

Target F501



Handheld on steroids



Discover the vast capabilities of the Target F501, designed to detect and identify a wide range of radiation sources. This advanced device excels at detecting gamma, beta, neutron, and cosmic radiation emitted by both natural and man-made sources. With its exceptional precision, it can identify special nuclear material as well as industrial, medical, and naturally occurring radioactive sources. Additionally, the Target F501 enables accurate measurement of x-ray and gamma exposure, making it an indispensable tool for various applications.



The F501 represents the next stage in the evolution of the F500. Significant enhancements and novel discoveries have been seamlessly integrated into nearly every aspect of the F501.

The F501 stands out as RID that offers an extensive range of detector material options. Each detector option has distinct advantages that make it ideally suited for specific applications. Nevertheless, there is one shared characteristic among all versions of the F501 - the inclusion of a single detector capable of measuring gammas and neutrons across both high and low exposure rates. Gamma and neutron radiation are detected and analyzed by the unique analog and digital electronics in combination with the complex AI supported software.

F501 models with different detectors recognizable by the detector marking.

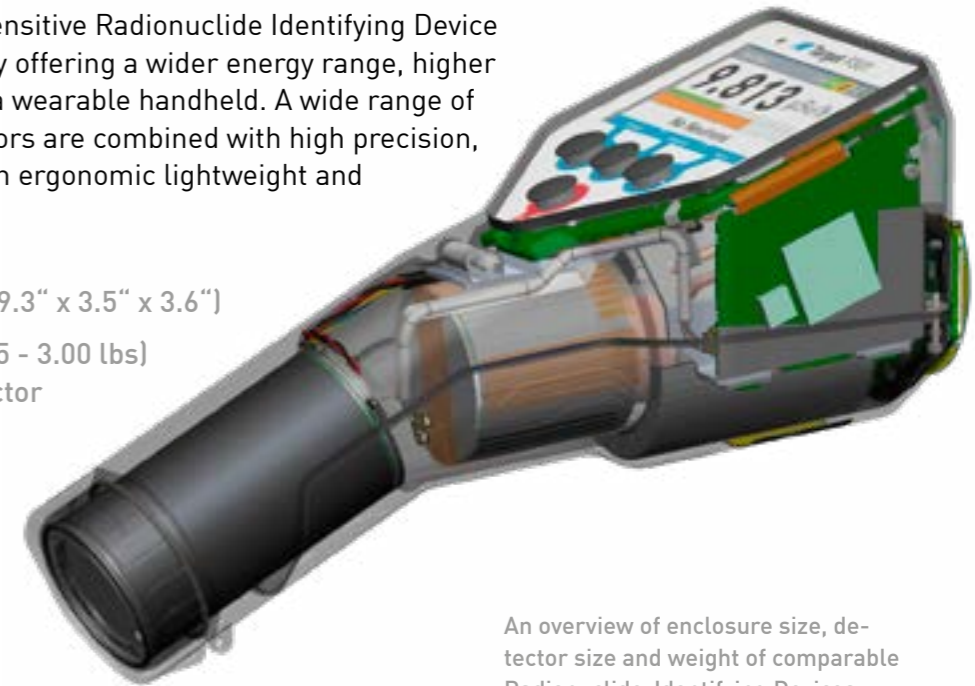


Offering the best enclosure to detector size ratio.

This ultra-compact, rugged and sensitive Radionuclide Identifying Device (RID) provides superior usability by offering a wider energy range, higher throughput and better stability in a wearable handheld. A wide range of different 2" x 2" and 2" x 1" detectors are combined with high precision, high-speed digital electronics in an ergonomic lightweight and watertight aluminum enclosure.

Dimensions: 235 x 88 x 92 mm³ (9.3" x 3.5" x 3.6")

Weight: 1,200 - 1,350 g (2.65 - 3.00 lbs) depending on detector



An overview of enclosure size, detector size and weight of comparable Radionuclide-Identifying Devices (RID) on the market.

<p>1.5" x 3"</p> <p>4000 g / 8.8 lbs</p>	<p>2" x 2"</p> <p>2400 g / 5.3 lbs</p>	<p>2" x 2"</p> <p>2600 g / 5.7 lbs</p>	<p>2" x 2"</p> <p>2400 g / 5.3 lbs</p>	<p>1" x 3"</p> <p>2600 g / 5.7 lbs</p>	<p>2" x 2"</p> <p>2720 g / 6 lbs</p>
<p>2" x 2"</p> <p>2040 g / 4.5 lbs</p>	<p>2" x 2"</p> <p>2100 g / 4.6 lbs</p>	<p>2" x 2"</p> <p>2200 g / 4.8 lbs</p>	<p>1.5" x 2"</p> <p>1380 g / 3.0 lbs</p>	<p>1.5" x 2"</p> <p>1200 g / 2.65 lbs</p>	<p>2" x 2/1"</p> <p><1300 g / <2.68 lbs</p>

More than ever made for any mission.

The stabilization of the Target F501 does not require any built-in source or LED. The novel patented stabilization is based on the measurement of the photon noise charge and compensates immediately and automatically gain shifts and temperature effects. The main advantages of this new method are:

- No internal radioactive stabilization source is “blinding” the instrument.
- No buggy LED light emitter can compromise the stabilization.
- Superior stability in every situation.

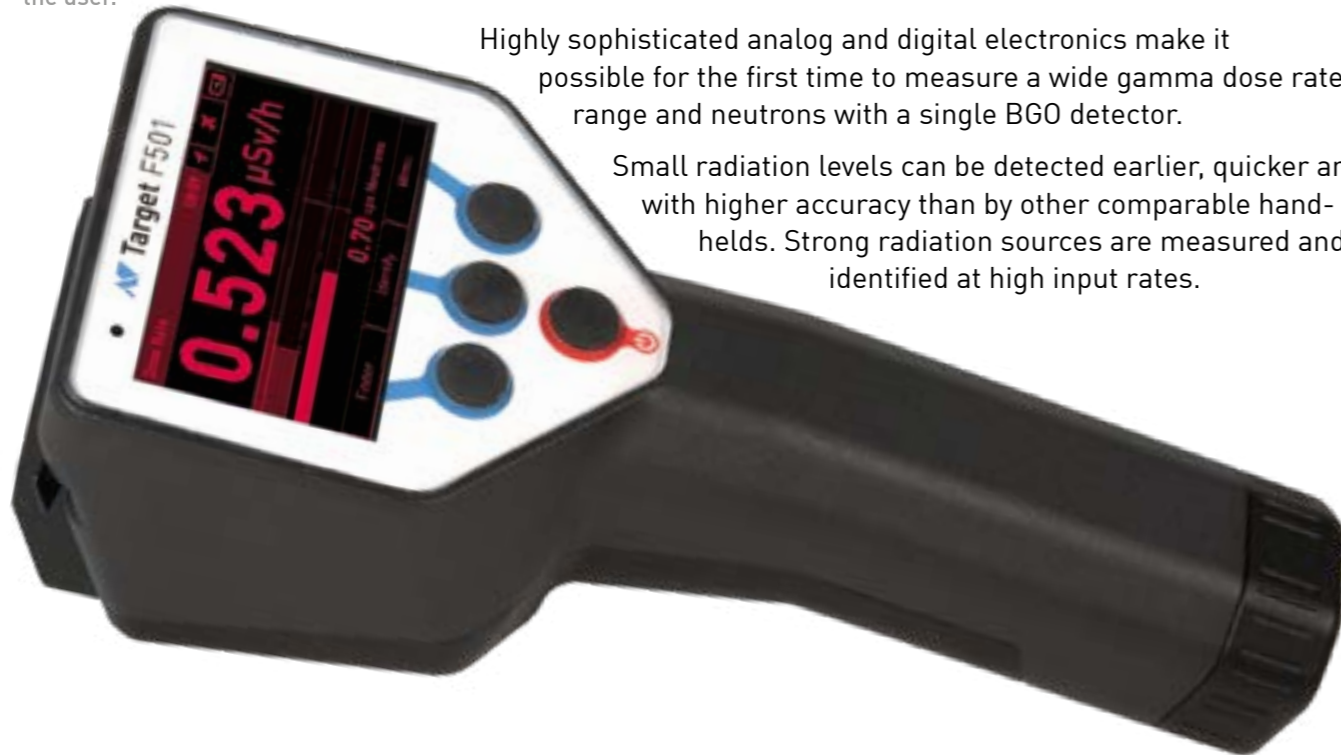
The consistent performance of the Target F501 under all conditions and environments, while maintaining the highest accuracy in the results, reduces false positives and expedites decision-making in the field.

The wide energy range from 10 keV_{ee} to 1 GeV_{ee} and a dose rate capability of 100 mSv/h is indispensable when it comes to field operations dealing with unknown threats.

Highly sophisticated analog and digital electronics make it possible for the first time to measure a wide gamma dose rate range and neutrons with a single BGO detector.

Small radiation levels can be detected earlier, quicker and with higher accuracy than by other comparable handhelds. Strong radiation sources are measured and identified at high input rates.

The F501 in night mode allows working in total darkness without blinding the user.



A crisp trans-flective high resolution display supports operation in bright sunlight as well as in the dark. The hermetically sealed waterproof device is well suited for its mission on land, on water, and even underwater to 10 meters diving depth.

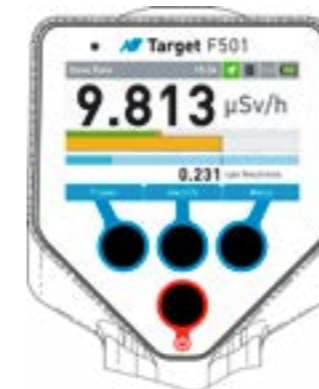
A well-proven concept of operation and a user interface that concentrates on providing the essential information makes the F501 intuitive and easy to use. Even in upside down position the Target F501 is still easy to operate, as the user interface automatically rotates its different elements accordingly.



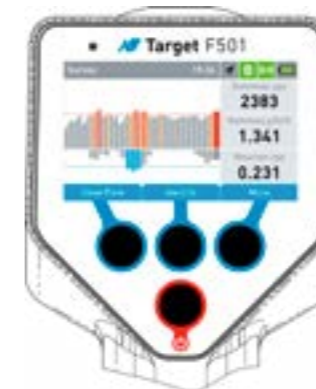
Easy Finder while scanning



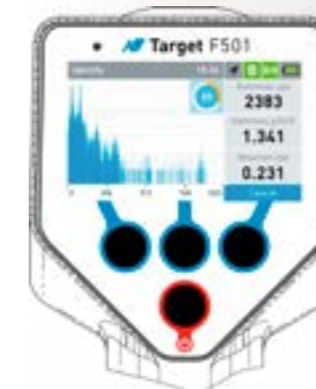
Easy Finder with direction



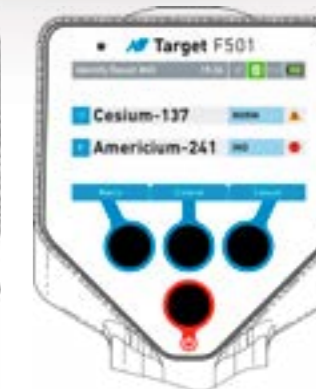
Dose rate mode



Finder mode



Identification mode



Identification results





It's not over, when you are back.

All measurements are saved on the instrument (32 GB storage capacity), and can easily be transferred without special software. Its multiple interfaces and the built-in web interface allow easy and flexible reach-back operation. The interface also provides for secure remote maintenance and remote operation of the instrument.



The acquisition of a spectrum with the web interface



The password protected area for the expert settings






Always available and up to date: the user manual, integral part of the web interface.


Summary

- Superior efficiency with a 2" x 1" BGO ($\text{Bi}_4\text{Ge}_3\text{O}_{12}$) detector
- The non-hygroscopic BGO detector improves the overall ruggedness
- Novel quantum sourceless gain stabilization (pat. US 9,864,076)
- High dose rate capability and neutron measurement with a single detector (pat. pend.)
- Spectrometry at 1 million cps and higher
- Directional radiation detection
- Water tight up to 10 meters (33 feet) - IP68 rated
- Universal API and easy system integration by HTTP REST interface
- N42.42 data format for one touch reachback via mobile app
- Remote operation and configuration with web-browser or mobile app
- Nuclide library (> 70 nuclides) exceeds IEC 62755 und ANSI 42.34



Target Systemelektronik

 +49 202 769302 0
 mail@target-sg.com
 <http://target-sg.com>

Target Systemelektronik
 Heinz-Fangman-Straße 4
42287 Wuppertal, Germany