

RAD – CHEM- BIO- UNITECT-AIR

UNIVERSAL DETECTOR FOR AIRBORNE HAZARDS 通用探头用于气溶胶有害物

Model UNITECT-AIR



Real – Time Air
Monitors **TECHNICAL**
ASSOCIATES

A STATE OF THE ART INTEGRATED CHEMICAL BIOLOGICAL & RADIATION AIR MONITORING SYSTEM

一种艺术结合，化学，生物和辐射空气监测系统

APPLICATIONS

应用

- **Room Air, Outdoor Air, Ducts or Exhaust Stacks, Airbourne Plumes**
室内空气，室外空气，排风罩，排烟道，气溶胶羽状流
- **High Profile Buildings:**
高楼
Convention Centers,
会议中心
Sports Arenas,
体育场
Government Establishments
政府机构
- **Industrial Contaminates:**
工业污染
Laboratory, Power Plant
实验室，核电站

FEATURES

特点

Combines Several Detection Goals

几个探头目标结合起来

Real-Time, On-Line

实时在线

**Major Chemical Tests CWA +TIC's
pH, ORP, and Lead**

主要化学检测CWA +TIC's pH, ORP,
和 Lead

**Detects Alpha, Beta, Gamma,
Tritium, Radon, (Optional)**

检测 α β γ 氡、氡 (选购)

Detects More Than 6 classes of Microbes
检测多达6类微生物

BENEFITS

All-in-One Continuous Monitor

Real-Time, On-Line

Into One Monitor

集多功能为一体的，连续、实时、在线监测器

No Reagents Required

无需试剂

Measurements Logged 24 Hr/Day 7 Day /Week

测量一周七天二十四小时记录

Customer Controlled Alarm Threshold

用户控制报警点

SCADA compatible

SCADA兼容

Easy Installation 易安装

**Calibration Can be Customized for
Specific Contaminants**

对于具体污染物校准可用户自定义

Remote Control & Communication 远程控制&通信

PHYSICAL PARAMETER SENSORS

传感器物理参数

MEASUREMENT	RANGE	SENSOR	MAINTENANCE	POWER
FLOW	0 to 3.0 CFM	Volumetric	None	10 – 36 VDC Input
TEMPERATURE	Ambient	RTD Ceramic	Periodic Calibration	10 – 36 VDC Input
PRESSURE	900 –1400 hpa	Diaphragm	None	10 – 36 VDC Input
压力		隔膜	无	输入10 – 36 VDC

FLOW RATE

流量

STANDARD	0-3 cfm
标准	0-3 cfm
OPTIONAL	Wide range of flow rates available
选项	宽流量范围可选
OPTIONS	Cooler model: Cool-33 for detector and samples is used in case of higher sample or ambient temperatures.
选项	在较高温度的样品或周围空气情况下的Cool-33

SIZE AND WEIGHT

尺寸和重量

DIMENSIONS尺寸

CABINET:	29" W x 31" D x 59" H (including wheels)
机柜	29" W x 31" D x 59" H (包含轮子)

CHEM PANELS: 36" W x 28" H (2 each)

化学物仪表板:

BIO PANELS: 28" W x 50" H

生物仪表板

WHEELS 5" diameter, high capacity, rugged wheels with lock and rubber tires

轮子: 直径5", 高性能, 耐用轮子, 带锁和橡胶胎

WEIGHT Standard unit 170kg

重量 标准设备170kg



Cabinet Front View

CHEMICAL SENSORS

TYPICAL

化学传感 器

TOXIN TYPES 毒素 类型	Chemical Warfare CWA's DETECTED 被检测的化学 战试剂	Toxic Industrial Chemicals TIC's DETECTED 被检测的有毒化学物
	Nerve and blister 神经和糜烂性毒剂 如： agents such as Tabun, Sarin, Soman, Cyclosarin, Agent VX Agent VXR, Cyanogen chloride (CK), Mustard Nitrogen mustard	C12 HCl HNO3 SO2 HCN HB HF BC13 BF3 CS2 Phosgene Ammonia Ethylene Oxide Phosphorus, Trichloride (PC13) Diborane, plus others as requested

RADIATION SENSORS

辐射传感器

规格

Specifications	UNITECT-AIR (Standard)	UNITECT-AIR – R4	UNITECT-AIR-R6
Channels 检测道	Three	Four	Six
Activity Detected 检测活度	1. Beta-gamma particulate, β γ 粒子 2. Iodine and Radio-Chemicals 碘和辐射化学物 3. Noble gas 惰性气体	1,2,3 plus, 4 Alpha particulate 1.2.3.加上 α 粒子	1-4 plus, 5.Tritium and 6. Carbon-14 1-4加5, 氚和C-14

检测

β - γ 粒子

碘

惰性气体

Activity Detected	Beta-Gamma Particulate	Iodine	Nobel Gas
Filters 过滤器	2" dia	2.5" dia x 1" thick	One Liter Chamber 1升电离室
Filter Type 滤器类型	Glass Fiber Filter 玻璃纤维滤网	TEDA Activated Charcoal Cartridge TEDA活性炭滤芯	Stainless Steel Lined 不锈钢里衬
Collection Efficiency 收集效率	99% Efficiency at 0.3 micron particle size 0.3微米粒子效率为99%	60 KeV to 3 MeV (7 MeV optional)	60 KeV to 3 MeV (7 MeV optional)

检测活度

α 粒子

有机C-14

氚

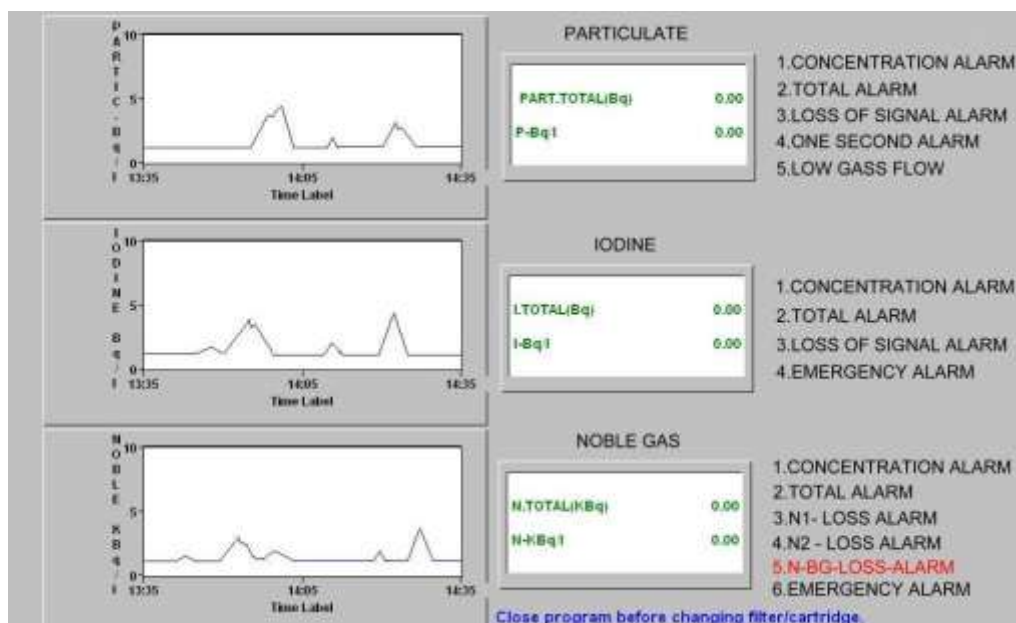
Activity Detected	Alpha Particulate	Organic Carbon-14	Tritium
Filters/Collector 滤器/采集器	2" dia 直径2"	2.5" dia 直径2.5"	Dual Ion Chamber 双电离室
Filter Collector Type 滤器收集器类型	Glass Fiber Filter 玻璃纤维	TEDA Activated Charcoal Disk TEDA活性炭	Stainless Steel or Nickel Lined 不锈钢或镍里衬

RADIATION SENSORS

辐射传感器

Type of Detector	1 Minute	1 Hour	10 Hours	1 Day	1 Week
Particulate Beta-Gamma Cs-137, Co-58, etc	6×10^{-10} uCi/ml/min	1×10^{-11} uCi/ml 3.7×10^{-7} Bq/ml	1×10^{-12} uCi/m 3.7×10^{-8} Bq/ml	6×10^{-13} uCi/ml 2.4×10^{-8} Bq/ml	1×10^{-13} Bq/ml 4×10^{-9} Bq/ml
Iodine I-131, etc.	3×10^{-9} uCi/ml/min	1×10^{-11} uCi/ml 3.7×10^{-1} Bq/ml	1×10^{-12} uCi/m 3.7×10^{-8} Bq/ml	6×10^{-13} uCi/ml 2.4×10^{-2} uCi/ml	1×10^{-13} Bq/ml 4×10^{-9} Bq/ml
Gas-Standard Range Xe-133, etc	6×10^{-7} uCi/ml	1×10^{-7} uCi/ml 3.7×10^{-3} Bq/ml	2.7×10^{-8} uCi/ml 1×10^{-3} Bq/ml	1×10^{-8} Bq/ml 3.7×10^{-4} Bq/ml	2.7×10^{-9} Bq/ml 1×10^{-4} Bq/ml

Measurement Ranges of Optional Detectors	From	4 Decade Model	6 Decade Model
Tritium	10^{-7}	10^{-3}	10^{-1} uCi/cc
Inorganic C-14	10^{-8}	10^{-4}	10^{-2} uCi/cc
Organic C-14	10^{-9}	10^{-5}	10^{-3} uCi/cc
Alpha particulate	5×10^{-8}	10^{-4}	uCi/cc



BIOLOGICAL SENSORS

生物传感器

Real-time detection of bioagents in air 实时检测空气中生物制剂
Also detects genetically modified agents 也检测转基因制剂

The SmartBio Sensor(SBS) enables real-time detection of biological agents in ambient air, The system Classifies bacteria, bacterial spores, toxins and viruses while maintaining a low response to common biological and and chemical interferants in the environment.

SmartBio Sensor(SBS)生物探测系统对环境空气中的生物制剂进行实时检测，系统在在维持对环境普通生物和化学干扰素低响应同时，区分细菌、细菌芽胞、毒素和病毒。

The SBS continuously samples the air and traps bioagents onto an array of semi-selective optical biosensors.

SBS连续空气采样，捕获生物制剂到一组筛选光学生物感测器中

The fluorescence from the array is processed by an on-board computer to produce signal patterns that are characteristic of bioagents. The bioagents are retained on the sensor for confirmatory analysis or forensic archiving.

来自感测器组的荧光由机载计算机处理产生具有生物制剂特有的信号模式，留在传感器上的生物制剂用于验证分析或定论存档。

The current SBS system uses 8-sensor array and an integrated airborne particle counter to detect bioagent-containing clouds in real time. This detection suite affords more selectivity and greater immunity to previous based techniques. The SBS sensors will also respond to unanticipated or genetically modified organisms that could be missed by sensors designed for specific organism detection.

目前SBS系统使用8探头组列和一体气溶胶粒子计数器实时检测含生物制剂气团，检测组提供更多选择及对以前技术缺陷弥补。SBS传感器对那些可能被有机物专用传感器漏检的意料之外的或转基因微生物响应。

Specifications

规格

Principal of Operation: Multichannel fluorescence and pattern recognition

操作原理 多道

Agents Classes Detected: Bacteria, bacterial spores, viruses, toxins

制剂类别探测: 细菌，细菌芽胞，病毒和毒素

Detection Channels: 8 fluorescent chemical sensors, 2 particle counting channels

检测道: 8个荧光化学传感器，2个粒子计数检测道

Operation Mode: Continuous Sampling

操作模式 连续采样

Response Time: Detect < 2 minutes, Classify < 5

minutes,
 响应时间
 Initial startup time
 初始启动时间

检测 < 2分钟, 分类 < 5分钟
 After < 10 minutes
 小于10 分钟

BIOLOGICAL SENSORS

生物传感器

BIOLOGICAL DETECTION LIBRARY TYPICAL 生物检测库

MICROBIAL TYPES 生物类型	DETECTION LIBRARY MICROORGANISM 检测库微生物	CURRENTLY CLASSIFIED AS ... 目前分为....
BACTERIA ROD SHAPED 杆状细菌	Various 各类	BACTERIA 细菌
BACTERIA COCCI 球菌	Bacillus – vegetative 芽孢菌-植物性	BACTERIA 细菌
BACTERIA ENDOSPORES	Various 各类	SPORES 孢子
PROTOZOA	Various 各类	PROTOZOA 原生生物



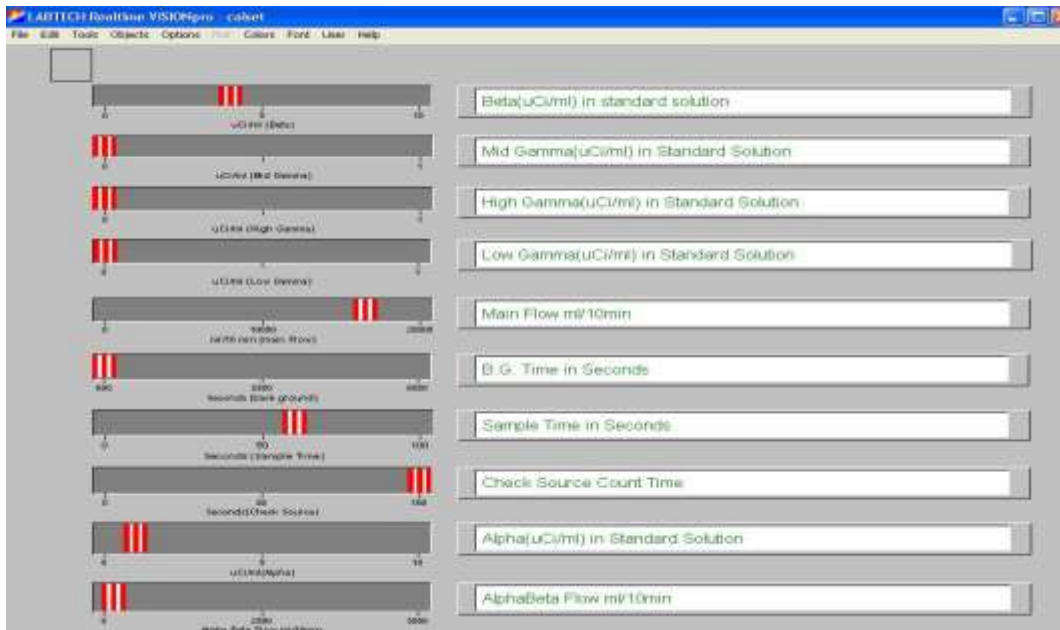
BioSentry offers state-of-the-art based technology for continuous, on-line, real-time monitoring for airborne pathogens.

ALARM SET SCREEN



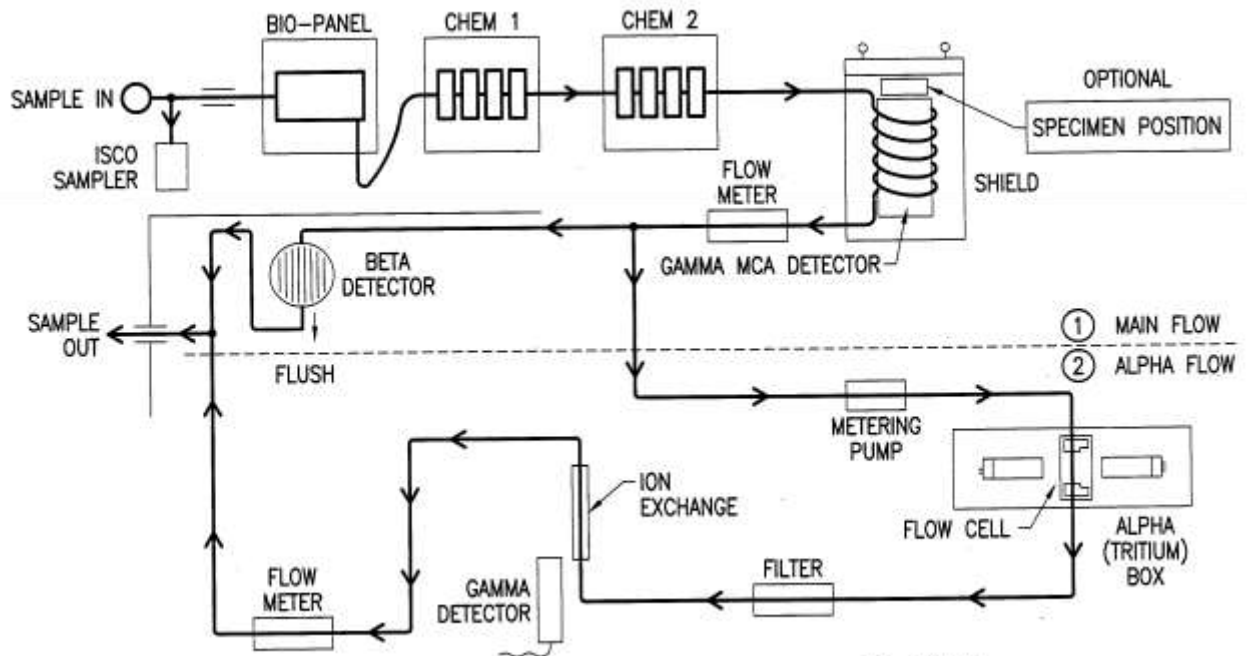
This screenshot allows the user to set all "Alarm Set Points" for all Detector Chambers.

CALIBRATION SET SCREEN

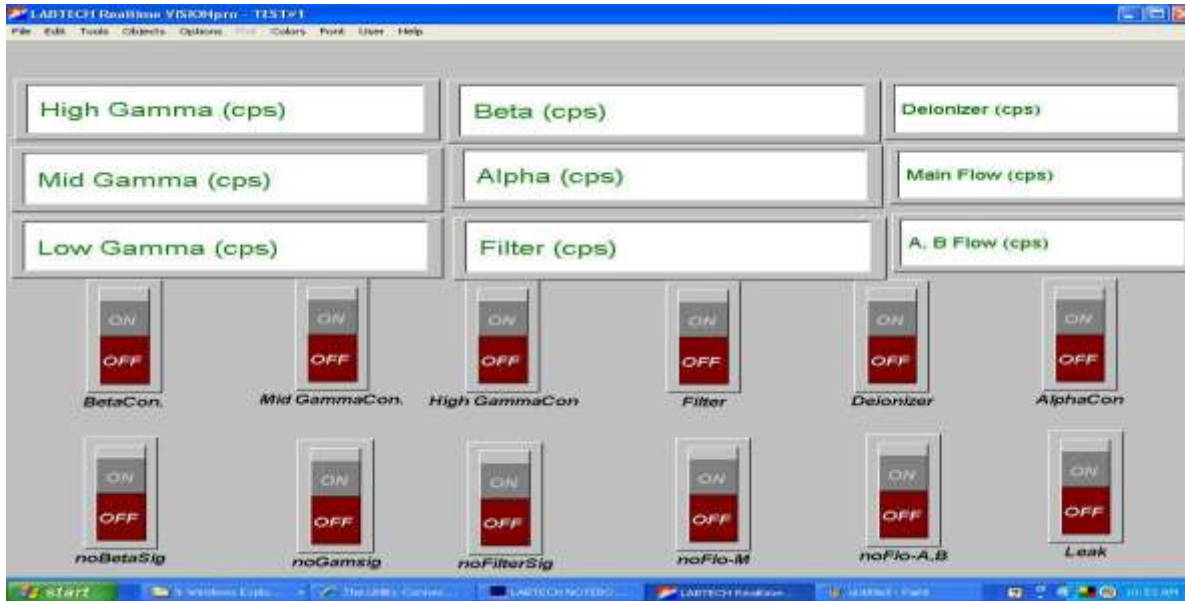


This screenshot displays & finds both Background & Source Counts, and sets Parameters.

UNITECT FLOW CHART For Radiation-Chemical-Biological Detection UNITECT流向图



TEST SCREEN



This is “Test Screen” which allows the user to test Primary Detectors and Functions

OPERATE SCREEN



This screenshot displays & finds both Background & Source Counts, and sets Parameters

RAD – CHEM- BIO- UNITECT-AIR

STATE OF THE ART INTEGRATED CHEMICAL BIOLOGICAL & RADIATION WATER MONITORING SYSTEM

先进一体化学-生物&辐射水监测系统

UNITECT-AIR combines several detection goals into a single monitor. The **UNITECT-AIR** continuously monitors **Radio Nuclides** using particulate filter and charcoal filter. Both **Industrial and Warfare Chemicals**, as well as **Biological Threats** including Bacteria, Yeasts, Virus and Molds are monitored with detectors integrated within the **UNITECT** system. Additional monitoring is available and will be tailored to specific needs upon request. Measurements are logged 24 hr/day - 7 day/week, with alarm capability and a universal read out adaptable to mainframe infrastructure computers.

UNITECT-AIR将几种测量任务集于一个监测器，此仪器通过使用滤尘器和炭滤器，连续监测辐射物。包括工业和化学战化学物及生物危险物包括：细菌，酵母，病毒和霉菌在内的物质都在**UNITECT**系统监测之下。其它监测可根据需要提供。监测每周7天一天24小时记录，带报警功能和兼容中央计算机通用读数

All Chemical and Biological Technology is provided by Data Rangers LLC.
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