



WLRC-S53



Wireless Nitrogen Oxides (NO₂) Sensor

The WLRC-S53 is a wireless sensor that detects Nitrogen Oxides (NO₂) concentration in ambient air. The body and the Nitrogen Oxides sensor are connected through the RS485 interface, and the detected data is transmitted to other devices through the wireless network. The data transmission is based on the LoRa™ communication platform.

Features:

- Super Long Range Signal Penetration
- 12V DC adapter power supply
- Easy Installation
- RS485 communication
- Improved interference immunity
- Interactive WatchNET IoT platform with dashboard, search and notification settings



Applications:

- Nitrogen Oxides (NO₂) concentration detection in the air
- Places of burning fossil fuels
- Coal-fired power stations and diesel engines
- Transportation, power generation, industrial processing
- Commercial and industrial heating
- Underground parking lot
- Environmental protection monitoring

Schematic Diagram:



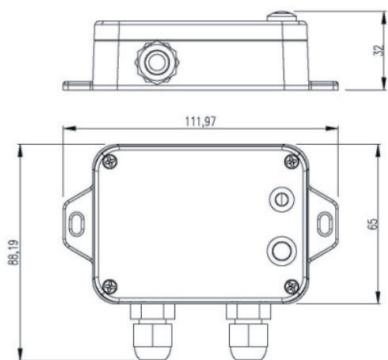
Nitrogen Oxides (NO₂) concentration in the air



Technical Specifications

Electrical characteristics	
Power Supply	DC 12V adapter power supply
Operating Current	<70mA (external sensor)
* Specific electrical characteristics will vary depending on the power supply voltage	
Nitrogen Oxides (NO ₂) sensor parameters	
Power supply	+ 10V - +24 VDC
Nitrogen Oxides measurement range	0 - 20ppm
Nitrogen Oxides measurement method	Electrochemical sensors
Nitrogen Oxides measurement accuracy	≤± 3 % of reading (@25°C)
Response Time	Usually less than 15 seconds
Service Life	Nitrogen Oxides sensor warranty for 2 years Gas probe warranty for 1 year
Communication port	RS485
Radio frequency characteristics	
Frequency range	863MHz-928MHz 470MHz-510MHz
Power Output	19 dBm ±1dBm
Receiving sensitivity	-136dBm (LoRa, Spreading Factor=12, Bit Rate=293bps) -121dBm (FSK, Frequency deviation=5kHz, Bit Rate=1.2kbps)
Antenna Type	Built-in antenna
Communication Range	Up to 500m/0.310miles, the actual transmission distance depends on the environment
Data Transfer Rate	LoRa: 0.3kbps ~ 50kbps FSK: 1.2kbps ~ 300kbps
Modulation System Mode	LoRa/FSK (Note: choose one of them)
Available Frequency	EU863-870, US902-928, Configured before shipment
Physical characteristics	
Main unit size	Main part: L: 112 mm x W: 88.19 mm x H: 32 mm / 4.41" x 3.47" x 1.26"
Ambient temperature range	-20°C ~ 55°C / -4°F ~ 131°F
Protection class	Main Part IP65
Main unit weight	160g / 0.353lb
Environment Humidity Range	<90%RH (No condensation)
Storage Temperature	-40°C ~ 85°C / -40°F ~ 185°F

Dimensions



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