

Wireless SO2 Sensor

Wireless Sensor Network Based on LoRa Technology

Art nr. 20102152

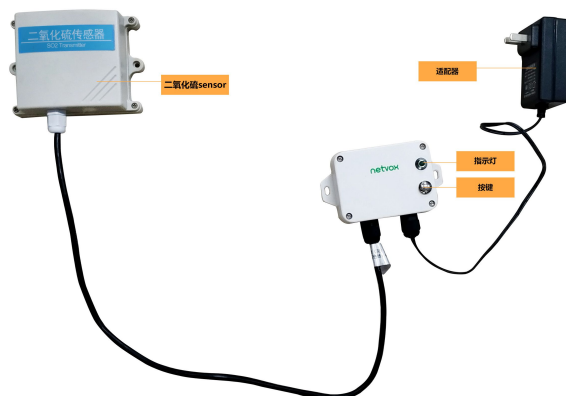


Fig. 1 Appearance of R718PA6
(subject to the actual product)

DIREKTRONIK

History

Version	Date	Note
0.1	2019-06-25	Initial Release

Notes:

Hardware Version
61R718p6801V0.2

Overview

The R718PA6 is a wireless communication device that detects SO2 concentration in ambient air. The main unit (R100L module) and SO2 sensor communicate via the RS485 connection interface, and it sends detected data to the other equipment via wireless network compliance Lora (™) wireless communication protocol standards.

working principle

The module R100H (R100L) and the SO2 sensor communicate via RS485 .

Main characteristics

- Adopt SX1276 wireless communication module
- DC 12V adapter power supply
- Main unit protection class IP65
- The base is equipped with a magnet that can be attached to the iron object.
- RS485 communication
- Compatible with LoRaWANTM Class A
- Frequency hopping spread spectrum technology
- Configuration parameters can be configured through third-party software platforms
- Data can be read and alerts can be set via SMS text and email (optional)
- Applicable to third-party platforms: Actility / ThingPark, TTN, MyDevices / Cayenne

Application scenario

- SO2 concentration detection

Dimensions

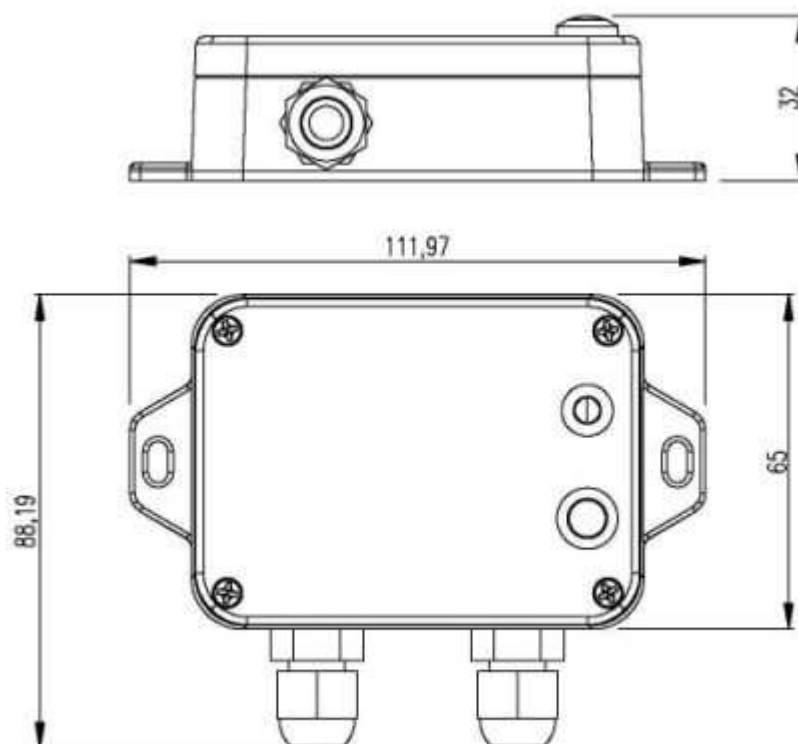


Fig. Main unit housing size

Main unit case size: 112 mm x 88.19 mm x 32 mm

Electrical characteristics

Power supply	DC 12V adapter power supply
Working current	<70mA (external sensor)

* Specific electrical characteristics will vary depending on the power supply voltage

SO₂ sensor parameters

Power supply	+ 12V-+24 VDC
SO ₂ measurement range	0- 20ppm
SO ₂ measurement method	Electrochemical sensors
SO ₂ measurement accuracy	< = ± 3 % of reading (@25 ° C)
Response time	Usually less than 15 seconds
Service life	SO ₂ 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); -121 dBm (FSK, Frequency deviation=5kHz, Bit Rate=1.2kbps)
Antenna type	Built-in antenna
Communication distance	Up to 10 km (visible linear obstacle-free transmission distance , actual transmission distance depends on the environment)
Data transfer rate	0.3kbps to 50k bps
Modulation system mode	LoRa/FSK (Note: You can choose one of them)
Supportable LoRaWAN band	EU863-870, US902-928, AU915-928, KR920-923, AS923 , CN470-510 (Note: The frequency band is optional and needs to be configured before shipment)

Physical characteristics

Main body size	L: 112 mm*W: 88.19 mm*H: 32 mm,
Ambient temperature range	-20 °C to 55 °C
Main unit weight	About 160g
Ambient humidity range	<90% RH (no condense)
Storage temperature range	- 40 °C ~ 85 °C