Advanced Identification for Field Operations

PGR-1064® is a handheld Raman spectrometer providing laboratory-quality identification of unknown chemicals, explosives and narcotics in fielded environments. Utilizing a 1064 nm wavelength laser, the PGR-1064® identifies unknown substances in solid, powder and liquid form and can identify through most clear or translucent containers. The PGR-1064® requires no sample preparation and in most operations, data acquisition occurs in 2 seconds and identification of the unknown substance in less than 45 seconds. Law enforcement, drug task forces, HazMat teams, bomb squads and military can rely on the PGR-1064® in emergency and investigative situations.

Customizable Library of 5,000+ Substances

The PGR-1064® is capable of identifying more than 5,000 substances including: explosives, fuels, synthetic and prescription drugs, cutting agents, chemical warfare agents, toxic industrial chemicals, common household chemicals, and narcotics including Fentanyl. The PGR-1064® includes mixture analysis to identify dangerous and illicit substances in real world samples. In addition, users can add chemicals to the identification library to enhance system functionality.

Features

- Accurate identification of unknown substances in solid, powder and liquid form

- Data acquisition in 2 seconds

- Chemical identification in less than 45 seconds

- Advanced high quality spectral signatures using 1064 nanometer laser

- Identifies through translucent glass and plastic

- No sample preparation

- Ruggedized, handheld and lightweight, only 2.25lbs

- Expandable and customizable library

- 10+ hours of battery life, no consumables

The PGR-1064® Package

The PGR-1064® is an ergonomically designed pistol grip spectrometer, weighing only 2.25 lbs. A joystick for instrument control provides easy, one-handed operation while wearing gloves. The intuitive user interface is menu-based and easy to operate, with training time as short as one hour. The PGR-1064® does not require any consumables for sample collection or analysis.

Proven Raman Technology

The PGR-1064® provides a distinct advantage for chemical identification with its 1064 nm wavelength laser. For many materials, Raman spectroscopy utilizing shorter wavelength lasers – such as the 785 nm – introduces fluorescence (a broad background signal), which can overwhelm the Raman signature making reliable identification almost impossible. The 1064 nm laser significantly reduces fluorescence and enables reliable identification of compounds such as Semtex, Sulfur, and Potassium Permanganate while also identifying target compounds mixed with dyes, plasticizers, cutting agents, and other common materials known to exhibit fluorescence at 785 nm. PGR-1064® has been favorably evaluated by numerous agencies including the National Forensic Science Technology Center.

Specifications	
Dimensions	2.5" x 7.5" H x 6.6" L (6.4 cm x 19 cm x 16.7 cm)
Weight	2.25 lbs (1.0 kg)
Battery	Rechargeable Lithium Ion 3-cell pack, charger integrated into unit (CR123A battery pack option available)
Battery Life	10+ hours during typical operation at 25°C
External Power	Wall plug transformer 110-240 VAC 50/60 Hz
Operating Temp	-20°C to >40°C
Storage Temp	-20°C to 80°C
Spectral Range	350 cm^{-1} to 1800 cm^{-1}
Spectral Resolution	10 cm^{-1} full-width at half-maximum (FWHM) across range
Data acquisition	2 seconds
Chemical Identification	45 seconds or less
Laser (Excitation Wavelength)	1064 nm +/- 0.5 nm, 2 cm^{-1} line with stability <0.1 cm^{-1}
Laser Output Power	500mW max, continuous incremental power adjustment
Working Distance	0 mm - 5 mm
Display	Color transflective LCD
Operation	Joystick and trigger supporting one-handed operation
Ruggedization	• MIL-STD 810G Method 514.6 Category 24 Minimum Integrity Random Vibration • Method 516.6 Procedure IV Transit Drop (without transit case) • IP66 Compliant