

Wireless Carbon Dioxide Sensor with Humidity & Temperature



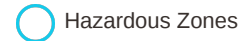
Smart Agriculture, Smart Building, Smart City, Smart Facility, Smart Factory, Smart Farm, Smart Healthcare, Smart Retail, Smart Transportation

SKU: WS433-CO2

WIRELESS CO2 SENSOR WITH HUMIDITY & TEMPERATURE WS433-CO2



WS433-CO2-H1.PNG



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 CO₂ 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

- ✓ **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

DETECT CO2 GAS IN HVAC SYSTEM



WS433-CO2-H2.PNG

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Created date: Dec-21-2022

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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/°C in range 0~50°C
Temperature range/ resolution/ accuracy	-40~70°C/ 0.1°C/ ±0.5°C in range 0~50°C
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°C (with AA L91 Energizer®)
Housing/ Protection	Aluminum + Polycarbonate/ IP67
Dimension	H180xW73xD42
Net weight	< 400g

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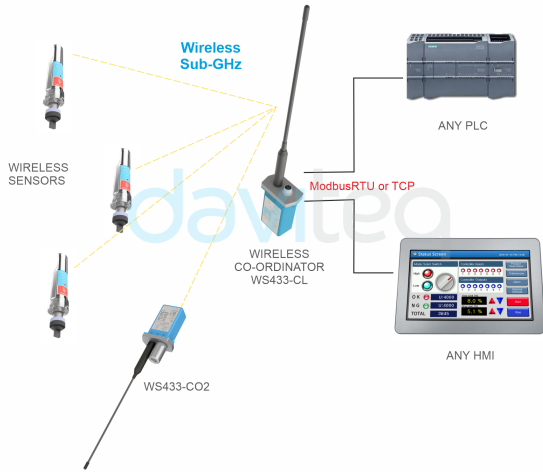
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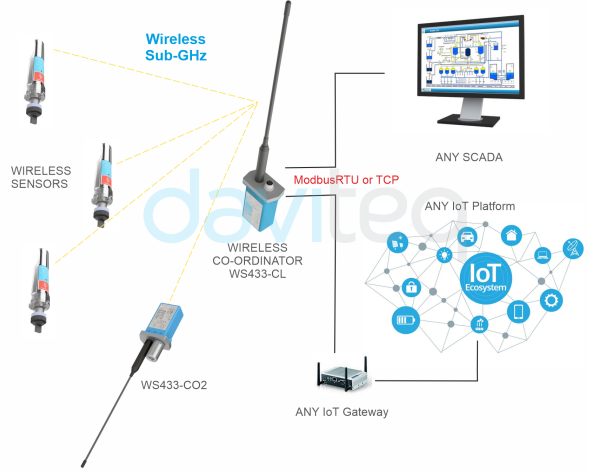
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CONNECT WIRELESS SENSORS TO any PLC or HMI



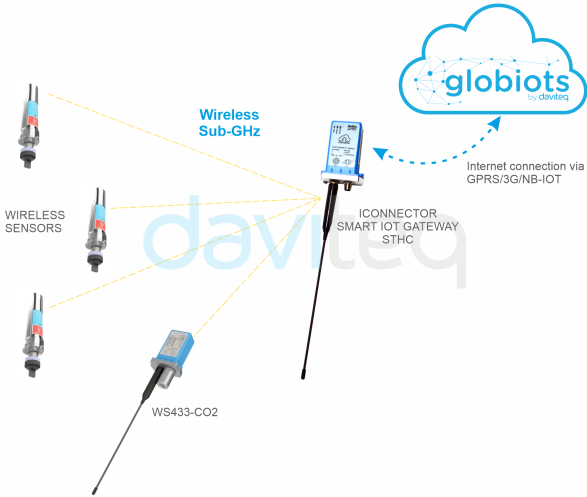
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CONNECT WIRELESS SENSORS TO any SCADA or IoT Platform



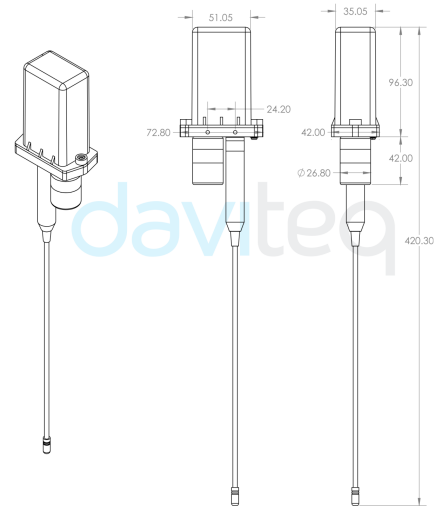
WS433-CO2-H4.PNG

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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WS433-CO2-H8.PNG

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SOIL MOISTURE SENSOR INSTALLATION



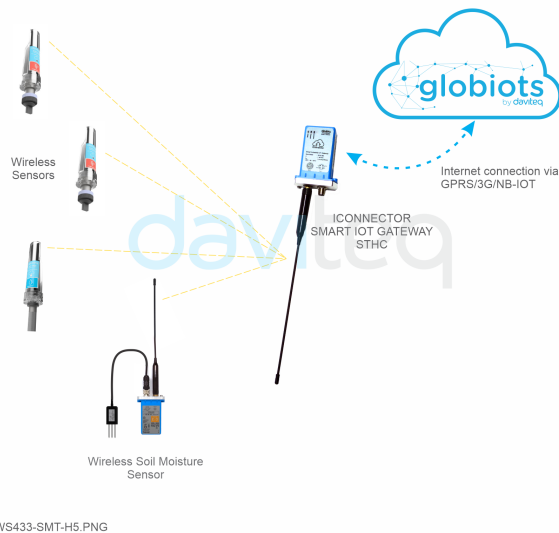
INSTALLATION FOR MULTI-LAYER MEASUREMENT



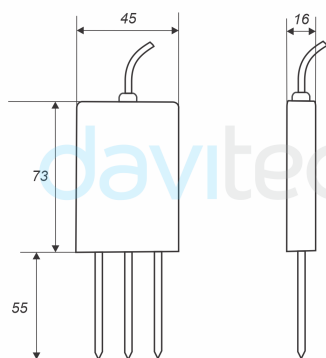
40 WIRELESS SENSORS CONNECT TO ONE CO-ORDINATOR



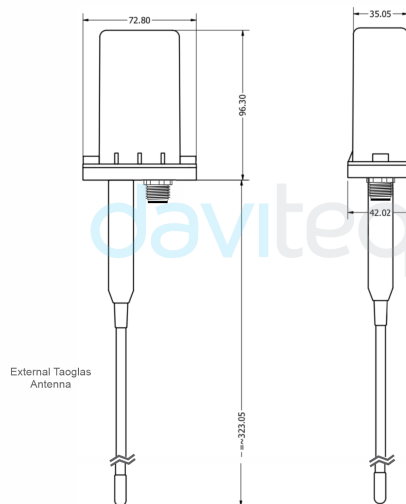
CONNECT WIRELESS SENSORS TO GLOBIOTS Platform



DIMENSION DRAWINGS OF SENSOR (Unit: mm)



DIMENSION DRAWINGS OF WIRELESS SENSOR (Unit: mm)



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Ordering Information

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

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