VOC-2240

APEX VOC
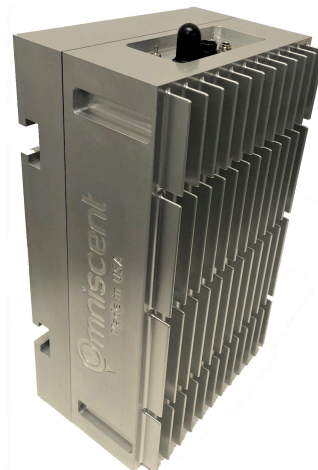
Autonomous Volatile Organic Compound (VOC) Analyzer

Datasheet

Product Features

- **Multiple Gas Detection**
  Up to 20 VOC gas species.
  benzene, toluene, xylenes, styrene.

- **Real-time Measurements**
  Timely actionable insights.
  Programmable sampling time.

- **Autonomous**
  Standalone portable analyzer.
  Solar power option.
  Wind Direction & Speed data option.
  Mobile Platform option.

- **Cost Effective**
  Eliminates cost of labor.
  No carrier gas supply needed.
  No sample tubes shipping to lab.
  No wait time for results.

- **Cloud based IoT Platform**
  Single screen management console.
  Remote management via WiFi/Cell.
  Over-the-air software updates.
  Email & SMS group alerts.
  API interface option to receive the data

- **Broad Connectivity**
  Wi-Fi, Optional Cellular 4G/LTE.
  Enables remote and local deployments.

- **High Reliability with Hermetic Sealing**
  High RH resistant with Low maintenance.
  Low voltage operation

Analytical Data Earlier Data   Measurement Start Time: 2024-03-07 15:50:33

Show details   Show unknown chemicals   * - The chemical has a similar retention time as a know
** - The low concentration of this chemical may have af

Chemical Name	Concentration(ppb)
benzene	7.76
Toluene	10.40
m-xylene	9.45
o-xylene	13.01

with Solar option.

Product Overview:

The VOC-2240 is a portable, autonomous, cloud-enabled VOC analyzer designed to operate in both indoor and outdoor environments. The analyzer's autonomous and real-time measurement capabilities enable timely actionable insights and eliminate operational and service costs associated with labor, processing time, and laboratory testing.

The VOC-2240 was developed with ease-of-use and manageability in mind. Cloud-based IoT connectivity allows each analyzer or a cluster of analyzers to be managed remotely through a single screen management console. Connectivity includes Wi-Fi and optional cellular (4G/LTE). This capability enables analyzers to be deployed at local and remote locations and managed from anywhere in the world. All data processing is done on the analyzer and only results are transmitted to the cloud for storage and access. Thus, reducing processing time and transmission costs.

The management application tool tracks VOC data over time, monitors analyzer health, identifies analyzer location, and provides customers with the ability to program the measurement frequency.

VOC-2240 Product Specifications

Characteristics

VOC Detector	Apex VOC MEMS-based technology
Other Sensors	Temperature, relative humidity, flowmeter
Pump Flow Rate	0.5 - 15 sccm
Communication / Connectivity	Wi-Fi LTE via ext modem
Sensor Cloud	Secure IoT cloud infrastructure
Sampling Time	2- 40 minutes (User programmable. Refer to product manual for settings)
Embedded Data Storage	32 GB

Output results

Measuring Component	Benzene, toluene, m-xylene and o- xylene (BTX)

Limit of Detection (LOD)   (Refer to the manual for details)

Benzene	<1 ppb
Toluene	<1 ppb
m-Xylene	<1 ppb
o- Xylene	<1 ppb

Power Requirements

Power Supply Input	100-120/200-240 VAC
Power Supply Output	V1: +12V/7A; V2: +24V/4A
Fail Safe	4 Amps
Power Consumption	50W Max, 4W Idle, Typical 25W

Environmental Requirements

Relative Humidity	0 - 100% (Refer to the manual for details)
Ambient Temperatures	0 – 40°C (32 - 104°F)

Field Installation

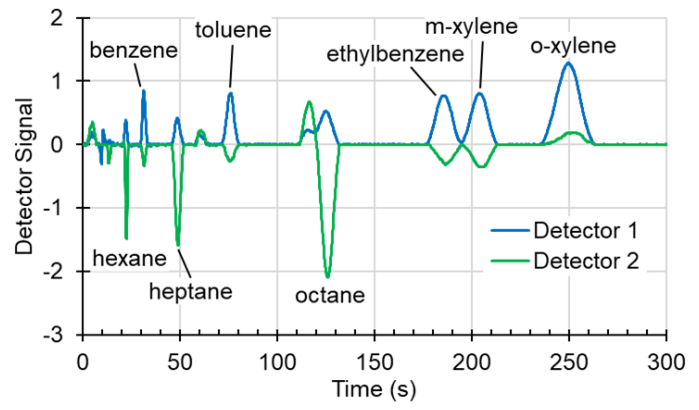|	
Dimensions	Height: 35.26 cm (13 7/8 in.), Width: 20cm (8in.) & Depth: 14.61cm (5 3/4 in.)
Weight	7.3 kg (16 lbs.)
Housing material	Aluminum

VOC-Solar PV System Specifications

VOC-Solar 150-116-12: 150-Watt PV Power System, 12V 116 Amp-hr Battery with 13353 Enclosure
Each VOC-Solar 150-116-12 includes the following:

Solar PV Array:

SES 120J, 150W, 12V, Solar Module, Conduit Ready Junction Box, Anodized Aluminum Frame, listed to UL 1703, Class I Division 2, Group A, B, C, D

Solar Mounting Structure:

SPM2-150, One 150W module side of pole mounting structure, aluminum, SS hardware, adjustable tilt.

System Equipment Enclosure

NEMA 3R Battery & Control aluminum enclosure. Controller mounted and prewired on 12" DIN rail w/ solar/battery/load breakers, Unistrut bracket for pole/wall mount, 18" H x 25" W x 15.02" D

Solar Charge Controller

PWM charge controller, 10 Amp 12/24 VDC, 10A load with 25% surge protection, LVD, Digital Metering, temperature compensated charging, enhanced custom programming, and lightning control.

Battery Bank

Two SES Sealed GEL battery, 8G22NF, 12 VDC 116 Amp-hr. @ 100hr rate, sealed, maintenance-free, non-spillable, rated by US DOT, ICAO, IATA, UL recognized.

Miscellaneous: Other Items Included

Solar PV array wiring harness, battery/control system wiring harness, overload protection, installation/operation manual, electrical schematics.

- **Autonomous Days:** 4.3 cloudy days

- **Number of batteries:** 2

- **Number of PV Modules:** 1

- **Total Rated A-hrs.:** 116

- **Total Derated A-hrs.:** 102

- **Battery:** GEL Monobloc spillproof

Wind Velocity and Direction Sensor

Product Features

The Apex VOC Anemometer sensor is a station with no moving parts and instant online data. The sensor's autonomous and real-time measurement capabilities enable timely actionable insights and eliminate operational and service cost associated with labor and processing time. The sensor has an embedded PV panel to for solar power operation and requires no external grid power. The unit is equipped with a 1" pole mount (Fig. 1).
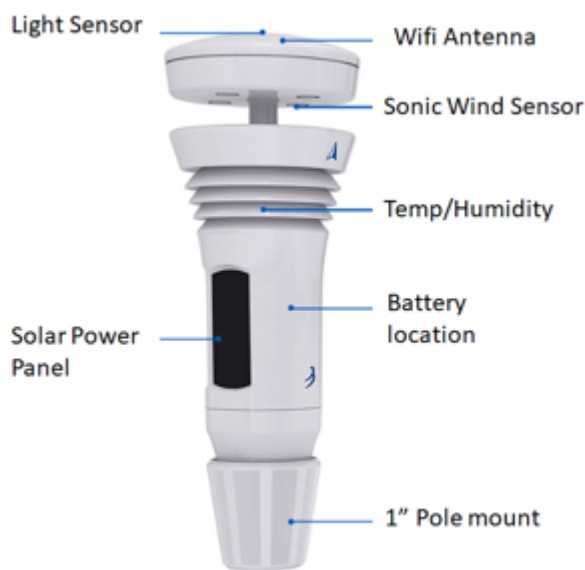

Figure 1: Meteorological sensor (Anemometer) features

The network controller for the Wind sensor is placed inside the solar enclosure. The power for this sensor is supplied by its built-in solar panel.

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Sensor Performance

Measurement Principal	Acoustic Resonance
Units of Measure	Meters per second (m/s)
Temperature range	-35°C to +60°C
Relative Humidity	0 to 100%
Power Source	Internal Battery + Solar
I/O Connection	WiFi
Sensor Weight	0.5 lbs

Wind Speed

Range	0 -45 m/s
Accuracy	±0.2 m/s

Wind Direction

Range	0 – 359°
Accuracy	±0.5°

Data Communication

Method	Direct (WiFi) / HTTP in Cloud
Portal Display	Tabulated Wind Direction/Speed for each [VOC] reading
Display Format	0 – 359° with 3-letter for direction

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