RADIONODE®

The most innovated data logger

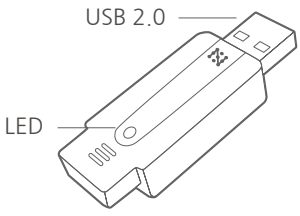
Electrochemical SO2 Density Transmitter via USB

UA53-SO2

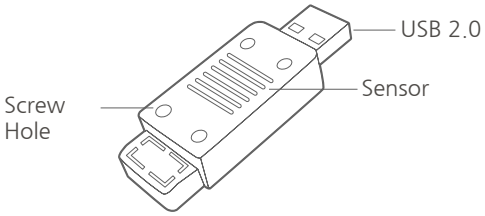
- Real-time SO2 density transmitter
- Cost-effective gas sensor
- Long Lifetime
- Calibration Certificate Included
- Operating On Windows / Linux / MacOS
- AT Command Support
- PC Recording Software (Tapaculo Lite)
- Android Recording App. (Tapaculo Mobile)

The UA53-SO2 device is a cost-effective Sulfur dioxide(SO2) transmitter. It has an electrochemical SO2 sensor inside and transmits the measured SO2 density and temperature information in real-time via the USB connector.
The UA Series is automatically recognized as a serial port on the operating system and accessed using the AT command. Multiple USB connections of the UA device could compose the multi-channel sensor. The sensor data is not stored in the UA, but recording in PC and Android device. 128CH real time monitoring software on pc, Tapaculo Lite is downloadable on our website(www.radionode365.com). And android real time recording application is also available from google play store. The optional RN17X model helps UA series for you to setup remote web monitoring system.

Hardware

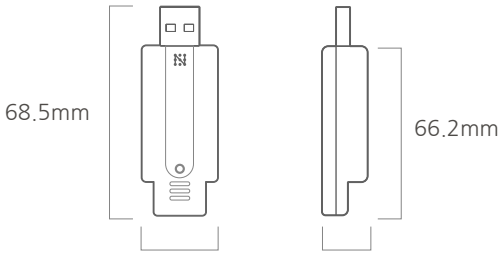


〈Front〉



〈Bottom〉

Dimensions



⚠ CAUTION!

UA53-SO2 doesn't guarantee performance in the following environments.

- Condensation and Water
- Salt Water Contamination
- High-Temperature Operation (>70°C) for more than 1 month
- Low Humidity Operation (<15% RH) for more than 3 months
- < 10% humidity may permanently damage the sensor.
- Highly contaminated air over a prolonged period
- Highly levels of particles or soot
  (unless proper filtering is provided)

Contact Information

- www.radionode365.com
- master@dekist.com

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UA53-SO2 Specifications

Sensor Channel Info.	• CH1: SO2 • CH2: Temperature
Gas Sensor Type	Electrochemical Film
Body Material	PC(Polycarbonate)
Measurement Range	• SO2: 0 ~20 ppm • Temperature: -20 ~ 40°C (-4 ~ 104°F)
Measurement Unit (Selection using SW)	• SO2: ppm • Temperature: °C(Default), °F
Measurement Cycle	1 sec
Sensor Resolution	• SO2 : 0.02ppm • Temperature: 0.01°C
Sensor Accuracy (Repeatability)	• SO2: < ±3% of measured value • Temperature: ±0.2°C
Compensation Logic	Temperature
Long-term Drift	< 2% signal loss / 1 year
Gas Response Time	T90 < 30 secs
Warming up Time	< 1.5 min after power-on
Operating Condition[1)]	• Temperature: - 20 ~ 40°C (-4 ~ 104°F) • Humidity: 15 ~ 95% RH(non condensing)
Lifetime[2)]	5 Years @ (23 ± 3°C, 40 ± 10% RH recommended)
Humidity-Sensitivity	< 10ppm
Cross-Sensitivity	Interfering Gas: NO, H2S, CO
Power Consumption	5V (Max. 75mW)
Calibration Certificate	Bulk Calibration Certificate Calibration with 5.6ppm SO2 calibration gas mixtures
Calibration Method	Two-point Calibration
USB Port	USB 2.0 Type A Plug
Output Signal	USB digital, CDC Device (AT Command)
LED	Device Status Indicator • BLINK RED & GREEN: Warming-up • RED KEEP ON: USB Connection Failed • BLINK GREEN: Measuring
Software Support	• Tapaculo Mobile 2CH recording software on Android devices Download: Google play store • Tapaculo Lite 128CH recording software on PC Download: www.radionode365.com • Calibration Software Calibrator that compensates measuring error. Download: www.radionode365.com

1) Avoid prolonged exposure to temperatures outside the recommended operating - as this may cause irreversible damage and loss of sensitivity.

2) Gas sensors have a longer life when measured discontinuously than when measured continuously.

Application

- Industrial safety
- AIR Quality Monitoring
- Building environment monitoring
- Food process

Product Components

Model	Component
UA53-SO2-20	• UA53-SO2-20(1EA) • USB Extension Cable(1EA) • Calibration Certificate(1EA)

Optional Accessories

Type	Model Number	Spec.
Sensor data transmitter via Ethernet	RN171 WC	• Supports cloud monitoring • Supports MODBUS TCP/ HTTP data transmission • Power: PoE 48V, IEEE802.3af/at, DC6V, 1.9W
Sensor data transmitter via WiFi	RN172 WC	• Supports cloud monitoring • Supports MODBUS TCP/ HTTP data transmission • Power: DC6V, 2.4W