

libprs500

API Documentation

November 7, 2006

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1 Package libprs500

This package provides an interface to the SONY Reader PRS-500 over USB.

The public interface of libprs500 is in `libprs500.communicate`. To use it

```
>>> from libprs500.communicate import PRS500Device
>>> dev = PRS500Device()
>>> dev.open()
>>> dev.get_device_information()
('Sony Reader', 'PRS-500/U', '1.0.00.21081', 'application/x-bbeb-book')
>>> dev.close()
```

There is also a script `prs500` that provides a command-line interface to libprs500. See the script for more usage examples.

The packet structure used by the SONY Reader USB protocol is defined in the module `prstypes`. The communication logic is defined in the module `communicate`.

This package requires PyUSB¹. In order to use it as a non-root user on Linux, you should have the following rule in `/etc/udev/rules.d/90-local.rules` :

```
BUS=="usb", SYSFS{idProduct}=="029b", SYSFS{idVendor}=="054c", MODE="660", GROUP="plugdev"
```

You may have to adjust the GROUP and the location of the rules file to suit your distribution.

1.1 Modules

- **communicate**: Contains the logic for communication with the device (a SONY PRS-500).
(Section 2, p. 6)
- **errors**: Defines the errors that libprs500 generates.
(Section 3, p. 11)
- **prstypes**: Defines the structure of packets that are sent to/received from the device.
(Section 4, p. 20)
- **terminfo** (Section 5, p. 126)

1.2 Variables

| Name | Description |
|------------|--|
| VERSION | Value: '0.1.1' |
| __author__ | Value: 'Kovid Goyal <kovid@kovidgoyal.net>' |

¹<http://pyusb.berlios.de/>

2 Module *libprs500.communicate*

Contains the logic for communication with the device (a SONY PRS-500).

The public interface of class `PRS500Device` defines the methods for performing various tasks.

2.1 Variables

| Name | Description |
|--------------------------------|---|
| <code>MINIMUM_COL_WIDTH</code> | Minimum width of columns in ls output Value: 12 |

2.2 Class File

object  **libprs500.communicate.File**

Wrapper that allows easy access to all information about files/directories

2.2.1 Methods

`__init__(self, file)`
`x.__init__(...)` initializes `x`; see `x.__class__.__doc__` for signature
 Overrides: `object.__init__` `exitit`(inherited documentation)

`__repr__(self)`
 Return path to self
 Overrides: `object.__repr__`

`__delattr__(...)`
`x.__delattr__('name') <==> del x.name`

`__getattr__(...)`
`x.__getattr__('name') <==> x.name`

`__hash__(x)`
`hash(x)`

`__new__(T, S, ...)`
Return Value
 a new object with type `S`, a subtype of `T`

| |
|--------------------------------------|
| <code>__reduce__</code> (...) |
| helper for pickle |

| |
|---------------------------------------|
| <code>__reduce_ex</code> (...) |
| helper for pickle |

| |
|---|
| <code>__setattr__</code> (...) |
| <code>x.__setattr__('name', value) <==> x.name = value</code> |

| |
|--|
| <code>__str__</code> (<i>x</i>) |
| <code>str(x)</code> |

2.2.2 Properties

| Name | Description |
|------------------------|---|
| <code>__class__</code> | Value: <attribute ' <code>__class__</code> ' of ' <code>object</code> ' objects> |

2.2.3 Instance Variables

| Name | Description |
|--------------------------|-----------------------------------|
| <code>is_dir</code> | True if self is a directory |
| <code>is_readonly</code> | True if self is readonly |
| <code>size</code> | Size in bytes of self |
| <code>ctime</code> | Creation time of self as a epoch |
| <code>wtime</code> | Creation time of self as an epoch |
| <code>path</code> | Path to self |
| <code>name</code> | Name of self |

2.3 Class *DeviceDescriptor*

Describes a USB device.

A description is composed of the Vendor Id, Product Id and Interface Id. See the USB spec²

2.3.1 Methods

| |
|---|
| <code>__init__</code> (<i>self</i> , <i>vendor_id</i> , <i>product_id</i> , <i>interface_id</i>) |
|---|

| |
|--|
| <code>getDevice</code> (<i>self</i>) |
| Return the device corresponding to the device descriptor if it is available on a USB bus. Otherwise, return None. Note that the returned device has yet to be claimed or opened. |

²http://www.usb.org/developers/docs/usb_20_05122006.zip

2.4 Class PRS500Device

object  **libprs500.communicate.PRS500Device**

Contains the logic for performing various tasks on the reader.

The implemented tasks are:

1. Getting information about the device
2. Getting a file from the device
3. Listing of directories. See the `list` method.

2.4.1 Methods

`__init__(self, log_packets=False)`

Parameters

`log_packets`: If true the packet stream to/from the device is logged

Overrides: `object.__init__`

`open(self)`

Claim an interface on the device for communication. Requires write privileges to the device file.

To Do: Check this on Mac OSX

`close(self)`

Release device interface

`get_device_information(self)`

Return (device name, device version, software version on device, mime type). See `_get_device_information`

`get_file(self, path, outfile)`

Read the file at path on the device and write it to outfile. For the logic see `_get_file`.

Parameters

`outfile`: file object like `sys.stdout` or the result of an `open` call

list(*self*, *path*, *recurse=False*)

Return a listing of path.

See `_list` for the communication logic.

Parameters

path: The path to list
(type=string)

recurse: If true do a recursive listing
(type=boolean)

Return Value

A list of tuples. The first element of each tuple is a path. The second element is a list of **Files**. The path is the path we are listing, the **Files** are the files/directories in that path. If it is a recursive list, then the first element will be (**path**, children), the next will be (child, its children) and so on.

available_space(*self*)

Get free space available on the mountpoints:

1. /Data/ Device memory
2. a:/ Memory Stick
3. b:/ SD Card

Return Value

A list of tuples. Each tuple has form ("location", free space, total space)

__delattr__(...)

`x.__delattr__('name')` <==> `del x.name`

__getattr__(...)

`x.__getattr__('name')` <==> `x.name`

__hash__(*x*)

`hash(x)`

__new__(*T*, *S*, ...)

Return Value

a new object with type *S*, a subtype of *T*

__reduce__(...)

helper for pickle

__reduce_ex__(...)

helper for pickle

| |
|--------------------------|
| <code>__repr__(x)</code> |
| <code>repr(x)</code> |

| |
|---|
| <code>__setattr__(...)</code> |
| <code>x.__setattr__('name', value) <==> x.name = value</code> |

| |
|-------------------------|
| <code>__str__(x)</code> |
| <code>str(x)</code> |

2.4.2 Properties

| Name | Description |
|------------------------|---|
| <code>__class__</code> | Value: <attribute <code>'__class__'</code> of <code>'object'</code> objects> |

2.4.3 Class Variables

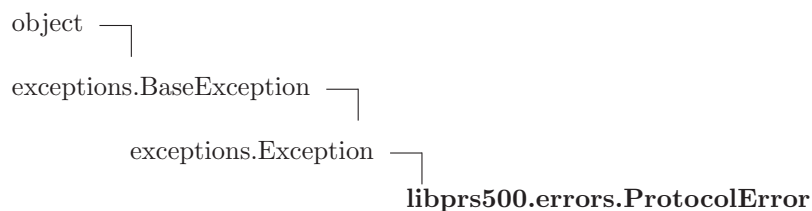
| Name | Description |
|----------------------------------|---|
| <code>SONY_VENDOR_ID</code> | SONY Vendor Id Value: 1356 |
| <code>PRS500_PRODUCT_ID</code> | Product Id for the PRS-500 Value: 667 |
| <code>PRS500_INTERFACE_ID</code> | The interface we use to talk to the device Value: 0 |
| <code>PRS500_BULK_IN_EP</code> | Endpoint for Bulk reads Value: 129 |
| <code>PRS500_BULK_OUT_EP</code> | Endpoint for Bulk writes Value: 2 |

3 Module `libprs500.errors`

Defines the errors that `libprs500` generates.

(GRAPH)

3.1 Class `ProtocolError`



Known Subclasses: `libprs500.errors.ArgumentError`, `libprs500.errors.ControlError`, `libprs500.errors.PacketError`

The base class for all exceptions in this package

3.1.1 Methods

| |
|---|
| <code>__init__(self, msg)</code> <code>x.__init__(...)</code> initializes <code>x</code> ; see <code>x.__class__.__doc__</code> for signature Overrides: <code>exceptions.Exception.__init__</code> <code>exitit</code> (inherited documentation) |
|---|

| |
|--|
| <code>__delattr__(...)</code> <hr/> <code>x.__delattr__('name')</code> <==> <code>del x.name</code> Overrides: <code>object.__delattr__</code> |
|--|

| |
|---|
| <code>__getattribute__(...)</code> <hr/> <code>x.__getattribute__('name')</code> <==> <code>x.name</code> Overrides: <code>object.__getattribute__</code> |
|---|

| |
|---|
| <code>__getitem__(x, y)</code> <hr/> <code>x[y]</code> |
|---|

| |
|--|
| <code>__hash__(x)</code> <hr/> <code>hash(x)</code> |
|--|

| |
|---|
| <code>__new__(T, S, ...)</code> Return Value a new object with type <code>S</code> , a subtype of <code>T</code> Overrides: <code>exceptions.BaseException.__new__</code> |
|---|

```
__reduce__(...)
helper for pickle
Overrides: object.__reduce__ extit(inherited documentation)
```

```
__reduce_ex__(...)
helper for pickle
```

```
__repr__(x)
repr(x)
Overrides: object.__repr__
```

```
__setattr__(...)
x.__setattr__('name', value) <==> x.name = value
Overrides: object.__setattr__
```

```
__setstate__(...)
```

```
__str__(x)
str(x)
Overrides: object.__str__
```

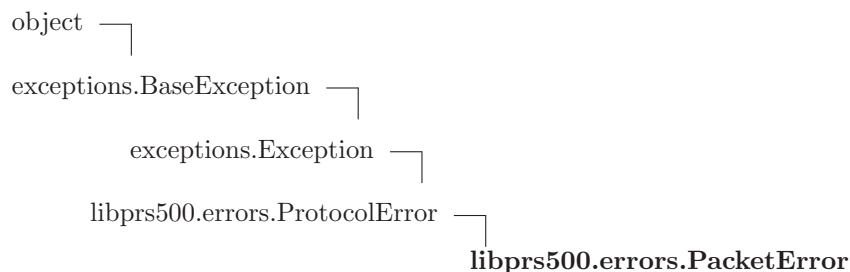
3.1.2 Properties

| Name | Description |
|------------------------|--|
| <code>__class__</code> | Value: <attribute ' <code>__class__</code> ' of ' <code>object</code> ' objects> |
| <code>args</code> | Value: <attribute ' <code>args</code> ' of ' <code>exceptions.BaseException</code> '-objects> |

3.1.3 Class Variables

| Name | Description |
|----------------------|--|
| <code>message</code> | Value: <member ' <code>message</code> ' of ' <code>exceptions.BaseException</code> '-objects> |

3.2 Class `PacketError`



Errors with creating/interpreting packets

3.2.1 Methods

| |
|--|
| <code>__delattr__</code> (...) |
| <code>x.__delattr__('name') <==> del x.name</code> |
| Overrides: <code>object.__delattr__</code> |

| |
|--|
| <code>__getattr__</code> (...) |
| <code>x.__getattr__('name') <==> x.name</code> |
| Overrides: <code>object.__getattr__</code> |

| |
|---|
| <code>__getitem__</code> (<i>x</i> , <i>y</i>) |
| <code>x[y]</code> |

| |
|---|
| <code>__hash__</code> (<i>x</i>) |
| <code>hash(x)</code> |

| |
|--|
| <code>__init__</code> (<i>self</i> , <i>msg</i>) |
| <code>x.__init__(...)</code> initializes <code>x</code> ; see <code>x.__class__.__doc__</code> for signature |
| Overrides: <code>exceptions.Exception.__init__</code> <code>exitit</code> (inherited documentation) |

| |
|---|
| <code>__new__</code> (<i>T</i> , <i>S</i> , ...) |
| Return Value |
| a new object with type <code>S</code> , a subtype of <code>T</code> |
| Overrides: <code>exceptions.BaseException.__new__</code> |

| |
|---|
| <code>__reduce__</code> (...) |
| helper for pickle |
| Overrides: <code>object.__reduce__</code> <code>exitit</code> (inherited documentation) |

__reduce_ex__(...)

helper for pickle

__repr__(*x*)repr(*x*)

Overrides: object.__repr__

__setattr__(...)*x*.__setattr__('name', value) <==> *x*.name = value

Overrides: object.__setattr__

__setstate__(...)**__str__**(*x*)str(*x*)

Overrides: object.__str__

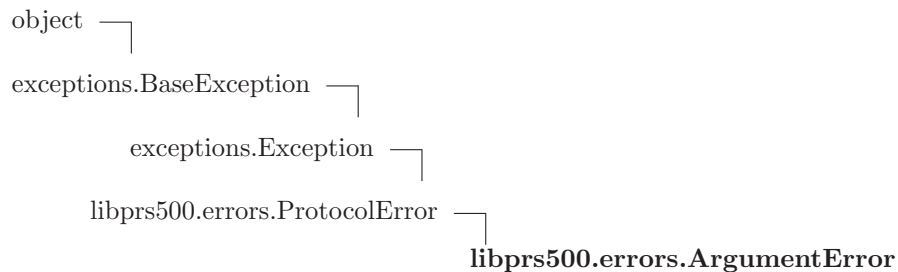
3.2.2 Properties

| Name | Description |
|------------------------|--|
| <code>__class__</code> | Value: <attribute ' <code>__class__</code> ' of ' <code>object</code> ' objects> |
| <code>args</code> | Value: <attribute ' <code>args</code> ' of ' <code>exceptions.BaseException</code> '-objects> |

3.2.3 Class Variables

| Name | Description |
|----------------------|--|
| <code>message</code> | Value: <member ' <code>message</code> ' of ' <code>exceptions.BaseException</code> '-objects> |

3.3 Class *ArgumentError*

**Known Subclasses:** `libprs500.errors.PathError`

Errors caused by invalid arguments to a public interface function

3.3.1 Methods

`__delattr__`(...)

`x.__delattr__('name') <==> del x.name`

Overrides: `object.__delattr__`

`__getattr__`(...)

`x.__getattr__('name') <==> x.name`

Overrides: `object.__getattr__`

`__getitem__`(*x*, *y*)

`x[y]`

`__hash__`(*x*)

`hash(x)`

`__init__`(*self*, *msg*)

`x.__init__()` initializes `x`; see `x.__class__.__doc__` for signature

Overrides: `exceptions.Exception.__init__` `exitit`(inherited documentation)

`__new__`(*T*, *S*, ...)

Return Value

a new object with type `S`, a subtype of `T`

Overrides: `exceptions.BaseException.__new__`

`__reduce__`(...)

helper for pickle

Overrides: `object.__reduce__` `exitit`(inherited documentation)

`__reduce_ex__`(...)

helper for pickle

`__repr__`(*x*)

`repr(x)`

Overrides: `object.__repr__`

`__setattr__`(...)

`x.__setattr__('name', value) <==> x.name = value`

Overrides: `object.__setattr__`

`__setstate__`(...)

| |
|--|
| <code>__str__(x)</code> |
| <code>str(x)</code> |
| Overrides: <code>object.__str__</code> |

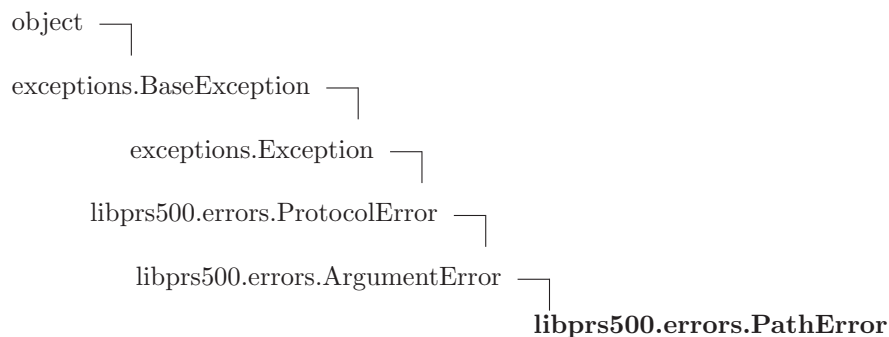
3.3.2 Properties

| Name | Description |
|------------------------|--|
| <code>__class__</code> | Value: <attribute ' <code>__class__</code> ' of ' <code>object</code> ' objects> |
| <code>args</code> | Value: <attribute ' <code>args</code> ' of ' <code>exceptions.BaseException</code> '-objects> |

3.3.3 Class Variables

| Name | Description |
|----------------------|--|
| <code>message</code> | Value: <member ' <code>message</code> ' of ' <code>exceptions.BaseException</code> '-objects> |

3.4 Class *PathError*



When a user supplies an incorrect/invalid path

3.4.1 Methods

| |
|--|
| <code>__delattr__(...)</code> |
| <code>x.__delattr__('name') <==> del x.name</code> |
| Overrides: <code>object.__delattr__</code> |

| |
|--|
| <code>__getattr__(...)</code> |
| <code>x.__getattr__('name') <==> x.name</code> |
| Overrides: <code>object.__getattr__</code> |

`__getitem__(x, y)`

`x[y]`

`__hash__(x)`

`hash(x)`

`__init__(self, msg)`

`x.__init__(...)` initializes `x`; see `x.__class__.__doc__` for signatureOverrides: `exceptions.Exception.__init__` `exitit`(inherited documentation)

`__new__(T, S, ...)`

Return Valuea new object with type `S`, a subtype of `T`Overrides: `exceptions.BaseException.__new__`

`__reduce__(...)`

helper for pickle

Overrides: `object.__reduce__` `exitit`(inherited documentation)

`__reduce_ex__(...)`

helper for pickle

`__repr__(x)`

`repr(x)`Overrides: `object.__repr__`

`__setattr__(...)`

`x.__setattr__('name', value)` \iff `x.name = value`Overrides: `object.__setattr__`

`__setstate__(...)`

`__str__(x)`

`str(x)`Overrides: `object.__str__`

3.4.2 Properties

| Name | Description |
|------------------------|---|
| <code>__class__</code> | Value: <attribute <code>'__class__'</code> of <code>'object'</code> objects> |

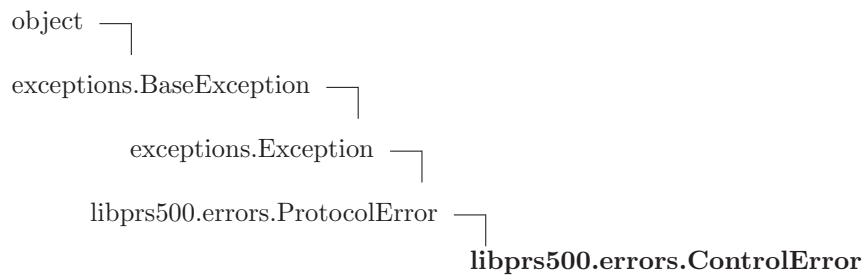
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| Name | Description |
|------|--|
| args | Value: <attribute 'args' of 'exceptions.BaseException'-objects> |

3.4.3 Class Variables

| Name | Description |
|---------|--|
| message | Value: <member 'message' of 'exceptions.BaseException'-objects> |

3.5 Class ControlError



Errors in Command/Response pairs while communicating with the device

3.5.1 Methods

```
__init__(self, query=None, response=None, desc=None)
x.__init__(...) initializes x; see x.__class__.__doc__ for signature
Overrides: libprs500.errors.ProtocolError.__init__
```

```
__str__(self)
str(x)
Overrides: exceptions.BaseException.__str__ extit(inherited documentation)
```

```
__delattr__(...)
x.__delattr__('name') <==> del x.name
Overrides: object.__delattr__
```

```
__getattr__(...)
x.__getattr__('name') <==> x.name
Overrides: object.__getattr__
```

```
__getitem__(x, y)
x[y]
```

| |
|--|
| <code>__hash__(x)</code> |
| <code>hash(x)</code> |
| <code>__new__(T, S, ...)</code> |
| Return Value a new object with type <code>S</code> , a subtype of <code>T</code> |
| Overrides: <code>exceptions.BaseException.__new__</code> |
| <code>__reduce__(...)</code> |
| helper for pickle |
| Overrides: <code>object.__reduce__</code> <code>exitit</code> (inherited documentation) |
| <code>__reduce_ex__(...)</code> |
| helper for pickle |
| <code>__repr__(x)</code> |
| <code>repr(x)</code> |
| Overrides: <code>object.__repr__</code> |
| <code>__setattr__(...)</code> |
| <code>x.__setattr__('name', value) <==> x.name = value</code> |
| Overrides: <code>object.__setattr__</code> |
| <code>__setstate__(...)</code> |

3.5.2 Properties

| Name | Description |
|------------------------|---|
| <code>__class__</code> | Value: <attribute <code>'__class__'</code> of <code>'object'</code> objects> |
| <code>args</code> | Value: <attribute <code>'args'</code> of <code>'exceptions.BaseException'</code> -objects> |

3.5.3 Class Variables

| Name | Description |
|----------------------|---|
| <code>message</code> | Value: <member <code>'message'</code> of <code>'exceptions.BaseException'</code> -objects> |

4 Module *libprs500.prstypes*

Defines the structure of packets that are sent to/received from the device.

Packet structure is defined using classes and inheritance. Each class is a view that imposes structure on the underlying data buffer. The data buffer is encoded in little-endian format, but you don't have to worry about that if you are using the classes. The classes have instance variables with getter/setter functions defined to take care of the encoding/decoding. The classes are intended to mimic C structs.

There are three kinds of packets. **Commands**, **Responses**, and **Answers**. **Commands** are sent to the device on the control bus, **Responses** are received from the device, also on the control bus. **Answers** and their sub-classes represent data packets sent to/received from the device via bulk transfers.

Commands are organized as follows: (GRAPH)

You will typically only use sub-classes of **Command**.

Responses are organized as follows: (GRAPH)

Responses inherit **Command** as they share header structure.

Answers are organized as follows: (GRAPH)

4.1 Variables

| Name | Description |
|--------|---|
| BYTE | Unsigned char little endian encoded in 1 byte Value: '<B' |
| WORD | Unsigned short little endian encoded in 2 bytes Value: '<H' |
| DWORD | Unsigned integer little endian encoded in 4 bytes Value: '<I' |
| DDWORD | Unsigned long long little endian encoded in 8 bytes Value: '<Q' |

4.2 Class *TransferBuffer*



Known Subclasses: *libprs500.prstypes.Answer*, *libprs500.prstypes.Command*

Represents raw (unstructured) data packets sent over the usb bus.

TransferBuffer is a wrapper around the tuples used by PyUSB for communication. It has convenience methods to read and write data from the underlying buffer. See **TransferBuffer.pack** and **TransferBuffer.unpack**.

4.2.1 Methods

__init__(*self*, *packet*)Create a **TransferBuffer** from *packet* or an empty buffer.**Parameters**

packet: If *packet* is a list, it is copied into the **TransferBuffer** and then normalized (see **TransferBuffer.normalize**). If it is an integer, a zero buffer of that length is created.
(type=integer or listable object)

Overrides: list.__init__

__add__(*self*, *tb*)Return a **TransferBuffer** rather than a list as the sum

Overrides: list.__add__

__getslice__(*self*, *start*, *end*)Return a **TransferBuffer** rather than a list as the slice

Overrides: list.__getslice__

__str__(*self*)

Return a string representation of this buffer.

Packets are represented as hex strings, in 2-byte pairs, ≤ 16 bytes to a line. An ASCII representation is included. For example:

```
0700 0100 0000 0000 0000 0000 0c00 0000      .....
0200 0000 0400 0000 4461 7461                  .....Data
```

Overrides: object.__str__

unpack(*self*, *fmt*=**DWORD**, *start*=0)

Return decoded data from buffer.

Parameters

fmt: See struct^a
start: Position in buffer from which to decode

^a<http://docs.python.org/lib/module-struct.html>**pack**(*self*, *val*, *fmt*=**DWORD**, *start*=0)Encode *val* and write it to buffer.**Parameters**

fmt: See struct^a
start: Position in buffer at which to write encoded data

^a<http://docs.python.org/lib/module-struct.html>

phex(*cls*, *num*)

Return the hex representation of *num* without the 0x prefix.
If the hex representation is only 1 digit it is padded to the left with a zero. Used in `TransferBuffer.__str__`.

__contains__(*x*, *y*)

y in *x*

__delattr__(...)

x.**__delattr__**('name') <==> del *x*.name

__delitem__(*x*, *y*)

del *x*[*y*]

__delslice__(*x*, *i*, *j*)

del *x*[*i*:*j*]
Use of negative indices is not supported.

__eq__(*x*, *y*)

x==*y*

__ge__(*x*, *y*)

x>=*y*

__getattr__(...)

x.**__getattr__**('name') <==> *x*.name
Overrides: `object.__getattr__`

__getitem__(*x*, *y*)

x[*y*]

__gt__(*x*, *y*)

x>*y*

__hash__(*x*)

hash(*x*)
Overrides: `object.__hash__`

`__iadd__(x, y)``x+=y``__imul__(x, y)``x*=y``__iter__(x)``iter(x)``__le__(x, y)``x<=y``__len__(x)``len(x)``__lt__(x, y)``x<y``__mul__(x, n)``x*n``__ne__(x, y)``x!=y``__new__(T, S, ...)`**Return Value**

a new object with type S, a subtype of T

Overrides: `object.__new__``__reduce__()`

helper for pickle

`__reduce_ex__()`

helper for pickle

`__repr__(x)``repr(x)`Overrides: `object.__repr__`

`__reversed__`(*L*)

return a reverse iterator over the list

`__rmul__`(*x*, *n*)*n***x*

`__setattr__`(...)*x*.`__setattr__`('name', value) <==> *x*.name = value

`__setitem__`(*x*, *i*, *y*)*x*[*i*]=*y*

`__setslice__`(*x*, *i*, *j*, *y*)*x*[*i*:*j*]=*y*

Use of negative indices is not supported.

`append`(*L*, *object*)

append object to end

`count`(*L*, *value*)

return number of occurrences of value

Return Value*integer*

`extend`(*L*, *iterable*)

extend list by appending elements from the iterable

`index`(...)*L*.`index`(value, [start, [stop]]) -> integer – return first index of value

`insert`(*L*, *index*, *object*)

insert object before index

`pop`(*L*, *index*=...)

remove and return item at index (default last)

Return Value*item*

| |
|---|
| remove (<i>L</i> , <i>value</i>) |
| remove first occurrence of value |

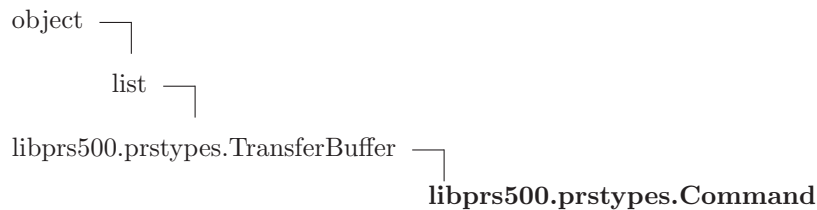
| |
|-----------------------------|
| reverse (<i>L</i>) |
| reverse <i>*IN PLACE*</i> |

| |
|---|
| sort (<i>L</i> , <i>cmp</i> =None, <i>key</i> =None, <i>reverse</i> =False) |
| stable sort <i>*IN PLACE*</i> ; cmp(<i>x</i> , <i>y</i>) -> -1, 0, 1 |

4.2.2 Properties

| Name | Description |
|------------------------|---|
| <code>__class__</code> | Value: <attribute ' <code>__class__</code> ' of ' <code>object</code> ' objects> |

4.3 Class Command



Known Subclasses: `libprs500.prstypes.Response`, `libprs500.prstypes.LongCommand`, `libprs500.prstypes.DeviceInfoQuery`, `libprs500.prstypes.ShortCommand`, `libprs500.prstypes.DirOpen`, `libprs500.prstypes.FileOpen`, `libprs500.prstypes.FileRead`, `libprs500.prstypes.FreeSpaceQuery`, `libprs500.prstypes.PathQuery`

Defines the structure of command packets sent to the device.

4.3.1 Methods

| |
|---|
| __init__ (<i>self</i> , <i>packet</i>) |
| Parameters packet: len(packet) > 15 or packet > 15 Overrides: <code>libprs500.prstypes.TransferBuffer.__init__</code> |

| |
|--|
| __add__ (<i>self</i> , <i>tb</i>) |
| Return a <code>TransferBuffer</code> rather than a list as the sum Overrides: <code>list.__add__</code> |

| |
|---|
| __contains__ (<i>x</i> , <i>y</i>) |
| <i>y</i> in <i>x</i> |

__delattr__(...)`x.__delattr__('name') <==> del x.name`**__delitem__**(*x*, *y*)`del x[y]`**__delslice__**(*x*, *i*, *j*)`del x[i:j]`

Use of negative indices is not supported.

__eq__(*x*, *y*)`x==y`**__ge__**(*x*, *y*)`x>=y`**__getattr__**(...)`x.__getattr__('name') <==> x.name`Overrides: `object.__getattr__`**__getitem__**(*x*, *y*)`x[y]`**__getslice__**(*self*, *start*, *end*)

Return a TransferBuffer rather than a list as the slice

Overrides: `list.__getslice__`**__gt__**(*x*, *y*)`x>y`**__hash__**(*x*)`hash(x)`Overrides: `object.__hash__`**__iadd__**(*x*, *y*)`x+=y`**__imul__**(*x*, *y*)`x*=y`

`__iter__(x)`

`iter(x)`

`__le__(x, y)`

`x<=y`

`__len__(x)`

`len(x)`

`__lt__(x, y)`

`x<y`

`__mul__(x, n)`

`x*n`

`__ne__(x, y)`

`x!=y`

`__new__(T, S, ...)`**Return Value**

a new object with type `S`, a subtype of `T`

Overrides: `object.__new__`

`__reduce__()`

helper for pickle

`__reduce_ex__()`

helper for pickle

`__repr__(x)`

`repr(x)`

Overrides: `object.__repr__`

`__reversed__(L)`

return a reverse iterator over the list

`__rmul__(x, n)`

`n*x`

__setattr__(...)

x.__setattr__('name', value) <==> x.name = value

__setitem__(x, i, y)

x[i]=y

__setslice__(x, i, j, y)

x[i:j]=y

Use of negative indices is not supported.

__str__(self)

Return a string representation of this buffer.

Packets are represented as hex strings, in 2-byte pairs, ≤ 16 bytes to a line. An ASCII representation is included. For example:

| | |
|---|-----------|
| 0700 0100 0000 0000 0000 0000 0c00 0000 | |
| 0200 0000 0400 0000 4461 7461 |Data |

Overrides: object.__str__

append(L, object)

append object to end

count(L, value)

return number of occurrences of value

Return Value

integer

extend(L, iterable)

extend list by appending elements from the iterable

index(...)

L.index(value, [start, [stop]]) -> integer – return first index of value

insert(L, index, object)

insert object before index

pack(*self*, *val*, *fmt*=DWORD, *start*=0)

Encode *val* and write it to buffer.

Parameters

fmt: See struct^a
start: Position in buffer at which to write encoded data

^a<http://docs.python.org/lib/module-struct.html>

phex(*cls*, *num*)

Return the hex representation of *num* without the 0x prefix.

If the hex representation is only 1 digit it is padded to the left with a zero. Used in `TransferBuffer.__str__`.

pop(*L*, *index*=...)

remove and return item at index (default last)

Return Value

item

remove(*L*, *value*)

remove first occurrence of value

reverse(*L*)

reverse *IN PLACE*

sort(*L*, *cmp*=None, *key*=None, *reverse*=False)

stable sort *IN PLACE*; *cmp*(*x*, *y*) -> -1, 0, 1

unpack(*self*, *fmt*=DWORD, *start*=0)

Return decoded data from buffer.

Parameters

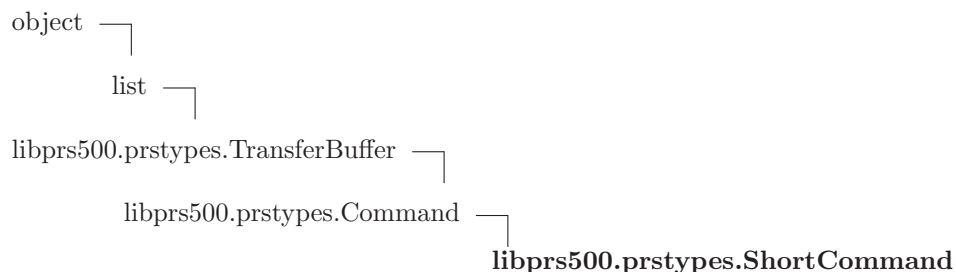
fmt: See struct^a
start: Position in buffer from which to decode

^a<http://docs.python.org/lib/module-struct.html>

4.3.2 Properties

| Name | Description |
|-----------|---|
| number | Value: <property object at 0x81de52c> |
| type | Value: <property object at 0x81de57c> |
| length | Value: <property object at 0x81de5cc> |
| data | Value: <property object at 0x81de8c4> |
| __class__ | Value: <attribute '__class__' of 'object' objects> |

4.4 Class ShortCommand



Known Subclasses: *libprs500.prstypes.DirClose*, *libprs500.prstypes.DirRead*, *libprs500.prstypes.FileClose*

A *Command* whose data section is 4 bytes long

4.4.1 Methods

`__init__(self, number=0x00, type=0x00, command=0x00)`

Parameters

number: *Command.number*
type: *Command.type*
command: *ShortCommand.command*

Overrides: *libprs500.prstypes.Command.__init__*

`__add__(self, tb)`

Return a *TransferBuffer* rather than a list as the sum

Overrides: *list.__add__*

`__contains__(x, y)`

y in *x*

`__delattr__(...)`

x.__delattr__('name') <==> *del x.name*

`__delitem__(x, y)`

del x[y]

`__delslice__(x, i, j)`

del x[i:j]

Use of negative indices is not supported.

`__eq__(x, y)`

x==y

`--ge--`(*x*, *y*)

`x>=y`

`--getattr--`(...)

`x._getattr_('name') <==> x.name`

Overrides: `object._getattr--`

`--getitem--`(*x*, *y*)

`x[y]`

`--getslice--`(*self*, *start*, *end*)

Return a TransferBuffer rather than a list as the slice

Overrides: `list._getslice--`

`--gt--`(*x*, *y*)

`x>y`

`--hash--`(*x*)

`hash(x)`

Overrides: `object._hash--`

`--iadd--`(*x*, *y*)

`x+=y`

`--imul--`(*x*, *y*)

`x*=y`

`--iter--`(*x*)

`iter(x)`

`--le--`(*x*, *y*)

`x<=y`

`--len--`(*x*)

`len(x)`

`--lt--`(*x*, *y*)

`x<y`

__mul__(*x*, *n*)

*x***n*

__ne__(*x*, *y*)

x!=*y*

__new__(*T*, *S*, ...)

Return Value

a new object with type *S*, a subtype of *T*

Overrides: *object.__new__*

__reduce__(...)

helper for pickle

__reduce_ex__(...)

helper for pickle

__repr__(*x*)

repr(*x*)

Overrides: *object.__repr__*

__reversed__(*L*)

return a reverse iterator over the list

__rmul__(*x*, *n*)

*n***x*

__setattr__(...)

x.__setattr__('name', value) <==> *x.name = value*

__setitem__(*x*, *i*, *y*)

x[*i*]=*y*

__setslice__(*x*, *i*, *j*, *y*)

x[*i*:*j*]=*y*

Use of negative indices is not supported.

__str__(*self*)

Return a string representation of this buffer.

Packets are represented as hex strings, in 2-byte pairs, ≤ 16 bytes to a line. An ASCII representation is included. For example:

```

    0700 0100 0000 0000 0000 0000 0c00 0000      .....
    0200 0000 0400 0000 4461 7461                .....Data

```

Overrides: `object.__str__`**append**(*L*, *object*)

append object to end

count(*L*, *value*)

return number of occurrences of value

Return Value**integer****extend**(*L*, *iterable*)

extend list by appending elements from the iterable

index(...)`L.index(value, [start, [stop]])` -> integer – return first index of value**insert**(*L*, *index*, *object*)

insert object before index

pack(*self*, *val*, *fmt*=`DWORD`, *start*=0)Encode *val* and write it to buffer.**Parameters****fmt**: See struct^a**start**: Position in buffer at which to write encoded data^a<http://docs.python.org/lib/module-struct.html>**phex**(*cls*, *num*)Return the hex representation of *num* without the 0x prefix.

If the hex representation is only 1 digit it is padded to the left with a zero. Used in

`TransferBuffer.__str__`**pop**(*L*, *index*=...)

remove and return item at index (default last)

Return Value**item**

remove(*L*, *value*)

remove first occurrence of value

reverse(*L*)reverse **IN PLACE****sort**(*L*, *cmp*=None, *key*=None, *reverse*=False)stable sort **IN PLACE**; *cmp*(*x*, *y*) -> -1, 0, 1**unpack**(*self*, *fmt*=DWORD, *start*=0)

Return decoded data from buffer.

Parameters**fmt**: See struct^a**start**: Position in buffer from which to decode^a<http://docs.python.org/lib/module-struct.html>

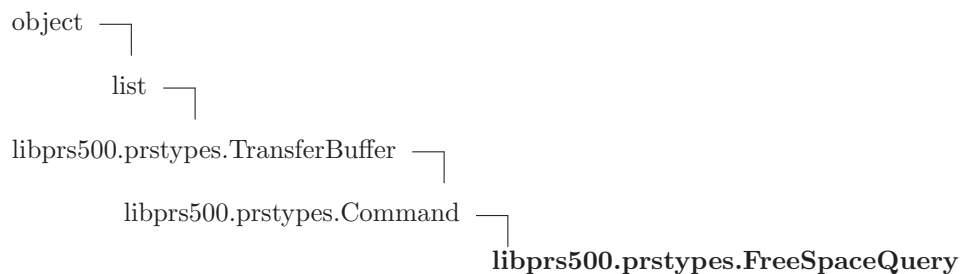
4.4.2 Properties

| Name | Description |
|-----------|---|
| command | Value: <property object at 0x81de914> |
| __class__ | Value: <attribute '__class__' of 'object' objects> |
| data | Value: <property object at 0x81de8c4> |
| length | Value: <property object at 0x81de5cc> |
| number | Value: <property object at 0x81de52c> |
| type | Value: <property object at 0x81de57c> |

4.4.3 Class Variables

| Name | Description |
|------|--|
| SIZE | Packet size in bytes Value: 20 |

4.5 Class *FreeSpaceQuery*



Query the free space available

4.5.1 Methods

`__init__(self, path)`

Overrides: `libprs500.prstypes.Command.__init__` `exitit`(inherited documentation)

`__add__(self, tb)`

Return a `TransferBuffer` rather than a list as the sum

Overrides: `list.__add__`

`__contains__(x, y)`

y in x

`__delattr__(...)`

x.__delattr__('name') <==> del x.name

`__delitem__(x, y)`

del x[y]

`__delslice__(x, i, j)`

del x[i:j]

Use of negative indices is not supported.

`__eq__(x, y)`

x==y

`__ge__(x, y)`

x>=y

`__getattr__(...)`

x.__getattr__('name') <==> x.name

Overrides: `object.__getattr__`

`__getitem__(x, y)`

x[y]

`__getslice__(self, start, end)`

Return a `TransferBuffer` rather than a list as the slice

Overrides: `list.__getslice__`

`--gt--(x, y)`

`x>y`

`--hash--(x)`

`hash(x)`

Overrides: `object.__hash__`

`--iadd--(x, y)`

`x+=y`

`--imul--(x, y)`

`x*=y`

`--iter--(x)`

`iter(x)`

`--le--(x, y)`

`x<=y`

`--len--(x)`

`len(x)`

`--lt--(x, y)`

`x<y`

`--mul--(x, n)`

`x*n`

`--ne--(x, y)`

`x!=y`

`--new--(T, S, ...)`

Return Value

a new object with type S, a subtype of T

Overrides: `object.__new__`

`--reduce--(...)`

helper for pickle

__reduce_ex__(...)

helper for pickle

__repr__(*x*)repr(*x*)

Overrides: object.__repr__

__reversed__(*L*)

return a reverse iterator over the list

__rmul__(*x*, *n*)*n***x***__setattr__**(...)*x*.__setattr__('name', value) <==> *x*.name = value**__setitem__**(*x*, *i*, *y*)*x*[*i*]=*y***__setslice__**(*x*, *i*, *j*, *y*)*x*[*i*:*j*]=*y*

Use of negative indices is not supported.

__str__(*self*)

Return a string representation of this buffer.

Packets are represented as hex strings, in 2-byte pairs, ≤ 16 bytes to a line. An ASCII representation is included. For example:

0700 0100 0000 0000 0000 0000 0c00 0000

0200 0000 0400 0000 4461 7461Data

Overrides: object.__str__

append(*L*, *object*)

append object to end

count(*L*, *value*)

return number of occurrences of value

Return Value

integer

extend(*L, iterable*)

extend list by appending elements from the iterable

index(...)

`L.index(value, [start, [stop]])` -> integer – return first index of value

insert(*L, index, object*)

insert object before index

pack(*self, val, fmt=DWORD, start=0*)

Encode `val` and write it to buffer.

Parameters

fmt: See struct^a

start: Position in buffer at which to write encoded data

^a<http://docs.python.org/lib/module-struct.html>

phex(*cls, num*)

Return the hex representation of `num` without the 0x prefix.

If the hex representation is only 1 digit it is padded to the left with a zero. Used in `TransferBuffer.__str__`.

pop(*L, index=...*)

remove and return item at index (default last)

Return Value

item

remove(*L, value*)

remove first occurrence of value

reverse(*L*)

reverse **IN PLACE**

sort(*L, cmp=None, key=None, reverse=False*)

stable sort **IN PLACE**; `cmp(x, y)` -> -1, 0, 1

unpack(*self*, *fmt*=DWORD, *start*=0)

Return decoded data from buffer.

Parameters

fmt: See struct^a
start: Position in buffer from which to decode

^a<http://docs.python.org/lib/module-struct.html>

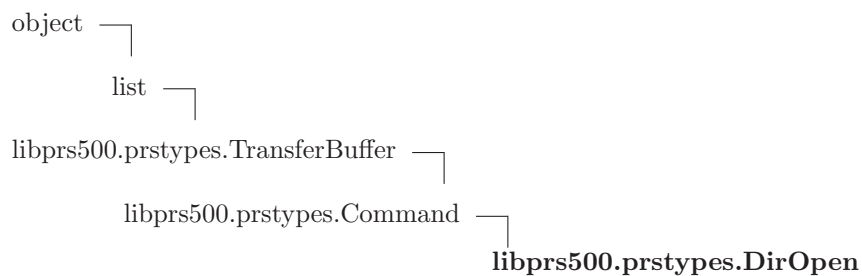
4.5.2 Properties

| Name | Description |
|-------------|---|
| path_length | Value: <property object at 0x81de964> |
| path | Value: <property object at 0x81de98c> |
| __class__ | Value: <attribute '__class__' of 'object' objects> |
| data | Value: <property object at 0x81de8c4> |
| length | Value: <property object at 0x81de5cc> |
| number | Value: <property object at 0x81de52c> |
| type | Value: <property object at 0x81de57c> |

4.5.3 Class Variables

| Name | Description |
|--------|------------------|
| NUMBER | Value: 83 |

4.6 Class DirOpen



Open a directory for reading its contents

4.6.1 Methods

__init__(*self*, *path*)

Overrides: libprs500.prstypes.Command.__init__ extit(inherited documentation)

__add__(*self*, *tb*)

Return a TransferBuffer rather than a list as the sum

Overrides: list.__add__

__contains__(*x*, *y*)

y in *x*

__delattr__(...)

x.__delattr__('name') <==> del *x*.name

__delitem__(*x*, *y*)

del *x*[*y*]

__delslice__(*x*, *i*, *j*)

del *x*[*i*:*j*]

Use of negative indices is not supported.

__eq__(*x*, *y*)

x==*y*

__ge__(*x*, *y*)

x>=*y*

__getattr__(...)

x.__getattr__('name') <==> *x*.name

Overrides: object.__getattr__

__getitem__(*x*, *y*)

x[*y*]

__getslice__(*self*, *start*, *end*)

Return a TransferBuffer rather than a list as the slice

Overrides: list.__getslice__

__gt__(*x*, *y*)

x>*y*

__hash__(*x*)

hash(*x*)

Overrides: object.__hash__

__iadd__(*x*, *y*)

x+=*y*

`__imul__(x, y)`

`x*=y`

`__iter__(x)`

`iter(x)`

`__le__(x, y)`

`x<=y`

`__len__(x)`

`len(x)`

`__lt__(x, y)`

`x<y`

`__mul__(x, n)`

`x*n`

`__ne__(x, y)`

`x!=y`

`__new__(T, S, ...)`**Return Value**

a new object with type `S`, a subtype of `T`

Overrides: `object.__new__`

`__reduce__()`

helper for pickle

`__reduce_ex__()`

helper for pickle

`__repr__(x)`

`repr(x)`

Overrides: `object.__repr__`

`__reversed__(L)`

return a reverse iterator over the list

__rmul__(*x*, *n*)*n***x***__setattr__**(...)*x*.__setattr__('name', value) <==> *x*.name = value**__setitem__**(*x*, *i*, *y*)*x*[*i*]=*y***__setslice__**(*x*, *i*, *j*, *y*)*x*[*i*:*j*]=*y*

Use of negative indices is not supported.

__str__(*self*)

Return a string representation of this buffer.

Packets are represented as hex strings, in 2-byte pairs, ≤ 16 bytes to a line. An ASCII representation is included. For example:

| | |
|---|-----------|
| 0700 0100 0000 0000 0000 0000 0c00 0000 | |
| 0200 0000 0400 0000 4461 7461 |Data |

Overrides: object.__str__

append(*L*, *object*)

append object to end

count(*L*, *value*)

return number of occurrences of value

Return Value

integer

extend(*L*, *iterable*)

extend list by appending elements from the iterable

index(...)*L*.index(value, [start, [stop]]) -> integer – return first index of value**insert**(*L*, *index*, *object*)

insert object before index

pack(*self*, *val*, *fmt*=`DWORD`, *start*=0)

Encode *val* and write it to buffer.

Parameters

fmt: See struct^a
start: Position in buffer at which to write encoded data

^a<http://docs.python.org/lib/module-struct.html>

phex(*cls*, *num*)

Return the hex representation of *num* without the 0x prefix.

If the hex representation is only 1 digit it is padded to the left with a zero. Used in `TransferBuffer.__str__`.

pop(*L*, *index*=...)

remove and return item at index (default last)

Return Value

item

remove(*L*, *value*)

remove first occurrence of value

reverse(*L*)

reverse **IN PLACE**

sort(*L*, *cmp*=None, *key*=None, *reverse*=False)

stable sort **IN PLACE**; *cmp*(*x*, *y*) -> -1, 0, 1

unpack(*self*, *fmt*=`DWORD`, *start*=0)

Return decoded data from buffer.

Parameters

fmt: See struct^a
start: Position in buffer from which to decode

^a<http://docs.python.org/lib/module-struct.html>

4.6.2 Properties

| Name | Description |
|--------------------------|---|
| <code>path_length</code> | Value: <property object at 0x81dea04> |
| <code>path</code> | Value: <property object at 0x81dea2c> |
| <code>__class__</code> | Value: <attribute ' <code>__class__</code> ' of ' <code>'object'</code> ' objects> |
| <code>data</code> | Value: <property object at 0x81de8c4> |
| <code>length</code> | Value: <property object at 0x81de5cc> |

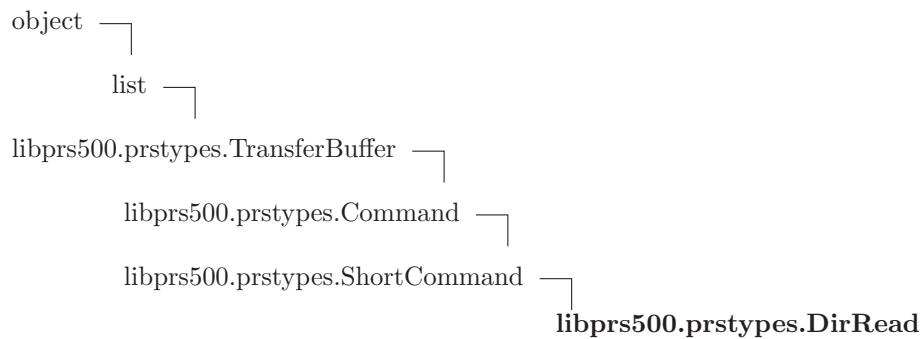
continued on next page

| Name | Description |
|--------|--|
| number | Value: <property object at 0x81de52c> |
| type | Value: <property object at 0x81de57c> |

4.6.3 Class Variables

| Name | Description |
|--------|------------------------------------|
| NUMBER | Command number Value: 51 |

4.7 Class DirRead



The command that asks the device to send the next item in the list

4.7.1 Methods

| |
|---|
| <code>__init__(self, id)</code> |
| Parameters id: The identifier returned as a result of a <code>DirOpen</code> command Overrides: <code>libprs500.prstypes.ShortCommand.__init__</code> |
| <code>__add__(self, tb)</code> |
| Return a <code>TransferBuffer</code> rather than a list as the sum Overrides: <code>list.__add__</code> |
| <code>__contains__(x, y)</code> |
| y in x |
| <code>__delattr__(...)</code> |
| x.__delattr__('name') <==> del x.name |

`--delitem--`(*x*, *y*)

`del x[y]`

`--delslice--`(*x*, *i*, *j*)

`del x[i:j]`

Use of negative indices is not supported.

`--eq--`(*x*, *y*)

`x==y`

`--ge--`(*x*, *y*)

`x>=y`

`--getattr--`(...)

`x._getattr_('name') <==> x.name`

Overrides: `object._getattr--`

`--getitem--`(*x*, *y*)

`x[y]`

`--getslice--`(*self*, *start*, *end*)

Return a `TransferBuffer` rather than a list as the slice

Overrides: `list._getslice--`

`--gt--`(*x*, *y*)

`x>y`

`--hash--`(*x*)

`hash(x)`

Overrides: `object._hash--`

`--iadd--`(*x*, *y*)

`x+=y`

`--imul--`(*x*, *y*)

`x*=y`

`--iter--`(*x*)

`iter(x)`

`__le__(x, y)``x<=y``__len__(x)``len(x)``__lt__(x, y)``x<y``__mul__(x, n)``x*n``__ne__(x, y)``x!=y``__new__(T, S, ...)`**Return Value**a new object with type `S`, a subtype of `T`Overrides: `object.__new__``__reduce__()`

helper for pickle

`__reduce_ex__()`

helper for pickle

`__repr__(x)``repr(x)`Overrides: `object.__repr__``__reversed__(L)`

return a reverse iterator over the list

`__rmul__(x, n)``n*x``__setattr__()``x.__setattr__('name', value) <==> x.name = value`

__setitem__(*x*, *i*, *y*)*x*[*i*]=*y***__setslice__**(*x*, *i*, *j*, *y*)*x*[*i*:*j*]=*y*

Use of negative indices is not supported.

__str__(*self*)

Return a string representation of this buffer.

Packets are represented as hex strings, in 2-byte pairs, ≤ 16 bytes to a line. An ASCII representation is included. For example:

| | |
|---|-----------|
| 0700 0100 0000 0000 0000 0000 0c00 0000 | |
| 0200 0000 0400 0000 4461 7461 |Data |

Overrides: object.__str__

append(*L*, *object*)

append object to end

count(*L*, *value*)

return number of occurrences of value

Return Value**integer****extend**(*L*, *iterable*)

extend list by appending elements from the iterable

index(...)*L.index*(*value*, [*start*, [*stop*]]) -> integer – return first index of value**insert**(*L*, *index*, *object*)

insert object before index

pack(*self*, *val*, *fmt*=DWORD, *start*=0)Encode *val* and write it to buffer.**Parameters****fmt:** See struct^a**start:** Position in buffer at which to write encoded data^a<http://docs.python.org/lib/module-struct.html>

phex(cls, num)

Return the hex representation of num without the 0x prefix.
If the hex representation is only 1 digit it is padded to the left with a zero. Used in `TransferBuffer.__str__`.

pop(L, index=...)

remove and return item at index (default last)

Return Value

item

remove(L, value)

remove first occurrence of value

reverse(L)

reverse *IN PLACE*

sort(L, cmp=None, key=None, reverse=False)

stable sort *IN PLACE*; cmp(x, y) -> -1, 0, 1

unpack(self, fmt=DWORD, start=0)

Return decoded data from buffer.

Parameters

fmt: See struct^a

start: Position in buffer from which to decode

^a<http://docs.python.org/lib/module-struct.html>

4.7.2 Properties

| Name | Description |
|------------------------|---|
| <code>__class__</code> | Value: <attribute <code>'__class__'</code> of <code>'object'</code> objects> |
| <code>command</code> | Value: <property object at 0x81de914> |
| <code>data</code> | Value: <property object at 0x81de8c4> |
| <code>length</code> | Value: <property object at 0x81de5cc> |
| <code>number</code> | Value: <property object at 0x81de52c> |
| <code>type</code> | Value: <property object at 0x81de57c> |

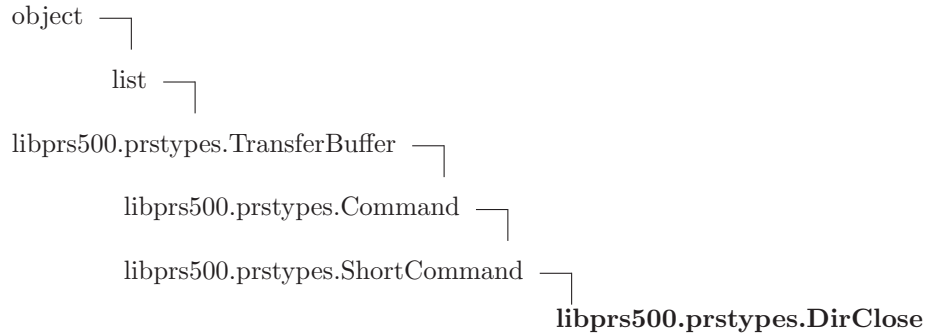
4.7.3 Class Variables

| Name | Description |
|--------|------------------------------------|
| NUMBER | Command number Value: 53 |

continued on next page

| Name | Description |
|------|--|
| SIZE | Packet size in bytes Value: 20 |

4.8 Class DirClose



Close a previously opened directory

4.8.1 Methods

| |
|--|
| __init__ (<i>self</i> , <i>id</i>) |
| Parameters <i>id</i> : The identifier returned as a result of a DirOpen command Overrides: <code>libprs500.prstypes.ShortCommand.__init__</code> |
| __add__ (<i>self</i> , <i>tb</i>) |
| Return a TransferBuffer rather than a list as the sum Overrides: <code>list.__add__</code> |
| __contains__ (<i>x</i> , <i>y</i>) |
| <i>y</i> in <i>x</i> |
| __delattr__ (...) |
| <i>x</i> . __delattr__ ('name') <==> del <i>x</i> .name |
| __delitem__ (<i>x</i> , <i>y</i>) |
| del <i>x</i> [<i>y</i>] |
| __delslice__ (<i>x</i> , <i>i</i> , <i>j</i>) |
| del <i>x</i> [<i>i</i> : <i>j</i>] Use of negative indices is not supported. |

```
__eq__(x, y)
```

```
x==y
```

```
__ge__(x, y)
```

```
x>=y
```

```
__getattr__(...)
```

```
x.__getattr__('name') <==> x.name
```

```
Overrides: object.__getattr__
```

```
__getitem__(x, y)
```

```
x[y]
```

```
__getslice__(self, start, end)
```

```
Return a TransferBuffer rather than a list as the slice
```

```
Overrides: list.__getslice__
```

```
__gt__(x, y)
```

```
x>y
```

```
__hash__(x)
```

```
hash(x)
```

```
Overrides: object.__hash__
```

```
__iadd__(x, y)
```

```
x+=y
```

```
__imul__(x, y)
```

```
x*=y
```

```
__iter__(x)
```

```
iter(x)
```

```
__le__(x, y)
```

```
x<=y
```

```
__len__(x)
```

```
len(x)
```

__lt__(*x*, *y*)

x<*y*

__mul__(*x*, *n*)

*x***n*

__ne__(*x*, *y*)

x!=*y*

__new__(*T*, *S*, ...)

Return Value

a new object with type *S*, a subtype of *T*

Overrides: `object.__new__`

__reduce__(...)

helper for pickle

__reduce_ex__(...)

helper for pickle

__repr__(*x*)

`repr(x)`

Overrides: `object.__repr__`

__reversed__(*L*)

return a reverse iterator over the list

__rmul__(*x*, *n*)

*n***x*

__setattr__(...)

x.`__setattr__('name', value)` <==> *x*.*name* = *value*

__setitem__(*x*, *i*, *y*)

x[*i*]=*y*

__setslice__(*x*, *i*, *j*, *y*)

x[*i*:*j*]=*y*

Use of negative indices is not supported.

__str__(self)

Return a string representation of this buffer.

Packets are represented as hex strings, in 2-byte pairs, ≤ 16 bytes to a line. An ASCII representation is included. For example:

```
0700 0100 0000 0000 0000 0000 0c00 0000      .....
0200 0000 0400 0000 4461 7461      .....Data
```

Overrides: `object.__str__`

append(L, object)

append object to end

count(L, value)

return number of occurrences of value

Return Value

integer

extend(L, iterable)

extend list by appending elements from the iterable

index(...)

`L.index(value, [start, [stop]])` -> integer – return first index of value

insert(L, index, object)

insert object before index

pack(self, val, fmt=DWORD, start=0)

Encode `val` and write it to buffer.

Parameters

fmt: See struct^a

start: Position in buffer at which to write encoded data

^a<http://docs.python.org/lib/module-struct.html>

phex(cls, num)

Return the hex representation of `num` without the 0x prefix.

If the hex representation is only 1 digit it is padded to the left with a zero. Used in

`TransferBuffer.__str__`

pop(L, index=...)

remove and return item at index (default last)

Return Value

item

remove(*L*, *value*)

 remove first occurrence of value

reverse(*L*)

 reverse *IN PLACE*

sort(*L*, *cmp*=None, *key*=None, *reverse*=False)

 stable sort *IN PLACE*; cmp(*x*, *y*) -> -1, 0, 1

unpack(*self*, *fmt*=DWORD, *start*=0)

 Return decoded data from buffer.

Parameters
fmt: See struct^a
start: Position in buffer from which to decode

^a<http://docs.python.org/lib/module-struct.html>

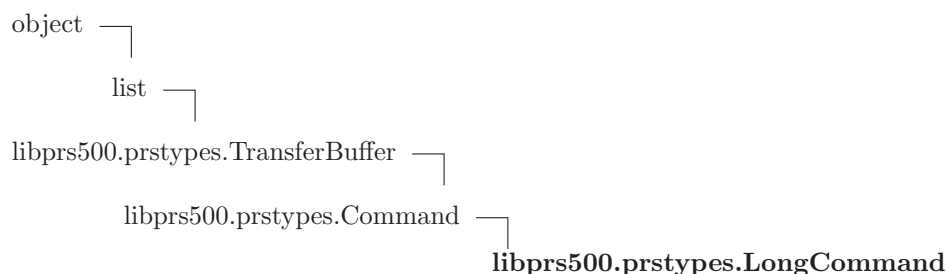
4.8.2 Properties

| Name | Description |
|------------------------|--|
| <code>__class__</code> | Value: <attribute ' <code>__class__</code> ' of 'object' objects> |
| <code>command</code> | Value: <property object at 0x81de914> |
| <code>data</code> | Value: <property object at 0x81de8c4> |
| <code>length</code> | Value: <property object at 0x81de5cc> |
| <code>number</code> | Value: <property object at 0x81de52c> |
| <code>type</code> | Value: <property object at 0x81de57c> |

4.8.3 Class Variables

| Name | Description |
|--------|--|
| NUMBER | Command number Value: 52 |
| SIZE | Packet size in bytes Value: 20 |

4.9 Class LongCommand



Known Subclasses: `libprs500.prstypes.AcknowledgeBulkRead`

A `Command` whose data section is 16 bytes long

4.9.1 Methods

`__init__(self, number=0x00, type=0x00, command=0x00)`

Parameters

`number:` `Command.number`
`type:` `Command.type`
`command:` `LongCommand.command`

Overrides: `libprs500.prstypes.Command.__init__`

`__add__(self, tb)`

Return a `TransferBuffer` rather than a list as the sum

Overrides: `list.__add__`

`__contains__(x, y)`

`y` in `x`

`__delattr__(...)`

`x.__delattr__('name') <==> del x.name`

`__delitem__(x, y)`

`del x[y]`

`__delslice__(x, i, j)`

`del x[i:j]`

Use of negative indices is not supported.

```
__eq__(x, y)
```

```
x==y
```

```
__ge__(x, y)
```

```
x>=y
```

```
__getattr__(...)
```

```
x.__getattr__('name') <==> x.name
```

```
Overrides: object.__getattr__
```

```
__getitem__(x, y)
```

```
x[y]
```

```
__getslice__(self, start, end)
```

```
Return a TransferBuffer rather than a list as the slice
```

```
Overrides: list.__getslice__
```

```
__gt__(x, y)
```

```
x>y
```

```
__hash__(x)
```

```
hash(x)
```

```
Overrides: object.__hash__
```

```
__iadd__(x, y)
```

```
x+=y
```

```
__imul__(x, y)
```

```
x*=y
```

```
__iter__(x)
```

```
iter(x)
```

```
__le__(x, y)
```

```
x<=y
```

```
__len__(x)
```

```
len(x)
```

`__lt__`(*x*, *y*)

x < *y*

`__mul__`(*x*, *n*)

x * *n*

`__ne__`(*x*, *y*)

x != *y*

`__new__`(*T*, *S*, ...)

Return Value

a new object with type *S*, a subtype of *T*

Overrides: `object.__new__`

`__reduce__`(...)

helper for pickle

`__reduce_ex__`(...)

helper for pickle

`__repr__`(*x*)

`repr(x)`

Overrides: `object.__repr__`

`__reversed__`(*L*)

return a reverse iterator over the list

`__rmul__`(*x*, *n*)

n * *x*

`__setattr__`(...)

x.`__setattr__`('name', value) <==> *x*.name = value

`__setitem__`(*x*, *i*, *y*)

x[*i*] = *y*

`__setslice__`(*x*, *i*, *j*, *y*)

x[*i*:*j*] = *y*

Use of negative indices is not supported.

__str__(self)

Return a string representation of this buffer.

Packets are represented as hex strings, in 2-byte pairs, ≤ 16 bytes to a line. An ASCII representation is included. For example:

```

    0700 0100 0000 0000 0000 0000 0c00 0000      .....
    0200 0000 0400 0000 4461 7461                .....Data

```

Overrides: `object.__str__`**append(L, object)**

append object to end

count(L, value)

return number of occurrences of value

Return Value**integer****extend(L, iterable)**

extend list by appending elements from the iterable

index(...)

L.index(value, [start, [stop]]) -> integer – return first index of value

insert(L, index, object)

insert object before index

pack(self, val, fmt=DWORD, start=0)Encode `val` and write it to buffer.**Parameters****fmt:** See struct^a**start:** Position in buffer at which to write encoded data^a<http://docs.python.org/lib/module-struct.html>**phex(cls, num)**Return the hex representation of `num` without the 0x prefix.

If the hex representation is only 1 digit it is padded to the left with a zero. Used in

`TransferBuffer.__str__`**pop(L, index=...)**

remove and return item at index (default last)

Return Value**item**

remove(*L*, *value*)

 remove first occurrence of value

reverse(*L*)

 reverse *IN PLACE*

sort(*L*, *cmp*=None, *key*=None, *reverse*=False)

 stable sort *IN PLACE*; cmp(*x*, *y*) -> -1, 0, 1

unpack(*self*, *fmt*=DWORD, *start*=0)

 Return decoded data from buffer.

Parameters

 fmt: See struct^a

 start: Position in buffer from which to decode

^a<http://docs.python.org/lib/module-struct.html>

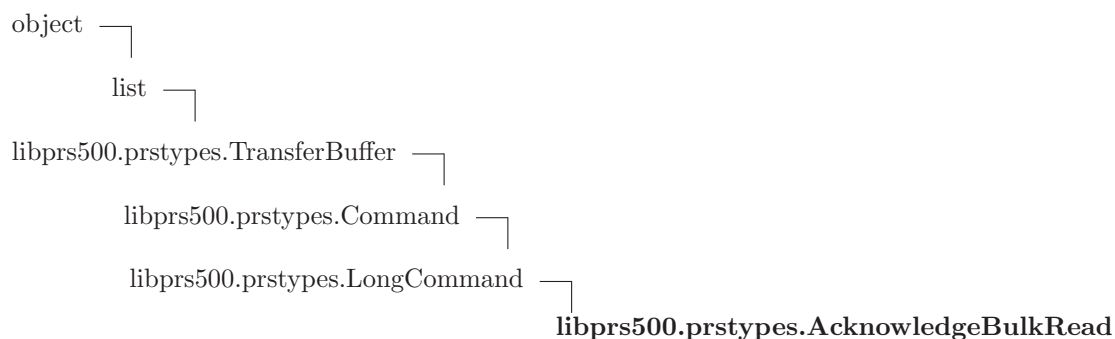
4.9.2 Properties

| Name | Description |
|-----------|---|
| command | Value: <property object at 0x81deaf4> |
| __class__ | Value: <attribute '__class__' of 'object' objects> |
| data | Value: <property object at 0x81de8c4> |
| length | Value: <property object at 0x81de5cc> |
| number | Value: <property object at 0x81de52c> |
| type | Value: <property object at 0x81de57c> |

4.9.3 Class Variables

| Name | Description |
|------|--|
| SIZE | Size in bytes of LongCommand packets Value: 32 |

4.10 Class `AcknowledgeBulkRead`



Must be sent to device after a bulk read

4.10.1 Methods

| |
|--|
| <code>__init__</code> (<i>self</i> , <i>bulk_read_id</i>) |
| <i>bulk_read_id</i> is an integer, the id of the bulk read we are acknowledging. See <code>Answer.id</code> Overrides: <code>libprs500.prstypes.LongCommand.__init__</code> |
| <code>__add__</code> (<i>self</i> , <i>tb</i>) |
| Return a <code>TransferBuffer</code> rather than a list as the sum Overrides: <code>list.__add__</code> |
| <code>__contains__</code> (<i>x</i> , <i>y</i>) |
| <i>y</i> in <i>x</i> |
| <code>__delattr__</code> (...) |
| <i>x</i> . <code>__delattr__</code> ('name') <==> del <i>x</i> .name |
| <code>__delitem__</code> (<i>x</i> , <i>y</i>) |
| del <i>x</i> [<i>y</i>] |
| <code>__delslice__</code> (<i>x</i> , <i>i</i> , <i>j</i>) |
| del <i>x</i> [<i>i</i> : <i>j</i>] Use of negative indices is not supported. |
| <code>__eq__</code> (<i>x</i> , <i>y</i>) |
| <i>x</i> == <i>y</i> |

`--ge--(x, y)`

`x>=y`

`--getattribute--(...)`

`x.__getattribute__('name') <==> x.name`

Overrides: `object.__getattribute__`

`--getitem--(x, y)`

`x[y]`

`--getslice--(self, start, end)`

Return a `TransferBuffer` rather than a list as the slice

Overrides: `list.__getslice__`

`--gt--(x, y)`

`x>y`

`--hash--(x)`

`hash(x)`

Overrides: `object.__hash__`

`--iadd--(x, y)`

`x+=y`

`--imul--(x, y)`

`x*=y`

`--iter--(x)`

`iter(x)`

`--le--(x, y)`

`x<=y`

`--len--(x)`

`len(x)`

`--lt--(x, y)`

`x<y`

`__mul__`(*x*, *n*)`x*n`**`__ne__`**(*x*, *y*)`x!=y`**`__new__`**(*T*, *S*, ...)**Return Value**a new object with type *S*, a subtype of *T*Overrides: `object.__new__`**`__reduce__`**(...)

helper for pickle

`__reduce_ex__`(...)

helper for pickle

`__repr__`(*x*)`repr(x)`Overrides: `object.__repr__`**`__reversed__`**(*L*)

return a reverse iterator over the list

`__rmul__`(*x*, *n*)`n*x`**`__setattr__`**(...)`x.__setattr__('name', value) <==> x.name = value`**`__setitem__`**(*x*, *i*, *y*)`x[i]=y`**`__setslice__`**(*x*, *i*, *j*, *y*)`x[i:j]=y`

Use of negative indices is not supported.

__str__(self)

Return a string representation of this buffer.

Packets are represented as hex strings, in 2-byte pairs, ≤ 16 bytes to a line. An ASCII representation is included. For example:

```

    0700 0100 0000 0000 0000 0000 0c00 0000      .....
    0200 0000 0400 0000 4461 7461                .....Data

```

Overrides: `object.__str__`**append(L, object)**

append object to end

count(L, value)

return number of occurrences of value

Return Value**integer****extend(L, iterable)**

extend list by appending elements from the iterable

index(...)

L.index(value, [start, [stop]]) -> integer – return first index of value

insert(L, index, object)

insert object before index

pack(self, val, fmt=DWORD, start=0)Encode `val` and write it to buffer.**Parameters****fmt:** See struct^a**start:** Position in buffer at which to write encoded data^a<http://docs.python.org/lib/module-struct.html>**phex(cls, num)**Return the hex representation of `num` without the 0x prefix.

If the hex representation is only 1 digit it is padded to the left with a zero. Used in

`TransferBuffer.__str__`**pop(L, index=...)**

remove and return item at index (default last)

Return Value**item**

remove(*L*, *value*)

 remove first occurrence of value

reverse(*L*)

 reverse *IN PLACE*

sort(*L*, *cmp*=None, *key*=None, *reverse*=False)

 stable sort *IN PLACE*; *cmp*(*x*, *y*) -> -1, 0, 1

unpack(*self*, *fmt*=DWORD, *start*=0)

 Return decoded data from buffer.

Parameters

 fmt: See struct^a

 start: Position in buffer from which to decode

^a<http://docs.python.org/lib/module-struct.html>

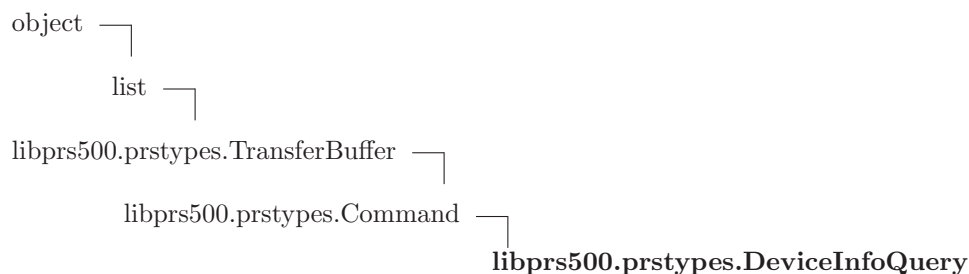
4.10.2 Properties

| Name | Description |
|------------------------|--|
| <code>__class__</code> | Value: <attribute ' <code>__class__</code> ' of 'object' objects> |
| <code>command</code> | Value: <property object at 0x81deaf4> |
| <code>data</code> | Value: <property object at 0x81de8c4> |
| <code>length</code> | Value: <property object at 0x81de5cc> |
| <code>number</code> | Value: <property object at 0x81de52c> |
| <code>type</code> | Value: <property object at 0x81de57c> |

4.10.3 Class Variables

| Name | Description |
|-------------------|--|
| <code>SIZE</code> | Size in bytes of LongCommand packets Value: 32 |

4.11 Class *DeviceInfoQuery*



The command used to ask for device information

4.11.1 Methods**__init__**(*self*)Overrides: *libprs500.prstypes.Command.__init__* *exitit*(inherited documentation)**__add__**(*self, tb*)Return a *TransferBuffer* rather than a list as the sumOverrides: *list.__add__***__contains__**(*x, y*)*y* in *x***__delattr__**(...)*x.__delattr__('name')* <==> *del x.name***__delitem__**(*x, y*)*del x[y]***__delslice__**(*x, i, j*)*del x[i:j]*

Use of negative indices is not supported.

__eq__(*x, y*)*x==y***__ge__**(*x, y*)*x>=y***__getattr__**(...)*x.__getattr__('name')* <==> *x.name*Overrides: *object.__getattr__***__getitem__**(*x, y*)*x[y]***__getslice__**(*self, start, end*)Return a *TransferBuffer* rather than a list as the sliceOverrides: *list.__getslice__*

`--gt--(x, y)`

`x>y`

`--hash--(x)`

`hash(x)`

Overrides: `object.__hash__`

`--iadd--(x, y)`

`x+=y`

`--imul--(x, y)`

`x*=y`

`--iter--(x)`

`iter(x)`

`--le--(x, y)`

`x<=y`

`--len--(x)`

`len(x)`

`--lt--(x, y)`

`x<y`

`--mul--(x, n)`

`x*n`

`--ne--(x, y)`

`x!=y`

`--new--(T, S, ...)`

Return Value

a new object with type `S`, a subtype of `T`

Overrides: `object.__new__`

`--reduce--(...)`

helper for pickle

__reduce_ex__(...)

helper for pickle

__repr__(*x*)repr(*x*)

Overrides: object.__repr__

__reversed__(*L*)

return a reverse iterator over the list

__rmul__(*x*, *n*)*n***x***__setattr__**(...)*x*.__setattr__('name', value) <==> *x*.name = value**__setitem__**(*x*, *i*, *y*)*x*[*i*]=*y***__setslice__**(*x*, *i*, *j*, *y*)*x*[*i*:*j*]=*y*

Use of negative indices is not supported.

__str__(*self*)

Return a string representation of this buffer.

Packets are represented as hex strings, in 2-byte pairs, ≤ 16 bytes to a line. An ASCII representation is included. For example:

0700 0100 0000 0000 0000 0000 0c00 0000

0200 0000 0400 0000 4461 7461Data

Overrides: object.__str__

append(*L*, *object*)

append object to end

count(*L*, *value*)

return number of occurrences of value

Return Value

integer

extend(*L, iterable*)

extend list by appending elements from the iterable

index(...)`L.index(value, [start, [stop]])` -> integer – return first index of value**insert**(*L, index, object*)

insert object before index

pack(*self, val, fmt=DWORD, start=0*)Encode `val` and write it to buffer.**Parameters****fmt:** See struct^a**start:** Position in buffer at which to write encoded data^a<http://docs.python.org/lib/module-struct.html>**phex**(*cls, num*)Return the hex representation of `num` without the 0x prefix.If the hex representation is only 1 digit it is padded to the left with a zero. Used in `TransferBuffer.__str__`.**pop**(*L, index=...*)

remove and return item at index (default last)

Return Value

item

remove(*L, value*)

remove first occurrence of value

reverse(*L*)reverse **IN PLACE****sort**(*L, cmp=None, key=None, reverse=False*)stable sort **IN PLACE**; `cmp(x, y)` -> -1, 0, 1

unpack(*self*, *fmt*=DWORD, *start*=0)

Return decoded data from buffer.

Parameters

fmt: See struct^a

start: Position in buffer from which to decode

^a<http://docs.python.org/lib/module-struct.html>

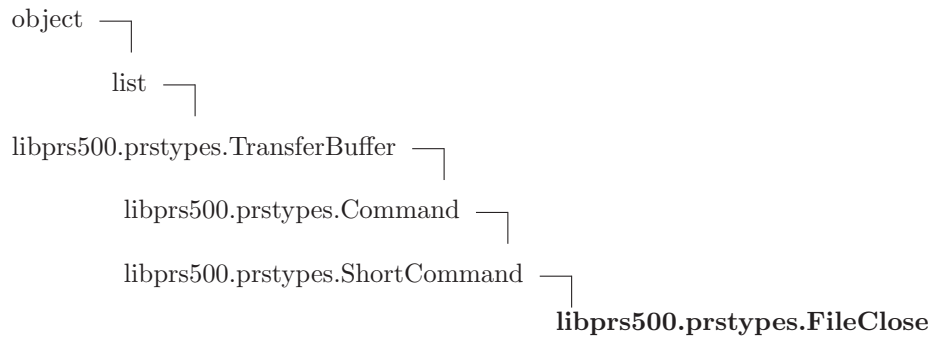
4.11.2 Properties

| Name | Description |
|------------------------|---|
| <code>__class__</code> | Value: <attribute ' <code>__class__</code> ' of ' <code>object</code> ' objects> |
| <code>data</code> | Value: <property object at 0x81de8c4> |
| <code>length</code> | Value: <property object at 0x81de5cc> |
| <code>number</code> | Value: <property object at 0x81de52c> |
| <code>type</code> | Value: <property object at 0x81de57c> |

4.11.3 Class Variables

| Name | Description |
|--------|-------------------------------------|
| NUMBER | Command number Value: 257 |

4.12 Class *FileClose*



File close command

4.12.1 Methods

__init__(*self*, *id*)

Overrides: `libprs500.prstypes.ShortCommand.__init__` extit(inherited documentation)

`--add--`(*self*, *tb*)

Return a TransferBuffer rather than a list as the sum

Overrides: `list.__add__`

`--contains--`(*x*, *y*)

y in *x*

`--delattr--`(...)

x.`--delattr--`('name') <==> del *x*.name

`--delitem--`(*x*, *y*)

del *x*[*y*]

`--delslice--`(*x*, *i*, *j*)

del *x*[*i*:*j*]

Use of negative indices is not supported.

`--eq--`(*x*, *y*)

x==*y*

`--ge--`(*x*, *y*)

x>=*y*

`--getattribute--`(...)

x.`--getattribute--`('name') <==> *x*.name

Overrides: `object.__getattribute__`

`--getitem--`(*x*, *y*)

x[*y*]

`--getslice--`(*self*, *start*, *end*)

Return a TransferBuffer rather than a list as the slice

Overrides: `list.__getslice__`

`--gt--`(*x*, *y*)

x>*y*

`__hash__(x)`

`hash(x)`Overrides: `object.__hash__`

`__iadd__(x, y)`

`x+=y`

`__imul__(x, y)`

`x*=y`

`__iter__(x)`

`iter(x)`

`__le__(x, y)`

`x<=y`

`__len__(x)`

`len(x)`

`__lt__(x, y)`

`x<y`

`__mul__(x, n)`

`x*n`

`__ne__(x, y)`

`x!=y`

`__new__(T, S, ...)`

Return Valuea new object with type `S`, a subtype of `T`Overrides: `object.__new__`

`__reduce__(...)`

helper for pickle

`__reduce_ex__(...)`

helper for pickle

__repr__(*x*)repr(*x*)

Overrides: object.__repr__

__reversed__(*L*)

return a reverse iterator over the list

__rmul__(*x*, *n*)*n***x***__setattr__**(...)*x*.__setattr__('name', value) <==> *x*.name = value**__setitem__**(*x*, *i*, *y*)*x*[*i*]=*y***__setslice__**(*x*, *i*, *j*, *y*)*x*[*i*:*j*]=*y*

Use of negative indices is not supported.

__str__(*self*)

Return a string representation of this buffer.

Packets are represented as hex strings, in 2-byte pairs, ≤ 16 bytes to a line. An ASCII representation is included. For example:

0700 0100 0000 0000 0000 0000 0c00 0000

0200 0000 0400 0000 4461 7461Data

Overrides: object.__str__

append(*L*, *object*)

append object to end

count(*L*, *value*)

return number of occurrences of value

Return Value

integer

extend(*L*, *iterable*)

extend list by appending elements from the iterable

index(...)`L.index(value, [start, [stop]])` -> integer – return first index of value**insert**(*L*, *index*, *object*)

insert object before index

pack(*self*, *val*, *fmt*=`DWORD`, *start*=0)Encode *val* and write it to buffer.**Parameters****fmt:** See struct^a**start:** Position in buffer at which to write encoded data^a<http://docs.python.org/lib/module-struct.html>**phex**(*cls*, *num*)Return the hex representation of *num* without the 0x prefix.If the hex representation is only 1 digit it is padded to the left with a zero. Used in `TransferBuffer.__str__`.**pop**(*L*, *index*=...)

remove and return item at index (default last)

Return Value

item

remove(*L*, *value*)

remove first occurrence of value

reverse(*L*)

reverse *IN PLACE*

sort(*L*, *cmp*=None, *key*=None, *reverse*=False)stable sort *IN PLACE*; `cmp(x, y)` -> -1, 0, 1**unpack**(*self*, *fmt*=`DWORD`, *start*=0)

Return decoded data from buffer.

Parameters**fmt:** See struct^a**start:** Position in buffer from which to decode^a<http://docs.python.org/lib/module-struct.html>

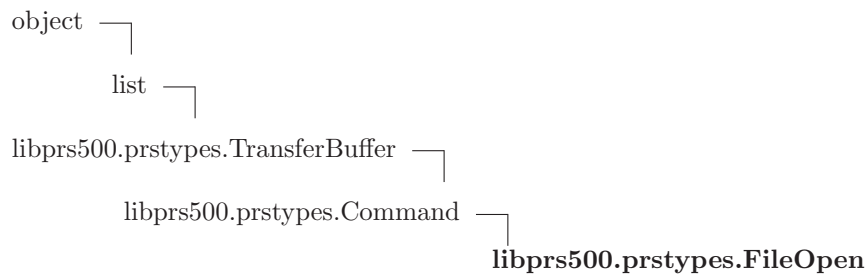
4.12.2 Properties

| Name | Description |
|------------------------|---|
| <code>__class__</code> | Value: <attribute ' <code>__class__</code> ' of ' <code>object</code> ' objects> |
| <code>command</code> | Value: <property object at 0x81de914> |
| <code>data</code> | Value: <property object at 0x81de8c4> |
| <code>length</code> | Value: <property object at 0x81de5cc> |
| <code>number</code> | Value: <property object at 0x81de52c> |
| <code>type</code> | Value: <property object at 0x81de57c> |

4.12.3 Class Variables

| Name | Description |
|---------------------|--|
| <code>NUMBER</code> | Command number Value: 17 |
| <code>SIZE</code> | Packet size in bytes Value: 20 |

4.13 Class *FileOpen*



File open command

4.13.1 Methods

| |
|---|
| <code>__init__(self, path, mode=0x00)</code> Overrides: <code>libprs500.prstypes.Command.__init__</code> <code>exitit</code> (inherited documentation) |
| <code>__add__(self, tb)</code> Return a <code>TransferBuffer</code> rather than a list as the sum Overrides: <code>list.__add__</code> |
| <code>__contains__(x, y)</code> y in x |
| <code>__delattr__(...)</code> x. <code>__delattr__</code> ('name') <==> del x.name |

`--delitem--`(*x*, *y*)

`del x[y]`

`--delslice--`(*x*, *i*, *j*)

`del x[i:j]`

Use of negative indices is not supported.

`--eq--`(*x*, *y*)

`x==y`

`--ge--`(*x*, *y*)

`x>=y`

`--getattr--`(...)

`x._getattr_('name') <==> x.name`

Overrides: `object._getattr--`

`--getitem--`(*x*, *y*)

`x[y]`

`--getslice--`(*self*, *start*, *end*)

Return a `TransferBuffer` rather than a list as the slice

Overrides: `list._getslice--`

`--gt--`(*x*, *y*)

`x>y`

`--hash--`(*x*)

`hash(x)`

Overrides: `object._hash--`

`--iadd--`(*x*, *y*)

`x+=y`

`--imul--`(*x*, *y*)

`x*=y`

`--iter--`(*x*)

`iter(x)`

`__le__(x, y)``x<=y``__len__(x)``len(x)``__lt__(x, y)``x<y``__mul__(x, n)``x*n``__ne__(x, y)``x!=y``__new__(T, S, ...)`**Return Value**a new object with type `S`, a subtype of `T`Overrides: `object.__new__``__reduce__()`

helper for pickle

`__reduce_ex__()`

helper for pickle

`__repr__(x)``repr(x)`Overrides: `object.__repr__``__reversed__(L)`

return a reverse iterator over the list

`__rmul__(x, n)``n*x``__setattr__()``x.__setattr__('name', value) <==> x.name = value`

__setitem__(*x, i, y*)*x*[*i*]=*y***__setslice__**(*x, i, j, y*)*x*[*i*:*j*]=*y*

Use of negative indices is not supported.

__str__(*self*)

Return a string representation of this buffer.

Packets are represented as hex strings, in 2-byte pairs, ≤ 16 bytes to a line. An ASCII representation is included. For example:

| | |
|---|-----------|
| 0700 0100 0000 0000 0000 0000 0c00 0000 | |
| 0200 0000 0400 0000 4461 7461 |Data |

Overrides: object.__str__

append(*L, object*)

append object to end

count(*L, value*)

return number of occurrences of value

Return Value**integer****extend**(*L, iterable*)

extend list by appending elements from the iterable

index(...)*L.index*(value, [start, [stop]]) -> integer – return first index of value**insert**(*L, index, object*)

insert object before index

pack(*self, val, fmt=DWORD, start=0*)Encode *val* and write it to buffer.**Parameters****fmt:** See struct^a**start:** Position in buffer at which to write encoded data^a<http://docs.python.org/lib/module-struct.html>

phex(cls, num)

Return the hex representation of num without the 0x prefix.
 If the hex representation is only 1 digit it is padded to the left with a zero. Used in
TransferBuffer.__str__

pop(L, index=...)

remove and return item at index (default last)

Return Value

item

remove(L, value)

remove first occurrence of value

reverse(L)

reverse *IN PLACE*

sort(L, cmp=None, key=None, reverse=False)

stable sort *IN PLACE*; cmp(x, y) -> -1, 0, 1

unpack(self, fmt=DWORD, start=0)

Return decoded data from buffer.

Parameters

fmt: See struct^a
start: Position in buffer from which to decode

^a<http://docs.python.org/lib/module-struct.html>

4.13.2 Properties

| Name | Description |
|-------------|---|
| mode | Value: <property object at 0x81debbc> |
| path_length | Value: <property object at 0x81debe4> |
| path | Value: <property object at 0x81dec0c> |
| __class__ | Value: <attribute '__class__' of 'object' objects> |
| data | Value: <property object at 0x81de8c4> |
| length | Value: <property object at 0x81de5cc> |
| number | Value: <property object at 0x81de52c> |
| type | Value: <property object at 0x81de57c> |

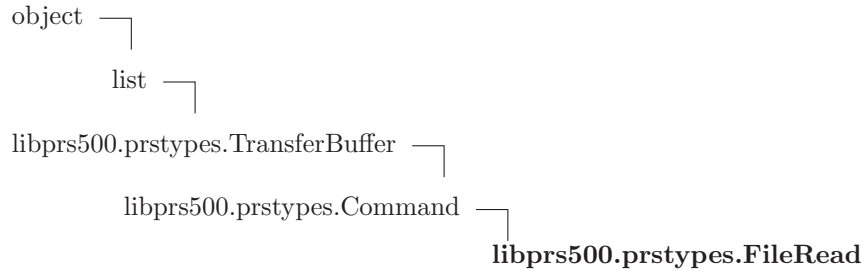
4.13.3 Class Variables

| Name | Description |
|--------|------------------|
| NUMBER | Value: 16 |

continued on next page

| Name | Description |
|-------|-----------------|
| READ | Value: 0 |
| WRITE | Value: 1 |

4.14 Class FileRead



Command to read from an open file

4.14.1 Methods

| |
|--|
| <code>__init__(self, id, offset, size)</code> <hr/> Parameters id: File identifier returned by a <code>FileOpen</code> command <i>(type=unsigned int)</i> offset: Position in file at which to read <i>(type=unsigned long long)</i> size: number of bytes to read <i>(type=unsigned int)</i> Overrides: <code>libprs500.prstypes.Command.__init__</code> |
| <code>__add__(self, tb)</code> <hr/> Return a <code>TransferBuffer</code> rather than a list as the sum Overrides: <code>list.__add__</code> |
| <code>__contains__(x, y)</code> <hr/> <code>y in x</code> |
| <code>__delattr__(...)</code> <hr/> <code>x.__delattr__('name') <==> del x.name</code> |
| <code>__delitem__(x, y)</code> <hr/> <code>del x[y]</code> |

`--delslice--`(*x*, *i*, *j*)

`del x[i:j]`

Use of negative indices is not supported.

`--eq--`(*x*, *y*)

`x==y`

`--ge--`(*x*, *y*)

`x>=y`

`--getattribute--`(...)

`x.__getattribute__('name') <==> x.name`

Overrides: `object.__getattribute__`

`--getitem--`(*x*, *y*)

`x[y]`

`--getslice--`(*self*, *start*, *end*)

Return a `TransferBuffer` rather than a list as the slice

Overrides: `list.__getslice__`

`--gt--`(*x*, *y*)

`x>y`

`--hash--`(*x*)

`hash(x)`

Overrides: `object.__hash__`

`--iadd--`(*x*, *y*)

`x+=y`

`--imul--`(*x*, *y*)

`x*=y`

`--iter--`(*x*)

`iter(x)`

`--le--`(*x*, *y*)

`x<=y`

| | |
|--|---|
| <code>__len__(x)</code> | <code>len(x)</code> |
| <code>__lt__(x, y)</code> | <code>x < y</code> |
| <code>__mul__(x, n)</code> | <code>x * n</code> |
| <code>__ne__(x, y)</code> | <code>x != y</code> |
| <code>__new__(T, S, ...)</code> Return Value a new object with type S, a subtype of T Overrides: <code>object.__new__</code> | |
| <code>__reduce__()</code> | helper for pickle |
| <code>__reduce_ex__()</code> | helper for pickle |
| <code>__repr__(x)</code> | <code>repr(x)</code> Overrides: <code>object.__repr__</code> |
| <code>__reversed__(L)</code> | return a reverse iterator over the list |
| <code>__rmul__(x, n)</code> | <code>n * x</code> |
| <code>__setattr__()</code> | <code>x.__setattr__('name', value) <==> x.name = value</code> |
| <code>__setitem__(x, i, y)</code> | <code>x[i] = y</code> |

__setslice__(*x, i, j, y*)

x[i:j]=y

Use of negative indices is not supported.

__str__(*self*)

Return a string representation of this buffer.

 Packets are represented as hex strings, in 2-byte pairs, ≤ 16 bytes to a line. An ASCII representation is included. For example:

```

    0700 0100 0000 0000 0000 0000 0c00 0000      .....
    0200 0000 0400 0000 4461 7461                .....Data
  
```

Overrides: object.__str__

append(*L, object*)

append object to end

count(*L, value*)

return number of occurrences of value

Return Value

integer

extend(*L, iterable*)

extend list by appending elements from the iterable

index(...)

L.index(value, [start, [stop]]) -> integer – return first index of value

insert(*L, index, object*)

insert object before index

pack(*self, val, fmt=DWORD, start=0*)

 Encode **val** and write it to buffer.

Parameters
fmt: See struct^a
start: Position in buffer at which to write encoded data

^a<http://docs.python.org/lib/module-struct.html>

phex(*cls, num*)

Return the hex representation of num without the 0x prefix.

If the hex representation is only 1 digit it is padded to the left with a zero. Used in

TransferBuffer.__str__

pop(*L*, *index*=...)

remove and return item at index (default last)

Return Value

item

remove(*L*, *value*)

remove first occurrence of value

reverse(*L*)

reverse **IN PLACE**

sort(*L*, *cmp*=None, *key*=None, *reverse*=False)

stable sort **IN PLACE**; *cmp*(*x*, *y*) -> -1, 0, 1

unpack(*self*, *fmt*=DWORD, *start*=0)

Return decoded data from buffer.

Parameters

 fmt: See struct^a

 start: Position in buffer from which to decode

^a<http://docs.python.org/lib/module-struct.html>

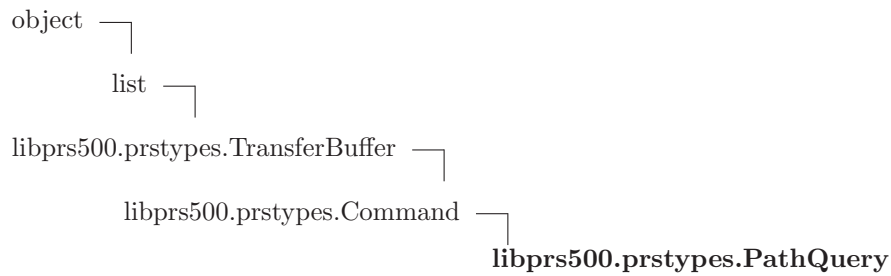
4.14.2 Properties

| Name | Description |
|-----------|---|
| id | Value: <property object at 0x81dec5c> |
| offset | Value: <property object at 0x81dec84> |
| size | Value: <property object at 0x81decac> |
| __class__ | Value: <attribute '__class__' of 'object' objects> |
| data | Value: <property object at 0x81de8c4> |
| length | Value: <property object at 0x81de5cc> |
| number | Value: <property object at 0x81de52c> |
| type | Value: <property object at 0x81de57c> |

4.14.3 Class Variables

| Name | Description |
|--------|--|
| NUMBER | Command number to read from a file Value: 22 |

4.15 Class PathQuery



Defines structure of command that requests information about a path

```
>>> print prstypes.PathQuery("/test/path/", number=prstypes.PathQuery.PROPERTIES)
1800 0000 0100 0000 0000 0000 0f00 0000 .....
0b00 0000 2f74 6573 742f 7061 7468 2f ....test/path/
```

4.15.1 Methods

__init__(*self*, *path*)

Overrides: *libprs500.prstypes.Command.__init__* *exitit*(inherited documentation)

__add__(*self*, *tb*)

Return a TransferBuffer rather than a list as the sum

Overrides: *list.__add__*

__contains__(*x*, *y*)

y in *x*

__delattr__(...)

x.__delattr__('name') <==> *del x.name*

__delitem__(*x*, *y*)

del x[y]

__delslice__(*x*, *i*, *j*)

del x[i:j]

Use of negative indices is not supported.

__eq__(*x*, *y*)

x==y

__ge__(*x*, *y*)

x >= *y*

__getattr__(...)

x.__getattr__('name') <==> *x*.name

Overrides: *object.__getattr__*

__getitem__(*x*, *y*)

x[*y*]

__getslice__(*self*, *start*, *end*)

Return a TransferBuffer rather than a list as the slice

Overrides: *list.__getslice__*

__gt__(*x*, *y*)

x > *y*

__hash__(*x*)

hash(*x*)

Overrides: *object.__hash__*

__iadd__(*x*, *y*)

x += *y*

__imul__(*x*, *y*)

x * = *y*

__iter__(*x*)

iter(*x*)

__le__(*x*, *y*)

x <= *y*

__len__(*x*)

len(*x*)

__lt__(*x*, *y*)

x < *y*

__mul__(*x*, *n*)*x***n***__ne__**(*x*, *y*)*x*!=*y***__new__**(*T*, *S*, ...)
Return Value
a new object with type *S*, a subtype of *T*
Overrides: *object.__new__***__reduce__**(...)

helper for pickle

__reduce_ex__(...)

helper for pickle

__repr__(*x*)*repr*(*x*)Overrides: *object.__repr__***__reversed__**(*L*)

return a reverse iterator over the list

__rmul__(*x*, *n*)*n***x***__setattr__**(...)*x.__setattr__('name', value)* <==> *x.name = value***__setitem__**(*x*, *i*, *y*)*x*[*i*]=*y***__setslice__**(*x*, *i*, *j*, *y*)*x*[*i*:*j*]=*y*

Use of negative indices is not supported.

__str__(*self*)

Return a string representation of this buffer.

Packets are represented as hex strings, in 2-byte pairs, ≤ 16 bytes to a line. An ASCII representation is included. For example:

```

    0700 0100 0000 0000 0000 0000 0c00 0000      .....
    0200 0000 0400 0000 4461 7461                .....Data

```

Overrides: `object.__str__`**append**(*L*, *object*)

append object to end

count(*L*, *value*)

return number of occurrences of value

Return Value**integer****extend**(*L*, *iterable*)

extend list by appending elements from the iterable

index(...)`L.index(value, [start, [stop]])` -> integer – return first index of value**insert**(*L*, *index*, *object*)

insert object before index

pack(*self*, *val*, *fmt*=`DWORD`, *start*=0)Encode *val* and write it to buffer.**Parameters****fmt**: See struct^a**start**: Position in buffer at which to write encoded data^a<http://docs.python.org/lib/module-struct.html>**phex**(*cls*, *num*)Return the hex representation of *num* without the 0x prefix.

If the hex representation is only 1 digit it is padded to the left with a zero. Used in

`TransferBuffer.__str__`**pop**(*L*, *index*=...)

remove and return item at index (default last)

Return Value**item**

remove(*L*, *value*)

remove first occurrence of value

reverse(*L*)

reverse *IN PLACE*

sort(*L*, *cmp*=None, *key*=None, *reverse*=False)

stable sort *IN PLACE*; cmp(x, y) -> -1, 0, 1

unpack(*self*, *fmt*=DWORD, *start*=0)

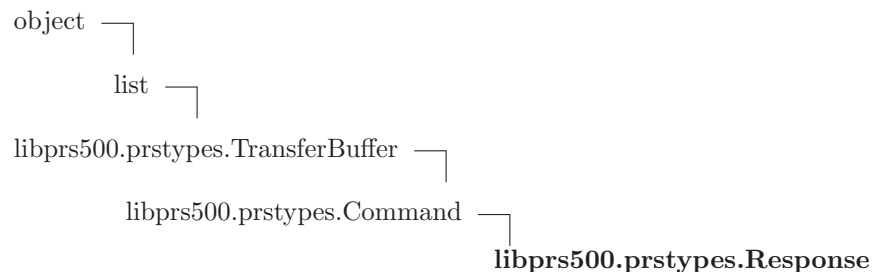
Return decoded data from buffer.

Parameters**fmt**: See struct^a**start**: Position in buffer from which to decode^a<http://docs.python.org/lib/module-struct.html>**4.15.2 Properties**

| Name | Description |
|-------------|---|
| path_length | Value: <property object at 0x81ded24> |
| path | Value: <property object at 0x81ded4c> |
| __class__ | Value: <attribute '__class__' of 'object' objects> |
| data | Value: <property object at 0x81de8c4> |
| length | Value: <property object at 0x81de5cc> |
| number | Value: <property object at 0x81de52c> |
| type | Value: <property object at 0x81de57c> |

4.15.3 Class Variables

| Name | Description |
|--------|------------------------------------|
| NUMBER | Command number Value: 24 |

4.16 Class Response

Known Subclasses: `libprs500.prstypes.ListResponse`

Defines the structure of response packets received from the device.

`Response` inherits from `Command` as the first 16 bytes have the same structure.

4.16.1 Methods

`__init__(self, packet)`

`len(packet) == Response.SIZE`

Overrides: `libprs500.prstypes.Command.__init__`

`__add__(self, tb)`

Return a `TransferBuffer` rather than a list as the sum

Overrides: `list.__add__`

`__contains__(x, y)`

`y in x`

`__delattr__(...)`

`x.__delattr__('name') <==> del x.name`

`__delitem__(x, y)`

`del x[y]`

`__delslice__(x, i, j)`

`del x[i:j]`

Use of negative indices is not supported.

`__eq__(x, y)`

`x==y`

`__ge__(x, y)`

`x>=y`

`__getattr__(...)`

`x.__getattr__('name') <==> x.name`

Overrides: `object.__getattr__`

`__getitem__(x, y)`

`x[y]`

__getslice__(*self*, *start*, *end*)

Return a TransferBuffer rather than a list as the slice

Overrides: list.__getslice__

__gt__(*x*, *y*)

$x > y$

__hash__(*x*)

hash(*x*)

Overrides: object.__hash__

__iadd__(*x*, *y*)

$x += y$

__imul__(*x*, *y*)

$x * = y$

__iter__(*x*)

iter(*x*)

__le__(*x*, *y*)

$x \leq y$

__len__(*x*)

len(*x*)

__lt__(*x*, *y*)

$x < y$

__mul__(*x*, *n*)

$x * n$

__ne__(*x*, *y*)

$x != y$

__new__(*T*, *S*, ...)

Return Value

a new object with type *S*, a subtype of *T*

Overrides: object.__new__

__reduce__(...)

helper for pickle

__reduce_ex__(...)

helper for pickle

__repr__(*x*)repr(*x*)

Overrides: object.__repr__

__reversed__(*L*)

return a reverse iterator over the list

__rmul__(*x*, *n*)*n***x***__setattr__**(...)*x*.__setattr__('name', value) <==> *x*.name = value**__setitem__**(*x*, *i*, *y*)*x*[*i*]=*y***__setslice__**(*x*, *i*, *j*, *y*)*x*[*i*:*j*]=*y*

Use of negative indices is not supported.

__str__(*self*)

Return a string representation of this buffer.

Packets are represented as hex strings, in 2-byte pairs, ≤ 16 bytes to a line. An ASCII representation is included. For example:

| | |
|---|-----------|
| 0700 0100 0000 0000 0000 0000 0c00 0000 | |
| 0200 0000 0400 0000 4461 7461 |Data |

Overrides: object.__str__

append(*L*, *object*)

append object to end

count(*L*, *value*)

return number of occurrences of value

Return Value
integer**extend**(*L*, *iterable*)

extend list by appending elements from the iterable

index(...)*L.index*(value, [start, [stop]]) -> integer – return first index of value**insert**(*L*, *index*, *object*)

insert object before index

pack(*self*, *val*, *fmt*=DWORD, *start*=0)Encode *val* and write it to buffer.**Parameters****fmt**: See struct^a**start**: Position in buffer at which to write encoded data^a<http://docs.python.org/lib/module-struct.html>**phex**(*cls*, *num*)Return the hex representation of *num* without the 0x prefix.If the hex representation is only 1 digit it is padded to the left with a zero. Used in `TransferBuffer.__str__`.**pop**(*L*, *index*=...)

remove and return item at index (default last)

Return Value
item**remove**(*L*, *value*)

remove first occurrence of value

reverse(*L*)

reverse *IN PLACE*

sort(*L*, *cmp*=None, *key*=None, *reverse*=False)stable sort *IN PLACE*; *cmp*(x, y) -> -1, 0, 1

unpack(*self*, *fmt*=DWORD, *start*=0)

Return decoded data from buffer.

Parameters

fmt: See struct^a
start: Position in buffer from which to decode

^a<http://docs.python.org/lib/module-struct.html>

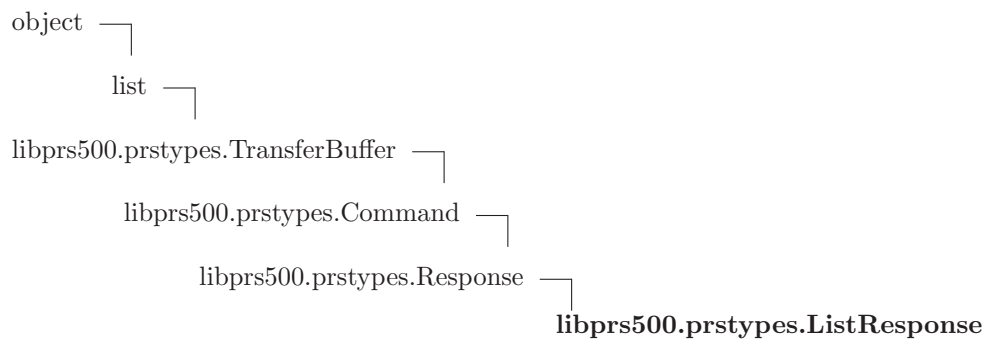
4.16.2 Properties

| Name | Description |
|-----------|---|
| rnumber | Value: <property object at 0x81ded9c> |
| data | Value: <property object at 0x81dedc4> |
| __class__ | Value: <attribute '__class__' of 'object' objects> |
| length | Value: <property object at 0x81de5cc> |
| number | Value: <property object at 0x81de52c> |
| type | Value: <property object at 0x81de57c> |

4.16.3 Class Variables

| Name | Description |
|------|---|
| SIZE | Size of response packets in the SONY protocol Value: 32 |

4.17 Class ListResponse



Defines the structure of response packets received during list (ll) queries. See *PathQuery*.

4.17.1 Methods

__add__(*self*, *tb*)

Return a TransferBuffer rather than a list as the sum

Overrides: list.__add__

__contains__(*x*, *y*)

y in *x*

__delattr__(...)

x.__delattr__('name') <==> del *x*.name

__delitem__(*x*, *y*)

del *x*[*y*]

__delslice__(*x*, *i*, *j*)

del *x*[*i*:*j*]

Use of negative indices is not supported.

__eq__(*x*, *y*)

x==*y*

__ge__(*x*, *y*)

x>=*y*

__getattr__(...)

x.__getattr__('name') <==> *x*.name

Overrides: object.__getattr__

__getitem__(*x*, *y*)

x[*y*]

__getslice__(*self*, *start*, *end*)

Return a TransferBuffer rather than a list as the slice

Overrides: list.__getslice__

__gt__(*x*, *y*)

x>*y*

__hash__(*x*)

hash(*x*)

Overrides: object.__hash__

__iadd__(*x*, *y*)

x+=*y*

`__imul__(x, y)`

`x*=y`

`__init__(self, packet)`

`len(packet) == Response.SIZE``Overrides: libprs500.prstypes.Command.__init__`

`__iter__(x)`

`iter(x)`

`__le__(x, y)`

`x<=y`

`__len__(x)`

`len(x)`

`__lt__(x, y)`

`x<y`

`__mul__(x, n)`

`x*n`

`__ne__(x, y)`

`x!=y`

`__new__(T, S, ...)`

Return Value`a new object with type S, a subtype of T``Overrides: object.__new__`

`__reduce__(...)`

`helper for pickle`

`__reduce_ex__(...)`

`helper for pickle`

`__repr__(x)`

`repr(x)``Overrides: object.__repr__`

__reversed__(*L*)

return a reverse iterator over the list

__rmul__(*x*, *n*)*n***x***__setattr__**(...)*x*.__setattr__('name', value) <==> *x*.name = value**__setitem__**(*x*, *i*, *y*)*x*[*i*]=*y***__setslice__**(*x*, *i*, *j*, *y*)*x*[*i*:*j*]=*y*

Use of negative indices is not supported.

__str__(*self*)

Return a string representation of this buffer.

Packets are represented as hex strings, in 2-byte pairs, ≤ 16 bytes to a line. An ASCII representation is included. For example:

| | |
|---|-----------|
| 0700 0100 0000 0000 0000 0000 0c00 0000 | |
| 0200 0000 0400 0000 4461 7461 |Data |

Overrides: object.__str__

append(*L*, *object*)

append object to end

count(*L*, *value*)

return number of occurrences of value

Return Value**integer****extend**(*L*, *iterable*)

extend list by appending elements from the iterable

index(...)*L*.index(value, [start, [stop]]) -> integer – return first index of value**insert**(*L*, *index*, *object*)

insert object before index

pack(*self*, *val*, *fmt*=DWORD, *start*=0)

Encode *val* and write it to buffer.

Parameters

fmt: See struct^a
start: Position in buffer at which to write encoded data

^a<http://docs.python.org/lib/module-struct.html>

phex(*cls*, *num*)

Return the hex representation of *num* without the 0x prefix.

If the hex representation is only 1 digit it is padded to the left with a zero. Used in `TransferBuffer.__str__`.

pop(*L*, *index*=...)

remove and return item at index (default last)

Return Value

item

remove(*L*, *value*)

remove first occurrence of value

reverse(*L*)

reverse *IN PLACE*

sort(*L*, *cmp*=None, *key*=None, *reverse*=False)

stable sort *IN PLACE*; *cmp*(*x*, *y*) -> -1, 0, 1

unpack(*self*, *fmt*=DWORD, *start*=0)

Return decoded data from buffer.

Parameters

fmt: See struct^a
start: Position in buffer from which to decode

^a<http://docs.python.org/lib/module-struct.html>

4.17.2 Properties

| Name | Description |
|-----------------------------|--|
| <code>code</code> | Value: <property object at 0x81dee14> |
| <code>is_file</code> | Value: <property object at 0x81dee3c> |
| <code>is_invalid</code> | Value: <property object at 0x81dee64> |
| <code>path_not_found</code> | Value: <property object at 0x81dee8c> |
| <code>is_unmounted</code> | Value: <property object at 0x81deeb4> |

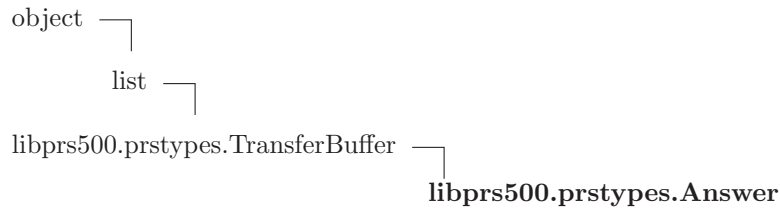
continued on next page

| Name | Description |
|------------------------|---|
| <code>is_eol</code> | Value: <property object at 0x81deedc> |
| <code>__class__</code> | Value: <attribute ' <code>__class__</code> ' of ' <code>object</code> ' objects> |
| <code>data</code> | Value: <property object at 0x81dedc4> |
| <code>length</code> | Value: <property object at 0x81de5cc> |
| <code>number</code> | Value: <property object at 0x81de52c> |
| <code>rnumber</code> | Value: <property object at 0x81ded9c> |
| <code>type</code> | Value: <property object at 0x81de57c> |

4.17.3 Class Variables

| Name | Description |
|-----------------------------|--|
| <code>IS_FILE</code> | Queried path is a file Value: 4294967250L |
| <code>IS_INVALID</code> | Queried path is malformed/invalid Value: 4294967289L |
| <code>IS_UNMOUNTED</code> | Queried path is not mounted (i.e. a removed storage card/stick) Value: 4294967240L |
| <code>IS_EOL</code> | There are no more entries in the list Value: 4294967290L |
| <code>PATH_NOT_FOUND</code> | Queried path is not found Value: 4294967255L |
| <code>SIZE</code> | Size of response packets in the SONY protocol Value: 32 |

4.18 Class Answer



Known Subclasses: `libprs500.prstypes.DeviceInfo`, `libprs500.prstypes.FileProperties`, `libprs500.prstypes.FreeSpaceAnswer`, `libprs500.prstypes.IdAnswer`, `libprs500.prstypes.ListAnswer`

Defines the structure of packets sent to host via a bulk transfer (i.e., bulk reads)

4.18.1 Methods

| |
|--|
| <code>__init__(self, packet)</code> |
| Parameters <code>packet</code> : <code>len(packet) ≥ 16</code> |
| Overrides: <code>libprs500.prstypes.TransferBuffer.__init__</code> |

`--add--`(*self*, *tb*)

Return a TransferBuffer rather than a list as the sum

Overrides: `list.__add__`

`--contains--`(*x*, *y*)

y in *x*

`--delattr--`(...)

x.`--delattr--`('name') <==> `del x.name`

`--delitem--`(*x*, *y*)

`del x[y]`

`--delslice--`(*x*, *i*, *j*)

`del x[i:j]`

Use of negative indices is not supported.

`--eq--`(*x*, *y*)

x==*y*

`--ge--`(*x*, *y*)

x>=*y*

`--getattribute--`(...)

x.`--getattribute--`('name') <==> *x*.*name*

Overrides: `object.__getattribute__`

`--getitem--`(*x*, *y*)

x[*y*]

`--getslice--`(*self*, *start*, *end*)

Return a TransferBuffer rather than a list as the slice

Overrides: `list.__getslice__`

`--gt--`(*x*, *y*)

x>*y*

`__hash__(x)`

`hash(x)`

Overrides: `object.__hash__`

`__iadd__(x, y)`

`x+=y`

`__imul__(x, y)`

`x*=y`

`__iter__(x)`

`iter(x)`

`__le__(x, y)`

`x<=y`

`__len__(x)`

`len(x)`

`__lt__(x, y)`

`x<y`

`__mul__(x, n)`

`x*n`

`__ne__(x, y)`

`x!=y`

`__new__(T, S, ...)`

Return Value

a new object with type `S`, a subtype of `T`

Overrides: `object.__new__`

`__reduce__(...)`

helper for pickle

`__reduce_ex__(...)`

helper for pickle

__repr__(*x*)repr(*x*)

Overrides: object.__repr__

__reversed__(*L*)

return a reverse iterator over the list

__rmul__(*x*, *n*)*n***x***__setattr__**(...)*x*.__setattr__('name', value) <==> *x*.name = value**__setitem__**(*x*, *i*, *y*)*x*[*i*]=*y***__setslice__**(*x*, *i*, *j*, *y*)*x*[*i*:*j*]=*y*

Use of negative indices is not supported.

__str__(*self*)

Return a string representation of this buffer.

Packets are represented as hex strings, in 2-byte pairs, ≤ 16 bytes to a line. An ASCII representation is included. For example:

0700 0100 0000 0000 0000 0000 0c00 0000

0200 0000 0400 0000 4461 7461Data

Overrides: object.__str__

append(*L*, *object*)

append object to end

count(*L*, *value*)

return number of occurrences of value

Return Value

integer

extend(*L*, *iterable*)

extend list by appending elements from the iterable

index(...)`L.index(value, [start, [stop]])` -> integer – return first index of value**insert**(`L, index, object`)

insert object before index

pack(`self, val, fmt=DWORD, start=0`)Encode `val` and write it to buffer.**Parameters****fmt:** See struct^a**start:** Position in buffer at which to write encoded data^a<http://docs.python.org/lib/module-struct.html>**phex**(`cls, num`)Return the hex representation of `num` without the 0x prefix.If the hex representation is only 1 digit it is padded to the left with a zero. Used in `TransferBuffer.__str__`.**pop**(`L, index=...`)

remove and return item at index (default last)

Return Value

item

remove(`L, value`)

remove first occurrence of value

reverse(`L`)

reverse *IN PLACE*

sort(`L, cmp=None, key=None, reverse=False`)stable sort *IN PLACE*; `cmp(x, y)` -> -1, 0, 1**unpack**(`self, fmt=DWORD, start=0`)

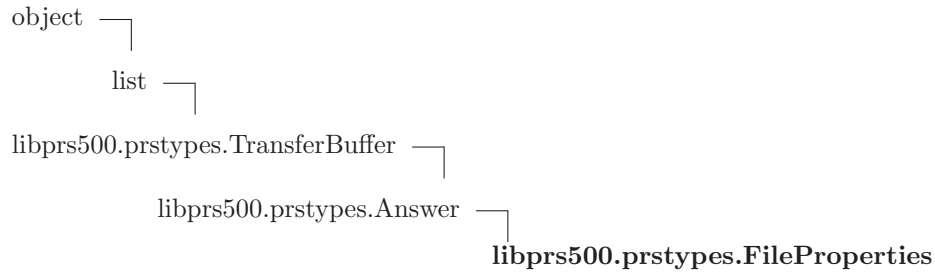
Return decoded data from buffer.

Parameters**fmt:** See struct^a**start:** Position in buffer from which to decode^a<http://docs.python.org/lib/module-struct.html>

4.18.2 Properties

| Name | Description |
|-----------|---|
| id | Value: <property object at 0x81def2c> |
| __class__ | Value: <attribute '__class__' of 'object' objects> |

4.19 Class FileProperties



Defines the structure of packets that contain size, date and permissions information about files/directories.

4.19.1 Methods

__add__(*self*, *tb*)

Return a TransferBuffer rather than a list as the sum

Overrides: list.__add__

__contains__(*x*, *y*)

y in x

__delattr__(...)

x.__delattr__('name') <==> del x.name

__delitem__(*x*, *y*)

del x[y]

__delslice__(*x*, *i*, *j*)

del x[i:j]

Use of negative indices is not supported.

__eq__(*x*, *y*)

x==y

__ge__(*x*, *y*)

x>=y

__getattr__(...)`x.__getattr__('name') <==> x.name`Overrides: `object.__getattr__`**__getitem__**(*x*, *y*)`x[y]`**__getslice__**(*self*, *start*, *end*)

Return a TransferBuffer rather than a list as the slice

Overrides: `list.__getslice__`**__gt__**(*x*, *y*)`x>y`**__hash__**(*x*)`hash(x)`Overrides: `object.__hash__`**__iadd__**(*x*, *y*)`x+=y`**__imul__**(*x*, *y*)`x*=y`**__init__**(*self*, *packet*)**Parameters**`packet: len(packet) ≥ 16`Overrides: `libprs500.prstypes.TransferBuffer.__init__`**__iter__**(*x*)`iter(x)`**__le__**(*x*, *y*)`x<=y`**__len__**(*x*)`len(x)`

__lt__(*x*, *y*)*x* < *y***__mul__**(*x*, *n*)*x* * *n***__ne__**(*x*, *y*)*x* != *y***__new__**(*T*, *S*, ...)**Return Value**a new object with type *S*, a subtype of *T*Overrides: `object.__new__`**__reduce__**(...)

helper for pickle

__reduce_ex__(...)

helper for pickle

__repr__(*x*)`repr(x)`Overrides: `object.__repr__`**__reversed__**(*L*)

return a reverse iterator over the list

__rmul__(*x*, *n*)*n* * *x***__setattr__**(...)*x*.`__setattr__`('name', value) <==> *x*.name = value**__setitem__**(*x*, *i*, *y*)*x*[*i*] = *y***__setslice__**(*x*, *i*, *j*, *y*)*x*[*i*:*j*] = *y*

Use of negative indices is not supported.

__str__(self)

Return a string representation of this buffer.

Packets are represented as hex strings, in 2-byte pairs, ≤ 16 bytes to a line. An ASCII representation is included. For example:

```

    0700 0100 0000 0000 0000 0000 0c00 0000      .....
    0200 0000 0400 0000 4461 7461                .....Data

```

Overrides: `object.__str__`**append(L, object)**

append object to end

count(L, value)

return number of occurrences of value

Return Value**integer****extend(L, iterable)**

extend list by appending elements from the iterable

index(...)

L.index(value, [start, [stop]]) -> integer – return first index of value

insert(L, index, object)

insert object before index

pack(self, val, fmt=DWORD, start=0)Encode `val` and write it to buffer.**Parameters****fmt:** See struct^a**start:** Position in buffer at which to write encoded data^a<http://docs.python.org/lib/module-struct.html>**phex(cls, num)**Return the hex representation of `num` without the 0x prefix.

If the hex representation is only 1 digit it is padded to the left with a zero. Used in

`TransferBuffer.__str__`**pop(L, index=...)**

remove and return item at index (default last)

Return Value**item**

remove(*L*, *value*)

remove first occurrence of value

reverse(*L*)reverse **IN PLACE****sort**(*L*, *cmp*=None, *key*=None, *reverse*=False)stable sort **IN PLACE**; *cmp*(*x*, *y*) -> -1, 0, 1**unpack**(*self*, *fmt*=DWORD, *start*=0)

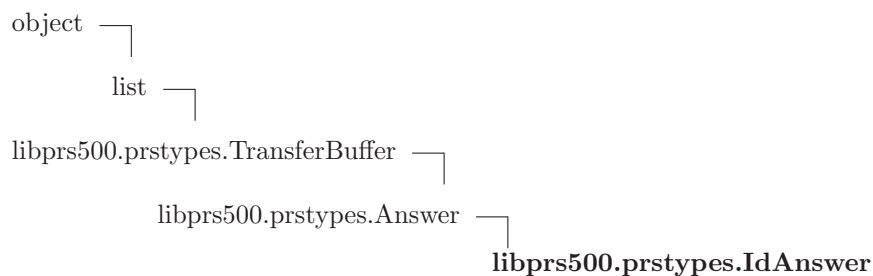
Return decoded data from buffer.

Parameters**fmt**: See struct^a**start**: Position in buffer from which to decode^a<http://docs.python.org/lib/module-struct.html>

4.19.2 Properties

| Name | Description |
|--------------------------|---|
| <code>file_size</code> | Value: <property object at 0x81def7c> |
| <code>is_dir</code> | Value: <property object at 0x81defa4> |
| <code>ctime</code> | Value: <property object at 0x81defcc> |
| <code>wtime</code> | Value: <property object at 0x81e502c> |
| <code>is_readonly</code> | Value: <property object at 0x81e5054> |
| <code>__class__</code> | Value: <attribute ' <code>__class__</code> ' of ' <code>object</code> ' objects> |
| <code>id</code> | Value: <property object at 0x81def2c> |

4.20 Class *IdAnswer*



Defines the structure of packets that contain identifiers for queries.

4.20.1 Methods

__add__(*self*, *tb*)

Return a TransferBuffer rather than a list as the sum

Overrides: list.__add__

__contains__(*x*, *y*)

y in x

__delattr__(...)

x.__delattr__('name') <==> del x.name

__delitem__(*x*, *y*)

del x[y]

__delslice__(*x*, *i*, *j*)

del x[i:j]

Use of negative indices is not supported.

__eq__(*x*, *y*)

x==y

__ge__(*x*, *y*)

x>=y

__getattr__(...)

x.__getattr__('name') <==> x.name

Overrides: object.__getattr__

__getitem__(*x*, *y*)

x[y]

__getslice__(*self*, *start*, *end*)

Return a TransferBuffer rather than a list as the slice

Overrides: list.__getslice__

__gt__(*x*, *y*)

x>y

`__hash__(x)``hash(x)`Overrides: `object.__hash__``__iadd__(x, y)``x+=y``__imul__(x, y)``x*=y``__init__(self, packet)`**Parameters**`packet: len(packet) ≥ 16`Overrides: `libprs500.prstypes.TransferBuffer.__init__``__iter__(x)``iter(x)``__le__(x, y)``x<=y``__len__(x)``len(x)``__lt__(x, y)``x<y``__mul__(x, n)``x*n``__ne__(x, y)``x!=y``__new__(T, S, ...)`**Return Value**a new object with type `S`, a subtype of `T`Overrides: `object.__new__`

`__reduce__`(...)

helper for pickle

`__reduce_ex`(...)

helper for pickle

`__repr__`(*x*)`repr(x)`Overrides: `object.__repr__`**`__reversed__`**(*L*)

return a reverse iterator over the list

`__rmul__`(*x*, *n*)`n*x`**`__setattr__`**(...)`x.__setattr__('name', value) <==> x.name = value`**`__setitem__`**(*x*, *i*, *y*)`x[i]=y`**`__setslice__`**(*x*, *i*, *j*, *y*)`x[i:j]=y`

Use of negative indices is not supported.

`__str__`(*self*)

Return a string representation of this buffer.

Packets are represented as hex strings, in 2-byte pairs, ≤ 16 bytes to a line. An ASCII representation is included. For example:

| | |
|---|-----------|
| 0700 0100 0000 0000 0000 0000 0c00 0000 | |
| 0200 0000 0400 0000 4461 7461 |Data |

Overrides: `object.__str__`**`append`**(*L*, *object*)

append object to end

count(*L*, *value*)

return number of occurrences of value

Return Value
integer**extend**(*L*, *iterable*)

extend list by appending elements from the iterable

index(...)*L.index*(value, [start, [stop]]) -> integer – return first index of value**insert**(*L*, *index*, *object*)

insert object before index

pack(*self*, *val*, *fmt*=`DWORD`, *start*=0)Encode *val* and write it to buffer.**Parameters****fmt**: See struct^a**start**: Position in buffer at which to write encoded data^a<http://docs.python.org/lib/module-struct.html>**phex**(*cls*, *num*)Return the hex representation of *num* without the 0x prefix.If the hex representation is only 1 digit it is padded to the left with a zero. Used in `TransferBuffer.__str__`.**pop**(*L*, *index*=...)

remove and return item at index (default last)

Return Value
item**remove**(*L*, *value*)

remove first occurrence of value

reverse(*L*)

reverse *IN PLACE*

sort(*L*, *cmp*=None, *key*=None, *reverse*=False)stable sort *IN PLACE*; *cmp*(*x*, *y*) -> -1, 0, 1

unpack(*self*, *fmt*=DWORD, *start*=0)

Return decoded data from buffer.

Parameters

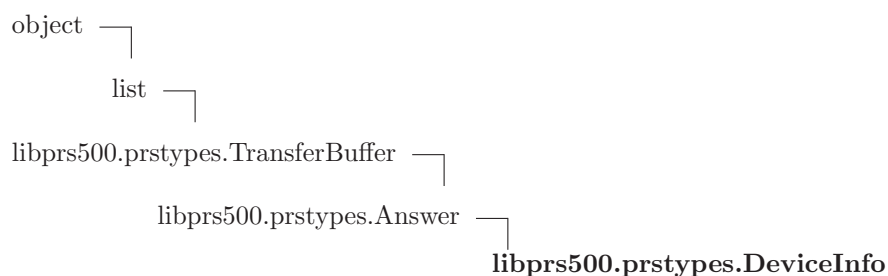
fmt: See struct^a
start: Position in buffer from which to decode

^a<http://docs.python.org/lib/module-struct.html>

4.20.2 Properties

| Name | Description |
|-----------|---|
| id | Value: <property object at 0x81e50a4> |
| __class__ | Value: <attribute '__class__' of 'object' objects> |

4.21 Class DeviceInfo



Defines the structure of the packet containing information about the device

4.21.1 Methods

__add__(*self*, *tb*)

Return a TransferBuffer rather than a list as the sum

Overrides: list.__add__

__contains__(*x*, *y*)

y in *x*

__delattr__(...)

x.__delattr__('name') <==> del *x*.name

__delitem__(*x*, *y*)

del *x*[*y*]

`__delslice__`(*x*, *i*, *j*)

`del x[i:j]`

Use of negative indices is not supported.

`__eq__`(*x*, *y*)

`x==y`

`__ge__`(*x*, *y*)

`x>=y`

`__getattr__`(...)

`x.__getattr__('name') <==> x.name`

Overrides: `object.__getattr__`

`__getitem__`(*x*, *y*)

`x[y]`

`__getslice__`(*self*, *start*, *end*)

Return a `TransferBuffer` rather than a list as the slice

Overrides: `list.__getslice__`

`__gt__`(*x*, *y*)

`x>y`

`__hash__`(*x*)

`hash(x)`

Overrides: `object.__hash__`

`__iadd__`(*x*, *y*)

`x+=y`

`__imul__`(*x*, *y*)

`x*=y`

`__init__`(*self*, *packet*)

Parameters

`packet`: `len(packet) ≥ 16`

Overrides: `libprs500.prstypes.TransferBuffer.__init__`

`__iter__(x)``iter(x)``__le__(x, y)``x<=y``__len__(x)``len(x)``__lt__(x, y)``x<y``__mul__(x, n)``x*n``__ne__(x, y)``x!=y``__new__(T, S, ...)`**Return Value**a new object with type `S`, a subtype of `T`Overrides: `object.__new__``__reduce__()`

helper for pickle

`__reduce_ex__()`

helper for pickle

`__repr__(x)``repr(x)`Overrides: `object.__repr__``__reversed__(L)`

return a reverse iterator over the list

`__rmul__(x, n)``n*x`

__setattr__(...)

x.__setattr__('name', value) <==> x.name = value

__setitem__(x, i, y)

x[i]=y

__setslice__(x, i, j, y)

x[i:j]=y

Use of negative indices is not supported.

__str__(self)

Return a string representation of this buffer.

Packets are represented as hex strings, in 2-byte pairs, ≤ 16 bytes to a line. An ASCII representation is included. For example:

| | |
|---|-----------|
| 0700 0100 0000 0000 0000 0000 0c00 0000 | |
| 0200 0000 0400 0000 4461 7461 |Data |

Overrides: object.__str__

append(L, object)

append object to end

count(L, value)

return number of occurrences of value

Return Value

integer

extend(L, iterable)

extend list by appending elements from the iterable

index(...)

L.index(value, [start, [stop]]) -> integer – return first index of value

insert(L, index, object)

insert object before index

pack(*self*, *val*, *fmt*=DWORD, *start*=0)

Encode *val* and write it to buffer.

Parameters

fmt: See struct^a
start: Position in buffer at which to write encoded data

^a<http://docs.python.org/lib/module-struct.html>

phex(*cls*, *num*)

Return the hex representation of *num* without the 0x prefix.

If the hex representation is only 1 digit it is padded to the left with a zero. Used in `TransferBuffer.__str__`.

pop(*L*, *index*=...)

remove and return item at index (default last)

Return Value

item

remove(*L*, *value*)

remove first occurrence of value

reverse(*L*)

reverse *IN PLACE*

sort(*L*, *cmp*=None, *key*=None, *reverse*=False)

stable sort *IN PLACE*; *cmp*(*x*, *y*) -> -1, 0, 1

unpack(*self*, *fmt*=DWORD, *start*=0)

Return decoded data from buffer.

Parameters

fmt: See struct^a
start: Position in buffer from which to decode

^a<http://docs.python.org/lib/module-struct.html>

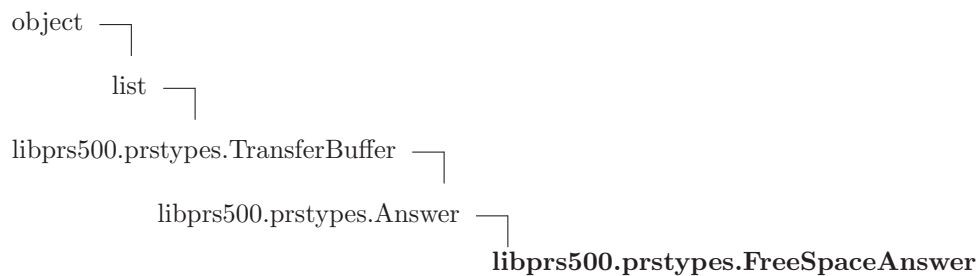
4.21.2 Properties

| Name | Description |
|-------------------------------|--|
| <code>device_name</code> | Value: <property object at 0x81e50f4> |
| <code>device_version</code> | Value: <property object at 0x81e511c> |
| <code>software_version</code> | Value: <property object at 0x81e5144> |
| <code>mime_type</code> | Value: <property object at 0x81e516c> |
| <code>__class__</code> | Value: <attribute ' <code>__class__</code> ' of 'object' objects> |

continued on next page

| Name | Description |
|------|--|
| id | Value: <property object at 0x81def2c> |

4.22 Class *FreeSpaceAnswer*



4.22.1 Methods

`__add__(self, tb)`

Return a TransferBuffer rather than a list as the sum

Overrides: `list.__add__`

`__contains__(x, y)`

y in x

`__delattr__(...)`

x.__delattr__('name') <==> del x.name

`__delitem__(x, y)`

del x[y]

`__delslice__(x, i, j)`

del x[i:j]

Use of negative indices is not supported.

`__eq__(x, y)`

x==y

`__ge__(x, y)`

x>=y

__getattrute__(...)`x.__getattrute__('name') <==> x.name`Overrides: `object.__getattrute__`**__getitem__**(*x*, *y*)`x[y]`**__getslice__**(*self*, *start*, *end*)

Return a TransferBuffer rather than a list as the slice

Overrides: `list.__getslice__`**__gt__**(*x*, *y*)`x>y`**__hash__**(*x*)`hash(x)`Overrides: `object.__hash__`**__iadd__**(*x*, *y*)`x+=y`**__imul__**(*x*, *y*)`x*=y`**__init__**(*self*, *packet*)**Parameters**`packet: len(packet) ≥ 16`Overrides: `libprs500.prstypes.TransferBuffer.__init__`**__iter__**(*x*)`iter(x)`**__le__**(*x*, *y*)`x<=y`**__len__**(*x*)`len(x)`

`__lt__`(*x*, *y*)

x < *y*

`__mul__`(*x*, *n*)

x * *n*

`__ne__`(*x*, *y*)

x != *y*

`__new__`(*T*, *S*, ...)

Return Value

a new object with type *S*, a subtype of *T*

Overrides: `object.__new__`

`__reduce__`(...)

helper for pickle

`__reduce_ex__`(...)

helper for pickle

`__repr__`(*x*)

`repr(x)`

Overrides: `object.__repr__`

`__reversed__`(*L*)

return a reverse iterator over the list

`__rmul__`(*x*, *n*)

n * *x*

`__setattr__`(...)

x.`__setattr__`('name', value) <==> *x*.name = value

`__setitem__`(*x*, *i*, *y*)

x[*i*] = *y*

`__setslice__`(*x*, *i*, *j*, *y*)

x[*i*:*j*] = *y*

Use of negative indices is not supported.

__str__(self)

Return a string representation of this buffer.

Packets are represented as hex strings, in 2-byte pairs, ≤ 16 bytes to a line. An ASCII representation is included. For example:

```

    0700 0100 0000 0000 0000 0000 0c00 0000      .....
    0200 0000 0400 0000 4461 7461                .....Data

```

Overrides: object.__str__

append(L, object)

append object to end

count(L, value)

return number of occurrences of value

Return Value**integer****extend(L, iterable)**

extend list by appending elements from the iterable

index(...)

L.index(value, [start, [stop]]) -> integer – return first index of value

insert(L, index, object)

insert object before index

pack(self, val, fmt=DWORD, start=0)Encode **val** and write it to buffer.**Parameters****fmt:** See struct^a**start:** Position in buffer at which to write encoded data^a<http://docs.python.org/lib/module-struct.html>**phex(cls, num)**

Return the hex representation of num without the 0x prefix.

If the hex representation is only 1 digit it is padded to the left with a zero. Used in

TransferBuffer.__str__**pop(L, index=...)**

remove and return item at index (default last)

Return Value**item**

remove(*L*, *value*)

remove first occurrence of value

reverse(*L*)reverse **IN PLACE****sort**(*L*, *cmp*=None, *key*=None, *reverse*=False)stable sort **IN PLACE**; *cmp*(*x*, *y*) -> -1, 0, 1**unpack**(*self*, *fmt*=DWORD, *start*=0)

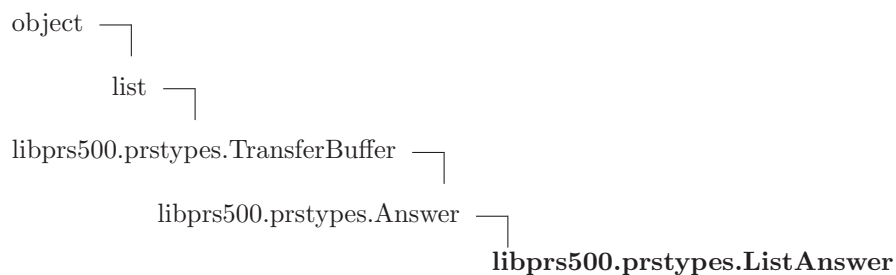
Return decoded data from buffer.

Parameters**fmt**: See struct^a**start**: Position in buffer from which to decode^a<http://docs.python.org/lib/module-struct.html>

4.22.2 Properties

| Name | Description |
|------------|---|
| total | Value: <property object at 0x81e51bc> |
| free.space | Value: <property object at 0x81e51e4> |
| __class__ | Value: <attribute '__class__' of 'object' objects> |
| id | Value: <property object at 0x81def2c> |

4.23 Class ListAnswer



Defines the structure of packets that contain items in a list.

4.23.1 Methods

__add__(*self*, *tb*)

Return a TransferBuffer rather than a list as the sum

Overrides: list.__add__

__contains__(*x*, *y*)*y* in *x***__delattr__**(...)*x*.__delattr__('name') <==> del *x*.name**__delitem__**(*x*, *y*)del *x*[*y*]**__delslice__**(*x*, *i*, *j*)del *x*[*i*:*j*]

Use of negative indices is not supported.

__eq__(*x*, *y*)*x*==*y***__ge__**(*x*, *y*)*x*>=*y***__getattr__**(...)*x*.__getattr__('name') <==> *x*.name

Overrides: object.__getattr__

__getitem__(*x*, *y*)*x*[*y*]**__getslice__**(*self*, *start*, *end*)

Return a TransferBuffer rather than a list as the slice

Overrides: list.__getslice__

__gt__(*x*, *y*)*x*>*y***__hash__**(*x*)hash(*x*)

Overrides: object.__hash__

__iadd__(*x*, *y*)*x*+=*y*

`--imul--(x, y)`

`x*=y`

`--init--(self, packet)`

Parameters

`packet: len(packet) ≥ 16`

Overrides: `libprs500.prstypes.TransferBuffer.__init__`

`--iter--(x)`

`iter(x)`

`--le--(x, y)`

`x<=y`

`--len--(x)`

`len(x)`

`--lt--(x, y)`

`x<y`

`--mul--(x, n)`

`x*n`

`--ne--(x, y)`

`x!=y`

`--new--(T, S, ...)`

Return Value

a new object with type `S`, a subtype of `T`

Overrides: `object.__new__`

`--reduce--(...)`

helper for pickle

`--reduce_ex--(...)`

helper for pickle

`__repr__`(*x*)`repr(x)`Overrides: `object.__repr__`**`__reversed__`**(*L*)

return a reverse iterator over the list

`__rmul__`(*x*, *n*)`n*x`**`__setattr__`**(...)`x.__setattr__('name', value) <==> x.name = value`**`__setitem__`**(*x*, *i*, *y*)`x[i]=y`**`__setslice__`**(*x*, *i*, *j*, *y*)`x[i:j]=y`

Use of negative indices is not supported.

`__str__`(*self*)

Return a string representation of this buffer.

Packets are represented as hex strings, in 2-byte pairs, ≤ 16 bytes to a line. An ASCII representation is included. For example:

| | |
|---|-------|
| 0700 0100 0000 0000 0000 0000 0c00 0000 | |
|---|-------|

| | |
|-------------------------------|-----------|
| 0200 0000 0400 0000 4461 7461 |Data |
|-------------------------------|-----------|

Overrides: `object.__str__`**`append`**(*L*, *object*)

append object to end

`count`(*L*, *value*)

return number of occurrences of value

Return Value`integer`**`extend`**(*L*, *iterable*)

extend list by appending elements from the iterable

index(...)`L.index(value, [start, [stop]])` -> integer – return first index of value**insert**(`L`, `index`, `object`)

insert object before index

pack(`self`, `val`, `fmt=DWORD`, `start=0`)Encode `val` and write it to buffer.**Parameters****fmt:** See struct^a**start:** Position in buffer at which to write encoded data^a<http://docs.python.org/lib/module-struct.html>**phex**(`cls`, `num`)Return the hex representation of `num` without the 0x prefix.If the hex representation is only 1 digit it is padded to the left with a zero. Used in `TransferBuffer.__str__`.**pop**(`L`, `index=...`)

remove and return item at index (default last)

Return Value

item

remove(`L`, `value`)

remove first occurrence of value

reverse(`L`)

reverse *IN PLACE*

sort(`L`, `cmp=None`, `key=None`, `reverse=False`)stable sort *IN PLACE*; `cmp(x, y)` -> -1, 0, 1**unpack**(`self`, `fmt=DWORD`, `start=0`)

Return decoded data from buffer.

Parameters**fmt:** See struct^a**start:** Position in buffer from which to decode^a<http://docs.python.org/lib/module-struct.html>

4.23.2 Properties

| Name | Description |
|-------------|---|
| is_dir | Value: <property object at 0x81e5234> |
| name_length | Value: <property object at 0x81e525c> |
| name | Value: <property object at 0x81e5284> |
| __class__ | Value: <attribute '__class__' of 'object' objects> |
| id | Value: <property object at 0x81def2c> |

5 Module `libprs500.terminfo`

5.1 Class `TerminalController`

A class that can be used to portably generate formatted output to a terminal.

‘`TerminalController`’ defines a set of instance variables whose values are initialized to the control sequence necessary to perform a given action. These can be simply included in normal output to the terminal:

```
>>> term = TerminalController()
>>> print 'This is '+term.GREEN+'green'+term.NORMAL
```

Alternatively, the ‘`render()`’ method can be used, which replaces ‘`${action}`’ with the string required to perform ‘`action`’:

```
>>> term = TerminalController()
>>> print term.render('This is ${GREEN}green${NORMAL}')
```

If the terminal doesn’t support a given action, then the value of the corresponding instance variable will be set to “”. As a result, the above code will still work on terminals that do not support color, except that their output will not be colored. Also, this means that you can test whether the terminal supports a given action by simply testing the truth value of the corresponding instance variable:

```
>>> term = TerminalController()
>>> if term.CLEAR_SCREEN:
...     print 'This terminal supports clearing the screen.'
```

Finally, if the width and height of the terminal are known, then they will be stored in the ‘`COLS`’ and ‘`LINES`’ attributes.

5.1.1 Methods

| |
|--|
| <code>__init__(self, term_stream=sys.stdout)</code> |
| Create a ‘ <code>TerminalController</code> ’ and initialize its attributes with appropriate values for the current terminal. ‘ <code>term_stream</code> ’ is the stream that will be used for terminal output; if this stream is not a tty, then the terminal is assumed to be a dumb terminal (i.e., have no capabilities). |

| |
|--|
| <code>render(self, template)</code> |
| Replace each \$-substitutions in the given template string with the corresponding terminal control string (if it’s defined) or “” (if it’s not). |

5.1.2 Class Variables

| Name | Description |
|------|---|
| BOL | Move the cursor to the beginning of the line Value: ‘ ’ |
| UP | Move the cursor up one line Value: ‘ ’ |
| DOWN | Move the cursor down one line Value: ‘ ’ |

continued on next page

| Name | Description |
|--------------|---|
| LEFT | Move the cursor left one char Value: '' |
| RIGHT | Move the cursor right one char Value: '' |
| CLEAR_SCREEN | Clear the screen and move to home position Value: '' |
| CLEAR_EOL | Clear to the end of the line. Value: '' |
| CLEAR_BOL | Clear to the beginning of the line. Value: '' |
| CLEAR_EOS | Clear to the end of the screen Value: '' |
| BOLD | Turn on bold mode Value: '' |
| BLINK | Turn on blink mode Value: '' |
| DIM | Turn on half-bright mode Value: '' |
| REVERSE | Turn on reverse-video mode Value: '' |
| NORMAL | Turn off all modes Value: '' |
| HIDE_CURSOR | Make the cursor invisible Value: '' |
| SHOW_CURSOR | Make the cursor visible Value: '' |
| COLS | Width of the terminal (None for unknown) Value: None |
| LINES | Height of the terminal (None for unknown) Value: None |
| WHITE | Value: '' |
| YELLOW | Value: '' |
| MAGENTA | Value: '' |
| RED | Value: '' |
| CYAN | Value: '' |
| GREEN | Value: '' |
| BLUE | Value: '' |
| BLACK | Value: '' |
| BG_CYAN | Value: '' |
| BG_GREEN | Value: '' |
| BG_BLUE | Value: '' |
| BG_BLACK | Value: '' |
| BG_WHITE | Value: '' |
| BG_YELLOW | Value: '' |
| BG_MAGENTA | Value: '' |
| BG_RED | Value: '' |

5.2 Class `ProgressBar`

A 3-line progress bar, which looks like:

```

                                Header
20% [=====-----]
                                progress message

```

The progress bar is colored, if the terminal supports color output; and adjusts to the width of the terminal.

5.2.1 Methods

```
__init__(self, term, header)
```

```
update(self, percent, message)
```

```
clear(self)
```

5.2.2 Class Variables

| Name | Description |
|--------|---|
| BAR | Value: <code>'%3d%% \${GREEN} [\${BOLD}%s\${NORMAL}\${GREEN}] \${NORMAL}\n'</code> |
| HEADER | Value: <code>'\${BOLD}\${CYAN}%s\${NORMAL}\n\n'</code> |

5.2.3 Instance Variables

| Name | Description |
|---------|---------------------------------------|
| cleared | true if we haven't drawn the bar yet. |

6 Module *prs500*

Provides a command-line interface to the SONY Reader PRS-500.

For usage information run the script.

6.1 Functions

human_readable(*size*)

Convert a size in bytes into a human readable form

info(*dev*)

ls(*dev, path, term, recurse=False, color=False, human_readable_size=False, ll=False, cols=0*)

main()

6.2 Variables

| Name | Description |
|-------------------|---|
| MINIMUM_COL_WIDTH | Minimum width of columns in ls output Value: 12 |

6.3 Class *FileFormatter*

object └─ **prs500.FileFormatter**

6.3.1 Methods

__init__(*self, file, term*)

x.__init__(...) initializes *x*; see *x.__class__.__doc__* for signature

Overrides: object.__init__ *exitit*(inherited documentation)

__delattr__(...)

x.__delattr__('name') <==> del *x.name*

__getattr__(...)

x.__getattr__('name') <==> *x.name*

__hash__(*x*)

hash(*x*)

`--new--`(*T*, *S*, ...)

Return Value

a new object with type *S*, a subtype of *T*

`--reduce--`(...)

helper for pickle

`--reduce_ex--`(...)

helper for pickle

`--repr--`(*x*)

`repr(x)`

`--setattr--`(...)

`x.__setattr__('name', value) <==> x.name = value`

`--str--`(*x*)

`str(x)`

6.3.2 Properties

| Name | Description |
|----------------------------------|--|
| <code>mode_string</code> | Value: <property object at 0x828b07c> |
| <code>name_in_color</code> | Value: <property object at 0x828b0a4> |
| <code>human_readable_size</code> | Value: <property object at 0x828b0cc> |
| <code>modification_time</code> | Value: <property object at 0x828b0f4> |
| <code>creation_time</code> | Value: <property object at 0x828b11c> |
| <code>--class--</code> | Value: <attribute ' <code>--class--</code> ' of 'object' objects> |

7 Module struct

Functions to convert between Python values and C structs.
Python strings are used to hold the data representing the C struct
and also as format strings to describe the layout of data in the C struct.

The optional first format char indicates byte order, size and alignment:

@: native order, size & alignment (default)
=: native order, std. size & alignment
<: little-endian, std. size & alignment
>: big-endian, std. size & alignment
!: same as >

The remaining chars indicate types of args and must match exactly;
these can be preceded by a decimal repeat count:

x: pad byte (no data); c:char; b:signed byte; B:unsigned byte;
h:short; H:unsigned short; i:int; I:unsigned int;
l:long; L:unsigned long; f:float; d:double.

Special cases (preceding decimal count indicates length):

s:string (array of char); p: pascal string (with count byte).

Special case (only available in native format):

P:an integer type that is wide enough to hold a pointer.

Special case (not in native mode unless 'long long' in platform C):

q:long long; Q:unsigned long long

Whitespace between formats is ignored.

The variable struct.error is an exception raised on errors.

7.1 Functions

| |
|--|
| calcsize (<i>fmt</i>) |
| Return size of C struct described by format string <i>fmt</i> . See struct.__doc__ for more on format strings. |

| |
|---|
| pack (<i>fmt</i> , * <i>args</i>) |
| Return string containing values <i>v1</i> , <i>v2</i> , ... packed according to <i>fmt</i> . See struct.__doc__ for more on format strings. |

| |
|---|
| pack_into (<i>fmt</i> , <i>buf</i> , <i>offset</i> , * <i>args</i>) |
| Pack the values <i>v1</i> , <i>v2</i> , ... according to <i>fmt</i> , write the packed bytes into the writable buffer <i>buf</i> starting at <i>offset</i> . See struct.__doc__ for more on format strings. |

| |
|--|
| unpack (<i>fmt</i> , <i>s</i>) |
| Unpack the string, containing packed C structure data, according to <i>fmt</i> . Requires len(string)==calcsize(fmt). See struct.__doc__ for more on format strings. |

unpack_from(*fmt*, *buf*, *offset*=0)

Unpack the buffer, containing packed C structure data, according to *fmt* starting at *offset*. Requires `len(buffer[offset:]) >= calcsize(fmt)`. See `struct.__doc__` for more on format strings.

7.2 Variables

| Name | Description |
|--------------------------|----------------------------------|
| <code>__version__</code> | Value: <code>'0.1'</code> |

8 Module *usb*

USB access module

8.1 Functions

busses(...)

Returns a tuple with the usb busses

8.2 Variables

| Name | Description |
|---------------------------|-------------|
| CLASS_AUDIO | Value: 1 |
| CLASS_COMM | Value: 2 |
| CLASS_DATA | Value: 10 |
| CLASS_HID | Value: 3 |
| CLASS_HUB | Value: 9 |
| CLASS_MASS_STORAGE | Value: 8 |
| CLASS_PER_INTERFACE | Value: 0 |
| CLASS_PRINTER | Value: 7 |
| CLASS_VENDOR_SPEC | Value: 255 |
| DT_CONFIG | Value: 2 |
| DT_CONFIG_SIZE | Value: 9 |
| DT_DEVICE | Value: 1 |
| DT_DEVICE_SIZE | Value: 18 |
| DT_ENDPOINT | Value: 5 |
| DT_ENDPOINT_AUDIO_SIZE | Value: 9 |
| DT_ENDPOINT_SIZE | Value: 7 |
| DT_HID | Value: 33 |
| DT_HUB | Value: 41 |
| DT_HUB_NONVAR_SIZE | Value: 7 |
| DT_INTERFACE | Value: 4 |
| DT_INTERFACE_SIZE | Value: 9 |
| DT_PHYSICAL | Value: 35 |
| DT_REPORT | Value: 34 |
| DT_STRING | Value: 3 |
| ENDPOINT_ADDRESS_MASK | Value: 15 |
| ENDPOINT_DIR_MASK | Value: 128 |
| ENDPOINT_IN | Value: 128 |
| ENDPOINT_OUT | Value: 0 |
| ENDPOINT_TYPE_BULK | Value: 2 |
| ENDPOINT_TYPE_CONTROL | Value: 0 |
| ENDPOINT_TYPE_INTERRUPT | Value: 3 |
| ENDPOINT_TYPE_ISOCHRONOUS | Value: 1 |

continued on next page

| Name | Description |
|----------------------------|---------------|
| ENDPOINT_TYPE_MASK | Value: 3 |
| ERROR_BEGIN | Value: 500000 |
| MAXALTSETTING | Value: 128 |
| MAXCONFIG | Value: 8 |
| MAXENDPOINTS | Value: 32 |
| MAXINTERFACES | Value: 32 |
| RECIP_DEVICE | Value: 0 |
| RECIP_ENDPOINT | Value: 2 |
| RECIP_INTERFACE | Value: 1 |
| RECIP_OTHER | Value: 3 |
| REQ_CLEAR_FEATURE | Value: 1 |
| REQ_GET_CONFIGURATIO- N | Value: 8 |
| REQ_GET_DESCRIPTOR | Value: 6 |
| REQ_GET_INTERFACE | Value: 10 |
| REQ_GET_STATUS | Value: 0 |
| REQ_SET_ADDRESS | Value: 5 |
| REQ_SET_CONFIGURATIO- N | Value: 9 |
| REQ_SET_DESCRIPTOR | Value: 7 |
| REQ_SET_FEATURE | Value: 3 |
| REQ_SET_INTERFACE | Value: 11 |
| REQ_SYNCH_FRAME | Value: 12 |
| TYPE_CLASS | Value: 32 |
| TYPE_RESERVED | Value: 96 |
| TYPE_STANDARD | Value: 0 |
| TYPE_VENDOR | Value: 64 |

8.3 Class Bus

```

object  └─
         └─ usb.Bus

```

Bus object

8.3.1 Methods

```

__delattr__(...)
x.__delattr__('name') <==> del x.name

```

```

__getattr__(...)
x.__getattr__('name') <==> x.name

```

```

__hash__(x)
hash(x)

```

| |
|---|
| <code>__init__</code> (...) |
| <code>x.__init__</code> (...) initializes x; see <code>x.__class__.__doc__</code> for signature |

| |
|--|
| <code>__new__</code> (<i>T</i> , <i>S</i> , ...) |
| Return Value a new object with type <i>S</i> , a subtype of <i>T</i> |
| Overrides: <code>object.__new__</code> |

| |
|--------------------------------------|
| <code>__reduce__</code> (...) |
| helper for pickle |

| |
|---|
| <code>__reduce_ex__</code> (...) |
| helper for pickle |

| |
|---|
| <code>__repr__</code> (<i>x</i>) |
| <code>repr</code> (<i>x</i>) |

| |
|---|
| <code>__setattr__</code> (...) |
| <code>x.__setattr__</code> ('name', value) <==> <code>x.name = value</code> |

| |
|--|
| <code>__str__</code> (<i>x</i>) |
| <code>str</code> (<i>x</i>) |

8.3.2 Properties

| Name | Description |
|------------------------|--|
| <code>__class__</code> | Value: <attribute ' <code>__class__</code> ' of 'object' objects> |

8.3.3 Class Variables

| Name | Description |
|-----------------------|--|
| <code>devices</code> | Value: <member ' <code>devices</code> ' of ' <code>usb.Bus</code> ' objects> |
| <code>dirname</code> | Value: <member ' <code>dirname</code> ' of ' <code>usb.Bus</code> ' objects> |
| <code>location</code> | Value: <member ' <code>location</code> ' of ' <code>usb.Bus</code> ' objects> |

8.4 Class Configuration

```

object └─
          usb.Configuration
Configuration descriptor object

```

8.4.1 Methods

| |
|--|
| <code>__delattr__</code> (...) |
| <code>x.__delattr__('name') <==> del x.name</code> |
| <code>__getattr__</code> (...) |
| <code>x.__getattr__('name') <==> x.name</code> |
| <code>__hash__</code> (<i>x</i>) |
| <code>hash(x)</code> |
| <code>__init__</code> (...) |
| <code>x.__init__(...)</code> initializes <code>x</code> ; see <code>x.__class__.__doc__</code> for signature |
| <code>__new__</code> (<i>T</i> , <i>S</i> , ...) |
| Return Value a new object with type <i>S</i> , a subtype of <i>T</i> Overrides: <code>object.__new__</code> |
| <code>__reduce__</code> (...) |
| helper for pickle |
| <code>__reduce_ex</code> (...) |
| helper for pickle |
| <code>__repr__</code> (<i>x</i>) |
| <code>repr(x)</code> |
| <code>__setattr__</code> (...) |
| <code>x.__setattr__('name', value) <==> x.name = value</code> |
| <code>__str__</code> (<i>x</i>) |
| <code>str(x)</code> |

8.4.2 Properties

| Name | Description |
|------------------------|---|
| <code>__class__</code> | Value: <attribute <code>'__class__'</code> of <code>'object'</code> objects> |

8.4.3 Class Variables

| Name | Description |
|-----------------------------|--|
| <code>iConfiguration</code> | Value: <member 'iConfiguration' of 'usb.Configuration' objects> |
| <code>interfaces</code> | Value: <member 'interfaces' of 'usb.Configuration' objects> |
| <code>maxPower</code> | Value: <member 'maxPower' of 'usb.Configuration' objects> |
| <code>remoteWakeup</code> | Value: <member 'remoteWakeup' of 'usb.Configuration' objects> |
| <code>selfPowered</code> | Value: <member 'selfPowered' of 'usb.Configuration' objects> |
| <code>totalLength</code> | Value: <member 'totalLength' of 'usb.Configuration' objects> |
| <code>value</code> | Value: <member 'value' of 'usb.Configuration' objects> |

8.5 Class Device

```

object └─
         └─ usb.Device

```

Device descriptor object

8.5.1 Methods

| |
|--|
| <code>__delattr__(...)</code> |
| <code>x.__delattr__('name') <==> del x.name</code> |
| <code>__getattr__(...)</code> |
| <code>x.__getattr__('name') <==> x.name</code> |
| <code>__hash__(x)</code> |
| <code>hash(x)</code> |
| <code>__init__(...)</code> |
| <code>x.__init__(...)</code> initializes x; see <code>x.__class__.__doc__</code> for signature |
| <code>__new__(T, S, ...)</code> |
| Return Value |
| a new object with type S, a subtype of T |
| Overrides: <code>object.__new__</code> |

| |
|---|
| <code>__reduce__(...)</code> |
| helper for pickle |
| <code>__reduce_ex__(...)</code> |
| helper for pickle |
| <code>__repr__(x)</code> |
| <code>repr(x)</code> |
| <code>__setattr__(...)</code> |
| <code>x.__setattr__('name', value) <==> x.name = value</code> |
| <code>__str__(x)</code> |
| <code>str(x)</code> |
| <code>open()</code> |
| Open the device for use. Returns a DeviceHandle object. |
| Return Value DeviceHandle |

8.5.2 Properties

| Name | Description |
|------------------------|---|
| <code>__class__</code> | Value: <attribute <code>'__class__'</code> of <code>'object'</code> objects> |

8.5.3 Class Variables

| Name | Description |
|-----------------------------|---|
| <code>configurations</code> | Value: <member <code>'configurations'</code> of <code>'usb.Device'</code> objects> |
| <code>deviceClass</code> | Value: <member <code>'deviceClass'</code> of <code>'usb.Device'</code> objects> |
| <code>deviceProtocol</code> | Value: <member <code>'deviceProtocol'</code> of <code>'usb.Device'</code> objects> |
| <code>deviceSubClass</code> | Value: <member <code>'deviceSubClass'</code> of <code>'usb.Device'</code> objects> |
| <code>deviceVersion</code> | Value: <member <code>'deviceVersion'</code> of <code>'usb.Device'</code> objects> |
| <code>filename</code> | Value: <member <code>'filename'</code> of <code>'usb.Device'</code> objects> |
| <code>iManufacturer</code> | Value: <member <code>'iManufacturer'</code> of <code>'usb.Device'</code> objects> |
| <code>iProduct</code> | Value: <member <code>'iProduct'</code> of <code>'usb.Device'</code> objects> |
| <code>iSerialNumber</code> | Value: <member <code>'iSerialNumber'</code> of <code>'usb.Device'</code> objects> |

continued on next page

| Name | Description |
|----------------------------|---|
| <code>idProduct</code> | Value: <member 'idProduct' of 'usb.Device' objects> |
| <code>idVendor</code> | Value: <member 'idVendor' of 'usb.Device' objects> |
| <code>maxPacketSize</code> | Value: <member 'maxPacketSize' of 'usb.Device' objects-> |
| <code>usbVersion</code> | Value: <member 'usbVersion' of 'usb.Device' objects> |

8.6 Class *DeviceHandle*



DeviceHandle object

8.6.1 Methods

| |
|--|
| <code>__delattr__</code> (...) |
| <code>x.__delattr__('name')</code> <==> <code>del x.name</code> |
| <code>__getattr__</code> (...) |
| <code>x.__getattr__('name')</code> <==> <code>x.name</code> |
| <code>__hash__</code> (<i>x</i>) |
| <code>hash(x)</code> |
| <code>__init__</code> (...) |
| <code>x.__init__()</code> initializes <code>x</code> ; see <code>x.__class__.__doc__</code> for signature |
| <code>__new__</code> (<i>T</i> , <i>S</i> , ...) |
| Return Value a new object with type <i>S</i> , a subtype of <i>T</i> Overrides: <code>object.__new__</code> |
| <code>__reduce__</code> (...) |
| helper for pickle |
| <code>__reduce_ex</code> (...) |
| helper for pickle |
| <code>__repr__</code> (<i>x</i>) |
| <code>repr(x)</code> |

__setattr__(...)

x.__setattr__('name', value) <==> x.name = value

__str__(x)

str(x)

bulkRead(*endpoint*, *size*, *timeout*=100)

Performs a bulk read request to the endpoint specified.

Arguments:

endpoint: endpoint number. *size*: number of bytes to read. *timeout*: operation timeout in milliseconds. (default: 100)

Returns a tuple with the data read.

Return Value

buffer

bulkWrite(*endpoint*, *buffer*, *timeout*=100)

Performs a bulk write request to the endpoint specified.

Arguments:

endpoint: endpoint number. *buffer*: sequence data buffer to write.

This parameter can be any sequence type

timeout: operation timeout in milliseconds. (default: 100)

Returns the number of bytes written.

Return Value

bytesWritten

claimInterface(*interface*)

Claims the interface with the Operating System.

Arguments:

interface: interface number or an Interface object.**Return Value**

None

clearHalt(*endpoint*)

Clears any halt status on the specified endpoint.

Arguments:

endpoint: endpoint number.**Return Value**

None

controlMsg(*requestType*, *request*, *buffer*, *value*=0, *index*=0, *timeout*=100)

Performs a control request to the default control pipe on a device.

Arguments:

requestType: specifies the direction of data flow, the type of request, and the recipient.
request: specifies the request.
buffer: if the transfer is a write transfer, *buffer* is a sequence with the transfer data, otherwise, *buffer* is the number of bytes to read.
value: specific information to pass to the device. (default: 0)
index: specific information to pass to the device. (default: 0)
timeout: operation timeout in miliseconds. (default: 100)

Returns the number of bytes written.

Return Value

bytesWritten|*buffer*

getDescriptor(...)

getDescriptor(*type*, *index*, *len*, *endpoint* = -1) -> *descriptor*

Retrieves a descriptor from the device identified by the *type* and *index* of the descriptor.

Arguments:

type: descriptor type.
index: index of the descriptor.
len: descriptor length.
endpoint: endpoint number from descriptor is read. If it is omitted, the descriptor is read from default control pipe.

getString(...)

getString(*index*, *len*, *langid* = -1) -> *string*

Retrieves the string descriptor specified by *index* and *langid* from a device.

Arguments:

index: index of descriptor in the device.
len: number of bytes of the string
langid: Language ID. If it is omitted, will be used the first language.

interruptRead(*endpoint*, *size*, *timeout*=100)

Performs a interrupt read request to the endpoint specified.

Arguments:

endpoint: endpoint number.
 size: number of bytes to read.
 timeout: operation timeout in milliseconds. (default: 100)

Returns a tuple with the data read.

Return Value

buffer

interruptWrite(*endpoint*, *buffer*, *timeout*=100)

Performs a interrupt write request to the endpoint specified.

Arguments:

endpoint: endpoint number.
 buffer: sequence data buffer to write.
 This parameter can be any sequence type
 timeout: operation timeout in milliseconds. (default: 100)

Returns the number of bytes written.

Return Value

bytesWritten

releaseInterface()

Releases an interface previously claimed with *claimInterface*.

Return Value

 None

reset()

Resets the specified device by sending a RESET down the port it is connected to.

Return Value

 None

resetEndpoint(*endpoint*)

Resets all state (like toggles) for the specified endpoint.

Arguments:

endpoint: endpoint number.

Return Value

 None

setAltInterface(*alternate*)

Sets the active alternate setting of the current interface.

Arguments:

alternate: an alternate setting number or an Interface object.

Return Value

 None

| |
|---|
| setConfiguration (<i>configuration</i>) |
| Sets the active configuration of a device. |
| Arguments: |
| <i>configuration</i> : a configuration value or a Configuration object. |
| Return Value |
| None |

8.6.2 Properties

| Name | Description |
|------------------------|--|
| <code>__class__</code> | Value: <attribute ' <code>__class__</code> ' of 'object' objects> |

8.7 Class Endpoint



Endpoint descriptor object

8.7.1 Methods

| |
|---|
| __delattr__ (...) |
| <code>x.__delattr__('name')</code> <==> <code>del x.name</code> |
| __getattr__ (...) |
| <code>x.__getattr__('name')</code> <==> <code>x.name</code> |
| __hash__ (<i>x</i>) |
| <code>hash(x)</code> |
| __init__ (...) |
| <code>x.__init__()</code> initializes <code>x</code> ; see <code>x.__class__.__doc__</code> for signature |
| __new__ (<i>T, S, ...</i>) |
| Return Value |
| a new object with type <code>S</code> , a subtype of <code>T</code> |
| Overrides: <code>object.__new__</code> |
| __reduce__ (...) |
| helper for pickle |

| |
|---------------------------------|
| <code>__reduce_ex__(...)</code> |
|---------------------------------|

| |
|-------------------|
| helper for pickle |
|-------------------|

| |
|--------------------------|
| <code>__repr__(x)</code> |
|--------------------------|

| |
|----------------------|
| <code>repr(x)</code> |
|----------------------|

| |
|-------------------------------|
| <code>__setattr__(...)</code> |
|-------------------------------|

| |
|---|
| <code>x.__setattr__('name', value) <==> x.name = value</code> |
|---|

| |
|-------------------------|
| <code>__str__(x)</code> |
|-------------------------|

| |
|---------------------|
| <code>str(x)</code> |
|---------------------|

8.7.2 Properties

| Name | Description |
|------------------------|---|
| <code>__class__</code> | Value: <attribute <code>'__class__'</code> of <code>'object'</code> objects> |

8.7.3 Class Variables

| Name | Description |
|----------------------------|--|
| <code>address</code> | Value: <member <code>'address'</code> of <code>'usb.Endpoint'</code> objects> |
| <code>interval</code> | Value: <member <code>'interval'</code> of <code>'usb.Endpoint'</code> objects> |
| <code>maxPacketSize</code> | Value: <member <code>'maxPacketSize'</code> of <code>'usb.Endpoint'</code> objects> |
| <code>type</code> | Value: <member <code>'type'</code> of <code>'usb.Endpoint'</code> objects> |

8.8 Class Interface

```

object └─
         └─ usb.Interface

```

Interface descriptor object

8.8.1 Methods

| |
|-------------------------------|
| <code>__delattr__(...)</code> |
|-------------------------------|

| |
|--|
| <code>x.__delattr__('name') <==> del x.name</code> |
|--|

| |
|-------------------------------|
| <code>__getattr__(...)</code> |
|-------------------------------|

| |
|--|
| <code>x.__getattr__('name') <==> x.name</code> |
|--|

| |
|------------------------------|
| __hash__ (<i>x</i>) |
| hash(<i>x</i>) |

| |
|--|
| __init__ (...) |
| <i>x</i> .__init__(...) initializes <i>x</i> ; see <i>x</i> .__class__.__doc__ for signature |

| |
|--|
| __new__ (<i>T</i> , <i>S</i> , ...) |
| Return Value a new object with type <i>S</i> , a subtype of <i>T</i> |
| Overrides: object.__new__ |

| |
|-------------------------|
| __reduce__ (...) |
| helper for pickle |

| |
|----------------------------|
| __reduce_ex__ (...) |
| helper for pickle |

| |
|------------------------------|
| __repr__ (<i>x</i>) |
| repr(<i>x</i>) |

| |
|--|
| __setattr__ (...) |
| <i>x</i> .__setattr__('name', value) <==> <i>x</i> .name = value |

| |
|-----------------------------|
| __str__ (<i>x</i>) |
| str(<i>x</i>) |

8.8.2 Properties

| Name | Description |
|-----------|--|
| __class__ | Value: <attribute '.__class__' of 'object' objects> |

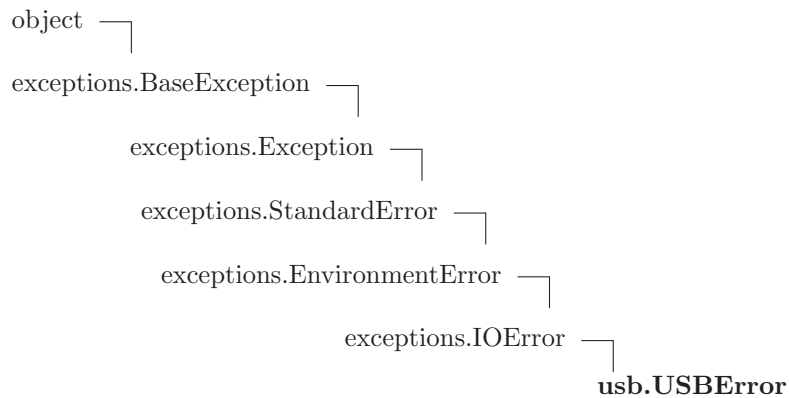
8.8.3 Class Variables

| Name | Description |
|------------------|--|
| alternateSetting | Value: <member 'alternateSetting' of 'usb.Interface' objects> |
| endpoints | Value: <member 'endpoints' of 'usb.Interface' objects> |
| interfaceClass | Value: <member 'interfaceClass' of 'usb.Interface' objects> |

continued on next page

| Name | Description |
|--------------------------------|---|
| <code>interfaceNumber</code> | Value: <member 'interfaceNumber' of 'usb.Interface' objects> |
| <code>interfaceProtocol</code> | Value: <member 'interfaceProtocol' of 'usb.Interface' - objects> |
| <code>interfaceSubClass</code> | Value: <member 'interfaceSubClass' of 'usb.Interface' - objects> |

8.9 Class `USBError`



8.9.1 Methods

| |
|---|
| <code>__delattr__</code> (...) |
| <code>x.__delattr__('name')</code> <==> <code>del x.name</code> |
| Overrides: <code>object.__delattr__</code> |

| |
|---|
| <code>__getattr__</code> (...) |
| <code>x.__getattr__('name')</code> <==> <code>x.name</code> |
| Overrides: <code>object.__getattr__</code> |

| |
|---|
| <code>__getitem__</code> (<i>x</i> , <i>y</i>) |
| <code>x[y]</code> |

| |
|---|
| <code>__hash__</code> (<i>x</i>) |
| <code>hash(x)</code> |

| |
|---|
| <code>__init__</code> (...) |
| <code>x.__init__()</code> initializes <code>x</code> ; see <code>x.__class__.__doc__</code> for signature |
| Overrides: <code>exceptions.EnvironmentError.__init__</code> |

__new__(*T, S, ...*)

Return Value

a new object with type *S*, a subtype of *T*

Overrides: `exceptions.EnvironmentError.__new__`

__reduce__(...)

helper for pickle

Overrides: `exceptions.BaseException.__reduce__`

__reduce_ex__(...)

helper for pickle

__repr__(*x*)

`repr(x)`

Overrides: `object.__repr__`

__setattr__(...)

`x.__setattr__('name', value) <==> x.name = value`

Overrides: `object.__setattr__`

__setstate__(...)

__str__(*x*)

`str(x)`

Overrides: `exceptions.BaseException.__str__`

8.9.2 Properties

| Name | Description |
|------------------------|--|
| <code>__class__</code> | Value: <attribute ' <code>__class__</code> ' of ' <code>object</code> ' objects> |
| <code>args</code> | Value: <attribute ' <code>args</code> ' of ' <code>exceptions.BaseException</code> '-objects> |

8.9.3 Class Variables

| Name | Description |
|-----------------------|--|
| <code>errno</code> | Value: <member ' <code>errno</code> ' of ' <code>exceptions.EnvironmentError</code> ' objects> |
| <code>filename</code> | Value: <member ' <code>filename</code> ' of ' <code>exceptions.EnvironmentError</code> ' objects> |
| <code>message</code> | Value: <member ' <code>message</code> ' of ' <code>exceptions.EnvironmentError</code> ' objects> |

continued on next page

| Name | Description |
|----------|--|
| strerror | Value: <member 'strerror' of 'exceptions.EnvironmentError' objects> |

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