Wireless Carbon Dioxide Sensor with Humidity & Temperature

daviteq

Smart Agriculture, Smart Building, Smart City, Smart Facility, Smart Factory, Smart Farm, Smart Healthcare, Smart Retail, Smart Transportation

SKU: WS433-CO2

WIRELESS CO2 SENSOR WITH HUMIDITY & TEMPERATURE
WS433-CO2

1000m LOS

10-Year

IP67 WEATHERPROOF

WS433-CO2-H1.PNG

✓ Safe Zone   ◯ Hazardous Zones

WS433-CO2 sensor utilizes CMOSens® Technology for IR detection enables carbon dioxide measurements of the highest accuracy at a competitive price. Along with the NDIR measurement technology for detecting CO_2 comes a best-in-class humidity and temperature sensor integrated on the same sensor module. Ambient humidity and temperature can be measured by special algorithm expertise through modelling and compensating of external heat sources without the need of any additional components. The wireless portion is Sub-GHz technology from Texas Instruments allows long range transmission at ultra-low power consumption. It will connect 2-way wirelessly to the wireless co-ordinator WS433-CL to send data and receiving the configuration. It can be configured the operation parameters like data sending interval, health check cycle... remotely from Globiots platform or via ModbusRTU software (thru the WS433-CL). Its default data rate is 50kbps, can be switched to 625bps to increase the communication range. The sensor can last up to 5 years with 2 x AA battery.
Typical Applications: Indoor Air Quality monitoring, HVAC Control, Green house, Smart Agriculture,...

Applications
Ambient Air Quality Monitor, Indoor Air Quality Monitor, Gas Analyzing, Warehouse Monitoring

Notes For Applications
Allow 1-minute warm-up before readings. Ensure good airflow; avoid heat sources. Avoid condensation; operate in 0~95% RH, 0~50℃. Enable auto-zeroing only in fresh-air environments. Secure mounting and dust protection recommended. Periodic calibration may be required in high CO_2 environments.

DETECT CO2 GAS IN HVAC SYSTEM

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✓ **Reliable & Secured Wireless Connection**
Sub-Ghz technology from Texas Instruments allows reliable wireless connection and secured data by AES-128

✓ **Ultra-low power with 5 years battery**
Ultra-low power sensing technology from Daviteq with Ultra-low power wireless technology from Texas Instruments allow the sensor can last up to 5 years

✓ **High Accuracy & Stable**
Advanced ultrasonic sensor with NDIR CO2 sensor technology processing to deliver high accuracy and stable measurement

✓ **Measure other parameters**
Integrated temperature and humidity sensor to monitor the ambient environment

Specification

| SENSOR SPECIFICATION	
CO_2 Sensor technology	NDIR sensor
CO_2 range/ resolution/ accuracy	0~40000 ppm/ 1ppm/ (±30ppm + 3% reading)
Repeatability	±10ppm
Temperature Stability	±2.5ppm/℃ in range 0~50℃
Temperature range/ resolution/ accuracy	-40~70℃/ 0.1℃/ ±0.5℃ in range 0~50℃
Humidity range/ resolution/ accuracy	0-100% RH/ 0.1% RH/ ±3.0% RH in range 25~100% RH
Sensor Filter	316SS sintered filter
Sensor housing material/ Rating	SS316/ SS304/ for Indoor use
WIRELESS SPECIFICATION	
Data speed	Up to 50kbps
Transmission distance, LOS	1000m
Antenna	Internal Antenna
Battery	02 x AA 1.5~3.6VDC, up to 5 years operation, depends on the configuration
Frequency Band	ISM 433MHz, Sub-GHz technology from Texas Instrument, USA
International Compliance	ETSI EN 300 220, EN 303 204 (Europe) FCC CFR47 Part15 (US), ARIB STD-T108 (Japan)
Vietnam Type Approval Certification	QCVN 73:2013/BTTTT, QCVN 96:2015/BTTTT (DAVITEQ B00122019)
Security Standard	AES-128
Operating temperature of PCB	-40~60℃ (with AA L91 Energizer®)
Housing/ Protection	Aluminum + Polycarbonate/ IP67
Dimension	H180xW73xD42
Net weight	< 400g

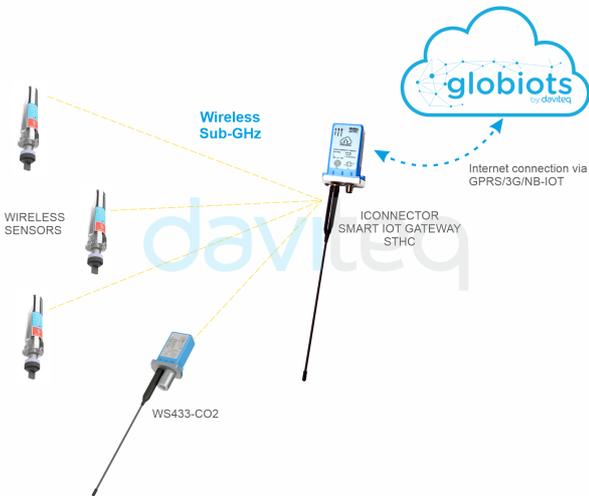## CONNECT WIRELESS SENSORS TO any PLC or HMI
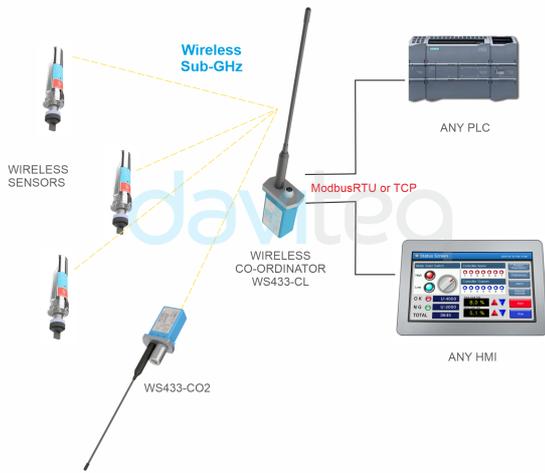
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CONNECT WIRELESS SENSORS TO any SCADA or IoT Platform
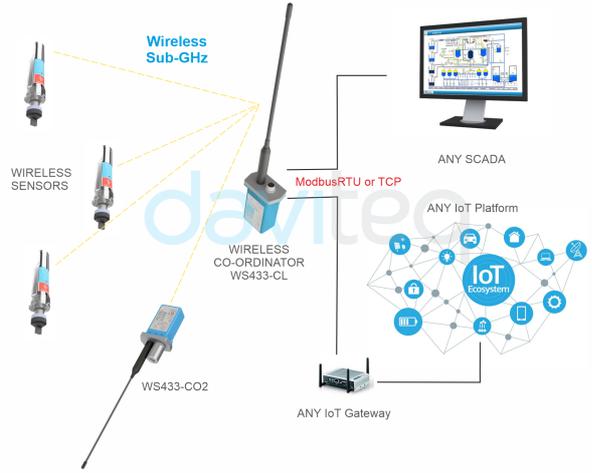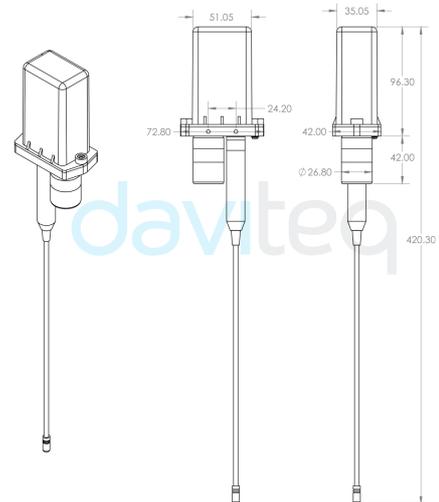

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CONNECT WIRELESS SENSORS TO GLOBIOTS Platform

WS433-CO2-H5.PNG

DIMENSION DRAWING OF WIRELESS SENSOR
(Unit: mm)

WS433-CO2-H6.PNG

RECOMMENDED BATTERIES

E91 AA Alkaline battery

-18 .. + 60 oC working temperature

10-year shelf life

3000 mAH Capacity

Price: 1X

L91 AA Lithium battery

-40 .. + 60 oC working temperature

20-year shelf life

3500 mAH Capacity

Price: 3.5X

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BLANK

WS433-CO2-H8.PNG

Ordering Information

ITEM CODE	DESCRIPTIONS
WS433-CO2-01	WIRELESS CARBON DIOXIDE GAS SENSOR, 433MHZ, 0-40000PPM, 2 X AA 1.5VDC BATTERY, IP67