Componentenlijst

benodigdheden voor Lucht kwaliteit meting Hoboken

|  |  |  |  |
| --- | --- | --- | --- |
| **Component** | **# nummer** | **Link** | **Aantal** |
| LoRa Chip | esp32 | SX1276 | <https://jlcpcb.com/partdetail/Dreamlnk-DL_RFM95868M/C2844472> | 5 |
| Esp32 MCU | ESP32-WROOM-32-N8 | <https://jlcpcb.com/partdetail/EspressifSystems-ESP32_WROOM_32N8/C529582> | 5 |
| Voltage regulator | LD1117S33TR | <https://jlcpcb.com/partdetail/Stmicroelectronics-LD1117S33TR/C86781> | 5 |
| USB --> UART | CP2102N | <https://jlcpcb.com/parts/componentSearch?searchTxt=CP2102N> | 5 |
| UFL - connector | 0734120110 | <https://www.digikey.be/en/products/detail/molex/0734120110/1894611> | 5 |
| Antenne LoRa 868MHz |  | <https://www.digikey.be/nl/products/detail/pycom-ltd./SIGFOX%2FLORA%2520ANTENNA%2520KIT/7721843?utm_adgroup=&utm_source=google&utm_medium=cpc&utm_campaign=PMax%20Shopping_Product_Medium%20ROAS&utm_term=&productid=7721843&gclid=Cj0KCQjw06-oBhC6ARIsAGuzdw0quU4vBBvcwUWUPu1ohaDuoyhi4YIcPcKDr1nE_Ml7SZSHsvy-O_UaAuszEALw_wcB> | 5 |
| Zonnepaneel | 110X80 | Aanwezig op school | 10 |
| Solar power manager | DF robot | DFR0559 | <https://www.dfrobot.com/product-1712.html> + stand offs | 5 |
| Batterij 3,7V | 45F2232 | <https://www.sossolutions.nl/lithium-ion-batterij-3-7v-1200mah?gclid=Cj0KCQjw06-oBhC6ARIsAGuzdw1UnPXiduS0PeR8wvGpTGsoqaWtrCjvV7uu_FQso4fSVID3qY53XXMaApUvEALw_wcB> | 5 |
| Kabel – 2 draads | (E1052S.41.10)  EN50306-3-RAIL-2X0.75 | (<https://www.digikey.be/nl/products/detail/prysmian-group/E1052S-41-10/618558>)  <https://www.digikey.be/nl/products/detail/te-connectivity-raychem-cable-protection/EN50306-3-RAIL-2X0-75/13590732> | 2m |
| Milieu sensor | SEN55 | <https://www.sensirion.com/products/catalog/SEN55> | 5 |
| JST connector SEN55 | BM06B-GHS-TBT | <https://www.digikey.nl/nl/products/detail/jst-sales-america-inc/BM06B-GHS-TBT-LF-SN-N/807850>  <https://jlcpcb.com/partdetail/207057-BM06B_GHS_TBT_LF_SN_N/C189892> | 5 |
| Stikstof sensor | SGP41 | <https://sensirion.com/products/catalog/SGP41>  <https://jlcpcb.com/partdetail/Sensirion-SGP41_DR4/C9900005629> | 5 |
| Wartel (voor zonnepaneel kabel) | 12002100 | <https://be.farnell.com/bopla/12002100/metric-cable-gland-mbf-m12-x-1/dp/3216813> | 5 |
| Installatie doos | Z74H | <https://www.tinytronics.nl/shop/en/tools-and-mounting/enclosures/universal/kradex-enclosure-176x126x57mm-ip65-red-transparent-z74h> | 5 |
| Backplate |  | Zelf maken | 5 |
| Standoffs |  |  | 40 |
| Testboard | ESP32-dev-board | <https://www.tinytronics.nl/shop/en/development-boards/microcontroller-boards/with-wi-fi/esp32-wifi-and-bluetooth-board-cp2102> |  |

**Legende:**

* PCB
* Voeding
* Behuizing
* Sensoren

**Te bestellen:**

* 4X SEN55
* 5X SEN55 connectie kabel
* 40X Standoffs
* 5X Wartel
* 2m Kabel – 2 draad
* 4 X behuizing

# Gateway

<https://github.com/Jappie3/zanzi-doc/blob/master/gateway/BOM.md>

The gateway board uses a CM4-POE-UPS-BASE KIT board as base with a Raspberry PI 4 Compute module. This board has a buildin UPS which uses 3 18650 Li-ion batteries, furthermore the board can be powered from POE (802.3af).

BOM

[CM4-POE-UPS-BASE KIT](https://www.waveshare.com/wiki/CM4-POE-UPS-BASE)

3X 18650 batteries

[Raspberry PI Compute module 4 with 32GB MMC (CM4104032)](https://datasheets.raspberrypi.com/cm4/cm4-product-brief.pdf)

Antennas voor LoRaWAN

2x Pigtail SMA-MHF

CR2032 batterij

USB SDR + antenna

[IC880A LoRaWAN board](https://wireless-solutions.de/products/lora-solutions-by-imst/radio-modules/ic880a-spi/)

Adapter bord IC880A (see below)

[Metal housing](https://benl.rs-online.com/web/p/wall-boxes/7755808)

Metal Housing adapter, lasercut from custom design [housing\_adapter.dxf](https://github.com/Verbeast2K/zanzi-doc/blob/master/gateway/housing_adapter.dxf)