

# LoRaWAN Ex d PID Gas Sensor



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

SKU: WSLRWEX-PID

## LoRaWAN Ex APPROVED PID GAS SENSOR WSLRWEX-PID

LoRaWAN



WSLRWEX-PID-H1.JPG

Safe Zone

Hazardous Zones

WSLRWEX-PID is a LoRaWAN sensor with Ex d explosion-proof approval and comes with a built-in high-performance PID (photoionisation detectors) technology sensor to detect the Volatile Organic Compounds (VOCs) and Hydrocarbon Gases in the air. It comes with Local LCD display, multi-colored status display, and magnet buttons for easy operation at field, without the need of turn off power and hot work permit. With 10.6 eV lamp allowing the instrument to detect a wide range of VOC gases whereas the TAC version utilises a 10.0 eV lamp to detect Total Aromatic Compounds (TACs), which helps focus on benzene. For LoRaWAN connectivity, it supports global frequency bands EU868, IN865, RU864, KR920, AS923, AS923-2, AU915, US915. The sensor can work perfectly with any LoRaWAN Gateway on the market. The PID gas sensor are ideal for detecting VOCs and TACs in areas such as refineries and petrol chemical facilities.

### Applications

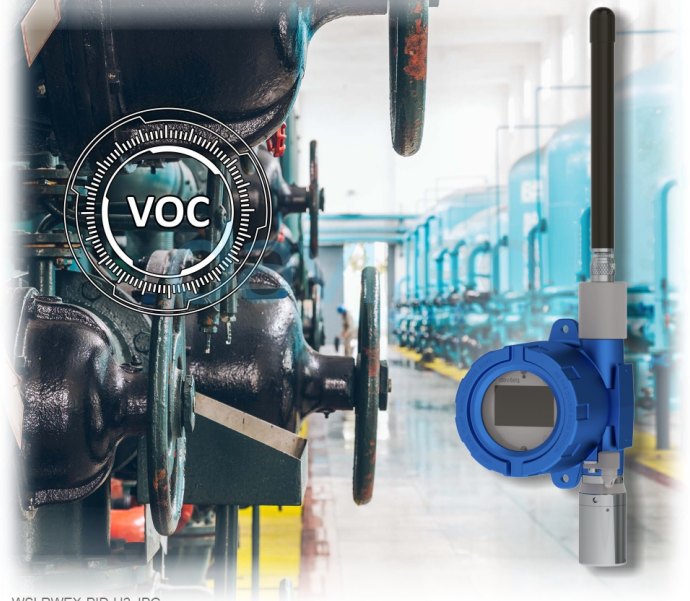
Gas Leakage Detection, Ambient Air Quality Monitor, Indoor Air Quality Monitor, Gas Analyzing, Warehouse Monitoring

### Notes For Applications

- Diffusion holes of the sensor should be protected against the ingress of sprayed liquid or waterdrops.
- The sensor is not intended to measure the target gas concentration contained in fluids.

- LoRaWAN communication**  
Support LoRaWAN Class A, connect to any LoRaWAN gateway on the market
- High Performance PID Gas Sensor**  
Advanced PID sensor provides stable and accurate output
- Easy operation at Field by LCD**  
Built-in LCD display, multi-colored status display, and magnetic button for easy operation and services
- Ex Solar Powered**  
The sensor is tested and pre-configured in factory before shipping

## MONITORING VOLATILE ORGANIC COMPOUNDS (VOC) IN OIL REFINERY



WSLRWEX-PID-H2.JPG

### DAVITEQ TECHNOLOGIES INC

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Created date: Apr-24-2023


Updated date: Aug-28-2024


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## Specification

Measurement technology	Daviteq high-performance PID gas sensor
Measured Gases	VOCs and Hydrocarbons (1000+ types of VOC and gas)
Principle and Sensor Specification	<a href="#">Please follow this link</a>
Relative humidity range	0~99% RH, non-condensing
Operating Temp Range	-40~55°C (except 0~40°C for Range 3ppm sensor)
COMMUNICATION	
SF factors	SF7~SF12
Antenna	2 dbi external antenna N-type
RF power and frequency	860~930MHz, 14~20dBm, configurable for zones: EU868, IN865, RU864, KR920, AS923, AS923-2, AU915, US915
Protocol	LoRaWAN® Class A V1.0.3
Data sending mode	cyclically, or when an alarm occurs or activated by a magnetic key.
RF module compliant	ETSI EN 300 220, EN 303 204 (Europe) FCC CFR47 Part15 (USA), ARIB STD-T108 (Japan)
Device certification	CE or FCC on demand
Configuration	via Local LCD, or Downlink or via USB cable (PC software provided free of charge)
Power supply	12~35VDC, max 200mA by external DC supply or Ex approved Solar Power Skid (as below ordering information)
Equipment housing	Aluminum alloy, powder coated, IP66, Wall mount installation
Certified Ex d	IMQ 14 ATEX 005 X, TÜV CY 18 ATEX 0206158 X and IECEx DEK 15.0048X
Hazard Protection Label	ATEX II 2G Ex db IIC T5/T6 Gb and ATEX II 2D Ex tb IIIC T100/T85°C Db
Compatible	ATEX 2014/34/EU/ Standard IEC-EN60079-0 IEC-EN60079-1 IEC-EN60079-31
Areas of application	Zones 1 & 2 gas hazardous areas, Zones 21 & 22 hazardous areas containing flammable dust
Size   Net weight	H220xW100xD80 (not including antenna)/ ≈1500g
Mounting type	Wall mount

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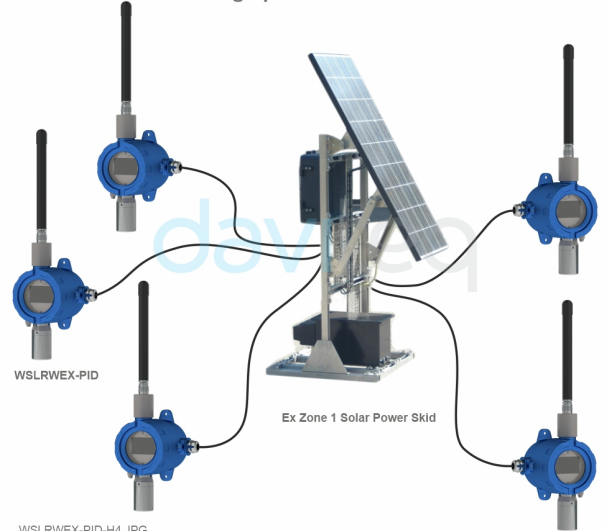
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MONITORING HYDRO CARBON IN PETROCHEMICALS



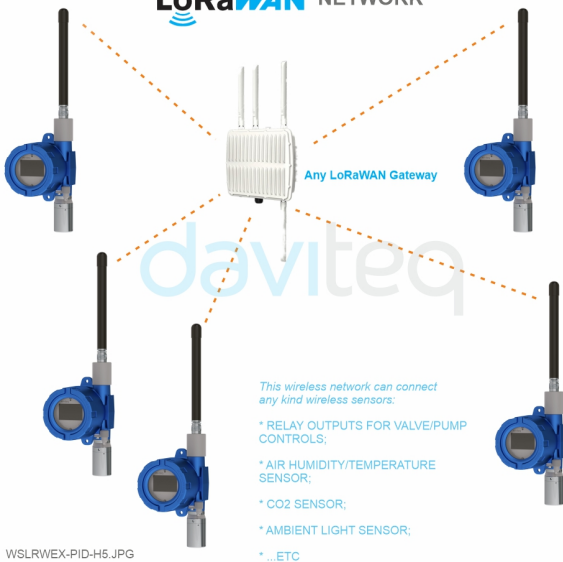
WSLRWEX-PID-H3.JPG

Ex ZONE 1 SOLAR POWER SKID  
Powering up to 5 x PID sensors



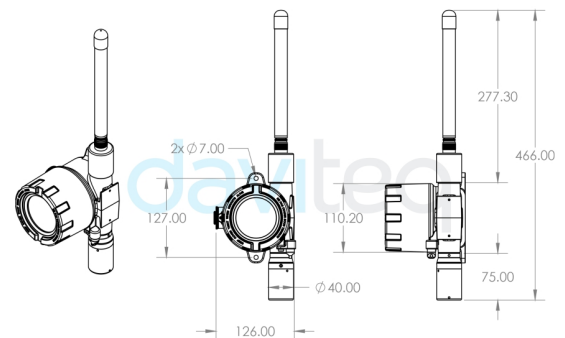
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LoRaWAN NETWORK



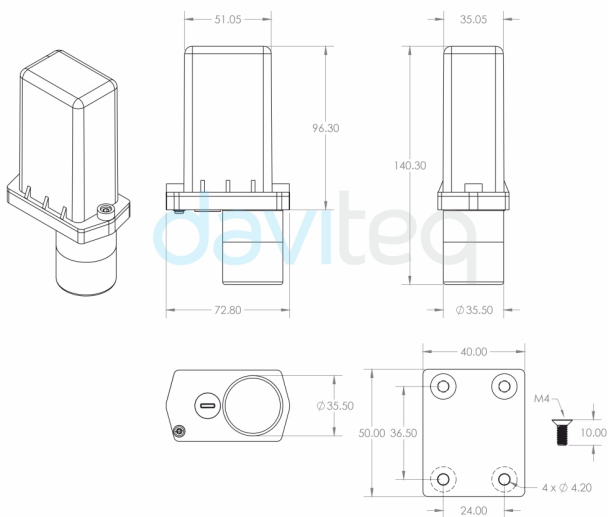
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DIMENSION DRAWING OF SENSOR NODE  
(Unit: mm)



WSLRWEX-PID-H6.JPG

DIMENSION DRAWING OF WIRELESS SENSOR  
(Unit: mm)



WSSFC-G4-H7.JPG

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

WSSFC-G4-H8.JPG

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## Ordering Information

ITEM CODE	DESCRIPTIONS
WSLRWEX-PID-ppmWR	LoRaWAN PID Gas Sensor, 0-10000ppm Isobutylene, Ex d approved Zone 1-2-21-22 ,12~35VDC supply, IP66, for EU868, IN865, RU864, KR920, AS923, AS923-2, AU915, US915
WSLRWEX-PID-ppm	LoRaWAN PID Gas Sensor, 0-4000ppm Isobutylene, Ex d approved Zone 1-2-21-22 ,12~35VDC supply, IP66, for EU868, IN865, RU864, KR920, AS923, AS923-2, AU915, US915
WSLRWEX-PID-PPBWR	LoRaWAN PID Gas Sensor, 0-200ppm Isobutylene, Ex d approved Zone 1-2-21-22 ,12~35VDC supply, IP66, for EU868, IN865, RU864, KR920, AS923, AS923-2, AU915, US915
WSLRWEX-PID-PPB	LoRaWAN PID Gas Sensor, 0-40ppm Isobutylene, Ex d approved Zone 1-2-21-22 ,12~35VDC supply, IP66, for EU868, IN865, RU864, KR920, AS923, AS923-2, AU915, US915
WSLRWEX-PID-10.0eV	LoRaWAN PID Gas Sensor, 0-100ppm Isobutylene, Ex d approved Zone 1-2-21-22 ,12~35VDC supply, IP66, for EU868, IN865, RU864, KR920, AS923, AS923-2, AU915, US915
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
SOLAREX-60-12-40AH-5M20-LRW	Solar Power Skid for Hazardous Zones 1-2, ATEX, Solar 60W, Battery 12Vx40AH, with LoRaWAN connected charger, 5 cable glands M20 for unarmoured cable, IP66, 304SS skid structure with lockable wheels
	*For powering maximum 5 PID gas sensors
Calibration Services	
CALGAS-VOC-02	2-point calibration by Isobutylene gas (C4H8)
	*Recommended for first use

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