

# AMETEK Programmable Power Sources Support RTCA DO-160G Tests

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Topics: [AC Power Sources](#)



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Since 1935, the Radio Technical Commission for Avionics (RTCA) has set the standards for commercial avionics. Chartered by the FAA to operate Federal advisory committees, the RTCA provides a forum for government/industry cooperation on the air traffic control system, as well as setting standards and guidelines needed for implementing new aircraft systems.



One of the most important RTCA standards is RTCA DO-160, "Environmental Conditions and Test Procedures for Airborne Equipment." This standard specifies both environmental tests and electromagnetic compatibility tests for testing airborne avionics used in nearly all aircraft from light general aviation aircraft and helicopters to "jumbo jets" and SSTs.

For example, the standard includes environmental tests such as temperature, temperature variation, icing, humidity, altitude, shock, vibration, explosion proof, fluid susceptibility, sand and dust, salt and fog, and even fungus resistance. The electromagnetic compatibility tests include magnetic effects, power input, voltage spike, audio frequency, induced signal susceptibility, RF emission and susceptibility, lightning susceptibility, and ESD tests.

AMETEK Programmable Power sources, including the [CSW](#), [MX](#), [iX](#), [LS](#), [LX](#), and [RS](#) Series, support a number of the tests found in Section 16, Power Input. This section specifies 20 different tests for both AC-powered and DC-powered equipment. These include steady-state over-voltage and under-voltage conditions, steady-state over-frequency and under-frequency conditions, sags and surges, inrush current, harmonic current emission, and power factor. The tests not only verify that a device under test can tolerate the AC and DC power variations that occur during normal and emergency aircraft operation, but also whether the DUT will adversely affect the aircraft's power system.

To make this testing easier, AMETEK Programmable Power offers graphical user interface (GUI) software that automates these tests. It supports revisions E, F & G of the DO-160 standard. This means that users can program it to the latest revision G requirements when testing new designs or recently-manufactured aircraft, but when testing older aircraft, users can program the software to use the requirements spelled out by previous versions of the standard.

For more information on the RTCA, and the other standards that they publish and the training that they provide, [visit their website](#).