

# Target F500

## Technical Data

Page - 1/4

### Document Identity

en-US : 2017-10-24 / 101813

### Target Systemelektronik

Heinz-Fangman-Straße 4  
42287 Wuppertal, Germany

All rights reserved worldwide.  
Names and marks appearing  
herein are either registered  
trademarks or trademarks of  
Target Systemelektronik GmbH  
& Co. KG. All other trademarks,  
trade names or company names  
referenced herein are used for  
identification only and are the  
property of their respective  
owners.

### Website

<http://target-sg.com>

### Disclaimer

Specifications subject to change  
without further notice.



## Handheld Radio-Isotope Identifying Device (RIID) with 2" Detector.

### General Description

The Target F500 is an ultra-compact rugged sensitive Radio-Isotope Identifying Device (RIID). It provides superior usability by offering a wider energy range, higher throughput, and better stability in a wearable handheld. For the first time, a 2"x 2" size detector is combined with high precision, high-speed digital electronics in an ergonomic lightweight enclosure. The novel design features a water-tight aluminum housing and is small enough to be worn on a belt. The wide energy range from 10 keV to 10 MeV and a dose rate capability of 100 mSv/h is indispensable when it comes to field operations dealing with unknown threats. Minute radiation levels can be detected earlier, quicker and with higher accuracy than with other comparable handhelds. Strong radiation sources are measured and identified even at mega-count per second input rates. The F500 comes with the novel patented stabilization based on the measurement of the photon noise charge. Thereby gain shifts and temperature effects are completely compensated. The hermetically sealed waterproof device is well suited for its mission on land, on water, and even underwater to 10 meters diving depth. A crisp trans-flective high resolution display supports operation in bright sunlight as well as in the dark. All measurements are saved on the instrument (32GB storage capacity), and can easily be transferred without special software. Its multiple interfaces and the built in WEB interface allow reach-back operation. The interface mechanism also provides for secure remote maintenance and remote operation of the instrument.



# Target F500

## Technical Data

Page - 2/4

### Features

Novel sourceless gain stabilization (patents pending)
Smallest instrument with a 2" x 2" detector
High dose rate capability with a single detector
Spectrometry at 1 million cps and higher
Directional radiation detection
Water tight up to 10 meters (33 feet) - IP68 rated
Easy system integration by HTTP REST interface
Remote operation and configuration with standard web browser

### Detectors

<b>Gamma</b>	51 x 51 mm (2" x 2") NaI(Tl)
<b>Gamma/Neutron (opt)</b>	51 x 51 mm (2" x 2") Cs <sub>2</sub> LiYCl <sub>6</sub>

### Performance

<b>Energy range (Gamma)</b>	10 keV - 10 MeV (NaI(Tl))
<b>Linearization</b>	Real-time linearization of gamma energy
<b>Dose rate range</b>	0.01 - 10,000 μSv/h (0.001 - 1,000 mrem/h)
<b>Dose rate overload</b>	10,000 - 1,000,000 μSv/h (1 - 100 rem/h)
<b>Dose measurement range</b>	0.001 - 100,000,000 μSv (0.0001 - 10,000,000 mrem)
<b>Stabilization</b>	Sourceless gain stabilization (patents pending)
<b>Identification</b>	Detection and nuclide identification performance exceeds all ANSI N42.34 requirement
<b>Nuclide library</b>	ANSI N42.34 compatible
<b>Library categories</b>	SNM, IND, MED, NORM
<b>Typical resolution</b>	6.5 % FWHM at 662 keV with NaI detector at 20 °C
<b>Maximum count rate in identification mode</b>	1 million cps
<b>Gamma sensitivity</b>	1,850 cps/μSv/h (Cs-137)

### Physical

<b>Dimensions (W x L x H)</b>	92 mm x 232 mm x 88 mm (3.62" x 9.13" x 3.46")
<b>Weight</b>	<1,300 g (<2.86 lbs)
<b>Housing material</b>	Machined aluminum, powder coated



## Technical Data

Page - 3/4

<b>Service</b>	<b>Warranty</b>	2 years
<b>Environmental</b>	<b>Operating temperature</b>	-20 °C to 50 °C (-4 °F to 122 °F)
	<b>Relative humidity</b>	100% (water proof)
	<b>Protection rating</b>	IP68, 10 m (33') diving depth
	<b>Tests according IEC 62706</b>	Drop, vibration, mechanical shock, electrostatic discharge, radio frequency immunity
<b>Battery</b>	<b>Type</b>	Secure NiMH battery pack (Li-Ion opt.)
	<b>Standard operation time</b>	8h in dose rate mode with dimmed display back light and GPS switched off at 20 °C (68 °F)
<b>Display</b>	<b>Type</b>	Blanview TFT-LCD
	<b>Size</b>	69 mm x 41 mm (2.72" x 1.61")
	<b>Resolution</b>	800 pixels x 480 pixels
<b>Input/Output</b>	<b>USB</b>	2.0; micro-AB socket
	<b>Bluetooth</b>	Class 4.0
	<b>WLAN</b>	WiFi 802.11 g/n
<b>Software</b>	<b>Functions</b>	Dose, dose rate, identification, finder, advanced
	<b>Remote operation / reachback</b>	via web-interface
	<b>File Formats</b>	Download file formats ANSI N42.42 and spc files compatible with third-party analysis software applications such as GADRAS, Cambio, or PeakEasy
	<b>Data Storage</b>	32GB
<b>Miscellaneous</b>	<b>GPS Global positioning</b>	12-channel SiRF III receiver
	<b>Clock</b>	RTC Real Time Clock

# Target F500

## Technical Data

Page - 4/4

### Accessories

<b>Case</b>	Pelican® carrying case
<b>Holster</b>	Belt holster
<b>Lanyard</b>	Carrying strap
<b>Charger</b>	2 A USB charger
<b>Connection cable</b>	micro-B socket USB cable
<b>Battery adapter</b>	Adapter for 4 AA alkaline batteries