PH Sensor

* PH-4502C: <https://cdn.awsli.com.br/969/969921/arquivos/ph-sensor-ph-4502c.pdf>
* <https://wiki.dfrobot.com/PH_meter_SKU__SEN0161_>

Ultrasonic (HC-SR04)

* Power supply: 3-5V
* Distance: 3.5m (2cm-4m)
* Measuring angle: 30°
* Sonar
* Project link:<https://www.tutorialspoint.com/arduino/arduino_ultrasonic_sensor.htm#:~:text=The%20HC%2DSR04%20ultrasonic%20sensor,or%201%E2%80%9D%20to%2013%20feet>.
* -          Multiple Sensors:<https://forum.arduino.cc/t/multiple-hc-sr04-with-as-few-pins-as-possible/475135/3>

MMWave Radar (SEN0395)

* Power Supply: 3.6~5V
* Distance: 9m
* Buad Rate: 115200
* Gives 0 or 1 result to detect human motion
* Millimeter-wave(
* Freq range: 30-300 GHz
* Wavelength: 10-1 mm
* Project link: <https://wiki.dfrobot.com/mmWave_Radar_Human_Presence_Detection_SKU_SEN0395#target_6>

Microwave Radar Sensor (RCWL 0516)

* Power Supply: 4~28V
* Distance: 5-7m
* Microwave Doppler radar technique
* 300MHz-30GHz
* Wavelength: 1- 0.1 m

Photoelectric Sensor (Retroreflective – BEN5M-MFR)

* Power Supply: 24~240V
* Distance: 5m
* Sensing target: Opaque material
* Light source: Infrared LED
* Response time: 20ms
* Op mode: Light ON/Dark ON (set by switch)
* Useful project: link <https://maker.pro/arduino/projects/retroreflective-sensor-driven-16x32-led-matrix-panel>

Photoelectric Sensor (Diffuse – E3Z-D61)

* Distance: 0.5-10cm
* 12~24V
* Op mode: Light ON/Dark ON (set by switch)
* Distance detection sensitivity (set by switch)

MKR NB 1500

* Useful library link: <https://www.arduino.cc/reference/en/libraries/mkrnb/>
* Able to connect to network n send an sms, cellular

Doppler effect: The change in frequency of a wave caused by the motion of said moving object

The speed and direction of this moving object is found by analysing the frequency shift of the reflected microwave energy

Speed detection in traffic

Able to detect motion through walls and other barriers

Prone to false detections like trees/animals

VCC – power for the module

GND

SCL – module output (HIGH motion detected/ LOW idle)

CDS – sensor disable input (low = disable)

3.3V – regulated output. Max 100mA