

Thermo Scientific RadHalo RDP and FM

Remote Environmental Dose Rate and Nuclide Identification for
Nuclear Power, Environmental & Emergency Planning Applications

Key Features:

- Fixed (FM Model; Environmental Enclosure) and Portable (RDP Model; Drop Probe) Options: Suitable for fixed boundary or portable/mobile applications
- Immediate Isotopic Identification: Powerful identification algorithm with detection hardware provides fast and accurate gamma ID and analysis
- Wide Dose Rate Monitoring Range: The dual-range Geiger Mueller (GM) detection system provides monitoring capability from low-level environmental ($\mu\text{R/hr}$) to high-level accident ranges (1000 R/hr)
- Versatile Communication Pathways: Standard GSM, 2.4 GHz, Wifi; and LAN options; Secure Transmission; 1024 bit encryption available
- Rugged and Autonomous Design; Designed to operate across all environmental temperature and weather conditions; 60 hr battery life in portable option allows for true "Drop and Go" functionality
- E-Plan/Map-based Monitoring Software; Flexible Software Monitoring Solutions Available; 'Easy to Use' user-interface provides Live Time, and/or Historic viewing capability; Server and web-based applications available



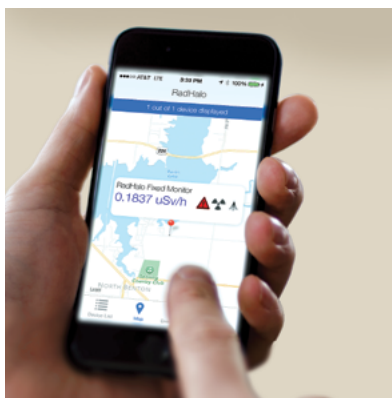
The Thermo Scientific™ RadHalo™ RDP and RadHalo FM detects and identifies gamma radiation in the environment. With multiple configurations available, the RadHalo can be used in any Nuclear Power or Governmental Emergency Monitoring application. The RadHalo FM is designed for fixed site perimeter monitoring, where continual analysis and data logging is required. RadHalo RDP is rugged for mobile deployment.

RadHalo simultaneously runs high accuracy dose rate and identification algorithms, to provide high-confidence measurements during everyday environmental monitoring and in anticipated or actual release situations. RadHalo can be configured to provide optimal data for the specific application, including:

- Continuous dose and count rate readings
- Isotopic analysis triggered at predetermined threshold levels or at timed intervals

The automatic isotopic analysis is ideal for environmental and radiological plume conditions, eliminating lengthy sampling times required to assess the isotopic mix of a release. In addition, automatic reachback of the data feed Plume Modeling and Protective Action Recommendation Systems. RadHalo transmits data in ANSI N42.42-2012 format & monitors the communication channels, if the primary transmission mode is unavailable it will automatically switch modes.

Using the Thermo Scientific RadHalo app, users can monitor and manage RadHalo through the familiar interface of their mobile device. The flexible Software Monitoring System displays data and alarms in several formats including real-time 2D GPS mapping overlays which,, intuitively highlight elevated count rates. Real-time readings can be contrasted with historical readings to reveal trends over time.



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Ordering Information:**RadHalo RDP – Four Options Available**

RadHalo RDP is designed for portability, rapid deployment, and autonomous operation. It is ideal for monitoring special events and radiological emergencies. Long 60 hr battery can be charged via AC mains or solar panel. Multiple wireless transmission methods insure instrument communications in nearly any scenario. Monitor and control unit remotely from PC or mobile device.

RadHalo FM – Twelve Options Available

RadHalo FM is designed for permanent and constant area monitoring. Able to withstand nearly all environmental conditions and emergency conditions. Battery backup and multiple reachback methods insure full operation even in emergency situations. Simple layout allows field service support and onsite calibrations. Antenna and satellite extension kits for long distance communication capability especially when RadHalo has no view of the sky.



Technical Specifications		
Feature	RadHalo RDP	RadHalo FM
Spectroscopic Detector 3x3" NaI	10 nSv/hr to 400 uSv/hr (1 urem to 40 mrem/hr)	
Dual Range GM Tube	0.5 uSv/hr to 10 Sv/hr (5 mRem/hr to 100 Rem)	
Gamma Detection Sensitivity	Identifies Co57 @ 6.6nSv/h moving at 30.5cm/s (1 ft/s) from 100cm (3.3ft) away	
Dose Rate Accuracy	+/- 20% at 661keV (Cs137)	
Neutron Detector (Optional)	CLYC	
Neutron Detection Sensitivity	Detects 1.3 neutrons/s*cm ² moving at 30.5cm/s (1 ft/s) from 100cm (3.3ft) away	
Environmental Resistance	IP66	IP66
Library	49 radioisotopes including all in ANSI N42.34-2006 standard, with version 1.0.0	
Data	Ability to store > 10000 ANSI N42.42 (2012) compliant spectra. Data transmissions 1024 bit encryption	
Rugged Resistance for high wind loads	1m drop onto concrete	Not rated for drops – mounts rated
Temperature Range	-30C to 55C	
Control and Reachback Communications	WiFi, 2.4GHz, optional Cellular optional Satellite	WiFi, LAN, optional 2.4GHz, Optional Cellular, Optional Satellite
Antenna Options	Mounted short range stubbies	Optional 10km directional Yagi or omni-directional
Battery	Lithium Titanate 60 hrs with 3 hr recharge	
Size (fully featured system)	35 lbs (14" DIA base x 28" tall)	50 lbs (24 x 24 x 8")
Control of Peripheral Equipment	None	GPIO, USB
Mounting Options	Freestanding or with tripod	Pole or fence mount
Security	Tamper and tip sensors	Tamper sensors
Transportation	Handle, removable shoulder strap	None

All RadHalo model kits contain: 1. RIIView PC spectra viewer, 2. AC power supply, 3. Quick Start Guide, 4. Android/Apple mobile device application
Accessory kits: 1. Solar Panel kit, 2. Base radio to receive transmissions, 3. radio repeater for increased transmission distance, 4. RDP tripod mount, 5. FM pole/fence/wall mount kit. 6. FM antenna extension kit.

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