

Handheld XRF Spectrometers

Bruker S1 TITAN

The S1 TITAN is among the lightest (1.5 kg, including battery) tube-based handheld XRF analyzers on the market today. Fast analysis speed and exceptional accuracy are two key attributes that help define the S1 TITAN.

Other innovative features include an integrated touch-screen color display, 50 kV X-ray tube, SMART Grade™ timing, SharpBeam™ optimized X-ray geometry, Silicon Drift Detector (SDD), and an extremely tough housing that is sealed against humid and dusty environments.

The S1 TITAN series is available in four (4) configurations: models 800, 600, 500 and 200. All models use Bruker's SharpBeam™ technology. The S1 TITAN 800 and 600 use a FAST SDD® detector to give you incredibly fast analysis times. The S1 TITAN 500 is configured with a fast, accurate, and affordable standard SDD detector. The S1 TITAN 200 is configured with an economical Si-PIN detector. In addition, the S1 TITAN can be configured with calibrations that are optimized for a variety of sample materials- including a wide range of alloys, various mining and environmental samples, as well as restricted materials.

BENEFITS

- **Available calibrations include:**
Alloy, gold and precious metals, bulk material (E-scrap and catalytic converters), soil, mining, restricted materials, and customer specific
- **Superior FAST SDD™ detector technology**
- **Superior count rates and resolution**
(compared to previous generation SiPIN instruments)
- **Faster than previous generations**
- **Lower detection limits**
- **Easy analysis of light elements, such as:**
Magnesium, aluminum and silicon, without the need for vacuum or helium atmosphere (S1 TITAN 800 and 600 only)

SHARPBEAM™

The S1 TITAN's patent pending SharpBeam™ technology optimizes the detector and tube geometry. The optimized geometry has many desirable effects, including:

- **Reduces power requirements**
- **Reduces weight**
- **Improves measurement precision**
- **Improved detection limits**
- **Increases battery life**

APPLICATIONS

- QA/QC and Positive Material Identification (PMI) in Fabrication
- PMI for plant/refinery safety
- Scrap Metal Sorting
- Aerospace Alloys
- Gold Testing
- Precious Metals Testing
- Mine Face
- Ore Grade Control
- Core Analysis
- Mineral Exploration
- Food Safety & Agriculture
- Geochemical Mapping
- Soil Analysis
- Metal Recovery
- Lead in Children's Products
- ASTM-F963
- Toxics in Packaging Clearing House (TPCH)
- Screening Children's Apparel for Lead
- Proposition 65 Compliance
- RoHS
- More



CALL GEOTECH TODAY (800) 833-7958

Geotech Environmental Equipment, Inc.

2650 East 40th Avenue • Denver, Colorado 80205

(303) 320-4764 • **(800) 833-7958** • FAX (303) 322-7242

email: sales@geotechenv.com website: www.geotechenv.com

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SPECIFICATIONS

Module	Model 800	Model 600	Model 500	Model 300	Model 200
Excitation Source	Rh target X-ray tube, 4W. 6-50kV, 5-200µA	Rh target X-ray tube, 4W. 15-50kV, 5-100µA		Rh target X-ray tube, 4W. 40kV, fixed current <90µA	
Detector	FAST SDD® Typical resolution: < 145eV		SDD Detector Typical resolution: < 179eV	SiPIN Diode Detector Typical resolution: < 195eV	SiPIN Diode Detector Typical resolution: < 195eV
Spot size	5 mm standard, 8 or 3mm optional		5 mm		
Filter	Five (5) position automatic filter changer		Fixed filter	Five (5) position automatic filter changer	Fixed filter
Elemental Range	Mg – U	Mg – U	Ti – U	Cl – U	Ti – U
Internal Camera	Included	Optional	Not Available	Optional	Not Available
Sample Temperature	Default to 150°C (302°F) with Ultralene® window. Up to 500°C (932°F) with Kapton® window and hot surface adapter.		to 500°C (932°F)		
Pressure/Temperature Compensation	No				
Detector Shield™	Included				
Geometry	Features patented SharpBeam™ beam path for best performance at low power				
Beam Path	Air				
Weight	1.5 kg (3.3 lbs.) with battery				
Dimensions L x W x H	25 cm x 28 cm x 9 cm (10 in. x 11 in. x 3.7 in.)				
Testing Modes	Assay, Grade ID, Grade Pass/Fail, Limit testing				
Convenience	Wrist strap, optional holster				
Operating Environment	Operating Temp: -10°C to +50°C (+14°F to 122°F); Splash and dust proof (IP54)				
Power	Li-Ion battery; AC Adapter				
Interactive Touchscreen	9.4 cm (3.7 in.) integrated color touchscreen LCD; TFT active matrix, transreflective; 640 x 480 pixels; 65,536 colors				
Control Software	Full control OS on analyzer and on PC software				
PC Operating System	Windows® XP, Windows® 7, Windows® 8 or Windows® 10				
Analysis Software	Point-and-shoot and live spectra on analyzer; point-and-shoot, live spectra and full qualitative, semi-quantitative and quantitative software on PC. (Artax & EasyCal software optional)				
Data Storage	8GB standard, expandable to 64GB. Internal Memory: 8,000 readings with spectra (maximum) USB Flashdrive: 80,000 readings with spectra (minimum)				
Data Transfer	USB Data storage, I/O ports, Wi-Fi and Bluetooth connectivity to save and transmit data from the field				
System Safety	Password protection; no sample (backscatter) shutoff, IR proximity sensor				
Languages	Chinese, Chinese simplified, Dutch, English, French, French Canadian, German, Indonesian, Italian, Japanese, Korean, Polish, PortugueseBR, Russian, SpanishMEX, SpanishSPN, Thai, Turkish				
Certification	CE, cTUVus, IEC 61010-1:2010 by TÜV SÜD, EN 61326-1:2006				

Specifications subject to change without notice.

FAST SDD® is a registered trademark of Amptek, Inc.

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NEW OPTIONS

The S1 TITAN can now be configured with optional integrated camera and/or small spot collimator.

Thanks to the S1 TITAN's SharpBeam™ optimized geometry, the precision and accuracy of the measurement are the same as for the normal spot- there is no need to extend the measurement time to achieve the desired precision. The camera options is available for S1 TITAN 800 and 600. The 5mm spot size is standard for all models, however the S1 TITAN 800 can be configured with either an optional 8mm or 3mm spot.

CALIBRATIONS

Calibration	Model 800	Model 600	Model 500	Model 300	Model 200
Heavy Metals and Elemental Nutrients in Soil	◆	◆			
Mudrock	◆	◆			
Alloy LE	◆	◆			
Soil LE	◆	◆			
GeoChem LE	◆	◆			
GeoExploration	◆	◆			
Limestone	◆	◆			
Restricted Materials	◆	◆			
Food Safety	◆	◆			
Food Quality	◆	◆			
Ceramics	◆	◆			
Industrial LIP	◆	◆	◆	◆	◆
Precious Metal LE	◆	◆			
LowPbiCu	◆	◆			
Maritime Sulfur	◆	◆	◆		
Filter and Dust Wipe	◆	◆	◆		
Alloy			◆	◆	◆
Precious Metals			◆	◆	◆
Soil				◆	
GeoChem				◆	
Regulated Plastics				◆	
Regulated Metals				◆	



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