

EDT-01 Electronic Diffusion Tube

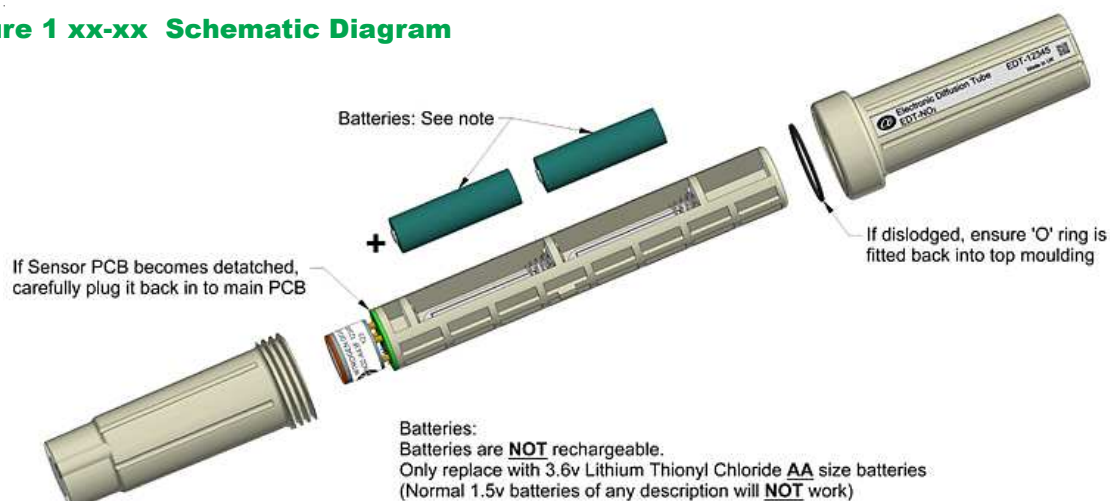
Technical Specification

Alphasense now provides a solution to some old problems:

- Palmes-type diffusion tubes are commonly used for indicative measurement of nitrogen dioxide (NO₂) in cities for Local Air Quality Management. But 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 (H₂S) or ammonia (NH₃) are the two most commonly measured gases for odour detection.

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.

Figure 1 xx-xx Schematic Diagram



Features include:

- The low cost EDT makes networks affordable
- User- adjustable logging interval from one minute to four hours
- Also records relative humidity and ambient temperature
- Eight months battery life from two Lithium AA cells
- Data is downloaded in seconds via Bluetooth to the Android smart phone app
- Designed for waterproof to IP 67
- Mounting bracket connects easily to both walls and poles
- Gases include NO₂, NO₂+O₃, H₂S, NH₃ and CO. Sensor data sheets specify performance.

Data analysis support available



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: all sensors are tested at ambient environmental conditions, with 47 ohm load resistor, unless otherwise stated. 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 sensors are suitable for their own requirements.

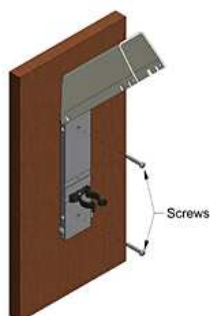
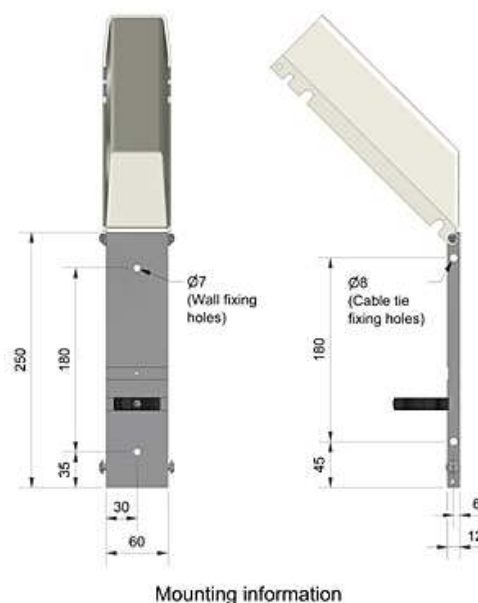
EDT-01 Electronic Diffusion Tube

SPECIFICATION

Range	ppm (NO ₂)	0-5
	ppm (H ₂ S)	0-50
	ppm (CO)	0-500
	ppm (NH ₃)	0-100
Temperature range	C	-20 to +50
Humidity range	%rh	10 to 90 continuous
Temp. accuracy	-20 to +50C	±0.5C
Sampling time	min	1 to 256
Data storage capacity	stored readings	44,000
Power (battery)	2 x LiSOCl 14500 (AA)	8 months continuous use
V supply	V	3.75 (nominal)
Communication	low power Bluetooth	5- 10 m range for downloading
EDT dimensions	mm	25 dia x 170
EDT weight	g	<150
Mounting Bracket dims	mm	60 x 250
Mounting Bracket weight	g	<XXX

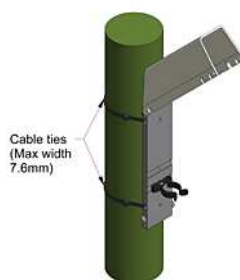
Applications include:

- 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
- Tracking ammonia plumes on poultry farms
- Detecting fugitive emissions from industrial sites for both leak detection and ensuring compliance
- Low cost educational tool when teaching about air quality



Wall mounting

Use 2 off suitable screws for fixing (Round headed).
(Also use wallplugs where necessary)



Post mounting

Use 2 off suitable cable ties threaded
through holes in backplate as shown

Shipped with EDT, mounting bracket, two AA lithium batteries and instructions for downloading Android app

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.

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