Khepera 4 Functions

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| **Function Name** | **Parameters** | **Return Type** | **Description** |
| kh4\_init | int argc, char \*argv[] | int | Initializes the Khepera IV robot and its subsystems. |
| knet\_open | const char \*name, int bus\_type, int adr, void \*device\_specific | knet\_dev\_t\* | Opens a communication socket with the robot or another device. |
| knet\_close | knet\_dev\_t \*dev | int | Closes the communication with the robot or another device. |
| kh4\_set\_speed | int left\_speed, int right\_speed, knet\_dev\_t \*dsPic | int | Sets the speed of the left and right motors. |
| kh4\_SetMode | int mode, knet\_dev\_t \*dsPic | int | Sets the motor control mode (e.g., speed control, idle). |
| kh4\_proximity\_measure | int \*sensor\_values, knet\_dev\_t \*dsPic | int | Reads the proximity sensors' values. |
| kh4\_odo\_reset | knet\_dev\_t \*dsPic | void | Resets the odometry counters. |
| kh4\_odo\_read | int \*pos\_left, int \*pos\_right, knet\_dev\_t \*dsPic | int | Reads the odometry counters for the left and right wheels. |
| kh4\_measure\_us | unsigned int \*us\_values, knet\_dev\_t \*dsPic | int | Fetches ultrasonic sensor readings and stores them in an array. |
| kh4\_battery\_voltage | knet\_dev\_t \*dsPic | unsigned int | Retrieves the battery voltage. |
| kh4\_battery\_current | knet\_dev\_t \*dsPic | unsigned int | Retrieves the battery current. |
| kh4\_battery\_level | knet\_dev\_t \*dsPic | unsigned int | Retrieves the battery level (percentage). |
| kh4\_beep | int frequency, int duration, knet\_dev\_t \*dsPic | int | Makes the robot emit a beep sound. |
| kh4\_set\_leds | int led\_state, knet\_dev\_t \*dsPic | int | Sets the state of the robot's LEDs. |
| kh4\_get\_data | const char \*command, char \*response, int len, knet\_dev\_t \*dsPic | int | Sends a command to the robot and retrieves the response. |
| kh4\_ir\_distance | int \*sensor\_values, knet\_dev\_t \*dsPic | int | Reads the distance measured by the IR sensors. |
| kh4\_ultrasonic\_measure | int \*sensor\_values, knet\_dev\_t \*dsPic | int | Reads the values from the ultrasonic sensors. |
| kh4\_status | int \*status, knet\_dev\_t \*dsPic | int | Retrieves the robot's current status. |
| kh4\_revision | char \*revision | int | Retrieves the firmware revision of the robot. |
| kh4\_get\_sys\_microsec | knet\_dev\_t \*dsPic | unsigned int | Retrieves the current system time in microseconds. |