwargs*)

Methods

__init__(image_output, *args, **kwargs)
acceptDrops(self)
accessibleDescription(self)
accessibleName(self)
actionEvent(self, a0)
actions(self)
activateWindow(self)

continues on next page

Table 2.24 – continued from previous page

addAction(self, action)
addActions(self, actions)
adjustSize(self)
animateClick(self[, msecs])
autoDefault(self)
autoExclusive(self)
autoFillBackground(self)
autoRepeat(self)
autoRepeatDelay(self)
autoRepeatInterval(self)
backgroundRole(self)
baseSize(self)
blockSignals(self, b)
browse()
changeEvent(self, e)
checkStateSet(self)
childAt(-> Optional[QWidget])
childEvent(self, a0)
children(self)
childrenRect(self)
childrenRegion(self)
clearFocus(self)
clearMask(self)
click(self)
close(self)
closeEvent(self, a0)

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Table 2.24 – continued from previous page

colorCount(self)
connectNotify(self, signal)
contentsMargins(self)
contentsRect(self)
contextMenuEvent(self, a0)
contextMenuPolicy(self)
create(self[, window, initializeWindow, ...])
createWindowContainer(window[, parent, flags])
cursor(self)
customEvent(self, a0)
deleteLater(self)
depth(self)
destroy(self[, destroyWindow, destroySubWindows])
devType(self)
devicePixelRatio(self)
devicePixelRatioF(self)
devicePixelRatioFScale()
disconnect(-> bool)
disconnectNotify(self, signal)
dragEnterEvent(self, a0)
dragLeaveEvent(self, a0)
dragMoveEvent(self, a0)
dropEvent(self, a0)
dumpObjectInfo(self)
dumpObjectTree(self)
dynamicPropertyNames(self)

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Table 2.24 – continued from previous page

effectiveWinId(self)
ensurePolished(self)
enterEvent(self, a0)
event(self, e)
eventFilter(self, a0, a1)
find(a0)
findChild(-> QObjectT)
findChildren(...)
focusInEvent(self, a0)
focusNextChild(self)
focusNextPrevChild(self, next)
focusOutEvent(self, a0)
focusPolicy(self)
focusPreviousChild(self)
focusProxy(self)
focusWidget(self)
font(self)
fontInfo(self)
fontMetrics(self)
foregroundRole(self)
frameGeometry(self)
frameSize(self)
geometry(self)
getContentsMargins(self)
grab(self[, rectangle])
grabGesture(self, type[, flags])

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Table 2.24 – continued from previous page

grabKeyboard(self)
grabMouse()
grabShortcut(self, key[, context])
graphicsEffect(self)
graphicsProxyWidget(self)
group(self)
hasFocus(self)
hasHeightForWidth(self)
hasMouseTracking(self)
hasTabletTracking(self)
height(self)
heightForWidth(self, a0)
heightMM(self)
hide(self)
hideEvent(self, a0)
hitButton(self, pos)
icon(self)
iconSize(self)
inherits(self, classname)
initPainter(self, painter)
initStyleOption(self, option)
inputMethodEvent(self, a0)
inputMethodHints(self)
inputMethodQuery(self, a0)
insertAction(self, before, action)
insertActions(self, before, actions)

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Table 2.24 – continued from previous page

installEventFilter(self, a0)
isActiveWindow(self)
isAncestorOf(self, child)
isCheckable(self)
isChecked(self)
isDefault(self)
isDown(self)
isEnabled(self)
isEnabledTo(self, a0)
isFlat(self)
isFullScreen(self)
isHidden(self)
isLeftToRight(self)
isMaximized(self)
isMinimized(self)
isModal(self)
isRightToLeft(self)
isSignalConnected(self, signal)
isVisible(self)
isVisibleTo(self, a0)
isWidgetType(self)
isWindow(self)
isWindowModified(self)
isWindowType(self)
keyPressEvent(self, a0)
keyReleaseEvent(self, e)

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Table 2.24 – continued from previous page

keyboardGrabber()
killTimer(self, id)
layout(self)
layoutDirection(self)
leaveEvent(self, a0)
locale(self)
logicalDpiX(self)
logicalDpiY(self)
lower(self)
mapFrom(self, a0, a1)
mapFromGlobal(self, a0)
mapFromParent(self, a0)
mapTo(self, a0, a1)
mapToGlobal(self, a0)
mapToParent(self, a0)
mask(self)
maximumHeight(self)
maximumSize(self)
maximumWidth(self)
menu(self)
metaObject(self)
metric(self, a0)
minimumHeight(self)
minimumSize(self)
minimumSizeHint(self)
minimumWidth(self)

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Table 2.24 – continued from previous page

mouseDoubleClickEvent(self, a0)
mouseGrabber()
mouseMoveEvent(self, e)
mousePressEvent(self, e)
mouseReleaseEvent(self, e)
move()
moveEvent(self, a0)
moveToThread(self, thread)
nativeEvent(self, eventType, message)
nativeParentWidget(self)
nextCheckState(self)
nextInFocusChain(self)
normalGeometry(self)
objectName(self)
overrideWindowFlags(self, type)
overrideWindowState(self, state)
paintEngine(self)
paintEvent(self, a0)
paintingActive(self)
palette(self)
parent(self)
parentWidget(self)
physicalDpiX(self)
physicalDpiY(self)
pos(self)
previousInFocusChain(self)

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Table 2.24 – continued from previous page

`property`(self, name)	
`pyqtConfigure`(...)	Each keyword argument is either the name of a Qt property or a Qt signal.
`raise_`(self)	
`receivers`(self, signal)	
`rect`(self)	
`releaseKeyboard`(self)	
`releaseMouse`(self)	
`releaseShortcut`(self, id)	
`removeAction`(self, action)	
`removeEventFilter`(self, a0)	
`render`(, sourceRegion, flags, ...)	
`repaint`(-> None -> None)	
`resize`()	
`resizeEvent`(self, a0)	
`restoreGeometry`(self, geometry)	
`saveGeometry`(self)	
`screen`(self)	
`scroll`()	
`sender`(self)	
`senderSignalIndex`(self)	
`setAcceptDrops`(self, on)	
`setAccessibleDescription`(self, description)	
`setAccessibleName`(self, name)	
`setAttribute`(self, attribute[, on])	
`setAutoDefault`(self, a0)	
`setAutoExclusive`(self, a0)	

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Table 2.24 – continued from previous page

setAutoFillBackground(self, enabled)
setAutoRepeat(self, a0)
setAutoRepeatDelay(self, a0)
setAutoRepeatInterval(self, a0)
setBackgroundRole(self, a0)
setBaseSize()
setCheckable(self, a0)
setChecked(self, a0)
setContentsMargins()
setContextMenuPolicy(self, policy)
setCursor(self, a0)
setDefault(self, a0)
setDisabled(self, a0)
setDown(self, a0)
setEnabled(self, a0)
setFixedHeight(self, h)
setFixedSize()
setFixedWidth(self, w)
setFlat(self, a0)
setFocus()
setFocusPolicy(self, policy)
setFocusProxy(self, a0)
setFont(self, a0)
setForegroundRole(self, a0)
setGeometry()
setGraphicsEffect(self, effect)

continues on next page

Table 2.24 – continued from previous page

setHidden(self, hidden)
setIcon(self, icon)
setIconSize(self, size)
setInputMethodHints(self, hints)
setLayout(self, a0)
setLayoutDirection(self, direction)
setLocale(self, locale)
setMask()
setMaximumHeight(self, maxh)
setMaximumSize()
setMaximumWidth(self, maxw)
setMenu(self, menu)
setMinimumHeight(self, minh)
setMinimumSize()
setMinimumWidth(self, minw)
setMouseTracking(self, enable)
setObjectName(self, name)
setPalette(self, a0)
setParent()
setProperty(self, name, value)
setShortcut(self, key)
setShortcutAutoRepeat(self, id[, enabled])
setShortcutEnabled(self, id[, enabled])
setSizeIncrement()
setSizePolicy()
setStatusTip(self, a0)

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Table 2.24 – continued from previous page

setStyle(self, a0)
setStyleSheet(self, styleSheet)
setTabOrder(a0, a1)
setTabletTracking(self, enable)
setText(self, text)
setToolTip(self, a0)
setToolTipDuration(self, msec)
setUpdatesEnabled(self, enable)
setVisible(self, visible)
setWhatsThis(self, a0)
setWindowFilePath(self, filePath)
setWindowFlag(self, a0[, on])
setWindowFlags(self, type)
setWindowIcon(self, icon)
setWindowIconText(self, a0)
setWindowModality(self, windowModality)
setWindowModified(self, a0)
setWindowOpacity(self, level)
setWindowRole(self, a0)
setWindowState(self, state)
setWindowTitle(self, a0)
sharedPainter(self)
shortcut(self)
show(self)
showEvent(self, a0)
showFullScreen(self)

continues on next page

Table 2.24 – continued from previous page

showMaximized(self)
showMenu(self)
showMinimized(self)
showNormal(self)
signalsBlocked(self)
size(self)
sizeHint(self)
sizeIncrement(self)
sizePolicy(self)
stackUnder(self, a0)
startTimer(self, interval[, timerType])
statusTip(self)
style(self)
styleSheet(self)
tabletEvent(self, a0)
testAttribute(self, attribute)
text(self)
thread(self)
timerEvent(self, e)
toggle(self)
toolTip(self)
toolTipDuration(self)
tr(self, sourceText[, disambiguation, n])
underMouse(self)
ungrabGesture(self, type)
unsetCursor(self)

continues on next page

Table 2.24 – continued from previous page

unsetLayoutDirection(self)
unsetLocale(self)
update(-> None -> None)
updateGeometry(self)
updateMicroFocus(self)
updatesEnabled(self)
visibleRegion(self)
whatsThis(self)
wheelEvent(self, a0)
width(self)
widthMM(self)
winId(self)
window(self)
windowFilePath(self)
windowFlags(self)
windowHandle(self)
windowIcon(self)
windowIconText(self)
windowModality(self)
windowOpacity(self)
windowRole(self)
windowState(self)
windowTitle(self)
windowType(self)
x(self)

continues on next page

Table 2.24 – continued from previous page

y(self)

Attributes

DrawChildren	
DrawWindowBackground	
IgnoreMask	
PdmDepth	
PdmDevicePixelRatio	
PdmDevicePixelRatioScaled	
PdmDpiX	
PdmDpiY	
PdmHeight	
PdmHeightMM	
PdmNumColors	
PdmPhysicalDpiX	
PdmPhysicalDpiY	
PdmWidth	
PdmWidthMM	
clicked	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
customContextMenuRequested	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
destroyed	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
objectNameChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
pressed	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
released	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
staticMetaObject	
toggled	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowIconChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowIconTextChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowTitleChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL

browse()

eventFilter(*self*, *a0: QObject* | *None*, *a1: QEvent* | *None*) → bool

labscript_utils.qtwidgets.imageoutput.ImageOutput

class labscript_utils.qtwidgets.imageoutput.**ImageOutput**(*name*, *width*, *height*, **args*, ***kwargs*)

Bases: QWidget

__init__(*name*, *width*, *height*, **args*, ***kwargs*)

Methods

__init__(name, width, height, *args, **kwargs)
acceptDrops(self)
accessibleDescription(self)
accessibleName(self)
actionEvent(self, a0)
actions(self)
activateWindow(self)
addAction(self, action)
addActions(self, actions)
adjustSize(self)
autoFillBackground(self)
backgroundRole(self)
baseSize(self)
blockSignals(self, b)
changeEvent(self, a0)
childAt(-> Optional[QWidget])
childEvent(self, a0)
children(self)

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Table 2.25 – continued from previous page

childrenRect(self)
childrenRegion(self)
clearFocus(self)
clearMask(self)
close(self)
closeEvent(self, a0)
colorCount(self)
connectNotify(self, signal)
contentsMargins(self)
contentsRect(self)
contextMenuEvent(self, a0)
contextMenuPolicy(self)
create(self[, window, initializeWindow, ...])
createWindowContainer(window[, parent, flags])
cursor(self)
customEvent(self, a0)
deleteLater(self)
depth(self)
destroy(self[, destroyWindow, destroySubWindows])
devType(self)
devicePixelRatio(self)
devicePixelRatioF(self)
devicePixelRatioFScale()
disconnect(-> bool)
disconnectNotify(self, signal)
dragEnterEvent(self, a0)

continues on next page

Table 2.25 – continued from previous page

dragLeaveEvent(self, a0)
dragMoveEvent(self, a0)
dropEvent(self, a0)
dumpObjectInfo(self)
dumpObjectTree(self)
dynamicPropertyNames(self)
effectiveWinId(self)
ensurePolished(self)
enterEvent(self, a0)
event(self, a0)
eventFilter(self, a0, a1)
find(a0)
findChild(-> QObjectT)
findChildren(...)
focusInEvent(self, a0)
focusNextChild(self)
focusNextPrevChild(self, next)
focusOutEvent(self, a0)
focusPolicy(self)
focusPreviousChild(self)
focusProxy(self)
focusWidget(self)
font(self)
fontInfo(self)
fontMetrics(self)
foregroundRole(self)

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Table 2.25 – continued from previous page

frameGeometry(self)
frameSize(self)
geometry(self)
getContentsMargins(self)
get_Image()
grab(self[, rectangle])
grabGesture(self, type[, flags])
grabKeyboard(self)
grabMouse()
grabShortcut(self, key[, context])
graphicsEffect(self)
graphicsProxyWidget(self)
hasFocus(self)
hasHeightForWidth(self)
hasMouseTracking(self)
hasTabletTracking(self)
height(self)
heightForWidth(self, a0)
heightMM(self)
hide(self)
hideEvent(self, a0)
inherits(self, classname)
initPainter(self, painter)
inputMethodEvent(self, a0)
inputMethodHints(self)
inputMethodQuery(self, a0)

continues on next page

Table 2.25 – continued from previous page

insertAction(self, before, action)
insertActions(self, before, actions)
installEventFilter(self, a0)
isActiveWindow(self)
isAncestorOf(self, child)
isEnabled(self)
isEnabledTo(self, a0)
isFullScreen(self)
isHidden(self)
isLeftToRight(self)
isMaximized(self)
isMinimized(self)
isModal(self)
isRightToLeft(self)
isSignalConnected(self, signal)
isVisible(self)
isVisibleTo(self, a0)
isWidgetType(self)
isWindow(self)
isWindowModified(self)
isWindowType(self)
keyPressEvent(self, a0)
keyReleaseEvent(self, a0)
keyboardGrabber()
killTimer(self, id)
layout(self)

continues on next page

Table 2.25 – continued from previous page

layoutDirection(self)
leaveEvent(self, a0)
locale(self)
lock([notify_Image])
logicalDpiX(self)
logicalDpiY(self)
lower(self)
mapFrom(self, a0, a1)
mapFromGlobal(self, a0)
mapFromParent(self, a0)
mapTo(self, a0, a1)
mapToGlobal(self, a0)
mapToParent(self, a0)
mask(self)
maximumHeight(self)
maximumSize(self)
maximumWidth(self)
metaObject(self)
metric(self, a0)
minimumHeight(self)
minimumSize(self)
minimumSizeHint(self)
minimumWidth(self)
mouseDoubleClickEvent(self, a0)
mouseGrabber()
mouseMoveEvent(self, a0)

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Table 2.25 – continued from previous page

mousePressEvent(self, a0)	
mouseReleaseEvent(self, a0)	
move()	
moveEvent(self, a0)	
moveToThread(self, thread)	
nativeEvent(self, eventType, message)	
nativeParentWidget(self)	
nextInFocusChain(self)	
normalGeometry(self)	
objectName(self)	
overrideWindowFlags(self, type)	
overrideWindowState(self, state)	
paintEngine(self)	
paintEvent(self, a0)	
paintingActive(self)	
palette(self)	
parent(self)	
parentWidget(self)	
physicalDpiX(self)	
physicalDpiY(self)	
pos(self)	
previousInFocusChain(self)	
property(self, name)	
pyqtConfigure(...)	Each keyword argument is either the name of a Qt property or a Qt signal.
raise_(self)	
receivers(self, signal)	

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Table 2.25 – continued from previous page

rect(self)
releaseKeyboard(self)
releaseMouse(self)
releaseShortcut(self, id)
removeAction(self, action)
removeEventFilter(self, a0)
render(, sourceRegion, flags, ...)
repaint(-> None -> None)
resize()
resizeEvent(self, a0)
restoreGeometry(self, geometry)
saveGeometry(self)
screen(self)
scroll()
sender(self)
senderSignalIndex(self)
setAcceptDrops(self, on)
setAccessibleDescription(self, description)
setAccessibleName(self, name)
setAttribute(self, attribute[, on])
setAutoFillBackground(self, enabled)
setBackgroundRole(self, a0)
setBaseSize()
setContentsMargins()
setContextMenuPolicy(self, policy)
setCursor(self, a0)

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Table 2.25 – continued from previous page

setDisabled(self, a0)
setEnabled(self, a0)
setFixedHeight(self, h)
setFixedSize()
setFixedWidth(self, w)
setFocus()
setFocusPolicy(self, policy)
setFocusProxy(self, a0)
setFont(self, a0)
setForegroundRole(self, a0)
setGeometry()
setGraphicsEffect(self, effect)
setHidden(self, hidden)
setInputMethodHints(self, hints)
setLayout(self, a0)
setLayoutDirection(self, direction)
setLocale(self, locale)
setMask()
setMaximumHeight(self, maxh)
setMaximumSize()
setMaximumWidth(self, maxw)
setMinimumHeight(self, minh)
setMinimumSize()
setMinimumWidth(self, minw)
setMouseTracking(self, enable)
setObjectName(self, name)

continues on next page

Table 2.25 – continued from previous page

setPalette(self, a0)
setParent()
setProperty(self, name, value)
setShortcutAutoRepeat(self, id[, enabled])
setShortcutEnabled(self, id[, enabled])
setSizeIncrement()
setSizePolicy()
setStatusTip(self, a0)
setStyle(self, a0)
setStyleSheet(self, styleSheet)
setTabOrder(a0, a1)
setTabletTracking(self, enable)
setToolTip(self, a0)
setToolTipDuration(self, msec)
setUpdatesEnabled(self, enable)
setVisible(self, visible)
setWhatsThis(self, a0)
setWindowFilePath(self, filePath)
setWindowFlag(self, a0[, on])
setWindowFlags(self, type)
setWindowIcon(self, icon)
setWindowIconText(self, a0)
setWindowModality(self, windowModality)
setWindowModified(self, a0)
setWindowOpacity(self, level)
setWindowRole(self, a0)

continues on next page

Table 2.25 – continued from previous page

setWindowState(self, state)
setWindowTitle(self, a0)
set_Image(Image[, notify_old_Image, ...])
sharedPainter(self)
show(self)
showEvent(self, a0)
showFullScreen(self)
showMaximized(self)
showMinimized(self)
showNormal(self)
signalsBlocked(self)
size(self)
sizeHint(self)
sizeIncrement(self)
sizePolicy(self)
stackUnder(self, a0)
startTimer(self, interval[, timerType])
statusTip(self)
style(self)
styleSheet(self)
tabletEvent(self, a0)
testAttribute(self, attribute)
thread(self)
timerEvent(self, a0)
toolTip(self)
toolTipDuration(self)

continues on next page

Table 2.25 – continued from previous page

tr(self, sourceText[, disambiguation, n])
underMouse(self)
ungrabGesture(self, type)
unlock([notify_Image])
unsetCursor(self)
unsetLayoutDirection(self)
unsetLocale(self)
update(-> None -> None)
updateGeometry(self)
updateMicroFocus(self)
updatesEnabled(self)
visibleRegion(self)
whatsThis(self)
wheelEvent(self, a0)
width(self)
widthMM(self)
winId(self)
window(self)
windowFilePath(self)
windowFlags(self)
windowHandle(self)
windowIcon(self)
windowIconText(self)
windowModality(self)
windowOpacity(self)
windowRole(self)

continues on next page

Table 2.25 – continued from previous page

`windowState`(self)	
`windowTitle`(self)	
`windowType`(self)	
`x`(self)	
`y`(self)	

Attributes

DrawChildren	
DrawWindowBackground	
IgnoreMask	
PdmDepth	
PdmDevicePixelRatio	
PdmDevicePixelRatioScaled	
PdmDpiX	
PdmDpiY	
PdmHeight	
PdmHeightMM	
PdmNumColors	
PdmPhysicalDpiX	
PdmPhysicalDpiY	
PdmWidth	
PdmWidthMM	
customContextMenuRequested	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
destroyed	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
imageUpdated	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
objectNameChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
staticMetaObject	
value	
windowIconChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowIconTextChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowTitleChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL

eventFilter(*self*, *a0: QObject | None*, *a1: QEvent | None*) → bool

get_Image()

imageUpdated

int = . . . , arguments: Sequence = . . .) -> PYQT_SIGNAL

types is normally a sequence of individual types. Each type is either a type object or a string that is the name of a C++ type. Alternatively each type could itself be a sequence of types each describing a different overloaded signal. name is the optional C++ name of the signal. If it is not specified then the name of the class attribute that is bound to the signal is used. revision is the optional revision of the signal that is exported to QML. If it is not specified then 0 is used. arguments is the optional sequence of the names of the signal's arguments.

Type
pyqtSignal(*types, name

Type
str = . . . , revision

lock(*notify_Image=True*)

set_Image(*Image*, *notify_old_Image=True*, *notify_new_Image=True*)

unlock(*notify_Image=True*)

property value

labscript_utils.qtwidgets.imageoutput.ImageView

class labscript_utils.qtwidgets.imageoutput.**ImageView**(**args*, ***kwargs*)

Bases: QGraphicsView

__init__(**args*, ***kwargs*)

Methods

__init__(*args, **kwargs)
acceptDrops(self)
accessibleDescription(self)
accessibleName(self)
actionEvent(self, a0)
actions(self)
activateWindow(self)
addAction(self, action)
addActions(self, actions)

continues on next page

Table 2.26 – continued from previous page

addScrollBarWidget(self, widget, alignment)
adjustSize(self)
alignment(self)
autoFillBackground(self)
backgroundBrush(self)
backgroundRole(self)
baseSize(self)
blockSignals(self, b)
cacheMode(self)
centerOn(-> None)
changeEvent(self, a0)
childAt(-> Optional[QWidget])
childEvent(self, a0)
children(self)
childrenRect(self)
childrenRegion(self)
clearFocus(self)
clearMask(self)
close(self)
closeEvent(self, a0)
colorCount(self)
connectNotify(self, signal)
contentsMargins(self)
contentsRect(self)
contextMenuEvent(self, event)
contextMenuPolicy(self)

continues on next page

Table 2.26 – continued from previous page

cornerWidget(self)
create(self[, window, initializeWindow, ...])
createWindowContainer(window[, parent, flags])
cursor(self)
customEvent(self, a0)
deleteLater(self)
depth(self)
destroy(self[, destroyWindow, destroySubWindows])
devType(self)
devicePixelRatio(self)
devicePixelRatioF(self)
devicePixelRatioFScale()
disconnect(-> bool)
disconnectNotify(self, signal)
dragEnterEvent(self, event)
dragLeaveEvent(self, event)
dragMode(self)
dragMoveEvent(self, event)
drawBackground(self, painter, rect)
drawForeground(self, painter, rect)
drawFrame(self, a0)
dropEvent(self, event)
dumpObjectInfo(self)
dumpObjectTree(self)
dynamicPropertyNames(self)
effectiveWinId(self)

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Table 2.26 – continued from previous page

ensurePolished(self)
ensureVisible(-> None)
enterEvent(self, a0)
event(self, event)
eventFilter(self, a0, a1)
find(a0)
findChild(-> QObjectT)
findChildren(...)
fitInView(-> None)
focusInEvent(self, event)
focusNextChild(self)
focusNextPrevChild(self, next)
focusOutEvent(self, event)
focusPolicy(self)
focusPreviousChild(self)
focusProxy(self)
focusWidget(self)
font(self)
fontInfo(self)
fontMetrics(self)
foregroundBrush(self)
foregroundRole(self)
frameGeometry(self)
frameRect(self)
frameShadow(self)
frameShape(self)

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Table 2.26 – continued from previous page

frameSize(self)
frameStyle(self)
frameWidth(self)
geometry(self)
getContentsMargins(self)
grab(self[, rectangle])
grabGesture(self, type[, flags])
grabKeyboard(self)
grabMouse()
grabShortcut(self, key[, context])
graphicsEffect(self)
graphicsProxyWidget(self)
hasFocus(self)
hasHeightForWidth(self)
hasMouseTracking(self)
hasTabletTracking(self)
height(self)
heightForWidth(self, a0)
heightMM(self)
hide(self)
hideEvent(self, a0)
horizontalScrollBar(self)
horizontalScrollBarPolicy(self)
inherits(self, classname)
initPainter(self, painter)
initStyleOption(self, option)

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Table 2.26 – continued from previous page

`inputMethodEvent`(self, event)
`inputMethodHints`(self)
`inputMethodQuery`(self, query)
`insertAction`(self, before, action)
`insertActions`(self, before, actions)
`installEventFilter`(self, a0)
`invalidateScene`(self[, rect, layers])
`isActiveWindow`(self)
`isAncestorOf`(self, child)
`isEnabled`(self)
`isEnabledTo`(self, a0)
`isFullScreen`(self)
`isHidden`(self)
`isInteractive`(self)
`isLeftToRight`(self)
`isMaximized`(self)
`isMinimized`(self)
`isModal`(self)
`isRightToLeft`(self)
`isSignalConnected`(self, signal)
`isTransformed`(self)
`isVisible`(self)
`isVisibleTo`(self, a0)
`isWidgetType`(self)
`isWindow`(self)
`isWindowModified`(self)

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Table 2.26 – continued from previous page

isWindowType(self)
itemAt(-> Optional[QGraphicsItem])
items(...)
keyPressEvent(self, event)
keyReleaseEvent(self, event)
keyboardGrabber()
killTimer(self, id)
layout(self)
layoutDirection(self)
leaveEvent(self, a0)
lineWidth(self)
locale(self)
logicalDpiX(self)
logicalDpiY(self)
lower(self)
mapFrom(self, a0, a1)
mapFromGlobal(self, a0)
mapFromParent(self, a0)
mapFromScene(...)
mapTo(self, a0, a1)
mapToGlobal(self, a0)
mapToParent(self, a0)
mapToScene(...)
mask(self)
maximumHeight(self)
maximumSize(self)

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Table 2.26 – continued from previous page

maximumViewportSize(self)
maximumWidth(self)
metaObject(self)
metric(self, a0)
midLineWidth(self)
minimumHeight(self)
minimumSize(self)
minimumSizeHint(self)
minimumWidth(self)
mouseDoubleClickEvent(self, event)
mouseGrabber()
mouseMoveEvent(self, event)
mousePressEvent(self, event)
mouseReleaseEvent(self, event)
move()
moveEvent(self, a0)
moveToThread(self, thread)
nativeEvent(self, eventType, message)
nativeParentWidget(self)
nextInFocusChain(self)
normalGeometry(self)
objectName(self)
optimizationFlags(self)
overrideWindowFlags(self, type)
overrideWindowState(self, state)
paintEngine(self)

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Table 2.26 – continued from previous page

paintEvent(self, event)	
paintingActive(self)	
palette(self)	
parent(self)	
parentWidget(self)	
physicalDpiX(self)	
physicalDpiY(self)	
pos(self)	
previousInFocusChain(self)	
property(self, name)	
pyqtConfigure(...)	Each keyword argument is either the name of a Qt property or a Qt signal.
raise_(self)	
receivers(self, signal)	
rect(self)	
releaseKeyboard(self)	
releaseMouse(self)	
releaseShortcut(self, id)	
removeAction(self, action)	
removeEventFilter(self, a0)	
render(self, painter[, target, source, mode])	
renderHints(self)	
repaint(-> None -> None)	
resetCachedContent(self)	
resetTransform(self)	
resize()	
resizeAnchor(self)	

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Table 2.26 – continued from previous page

resizeEvent(self, event)
restoreGeometry(self, geometry)
rotate(self, angle)
rubberBandRect(self)
rubberBandSelectionMode(self)
saveGeometry(self)
scale(self, sx, sy)
scene(self)
sceneRect(self)
screen(self)
scroll()
scrollBarWidgets(self, alignment)
scrollContentsBy(self, dx, dy)
sender(self)
senderSignalIndex(self)
setAcceptDrops(self, on)
setAccessibleDescription(self, description)
setAccessibleName(self, name)
setAlignment(self, alignment)
setAttribute(self, attribute[, on])
setAutoFillBackground(self, enabled)
setBackgroundBrush(self, brush)
setBackgroundRole(self, a0)
setBaseSize()
setCacheMode(self, mode)
setContentsMargins()

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Table 2.26 – continued from previous page

setContextMenuPolicy(self, policy)
setCornerWidget(self, widget)
setCursor(self, a0)
setDisabled(self, a0)
setDragMode(self, mode)
setEnabled(self, a0)
setFixedHeight(self, h)
setFixedSize()
setFixedWidth(self, w)
setFocus()
setFocusPolicy(self, policy)
setFocusProxy(self, a0)
setFont(self, a0)
setForegroundBrush(self, brush)
setForegroundRole(self, a0)
setFrameRect(self, a0)
setFrameShadow(self, a0)
setFrameShape(self, a0)
setFrameStyle(self, a0)
setGeometry()
setGraphicsEffect(self, effect)
setHidden(self, hidden)
setHorizontalScrollBar(self, scrollbar)
setHorizontalScrollBarPolicy(self, a0)
setInputMethodHints(self, hints)
setInteractive(self, allowed)

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Table 2.26 – continued from previous page

setLayout(self, a0)
setLayoutDirection(self, direction)
setLineWidth(self, a0)
setLocale(self, locale)
setMask()
setMaximumHeight(self, maxh)
setMaximumSize()
setMaximumWidth(self, maxw)
setMidLineWidth(self, a0)
setMinimumHeight(self, minh)
setMinimumSize()
setMinimumWidth(self, minw)
setMouseTracking(self, enable)
setObjectName(self, name)
setOptimizationFlag(self, flag[, enabled])
setOptimizationFlags(self, flags)
setPalette(self, a0)
setParent()
setProperty(self, name, value)
setRenderHint(self, hint[, on])
setRenderHints(self, hints)
setResizeAnchor(self, anchor)
setRubberBandSelectionMode(self, mode)
setScene(self, scene)
setSceneRect()
setShortcutAutoRepeat(self, id[, enabled])

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Table 2.26 – continued from previous page

setShortcutEnabled(self, id[, enabled])
setSizeAdjustPolicy(self, policy)
setSizeIncrement()
setSizePolicy()
setStatusTip(self, a0)
setStyle(self, a0)
setStyleSheet(self, styleSheet)
setTabOrder(a0, a1)
setTabletTracking(self, enable)
setToolTip(self, a0)
setToolTipDuration(self, msec)
setTransform(self, matrix[, combine])
setTransformationAnchor(self, anchor)
setUpdatesEnabled(self, enable)
setVerticalScrollBar(self, scrollbar)
setVerticalScrollBarPolicy(self, a0)
setViewport(self, widget)
setViewportMargins()
setViewportUpdateMode(self, mode)
setVisible(self, visible)
setWhatsThis(self, a0)
setWindowFilePath(self, filePath)
setWindowFlag(self, a0[, on])
setWindowFlags(self, type)
setWindowIcon(self, icon)
setWindowIconText(self, a0)

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Table 2.26 – continued from previous page

setWindowModality(self, windowModality)
setWindowModified(self, a0)
setWindowOpacity(self, level)
setWindowRole(self, a0)
setWindowState(self, state)
setWindowTitle(self, a0)
setupViewport(self, widget)
sharedPainter(self)
shear(self, sh, sv)
show(self)
showEvent(self, event)
showFullScreen(self)
showMaximized(self)
showMinimized(self)
showNormal(self)
signalsBlocked(self)
size(self)
sizeAdjustPolicy(self)
sizeHint(self)
sizeIncrement(self)
sizePolicy(self)
stackUnder(self, a0)
startTimer(self, interval[, timerType])
statusTip(self)
style(self)
styleSheet(self)

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Table 2.26 – continued from previous page

tabletEvent(self, a0)
testAttribute(self, attribute)
thread(self)
timerEvent(self, a0)
toolTip(self)
toolTipDuration(self)
tr(self, sourceText[, disambiguation, n])
transform(self)
transformationAnchor(self)
translate(self, dx, dy)
underMouse(self)
ungrabGesture(self, type)
unsetCursor(self)
unsetLayoutDirection(self)
unsetLocale(self)
update(-> None -> None)
updateGeometry(self)
updateMicroFocus(self)
updateScene(self, rects)
updateSceneRect(self, rect)
updatesEnabled(self)
verticalScrollBar(self)
verticalScrollBarPolicy(self)
viewport(self)
viewportEvent(self, event)
viewportMargins(self)

continues on next page

Table 2.26 – continued from previous page

viewportSizeHint(self)
viewportTransform(self)
viewportUpdateMode(self)
visibleRegion(self)
whatsThis(self)
wheelEvent(self, event)
width(self)
widthMM(self)
winId(self)
window(self)
windowFilePath(self)
windowFlags(self)
windowHandle(self)
windowIcon(self)
windowIconText(self)
windowModality(self)
windowOpacity(self)
windowRole(self)
windowState(self)
windowTitle(self)
windowType(self)
x(self)
y(self)

Attributes

AdjustIgnored
AdjustToContents
AdjustToContentsOnFirstShow
AnchorUnderMouse
AnchorViewCenter
BoundingRectViewportUpdate
Box
CacheBackground
CacheNone
DontAdjustForAntialiasing
DontClipPainter
DontSavePainterState
DrawChildren
DrawWindowBackground
FullViewportUpdate
HLine
IgnoreMask
MinimalViewportUpdate
NoAnchor
NoDrag
NoFrame
NoViewportUpdate
Panel
PdmDepth
PdmDevicePixelRatio

continues on next page

Table 2.27 – continued from previous page

PdmDevicePixelRatioScaled	
PdmDpiX	
PdmDpiY	
PdmHeight	
PdmHeightMM	
PdmNumColors	
PdmPhysicalDpiX	
PdmPhysicalDpiY	
PdmWidth	
PdmWidthMM	
Plain	
Raised	
RubberBandDrag	
ScrollHandDrag	
Shadow_Mask	
Shape_Mask	
SmartViewportUpdate	
StyledPanel	
Sunken	
VLine	
WinPanel	
customContextMenuRequested	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
destroyed	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
objectNameChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
rubberBandChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
staticMetaObject	

continues on next page

Table 2.27 – continued from previous page

windowIconChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowIconTextChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowTitleChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL

contextMenuEvent(*self*, *event: QContextMenuEvent | None*)

labscript_utils.qtwidgets.outputbox

Classes

OutputBox(container[, scrollback_lines])	A subclass of qtutils.outputbox.OutputBox configured with security from labconfig.

labscript_utils.qtwidgets.outputbox.OutputBox

class labscript_utils.qtwidgets.outputbox.**OutputBox**(*container*, *scrollback_lines=1000*)

Bases: OutputBox

A subclass of qtutils.outputbox.OutputBox configured with security from labconfig.

__init__(*container*, *scrollback_lines=1000*)

Instantiate an outputBox and insert into container widget. Set the number of lines of scrollback to keep. Set a zmq_context for creating sockets, otherwise zmq.Context.instance() will be used. set bind_address, defaulting to the local interface.

Methods

__init__(container[, scrollback_lines])	Instantiate an outputBox and insert into container widget.
add_text()	
close()	
fileno()	
flush()	
isatty()	
mainloop(socket)	
new_socket()	
output(text[, red])	Wrapper around write() with only option for normal text or bold red text, retained for backward compatibility but deprecated.
print(*values, **kwargs)	Print to the output box.
shutdown()	Stop the mainloop.
write(text[, color, bold, italic, charformat])	Write to the output box as if it were a file.

Attributes

LINE_MID
LINE_NEW
LINE_START
MAX_LINES_BATCH
supports_rich_write

labscript_utils.qtwidgets.toolpalette

Classes

ToolPalette(parent, name, *args, **kwargs)
ToolPaletteGroup(*args, **kwargs)

labscript_utils.qtwidgets.toolpalette.ToolPalette

class labscript_utils.qtwidgets.toolpalette.**ToolPalette**(*parent*, *name*, **args*, ***kwargs*)

Bases: QScrollArea

__init__(*parent*, *name*, **args*, ***kwargs*)

Methods

__init__(parent, name, *args, **kwargs)
acceptDrops(self)
accessibleDescription(self)
accessibleName(self)
actionEvent(self, a0)
actions(self)
activateWindow(self)
addAction(self, action)
addActions(self, actions)
addScrollBarWidget(self, widget, alignment)
addWidget(widget[, force_relayout])
adjustSize(self)
alignment(self)
autoFillBackground(self)
backgroundRole(self)
baseSize(self)
blockSignals(self, b)
changeEvent(self, a0)
childAt(-> Optional[QWidget])
childEvent(self, a0)
children(self)

continues on next page

Table 2.28 – continued from previous page

childrenRect(self)
childrenRegion(self)
clearFocus(self)
clearMask(self)
close(self)
closeEvent(self, a0)
colorCount(self)
connectNotify(self, signal)
contentsMargins(self)
contentsRect(self)
contextMenuEvent(self, a0)
contextMenuPolicy(self)
cornerWidget(self)
create(self[, window, initializeWindow, ...])
createWindowContainer(window[, parent, flags])
cursor(self)
customEvent(self, a0)
deleteLater(self)
depth(self)
destroy(self[, destroyWindow, destroySubWindows])
devType(self)
devicePixelRatio(self)
devicePixelRatioF(self)
devicePixelRatioFScale()
disconnect(-> bool)
disconnectNotify(self, signal)

continues on next page

Table 2.28 – continued from previous page

dragEnterEvent(self, a0)
dragLeaveEvent(self, a0)
dragMoveEvent(self, a0)
drawFrame(self, a0)
dropEvent(self, a0)
dumpObjectInfo(self)
dumpObjectTree(self)
dynamicPropertyNames(self)
effectiveWinId(self)
ensurePolished(self)
ensureVisible(self, x, y[, xMargin, yMargin])
ensureWidgetVisible(self, childWidget[, ...])
enterEvent(self, a0)
event(self, a0)
eventFilter(self, a0, a1)
find(a0)
findChild(-> QObjectT)
findChildren(...)
focusInEvent(self, a0)
focusNextChild(self)
focusNextPrevChild(self, next)
focusOutEvent(self, a0)
focusPolicy(self)
focusPreviousChild(self)
focusProxy(self)
focusWidget(self)

continues on next page

Table 2.28 – continued from previous page

font(self)
fontInfo(self)
fontMetrics(self)
foregroundRole(self)
frameGeometry(self)
frameRect(self)
frameShadow(self)
frameShape(self)
frameSize(self)
frameStyle(self)
frameWidth(self)
geometry(self)
getContentsMargins(self)
grab(self[, rectangle])
grabGesture(self, type[, flags])
grabKeyboard(self)
grabMouse()
grabShortcut(self, key[, context])
graphicsEffect(self)
graphicsProxyWidget(self)
hasFocus(self)
hasHeightForWidth(self)
hasMouseTracking(self)
hasTabletTracking(self)
height(self)
heightForWidth(self, a0)

continues on next page

Table 2.28 – continued from previous page

heightMM(self)
hide(self)
hideEvent(self, a0)
horizontalScrollBar(self)
horizontalScrollBarPolicy(self)
inherits(self, classname)
initPainter(self, painter)
initStyleOption(self, option)
inputMethodEvent(self, a0)
inputMethodHints(self)
inputMethodQuery(self, a0)
insertAction(self, before, action)
insertActions(self, before, actions)
insertWidget(index, widget[, force_relayout])
installEventFilter(self, a0)
isActiveWindow(self)
isAncestorOf(self, child)
isEnabled(self)
isEnabledTo(self, a0)
isFullScreen(self)
isHidden(self)
isLeftToRight(self)
isMaximized(self)
isMinimized(self)
isModal(self)
isRightToLeft(self)

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Table 2.28 – continued from previous page

isSignalConnected(self, signal)
isVisible(self)
isVisibleTo(self, a0)
isWidgetType(self)
isWindow(self)
isWindowModified(self)
isWindowType(self)
keyPressEvent(self, a0)
keyReleaseEvent(self, a0)
keyboardGrabber()
killTimer(self, id)
layout(self)
layoutDirection(self)
leaveEvent(self, a0)
lineWidth(self)
locale(self)
logicalDpiX(self)
logicalDpiY(self)
lower(self)
mapFrom(self, a0, a1)
mapFromGlobal(self, a0)
mapFromParent(self, a0)
mapTo(self, a0, a1)
mapToGlobal(self, a0)
mapToParent(self, a0)
mask(self)

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Table 2.28 – continued from previous page

maximumHeight(self)
maximumSize(self)
maximumViewportSize(self)
maximumWidth(self)
metaObject(self)
metric(self, a0)
midLineWidth(self)
minimumHeight(self)
minimumSize(self)
minimumSizeHint(self)
minimumWidth(self)
mouseDoubleClickEvent(self, a0)
mouseGrabber()
mouseMoveEvent(self, a0)
mousePressEvent(self, a0)
mouseReleaseEvent(self, a0)
move()
moveEvent(self, a0)
moveToThread(self, thread)
nativeEvent(self, eventType, message)
nativeParentWidget(self)
nextInFocusChain(self)
normalGeometry(self)
objectName(self)
overrideWindowFlags(self, type)
overrideWindowState(self, state)

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Table 2.28 – continued from previous page

paintEngine(self)	
paintEvent(self, a0)	
paintingActive(self)	
palette(self)	
parent(self)	
parentWidget(self)	
physicalDpiX(self)	
physicalDpiY(self)	
pos(self)	
previousInFocusChain(self)	
property(self, name)	
pyqtConfigure(...)	Each keyword argument is either the name of a Qt property or a Qt signal.
raise_(self)	
receivers(self, signal)	
rect(self)	
releaseKeyboard(self)	
releaseMouse(self)	
releaseShortcut(self, id)	
removeAction(self, action)	
removeEventFilter(self, a0)	
render(, sourceRegion, flags, ...)	
repaint(-> None -> None)	
resize()	
resizeEvent(self, a0)	
restoreGeometry(self, geometry)	
saveGeometry(self)	

continues on next page

Table 2.28 – continued from previous page

screen(self)
scroll()
scrollBarWidgets(self, alignment)
scrollContentsBy(self, dx, dy)
sender(self)
senderSignalIndex(self)
setAcceptDrops(self, on)
setAccessibleDescription(self, description)
setAccessibleName(self, name)
setAlignment(self, a0)
setAttribute(self, attribute[, on])
setAutoFillBackground(self, enabled)
setBackgroundRole(self, a0)
setBaseSize()
setContentsMargins()
setContextMenuPolicy(self, policy)
setCornerWidget(self, widget)
setCursor(self, a0)
setDisabled(self, a0)
setEnabled(self, a0)
setFixedHeight(self, h)
setFixedSize()
setFixedWidth(self, w)
setFocus()
setFocusPolicy(self, policy)
setFocusProxy(self, a0)

continues on next page

Table 2.28 – continued from previous page

setFont(self, a0)
setForegroundRole(self, a0)
setFrameRect(self, a0)
setFrameShadow(self, a0)
setFrameShape(self, a0)
setFrameStyle(self, a0)
setGeometry()
setGraphicsEffect(self, effect)
setHidden(self, hidden)
setHorizontalScrollBar(self, scrollbar)
setHorizontalScrollBarPolicy(self, a0)
setInputMethodHints(self, hints)
setLayout(self, a0)
setLayoutDirection(self, direction)
setLineWidth(self, a0)
setLocale(self, locale)
setMask()
setMaximumHeight(self, maxh)
setMaximumSize()
setMaximumWidth(self, maxw)
setMidLineWidth(self, a0)
setMinimumHeight(self, minh)
setMinimumSize()
setMinimumWidth(self, minw)
setMouseTracking(self, enable)
setObjectName(self, name)

continues on next page

Table 2.28 – continued from previous page

setPalette(self, a0)
setParent()
setProperty(self, name, value)
setShortcutAutoRepeat(self, id[, enabled])
setShortcutEnabled(self, id[, enabled])
setSizeAdjustPolicy(self, policy)
setSizeIncrement()
setSizePolicy()
setStatusTip(self, a0)
setStyle(self, a0)
setStyleSheet(self, styleSheet)
setTabOrder(a0, a1)
setTabletTracking(self, enable)
setToolTip(self, a0)
setToolTipDuration(self, msec)
setUpdatesEnabled(self, enable)
setVerticalScrollBar(self, scrollbar)
setVerticalScrollBarPolicy(self, a0)
setViewport(self, widget)
setViewportMargins()
setVisible(self, visible)
setWhatsThis(self, a0)
setWidget(self, w)
setWidgetResizable(self, resizable)
setWindowFilePath(self, filePath)
setWindowFlag(self, a0[, on])

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Table 2.28 – continued from previous page

setWindowFlags(self, type)
setWindowIcon(self, icon)
setWindowIconText(self, a0)
setWindowModality(self, windowModality)
setWindowModified(self, a0)
setWindowOpacity(self, level)
setWindowRole(self, a0)
setWindowState(self, state)
setWindowTitle(self, a0)
setupViewport(self, viewport)
sharedPainter(self)
show(self)
showEvent(self, a0)
showFullScreen(self)
showMaximized(self)
showMinimized(self)
showNormal(self)
signalsBlocked(self)
size(self)
sizeAdjustPolicy(self)
sizeHint(self)
sizeIncrement(self)
sizePolicy(self)
stackUnder(self, a0)
startTimer(self, interval[, timerType])
statusTip(self)

continues on next page

Table 2.28 – continued from previous page

`style`(self)
`styleSheet`(self)
`tabletEvent`(self, a0)
`takeWidget`(self)
`testAttribute`(self, attribute)
`thread`(self)
`timerEvent`(self, a0)
`toolTip`(self)
`toolTipDuration`(self)
`tr`(self, sourceText[, disambiguation, n])
`underMouse`(self)
`ungrabGesture`(self, type)
`unsetCursor`(self)
`unsetLayoutDirection`(self)
`unsetLocale`(self)
`update`(-> None -> None)
`updateGeometry`(self)
`updateMicroFocus`(self)
`updateMinimumSize`()
`updatesEnabled`(self)
`verticalScrollBar`(self)
`verticalScrollBarPolicy`(self)
`viewport`(self)
`viewportEvent`(self, a0)
`viewportMargins`(self)
`viewportSizeHint`(self)

continues on next page

Table 2.28 – continued from previous page

visibleRegion(self)
whatsThis(self)
wheelEvent(self, a0)
widget(self)
widgetResizable(self)
width(self)
widthMM(self)
winId(self)
window(self)
windowFilePath(self)
windowFlags(self)
windowHandle(self)
windowIcon(self)
windowIconText(self)
windowModality(self)
windowOpacity(self)
windowRole(self)
windowState(self)
windowTitle(self)
windowType(self)
x(self)
y(self)

Attributes

AdjustIgnored
AdjustToContents
AdjustToContentsOnFirstShow
Box
DrawChildren
DrawWindowBackground
HLine
IgnoreMask
NoFrame
Panel
PdmDepth
PdmDevicePixelRatio
PdmDevicePixelRatioScaled
PdmDpiX
PdmDpiY
PdmHeight
PdmHeightMM
PdmNumColors
PdmPhysicalDpiX
PdmPhysicalDpiY
PdmWidth
PdmWidthMM
Plain
Raised
Shadow_Mask

continues on next page

Table 2.29 – continued from previous page

Shape_Mask	
StyledPanel	
Sunken	
VLine	
WinPanel	
customContextMenuRequested	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
destroyed	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
objectNameChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
staticMetaObject	
windowIconChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowIconTextChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowTitleChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL

addWidget(*widget*, *force_relayout=True*)

event(*self*, *a0: QEvent | None*) → bool

insertWidget(*index*, *widget*, *force_relayout=True*)

minimumSize(*self*) → QSize

minimumSizeHint(*self*) → QSize

resizeEvent(*self*, *a0: QResizeEvent | None*)

sizeHint(*self*) → QSize

updateMinimumSize()

labscript_utils.qtwidgets.toolpalette.ToolPaletteGroup

class labscript_utils.qtwidgets.toolpalette.**ToolPaletteGroup**(**args*, ***kwargs*)

Bases: QVBoxLayout

__init__(**args*, ***kwargs*)

Methods

__init__(*args, **kwargs)
activate(self)
addChildLayout(self, l)
addChildWidget(self, w)
addItem(self, a0)
addLayout(self, layout[, stretch])
addSpacerItem(self, spacerItem)
addSpacing(self, size)
addStretch(self[, stretch])
addStrut(self, a0)
addWidget(self, a0[, stretch, alignment])
add_to_linked_width_group(width_group_name, name)
alignment(self)
alignmentRect(self, a0)
append_new_palette(name, *args, **kwargs)
blockSignals(self, b)
childEvent(self, e)
children(self)
closestAcceptableSize(w, s)
connectNotify(self, signal)
contentsMargins(self)
contentsRect(self)
controlTypes(self)
count(self)
create_linked_width_group(width_group_name, ...)

continues on next page

Table 2.30 – continued from previous page

customEvent(self, a0)
deleteLater(self)
direction(self)
disconnect(-> bool)
disconnectNotify(self, signal)
dumpObjectInfo(self)
dumpObjectTree(self)
dynamicPropertyNames(self)
event(self, a0)
eventFilter(self, a0, a1)
expandingDirections(self)
findChild(-> QObjectT)
findChildren(...)
geometry(self)
getContentsMargins(self)
get_index_from_name(name)
get_name_from_index(index)
get_palette(name)
get_palette_by_index(index)
hasHeightForWidth(self)
has_palette(name)
heightForWidth(self, a0)
hide_palette(name)
hide_palette_by_index(index)
indexOf(-> int)
inherits(self, classname)

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Table 2.30 – continued from previous page

insertItem(self, index, a1)
insertLayout(self, index, layout[, stretch])
insertSpacerItem(self, index, spacerItem)
insertSpacing(self, index, size)
insertStretch(self, index[, stretch])
insertWidget(self, index, widget[, stretch, ...])
insert_new_palette(index, name, *args, **kwargs)
installEventFilter(self, a0)
invalidate(self)
isEmpty(self)
isEnabled(self)
isSignalConnected(self, signal)
isWidgetType(self)
isWindowType(self)
itemAt(self, a0)
killTimer(self, id)
layout(self)
maximumSize(self)
menuBar(self)
metaObject(self)
minimumHeightForWidth(self, a0)
minimumSize(self)
moveToThread(self, thread)
objectName(self)
parent(self)
parentWidget(self)

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Table 2.30 – continued from previous page

`property`(self, name)	
`pyqtConfigure`(...)	Each keyword argument is either the name of a Qt property or a Qt signal.
`receivers`(self, signal)	
`remove`(name)	
`removeEventFilter`(self, a0)	
`removeItem`(self, a0)	
`removeWidget`(self, w)	
`remove_by_index`(index)	
`remove_from_linked_width_group`(...)	
`reorder_palette`(name, new_index)	
`reorder_palette_by_index`(old_index, new_index)	
`replaceWidget`(self, from_, to[, options])	
`sender`(self)	
`senderSignalIndex`(self)	
`setAlignment`(-> bool -> bool)	
`setContentsMargins`()	
`setDirection`(self, a0)	
`setEnabled`(self, a0)	
`setGeometry`(self, a0)	
`setMenuBar`(self, w)	
`setObjectName`(self, name)	
`setParent`(self, a0)	
`setProperty`(self, name, value)	
`setSizeConstraint`(self, a0)	
`setSpacing`(self, spacing)	
`setStretch`(self, index, stretch)	

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Table 2.30 – continued from previous page

setStretchFactor(-> bool)
show_palette(name)
show_palette_by_index(index)
signalsBlocked(self)
sizeConstraint(self)
sizeHint(self)
spacerItem(self)
spacing(self)
startTimer(self, interval[, timerType])
stretch(self, index)
takeAt(self, a0)
thread(self)
timerEvent(self, a0)
totalHeightForWidth(self, w)
totalMaximumSize(self)
totalMinimumSize(self)
totalSizeHint(self)
tr(self, sourceText[, disambiguation, n])
update(self)
widget(self)
widgetEvent(self, a0)

Attributes

BottomToTop	
Down	
LeftToRight	
RightToLeft	
SetDefaultConstraint	
SetFixedSize	
SetMaximumSize	
SetMinAndMaxSize	
SetMinimumSize	
SetNoConstraint	
TopToBottom	
Up	
destroyed	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
objectNameChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
staticMetaObject	
widths_linked	

add_to_linked_width_group(*width_group_name*, *name*)

append_new_palette(*name*, **args*, ***kwargs*)

create_linked_width_group(*width_group_name*, *names*)

get_index_from_name(*name*)

get_name_from_index(*index*)

get_palette(*name*)

get_palette_by_index(*index*)

has_palette(*name*)

hide_palette(*name*)

hide_palette_by_index(*index*)

insert_new_palette(*index*, *name*, **args*, ***kwargs*)

remove(*name*)

remove_by_index(*index*)

remove_from_linked_width_group(*width_group_name*, *name*)

reorder_palette(*name*, *new_index*)

reorder_palette_by_index(*old_index*, *new_index*)

show_palette(*name*)

show_palette_by_index(*index*)

property widths_linked

2.1.16 labscript_utils.remote

Script to run a zprocess.remote server configured according to LabConfig. Run with:

```
python -m labscript_utils.remote [--daemon] [--no-tui]
```

If –daemon is specified, the server will be started in the background. If –no-tui is specified, the server will run with ordinary terminal output instead of with the interactive text-based user interface (TUI).

Functions

main()

labscript_utils.remote.main

labscript_utils.remote.**main**()

2.1.17 labscript_utils.settings

Classes

Settings([storage, file, parent, page_classes])

labscript_utils.settings.Settings

class labscript_utils.settings.**Settings**(*storage='hdf5'*, *file=None*, *parent=None*, *page_classes=[]*)

Bases: object

__init__(*storage='hdf5'*, *file=None*, *parent=None*, *page_classes=[]*)

Methods

__init__([storage, file, parent, page_classes])	
add_settings_interface(setting_class)	
close(*args, **kwargs)	
create_dialog([goto_page])	
get_value(settings_class, value_name)	
load(name)	
on_cancel(*args, **kwargs)	
on_save(*args, **kwargs)	
register_callback(callback)	
remove_callback(callback)	

add_settings_interface(*setting_class*)

close(**args*, ***kwargs*)

create_dialog(*goto_page=None*)

get_value(*settings_class*, *value_name*)

load(*name*)

on_cancel(**args*, ***kwargs*)

on_save(**args*, ***kwargs*)

register_callback(*callback*)

remove_callback(*callback*)

2.1.18 labscript_utils.setup_logging

Functions

setup_logging(program_name[, log_level, ...])	

labscript_utils.setup_logging.setup_logging

`labscript_utils.setup_logging.`**`setup_logging`**(*program_name*, *log_level=10*, *terminal_level=20*, *maxBytes=52428800*, *backupCount=1*)

Classes

LessThanFilter(less_than)	

labscript_utils.setup_logging.LessThanFilter

class `labscript_utils.setup_logging.`**`LessThanFilter`**(*less_than*)

Bases: `Filter`

`__init__`(*less_than*)

Initialize a filter.

Initialize with the name of the logger which, together with its children, will have its events allowed through the filter. If no name is specified, allow every event.

Methods

__init__(less_than)	Initialize a filter.
filter(record)	Determine if the specified record is to be logged.

`filter`(*record*)

Determine if the specified record is to be logged.

Returns True if the record should be logged, or False otherwise. If deemed appropriate, the record may be modified in-place.

2.1.19 labscript_utils.shared_drive

Functions

path_to_agnostic(path)	
path_to_local(path)	

labscript_utils.shared_drive.path_to_agnostic

`labscript_utils.shared_drive.`**`path_to_agnostic`**(*path*)

labscript_utils.shared_drive.path_to_local

`labscript_utils.shared_drive.`**`path_to_local`**(*path*)

2.1.20 labscript_utils.shot_utils

Functions

get_shot_globals(filepath)	Returns the evaluated globals for a shot, for use by labscript or lyse.

labscript_utils.shot_utils.get_shot_globals

`labscript_utils.shot_utils.`**`get_shot_globals`**(*filepath*)

Returns the evaluated globals for a shot, for use by labscript or lyse. Simple dictionary access as in dict(h5py.File(filepath).attrs) would be fine except we want to apply some hacks, so it's best to do that in one place.

2.1.21 labscript_utils.splash

Classes

Splash(imagepath)	

labscript_utils.splash.Splash

class labscript_utils.splash.**Splash**(*imagepath*)

Bases: QFrame

__init__(*imagepath*)

Methods

__init__(imagepath)
acceptDrops(self)
accessibleDescription(self)
accessibleName(self)
actionEvent(self, a0)
actions(self)
activateWindow(self)
addAction(self, action)
addActions(self, actions)
adjustSize(self)
autoFillBackground(self)
backgroundRole(self)
baseSize(self)
blockSignals(self, b)
changeEvent(self, a0)
childAt(-> Optional[QWidget])
childEvent(self, a0)
children(self)
childrenRect(self)
childrenRegion(self)
clearFocus(self)

continues on next page

Table 2.31 – continued from previous page

clearMask(self)
close(self)
closeEvent(self, a0)
colorCount(self)
connectNotify(self, signal)
contentsMargins(self)
contentsRect(self)
contextMenuEvent(self, a0)
contextMenuPolicy(self)
create(self[, window, initializeWindow, ...])
createWindowContainer(window[, parent, flags])
cursor(self)
customEvent(self, a0)
deleteLater(self)
depth(self)
destroy(self[, destroyWindow, destroySubWindows])
devType(self)
devicePixelRatio(self)
devicePixelRatioF(self)
devicePixelRatioFScale()
disconnect(-> bool)
disconnectNotify(self, signal)
dragEnterEvent(self, a0)
dragLeaveEvent(self, a0)
dragMoveEvent(self, a0)
drawFrame(self, a0)

continues on next page

Table 2.31 – continued from previous page

dropEvent(self, a0)
dumpObjectInfo(self)
dumpObjectTree(self)
dynamicPropertyNames(self)
effectiveWinId(self)
ensurePolished(self)
enterEvent(self, a0)
event(self, e)
eventFilter(self, a0, a1)
find(a0)
findChild(-> QObjectT)
findChildren(...)
focusInEvent(self, a0)
focusNextChild(self)
focusNextPrevChild(self, next)
focusOutEvent(self, a0)
focusPolicy(self)
focusPreviousChild(self)
focusProxy(self)
focusWidget(self)
font(self)
fontInfo(self)
fontMetrics(self)
foregroundRole(self)
frameGeometry(self)
frameRect(self)

continues on next page

Table 2.31 – continued from previous page

frameShadow(self)
frameShape(self)
frameSize(self)
frameStyle(self)
frameWidth(self)
geometry(self)
getContentsMargins(self)
grab(self[, rectangle])
grabGesture(self, type[, flags])
grabKeyboard(self)
grabMouse()
grabShortcut(self, key[, context])
graphicsEffect(self)
graphicsProxyWidget(self)
hasFocus(self)
hasHeightForWidth(self)
hasMouseTracking(self)
hasTabletTracking(self)
height(self)
heightForWidth(self, a0)
heightMM(self)
hide(self)
hideEvent(self, a0)
inherits(self, classname)
initPainter(self, painter)
initStyleOption(self, option)

continues on next page

Table 2.31 – continued from previous page

inputMethodEvent(self, a0)
inputMethodHints(self)
inputMethodQuery(self, a0)
insertAction(self, before, action)
insertActions(self, before, actions)
installEventFilter(self, a0)
isActiveWindow(self)
isAncestorOf(self, child)
isEnabled(self)
isEnabledTo(self, a0)
isFullScreen(self)
isHidden(self)
isLeftToRight(self)
isMaximized(self)
isMinimized(self)
isModal(self)
isRightToLeft(self)
isSignalConnected(self, signal)
isVisible(self)
isVisibleTo(self, a0)
isWidgetType(self)
isWindow(self)
isWindowModified(self)
isWindowType(self)
keyPressEvent(self, a0)
keyReleaseEvent(self, a0)

continues on next page

Table 2.31 – continued from previous page

keyboardGrabber()
killTimer(self, id)
layout(self)
layoutDirection(self)
leaveEvent(self, a0)
lineWidth(self)
locale(self)
logicalDpiX(self)
logicalDpiY(self)
lower(self)
mapFrom(self, a0, a1)
mapFromGlobal(self, a0)
mapFromParent(self, a0)
mapTo(self, a0, a1)
mapToGlobal(self, a0)
mapToParent(self, a0)
mask(self)
maximumHeight(self)
maximumSize(self)
maximumWidth(self)
metaObject(self)
metric(self, a0)
midLineWidth(self)
minimumHeight(self)
minimumSize(self)
minimumSizeHint(self)

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Table 2.31 – continued from previous page

minimumWidth(self)
mouseDoubleClickEvent(self, a0)
mouseGrabber()
mouseMoveEvent(self, a0)
mousePressEvent(self, a0)
mouseReleaseEvent(self, a0)
move()
moveEvent(self, a0)
moveToThread(self, thread)
nativeEvent(self, eventType, message)
nativeParentWidget(self)
nextInFocusChain(self)
normalGeometry(self)
objectName(self)
overrideWindowFlags(self, type)
overrideWindowState(self, state)
paintEngine(self)
paintEvent(self, a0)
paintingActive(self)
palette(self)
parent(self)
parentWidget(self)
physicalDpiX(self)
physicalDpiY(self)
pos(self)
previousInFocusChain(self)

continues on next page

Table 2.31 – continued from previous page

`property`(self, name)	
`pyqtConfigure`(...)	Each keyword argument is either the name of a Qt property or a Qt signal.
`raise_`(self)	
`receivers`(self, signal)	
`rect`(self)	
`releaseKeyboard`(self)	
`releaseMouse`(self)	
`releaseShortcut`(self, id)	
`removeAction`(self, action)	
`removeEventFilter`(self, a0)	
`render`(, sourceRegion, flags, ...)	
`repaint`(-> None -> None)	
`resize`()	
`resizeEvent`(self, a0)	
`restoreGeometry`(self, geometry)	
`saveGeometry`(self)	
`screen`(self)	
`scroll`()	
`sender`(self)	
`senderSignalIndex`(self)	
`setAcceptDrops`(self, on)	
`setAccessibleDescription`(self, description)	
`setAccessibleName`(self, name)	
`setAttribute`(self, attribute[, on])	
`setAutoFillBackground`(self, enabled)	
`setBackgroundRole`(self, a0)	

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Table 2.31 – continued from previous page

setBaseSize()
setContentsMargins()
setContextMenuPolicy(self, policy)
setCursor(self, a0)
setDisabled(self, a0)
setEnabled(self, a0)
setFixedHeight(self, h)
setFixedSize()
setFixedWidth(self, w)
setFocus()
setFocusPolicy(self, policy)
setFocusProxy(self, a0)
setFont(self, a0)
setForegroundRole(self, a0)
setFrameRect(self, a0)
setFrameShadow(self, a0)
setFrameShape(self, a0)
setFrameStyle(self, a0)
setGeometry()
setGraphicsEffect(self, effect)
setHidden(self, hidden)
setInputMethodHints(self, hints)
setLayout(self, a0)
setLayoutDirection(self, direction)
setLineWidth(self, a0)
setLocale(self, locale)

continues on next page

Table 2.31 – continued from previous page

setMask()
setMaximumHeight(self, maxh)
setMaximumSize()
setMaximumWidth(self, maxw)
setMidLineWidth(self, a0)
setMinimumHeight(self, minh)
setMinimumSize()
setMinimumWidth(self, minw)
setMouseTracking(self, enable)
setObjectName(self, name)
setPalette(self, a0)
setParent()
setProperty(self, name, value)
setShortcutAutoRepeat(self, id[, enabled])
setShortcutEnabled(self, id[, enabled])
setSizeIncrement()
setSizePolicy()
setStatusTip(self, a0)
setStyle(self, a0)
setStyleSheet(self, styleSheet)
setTabOrder(a0, a1)
setTabletTracking(self, enable)
setToolTip(self, a0)
setToolTipDuration(self, msec)
setUpdatesEnabled(self, enable)
setVisible(self, visible)

continues on next page

Table 2.31 – continued from previous page

setWhatsThis(self, a0)
setWindowFilePath(self, filePath)
setWindowFlag(self, a0[, on])
setWindowFlags(self, type)
setWindowIcon(self, icon)
setWindowIconText(self, a0)
setWindowModality(self, windowModality)
setWindowModified(self, a0)
setWindowOpacity(self, level)
setWindowRole(self, a0)
setWindowState(self, state)
setWindowTitle(self, a0)
sharedPainter(self)
show(self)
showEvent(self, a0)
showFullScreen(self)
showMaximized(self)
showMinimized(self)
showNormal(self)
signalsBlocked(self)
size(self)
sizeHint(self)
sizeIncrement(self)
sizePolicy(self)
stackUnder(self, a0)
startTimer(self, interval[, timerType])

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Table 2.31 – continued from previous page

statusTip(self)
style(self)
styleSheet(self)
tabletEvent(self, a0)
testAttribute(self, attribute)
thread(self)
timerEvent(self, a0)
toolTip(self)
toolTipDuration(self)
tr(self, sourceText[, disambiguation, n])
underMouse(self)
ungrabGesture(self, type)
unsetCursor(self)
unsetLayoutDirection(self)
unsetLocale(self)
update(-> None -> None)
updateGeometry(self)
updateMicroFocus(self)
update_text(text)
updatesEnabled(self)
visibleRegion(self)
whatsThis(self)
wheelEvent(self, a0)
width(self)
widthMM(self)
winId(self)

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Table 2.31 – continued from previous page

window(self)
windowFilePath(self)
windowFlags(self)
windowHandle(self)
windowIcon(self)
windowIconText(self)
windowModality(self)
windowOpacity(self)
windowRole(self)
windowState(self)
windowTitle(self)
windowType(self)
x(self)
y(self)

Attributes

BG
Box
DrawChildren
DrawWindowBackground
HLine
IgnoreMask
NoFrame
Panel
PdmDepth

continues on next page

Table 2.32 – continued from previous page

PdmDevicePixelRatio	
PdmDevicePixelRatioScaled	
PdmDpiX	
PdmDpiY	
PdmHeight	
PdmHeightMM	
PdmNumColors	
PdmPhysicalDpiX	
PdmPhysicalDpiY	
PdmWidth	
PdmWidthMM	
Plain	
Raised	
Shadow_Mask	
Shape_Mask	
StyledPanel	
Sunken	
VLine	
WinPanel	
alpha	
customContextMenuRequested	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
destroyed	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
h	
icon_frac	
imheight	
imwidth	

continues on next page

Table 2.32 – continued from previous page

objectNameChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
staticMetaObject	
w	
windowIconChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowIconTextChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL
windowTitleChanged	int = ..., arguments: Sequence = ...) -> PYQT_SIGNAL

BG = '#ffffff'

alpha = 0.875

h = 230

icon_frac = 0.65

imheight = 150

imwidth = 150

paintEvent(*self*, *a0: QPaintEvent | None*)

show(*self*)

update_text(*text*)

w = 250

2.1.22 labscript_utils.testing_utils

Classes

Any([types])	A class whose instances equal any object of the given type or tuple of types.
ThreadTestCase(*args, **kwargs)	Test case that runs tests in a new thread whilst providing a mainloop that allows running scripts in the current thread.
dotdict	dot.notation access to dictionary attributes
monkeypatch(obj, name, mocked_attr)	Context manager to temporarily monkeypatch an object attribute with some mocked attribute

labscript_utils.testing_utils.Any

class labscript_utils.testing_utils.**Any**(*types=<class 'object'>*)

Bases: object

A class whose instances equal any object of the given type or tuple of types. For use with mock.Mock.assert_called_with when you don't care what some of the arguments are

__init__(*types=<class 'object'>*)

Methods

__init__([types])	

labscript_utils.testing_utils.ThreadTestCase

class labscript_utils.testing_utils.**ThreadTestCase**(**args*, ***kwargs*)

Bases: TestCase

Test case that runs tests in a new thread whilst providing a mainloop that allows running scripts in the current thread. Those scripts can then be tested from the testing thread.

__init__(**args*, ***kwargs*)

Create an instance of the class that will use the named test method when executed. Raises a ValueError if the instance does not have a method with the specified name.

Methods

__init__(*args, **kwargs)	Create an instance of the class that will use the named test method when executed.
addClassCleanup(function, /, *args, **kwargs)	Same as addCleanup, except the cleanup items are called even if setUpClass fails (unlike tearDownClass).
addCleanup(function, /, *args, **kwargs)	Add a function, with arguments, to be called when the test is completed.
addTypeEqualityFunc(typeobj, function)	Add a type specific assertEqual style function to compare a type.
assertAlmostEqual(first, second[, places, ...])	Fail if the two objects are unequal as determined by their difference rounded to the given number of decimal places (default 7) and comparing to zero, or by comparing that the difference between the two objects is more than the given delta.
assertAlmostEquals(**kwargs)	
assertCountEqual(first, second[, msg])	Asserts that two iterables have the same elements, the same number of times, without regard to order.
assertDictContainsSubset(subset, dictionary)	Checks whether dictionary is a superset of subset.

continues on next page

Table 2.33 – continued from previous page

`assertDictEqual`(d1, d2[, msg])	
`assertEqual`(first, second[, msg])	Fail if the two objects are unequal as determined by the '==' operator.
`assertEquals`(**kwargs)	
`assertFalse`(expr[, msg])	Check that the expression is false.
`assertGreater`(a, b[, msg])	Just like self.assertTrue(a > b), but with a nicer default message.
`assertGreaterEqual`(a, b[, msg])	Just like self.assertTrue(a >= b), but with a nicer default message.
`assertIn`(member, container[, msg])	Just like self.assertTrue(a in b), but with a nicer default message.
`assertIs`(expr1, expr2[, msg])	Just like self.assertTrue(a is b), but with a nicer default message.
`assertIsInstance`(obj, cls[, msg])	Same as self.assertTrue(isinstance(obj, cls)), with a nicer default message.
`assertIsNone`(obj[, msg])	Same as self.assertTrue(obj is None), with a nicer default message.
`assertIsNot`(expr1, expr2[, msg])	Just like self.assertTrue(a is not b), but with a nicer default message.
`assertIsNotNone`(obj[, msg])	Included for symmetry with assertIsNone.
`assertLess`(a, b[, msg])	Just like self.assertTrue(a < b), but with a nicer default message.
`assertLessEqual`(a, b[, msg])	Just like self.assertTrue(a <= b), but with a nicer default message.
`assertListEqual`(list1, list2[, msg])	A list-specific equality assertion.
`assertLogs`([logger, level])	Fail unless a log message of level *level* or higher is emitted on *logger_name* or its children.
`assertMultiLineEqual`(first, second[, msg])	Assert that two multi-line strings are equal.
`assertNoLogs`([logger, level])	Fail unless no log messages of level *level* or higher are emitted on *logger_name* or its children.
`assertNotAlmostEqual`(first, second[, ...])	Fail if the two objects are equal as determined by their difference rounded to the given number of decimal places (default 7) and comparing to zero, or by comparing that the difference between the two objects is less than the given delta.
`assertNotAlmostEquals`(**kwargs)	
`assertNotEqual`(first, second[, msg])	Fail if the two objects are equal as determined by the '!=' operator.
`assertNotEquals`(**kwargs)	
`assertNotIn`(member, container[, msg])	Just like self.assertTrue(a not in b), but with a nicer default message.
`assertNotIsInstance`(obj, cls[, msg])	Included for symmetry with assertIsInstance.
`assertNotRegex`(text, unexpected_regex[, msg])	Fail the test if the text matches the regular expression.
`assertNotRegexpMatches`(**kwargs)	
`assertRaises`(expected_exception, *args, **kwargs)	Fail unless an exception of class expected_exception is raised by the callable when invoked with specified positional and keyword arguments.

continues on next page

Table 2.33 – continued from previous page

assertRaisesRegex(expected_exception, ...)	Asserts that the message in a raised exception matches a regex.
assertRaisesRegexp(**kwargs)	
assertRegex(text, expected_regex[, msg])	Fail the test unless the text matches the regular expression.
assertRegexpMatches(**kwargs)	
assertSequenceEqual(seq1, seq2[, msg, seq_type])	An equality assertion for ordered sequences (like lists and tuples).
assertSetEqual(set1, set2[, msg])	A set-specific equality assertion.
assertTrue(expr[, msg])	Check that the expression is true.
assertTupleEqual(tuple1, tuple2[, msg])	A tuple-specific equality assertion.
assertWarns(expected_warning, *args, **kwargs)	Fail unless a warning of class warnClass is triggered by the callable when invoked with specified positional and keyword arguments.
assertWarnsRegex(expected_warning, ...)	Asserts that the message in a triggered warning matches a regexp.
assert_(**kwargs)	
countTestCases()	
debug()	Run the test without collecting errors in a TestResult
defaultTestResult()	
doClassCleanups()	Execute all class cleanup functions.
doCleanups()	Execute all cleanup functions.
enterClassContext(cm)	Same as enterContext, but class-wide.
enterContext(cm)	Enters the supplied context manager.
fail([msg])	Fail immediately, with the given message.
failIf(**kwargs)	
failIfAlmostEqual(**kwargs)	
failIfEqual(**kwargs)	
failUnless(**kwargs)	
failUnlessAlmostEqual(**kwargs)	
failUnlessEqual(**kwargs)	
failUnlessRaises(**kwargs)	
id()	
quit_mainloop()	
run(*args, **kwargs)	
run_script_as_main(filepath)	

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Table 2.33 – continued from previous page

setUp()	Hook method for setting up the test fixture before exercising it.
setUpClass()	Hook method for setting up class fixture before running tests in the class.
shortDescription()	Returns a one-line description of the test, or None if no description has been provided.
skipTest(reason)	Skip this test.
subTest([msg])	Return a context manager that will return the enclosed block of code in a subtest identified by the optional message and keyword parameters.
tearDown()	Hook method for deconstructing the test fixture after testing it.
tearDownClass()	Hook method for deconstructing the class fixture after running all tests in the class.
wait_for(condition_func[, timeout, ...])	Busy wait for a condition to be true.

Attributes

longMessage
maxDiff

quit_mainloop()

run(**args*, ***kwargs*)

run_script_as_main(*filepath*)

static wait_for(*condition_func*, *timeout=5*, *initial_poll_interval=0.005*, *max_poll_interval=0.5*)

Busy wait for a condition to be true. Uses exponential backoff so it's fast when things are fast and not a complete hog when they're not

labscript_utils.testing_utils.dotdict

class labscript_utils.testing_utils.**dotdict**

Bases: dict

dot.notation access to dictionary attributes

__init__(**args*, ***kwargs*)

Methods

__init__(*args, **kwargs)	
clear()	
copy()	
fromkeys([value])	Create a new dictionary with keys from iterable and values set to value.
get(key[, default])	Return the value for key if key is in the dictionary, else default.
items()	
keys()	
pop(k[,d])	If the key is not found, return the default if given; otherwise, raise a KeyError.
popitem()	Remove and return a (key, value) pair as a 2-tuple.
setdefault(key[, default])	Insert key with a value of default if key is not in the dictionary.
update([E,]**F)	If E is present and has a .keys() method, then does: for k in E: D[k] = E[k] If E is present and lacks a .keys() method, then does: for k, v in E: D[k] = v In either case, this is followed by: for k in F: D[k] = F[k]
values()	

labscript_utils.testing_utils.monkeypatch

class labscript_utils.testing_utils.**monkeypatch**(*obj*, *name*, *mocked_attr*)

Bases: object

Context manager to temporarily monkeypatch an object attribute with some mocked attribute

__init__(*obj*, *name*, *mocked_attr*)

Methods

__init__(obj, name, mocked_attr)

2.1.23 labscript_utils.tracelog

Functions

log([log_path, module_names, sub, all, mode])	Trace and log Python execution.

labscript_utils.tracelog.log

`labscript_utils.tracelog.log`(*log_path=None*, *module_names=()*, *sub=False*, *all=False*, *mode='w'*)

Trace and log Python execution.

output includes the time, thread name, containing function name, line number and source line. Indentation before the thread name represents stack depth, indentation before source line is as in the source line itself.

log_path: the path of the desired output file to write to, or None for stdout (default=None) module_names: list of module names that tracing is desired for (default=()) sub: whether submodules of the above modules should be traced (default=False) all: whether all modules should be traced, in which case module_names is ignored (default=False) mode: mode to open the output file in, if log_path is not None (default='w')

2.1.24 labscript_utils.unitconversions

Sub-Modules

labscript_utils.unitconversions.NovaTechDDS9m	
labscript_utils.unitconversions.UnitConversionBase	
labscript_utils.unitconversions.aom	
labscript_utils.unitconversions.detuning	
labscript_utils.unitconversions.example	
labscript_utils.unitconversions.generic_frequency	Generic frequency conversion
labscript_utils.unitconversions.linear_coil_driver	
labscript_utils.unitconversions.optotunelens	
labscript_utils.unitconversions.quad_driver	
labscript_utils.unitconversions.quad_monitor	
labscript_utils.unitconversions.test	

labscript_utils.unitconversions.NovaTechDDS9m

Classes

NovaTechDDS9mAmpConversion([...])	
NovaTechDDS9mFreqConversion([...])	

labscript_utils.unitconversions.NovaTechDDS9m.NovaTechDDS9mAmpConversion

class labscript_utils.unitconversions.NovaTechDDS9m.**NovaTechDDS9mAmpConversion**(*calibration_parameters=None*)

Bases: *UnitConversion*

__init__(*calibration_parameters=None*)

Methods

__init__([calibration_parameters])	
hardware_from_base(arb)	
hardware_to_base(hardware)	

Attributes

base_unit	
unit_list	

base_unit = 'Arb'

hardware_from_base(*arb*)

hardware_to_base(*hardware*)

labscript_utils.unitconversions.NovaTechDDS9m.NovaTechDDS9mFreqConversion

class labscript_utils.unitconversions.NovaTechDDS9m.**NovaTechDDS9mFreqConversion**(*calibration_parameters=None*)

Bases: *UnitConversion*

__init__(*calibration_parameters=None*)

Methods

MHz_from_base(Hz)
MHz_to_base(MHz)
__init__([calibration_parameters])

Attributes

base_unit
unit_list

MHz_from_base(*Hz*)

MHz_to_base(*MHz*)

base_unit = 'Hz'

labscript_utils.unitconversions.UnitConversionBase

Functions

vectorise(method)

labscript_utils.unitconversions.UnitConversionBase.vectorise

labscript_utils.unitconversions.UnitConversionBase.**vectorise**(*method*)

Classes

UnitConversion(params)	

labscript_utils.unitconversions.UnitConversionBase.UnitConversion

class labscript_utils.unitconversions.UnitConversionBase.**UnitConversion**(*params*)

Bases: object

__init__(*params*)

Methods

__init__(params)	

Attributes

unit_list	

unit_list = {'G': 1000000000.0, 'M': 1000000.0, 'T': 1000000000000.0, 'k': 1000.0, 'm': 0.001, 'n': 1e-09, 'p': 1e-12, 'u': 1e-06}

labscript_utils.unitconversions.aom

Classes

SineAom([calibration_parameters])	AOM calibration P(A) is very close to a sine for dipole trap AOM!

labscript_utils.unitconversions.aom.SineAom

class labscript_utils.unitconversions.aom.**SineAom**(*calibration_parameters=None*)

Bases: *NovaTechDDS9mAmpConversion*

AOM calibration P(A) is very close to a sine for dipole trap AOM!

__init__(*calibration_parameters=None*)

Methods

Power_from_base(amp)
Power_to_base(power)
__init__([calibration_parameters])
fraction_from_base(amp)
fraction_to_base(fraction)
hardware_from_base(arb)
hardware_to_base(hardware)

Attributes

base_unit
unit_list

Power_from_base(*amp*)

Power_to_base(*power*)

base_unit = 'Arb'

fraction_from_base(*amp*)

fraction_to_base(*fraction*)

labscript_utils.unitconversions.detuning

Classes

detuning([calibration_parameters])

labscript_utils.unitconversions.detuning.detuning

class labscript_utils.unitconversions.detuning.**detuning**(*calibration_parameters=None*)

Bases: *UnitConversion*

__init__(*calibration_parameters=None*)

Methods

MHz_from_base(aom_frequency)
MHz_to_base(aom_frequency_MHz)
__init__([calibration_parameters])
d_MHz_from_base(aom_frequency)
d_MHz_to_base(detuning_MHz)
linewidths_from_base(aom_frequency)
linewidths_to_base(linewidths)

Attributes

base_unit
derived_units
unit_list

MHz_from_base(*aom_frequency*)

MHz_to_base(*aom_frequency_MHz*)

base_unit = 'Hz'

d_MHz_from_base(*aom_frequency*)

d_MHz_to_base(*detuning_MHz*)

derived_units = ['MHz', 'd_MHz', 'linewidths']

linewidths_from_base(*aom_frequency*)

linewidths_to_base(*linewidths*)

labscript_utils.unitconversions.example

Classes

example1([calibration_parameters])	
example2([calibration_parameters])	
example3([calibration_parameters])	

labscript_utils.unitconversions.example.example1

class labscript_utils.unitconversions.example.**example1**(*calibration_parameters=None*)

Bases: *UnitConversion*

__init__(*calibration_parameters=None*)

Methods

A_from_base(volts)	
A_to_base(amps)	
Gauss_from_base(volts)	
Gauss_to_base(gauss)	
__init__([calibration_parameters])	

Attributes

base_unit	
unit_list	

A_from_base(*volts*)

A_to_base(*amps*)

Gauss_from_base(*volts*)

Gauss_to_base(*gauss*)

base_unit = 'V'

labscript_utils.unitconversions.example.example2

class labscript_utils.unitconversions.example.**example2**(*calibration_parameters=None*)

Bases: *UnitConversion*

__init__(*calibration_parameters=None*)

Methods

__init__([calibration_parameters])
detuned_MHz_from_base(mhz)
detuned_MHz_to_base(d_mhz)

Attributes

base_unit
unit_list

base_unit = 'MHz'

detuned_MHz_from_base(*mhz*)

detuned_MHz_to_base(*d_mhz*)

labscript_utils.unitconversions.example.example3

class labscript_utils.unitconversions.example.**example3**(*calibration_parameters=None*)

Bases: *UnitConversion*

__init__(*calibration_parameters=None*)

Methods

W_from_base(vpp)
W_to_base(watts)
__init__([calibration_parameters])

Attributes

base_unit
unit_list

W_from_base(*vpp*)

W_to_base(*watts*)

base_unit = 'Vpp'

labscript_utils.unitconversions.generic_frequency

Generic frequency conversion

Classes

FreqConversion([calibration_parameters])	A Generic frequency conversion class that covers standard SI prefixes from a base of Hz.

labscript_utils.unitconversions.generic_frequency.FreqConversion

class labscript_utils.unitconversions.generic_frequency.**FreqConversion**(*calibration_parameters=None*)

Bases: *UnitConversion*

A Generic frequency conversion class that covers standard SI prefixes from a base of Hz.

__init__(*calibration_parameters=None*)

Methods

GHz_from_base(Hz)
GHz_to_base(GHz)
MHz_from_base(Hz)
MHz_to_base(MHz)
__init__([calibration_parameters])
kHz_from_base(Hz)
kHz_to_base(kHz)

Attributes

base_unit
unit_list

GHz_from_base(*Hz*)

GHz_to_base(*GHz*)

MHz_from_base(*Hz*)

MHz_to_base(*MHz*)

base_unit = 'Hz'

kHz_from_base(*Hz*)

kHz_to_base(*kHz*)

labscript_utils.unitconversions.linear_coil_driver

Classes

BidirectionalCoilDriver([calibration_parameters])
UnidirectionalCoilDriver([...])

labscript_utils.unitconversions.linear_coil_driver.BidirectionalCoilDriver

class labscript_utils.unitconversions.linear_coil_driver.**BidirectionalCoilDriver**(*calibration_parameters=Non*

Bases: *UnitConversion*

__init__(*calibration_parameters=None*)

Methods

A_from_base(volts)
A_to_base(amps)
__init__([calibration_parameters])

Attributes

base_unit
derived_units
unit_list

A_from_base(*volts*)

A_to_base(*amps*)

base_unit = 'V'

derived_units = ['A']

labscript_utils.unitconversions.linear_coil_driver.UnidirectionalCoilDriver

class labscript_utils.unitconversions.linear_coil_driver.**UnidirectionalCoilDriver**(*calibration_parameters=No*

Bases: *BidirectionalCoilDriver*

__init__(*calibration_parameters=None*)

Methods

A_from_base(volts)
A_to_base(amps)
__init__([calibration_parameters])

Attributes

base_unit
derived_units
unit_list

A_from_base(*volts*)

A_to_base(*amps*)

labscript_utils.unitconversions.optotunelens

Classes

OptotuneLens([calibration_parameters])	

labscript_utils.unitconversions.optotunelens.OptotuneLens

class labscript_utils.unitconversions.optotunelens.**OptotuneLens**(*calibration_parameters=None*)

Bases: *UnitConversion*

__init__(*calibration_parameters=None*)

Methods

I_from_base(volts)	
I_to_base(current)	
__init__([calibration_parameters])	
distance_from_base(volts)	
distance_to_base(percentage)	

Attributes

base_unit	
derived_units	
unit_list	

I_from_base(*volts*)

I_to_base(*current*)

base_unit = 'V'

derived_units = ['distance', 'I']

distance_from_base(*volts*)

distance_to_base(*percentage*)

labscript_utils.unitconversions.quad_driver

Classes

quad_driver([calibration_parameters])

labscript_utils.unitconversions.quad_driver.quad_driver

class labscript_utils.unitconversions.quad_driver.**quad_driver**(*calibration_parameters={'A_min': -0.09, 'A_offset': -0.642724, 'A_per_V': 19.9757, 'Gcm_per_A': 1.88679}*)

Bases: *UnitConversion*

__init__(*calibration_parameters={'A_min': -0.09, 'A_offset': -0.642724, 'A_per_V': 19.9757, 'Gcm_per_A': 1.88679}*)

Methods

A_from_base(volts)
A_to_base(arg)
Gcm_from_base(volts)
Gcm_to_base(gauss_per_cm)
__init__([calibration_parameters])

Attributes

base_unit
derived_units
unit_list

A_from_base(*volts*)

A_to_base(*arg*)

Gcm_from_base(*volts*)

Gcm_to_base(*gauss_per_cm*)

base_unit = 'V'

derived_units = ['A', 'Gcm']

labscript_utils.unitconversions.quad_monitor

Classes

quad_monitor([calibration_parameters])	

labscript_utils.unitconversions.quad_monitor.quad_monitor

class labscript_utils.unitconversions.quad_monitor.**quad_monitor**(*calibration_parameters={'A_offset': -0.043200000000000016, 'A_per_V': 20.032, 'Gcm_per_A': 1.88679}*)

Bases: *UnitConversion*

__init__(*calibration_parameters={'A_offset': -0.043200000000000016, 'A_per_V': 20.032, 'Gcm_per_A': 1.88679}*)

Methods

A_from_base(volts)	
A_to_base(amps)	
Gcm_from_base(volts)	
Gcm_to_base(gauss_per_cm)	
__init__([calibration_parameters])	

Attributes

base_unit	
derived_units	
unit_list	

A_from_base(*volts*)

A_to_base(*amps*)

Gcm_from_base(*volts*)

Gcm_to_base(*gauss_per_cm*)

base_unit = 'V'

derived_units = ['A', 'Gcm']

labscript_utils.unitconversions.test

Classes

test([calibration_parameters])	

labscript_utils.unitconversions.test.test

class labscript_utils.unitconversions.test.**test**(*calibration_parameters=None*)

Bases: *UnitConversion*

__init__(*calibration_parameters=None*)

Methods

A_from_base(volts)	
A_to_base(amps)	
Gauss_from_base(volts)	
Gauss_to_base(gauss)	
__init__([calibration_parameters])	

Attributes

base_unit	
derived_units	
unit_list	

A_from_base(*volts*)

A_to_base(*amps*)

Gauss_from_base(*volts*)

Gauss_to_base(*gauss*)

base_unit = 'MHz'

derived_units = ['A', 'Gauss']

Functions

get_unit_conversion_class(fullname)	import and return the unit conversion class with the given name.

labscript_utils.unitconversions.get_unit_conversion_class

labscript_utils.unitconversions.**get_unit_conversion_class**(*fullname*)

import and return the unit conversion class with the given name. Ideally this is a fully qualified class name with an absolute import path, i.e. path.to.some.module.ClassName. But if it is just a single name, we fall back to looking through all classes defined in submodules. This allows backward compatibility with old shot files that do not have the full name saved.

2.1.25 labscript_utils.versions

Functions

check_version(module_name, at_least, less_than)	Checks if a module version is within specified bounds.
get_import_path(import_name)	Get which entry in sys.path a module would be imported from, without importing it.
get_version(import_name[, project_name, ...])	Try very hard to get the version of a package without importing it.

labscript_utils.versions.check_version

labscript_utils.versions.**check_version**(*module_name*, *at_least*, *less_than*, *version=None*, *project_name=None*)

Checks if a module version is within specified bounds.

Checks that the version of the given module is at least and less than the given version strings. This function uses *get_version()* to determine version numbers without importing modules. In order to do this, `project_name` must be provided if it differs from `module_name`. For example, pyserial is imported as 'serial', but the project name, as passed to a 'pip install' command, is 'pyserial'. Therefore to check the version of pyserial, pass in `module_name='serial'` and `project_name='pyserial'`. You can also pass in a version string yourself, in which case no inspection of packages will take place.

Parameters

- **module_name** (*str*) – The name of the module to check.
- **at_least** (*str*) – The minimum acceptable module version.
- **less_than** (*str*) – The minimum unacceptable module version. Usually this would be the next major version if the package follows semver.
- **version** (*str, optional*) – The current version of the installed package. Useful when the package version is stored in a non-standard location.
- **project_name** (*str, optional*) – The package name (e.g. the name used when pip installing the package). This must be specified if it does not match the module name.

Raises

VersionException – if the module was not found or its version could not be determined.

labscript_utils.versions.get_import_path

`labscript_utils.versions.`**`get_import_path`**(*import_name*)

Get which entry in sys.path a module would be imported from, without importing it.

Parameters

import_name (*str*) – The module name.

Raises

- `ModuleNotFoundError` – Raised if the module is not installed.
- `NotImplementedError` – Raised if the module is a "namespace package". Support for namepsace packages is not currently availabled.

Returns

The path to the folder containing the module.

Return type

str

labscript_utils.versions.get_version

`labscript_utils.versions.`**`get_version`**(*import_name*, *project_name=None*, *import_path=None*)

Try very hard to get the version of a package without importing it.

If import_path is not given, first find where it would be imported from, without importing it. Then look for metadata in the same import path with the given project name (note: this is not always the same as the import name, it is the name for example you would ask pip to install). If that is found, return the version info from it. Otherwise look for a `__version__.py` file in the package directory, or a `__version__ = <version>` literal defined in the package source (without executing it).

Parameters

- **import_name** (*str*) – The module name.
- **project_name** (*str, optional*) – The package name (e.g. the name used when pip installing the package). This must be specified if it does not match the module name.
- **import_path** (*str, optional*) – The path to the folder containing the installed package.

Raises

`NotImplementedError` – Raised if the module name contains a period. Only top-level packages are supported at this time.

Returns

The version literal of the package. If the package cannot be found, *NotFound* is returned. If the version cannot be obtained in the above way, or if the version was found but was `None`, *NoVersionInfo* is returned.

Classes

NoVersionInfo()
NotFound()

labscript_utils.versions.NoVersionInfo

class labscript_utils.versions.**NoVersionInfo**

Bases: `object`

__init__()

Methods

__init__()

labscript_utils.versions.NotFound

class labscript_utils.versions.**NotFound**

Bases: `object`

__init__()

Methods

__init__()

Exceptions

BrokenInstall
VersionException

labscript_utils.versions.BrokenInstall

exception labscript_utils.versions.**BrokenInstall**

labscript_utils.versions.VersionException

exception labscript_utils.versions.**VersionException**

2.1.26 labscript_utils.zlock

Script to run a zlock server configured according to LabConfig. Run with:

```
python -m labscript_utils.zlock [--daemon]
```

If –daemon is specified, the zlock server will be started in the background.

Functions

main()

labscript_utils.zlock.main

labscript_utils.zlock.**main**()

2.1.27 labscript_utils.zlog

Script to run a zlog server configured according to LabConfig. Run with:

```
python -m labscript_utils.zlog [--daemon]
```

If –daemon is specified, the zlog server will be started in the background.

Functions

main()

labscript_utils.zlog.main

`labscript_utils.zlog.main()`

Functions

dedent(s)	Remove leading spaces from the first line of a string, all common leading indentation (spaces only) from subsequent lines, strip trailing spaces from all lines and replace single newlines prior to lines with the common indentation with spaces.
import_or_reload(modulename)	Behaves like 'import modulename' would, excepts forces the imported script to be rerun

2.1.28 labscript_utils.dedent

`labscript_utils.dedent(s)`

Remove leading spaces from the first line of a string, all common leading indentation (spaces only) from subsequent lines, strip trailing spaces from all lines and replace single newlines prior to lines with the common indentation with spaces. Lines with additional indentation are kept verbatim. Good for unwrapping error messages etc that are in code as multiline triple-quoted strings.

2.1.29 labscript_utils.import_or_reload

`labscript_utils.import_or_reload(modulename)`

Behaves like 'import modulename' would, excepts forces the imported script to be rerun

2.2 labscript_profile

Sub-Modules

labscript_profile.create

2.2.1 labscript_profile.create

Functions

create_profile()	
make_labconfig_file()	
make_shared_secret(directory)	Create a new zprocess shared secret file in the given directory and return its filepath

labscript_profile.create.create_profile

`labscript_profile.create.`**`create_profile`**`()`

labscript_profile.create.make_labconfig_file

`labscript_profile.create.`**`make_labconfig_file`**`()`

labscript_profile.create.make_shared_secret

`labscript_profile.create.`**`make_shared_secret`**`(`*directory*`)`

Create a new zprocess shared secret file in the given directory and return its filepath

Functions

add_userlib_and_pythonlib()	Find the users's labconfig file, read the userlib and pythonlib keys, and add those directories to the Python search path.
default_labconfig_path()	
hostname()	

2.2.2 labscript_profile.add_userlib_and_pythonlib

`labscript_profile.`**`add_userlib_and_pythonlib`**`()`

Find the users's labconfig file, read the userlib and pythonlib keys, and add those directories to the Python search path. This function intentionally re-implements finding and reading the config file so as to not import labscript_utils, since we dont' want to import something like labscript_utils every time the interpreter starts up

2.2.3 labscript_profile.default_labconfig_path

`labscript_profile.`**`default_labconfig_path`**`()`

2.2.4 labscript_profile.hostname

`labscript_profile.`**`hostname`**`()`

CHAPTER

THREE

LABSCRIPT SUITE COMPONENTS

The *labscript suite* is modular by design, and is comprised of:

Table 3.1: Python libraries

labscript	— Expressive composition of hardware-timed experiments
labscript-devices	— Plugin architecture for controlling experiment hardware
labscript-utils	— Shared modules used by the *labscript suite*

Table 3.2: Graphical applications

runmanager	— Graphical and remote interface to parameterized experiments
blacs	— Graphical interface to scientific instruments and experiment supervision
lyse	— Online analysis of live experiment data
runviewer	— Visualize hardware-timed experiment instructions

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