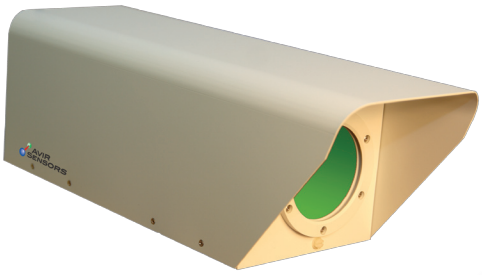

CHEMSIGHT™

Subway Rail Protection

Subway and rail systems are critical public infrastructures with ridership of millions, significant city-center presence and security challenges

MULTI-CHEMICAL OPEN PATH GAS DETECTION

The ChemSight™ multi-chemical open path infrared (IR) detector was developed specifically for security applications. The system can be installed in individual cars, along stations to provide full coverage against internal or external releases or within tunnels to provide early warning when toxic chemicals are pushed through. The enclosure of the ChemSight™ is robust, inconspicuous and resistant to environmental challenges such as dust and extreme temperature levels.

FEATURES

Multi-chemical detection

- Toxic Industrial Chemicals (TICs) and Chemical Warfare Agents (CWAs)
- Upgradeable over the Internet

Low maintenance

- No external air sampling system
- No consumables

Comprehensive SiteProtector™ software and processing algorithm

- Each detector can be monitored remotely
- User-defined actions and alarms
- User-defined chemical detection list
- Large data storage capacity and regular archiving

Indoor and outdoor operation

- -40°C to 60°C
- Harsh environments

Speed and Value

- Fast response - 1 second, followed by 30 second confirmation
- Best value per detected chemical and for cost of ownership

AVIR SENSORS
www.avirsensors.com

Metropolitan subway and rail systems are critical transportation modes that are exceptionally vulnerable targets for chemical attacks using Toxic Industrial Chemicals (TICs) or Chemical Warfare Agents (CWAs).

GASEOUS CHEMICAL THREATS

Chemicals may be introduced in gaseous, vapor or aerosol forms within or outside stations or onboard trains. Owing to a train's motion, well-placed releases are likely to spread quickly thereby increasing the damage to life and property. When released within a station, such chemicals may become fully mixed within minutes. Many common irritants are commercially available and can be released at street level at station entrances, through vents or carried in small containers. When released underground, airborne chemicals may be pushed by the piston-like motion of trains to the next station or through the vents into city streets.

When released onboard a moving train, as in the Tokyo attack in 1995, the effect of chemicals may be extended beyond the attacked car by spreading along the train path.

Confining a release to the point of attack is a critical protective measure that can be achieved only by monitoring long stretches of stations, tunnels and within cars by sensors that can detect most relevant TICs and CWAs.

Effective protection requires continuous, uninterrupted monitoring with fast and reliable response to allow, if necessary, stopping trains between stations and triggering fast response and evacuation.

FAST, ACCURATE RESPONSE

Sensors deployed in subway or rail stations must be immune to false alarms induced by cleaning agents, personal odors and perfumes, and must withstand contamination by fine dust (e.g., iron oxide), smoke, power wash and fumes. The ChemSight™ detector delivers on these requirements.

Effective protection requires continuous, uninterrupted monitoring with fast and reliable response.

The ChemSight™ detector is a Qualified Anti-Terrorism Technology and has received SAFETY Act designation.

ChemSight™

CHEMICALS DETECTED

Types:	Wide range of Toxic Industrial Chemicals (TICs), Chemical Warfare Agents (CWAs) and Toxic Industrial Materials (TIMs)

SOFTWARE

General:	SiteProtector™ software provides threat evaluation, gas identification, concentration, time stamp and other data for stand alone monitoring or inclusion into industry standard integration software
Diagnosis:	Self-diagnoses path obstructions, interferants and detector well-being
Confidence Tester:	Internal, software activated relay that confirms detector operation and communication at user defined intervals (daily, weekly, etc.)

SYSTEM

Sensor Type:	Infrared absorption
Sensitivity:	Varies by vapor; from 200 ppm•m to 2 ppm•m (well below IDLH in typical installations)
Response Time:	1 second
Identification Time:	1-30 seconds
Path Length:	1-30m; 30m-100m
Ongoing Calibration:	None
Warranty:	One year
Consumables:	None
Maintenance:	Self-monitoring; no scheduled maintenance
Operation:	Continuous

MECHANICAL

Housing Size:	
Detector:	7" x 7.5" x 22.5" (17cm x 19cm x 57cm)
IR Lamp:	14" x 14" x 8" (35cm x 35cm x 20cm) 7" x 7" x 6" (17cm x 17cm x 15cm)
Enclosure Material:	Powder Coated Aluminum
Weight:	
Detector:	13 lbs (6 Kg)
IR Lamp:	8 lbs (4 Kg) , 4 lbs (2 Kg)

ENVIRONMENTAL

Operating Temp.:	-40°F to +140°F (-40°C to +60°C)
Operating Humidity:	0 to 95% RH (non-condensing)
Weatherproof rating:	IP66
Certifications:	ISO 9001, UL & CE (pending)

ELECTRICAL

Operating Voltage:	120 VAC or 240VAC
Power Consumption:	
Detector:	25 watts max.
IR Lamp:	5 watts to 50 watts max.

Specification subject to change without prior notification

CHEMICALS DETECTED

Chemical Warfare Agents

Toxic Industrial Chemicals

- Ammonia
- Arsine
- Butane
- Chloroethane
- Diborane
- Ethylene Oxide
- Formaldehyde
- Hydrogen Bromide
- Hydrogen Chloride
- Hydrogen Cyanide
- Hydrogen Sulfide
- Isopropanol
- Phosgene
- Propane
- Various alcohols & solvents
- Vinyl Chloride

and many more...

Common Industrial Chemicals

- Butane
- Carbon Dioxide
- Diesel and gasoline exhaust
- DMMP
- DIMP
- FM-200 (Heptafluoropropane)
- IsoClean
- Methyl Salicylate
- Natural gas
- Propane
- Stainless steel cleaner
- Sulfur Hexafluoride

and many more...

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