

Ultraschallsensor

Ultraschallbibliothek

Speichere diesen Code auf dem Pico unter dem Namen "ultrasonic.py".

```
from machine import Pin
from time import sleep
import utime

class Ultra:
    """This class manages the ultrasonic sensor. It returns the distance to an obstacle in cm. """
    def __init__(self, pinNo):
        self.trigger = Pin(pinNo, Pin.OUT) # to trigger a sound impulse
        self.echo = Pin(pinNo+1, Pin.IN) # records the echo of the trigger pulse

    def get_dist(self):
        """This returns the measured distance in cm. (float)"""
        timepassed = 0
        signalon = 0
        signaloff = 0
        self.trigger.low()
        utime.sleep_us(2)
        self.trigger.high()
        utime.sleep_us(5)
        self.trigger.low()
        while self.echo.value() == 0:
            signaloff = utime.ticks_us()
        while self.echo.value() == 1:
            signalon = utime.ticks_us()
        timepassed = signalon - signaloff
        distance = round((timepassed * 0.0343) / 2, 2)
        # print("The distance from object is ", distance, "cm.") # for debugging purposes uncomment the line.
        utime.sleep_ms(10) # Wait necessary or program halts
```

Beispiel für die Anwendung dieser Bibliothek

Kopiere diesen Code in eine andere Datei auf dem Pico, z. B. „ultratest.py“.

```
from ultrasonic import Ultra
from utime import sleep, sleep_ms

us = Ultra(16)

while True:
    print(f"gemessene Entfernung: {us.get_dist()} cm.")
    sleep(1)
```

Zum Fahren siehe [Motorsteuerung](#).

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