



EDT Electronic Diffusion Tube

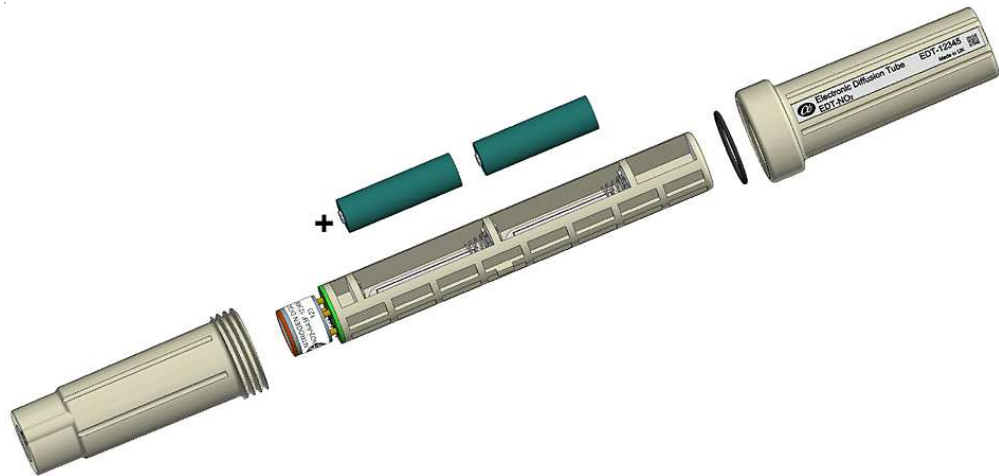
Technical Specification

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 new solution to your old problems:

- Traditional Palmes-type diffusion tubes are commonly used for indicative measurement of nitrogen dioxide (NO_2) 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_2S) and Ammonia (NH_3) are the most commonly measured gases for odour detection.

Figure 1 EDT Schematic Diagram



Features include:

- Logging interval: user selectable 1 second to 24 hours
- Records relative humidity and ambient temperature
- Minimum four months' battery life from two non-rechargeable Lithium AA cells; maximum 12 months, application dependent
- Designed to IP67 specification
- Mounting bracket connects easily to walls and poles
- Gases include NO_2 , NO_2+O_3 , H_2S , SO_2 , CO , NO and NH_3 ; sensor data sheets specify sensor performance
- Data analysis support through the Alphasense AQGateway includes advanced correction algorithms
- Custom labelling on request

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 and spacial granularity resolution needed for city planners to improve urban infrastructure.

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.



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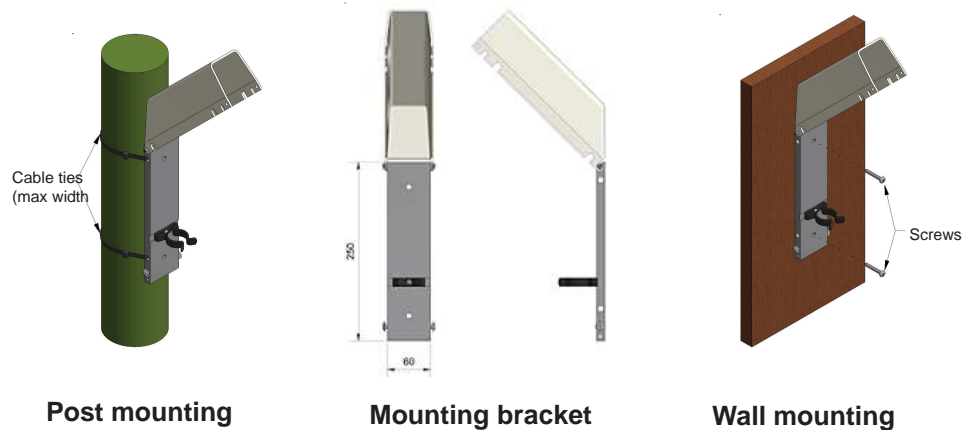
SPECIFICATION

Sensor range	ppm (NO ₂ , O ₃)	0-5
	ppm (H ₂ S, SO ₂ , NO, NH ₃)	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 selectable, predefined	1 sec to 24 hrs
Download time	65,000 records (6 weeks, 1 min interval)	25 min
Data storage capacity	stored records (gas sensor + T + RH)	500,000
Power (battery)	2 x LiSOCl 14500 (AA) (monthly download)	4 months
V supply	VDC	3.75 (nominal)
Communication	Bluetooth 5.0 + LE	15m range for downloading
Phone/tablet	Bluetooth 4.2 or later	
Warranty <i>excludes batteries</i>	months	24
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
- Combining with Air Quality Networks to improve network granularity

Figure 2 Mounting Bracket



Part Numbers

Description	Part Number
EDT complete with calibrated sensor, 2 x AA lithium batteries, mounting bracket and hex key	000-CEDT-2xxx
EDT complete with calibrated sensor and 2 x AA lithium batteries	000-0EDT-2xxx
Mounting bracket and hex key	000-0EDT-BKT

xxx denotes gas sensor type

For further information, please contact Alphasense Ltd or visit www.alphasense.com.



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.

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