

```
1 from machine import Pin, DEC, PWM
2 from drv8833 import DRV8833
3 import time
4
5
6 class Encoder:
7
8     def __init__(self, chA, chB, unit, counts_per_turn=24*75, wheel_diameter=330):
9         '''Decode output from quadrature encoder connected to pins chA, chB.
10         unit: DEC unit to use (0 ... 7).
11         counts_per_turn: Number of counts per turn of the motor drive shaft. For scaling
12         cps to rpm.
13         wheel_diameter: In [mm]. For scaling count to distance traveled.
14         '''
15         self.p1 = Pin(chA, mode=Pin.IN)
16         self.p2 = Pin(chB, mode=Pin.IN)
17         self.cpt = counts_per_turn
18         self.dia = wheel_diameter
19         self.dec = DEC(unit, self.p1, self.p2)
20         self.count = self.dec.count()
21         self.time = time.time()
22         self.cps = 0
23
24     def get_count(self):
25         return self.dec.count()
26
27     def get_distance(self):
28         return get_count() / self.cpt * 3.14 * self.dia / 1000
29
30     def get_cps(self):
31         count = self.dec.count()
32         curr_time = time.time()
33         diff = count - self.count
34         timediff = curr_time - self.time
35         self.time = curr_time
36         self.count = self.dec.count()
37         self.cps = diff/timediff
38         return self.cps
39
40     def get_rpm(self):
41         return self.get_cps()/self.cpt * 60
42
43     def clear_count(self):
44         # modify to match the variable names used in your code:
45         self.dec.clear()
46         self.count = self.dec.count()
47         self.time = time.time()
```