LoRaWAN Ex d D-battery-powered Electro-chemical Gas Sensor

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

SKU: WSLRWEX-G4

daviteq

○ Safe Zone   ✓ Hazardous Zones

LORAWAN EX D ELECTRO-CHEMICAL GAS SENSOR
WSLRWEX-G4

LoRaWAN

IP67
Weatherproof

CE FC ARIB

WSLRWEX-G4 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_3, SO_2, Cl_2, HCHO, O_2... 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 up to 10 years. 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.
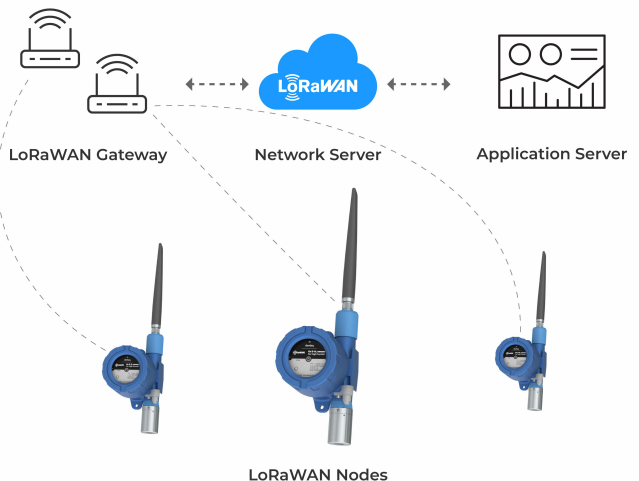
Applications
Gas Leakage Detection, Ambient Air Quality Monitor, Indoor Air Quality Monitor

Notes For Applications
· Select the suitable sensor range to get highest accuracy v.s sensor life.
· Have life time is 1-2 years, depends on sensor type and actual operating conditions;
· Need to be calibrated regularly (6-12 months), depends 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 jet exist.

✓ **LoRaWAN communication**
Support LoRaWAN Class A, to 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 to 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

LORAWAN EX D ELECTRO-CHEMICAL GAS SENSOR
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LoRaWAN Gateway   Network Server   Application Server

LoRaWAN Nodes

SYSTEM ARCHITECTURE

Specification

Measurement technology	Daviteq High-performance Ultra-low power Electro-chemical Gas Sensor
Select Gas Sensor type	CO, NO, NO$_2$, H$_2$S, NH$_3$, O$_3$, O$_2$, 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 D 3.6V LiSOCl$_2$ battery (recommended SAFT LS33600)
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	H240xW140xD130 (not including antenna)/ ≈1500g (without battery)
Mounting	Wall mount bracket

LORAWAN EX D ELECTRO-CHEMICAL GAS SENSOR
WSLRWEX-G4

CO DETECTION IN MINING INDUSTRY

LORAWAN EX D ELECTRO-CHEMICAL GAS SENSOR
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H₂S MONITORING IN OIL AND GAS INDUSTRY

LORAWAN EX D ELECTRO-CHEMICAL GAS SENSOR
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SO₂ MONITORING IN COAL-FIRED POWER PLANT

LORAWAN EX D ELECTRO-CHEMICAL GAS SENSOR
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2x Ø 7.0
460.4
127.0
130.5
128.8
231.0
Ø 40.0
126.0

DIMENSION DRAWING OF WIRELESS NODE (Unit: mm)

LORAWAN EX D ELECTRO-CHEMICAL GAS SENSOR
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SAFT
LS 33600
3.6V
Li-SOCl₂
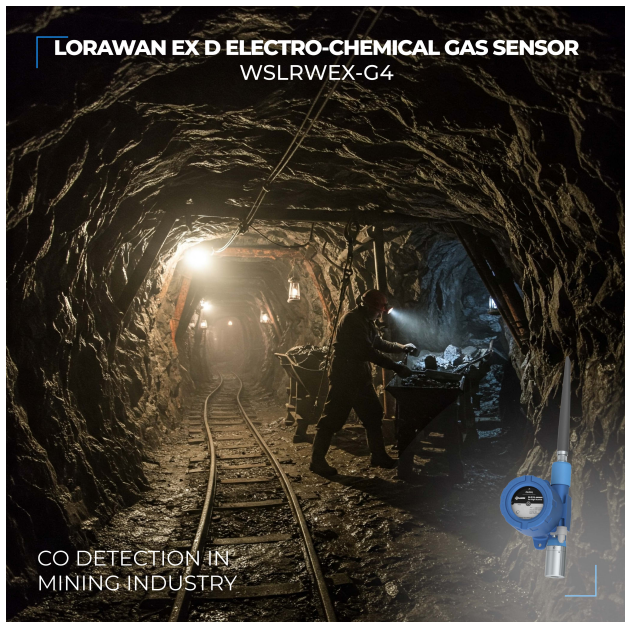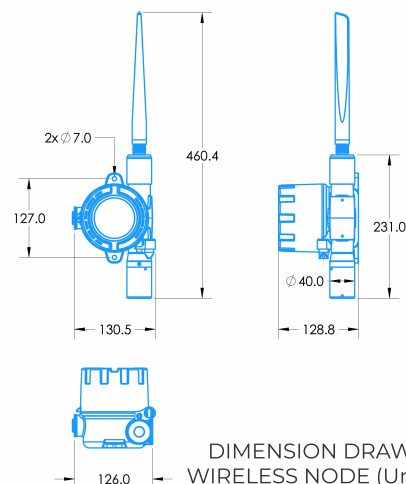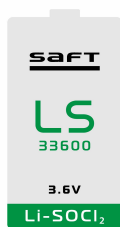
LS 33600
Lithium battery

-60~85°C working temperature
Low self-discharge rate
17000 mAH capacity

DAVITEQ'S CHOICE
RECOMMEND

RECOMMENDED BATTERIES

LORAWAN EX D ELECTRO-CHEMICAL GAS SENSOR
WSLRWEX-G4

Main device

Antenna

STANDARD PRODUCT PACKAGE

Ordering Information

ITEM CODE	DESCRIPTIONS
WSLRWEX-G4-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