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# TVOC

## FIXED VOC MONITOR



FIXED PID MONITOR FOR VOLATILE  
ORGANIC COMPOUNDS.

[ionscience.com](http://ionscience.com)

Unrivalled Gas Detection.



# CONTINUOUS DETECTION OF VOLATILE ORGANIC COMPOUNDS (VOCS) WITH MULTIPLE RANGE FROM JUST ONE INSTRUMENT.

## Best available photoionisation (PID) detection

- PID independently verified as best performing on the market
- Range: 0 to 10, 0 to 100 or 0 to 1000 ppm from just one instrument
- In-built humidity resistance with no need to compensate
- Anti-contamination design for extended field operation
- Variable duty cycle prolongs run time
- Reliable diffusive monitoring - no pump required

## Safety

- Accurate results over all environmental conditions
- Rugged and robust design withstands harsh environments
- Large LCD display for clear readings
- ATEX and IECEx approved

## Ease of use

- Simple to use - minimal training required
- Easy access PID sensor for fast, simple servicing
- Simple calibration procedure
- Easily integrated into a control system

## Low cost operation

- Inexpensive consumables and parts
- 2 year warranty when instrument registered online





TVOC is a fixed photoionisation detector (PID) for the continuous measurement of total volatile organic compounds (VOCs). TVOC accurately measures over three different detection ranges from just one instrument.

TVOC has a variable duty cycle set to 1 minute as standard. The user can adjust this between 5 seconds and 5 minutes.

TVOC utilises a diffusive sample technique resulting in less contamination issues compared to pumped systems, reducing lamp cleaning and servicing requirements. The 4-20 mA analogue output enables TVOC to be integrated into a DCS control system to give warning or control of high VOC levels in the working environment.

ATEX approvals enable a 3 wire TVOC system to be used in Zone 2 hazardous areas, without safety barriers. ATEX and IECEx approvals allow TVOC to be used in Zone 1 hazardous areas, with safety barriers.

Simple to install, service and calibrate, TVOC requires no hot work permit and the PID sensor is accessible and changeable in a matter of seconds.

TVOC SystemPlus comes complete with a pumped sample system for applications where a sample needs to be drawn to the unit from as far away as 30 meters. SystemPlus incorporates a TVOC unit together with pump, sample preconditioning with flow cut off switch, optional USB data logger and power supply all contained in a water proof housing.

### Extend your instrument warranty

Your TVOC instrument warranty may be extended by simply registering your product on the Ion Science website within one month of purchase. Visit [www.ionscience.com/instrument-registration](http://www.ionscience.com/instrument-registration) to take advantage of this offer.

### Applications include:

- Manufacturing
- Processing
- Offshore
- Refineries & petrochemical
- Chemical
- Waste water treatment
- Pulp & paper
- Pharmaceutical
- Indoor air quality
- Solvent recovery systems
- Industrial painting & coating

### Accessories

TVOC is supplied with an exclusive range of accessories. Visit [www.ionscience.com/tvoc](http://www.ionscience.com/tvoc) for more info.



## Technical specifications

### Sensor (PID)

- 10.6 eV lamp with Ion Science patented Fence Electrode Technology\*

### Hazardous area safety approvals

- ATEX: II 3 G Ex nA IIC T4 (-40°C ≤ Ta ≤ 50°C)
- ATEX / IECEx: II 2 G EEx ia IIC T4 (-20°C ≤ Ta ≤ 50°C)

### Ingress protection rating

- Designed to IP65
- Dependent on cable glands fitted sensor to IP53

### Power

- 5-28 VDC Max 65 mA

### Output

- 4-20 mA requires a 8-35 VDC power supply
- For IS requirements 8-30 VDC power supply

### Range

- 0 to 10 ppm, 0 to 100 ppm, 0 to 1000 ppm (user selectable)

### Sampling

- Diffusion (can be pumped if required using an adaptor)

### Display

- 7 segment, 4 digit LCD, 4 color LEDs

### Response

- Sensor - T90 < 5 sec\*\*

### Accuracy

- 0 to 100 ppm : +/- 2% or +/- 1 ppm (whichever is greater)
- 100 to 1000 ppm: +10%

### Linearity

- 0 to 1000 ppm: >75%

### Calibration

- Magnetically accessed 100 ppm Isobutylene via calibration kit
- accessory

### Temperature

- Operating: -20 to 50 °C (-4 - 122 °F) Humidity: 0-95% RH
- (non- condensing)

### Weight & dimensions

- Instrument: 1.4 kg (3.1 lb)
- Packed: 1.6 kg (3.5 lb)
- Dimensions: 188 x 126 x 78 mm (7.4 x 4.9 x 3")

### 4-20 mA alarm levels

- Selectable 2 mA & 3.5 mA options

TVOC V2.1. This publication is not intended to form the basis of a contract and specifications can change without notice.

NB: All specifications are based upon isobutylene calibration at 20°C (68°F), up to 100 ppm at atmospheric pressure.  
\* The Fence Electrode technology referred to in this document is produced by Ion Science Ltd, and protected by patents, U.S. Patent No. 7,046,012, EP 1474681, other patents pending. \*\* TVOC has a variable duty cycle set to 1 minute as standard. The user can adjust this between 5 seconds and 5 minutes. TVOC is a registered trademark of Ion Science Ltd.

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