

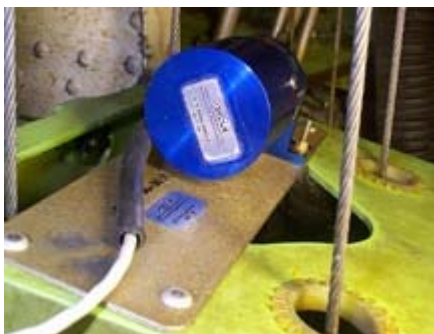


Providing the Ultimate Solutions in Precision
Displacement Sensors

Position Transducers Tested To DO-160D / ED-14D



Battle tested: series of 5 position transducers after going through the DO-160D / ED-14D environmental test suite



Series 160 position transducer installed on a 727 aircraft

News Release

POSITION TRANSDUCERS TESTED TO DO-160D / ED-14D

Rugged Designs Tested To Rigorous Specification

Continuing to offer proven sensor solutions for commercial aircraft, Firstmark Controls successfully completed testing of its miniature position transducer products to requirements spelled out in the DO-160D document (Environmental Conditions and Test Procedures for Airborne Equipment). The 16-phase test suite was designed to verify that the position transducers can be used inside and outside the aircraft's pressure vessel. The testing gives airlines, systems integrators, avionics firms, and related organizations test data to use in the design of aircraft sensor systems for flight data recorder, flight test, aircraft modification, and similar uses.

The test suite was conducted at Garwood Laboratories, Inc. of Pico Rivera, California over a 90-day period. Over 1200 man-hours went into the development and implementation of the test suite. Development activities included in-house production of test fixtures, actuation devices, and data acquisition systems.

Published by RTCA, Inc., DO-160D has standard procedures and environmental test criteria for testing airborne equipment for the entire spectrum of aircraft from light general aviation aircraft and helicopters through the "Jumbo Jets" and SST categories of aircraft. The document includes 25 Sections and three Appendices. Examples of tests covered include vibration, shock, waterproofness, fluids susceptibility, magnetic effect, temperature exposure, and explosive atmosphere. Coordinated with EUROCAE, RTCA/DO-160D and EUROCAE/ED-14D are identically worded.

DO-160D is recognized by the International Organization for Standardization (ISO) as de facto international standard ISO-7137. For more information on DO-160D, contact RTCA (<http://www.rtca.org>).

For copies of test reports and test data summaries, please contact Firstmark Controls's Engineering Department at info@Firstmarkcontrols.com.

Firstmark Controls has produced miniature, all-environment position transducers for over 35 years. The company may be reached at 1-866-912-6232 (fax: 919-682-3786, info@Firstmarkcontrols.com, <http://www.Firstmarkcontrols.com>).

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News Release Attachment

Miniature Position Transducer DO-160D / ED-14D Test Specification

Ground Survival Low Temperature Test and Operating Low Temperature - IAW DO-160D Section 4, Category E1, Paragraph 4.5.1: -55° C

Ground Survival High Temperature - IAW DO-160D Section 4, Category E1, Paragraph 4.5.2: +95° C

Short-Time Operating High Temperature - IAW DO-160D Section 4, Category E1, Paragraph 4.5.2: +85° C

Operating High Temperature - IAW DO-160D Section 4, Category E1, Paragraph 4.5.3: +70° C

Temperature Altitude - IAW DO-160D Section 4, Category E1, Paragraph 4.6.1: +25° C ambient temperature at 70,000 foot altitude

Temperature Shock - IAW DO-160D Section 5, Category A, Paragraph 5.2: 10° C minimum/min, 2 cycles

Humidity - IAW DO-160D Section 6, Category B, Paragraph 6.3.2

Shock - IAW Mil-Std-810E Method 516.4 - Functional Shock - Procedure I: 20 g's, 6 - 9ms, 3 shocks, each direction, each axis; Crash Safety - Procedure V: 40 g's, 6 - 9ms, 2 shocks, each direction, each axis

Vibration - IAW DO-160D Section 8, Category S: Sine - Curve W, Figure 8-2; Random - Curve D, Figure 8-1 and Curve D1, Figure 8-4 (12.6 g's, 10 to 2000 Hz, 9 hours) (exceeds DO-160D requirements)

Explosive Atmosphere - IAW DO-160D Section 9, Environment II, Category H

Waterproofness - IAW DO-160D Section 10, Category R and S

Fluids Susceptibility - IAW DO-160D Section 11, Category F

Sand and Dust - IAW DO-160D Section 12, Category D

Fungus Resistance - IAW DO-160D Section 13, Category F

Salt Spray - IAW DO-160D Section 14, Category S

Magnetic Effect - IAW DO-160D Section 15

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