



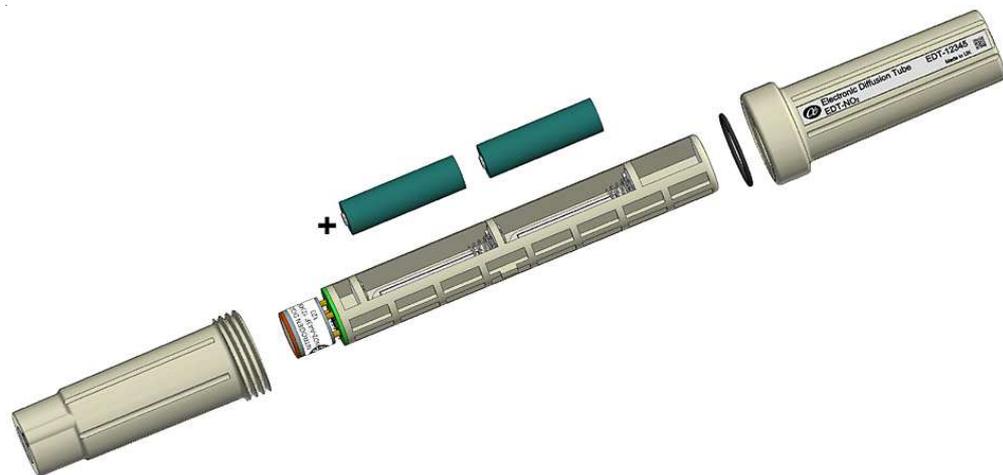
# EDT Electronic Diffusion Tube

Alphasense introduces the Electronic Diffusion Tube (EDT): a single gas data logger with ppb resolution using the proven Alphasense A4 family of electrochemical ppb gas sensors.

Alphasense now provides a solution to some old problems:

- Traditional Palmes-type diffusion tubes are commonly used for indicative measurement of nitrogen dioxide (NO<sub>2</sub>) in cities for Local Air Quality Management. However sampling over several weeks gives only one average concentration for the entire sampling period and the result is reported weeks after the measurement.
- Odours which were previously ignored by local industry and city councils are now headline problems. There is a growing requirement to monitor odour plumes around landfills, waste water treatment plants, agricultural/ poultry farms and industrial sites- but the cost of the necessary network of monitoring nodes is prohibitive. Hydrogen Sulfide (H<sub>2</sub>S) is the most commonly measured gas for odour detection.

**Figure 1 EDT Schematic Diagram**



## Features include:

- Low cost EDT makes networks affordable
- User- adjustable logging interval from 15 seconds to 30 minutes
- Records relative humidity and ambient temperature
- Six months' battery life from two non-rechargeable Lithium AA cells
- Designed to IP67 specification
- Mounting bracket connects easily to walls and poles
- Gases include NO<sub>2</sub>, NO<sub>2</sub>+O<sub>3</sub>, H<sub>2</sub>S, SO<sub>2</sub> and CO. Sensor data sheets specify sensor performance
- Data analysis support through Alphasense cloud includes advanced correction algorithms
- Custom labelling on request



At the end of the product's life, do not dispose of any electronic sensor, component or instrument in the domestic waste, but contact the instrument manufacturer, Alphasense or its distributor for disposal instructions.

**NOTE:** As applications of use are outside our control, the information provided is given without legal responsibility. Customers should test under their own conditions, to ensure that the EDT is suitable for their own requirements.



# EDT Electronic Diffusion Tube

# Technical Specification

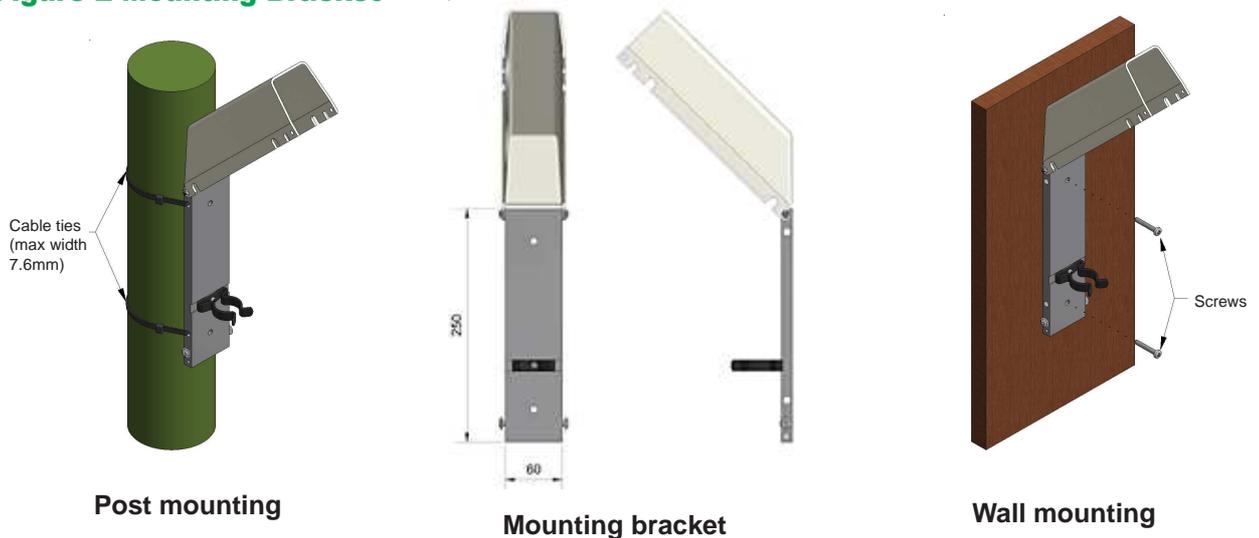
## SPECIFICATION

Sensor range	ppm (NO <sub>2</sub> , O <sub>3</sub> )	0-5
	ppm (H <sub>2</sub> S, SO <sub>2</sub> )	0-50
	ppm (CO)	0-500
Temperature range	°C	-20 to +50
Humidity range	%rh	10 to 90 continuous
Temp. accuracy	-10 to +50°C	±0.5°C
Sampling time	user adjustable	15 sec to 30 min
Download time (min)	40,000 readings (gas sensor + T + rh)	4 to 5
	300,000 readings (gas sensor + T + rh)	35 to 40
Data storage capacity	stored readings (gas sensor + T + rh)	320,000
Power (battery)	2 x LiSOCl 14500 (AA) (monthly download)	4 months
V supply	VDC	3.75 (nominal)
Communication	Bluetooth LE 4.0	2 to 10 m range for downloading
EDT dimensions	mm	40 dia x 190
EDT weight	g	<150

## Applications include:

- Co-locating with Palmes-type diffusion tubes to record diurnal and weekly patterns and peaks
- Monitoring urban construction sites for compliance, especially for peak concentrations
- Ring-fencing odour sources for plume monitoring - daily downloads provide regular feedback
- Detecting fugitive emissions from industrial sites for both leak detection and ensuring compliance
- Low cost educational tool when teaching air quality

Figure 2 Mounting Bracket



Included with EDT (with calibrated sensor): mounting bracket, two AA lithium batteries and hex key, with instructions and data examples.

### NOTES:

1. The EDT is not certified to be intrinsically safe so must not be used in hazardous areas.
2. The EDT does not replace Palmes diffusion tubes for regulatory compliance; the EDT provides the temporal resolution needed for city planners to improve urban infrastructure.

For further information on the performance of this sensor, on other sensors in the range or any other subject, please contact Alphasense Ltd. For Application Notes visit "[www.alphasense.com](http://www.alphasense.com)".

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