

ChemPro100

Industry Leading Sensitivity

The ChemPro100 is a handheld detector for the field detection and classification of Chemical Warfare Agents (CWAs) and selected Toxic Industrial Chemicals (TICs). It provides industry-leading sensitivity and false alarm rejection in the most user friendly and low-maintenance package in its class.

A Truly Orthogonal Detector

The ChemPro100 uses an array of detection technologies to detect, classify and measure chemicals. A truly orthogonal detector, the heart of the ChemPro100 remains Environics' unique open-loop Ion Mobility Spectroscopy (IMS) sensor which uses a Nuclear Regulatory Commission (NRC) exempt ²⁴¹Am ionization source. As safe as a smoke detector, the ChemPro100 doesn't require periodic nuclear wipe tests like most other IMS products.

Lowest Life-Cycle Costs & Logistics

The ChemPro100 doesn't have to purify or chemically modify the sample with sieves or dopants, unlike traditional closed-loop IMS. This reduces cost of ownership by 6 to 27 times compared to other CWA detectors. It's easy to travel with the ChemPro100 because it doesn't require consumables and it only needs maintenance every 3000 hrs. (tracked by an internal clock). Even after 3000 hrs you can still use the ChemPro100 if it passes its simple field check. With the ChemPro100 you won't be left in the middle of an incident with a CWA/TIC detector that doesn't work.

Exercise yourself, not your detector

Some CWA/TIC detectors need to be "exercised" or run once day/week/month or else they will not work when an emergency comes. The ChemPro100 can be stored for years and if it was working when you stored it, the ChemPro100 will work when you really need it.

Non-threatening Design

Other detectors have a very "military" look and some even look like weapons. The ChemPro100 has a less threatening form factor, people have described it as a big PDA or a big cell phone, but nobody has ever confused it with a weapon so it is less likely to panic civilians.

If you can use a cell phone you can use the ChemPro100

The large display is easy to read, even when wearing protective ensembles. The intuitive user interface is so easy to use that if you can use a cell phone you can use the ChemPro100. Large buttons are easy to push even with heavy gloves on and easily interchangeable Li-Ion batteries can be quickly swapped out with a 6-AA alkaline pack without the use of any tools.

Features

- Truly handheld CWA & TIC detection
- Strongest TIC protection in its class
- Fast start up time, 1-3 min.
- Up to 27 times less expensive to own than comparable CWA/TIC detectors
- Lowest logistical requirements of any CWA/TIC detector
- Predictable maintenance requirements
- Designed to rugged military standards:
 - 22 to 131°F (-30 to + 55°C) & up to 175°F (80°C) temporarily
 - High impact composite case passes vibration & drop tests (MIL-STD-810E)
 - Resists blowing sand and will not ignite a n-Hexane atmosphere (MIL-STD-810F)
 - Resists electromagnetic interference and doesn't generate electromagnetic interference (MIL-STD-461E)
- Waterproof (IP67) when inlet is closed

Flexible multi library operation

The ChemPro100 can be loaded with many different lists of CWAs and TIC called libraries. You can choose the appropriate library according to the situation, even during the mission! Some libraries include*:

- Chemical Warfare Agents: nerve, blister, blood/choking agents are identified by class
- Toxic Industrial Chemicals: 12 TICs
- First Responder: 11 TICs plus CWAs
- Volatile Organic Compounds: 9 TICs
- Chemical Agent Precursors: 5 precursor TICs

Libraries are easily upgradeable to account for future mission changes.

*Libraries are constantly being developed, check our web page for current libraries



Size	9"L x 4"W x 2"H (230x101x57mm)
Weight	29 oz. (800 g) (w/Li-Ion battery installed)
Detectors	Orthogonal detection using: <ul style="list-style-type: none"> • Open-loop (aspirated) IMS cell • Temperature • Humidity • 2 Semiconductor sensors
Detection libraries	<ul style="list-style-type: none"> • Chemical Warfare Agent/CWA (std) • First Responder (std) • Toxic Industrial Chemicals/TIC (optional) • CWA Precursors (optional) • Volatile Organic Compounds/VOC (optional)
Battery	Easily interchangeable Li-Ion rechargeable and alkaline (6xAA) packs included
Operating Hours	<ul style="list-style-type: none"> • 10 hours continuous use on Li-Ion • 6 hours continuous use on common alkaline but Li-Ion batteries such as Energizer L91 will provide over 14 hours of continuous use • Unit will run and charge simultaneously
Battery Recharge Time	5 hours using the standard. 110 – 250 VAC, 50 – 60 Hz ChemPro100 Mains Power Supply or using the optional 9.5 – 32 VDC ChemPro100 Vehicle Power Supply
Display	Graphical LCD display with 128 x 64 pixels and blue backlight
Keypad	3 operation and programming keys
Sampling	1 LPM internal pump
Calibration	No calibration is required, but a simple confidence check is recommended before use
Alarm Modes	Audible (adjustable up to 95db) and visual alarms
External Alarm	Optional earphone alarm available
Data Logging	<ul style="list-style-type: none"> • Datalogging is standard • Datalog settings can be adjusted from the CP100 user interface • Optional user Interface Program needed for downloading the data to a PC
Communication	RS232 (USB via serial to USB adapter)
Temperature (Operating)	-22F -131F (-30°C to 55°C) <ul style="list-style-type: none"> • up to 175°F (80°C) temporarily
Temperature (Storage)	-40F -160F (-40°C to 71°C)
Humidity	0-95% non-condensing
Dust & water resistance	IP67: Dust tight (resists blowing sand MIL-STD-810F) and protected against water immersion when inlet is closed
Shock & vibration resistance	High impact composite case passes vibration & drop tests (MIL-STD-810E)
EMI/RFI Interference	Highly resistant to electromagnetic & radio interference and doesn't generate electromagnetic interference (MIL-STD-461E)
Use in potentially flammable environments	Will not ignite a n-Hexane atmosphere (MIL-STD-810F)
Mean Time Between Failure (MTBF)	>3000 hours, expendables limited to a simple to replace filter
Attachment	Belt clip and over the shoulder carry bag standard
Warranty	1 year

ChemPro100 kit includes

•The Standard Accessories Kit includes:

- ChemPro100 with Li-Ion battery installed
- Carrying Bag (stored under the ChemPro100)
- Charger
- Rugged, sealed "Pelican™" style transportation Case
- Test Tube for confidence check
- Inlet Filter, (1 installed and 3 spares)
- User's Manual
- Quick Start Guide
- Alkaline battery adapter

Accessories

- Datalogging package
- Radiation detection module
- Biological detection module
- External battery charger
- GPS Module
- Earphone
- Vehicle Power Supply
- Training System



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