smbus2 Documentation

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Contents

smbus2 - A drop-in replacement for smbus-cffi/smbus-python

class smbus2.**SMBus**(*bus=None*, *force=False*)

block_process_call(*i2c_addr*, *register*, *data*, *force=None*)
Executes a SMBus Block Process Call, sending a variable-size data block and receiving another variable-size response

Parameters

- **i2c_addr** (*int*) – i2c address
- **register** (*int*) – Register to read/write to
- **data** (*list*) – List of bytes
- **force** (*Boolean*) –

Returns List of bytes

Return type list

close()
Close the i2c connection.

enable_pec(*enable=True*)
Enable/Disable PEC (Packet Error Checking) - SMBus 1.1 and later

Parameters **enable** (*Boolean*) –

i2c_rdwr(**i2c_msgs*)
Combine a series of i2c read and write operations in a single transaction (with repeated start bits but no stop bits in between).

This method takes i2c_msg instances as input, which must be created first with *i2c_msg.read()* or *i2c_msg.write()*.

Parameters **i2c_msgs** (i2c_msg) – One or more i2c_msg class instances.

Return type None

open(*bus*)
Open a given i2c bus.

Parameters **bus** (*int or str*) – i2c bus number (e.g. 0 or 1) or an absolute file path (e.g. '/dev/i2c-42').

Raises **TypeError** – if type(bus) is not in (int, str)

pec
Get and set SMBus PEC. 0 = disabled (default), 1 = enabled.

process_call(*i2c_addr*, *register*, *value*, *force=None*)
Executes a SMBus Process Call, sending a 16-bit value and receiving a 16-bit response

Parameters

- **i2c_addr** (*int*) – i2c address
- **register** (*int*) – Register to read/write to
- **value** (*int*) – Word value to transmit

- **force** (*Boolean*) –

Return type int

read_block_data(*i2c_addr*, *register*, *force=None*)
Read a block of up to 32-bytes from a given register.

Parameters

- **i2c_addr** (*int*) – i2c address
- **register** (*int*) – Start register
- **force** (*Boolean*) –

Returns List of bytes

Return type list

read_byte(*i2c_addr*, *force=None*)
Read a single byte from a device.

Return type int

Parameters

- **i2c_addr** (*int*) – i2c address
- **force** (*Boolean*) –

Returns Read byte value

read_byte_data(*i2c_addr*, *register*, *force=None*)
Read a single byte from a designated register.

Parameters

- **i2c_addr** (*int*) – i2c address
- **register** (*int*) – Register to read
- **force** (*Boolean*) –

Returns Read byte value

Return type int

read_i2c_block_data(*i2c_addr*, *register*, *length*, *force=None*)
Read a block of byte data from a given register.

Parameters

- **i2c_addr** (*int*) – i2c address
- **register** (*int*) – Start register
- **length** (*int*) – Desired block length
- **force** (*Boolean*) –

Returns List of bytes

Return type list

read_word_data(*i2c_addr*, *register*, *force=None*)
Read a single word (2 bytes) from a given register.

Parameters

- **i2c_addr** (*int*) – i2c address

- **register** (*int*) – Register to read
- **force** (*Boolean*) –

Returns 2-byte word

Return type int

write_block_data(*i2c_addr*, *register*, *data*, *force=None*)
Write a block of byte data to a given register.

Parameters

- **i2c_addr** (*int*) – i2c address
- **register** (*int*) – Start register
- **data** (*list*) – List of bytes
- **force** (*Boolean*) –

Return type None

write_byte(*i2c_addr*, *value*, *force=None*)
Write a single byte to a device.

Parameters

- **i2c_addr** (*int*) – i2c address
- **value** (*int*) – value to write
- **force** (*Boolean*) –

write_byte_data(*i2c_addr*, *register*, *value*, *force=None*)
Write a byte to a given register.

Parameters

- **i2c_addr** (*int*) – i2c address
- **register** (*int*) – Register to write to
- **value** (*int*) – Byte value to transmit
- **force** (*Boolean*) –

Return type None

write_i2c_block_data(*i2c_addr*, *register*, *data*, *force=None*)
Write a block of byte data to a given register.

Parameters

- **i2c_addr** (*int*) – i2c address
- **register** (*int*) – Start register
- **data** (*list*) – List of bytes
- **force** (*Boolean*) –

Return type None

write_quick(*i2c_addr*, *force=None*)
Perform quick transaction. Throws IOError if unsuccessful. :param i2c_addr: i2c address :type i2c_addr: int :param force: :type force: Boolean

write_word_data(*i2c_addr*, *register*, *value*, *force=None*)
Write a single word (2 bytes) to a given register.

Parameters

- **i2c_addr** (*int*) – i2c address
- **register** (*int*) – Register to write to
- **value** (*int*) – Word value to transmit
- **force** (*Boolean*) –

Return type None

class smbus2.**i2c_msg**
As defined in `i2c.h`.

addr
Structure/Union member

buf
Structure/Union member

flags
Structure/Union member

len
Structure/Union member

static read(*address*, *length*)
Prepares an i2c read transaction.

Parameters

- **address** – Slave address.
- **length** – Number of bytes to read.

Type address: int

Type length: int

Returns New *i2c_msg* instance for read operation.

Return type *i2c_msg*

static write(*address*, *buf*)
Prepares an i2c write transaction.

Parameters

- **address** (*int*) – Slave address.
- **buf** (*list*) – Bytes to write. Either list of values or str.

Returns New *i2c_msg* instance for write operation.

Return type *i2c_msg*

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