

Target F900

Technical Data

Page - 1/4

Document Identity

en-US : 2019-01-16 / 115712

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.



FinderWear™ - Backpack Detection System

General Description

The Target F900 is a radionuclide identifier with a large single NaITM (NaI :TI, ⁶Li) detector (2" x 4" x 8") packed into a rugged watertight housing. With a long runtime of 24 hours with hot swappable lithium-ion batteries and the ability to be operated remotely makes the system an ideal solution for a wide range of applications. At less than 7.7 kg it is lightweight enough to be used as a backpack, with the integrated stands the F900 can instantly be setup as a portable portal or be part of a flexible measuring wide area network. It can be easily mounted to the walls of a pedestrian gateway. The platform will also support mobile applications such as mounting in a vehicle or a vessel.

The ultra-high-speed electronics in combination with the 2" x 4" x 8" NaI detector delivers superior sensitivity at an unmatched energy range of 10 keV to 10 MeV. The sophisticated and reliable gamma spectroscopy software identifies nuclides in real time and detects thermal and fast neutrons. The field proven sourceless gain stabilization (patented) at a broad temperature range makes the F900 a completely worry-free detection package.

The F900 offers best in class size to performance, weight to performance, price/ performance ratio, and ruggedness (IP67).



Target F900

Technical Data

Page - 2/4

Features

Novel sourceless gain stabilization (patented)
Smallest and lightest package with a 2" x 4" x 8" detector
2" x 4" x 8" NaI TM gamma-neutron detector
Gamma - high dose rate capability with a single detector (up to 100 mSv/h)
Neutron - thermal and fast (patent pending)
High input count rate (1 million cps)
Ultra-high dynamic range (10 keV to 10 MeV)
Real-time radionuclide ID
Directional radiation detection
Water tight up to 1 meters (3.3 feet) - IP67 rated
Easy system integration by HTTP REST interface
Remote operation and configuration with standard web browser
Detects fast and thermal neutrons
Easy to operate
Low cost of ownership
Low cost of goods

Detector

Gamma/Neutron

51 x 102 x 204 mm (2" x 4" x 8") NaITM

Performance

Energy range (Gamma)	10 keV - 10 MeV
Linearization	Real-time linearization of gamma energy
Max input count rate for radionuclide identification	1,000,000 cps for mixed spectrum (Am-241, Cs-137, Co-60)
Dose rate range (identification range)	0.01 - 20 μ Sv/h (0.001 - 2 mrem/h)
Dose rate overload range (no identification)	20 - 100,000 μ Sv/h (0.002 - 10 rem/h)
Gain stabilization (patented quantum gain stabilization)	+/- 0.5% over operating temperature range
Radionuclide Identification	Detection and nuclide identification performance exceeds all ANSI N42.53 requirements



Target F900

Technical Data

Page - 3/4

Radionuclide library	ANSI 42.53/ IEC 62694, DNDO TCS
Classification	SNM, IND, MED, NORM
Energy resolution	<8.5 % FWHM @ 662 keV (NaI(Tl) @ 20 °C)
Gamma sensitivity	16,500 cps per $\mu\text{Sv/h}$ (165,000 cps per mrem/h) for Cs-137
Neutron sensitivity	90 cps/nv (Cf-252)

Physical	Dimensions (W x L x H)	385 mm x 175 mm x 112 mm (15.2" x 6.9" x 4.4")
	Weight	<7,7 kg (<17 lbs)
	Housing material	Impact resistant plastic

Service	Warranty	2 years
----------------	-----------------	---------

Environmental	Operating temperature	-20 °C to 50 °C (-4 °F to 122 °F)
	Relative humidity	up to 93 % at 40 °C non condensing
	Protection rating	IP67, 1 m (3.3') submersible
	Tests according IEC 62706	Drop, vibration, mechanical shock, electrostatic discharge, radio frequency immunity

Standards Compliance	DNDO	Backpack Requirements 2013
	Backpack Based Radiation Detection (BRD)	ANSI N42.53 / IEC 62694,
	BRD environmental tests	IEC 62706
	Data format	ANSI 42.42 / IEC 62755

Battery	Type	2x Lilon battery pack /hot swappable
	Runtime (full charge)	> 20h in standard operating conditions at 20 °C (68 °F)

Display	Type	Blanview TFT-LCD
	Size	69 mm x 41 mm (2.72" x 1.61")
	Resolution	800 pixels x 480 pixels

Target F900

Technical Data

Page - 4/4

Visibility	Perfectly readable in bright sunlight and complete darkness
Remote Display	Provided via WiFi, Bluetooth or USB

Input/Output	USB	2.0; micro-AB socket, USB-C
	Bluetooth	Class 4.0
	WLAN	WiFi 802.11 g/n

Software	Functions provided	Survey, Identification, Event Counter
	Remote operation / reachback	Web-interface via Wi-Fi, Bluetooth or USB
	File Formats	Download file formats ANSI N42.42 and spc files compatible with third-party analysis software applications such as GADRAS, Cambio, or PeakEasy
	Data Storage	32GB (> 1 million N42.42 files)

Miscellaneous	GPS Global positioning	12-channel SiRF III receiver
	Clock	RTC Real Time Clock

Accessories	Stand	Detachable stand for static operation
	Connection cable	Micro-B socket USB cable
	Power Supply	2x Standard USB power supply (battery charger)