OPTOSKY Spectroscopy Solutions

Datasheet

Handheld alloy laser-induced breakdown spectrometer

ATL3100

Features

- Simultaneous multi-element analysis: Achieves both qualitative and quantitative analysis of multiple elements simultaneously
- Detection of light elements (Z <12): Accurately detects elements such as Al, Be, Mg, and Ca.
- High safety performance: The world's safest handheld spectrometer.
- Lightweight and portable: weighs 1.75 kg (including battery), with long standby time for reliable performance.
- Outstanding sample shape compatibility: Direct analysis of solid samples makes it a powerful tool for rapid screening, compatible with alloys of various shapes.

Application

- Alloy Testing
- Material Component Identification (PMI)

Description

Laser-induced breakdown spectroscopy (LIBS) is an analytical technique that employs high-energy laser pulses focused directly on a sample surface to excite outer-shell electrons of atoms, thereby generating plasma and enabling atomic emission spectroscopy analysis.

The ATL3100 is suitable for testing nearly all types of alloys, including scrap metals, superalloys, alloy steels, stainless steels, tool steels, chromium-molybdenum steels, aluminum alloys, nickel alloys, titanium alloys, cobalt alloys, Australian copper alloys, precious metals, zinc alloys, special alloys, Australian zirconium alloys, and composite alloys. It exhibits excellent environmental adaptability and can operate effortlessly under complex working conditions.

The ATL3100 is suitable for quality control in the metal manufacturing and processing industry, enabling material composition analysis and alloy grade identification for a wide range of materials including critical components, raw materials, and welds.



Product data information is current as of publication data. Products conform to specifications per the terms of Optosky Standard warranty.

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1.Technical parameters

Model	ATL3100
Instruments weight	1.75 kg including battery
Current source	Lithium-ion battery,Battery life: 8 hours
Detection Time	2s
Working temperature	0-40 ℃
Camera	Micro-area camera + Main camera
One gun, multiple uses	An instrument capable of automatically identifying various alloys
Storage Temperature	-20-60 ℃
Extended Warranty	You can purchase an extended warranty.
Water Resistance Performance	IP54
Operating System	Android
Data transmission	Bluetooth+4G+WIFI+USB+GPS
Data format	xlxs
Data storage	16 GB storage
Display	LCD + capacitive touch (5 inches), with adjustable brightness
Laser wavelength	1535 nm; safe for human eyes, Class 1
Detection limit	0.05%
Stability	Main element RSD <1%, non-main element RSD <5%
Original factory warranty	The entire product comes with a one-year warranty.
Operation	One-click detection for rapid qualitative and quantitative analysis of elements, with automatic identification of hundreds of material grades.
Database	aluminium alloy: Al, Cr, Ni, Si, Mg, Ti, Fe, Cu, Sn, Pb, Zn, Zr, Be, Sr, Sc... copper alloy: Cu, Fe, Al, Mn, Sn, Pb, Zn, Ni... Ferroalloy: Fe, Cr, Ni, Mn, Cu, V, Mo, Si, C, Ti, Co... Palladium: Pd, Cu, Ni, Zn, Fe, Co, Ag, As, Pb, Cr... nickel alloy: Ni, Cr, Fe, Nb, Mo, Ti, Al, Mn, Cu... titanium alloy: Ti, Al, V, Fe, Cr, Mo, Sn, Mn, Zr, Nb, Si, Cu...

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	magnesium alloy: Mg, Si, Cu, Mn, Zn, Zr, Al, Y, Be, Ni, Fe... platinum: Pt, Pd, Ag, Cu, Ni, Zn, Co, Ru, Pb, Cr Gold: Au, Ag, Zn, Ni, Pd, Cu, Co, In... Silver: Ag, Cu, Zn, Cd, Ni... (Brand library users can edit entries independently)

2.Outside view drawing

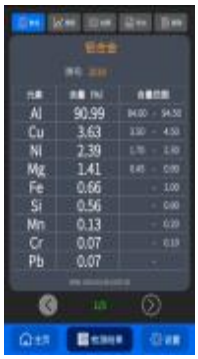


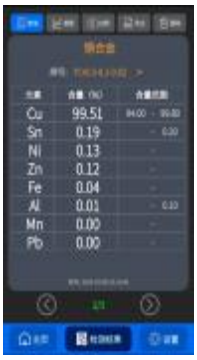
3.Application scenarios

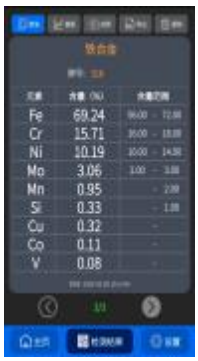
Technical Principle: Laser-Induced Breakdown Spectroscopy (LIBS) is an analytical technique that employs high-energy laser pulses focused directly on a sample surface to excite outer-shell electrons of atoms, thereby generating atomic emission spectra characteristic of the plasma.

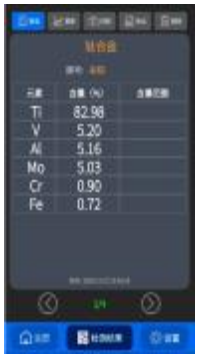
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Test Page









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