AirSentry FTIR Minimum Detection Limits at 500 Meter Path Length

AirSentry FTIR Minimum Detection Limits, Single Gases			
			500 Meter Path
			MDL
Type		Target	PPB
Criteria		Sulfur Dioxide	224
		Nitric Oxide	23
		Nitrogen Dioxide	33
VOC		Acrolein	15
		1,3 Butadiene	4
		Styrene	8
	BTEX	Benzene	17
		Toluene	15
		Ethylbenzene	8
		m-Xylene	8
		o-Xylene	3
		p-Xylene	7
	Alkanes	Pentane	3
		n-Hexane	3
	TVOC	Methane	3
	NMHC	Ethane	7
	NMNEHC	Butane	4
		Propane	4
		Formaldehyde	4
		Propene	6
		Ethene	4
		Acetylene	4
		Acetaldehyde	6
		Formic Acid	5
		Methanol	4
	INT	CO2	14
		Water Vapor	1
Other		Ammonia	3
		Hydrogen Cyanide	10
		Hydrogen Fluoride	4
		Hydrogen Sulfide	450

Long path open path FTIR is not recommended for benzene monitoring due to high detection limit. FTIR is not recommended for H2S monitoring due to high detection limit.

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Analyzer Type	Multi-gas monostatic FTIR open path analyzer convertible to multi-gas point analyzer.
Measurement Technique	Classical least squares regression, optional PLS
Maximum Open Path Installation Distance	1000 meters linear separation
Operating Temperature	0C°-55C°
Power Supply / Consumption	100 to 240VAC/50-60Hz - 1100W Max
Dimensions (with telescope)	107 x 55.7 x 59.1 cm , (42.11" x 21.93" x 23.27")
Weight (with telescope)	70.3 Kg, 155 lbs

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AIRSENTRY FTIR

Open Path Multi-gas Analyzer

CEREX
MONITORING SOLUTIONS, LLC.

Cerex Open Path FTIR

We commercialized the first open path FTIR analyzer for perimeter monitoring in the early 1990's, and the AirSentry FTIR was the unit USEPA had on hand when drafting TO-16. Now in it's third generation the AirSentry FTIR offers a "hands-off" multi-gas perimeter monitoring solution.

Cost Effective Perimeter Monitoring

Monitoring as few as two gases with the AirSentry FTIR may result in lower initial and ongoing operational costs than competing fence-line technologies, while simultaneously delivering reliable USEPA TO-16 regulatory compliant air quality data.

Low Operational Costs

The AirSentry FTIR is designed for autonomous operation over a three year service interval. The cryocooled MCT detector mitigates the requirement for troublesome handling of liquid nitrogen while providing the sensitivity of cryogenically cooled FTIR. Only two consumable items: The IR source and the MCT detector cryocooler compressor.

Both consumables have three year service intervals. Air conditioning increases longevity of electronics. Optical surfaces are coated and purged with filtered, heated air to reduce corrosion and increase uptime. Quality assurance audits require only small quantities of primary standard gas. The AirSentry FTIR is designed for a 20 year service life.

Enhanced Detection

TICs, Acids, Hydrocarbons, Combustion Gases, and More...

Low PPB detection limits enhance early leak detection and release characterization in real time. Clear down is immediate, and the analyzer cannot be poisoned.

Real Time DQI

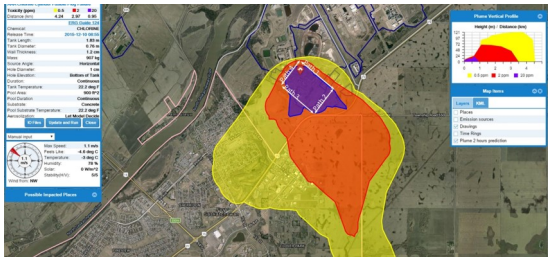
Time resolved open path analyzer data requires real time indication of data quality. Cerex has worked closely with USEPA in defining and implementing real time DQI. The AirSentry FTIR outputs detection confidence values, signal intensity and real time minimum detection limits each acquisition cycle.

Monostatic Operation

The AirSentry FTIR is a monostatic analyzer. This means a transceiver emits and receives IR signal, which is returned to the analyzer by a retro-reflector. The monostatic configuration simplifies TO-16 compliance, when compared to a bistatic system using a transmitter and receiver. It also provides twice the sensitivity of a bistatic system per unit path length and ensures the analyzer does not misquantify target gases through measurement of ambient IR. In addition monostatic systems are easier to align and maintain alignment better than bistatic systems.

Direct Modeling Integration

The AirSentry FTIR seamlessly integrates with measurement based plume dispersion models for emergency response, source location and future event mitigation, regulatory reporting, and litigation response.



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