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iScan3+ Vibration Test Report

EXECUTIVE SUMMARY

Chentronics conducted comprehensive vibration and shipping durability testing on the iScan3+ optical flame scanner to verify it's ability to withstand the environmental stresses encountered during shipping, handling, and long-term industrial service. Testing was performed by a third-party test laboratory in accordance with recognized industry standards, including **ISTA 1A** and **MIL-STD-810H Method 514.8.**

Six production units were evaluated, all of which successfully competed testing with no functional degradation or physical damage. These results confirm the iScan3+ scanner's robustness and suitability for long-term field use in demanding industrial environments.

TESTING PROCEDURE

A total of six production iScan3+ optical flame scanners were subjected to vibration and shipping hazard testing. All units passed full functional verification prior to laboratory evaluation.

Five scanners were tested in their standard shipping configuration in accordance with **ISTA 1A**. This test campaign included atmospheric preconditioning, fixed-displacement vibration testing for one hour per unit, and a series of ten controlled 30-inch drop tests per unit to simulate distribution and handling conditions.

One additional scanner was tested unpackaged in accordance with **MIL-STD-810H Method 514.8**. This evaluation simulated extended highway transport through random vibration testing across three axes for a total duration of three hours, without the damping effects of packaging materials.

RESULTS

Following testing, each scanner was carefully inspected and fully tested to confirm performance. This included visual inspection, functional checks, and internal evaluation.

- No physical damage was found
- No loss of performance or functionality occurred
- All units continued to meet Chentronics' performance requirements

The successful completion of both ISTA 1A and MIL-STD-810H Method 514.8 testing verifies that the iScan3+ optical flame scanner can tolerate shipping, handling, and operational vibration environments, supporting its suitability for long-term industrial applications.

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RESULTS TABLE

Test Category	Test	Description	Result
ISTA 1A	Fixed Displacement Vibration Test	1-inch peak to peak displacement, 60 minutes per sample	PASS
	Package Drop Test	30 inches height, 10 drops per sample	PASS
	Simplified Post-Test Functionality Check	Flame on/off check using FlameSim	PASS
MIL-STD-810	Random Vibration Test	5 - 500 Hz, 1.17 GRMS, 60 minutes per axis	PASS
	Simplified Post-Test Functionality Check	Flame on/off check using FlameSim	PASS
Chentronics Evaluation	Full Functionality Test Post Vibration Testing	Automated check of all iScan3+ systems	PASS
	Disassembly & Visual Inspection	Manual inspection of all PCAs, connections, and components	PASS
OVERALL RESULT:			**PASS**

Why Chentronics?

Chentronics, a Koch Engineered Solutions company, brings decades of combustion monitoring and flame detection expertise to every product we design. Our commitment to engineering excellence, rigorous testing, and customer-focused innovation ensures solutions you can trust to perform reliably in real-world industrial environments.

Explore how Chentronics' expertise can support your flame detection and monitoring needs.