Product Data sheet for Sub-GHz Wireless Sensors

- Wireless CO2 Sensor with Humidity & Temperature WS433-CO2
- Wireless Lidar People Counter WS433-LPC
- Wireless 26GHz Lens Radar Level Sensor
- Wireless pH Transmitter WS433-PH100
- Wireless 3-AXIS Tilt Sensor WS433-AG
- Wireless NH3 Ammonia Gas Sensor WS433-G4F-NH3
- Wireless H2S Hydrogen Sulfide Gas Sensor WS433-G4F-H2S
- Wireless Ultrasonic Level Sensor for Small trash bin WS433-ULA
- Wireless Sub-GHz Laser Level Sensor WS433-LSL

Wireless CO2 Sensor with Humidity & Temperature WS433-CO2

SKU: WS433-CO2

Doc No: WS433-CO2-DS-EN-10



WS433-CO2-H1.PNG



WS433-CO2-H3.PNG

Introduction

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 50 kbps, can be switched to 625 bps to increase the communication range. The sensor can last up to 5 years with 2 x AA battery.

- NDIR CO2 sensor technology;
- Integrated temperature and humidity sensor;
- Best performance-to-price ratio;
- Dual-channel detection for superior stability;
- High performance Sub-GHz Wireless communication;
- Ultra-low power with 5 years battery;
- Plug & Play.

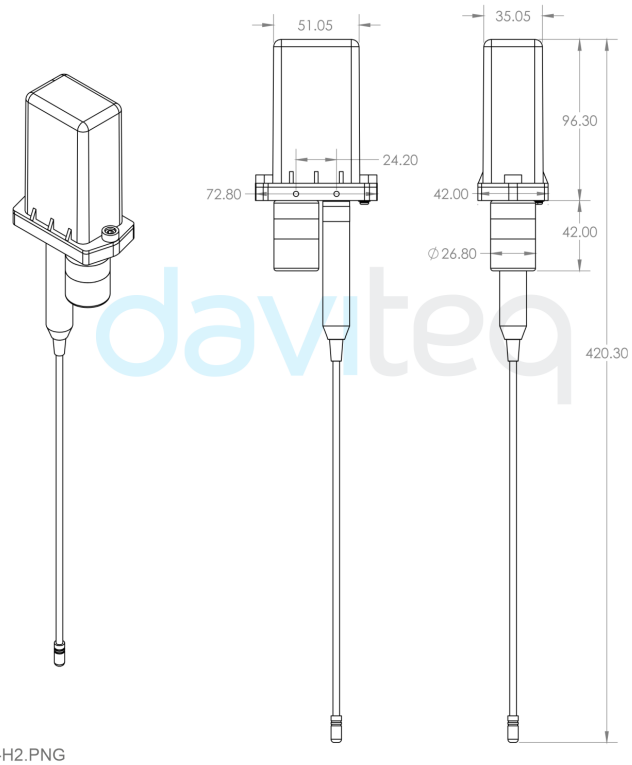
Typical Applications

Carbon Dioxide is a key indicator for indoor air quality. Thanks to new energy standards and better insulation, houses have become increasingly energy-efficient, but the air quality can deteriorate rapidly. Active ventilation is needed to maintain a comfortable and healthy indoor environment and improve the well-being and productivity of the inhabitants. Daviteq sensor solutions offer an accurate and stable monitoring of CO2 in the air, as well as temperature and humidity. This enables our customers to develop new solutions that increase energy efficiency and simultaneously support the well-being of everyone.

- Indoor Air Quality monitoring;
- HVAC Control;
- Green house;
- Smart Agriculture.

DIMENSION DRAWING OF WIRELESS SENSOR

(Unit: mm)



WS433-CO2-H2.PNG

Specification

SENSOR SPECIFICATION	
CO2 Sensor technology	NDIR sensor
CO2 range/resolution/accuracy	0-40.000 ppm / 1ppm / (+/- 30ppm + 3% reading)
Repeatability	+/- 10ppm
Temperature Stability	+/- 2.5ppm / oC in range 0-50 oC
Temperature range/resolution/accuracy	-40..+70oC / 0.1oC / ± 0.5 °C in range 0-50 oC
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	-40oC..+60oC (with AA L91 Energizer)
Housing/Protection	Aluminum+Polycarbonate / IP67
Dimension	H180xW73xD42
Net weight	<400 grams

Ordering Code

Item code	Descriptions
WS433-CO2-01	WIRELESS CARBON DIOXIDE GAS SENSOR, 433MHZ, 0-40.000PPM, 2 X AA 1.5 VDC BATTERY, IP67

⚠ Link for full datasheet: https://filerun.daviteq.com/wl/?id=k8VO8VoA2iCUsIbvvctyoJw7FvAZ0LNx

⚠ Link for manual:

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Wireless Lidar People Counter WS433-LPC

SKU: WS433-LPC

Doc No: WS433-LPC-DS-EN-10





Introduction

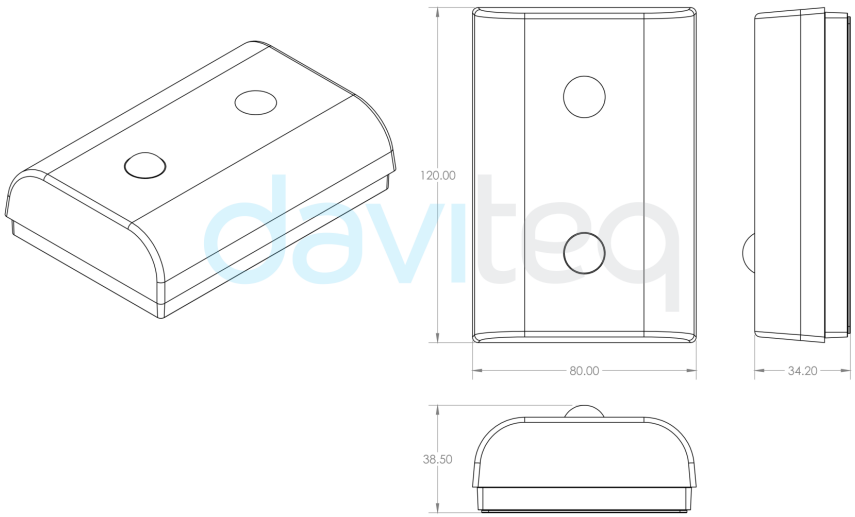
WS433-LPC is a sensor with built-in advanced Lidar sensor to detect and ranging people. It can count the people walk thru with accuracy higher than 90%. The sensor is not affected by temperature, humidity, RF noise and less affected by ambient light... The wireless portion is Sub-GHz technology from 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 50 kbps, can be switched to 625 bps to increase the communication range. The sensor can last up to 5 years with type AA battery.

- High accuracy counting by Lidar;
- Distinguish people in and out;
- High performance Sub-GHz Wireless communication;
- Ultra-low power with 5 years battery;
- Plug & Play.

Typical Applications

- People counter for public toilet
- People counter for Store, shop...

DIMENSION DRAWING OF WIRELESS SENSOR
(Unit: mm)



WS433-LPC-H2.PNG

Specification

SENSOR SPECIFICATION	
Sensor technology	Lidar
Detection range	max 4m
Detection cone	27 degree
Working temperature	-40 .. + 60 oC
Working humidity	0 .. 100% RH, non-condensing
WIRELESS SPECIFICATION	
Data speed	Up to 50kbps
Transmission distance, LOS	1000m
Antenna	Internal Antenna
Functions	Sending data in interval or when alarms occur
Battery	Battery AA Type 1.5VDC and 7..48VDC (AC adapter not included
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	-40oC..+60oC (with Lithium Ultimate AA battery)
Housing/Protection	Self-extinguisher ABS, Dust and vapor protection
Mounting	Ceiling mount
Dimension	H120xW80xD45
Net weight	< 150 grams

Ordering Code

Item code	Descriptions
WS433-LPC-01	WIRELESS LIDAR PEOPLE COUNTER, 433MHZ, TYPE AA BATTERY 1.5VDC, IP5X

⚠ Link for full datasheet:

⚠ Link for manual:

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Wireless 26GHz Lens Radar Level Sensor

SKU: WS433-RD26L

Doc No: WS433-RD26L-DS-EN-10





Introduction

WS433-RD26L is K-band radar level sensor with special lens for Solid or Liquid measurement. With special lens design, it will be not affected by coagulation/hanging/operating medium/sediment and dust. It can measure up to 70m range with small beam angle 8 degree. 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 50 kbps, can be switched to 625 bps to increase the communication range. The complete set of wireless radar sensor can be powered by 12pcs x AA 1.5V, can last up to 12 years.

- Not affected by Dust, Steam...;
- Range up to 70m;
- High performance Sub-GHz Wireless communication;
- Ultra-low power with 12 years battery;
- Plug & Play.

Typical Applications

- Level measurement in Tank;
- Level measurement in Silo;
- Level measurement for Liquid or Solid;

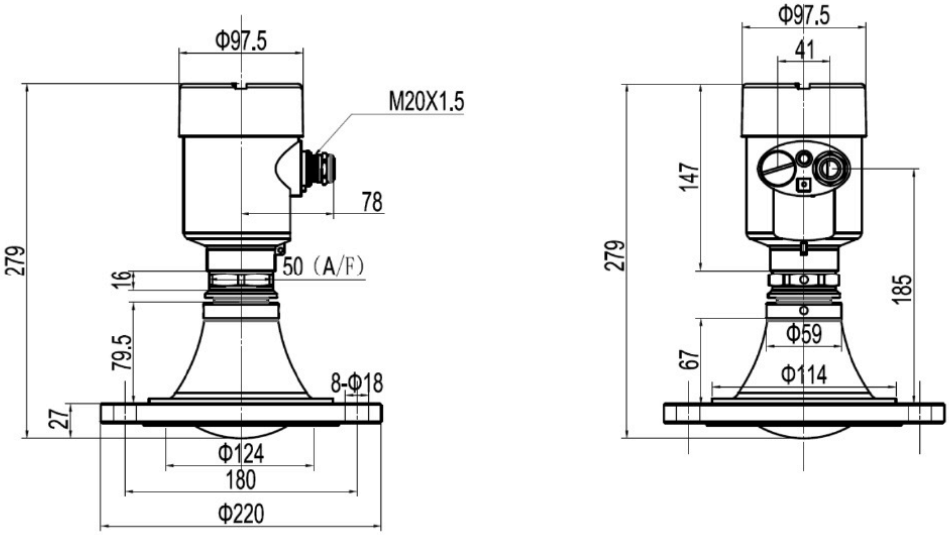
Coalmine Application



Cement Application



Dimension Drawings



Specification

SENSOR SPECIFICATION	
Sensor technology	26 GHz Pulse radar with lens
Measurement range	10, 30, 70m
Resolution	1.0 mm
Accuracy	+/- 5.0 mm
Beam angle	8 degree
Lens material	Nylon/PEEK/PTFE/POM
Process temperature	-40 .. + 85oC standard, +120 oC optional
Process pressure	-1 .. + 4 barg
Ambient working temperature	-40 .. + 85 oC
Ambient working humidity	0 .. 95% RH, non-condensing
WIRELESS SPECIFICATION	

Data speed	Up to 50kbps
Transmission distance, LOS	1000m
Antenna	External Antenna 0 dbi
Functions	Sending data in interval
Battery	12 x Battery AA Type 1.5VDC and 7..48VDC
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
Ambient Operating temperature of complete set	-40oC..+60oC (with Lithium Ultimate AA battery)
Housing/Protection	Cast aluminum, Polycarbonate, IP67
Mounting	Direct mount on flange
Dimension	220x220x450 (without antenna)
Net weight	<= 10 kgs

Ordering Codes

Item code	Descriptions
WS433-RD26L-SL-01	WIRELESS 26GHZ RADAR LEVEL SENSOR WITH PA LENS FOR SOLID IN HIGH DUST ENVIRONMENT, SUS304 JIS10K 100A RF FLANGE, 0-30M CALIBRATED RANGE, -40 .. + 85 C, IP67 ALUMINUM HOUSING
WS433-RD26L-SL-02	WIRELESS 26GHZ RADAR LEVEL SENSOR WITH PA LENS FOR SOLID IN HIGH DUST ENVIRONMENT, SUS304 JIS10K 100A RF FLANGE, 0-70M CALIBRATED RANGE, -40 .. + 85 C, IP67 ALUMINUM HOUSING

⚠ Link for full datasheet:

⚠ Link for manual:

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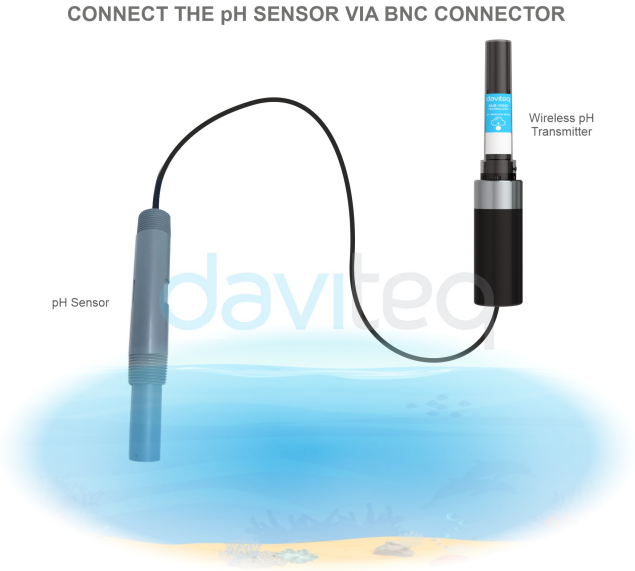
Wireless pH Transmitter WS433-PH100

SKU: WS433-PH100

Doc No: WS433-PH100-DS-EN-10



WS433-PH100-H1.PNG



WS433-PH100-H3.PNG

Introduction

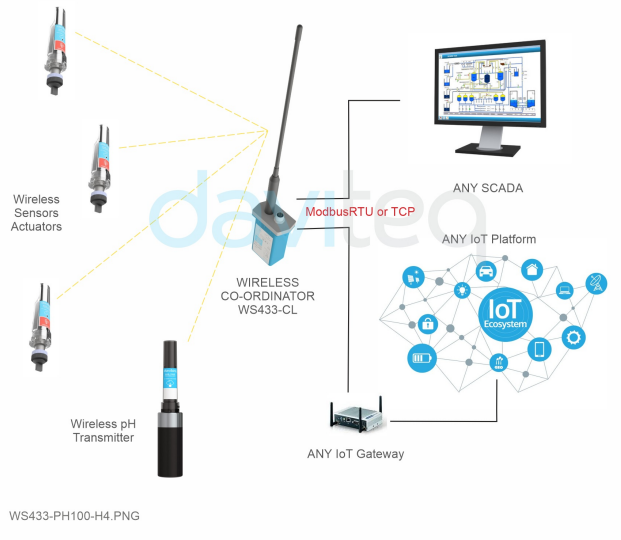
WS433-PH100 is a wireless pH transmitter, it can connects to any standard pH sensor, with or without temperature sensor. It can support various kind of temperature sensor like Pt100, Pt1000, Thermistor...The transmitter can be configured with fix temperature compensation or automatic temperature compensation. 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 50 kbps, can be switched to 625 bps to increase the communication range. The sensor can last up to 10 years with 1 x AA battery.

- BNC connector for pH sensor;
- Automatic or manual temperature compensation;
- High performance Sub-GHz Wireless communication;
- Ultra-low power with 10 years battery;
- Plug & Play.

Typical Applications

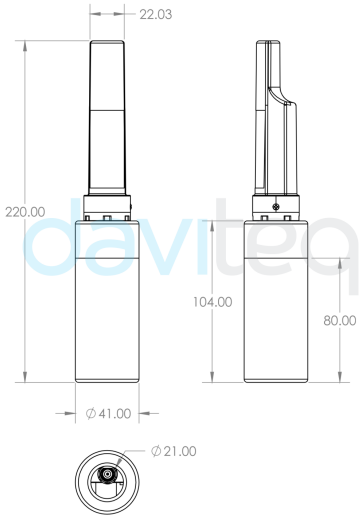
- Drinking water;
- Waste water;
- Industrial water;
- Aquaculture;
- Hydroponics...

CONNECT WIRELESS TRANSMITTER AND SENSORS TO any SCADA or IoT Platform



WS433-PH100-H4.PNG

DIMENSION DRAWING OF WS433-PH100
(Unit: mm)



WS433-PH100-H2.PNG

Specification

MEASUREMENT SPECIFICATION	
pH Sensor Input	pH sensor
pH Measuring range	pH 0 .. 14
Resolution	pH 0.1
Accuracy	+/- 0.1
Temperature Sensor Input	Pt100, Pt1000, Thermistor
Temperature measuring range	0 - 100 oC
Temperature resolution	0.1 oC
Working temperature	-40 .. 60 oC
pH Connector	BNC
Temperature Connector	Terminal block
WIRELESS SPECIFICATION	
Data speed	Up to 50kbps
Transmission distance, LOS	1000m
Antenna	Internal Antenna
Battery	1 x AA 1.5-3.6VDC, up to 10 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	-40oC..+60oC (with AA L91 Energizer)
Housing/Protection	Polycarbonate, POM, SUS304 / IP67
Mounting method	U-Bolt 42mm, SUS304
Dimension	H220xD41
Net weight	<500 grams

Ordering Code

Item code	Descriptions
WS433-PH100-01	WIRELESS PH TRANSMITTER 433MHZ, COMPATIBLE WITH ANY PH SENSOR PH 0-14 WITH **Pt100** TEMPERATURE SENSOR COMPENSATION, AA 1.5-3.6VDC BATTERY, IP67
WS433-PH100-02	WIRELESS PH TRANSMITTERT 433MHZ, COMPATIBLE WITH ANY PH SENSOR PH 0-14 WITH **Pt1000** TEMPERATURE SENSOR COMPENSATION, AA 1.5-3.6VDC BATTERY, IP67
PH-H087-0020	PH SENSOR COMBO, IN-LINE, 3/4NPT PH COMBO, IN-LINE, CPVC, 3/4"NPT, ASGV FLAT, PT100 OHM, DJ, AG/AGCL, GEL, CE, 20F CABLE, BNC & T

⚠ Link for full datasheet: https://filerun.daviteq.com/wl/?id=fMrBbgJaGbQS3QZPo5DPkjwpUQx5zcPK

⚠ Link for manual:

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Wireless 3-AXIS Tilt Sensor WS433-AG

SKU: WS433-AG

Doc No: WS433-AG-DS-EN-10



WS433-AG-H1.PNG



WS433-AG-H4.PNG

Introduction

WS433-AG is a wireless Tilt Sensor, can be used to measure 3 tilt angles X, Y, Z of any object as Tower, Building, Tree, Electricity Tower, Telecom Tower, Bridges... The Tilt sensor utilises the combination of advanced Accelerometer and Gyro meter to deliver high accuracy and stable measurement of Tilt angle of 03 axis X,Y,Z. 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 50 kbps, can be switched to 625 bps to increase the communication range. The sensor can last up to 10 years with 1 x AA battery.

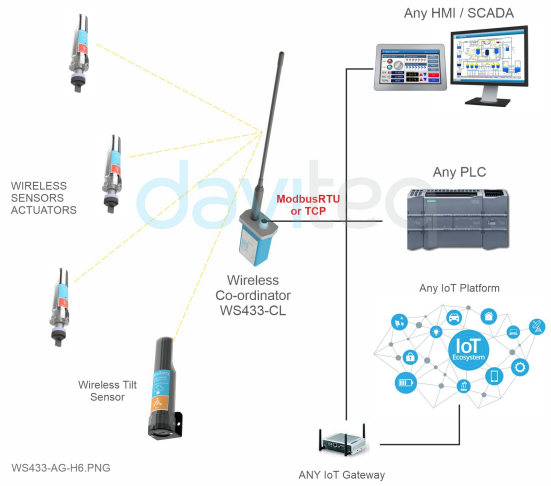
- Advanced Accelerometer with Gyro meter to deliver high accuracy and stable measurement of Tilt angle of 03 axis X,Y,Z;
- High performance Sub-GHz Wireless communication;
- Ultra-low power with 10 years battery;
- Plug & Play.

Typical Applications

Monitoring Tilt of:

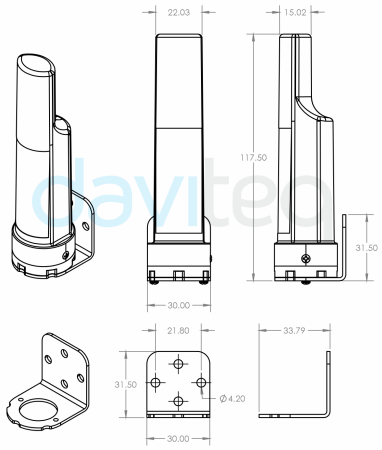
- Telecomunication Tower;
- Electricity Tower;
- Building;
- Bridges;
- Trees;
- Monuments;
- Any infrastructures.

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



WS433-AG-H6.PNG

DIMENSION DRAWING OF WIRELESS SENSOR
(Unit: mm)



WS433-AG-H7.PNG

Specification

SENSORS SPECIFICATION:	
Tilt Sensor	Built-in advanced accelerometer and gyro meter to deliver tilt angle measurement of X, Y, Z
Measurement range	± 90° of XYZ
Resolution	0.5°
Sensor sampling rate	1Hz max
WIRELESS SPECIFICATION	
Data speed	Up to 50kbps
Transmission distance, LOS	LOS 500m
Antenna	Internal Antenna, 3 dbi
Battery	01 x AA 1.5-3.6VDC, up to 10 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	-40oC..+60oC (with AA L91 Energizer)
Housing/Protection	Poly-carbonate, IP68
Mounting method	Mounting bracket for wall mount
Dimension	125x30x30mm
Net weight	60g

Ordering Code

Item code	Descriptions
WS433-AG-01	WIRELESS 3-AXIS TILT SENSOR 433MHZ, AA 1.5-3.6VDC BATTERY, IP67

⚠ Link for full datasheet: https://filerun.daviteq.com/wl/?id=uvLXDHdZykf0Wap4RCFEQENu66cvr4lm

⚠ Link for manual:

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Wireless NH3 Ammonia Gas Sensor WS433-G4F-NH3

SKU: WSSFC-G4F-NH3

Doc No: WSSFC-G4F-NH3-DS-EN-10

Introduction

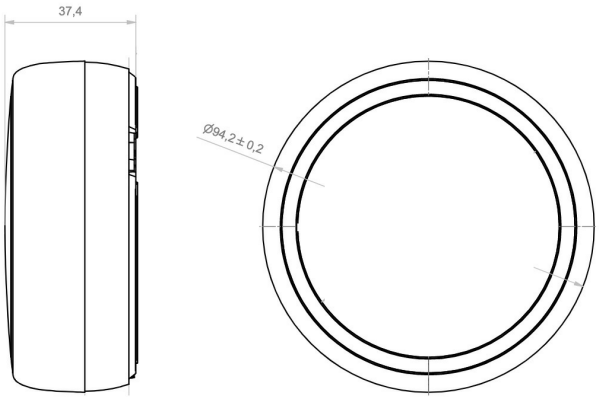
WSSFC-G4F-NH3 is a Wireless Sub-GHz sensor with a built-in advanced electrochemical gas sensor to measure Ammonia NH3 gas concentration with very high sensitivity for detecting the odor level in public toilets. The wireless portion is Sub-GHz technology from Texas Instruments allows long-range transmission at ultra-low power consumption. It will connect 2-way wirelessly to the wireless coordinator 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 Modbus RTU software (thru the WS433-CL). Its default data rate is 50 kbps, which can be switched to 625 bps to increase the communication range. It can last up to 2-5 years with 2 AA batteries.

Highlight Features

- High stability Electrochemical sensor ;
- Sub-GHz Wireless Technology;
- 2-5 years battery life with 15 minutes updates;
- Plug & Play.







INTERFERENCE GASES

Gas	Concentration	Equivalent Output
CO	200ppm	<-6ppm
H2S	50ppm	<25ppm
CL2	10ppm	<-7ppm
C2H4	100ppm	0 ppm
H2	10000ppm	<14ppm
C2H5OH	1000ppm	<20ppm
SO2	20ppm	<9ppm
PH3	20ppm	<18ppm
CH2O	10ppm	<38ppm
C6H6	100ppm	<0.7ppm
CH3OH	200ppm	<4ppm

Specification

SENSOR SPECIFICATION	
Measuring range NH3	0..100 ppm
Max detecting concentration	200 ppm
Repeatability	< 10% of Reading value
Resolution	0.1 ppm
Stability / month	< 10% of Reading value
Zero stability	< 1% of full scale
Working temperature	-20 .. + 50 oC
Working humidity	15 .. 90% RH
Working atmospheric pressure	101.3 Kpa +/- 10 Kpa
Sensor life	2 years
WIRELESS SPECIFICATION	
Data speed	50kbps (default), 625 bps
Transmission distance, LOS	400m (2m height from ground)
Antenna	Internal Antenna
Battery	02 x AA 1.5VDC
Frequency Band	ISM 433.92 Mhz, 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
Dimensions (mm)	Diameter 95 x H40
Net-weight	< 200 grams
Housing	ABS self-extinguishing
Mounting Method	Ceiling mount

Ordering Code

WS433-G4F-NH3-100-01	WIRELESS NH3 AMMONIA GAS SENSOR, 433MHZ, VERY HIGH SENSITIVITY TYPE, 0-100 PPM, 4-SERIE, BATTERY 1.5V, CEILING MOUNT

⚠ Link for full datasheet:

⚠ Link for manual:

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Wireless H2S Hydrogen Sulfide Gas Sensor WS433-G4F-H2S

SKU: WSSFC-G4F-H2S

Doc No: WSSFC-G4F-H2S-DS-EN-10

Introduction

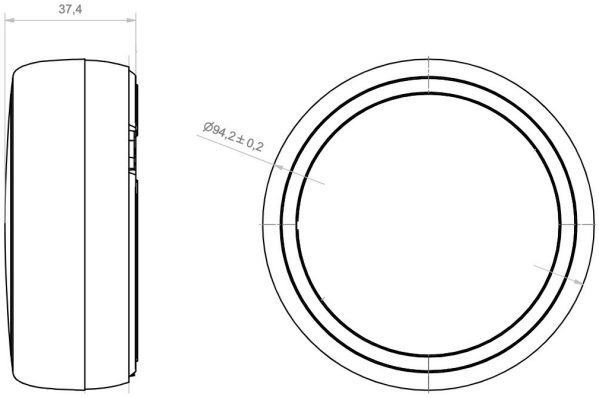
WSSFC-G4F-H2S is a Wireless Sub-GHz sensor with a built-in advanced electrochemical gas sensor to measure H2S gas concentration with very high sensitivity for detecting the odor in waste bins in public. The wireless portion is Sub-GHz technology from Texas Instruments allows long-range transmission at ultra-low power consumption. It will connect 2-way wirelessly to the wireless coordinator 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 Modbus RTU software (thru the WS433-CL). Its default data rate is 50 kbps, which can be switched to 625 bps to increase the communication range. It can last up to 2-5 years with 2 AA batteries.

Highlight Features

- High stability Electrochemical sensor ;
- Sub-GHz Wireless Technology;
- 2-5 years battery life with 15 minutes updates;
- Plug & Play.







CROSS-SENSITIVITY DATA

Gas	Test Concentration (ppm)	Displayed Readings as H2S (ppm)
Carbon Monoxide (CO)	100 ppm	<2 ppm
Sulfur Dioxide (SO_2)	20 ppm	0 ppm
Nitrogen Dioxide (NO_2)	5 ppm	<0.5 ppm
Nitric Oxide (NO)	50 ppm	<0.5 ppm
Ammonia (NH_3)	50 ppm	0 ppm
Chlorine (Cl_2)	15 ppm	0 ppm
Ethylene (C_2H_4)	100 ppm	0 ppm
Carbon Dioxide (CO_2)	5000 ppm	0 ppm

Note: This table is for reference only. Calibration should be carried out with the actual gas at a known concentration.

Specification

SENSOR SPECIFICATION	
Measuring range H2S	0..100 ppm
Max detecting concentration	500 ppm
Linearity	< 0.1 ppm
Resolution	0.1 ppm
Long term output drift	< 15% per year
Zero stability	< 1% of full scale
Working temperature	-30 .. + 50 oC
Working humidity	15 .. 90% RH
Working atmospheric pressure	101.3 Kpa +/- 10 Kpa
Sensor life	2 years
WIRELESS SPECIFICATION	
Data speed	50kbps (default), 625 bps
Transmission distance, LOS	400m (2m height from ground)
Antenna	Internal Antenna
Battery	02 x AA 1.5VDC
Frequency Band	ISM 433.92 Mhz, 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
Dimensions (mm)	Diameter 95 x H40
Net-weight	< 200 grams
Housing	ABS self-extinguishing
Mounting Method	Ceiling mount

Ordering Code

WS433-G4F-H2S-100-01	WIRELESS H2S HYDROGEN SULFIDE GAS SENSOR, 433MHZ, VERY HIGH SENSITIVITY TYPE, 0-100 PPM, 4-SERIE, BATTERY 1.5V, CEILING MOUNT

⚠ Link for full datasheet:

⚠ Link for manual:

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Wireless Ultrasonic Level Sensor for Small trash bin WS433-ULA

SKU: WS433-ULA

Doc No: WS433-ULA-DS-EN-10

Introduction

WS433-ULA is a Sub-GHz wireless ultrasonic level sensor to measure solid surface level in the trash bin for waste management systems ... This level sensor uses ultrasonic technology to measure the solid surface of waste, the principle is to measure the time of flight of the ultrasound pulse in the air environment. The ultrasound pulse will be ejected from the ultrasonic transducer, go thru the air and reach the solid surface of the waste, then reflected back to the ultrasonic transducer, the measuring circuit will measure the flight time of the pulse then calculate the distance from the transducer to the surface. The ultra-low power design and smart firmware allow the sensor to last for up to 10 years with just 2 x AA batteries (depending on configuration). The sensor will connect wirelessly to a Wireless Coordinator WS433-CL then export the data to RS485 / Modbus RTU and from there easily connect to any monitoring and control system. LOS distance from the sensor to the receiver is 1000m and can be extended by Extender.

Highlight Features

- High stability;
- Sub-GHz Wireless Technology;
- Ultra-low-power consumption;
- Plug & Play.



WS433-ULA-H1.JPG



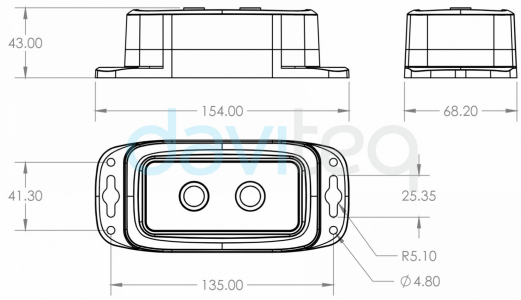
WS433-ULA-H2.JPG

LEVEL SENSOR INSTALLED IN THE TRASH BIN



WS433-ULA-H3.JPG

DIMENSION DRAWINGS OF WIRELESS SENSOR
(Unit: mm)



WS433-ULA-H7.JPG

Specification

SENSOR SPECIFICATION	
Sensor	Ultrasonic sensor, dual transducer
Measurement range	30 .. 1500 mm
Resolution & accuracy	1.0mm, +/- 10 mm
Sensor sampling rate	configurable from 10s up to 3600s
Working temperature	-15 .. + 50 oC
Working humidity	0 .. 95% RH, non condensation
WIRELESS SPECIFICATION	
Data speed	50kbps (default), 625 bps
Transmission distance, LOS	400m (2m height from ground)
Antenna	Internal Antenna
Battery	02 x AA 1.5VDC
Frequency Band	ISM 433.92 Mhz, 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
Dimensions (mm)	100x56x46.5
Net-weight	< 200 grams
Housing	POM

Mounting Method	Top mount

Ordering Code

WS433-ULA-01	WIRELESS 433MHZ ULTRASONIC LEVEL SENSOR FOR SMALL TRASH BIN, 30-1500MM RANGE, BATTERY 1.5V, TOP MOUNT

⚠ Link for full datasheet: https://filerun.daviteq.com/wl/?id=xiZPeaSW3mCNq7NuFpoqEGgS4gypvxXq

⚠ Link for manual:

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Wireless Sub-GHz Laser Level Sensor WS433-LSL

SKU: WS433-LSL

Doc No: WS433-LSL-DS-EN-10





Introduction

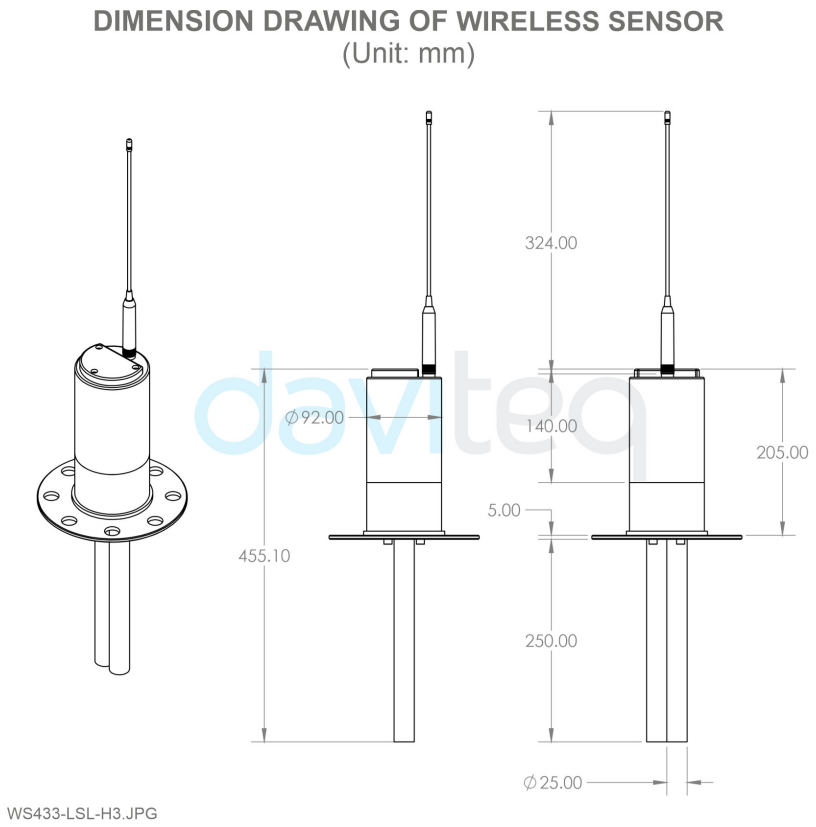
WS433-LSL is a low-power laser level sensor for Solid level measurement. With a dust tube accessory, it can be used in high dust environments like cement, grain, powder... It can measure up to 100m range. The wireless portion is Sub-GHz technology allows long-range transmission at ultra-low power consumption. It will connect wirelessly to a Wireless Co-ordinator WS433-CL or an IoT gateway with a built-in Coordinator. It can be configured the operation parameters like data sending interval, health check cycle... The complete set of the wireless laser-level sensor can be powered by 6 x AA 1.5V batteries for up to 10 years (depending on interval time).

- Range up to 100m;
- Support Sub-GHz wireless;
- Ultra-low power with 10 years battery;
- Plug & Play.

Typical Applications

- Level measurement in Tank;
- Level measurement in Silo;
- Level measurement for any non-dark surface.

Dimension Drawings



Specification

SENSOR SPECIFICATION	
Sensor technology	Eye-safe laser level sensor, class II laser
Measurement range	Select 50, 100m
Dead zone	0.03 m
Resolution	1.0 mm
Accuracy	+/- 5.0 mm
Dust tube	Yes, standard
Air purging port	1/4" NPT quick connector
Process temperature	-10 .. + 60 oC standard
Ambient working temperature	-10 .. + 60 oC
Ambient working humidity	0 .. 95% RH, non-condensing
WIRELESS SPECIFICATION	
Data speed	50kbps (default), 625 bps
Transmission distance, LOS	400m (2m height from ground)
Antenna	Internal Antenna

Battery	06 x AA 1.5VDC
Frequency Band	ISM 433.92 Mhz, 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
Mounting Method	JIS10K 80A Flange
Ambient temperature	-10oC..+60oC (with AA L91 Energizer)
Dimensions	220x220x450 (without antenna)
Net-weight	< 5 kgs
Housing	Aluminum + Polycarbonate plastic, IP67

Ordering Codes

Item code	Descriptions
WS433-LSL-50	WIRELESS SUB-GHZ LASER LEVEL SENSOR, RANGE 50M, 3-INCH FLANGE, DUST TUBE, IP67, AA BATTERY POWERED
WS433-LSL-100	WIRELESS SUB-GHZ LASER LEVEL SENSOR, RANGE 100M, 3-INCH FLANGE, DUST TUBE, IP67, AA BATTERY POWERED

⚠ Link for full datasheet: https://filerun.daviteq.com/wl/?id=cyV6RMRRCwKzTu0Azj9i4XUuzZiP0oHd

⚠ Link for manual:

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