

Servosteuerung

Der Ultraschallsensor kann auch mit einem Servomotor drehbar gemacht werden. Die folgende Klasse steuert den Servomotor:

```
from machine import Pin, PWM
import utime

class Servo:
    '''This class manages the servo motor that turns the ultrasonic sensor. You need a servo
    motor installed to get use out of this.
    Don't use directly or edit.'''
    def __init__(self, pin):
        self.pin = PWM(Pin(pin))
        self.pin.freq(50)
        self.min = 1350
        self.max = 8100
        self.angle = 0

    def set_angle(self, a):
        '''If installed, the servor motor will set the angle of the ultrasonic sensor. 90° ist
        straight ahead.'''
        if a > self.angle:
            for i in range(self._get_duty(self.angle), self._get_duty(a)):
                self.pin.duty_u16(i)

        elif a < self.angle:
            for i in range(self._get_duty(self.angle), self._get_duty(a), -1):
                self.pin.duty_u16(i)
        self.angle = a
        utime.sleep_ms(4)

    def _get_duty(self, angle):
        '''Internal function. Calculates the PWM duty for the given angle.'''
        return round((self.max - self.min) / 180 * angle + self.min)
```

Dieser Code muss unter dem Dateinamen „servo.py“ auf dem Pico gespeichert werden.

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