CODEL

A Forbes Marshall Company

Odosense

Odour Monitoring & Analysis Solution

Real-time odour emission tracking solution

Monitoring Solutions

ISO 9001:2015 Quality Certification

ISO 14001:2015 Environmental Certification

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Doc i/d : 100890 Issue : A Rev : 1 Date : 18/12/2023 © 2010 CODEL International Ltd. We reserve the right to modify designs without prior notice

Odosense

Odosense is the real-time odour emission tracking solution. Odosense continuously detects, measures and monitors the odourful gaseous contaminants. Oizom Odour Monitoring Solution comprises of a network of e-noses (Odosense) positioned on the periphery of the site. The solution incoporates Odour Atmospheric Dispersion Modelling for predicting odour impact on the surrounding area depending on meteorological conditions.

With the help of meteorological data, Odosense can trace the odourant dispersion plume incited by conditions like wind speed and wind direction. Odosense is a fully solar-powered solution with wireless data transmission. This makes it an ideal choice for landfill sites,wastewater treatment facilities, fertilizers, paper-pulp industries and soil-treatment sites, etc.

Features and Benefits

- Over-The-Air Update
- Ultimate durability and weather resistant
- Light-weight and compact system
- On-device calibration and Real-time data
- Plug and play design for ease of implementation
- Heated Inlet to dehumidify the sample for better accuracy

Typical Applications

- Smart Cities
- University Campuses
- Anaerobic Digester Plants
- Motorways
- Water Treatment Plants
- Quarries
- Landfill Sites
- Energy from Waste Plants

Functional Specification

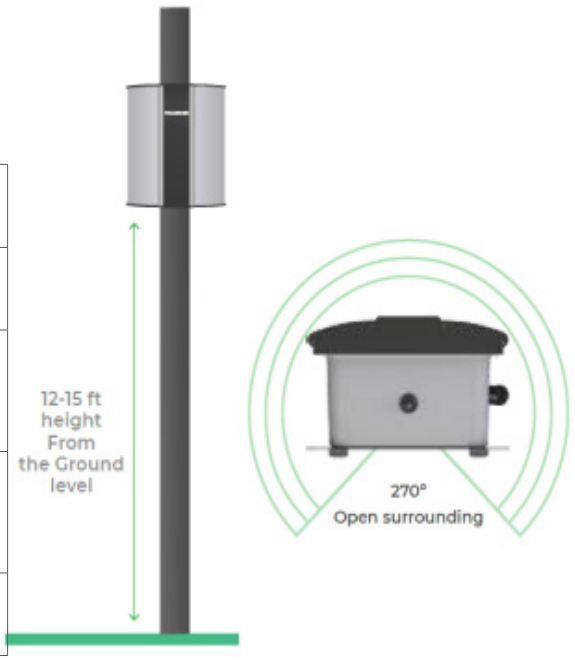
Odosense

Proper location selection is critical for optimized data collection. It varies as per the purpose of the project. According to USEPA QA handbook (Vol II, Section 6.0 Rev.1), the selection of locations should be based on monitoring purposes such as:

- Real-time air quality public reporting
- Research monitoring
- Trends monitoring
- Compliance monitoring
- Emergency episode monitoring

Installation

Preferred Mounting	Pole / Wall (Preferably 270° open surrounding)
Installation Height	12-15 feet (4-5 meters)
Direction	As per maximum direct sunlight exposure (if ambient-light monitoring is a preference)
Power Availability	Constant AC supply within a 2-meter range from the unit or solar panel
Network Availability	Uninterrupted network connection



Technical Specifications

Processor	Quad Core ARM Cortex
Memory	2GB RAM / 8GB eMMC ROM
Device Interface	On-device Software / API
Operating Temperature	-20 °C to 60 °C
Operating Humidity	0-95% RH

Communication

Data Interval	2-30 minutes (configurable)
Data-push Protocol	HTTP post request to host-server
Data-pull	HTTP request on device IP
Firmware Updates	Over-The-Air Firmware Update
Standby Connectivity	GSM (2G/3G) for remote diagnosis, FOTA updates, and cloud calibration

Power

Avg. Power Consumption	5 Watt (Actual consumption depends upon the number of parameters)
Power Input Options	External 110-230V AC 50-60Hz, 40Watt Monocrystal Solar Panel
SMPS Specs	24V, 2Amps output UL-62368 & CAN/CSA C22.2 Certified
Battery Backup Time	12 Hours (not available in Pro variant)
Battery Specs	Lithium iron phosphate (LiFePO4) battery cell with rated voltage 12.8V Capacity 6Ah

Parameters

ID	Parameter	Range	Resolution	Min Detection	Error	Working Principle	Measurement Principle	Flow Rate	Expected Sensor Life
H2S	Hydrogen Sulfide	0-100 ppm	1 ppb	10 ppb	<± 100 ppb/yr	EC	Active Sampling	125 mL per sample	2 years
NH3	Ammonia	0-100 ppm	10 ppb	100 ppb	±2% / Month				
CH20	Formaldehyde	0-10 ppm	1 ppb	50 ppb	±2% / Month				
CH3SH	Methyl Mercaptan	0-10 ppm	10 ppb	100 ppb	±2% / Month				
NO2	Nitrogen Dioxide	0-20 ppm	1 ppb	10 ppb	< ±20 ppb / Yr				
SO2	Sulfur Dioxide	0-20 ppm	1 ppb	10 ppb	< ±20 ppb / Yr				
CL2	Chlorine	0-20 ppm	10 ppb	100 ppb	±2% / Month				
TVOC	Total Volatile Organic Compounds	0-20 ppm	1 ppb	5 ppb	N.A	PID			16 Months Filament Life
CH4	Methane	0-5000 ppm	20 ppm	20 ppm	±3% of F.S	NDIR		1 LPM	3 years
Noise	Ambient Noise	Upto 140 dB	1 ppb	30 dB	±2% / Year	Capacitance	Passive Monitoring	N.A	
Temp	Temperature	-40 °C to +125 °C	0.01 °C	-40 °C	N.A	Solid State Semiconductor Sensing			
Hum	Humidity	Up to 100% Rh	0.1 %	0.1 %	N.A				
Bmp	Barometric Pressure	300-1100 hPa	0.18 Pa	300 hPa	±1.0 hPa / Year				

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