

All eBot API

class **eBot.eBot.eBot**

acceleration()

Retrieves and returns accelerometer values; absolute values of X,Y and theta coordinates of robot with reference to starting position.

Return type: list

Returns: acc_values: Accelerometer values

buzzer(*btime, bfreq*)

Plays the buzzer for given time at given frequency.

Parameters:

- **btime** – Time in Seconds
- **bfreq** – Frequency in Hertz

calibration_values()

Retrieves and returns the calibration values of the eBot.

Return type: list

Returns: all_Values (calibration values)

close()

Close BLE connection with eBot.

connect()

Opens connection with the eBot via BLE. Connects with the first eBot that the computer is paired to.

Raises: Exception – No eBot found

destroy()

Destructor function for eBot class.

disconnect()

Close BLE connection with eBot.

getOpenPorts()

Windows only function: Obtains a list of tuples with eBot-relevant port number and description.

Return type: list

Returns: devicePorts: list of port numbers and descriptions of relevant serial devices.

halt()

Halts the eBot, turns the motors and LEDs off.

imperial_march()

led(*bool*)

Controls the state of the LED on the eBot.

Parameters: bool – Defines whether the LED should turn ON (1) or OFF (0)

led_off()

Turns the LED on the eBot OFF.

led_on()

Turns the LED on the eBot ON.

light()

Retrieves and returns a list of tuples with the light index. 0 index is front and 1st index is top LDR readings.

Return type: list

Returns: ldrvalue: LDR Readings

lostConnection()

Handler for the case that the computer loses connection with the eBot.

Raises: Exception – Robot Connection Lost

obstacle()

Tells whether or not there is an obstacle less than 250 mm away from the front of the eBot.

Return type: bool

Returns: True if obstacle exists

odometry()

Retrieves and returns the odometry values of the eBot as a Pose object with respect to the robot initial position. Pose.x: x coordinate in meters Pose.y: y coordinate in meters Pose.theta: rotation in radians

Return type: Pose object

Returns: Pose: Represent the x, y, theta pose of an object in 2D space

open()

Opens connection with the eBot via BLE. Connects with the first eBot that the computer is paired to.

Raises: Exception – No eBot found

port_close()

Closes the COM port that corresponds to the eBot object.

Raises: Exception – Could not close COM port

port_name()

Returns port name of currently connected eBot.

Returns: port: Port name

port_open()

Still under development, currently just calls connect

power()

Returns:

read()**recieve_background()****sonars()**

Retrieves and returns all six ultrasonic sensor values from the eBot in meters.

Return type: list

Returns: sonarValues

temperature()

Retrieves and returns temperature reading from the eBot.

Return type: int

Returns: Temperature value.

wheel_calibrate(*LS*, *RS*)

Controls the speed of the wheels of the robot according to the specified values :param *LS*: Speed of left motor :param *RS*: Speed of right motor

wheels(*LS*, *RS*)

Controls the speed of the wheels of the robot according to the specified values :param *LS*: Speed of left motor :param *RS*: Speed of right motor