

FirstDefender | RMX

Next Generation Raman for Down Range Chemical and Explosives Identification



FirstDefender® RMX is Ahura Scientific's next generation Raman instrument for rapid, accurate identification of unknown chemicals directly in the field. Designed for flexible use modes, FirstDefender RMX can be used as a handheld instrument with the fixed probe, through an integrated vial mode, or can be mounted to select tactical robots via the integrated RS232 port and an integration kit.

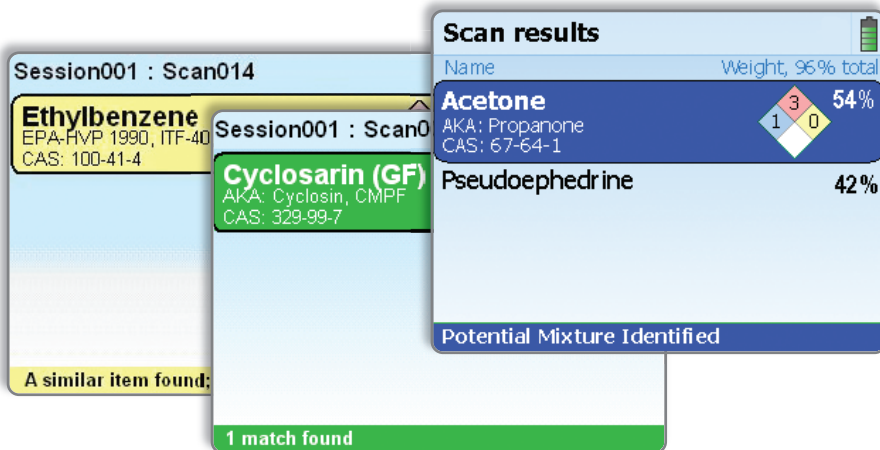
Building on the award-winning, field proven FirstDefender, Ahura Scientific has made significant enhancements in speed, performance, mixture analysis and user interface incorporating extensive user feedback and the latest technical advances. The fixed probe and robot capability ensure the instrument can be used in hard to reach locations.

KEY BENEFITS:

- **Fast, accurate identification.** Based on Raman spectroscopy, quickly identifies unknown solid and liquid chemicals down range.
- **Automatic mixture analysis.** Sophisticated chemometric algorithms automatically determine presence of mixed and contaminated chemicals.
- **Flexible use modes.** Handheld use with fixed probe or vial, or easily connected to a tactical robot through integrated RS232 port for universal control.
- **Built for field use.** Designed for use down range with a tough form factor, quick decontamination and easy operation in bulky protective gear. MIL-STD 810F and IP67 certified.
- **Lightweight, ergonomic design.** Weighs 2.0 lbs. (919 g) for easy transportation down range.
- **Point-and-shoot™ sampling.** Improved operation through sealed translucent containers avoids exposure and maintains evidence. Non-contact analysis requires no consumables and no calibration.
- **Vast substance library.** Identifies explosives, toxic industrial chemicals (TICs), narcotics, precursors, white powders and more. Library is quickly updated in the field and easily navigated.
- **Easy to use and maintain.** Menu driven user interface requires minimal training. No scheduled maintenance or calibration.
- **Multiple power sources.** Powered using included rechargeable battery; wall plug; or SureFire™ disposable batteries.

Continuous Innovation

FirstDefender RMX returns results up to 5 times faster than the original instrument, meeting the demanding requirements of elite military personnel and civilian first responders. FirstDefender RMX offers military organizations, bomb squads and law enforcement personnel a unique tool for hazmat response and the fight against the explosives threat.



Color-coded result screens require no user interpretation and provide rich content for faster, more informed decision making. Onboard NIOSH and CAMEO guides provide detailed hazard information.

Patented chemometric algorithms enable automatic mixture analysis, shown with a blue screen result.

About Ahura Scientific, Inc.

Ahura Scientific has deployed thousands of instruments worldwide, providing the reliability and accuracy of expensive, lab-based equipment in portable, rugged, easy-to-use systems designed for field use. The company's FirstDefender (Raman) and TruDefender FT (FTIR) instruments are used for solid and liquid chemical and explosives identification by state, local, federal and foreign government agencies and first responders.

Specifications	
Raman Spectral Range	250 to 2875 cm ⁻¹
Spectral Resolution	7 to 10.5 cm ⁻¹ (FWHM) across range
Laser (excitation wavelength)	785 nm +/- 0.5 nm, 2 cm ⁻¹ linewidth, stability <0.1 cm ⁻¹
Laser Output Power	Adjustable, 75mW, 125mW, 250mW
Collection Optics	NA = 0.23, 17mm working distance; 0.14 to 1.8mm spot size
Exposure	Manual, Automatic modes (5 ms minimum)
Battery	Rechargeable internal lithium ion battery, OR SureFire™ disposable batteries; > 4 hours operation
External Power Supply	DC Wall Adapter, 12 V 1.25 A
Weight	2.0 lbs (919 g)
Size	7.7" x 4.5" x 2.4" (19.6 cm x 11.4 cm x 6.1 cm)
Operating Temperature	-20 °C to +40 °C (continuous)
Use Mode	Flexible: handheld with fixed probe; vial mode; or robot-mounted
Robot Integration	Integration kit required; contact Ahura Scientific for more information

Note: Product details current as of printing. All information subject to change. 19Mar2010



Ahura Scientific

Ahura Scientific, Inc. 46 Jonspin Road Wilmington, MA, 01887, USA
 tel: +1.978.642.1132 www.ahurascientific.com sales@ahurascientific.com