LoRaWAN Ex d Electro-chemical Gas Sensor

daviteq

Smart Agriculture, Smart Building, Smart City, Smart Facility, Smart Factory, Smart Farm

SKU: WSLRWEX-G

○ Safe Zone   ✓ Hazardous Zones

WSLRWEX-G is an Ex d approved LoRaWAN electrochemical-type gas sensor with a high sensitivity to low concentrations of detected gas, high selectivity, and a stable baseline. The device supports different types of gas such as CO, NO, NO_2, H_2S, NH_3, O_2, O_3, SO_2, Cl_2, HCHO... The device is used in Hazardous Zone 1-2. With Ultra-low-power design and smart firmware allow the complete Wireless and Sensor package to run on a single battery for 5 years or more with 15 minutes update. It supports global frequency bands EU868, IN865, RU864, KR920, AS923, AS923-2, AU915, US915. The sensor can work perfectly with any LoRaWAN Gateway and any Network Server on the market.

Applications
Gas Leakage Detection, Ambient Air Quality Monitor, Indoor Air Quality Monitor

Notes For Applications
- Select the suitable sensor range to get the highest accuracy v.s sensor life. Please consult our engineers. Electrochemical sensors need to be calibrated regularly (6-12 months), depending on actual operating conditions.
- Check carefully the working temperature and humidity of the application. Use the Rain-guard of Splash-guard for outdoor installation or where water jets exist.

✓ **LoRaWAN communication**
Support LoRaWAN Class A, connect to any LoRaWAN gateway on the market

✓ **High Performance Sensor**
High Accuracy and Ultra-low power Sensor from Daviteq

✓ **5-10 years Battery life**
Ultra low power sensor technology allow 5-10 years battery life with a single battery

✓ **Ex d Zones 1-2-21-22**
Ex d approved for Hazardous Zones 1-2-21-22

WHAT'S IN THE PACKAGE?

Parts kit · Main Device · Antenna · Magnet key

WSLRWEX-GHC-H3.JPG

Specification

Measurement technology	Daviteq High-performance Ultra-low power Electro-chemical Gas Sensor
Select Gas Sensor type	CO, NO, NO_2, H_2S, NH_3, O_2, O_3, SO_2, Cl_2, HCHO etc.
Gas sensor type and specification	List of compatible gas sensors and specification
COMMUNICATION	
SF Factors	SF7~SF12
Antenna	External Antenna 2.0dbi
RF Frequency and Power	860~930MHz, 14~20dBm, configurable for zones: EU868, IN865, RU864, KR920, AS923, AS923-2, AU915, US915
Protocol	LoRaWAN® Class A
Data sending modes	interval time, an alarm occurred and manually triggered by a magnetic key. Recommend max 24 messages per day
Configuration	via Downlink or offline USB cable (PC software is supplied for free)
Battery	01 type C 3.6V $LiSOCl_2$ battery (recommended SAFT LS26500)
Housing	Aluminum alloy, powder coated, IP66, Wall mount installation
Certified Ex d	IMQ 14 ATEX 005 X, TÜV CY 18 ATEX 0206158 X and SIRA 10ATEX1358X
Hazard Protection Label	ATEX II 2G Ex db IIC T5/T6 Gb, ATEX II 2G Ex db mb [ia Ga] IIA/IIB/IIC T5..T6 Gb, and ATEX II 2 G Ex d IIC T4 Gb
Compatible	ATEX 2014/34/EU/ Standard IEC-EN60079-0 IEC-EN60079-1 IEC-EN60079-31
Areas of application	Zones 1 & 2 gas hazardous areas
Size | Net weight	H220xW100xD80 (not including antenna)/ ≈1500g (without battery)
Mounting	Wall mount bracket

DIMENSION DRAWING OF SENSOR NODE
(Unit: mm)

270.00
442.00
R4.00
78.00
100.00
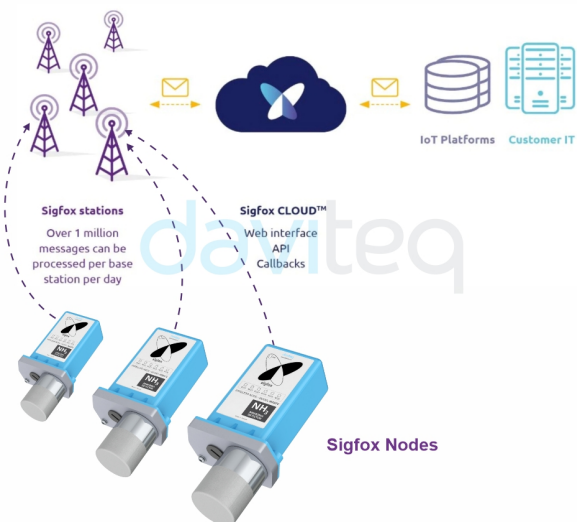Ø 40.00
60.20
94.00
72.00
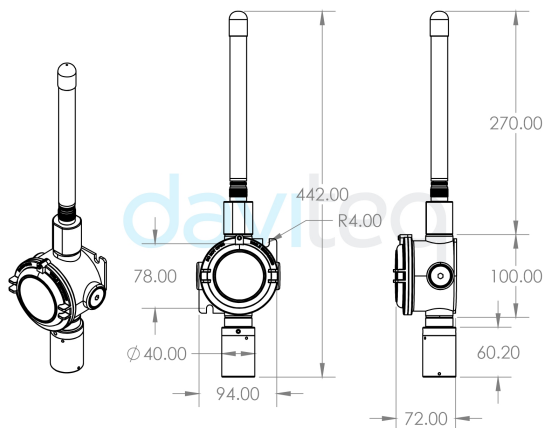
WSLRWEX-GHC-H2.JPG

RECOMMENDED BATTERIES

LS 26500 Lithium battery

-60°C..+85°C working temperature

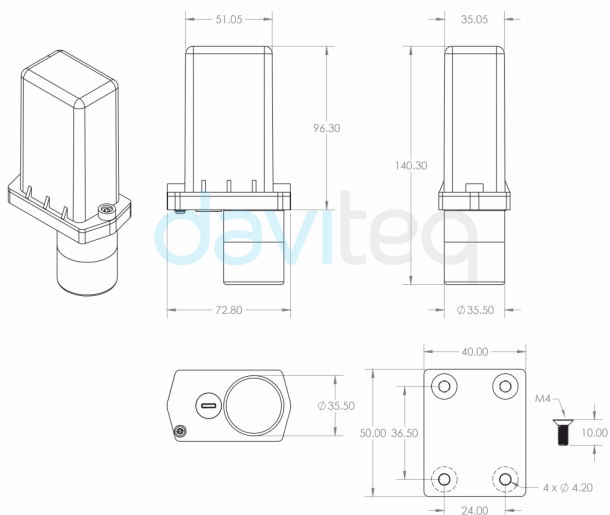Low self-discharge rate

7.7 Ah Capacity

SYSTEM ARCHITECTURE

IoT Platforms   Customer IT

Sigfox stations
Over 1 million messages can be processed per base station per day

Sigfox CLOUD™
Web interface
API
Callbacks

Sigfox Nodes

WSSFC-G4-H5.JPG

WHAT'S IN THE PACKAGE?

Parts kit

Main Device

Magnet key

WSSFC-G4-H6.JPG

DIMENSION DRAWING OF WIRELESS SENSOR
(Unit: mm)

51.05
35.05
96.30
140.30
72.80
Ø 35.50
40.00
Ø 35.50
M4
10.00
50.00 36.50
4 x Ø 4.20
24.00

WSSFC-G4-H7.JPG

RECOMMENDED BATTERIES

E91 AA Alkaline battery   L91 AA Lithium battery

-18 .. + 60 oC working temperature   -40 .. + 60 oC working temperature

10-year shelf life   20-year shelf life

3000 mAH Capacity   3500 mAH Capacity

Price: 1X   Price: 3.5X

WSSFC-G4-H8.JPG

Ordering Information

ITEM CODE	DESCRIPTIONS
WSLRWEX-G-X-Y	LORAWAN ELECTRO-CHEMICAL GAS SENSOR, EX D APPROVED ZONES 1-2-21-22, BATTERY 3.6V, IP66, FOR EU868, IN865, RU864, KR920, AS923, AS923-2, AU915, US915
Where	
X	Gas Sensor Type
Y	Range in ppm
Select X and Y from this link	List of compatible gas sensors and specification
Accessories	
GS4H-CAL-01	Field calibration cap for Ex d Gas Sensor
GS4H-GUARD-01	Rain guard type 1 for Ex d Gas Sensor
GS4H-SG-01	Splash guard type 1 for Ex d Gas Sensor
Calibration Services	
CALGAS-X-02	2-point calibration by standard gas
	*Recommended for first use
Where	
X	Gas Sensor Type