



Alpha 4314A & 4314 KRC Digital Igniter Testers

Digital Resistance Measurement with Life-Protecting Safety Circuitry

Available in Standard and Reduced Current (KRC) Configurations

- Certified Safe for Explosive & Volatile Atmospheres (MIL-Std 810 Method 511)
- Complies to (EWR) 127-1, Section 3.13.8.1-2
- US Safety Board and Arm Forces Approved
- Current Limiting Circuitry (16mA Max)
- KRC - Reduced Current Option (8mA Max)
- .1mΩ Resolution to 200MΩ - 9 Ranges
- Rechargeable, Battery-Operated
- Certificate of N.I.S.T. traceability
- Custom Configurations Available



For each of the critical military, aerospace, and industrial applications that utilize squibs and other blasting technologies; safety and security are of the utmost priority. Offering the ability to accurately test for coil integrity without triggering the device's ignition circuitry or jeopardizing the safety of the assigned technician; Valhalla Scientific's intrinsically-safe Alpha 4314 igniter testers are the standard for contractors and laboratories worldwide.

As a specialized, portable digital ohmmeter – each instrument is equipped with redundant fail-safe, current-limiting network circuitry to prohibit instrument test currents from ever exceeding the specified limit. Every instrument is subject to a worst-case component failure simulation prior to shipment with the results included as part of the Z540.1 certification packet. All Valhalla Scientific igniter testers utilize a four-wire Kelvin configuration to eliminate lead wire length and lead contact resistance errors, allowing for more consistent and accurate data collection.

Many Alpha 4314 configurations have been reviewed and approved by the US Government Safety Board, various international armed forces, and private safety teams. Notable programs and applications include the ADCAP Torpedo (Mark 48), Tomahawk Cruise Missile, Peacekeeper, Minuteman III, and James Webb Space Telescope Project.

General Specifications

- Display Type:** 4 ½ digits LEDs (19999)
- Overload Indication:** O.L.
- Conversion Rate:** 3 readings per second
- Terminal Configuration:** 4-Wire Kelvin
- Current Source Compl. Voltage:** Clamped at 1.6V

Power

- Power:** 4 "D" Cell 1.2V recharg. NiMH Batteries 10000mAh
- Battery Charger:** 6VDC at 300mA nominal

Temperature

- Temperature Coefficient:** ±0.002% per °C (from 0°C-15°C and 35°C-50°C) 0°C to 50°C
- Operating Temp. Range:** 50°C
- Storage Temp. Range:** -10°C to 70°C

Physical Specifications

- Width:** 9.5in / 24cm
- Depth:** 11in / 27cm
- Height:** 3in / 8cm
- Weight:** 3 lbs / 1.3kg net

Range Specifications

Rng #	Range	Resolution	Test Current		Failsafe Current		Accuracy
			STD	KRC (1)	STD	KRC (1)	
0	2Ω	100μΩ	10mA	5mA	16mA	8mA	± 0.02% of reading ± 0.02% of range
1	20Ω	1mΩ	10mA	5mA	16mA	8mA	± 0.02% of reading ± 0.02% of range
2	200Ω	10mΩ	1mA	500μA	1.8mA	1.8mA	± 0.02% of reading ± 0.02% of range
3	2kΩ	100mΩ	100μA	50μA	180μA	180μA	± 0.02% of reading ± 0.02% of range
4	20kΩ	1Ω	10μA	5μA	18μA	18μA	± 0.02% of reading ± 0.02% of range
5	200kΩ	10Ω	1μA	500nA	1.8μA	1.8μA	± 0.05% of reading ± 0.05% of range
6	2MΩ	100Ω	100nA	50nA	180nA	180nA	± 1% of reading ± 0.2% of range
7	20MΩ	1kΩ	10nA	n/a	18nA	n/a	± 2% of reading ± 0.2% of range
8	200MΩ	10kΩ	1nA	n/a	1.8nA	n/a	± 3% of reading ± 1% of range

(1)Option "KRC" Models feature a reduced Test and Fail-Safe Current. The nominal output current for these models is half a value of the standard units. The Fail-Safe for the lowest range drops from 16mA on the standard models to 8mA on the KRC model.

4-Wire Measurement

